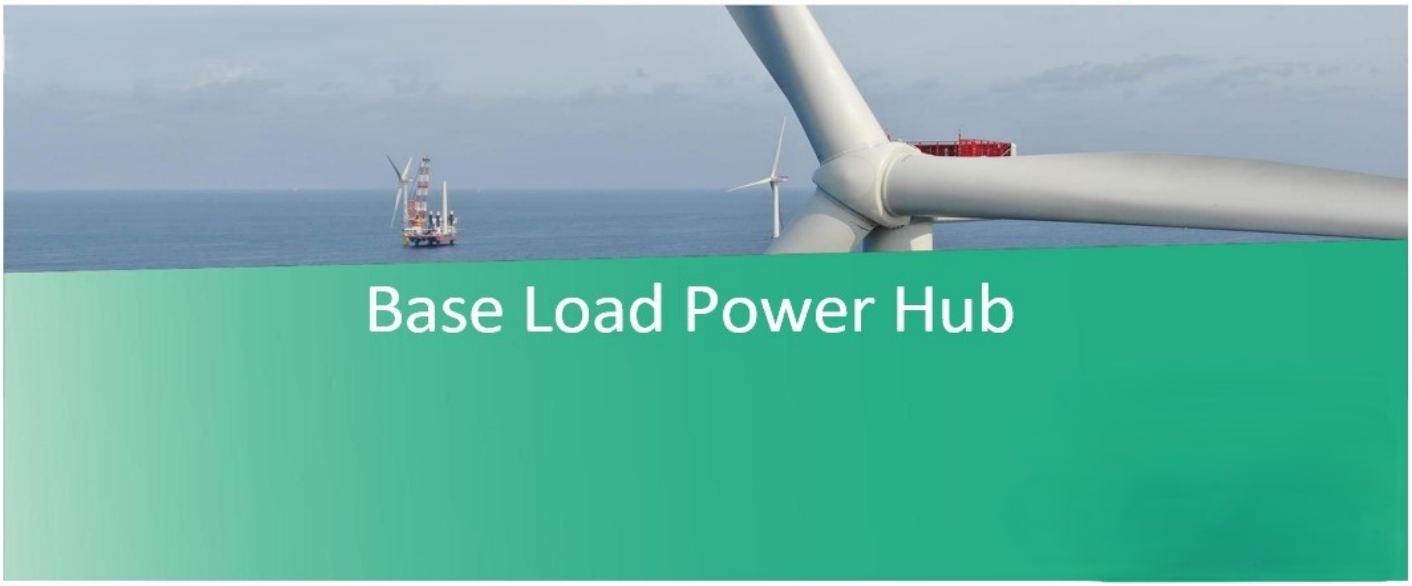
CROSSWIND

ROSETTI MARINO

PROVERLIS

PROJECT **123A90 - HOLLANDSE KUST NOORD WIND PARK**
BLPH Project



MECHANICAL COMPLETION DOSSIER (ONSHORE)

SYSTEM	64 Nitrogen System
SUBSYSTEM	64-00 Nitrogen Generator Package (U-64000)

CROSSWIND	123A90 - HOLLANDSE KUST NOORD WIND PARK BLPH Project MECHANICAL COMPLETION DOSSIER INDEX	ROSETTI MARINO

Sub System N°:	64-00	Tick as appropriate	ONSHORE	O
Description:	Nitrogen Generator Package (U-64000)		OFFSHORE	NA

1.	***READY FOR COMMISSIONING CERTIFICATE*** *Ready For Commissioning Certificate (RFC)*	O
2.	***CONSOLIDATED PUNCH LISTS*** *Cleared and Residual Items*	O
3.	***SYSTEM/SUB-SYSTEM LIMIT DRAWINGS*** *Mark-up drawings showing the limits of the relevant System/Sub-System*	O
4.	***MECHANICAL COMPLETION STATUS INDEX – BUILDING DISCIPLINE*** *Building Sub-System Status Index (Print out) and Check/Test sheets*	NA
5.	***MECHANICAL COMPLETION STATUS INDEX – ELECTRICAL DISCIPLINE*** *Electrical Sub-System Status Index (Print out) and Check/Test Sheets* *Hazardous Area Equipment Detailed Inspection*	O
6.	***MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE*** *Instrumental Sub-System Status Index (Print out) and Check/Test Sheets*	O
7.	***MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE*** *Mechanical SubSystem Status Index (Print out) and Check/Test Sheets*	O
8.	***MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE*** *Telecommunication Sub-System Status Index (Print out) and Check/Test Sheets*	O
9.	***MECHANICAL COMPLETION STATUS INDEX - HVAC DISCIPLINE*** *HVAC Sub-System Status Index (Print out) and Check/Test Sheets*	NA
10.	***MECHANICAL COMPLETION STATUS INDEX - PIPING DISCIPLINE*** *Piping Sub-System Status Index and Check/Test Sheets*	O
11.	***MECHANICAL COMPLETION INDEX - SAFETY DISCIPLINE*** *Safety Sub-System Status Index (Print out) and Check/Test Sheets*	NA
12.	***FAT / VENDOR REPORTS*** *Fat reports issued by vendors and/or vendor reports*	OK
13.	***MECHANICAL COMPLETION CHANGES / MARK-UPS*** *A copy of the changes initiated during the Mechanical Completion process pertaining to the relevant Sub-System will be incorporated in this section*	NA

Note: Under the generic terminology “Building” are also covered the following disciplines: **Structural, Painting**

Under the generic terminology “Instrumental” is also covered the following discipline: **Fire & Gas**

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123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

Ready For Commissioning (RFC) Certificate

COMPLETE	●	PARTIAL	

Revision:	3		Issued on:	2025-02-07	
System:	64	/	Nitrogen System		
SubSystem:	64-00	/	Nitrogen Generator Package (U-64000)		

1	COMPANY has, at its option and if required, reviewed the mechanical completion associated with the above-named system/sub-system of the SCOPE and observed that such functional sub-system has been brought into readiness for commencement of the associated pre-commissioning and commissioning activities, but for the outstanding punch list items, if any, attached and referred in this Certificate.
2	Issuance of this Certificate shall not release CONTRACTOR from any of his obligations, responsibilities or liabilities under the CONTRACT.
3	Mechanical Completion Status Index attached (per Discipline) Punch List report attached (Outstanding and Cleared)

PUNCH LIST	PENDING POINTS	
Note: All Category "A" Items must be cleared prior to issue a Ready For Commissioning (RFC) Certificate	A	B
	'0	23

REMARKS:

	CONTRACTOR Construction Manager	**CONTRACTOR** Commissioning Manager	**COMPANY** Construction Lead (if required)	**COMPANY** Commissioning Lead (if required)
Name	Wolmer Borghi	Anthony Iveson	CPY NOT PRESENT	CPY NOT PRESENT
Date	2025-02-08	2025-02-08	2025-02-10	2025-02-10
Signature	PROVERLIS Digitaly signed by Wolmer Borghi 2025-02-08T11:06:02.178Z	PROVERLIS Digitaly signed by Anthony Iveson 2025-02-08T16:51:25.683Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-02-10T07:14:24.890Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-02-10T07:14:32.995Z

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC

Electrical	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
83111-CEL	Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary	ONSHORE	C10000630	CPX09	100	2024-12-04	RFC 1
84312-CEL	AC UPS - PAS DB / UCP - N2 Package	ONSHORE	C10000588	CPX09	100	2024-12-04	RFC 1
A-64000	Nitrogen Package	ONSHORE	C10002355	CZX01E	100	2024-12-04	RFC 2

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC

Instrumental	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
A-64000	Nitrogen Package	ONSHORE	C10002356	CZX01I	100	2024-12-04	RFC 2
C-64-XA-003/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	ONSHORE	C10001459	CJX10	100	2024-12-04	RFC 1
C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	ONSHORE	C10001452	CJX10	100	2024-12-04	RFC 1

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC

Mechanical	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
A-64000	Nitrogen Package	ONSHORE	C10002357	CZX01M	100	2025-01-15	RFC 2
V-64001	Nitrogen Receiver Vessel	ONSHORE	C10004520	CDX01	100	2025-01-10	RFC 2

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC

Piping	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
066-1-J1	Joint 066-1-J1	ONSHORE	C10004125	TMX27	100	2025-01-13	RFC 2
066-1-J2	Joint 066-1-J2	ONSHORE	C10004126	TMX27	100	2025-01-13	RFC 2
066-1-J6	Joint 066-1-J6	ONSHORE	C10004130	TMX27	100	2025-01-13	RFC 2
066-1-J7	Joint 066-1-J7	ONSHORE	C10004131	TMX27	100	2025-01-13	RFC 2
102-1-J1	Joint 102-1-J1	ONSHORE	C10004140	TMX27	100	2025-01-13	RFC 2
102-1-J2	Joint 102-1-J2	ONSHORE	C10004141	TMX27	100	2025-01-13	RFC 2
102-1-J3	Joint 102-1-J3	ONSHORE	C10004142	TMX27	100	2025-01-13	RFC 2
120-1-J1	Joint 120-1-J1	ONSHORE	C10004288	TMX27	100	2025-01-14	RFC 2
126-1-J1	Joint 126-1-J1	ONSHORE	C10004301	TMX27	100	2025-01-13	RFC 2
126-1-J2	Joint 126-1-J2	ONSHORE	C10004302	TMX27	100	2025-01-13	RFC 2
64-00-TP-029	Test Pack 64-00-TP-029	ONSHORE	C10003450	CLX02A	100	2024-12-03	RFC 3
		ONSHORE	C10003451	CLX02B	100	2025-02-03	RFC 3
		ONSHORE	C10003452	CXX02	100	2025-02-05	RFC 3
		ONSHORE	C10003453	TMX03	100	2024-12-03	RFC 3
		ONSHORE	C10003454	TMX05	100	2024-12-03	RFC 3
		ONSHORE	C10003456	TPLX05	100	2024-12-03	RFC 3
64-00-TP-049	Test Pack 64-00-TP-049	ONSHORE	C10003600	CLX02A	100	2024-11-29	RFC 3
		ONSHORE	C10003601	CLX02B	100	2025-01-10	RFC 3
		ONSHORE	C10003602	CXX02	100	2025-02-06	RFC 3
64-00-TP-063	Test Pack 64-00-TP-063	ONSHORE	C10003690	CLX02A	100	2024-12-11	RFC 3
		ONSHORE	C10003691	CLX02B	100	2025-02-04	RFC 3
		ONSHORE	C10003692	CXX02	100	2025-02-05	RFC 3
		ONSHORE	C10003693	TMX03	100	2024-12-13	RFC 3
		ONSHORE	C10003694	TMX05	100	2024-12-13	RFC 3
		ONSHORE	C10003696	TPLX05	100	2024-12-13	RFC 3

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC

Telecom	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	ONSHORE	C10004350	CIX09	100	2024-11-27	RFC 1

CROSSWIND

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Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000500	A	A-64000	THE SOLENOID 64-XV-054 DOES NOT WORK, TO BE INVESTIGATE.		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000501	A	A-64000	ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000507	A	A-64000	DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE		TEST WILL BE REPEATED ON SITE	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000511	A	A-64000	CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING. SEE NCR		NCR IS CLOSED	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30002642	A	V-64001 C10004520	Items 64-PSV-053 and 64-PSV-054 have not been installed.	.		KAlbonetti 2025-01-10	2025-01-16	KAlbonetti 2025-01-16	2025-01-16
C30002643	A	V-64001 C10004520	Valve BLPH-MV-819 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002644	A	V-64001 C10004520	Valve BLPH-MV-820 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30000499	B	A-64000	Package to be test with PLC set to REMOTE MODE			SLinari 2024-10-29			
C30000502	B	A-64000	During on-site testing phase, it will be necessary to validate that PACKAGE does not suffer malfunctions due ti the low pressure			SLinari 2024-10-29			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000503	B	A-64000	HARDWIRED & PROFINET SIGNALS STILL TO BE TESTED		ACTIVITY DONE	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000504	B	A-64000	MAX PRESSURE ON VALVE ACTUATORS = 8 BAR IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR.		PRESSURE 8 BARG	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000505	B	A-64000	THE OXYGEN VALUE DURING PRESSURIZATION IS NOT STABLE. IN THIS PHASE IT IS POSSIBLE TO CHECK THE			SLinari 2024-10-29			
C30000506	B	A-64000	THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering.			SLinari 2024-10-29			
C30000508	B	A-64000	BALL FLOW METER UPSTREAM OF THE 64-AT-051 OXYGEN TO THE NITROGEN GENERATION TO BE ADDED IN PKG PID			SLinari 2024-10-29			
C30000509	B	A-64000	ALL THE ALARMS AND SET POINT OF NITROGEN GENERATION PACKAGE TO BE TESTED			SLinari 2024-10-29			
C30000510	B	A-64000	TO BE UPDATED DWG N. 1724000428-MAG-DG-00009 - CORRECT RAL 9002			SLinari 2024-10-29			
C30000512	B	A-64000	CONTINUITY AND MEGGER TEST REPORTS ARE MISSING. TO BE PROVIDE		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30
C30000513	B	A-64000	MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000514	B	A-64000	MISSING TAG PLATE ON PSV 64-053 / PSV-64-054			SLinari 2024-10-29			
C30002645	B	V-64001 C10004520	Indicator and trasnmitters 64-PI-058 and 64-PT-059 not installed. The Items are in Stainless steel but the fasteners are carbon steel,	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002646	B	V-64001 C10004520	Earthing lug: there are two earthing lugs instead of one as in the GA drawing n1724000437-MAC-DD-00006. Only one is	.		KAlbonetti 2025-01-10			
C30002648	B	V-64001 C10004520	Anchor down system is different from the one marked in the GA drawing 1724000437-MAC-DD-00006. Item 42 has been	.		KAlbonetti 2025-01-10			
C30002649	B	V-64001 C10004520	The central bolts for each leg have been tightened only at 50% of required torque. See attachment for info.	.		KAlbonetti 2025-01-10			
C30002650	B	V-64001 C10004520	Manhole has not been opened. Internal inspection not completed.	.		KAlbonetti 2025-01-10			
C30002849	B	V-64001 C10004520	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14			
C30002851	B	A-64000 C10002357	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Telecom

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000963	A	64-LP-001/B400 -NET-001 C10004350	The cable termination is not installed in accordance with Electrical Typical Installation Details. see 123A90-DDL-EL-DD-20090 sh.8 / 29.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000969	A	64-LP-001/B400 -NET-001 C10004350	Missing the Thermo-shrink of on the final destination cable end Bending radius is not within the specified limits.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000959	B	64-LP-001/B400 -NET-001 C10004350	The copper conductor of the cable armor must be individually connected to the earthing bar. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-11-27	2025-02-04	APolo 2025-02-04	2025-02-04
C30000960	B	64-LP-001/B400 -NET-001 C10004350	Missing cable tag SS project, outside panel U-64000.	.		APolo 2024-11-27	2025-01-09	Gtangianu 2025-01-09	2025-01-09
C30000962	B	64-LP-001/B400 -NET-001 C10004350	The cable is not supported and fixed to the rack outside panel U-64000	.		APolo 2024-11-27	2025-02-08	Gtangianu 2025-02-08	2025-02-08

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001284	A	84312-CEL C10000588	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.41 (side A-64000)	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001290	A	83111-CEL C10000630	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.53. side A-64000	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001285	B	84312-CEL C10000588	Missing cable tag. side A-64000 / DP-200F3	.		APolo 2024-12-04	2025-02-03	APolo 2025-02-03	2025-02-03
C30001286	B	84312-CEL C10000588	Missing cores identification tag. side DP-200F3/ A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04			
C30001291	B	83111-CEL C10000630	Missing cable tag . side DP-200N1 / A-64000	.		APolo 2024-12-04			
C30001292	B	83111-CEL C10000630	Missing cores identification tag. Cabinet side DP-200N1 / A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001311	B	A-64000 C10002355	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001312	B	A-64000 C10002355	The cables are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22
C30001380	B	84312-CEL C10000588	The cable gland are not closed in accordance with specification.	.		APolo 2024-12-05			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001021	B	64-00-TP-049 C10003600	General final touch-up to do.	-		MBruschi 2024-11-28	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30001022	B	64-00-TP-049 C10003600	Unmounted spool with its erection materials.	-		MBruschi 2024-11-28	2025-01-17	LNovaga 2025-01-17	2025-01-17
C30002638	B	64-00-TP-049 C10003601	Sk.120 (Sh.1/1): For support PS-01026 the position R1 (STD-211) has not been installed yet. Position F1 has not been drilled yet.	.		KAlbonetti 2025-01-10	2025-01-31	KAlbonetti 2025-01-31	2025-01-31
C30003517	B	64-00-TP-063 C10003691	Isolation rubber on Support PS-01023.2 is damaged	.		AMancini 2025-02-04			
C30003518	B	64-00-TP-063 C10003691	Missing gap (2mm) between pipe and support PS-01057.1	.		AMancini 2025-02-04			
C30003556	B	64-00-TP-029 C10003452	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30003557	B	64-00-TP-029 C10003452	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05			
C30003560	B	64-00-TP-063 C10003692	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05			
C30003561	B	64-00-TP-063 C10003692	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001272	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cable tag SS	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001273	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cores identification tag. Cabinet side A-640000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001274	B	C-64-XA-003/B400-SIS-001 C10001459	The cable is not supported and fixed to the rack (outside panel A-64000)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001277	B	C-64-XS-001/B400-SIS-001 C10001452	Wrong cores identification tag. side A-64000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001278	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cable tag. B400-SIS-001 / A-64000	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001279	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cores identification tag. Cabinet side B400-SIS-001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04			
C30001280	B	C-64-XS-001/B400-SIS-001 C10001452	The cable is not supported and fixed to the rack (outside panel A-6400)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001313	B	A-64000 C10002356	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001316	B	A-64000 C10002356	The tubing are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22

Section 2 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System

SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000500	A	A-64000	THE SOLENOID 64-XV-054 DOES NOT WORK, TO BE INVESTIGATE.		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000501	A	A-64000	ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID		VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000507	A	A-64000	DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE		TEST WILL BE REPEATED ON SITE	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30000511	A	A-64000	CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING. SEE NCR		NCR IS CLOSED	SLinari 2024-10-29	SLinari 2025-01-15	SLinari 2025-01-15	2025-01-15
C30002642	A	V-64001 C10004520	Items 64-PSV-053 and 64-PSV-054 have not been installed.	.		KAlbonetti 2025-01-10	2025-01-16	KAlbonetti 2025-01-16	2025-01-16
C30002643	A	V-64001 C10004520	Valve BLPH-MV-819 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002644	A	V-64001 C10004520	Valve BLPH-MV-820 has not been installed.	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30000499	B	A-64000	Package to be test with PLC set to REMOTE MODE		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000502	B	A-64000	During on-site testing phase, it will be necessary to validate that PACKAGE does not suffer malfunctions due ti the low pressure		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000503	B	A-64000	HARDWIRED & PROFINET SIGNALS STILL TO BE TESTED		ACTIVITY DONE	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000504	B	A-64000	MAX PRESSURE ON VALVE ACTUATORS = 8 BAR IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR.		PRESSURE 8 BARG	SLinari 2024-10-29	SLinari 2025-01-27	SLinari 2025-01-27	2025-01-27
C30000505	B	A-64000	THE OXYGEN VALUE DURING PRESSURIZATION IS NOT STABLE. IN THIS PHASE IT IS POSSIBLE TO CHECK THE		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000506	B	A-64000	THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering.		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000508	B	A-64000	BALL FLOW METER UPSTREAM OF THE 64-AT-051 OXYGEN TO THE NITROGEN GENERATION TO BE ADDED IN PKG PID		DONE	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000509	B	A-64000	ALL THE ALARMS AND SET POINT OF NITROGEN GENERATION PACKAGE TO BE TESTED		OTP DONE POINT CLOSED	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000510	B	A-64000	TO BE UPDATED DWG N. 1724000428-MAG-DG-00009 - CORRECT RAL 9002		Re Issued	SLinari 2024-10-29	Vendor 2025-03-19	SLinari 2025-03-19	2025-03-19
C30000512	B	A-64000	CONTINUITY AND MEGGER TEST REPORTS ARE MISSING. TO BE PROVIDE		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30
C30000513	B	A-64000	MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure		done	SLinari 2024-10-29	SLinari 2025-01-30	SLinari 2025-01-30	2025-01-30

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Mechanical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000514	B	A-64000	MISSING TAG PLATE ON PSV 64-053 / PSV-64-054		Done	SLinari 2024-10-29	Vendor 2025-03-25	SLinari 2025-03-25	2025-03-25
C30002645	B	V-64001 C10004520	Indicator and trasnmitters 64-PI-058 and 64-PT-059 not installed. The Items are in Stainless steel but the fasteners are carbon steel,	.		KAlbonetti 2025-01-10	2025-01-15	LNovaga 2025-01-15	2025-01-15
C30002646	B	V-64001 C10004520	Earthing lug: there are two earthing lugs instead of one as in the GA drawing n1724000437-MAC-DD-00006. Only one is	.		KAlbonetti 2025-01-10	2025-03-25	Gtangianu 2025-03-25	2025-03-25
C30002648	B	V-64001 C10004520	Anchor down system is different from the one marked in the GA drawing 1724000437-MAC-DD-00006. Item 42 has been	.		KAlbonetti 2025-01-10	2025-03-06	LNovaga 2025-03-06	2025-03-06
C30002649	B	V-64001 C10004520	The central bolts for each leg have been tightened only at 50% of required torque. See attachment for info.	.		KAlbonetti 2025-01-10	2025-03-06	MBruschi 2025-03-06	2025-03-06
C30002650	B	V-64001 C10004520	Manhole has not been opened. Internal inspection not completed.	.		KAlbonetti 2025-01-10	2025-03-06	LNovaga 2025-03-06	2025-03-06
C30002849	B	V-64001 C10004520	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14	2025-04-16	LNovaga 2025-04-16	2025-04-16
C30002851	B	A-64000 C10002357	Minor damages to the painting due transportation and installation.	.		KAlbonetti 2025-01-14	2025-04-16	LNovaga 2025-04-16	2025-04-16
C30004329	B	A-64000	During execution of Cause & Effect OTP doc. n. 123A90-PML-COM-PRO-03054, it had been noted that on equipment packages provided with		Logic implemented and tested	GDelmissier 2025-04-15	GDelmissier 2025-05-15	GDelmissier 2025-05-15	2025-05-15

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	64	Nitrogen System
SUBSYSTEM	64-00	Nitrogen Generator Package (U-64000)

Telecom

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000963	A	64-LP-001/B400 -NET-001 C10004350	The cable termination is not installed in accordance with Electrical Typical Installation Details. see 123A90-DDL-EL-DD-20090 sh.8 / 29.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000969	A	64-LP-001/B400 -NET-001 C10004350	Missing the Thermo-shrink of on the final destination cable end Bending radius is not within the specified limits.	.		APolo 2024-11-27	2024-12-05	APolo 2024-12-05	2024-12-05
C30000959	B	64-LP-001/B400 -NET-001 C10004350	The copper conductor of the cable armor must be individually connected to the earthing bar. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-11-27	2025-02-04	APolo 2025-02-04	2025-02-04
C30000960	B	64-LP-001/B400 -NET-001 C10004350	Missing cable tag SS project, outside panel U-64000.	.		APolo 2024-11-27	2025-01-09	Gtangianu 2025-01-09	2025-01-09
C30000962	B	64-LP-001/B400 -NET-001 C10004350	The cable is not supported and fixed to the rack outside panel U-64000	.		APolo 2024-11-27	2025-02-08	Gtangianu 2025-02-08	2025-02-08

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001284	A	84312-CEL C10000588	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.41 (side A-64000)	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001290	A	83111-CEL C10000630	Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.53. side A-64000	.		APolo 2024-12-04	2024-12-06	Gtangianu 2024-12-06	2024-12-06
C30001285	B	84312-CEL C10000588	Missing cable tag. side A-64000 / DP-200F3	.		APolo 2024-12-04	2025-02-03	APolo 2025-02-03	2025-02-03
C30001286	B	84312-CEL C10000588	Missing cores identification tag. side DP-200F3/ A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001291	B	83111-CEL C10000630	Missing cable tag . side DP-200N1 / A-64000	.		APolo 2024-12-04	2025-02-27	JKrizanic 2025-02-27	2025-02-27
C30001292	B	83111-CEL C10000630	Missing cores identification tag. Cabinet side DP-200N1 / A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001311	B	A-64000 C10002355	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001312	B	A-64000 C10002355	The cables are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22
C30001380	B	84312-CEL C10000588	The cable gland are not closed in accordance with specification.	.		APolo 2024-12-05	2025-02-25	JKrizanic 2025-02-25	2025-02-25

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001021	B	64-00-TP-049 C10003600	General final touch-up to do.	-		MBruschi 2024-11-28	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30001022	B	64-00-TP-049 C10003600	Unmounted spool with its erection materials.	-		MBruschi 2024-11-28	2025-01-17	LNovaga 2025-01-17	2025-01-17
C30002638	B	64-00-TP-049 C10003601	Sk.120 (Sh.1/1): For support PS-01026 the position R1 (STD-211) has not been installed yet. Position F1 has not been drilled yet.	.		KAlbonetti 2025-01-10	2025-01-31	KAlbonetti 2025-01-31	2025-01-31
C30003517	B	64-00-TP-063 C10003691	Isolation rubber on Support PS-01023.2 is damaged	.		AMancini 2025-02-04	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30003518	B	64-00-TP-063 C10003691	Missing gap (2mm) between pipe and support PS-01057.1	.		AMancini 2025-02-04	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30003556	B	64-00-TP-029 C10003452	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05	2025-02-06	KAlbonetti 2025-02-06	2025-02-06
C30003557	B	64-00-TP-029 C10003452	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05	2025-03-21	LNovaga 2025-03-21	2025-03-21
C30003560	B	64-00-TP-063 C10003692	General touch up do to, especially near the supports of the piping line.	.		KAlbonetti 2025-02-05	2025-02-12	KAlbonetti 2025-02-12	2025-02-12
C30003561	B	64-00-TP-063 C10003692	Color coding and fluid direction are missing.	.		KAlbonetti 2025-02-05	2025-03-21	LNovaga 2025-03-21	2025-03-21

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001272	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cable tag SS	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001273	B	C-64-XA-003/B400-SIS-001 C10001459	Missing cores identification tag. Cabinet side A-640000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001274	B	C-64-XA-003/B400-SIS-001 C10001459	The cable is not supported and fixed to the rack (outside panel A-64000)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001277	B	C-64-XS-001/B400-SIS-001 C10001452	Wrong cores identification tag. side A-64000 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-08	Gtangianu 2025-02-08	2025-02-08
C30001278	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cable tag. B400-SIS-001 / A-64000	.		APolo 2024-12-04	2025-02-04	APolo 2025-02-04	2025-02-04
C30001279	B	C-64-XS-001/B400-SIS-001 C10001452	Missing cores identification tag. Cabinet side B400-SIS-001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-26	JKrizanic 2025-02-26	2025-02-26
C30001280	B	C-64-XS-001/B400-SIS-001 C10001452	The cable is not supported and fixed to the rack (outside panel A-6400)	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001313	B	A-64000 C10002356	Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3	.		APolo 2024-12-04	2025-01-23	APolo 2025-01-23	2025-01-23
C30001316	B	A-64000 C10002356	The tubing are not adequately preserved. inside Skid	.		APolo 2024-12-04	2025-01-22	Ecarotenuto 2025-01-22	2025-01-22

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 64 Nitrogen System
SUBSYSTEM 64-00 Nitrogen Generator Package (U-64000)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004399	B	A-64000 C10002356	N.03 ITEMS OF EQUIPMENT UNINSTALLED AND SENT TO VENDOR COES SRL FOR ANALYSIS & REPAIR; 1) OXYGEN ANALYSER	FURTHER TO VENDOR ASSESSMENT, THE EQUIPMENT WILL BE REAPIRED / REPLACED.	Instrument sent to COES - To be closed after sail-away	Alveson 2025-07-23	RDegliEsposti 2025-08-01	RDegliEsposti 2025-08-01	2025-08-01

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002649

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The central bolts for each leg have been tightened only at 50% of required torque. See attachment for info.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Massimo Bruschi

Date: 2025-03-06

Signature:

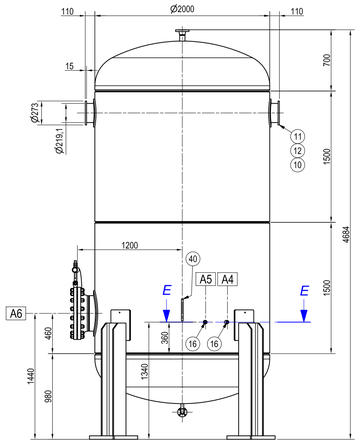
6- CLEARANCE APPROVAL

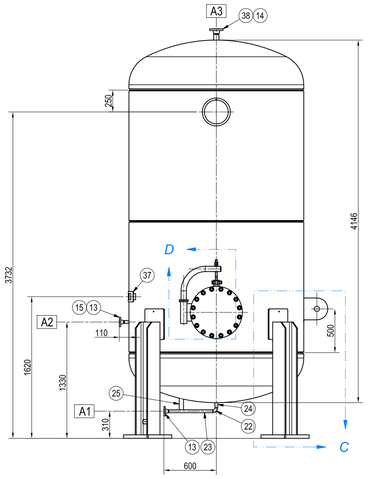
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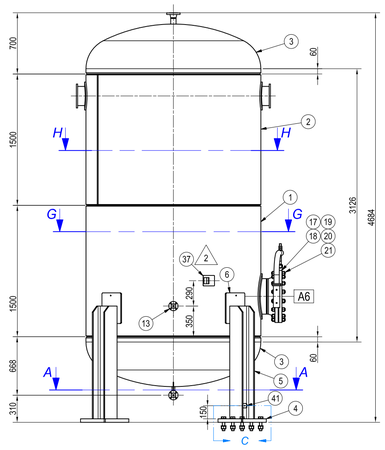
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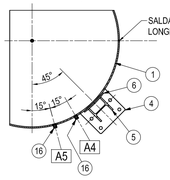
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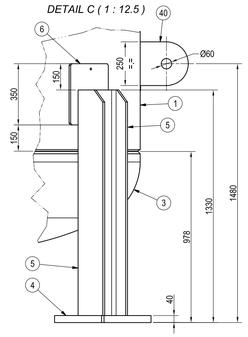


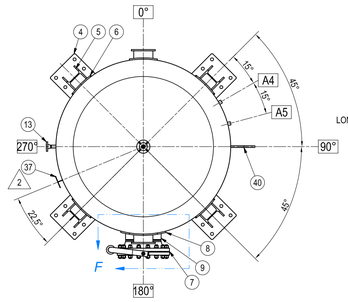


SECTION E-E (1 : 25)

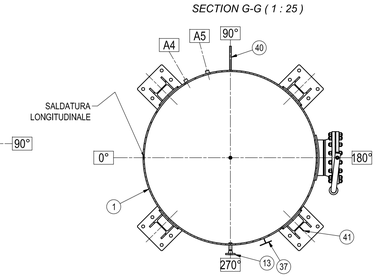


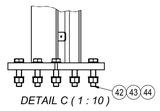
DETAIL C (1 : 12.5)





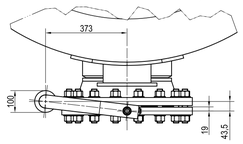
SECTION G-G (1 : 25)



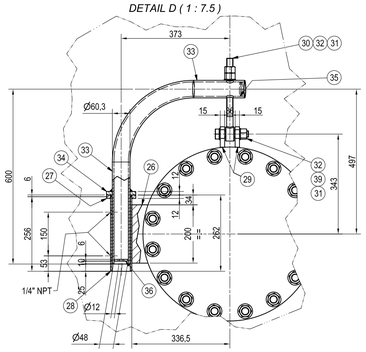


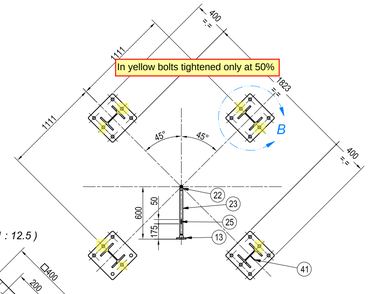
DETAIL C (1 : 10)

DETAIL F (1 : 10)



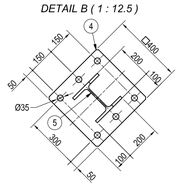
DETAIL D (1 : 7.5)

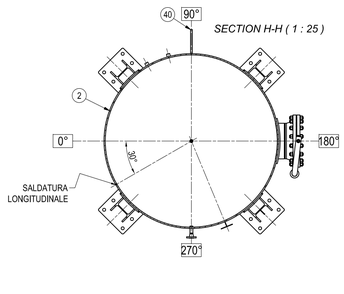




SECTION A-A (1 : 25)

DETAIL B (1 : 12.5)





NAMEPLATE DETAIL

MANUFACTURER	COES SRL - STEZZANO (BG)
EQUIPMENT	N2 RECEIVER V-64001
SERIAL NUMBER	S240120 YEAR 2024
DESIGN CODE	ASME VIII Div. 1 Ed. 2021 / PED 2014/68/UE
CONFORMITY	Category IV
FLUID	N2
DESIGN PRESSURE	12 barg
DESIGN TEMPERATURE	-29 / + 80°C
TEST PRESSURE	17.2 barg
CORROSION ALLOWANCE	3 mm
WEIGHT	4000 kg
VOLUME	11000 l

CE 0425

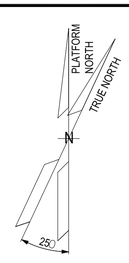
ELENCO PARTI / BILL OF MATERIAL

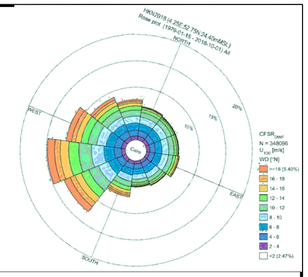
POS	QTY	DESCRIPTION	MATERIAL	WGT		TEST	COD. COES
1	1	SHELL øe2000 Thk. 15 L=1500 (Manhole 16" side)	SA 516 Gr.70	1080		B	L3723
2	1	SHELL øe2000 Thk. 15 L=1500	SA 516 Gr.70	1095,6		B	L3724
3	2	ELL. HEAD øi1970 Thk. 15mm (Thk. 12.75mm min.)	SA 516 Gr.70	1112,3		B	L3716
4	4	PLATE 400x400 thk=40 N° 6 HOLES Ø35	SA 516 Gr.70	194		C	L3719
5	5160,000 mm	PROFILE HEB 200 L=1290	S 355 J2	314,8		C	F7552
6	4	PAD 350x300 thk=15	SA 516 Gr.70	50		B	L3720
7	1	FLANGE W.N.16" Sch. 40 150# RF	SA 350 Gr. LF2 Cl.1	66,3		B	H1000
8	1	PAD Øe=510 Øi=410 thk=15 for Man Hole	SA 516 Gr.70	9,3		B	L3721
9	1	SHELL øe407 Thk. 15 L=110	SA 516 Gr.70	13,6		B	L3722
10	2	PAD Øe=320 Øi=220 thk=15 for Trunnion	SA 516 Gr.70	9,8		B	L3718
11	2	DISK Ø273 thk=15	SA 516 Gr.70	13,8		C	D2222
12	200,000 mm	PIPE SMLSS 8 Sch.80	SA 333 Gr. 6	12,5		C	D9560
13	2	FLANGE W.N.1" Sch. XXS 150# RF	SA 350 Gr. LF2 Cl.1	2,6		B	L3726
14	80,000 mm	PIPE SMLSS 2 Sch.160	SA 333 Gr. 6	0,9		B	C1399
15	80,000 mm	PIPE SMLSS 1 Sch.XXS	SA 333 Gr. 6	0,4		B	D9604
16	2	COUPLING 1/2" NPT-F 6000#	SA 350 Gr. LF2 CL1	0,7		B	K1337
17	1	GKT SPIRAL WOUND 16" 150# Thk. 4.5mm	316L+GRAPHITE	2		C	F8428
18	1	FLANGE BLIND B16.5 16" 150# RF	SA 350 Gr. LF2 CL1	76,2		B	L3727
19	32	WASHER 1	C.S.	1,5		C	C5634
20	32	NUT 1" UNC	SA 194 Gr.7	5,6	*	B	J2840
21	16	STUD-BOLT 1" UNC x 155	SA 320 Gr.L7	9,9	*	B	H9373
22	1	ELBOW L.R. 90° 1" Sch. XXS	SA 420 WPL6	0,3		B	D9605
23	502,528 mm	PIPE SMLSS 1 Sch.XXS	SA 333 Gr. 6	2,7		B	D9604
24	73,000 mm	PIPE SMLSS 1 Sch.XXS	SA 333 Gr. 6	0,4		B	D9604
25	200,000 mm	PLATE 50 x 6 L=132,5 mm	SA 516 Gr.70	0,3		B	L4381
26	1	PLATE 200x55 thk=18 (DAVIT 16" 150#)	SA 516 Gr.70	1,2		B	L4382
27	1	ROD Øe=100 Øi=74 Thk=12	SA 516 Gr.70	0,3		C	L4016
28	256,000 mm	PIPE SMLSS 2 1/2 Sch.40 L=256	SA 333 Gr. 6	2,2		C	G6831
29	2	PLATE 50x70 Thk. 15 mm FOR DAVIT 16"	SA 516 Gr.70	0,6		B	L4383
30	1	LIFTING EYE M22x260	SA 350 Gr. LF2 Cl.1	1		C	L4375
31	3	WASHER A 22	C 40	0,1		C	3393
32	3	NUT M22 UNI 5587	SA 194 Gr.7	0,3		C	L1368
33	1	BENDING PIPE SMLSS 2" SCH. 40 L=920 (DAVIT 16" 150#)	SA 333 Gr. 6	6,8		C	L4385
34	1	ROD Øe=100 Øi=61 Thk=12	SA 516 Gr.70	0,5		C	L4376
35	1	DISK Øe=48 thk=6	SA 516 Gr.70	0,1		C	L4377
36	1	DISK Øe=48 Øi=12 thk=6	SA 516 Gr.70	0,1		C	L4378
37	1	SUPPORT NAMEPLATE 140x120 Thk.4mm	SA 516 Gr.70	0,5		B	E4247
38	1	FLANGE W.N.2" Sch. 160 150# RF	SA 350 Gr. LF2 Cl.1	3,1		B	F7664
39	1	SCREW - M22 x 100 - UNI 5739	SA 320 Gr.L7	0,4		C	L0436
40	1	LIFTING LUG A=250 E=150 HOLE Ø60 THK=20	SA 516 Gr.70	9,3		B	L3717
41	1	EARTHING LUG 70 x 50 Thk.6	SA 516 Gr.70	0,2		C	L5167
42	24	SCREW - M30 x 140 - UNI 5739	CL 8.8	0,4		C	L5163
43	48	WASHER A 30	C 40	9,3		C	9169
44	24	NUT M30 UNI 5587	CL 8	0,2		C	L5164

MATERIAL TEST SYMB. (according to EN 10204)

A	Tested material (3.2)
B	Material with certificate of manufacturer (3.1)
C	Material without certificate
D	Material with certificate of manufacturer (2.2)

POS	DESCRIPTION	PIPE CONN.
A1	DRAIN	WN 1" 150# RF SCH. XXS
A2	IN/OUT	WN 1" 150# RF SCH. XXS
A3	PSV	WN 2" 150# RF SCH. XXS
A4	PRESSURE GAUGE PG	COUPLING 1/2"NPTF 6000#
A5	PRESSURE TRANSMITTER PT	COUPLING 1/2" NPTF 6000#
A6	MAN HOLE	WNF 16" 150# RF SCH. 40





NOTES

NOTE:
1. QUANTITIES IN MATERIAL LIST FOR No. 1 VESSEL.
2. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
3. ALL THICKNESSES SHOWN ARE MINIMUM AFTER FORMING.
4. TOLERANCE OF VESSELS: ACCORDING TO COES PROCEDURE CTP03684 Rev.2
5. FLANGES DRILLED HOLES SHALL STRADDLE MAIN CENTER AXIS OF VESSEL.
6. FLANGES FACE FINISHING: 125-250 AARH.
   FLANGES AND BLIND FLANGES <= 24" ACC TO ASME B16.5 (2020).
7. VENT HOLES ON REINF. PAD: 1/4" NPT/F EACH PAD OR SEGMENT
   PERFORM TEST AT 1 bar(g) WITH AIR AND SOAPY SOLUTION.
8. ALL NOZZLES WITHOUT INTERNAL PROJECTION, TO BE FLUSHED WITH INSIDE SURFACE OF THE VESSEL. THE INSIDE EDGE OF ALL NOZZLES TO BE ROUNDED.
9. FOR WELDING DETAILS REFER TO THE RELATED WELDING BOOK.
10. BUTTWELDING FITTINGS ACCORDING TO ASME B16.9 (2018)
11. THREADED FITTINGS ACCORDING TO ASME B16.11 (2021)
12. QUANTITY 1: SEE ORIENTATION PLAN.

LEGEND

HOLDS

DESIGN DATA

Code	Applicable codes and standards		ASME VIII Div.1 Ed. 2021 / PED 2014/68/EU		
	Third party		ICIM GROUP		
	STAMP		No		
	NATIONAL BOARD		No		
	CRN REGISTRATION		N.A.		
Pressure	Design pressure internal		12	barg	
	Working pressure		8	barg	
	Hydrotest pressure vertical		17,2	barg	
	Hydrotest pressure horizontal		N.A.	barg	
	Static head in design		0	barg	
	MAWP		12,72	barg	at temperature of 80 °C
Temperat.	Design temperature		80	°C	
	Working temperature		-	°C	
	M.D.M.T. @ MAWP		-29	°C	
	Test temperature min.		10	°C	
Miscellaneous	Corrosion allowance		3	mm	
	Out of roundness		1%		
	Insulation		-	mm	
	Capacity		11000,0	ℓ	
	Tollerance on thickness	Plates	0.25 (>4); 6% (<=4)	mm	
		Pipes	-12.5	%	
		Forgings	=0/1	mm	
Fluid	Nature		N2		
	Physical state		GAS		Group 2
	Specific weight		11,43	kg/m³	
Weldings	Joint efficiency (E)		0.85		
	Rad. Cat/class		RT 3		
	Test Coupons		NO		
	Radiographic Examination		SPOT	note:	
Heat treatement and testing	Head assembly in 1 piece		N.A.		
	Heat treatment		NO	note:	
	Liquid penetrant Examination (PT)		YES	note:	
	Ultrasonic Examination (UT)		NO	note:	
	Impact test		NO	note:	Exempt Para. UCS-66 / YES PED 2014/68/EU Annex 1
	External Finishing		According to Coating Specification no. 1724000437-MAT-PRO-00021		
	Internal Finishing		According to Coating Specification no. 1724000437-MAT-PRO-00021		
Ext. Loads	Wind		YES	note:	Project Spec. 123A90-DDL-ST-SP-90017
	Seismic		YES	note:	Project Spec. 123A90-DDL-ST-SP-90017
Weight	Empty		4000,0	kg	
	Hydrotest condition		15000,0	kg	

COES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	07/10/24	STC	GT	TM	ISSUE FOR INFORMATION (IFI)
01	05/07/24	STC	GT	TM	ISSUE FOR INFORMATION (IFI)
00	28/05/24	STC	GT	TM	ISSUE FOR INFORMATION (IFI)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EQUIPMENT SECTIONAL DRAWING WITH BILL OF MATERIAL
NITROGEN GENERATION PACKAGE N2 RECEIVER

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:35	
DRAWN STC	CHECKED GT	APPROVED TM	DATE 07/10/24
A1	DRAWING NO. 1724000437-MAC-DD-00006	SHEET 001	REV. 02

File Name : 1724000437-MAC-DD-00006

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002650

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Manhole has not been opened. Internal inspection not completed.

Name: Kangi Albonetti
Date: 2025-01-10
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Accepted by Rosetti Marino.

Name: Lorenzo Novaga
Date: 2025-03-06
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002849

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Minor damages to the painting due transportation and installation.

Name: Kangi Albonetti

Date: 2025-01-14

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-14
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date: 2025-04-16

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-16

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-16

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002851

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002357	1.4 Discipline	Mechanical
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Minor damages to the painting due transportation and installation.

Name: Kangi Albonetti

Date: 2025-01-14

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-14
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date: 2025-04-16

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-16

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-16

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003517

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003691	1.4 Discipline	Piping
1.2 Item	64-00-TP-063	Test Pack 64-00-TP-063	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Isolation rubber on Support PS-01023.2 is damaged

Name: Andrea Mancini

Date: 2025-02-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Mancini
3.4 Activity code	MC Mechanical Completion	Date	2025-02-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003518

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003691	1.4 Discipline	Piping
1.2 Item	64-00-TP-063	Test Pack 64-00-TP-063	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing gap (2mm) between pipe and support PS-01057.1

Name: Andrea Mancini

Date: 2025-02-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Mancini
3.4 Activity code	MC Mechanical Completion	Date	2025-02-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003556

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003452	1.4 Discipline	Piping
1.2 Item	64-00-TP-029	Test Pack 64-00-TP-029	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

General touch up do to, especially near the supports of the piping line.

Name: Kangi Albonetti

Date: 2025-02-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-02-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity done.

Name: Kangi Albonetti

Date: 2025-02-06

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003557

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003452	1.4 Discipline	Piping
1.2 Item	64-00-TP-029	Test Pack 64-00-TP-029	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Color coding and fluid direction are missing.

Name: Kangi Albonetti

Date: 2025-02-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-02-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003560

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003692	1.4 Discipline	Piping
1.2 Item	64-00-TP-063	Test Pack 64-00-TP-063	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

General touch up do to, especially near the supports of the piping line.

Name: Kangi Albonetti

Date: 2025-02-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-02-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Touch-ups performed.

Name: Kangi Albonetti

Date: 2025-02-12

Signature:

6- CLEARANCE APPROVAL

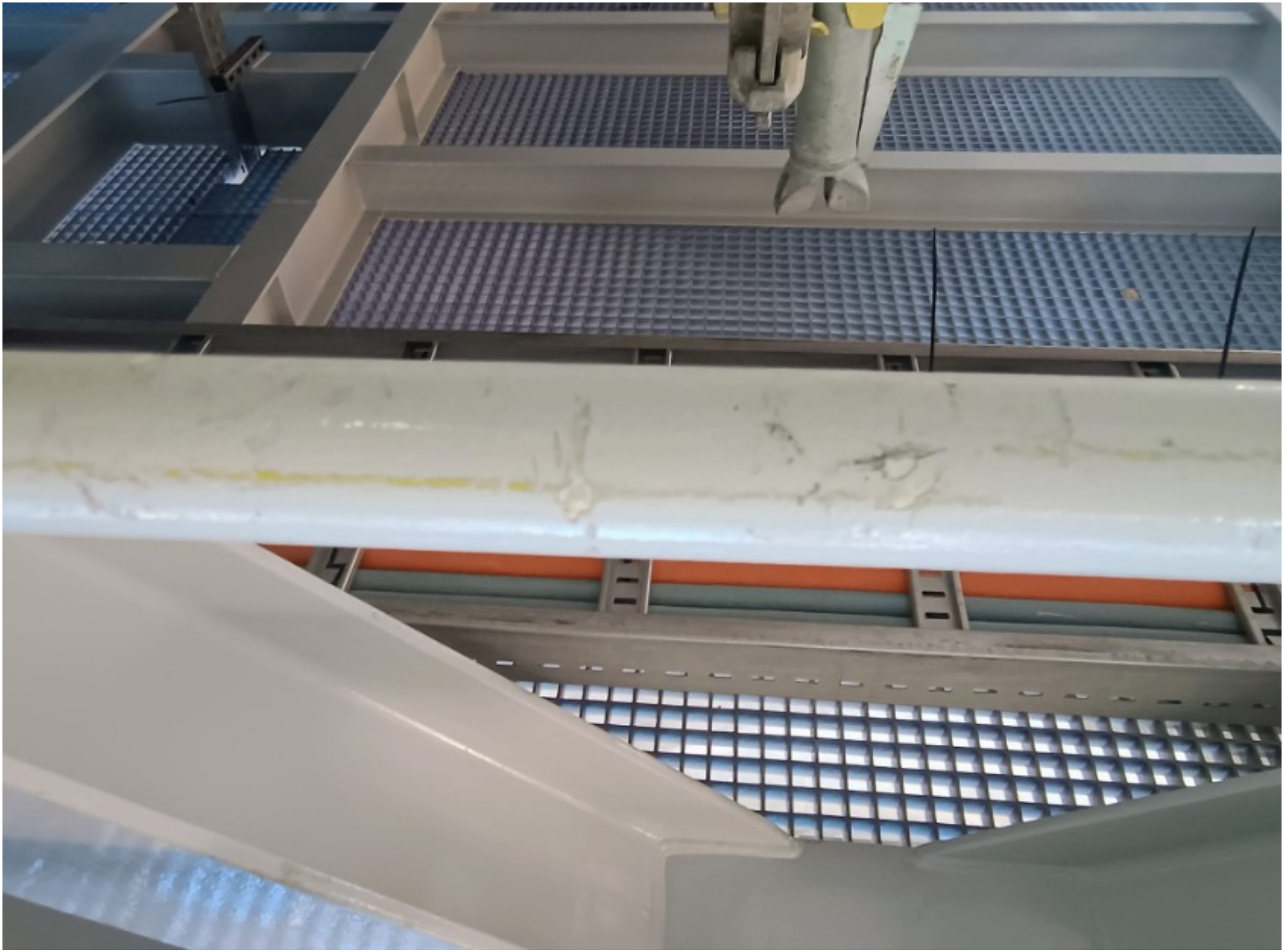
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Date:

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ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003561

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003692	1.4 Discipline	Piping
1.2 Item	64-00-TP-063	Test Pack 64-00-TP-063	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Color coding and fluid direction are missing.

Name: Kangi Albonetti

Date: 2025-02-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-02-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004329

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

During execution of Cause & Effect OTP doc. n. 123A90-PML-COM-PRO-03054, it had been noted that on equipment packages provided with a dedicated PLC controller, it was not possible to remotely reset the C&E trip command. Equipment package PLC internal logic to be updated and tested from Yokogawa workstation

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giandonato Delmissier
3.4 Activity code	COMM Commissioning	Date	2025-04-15
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Logic implemented and tested

Name Giandonato Delmissier

Date 2025-05-15

Signature

5 - CLEARANCE CHECK

Done

Name Giandonato Delmissier

Date 2025-05-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004399

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002356	1.4 Discipline	Instrumental
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

N.03 ITEMS OF EQUIPMENT UNINSTALLED AND SENT TO VENDOR COES SRL FOR ANALYSIS & REPAIR; 1) OXYGEN ANALYSER 64-AT-051, 2) PRESSURE CONTROL VALVE 64-CV-051, 3) SOLENOID VALVE 64-XV-055.

Name: Anthony Iveson
Date: 2025-07-23
Signature:

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal	FURTHER TO VENDOR ASSESSMENT, THE EQUIPMENT WILL BE REAPIRED / REPLACED.		
3.2 Material required			
3.3 Priority	B PL B	Name	Anthony Iveson
3.4 Activity code	COMM Commissioning	Date	2025-07-23
3.5 Action by	COMM Commissioning	Signature	

4 - PERFORMED ACTION

Instrument sent to COES - To be closed after sail-away

Name: Raffaele Degli Esposti
Date: 2025-08-01
Signature:

5 - CLEARANCE CHECK

Items received and installed on site in Eemshaven. The instrument cannot be tested after installation at this stage as BLPH is not operative .

Name: Raffaele Degli Esposti
Date: 2025-10-15
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-10-15
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001280

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001452	1.4 Discipline	Instrumental
1.2 Item	C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable is not supported and fixed to the rack (outside panel A-6400)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-23
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001284

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000588	1.4 Discipline	Electrical
1.2 Item	84312-CEL	AC UPS - PAS DB / UCP - N2 Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.41 (side A-64000)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

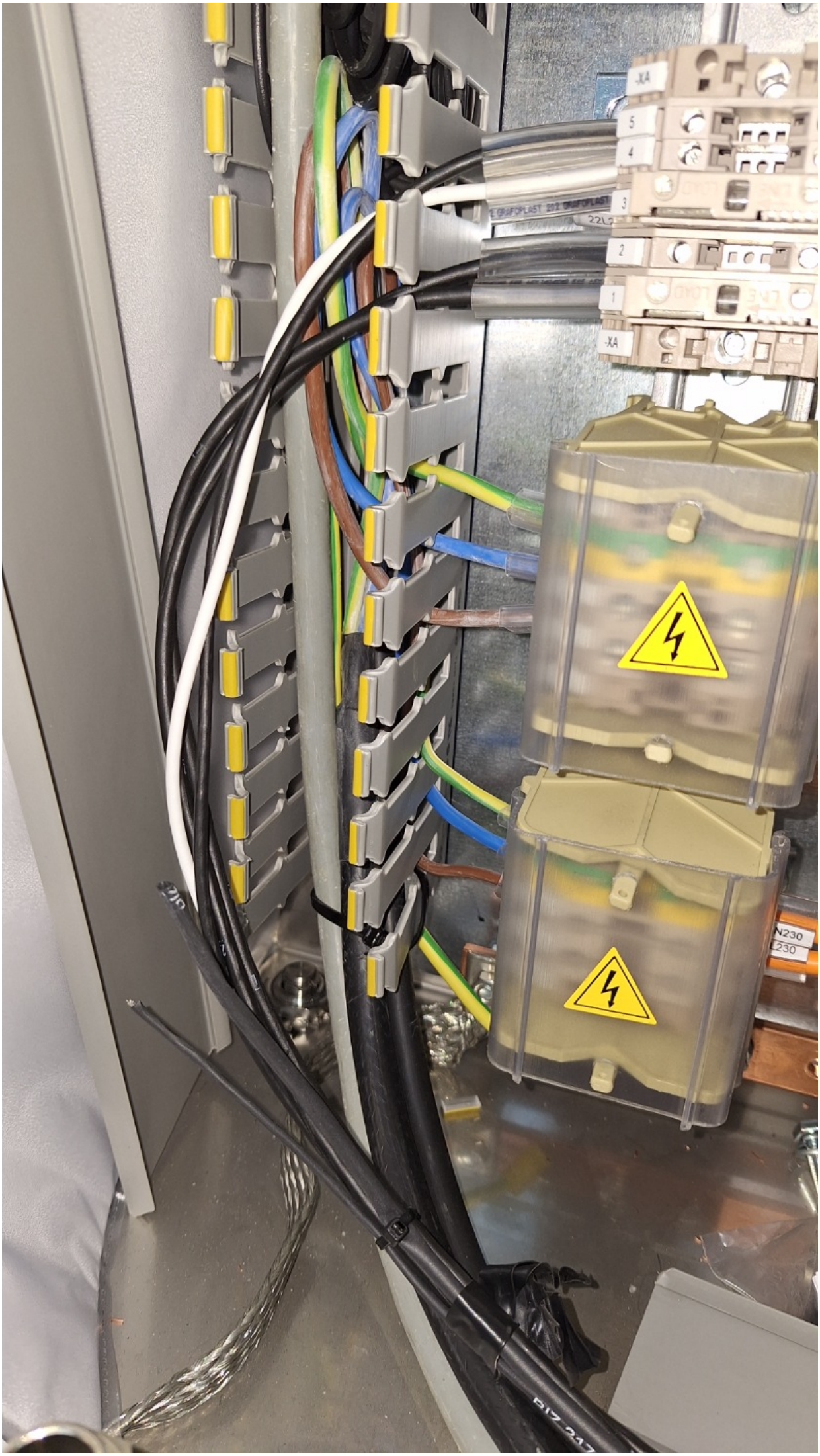
5 - CLEARANCE CHECK

The terminal earthing connection is grounded in the panel.

Name: Giovanni Tangianu
Date: 2024-12-06
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


XA
5
4
3
2
1
-XA
N230
230

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001285

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000588	1.4 Discipline	Electrical
1.2 Item	84312-CEL	AC UPS - PAS DB / UCP - N2 Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cable tag. side A-64000 / DP-200F3

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


84312-CEL
84311-CEL
8431 4-CEL
8431 8-CEL



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001286

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000588	1.4 Discipline	Electrical
1.2 Item	84312-CEL	AC UPS - PAS DB / UCP - N2 Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cores identification tag. side DP-200F3/ A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

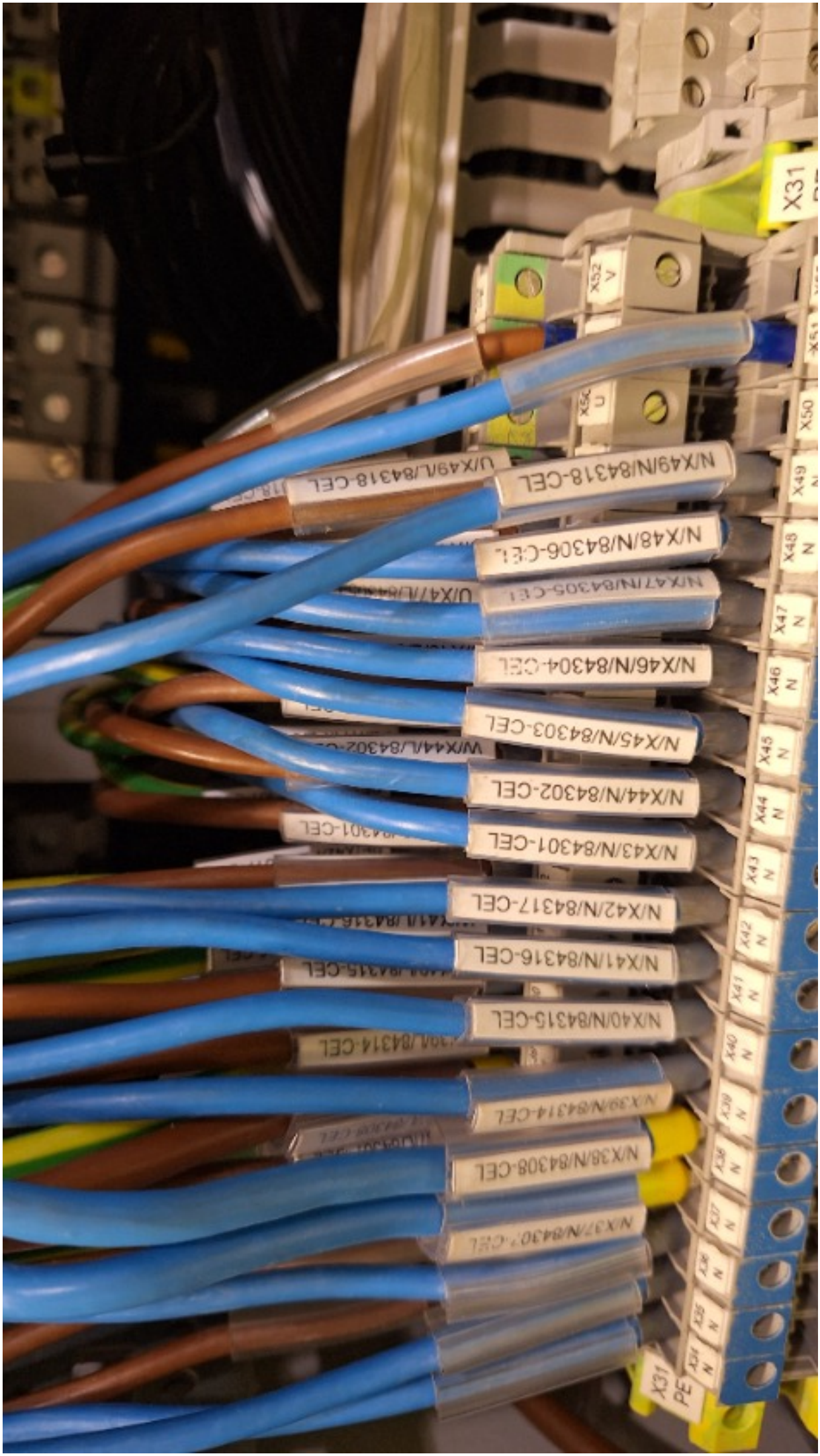
5 - CLEARANCE CHECK

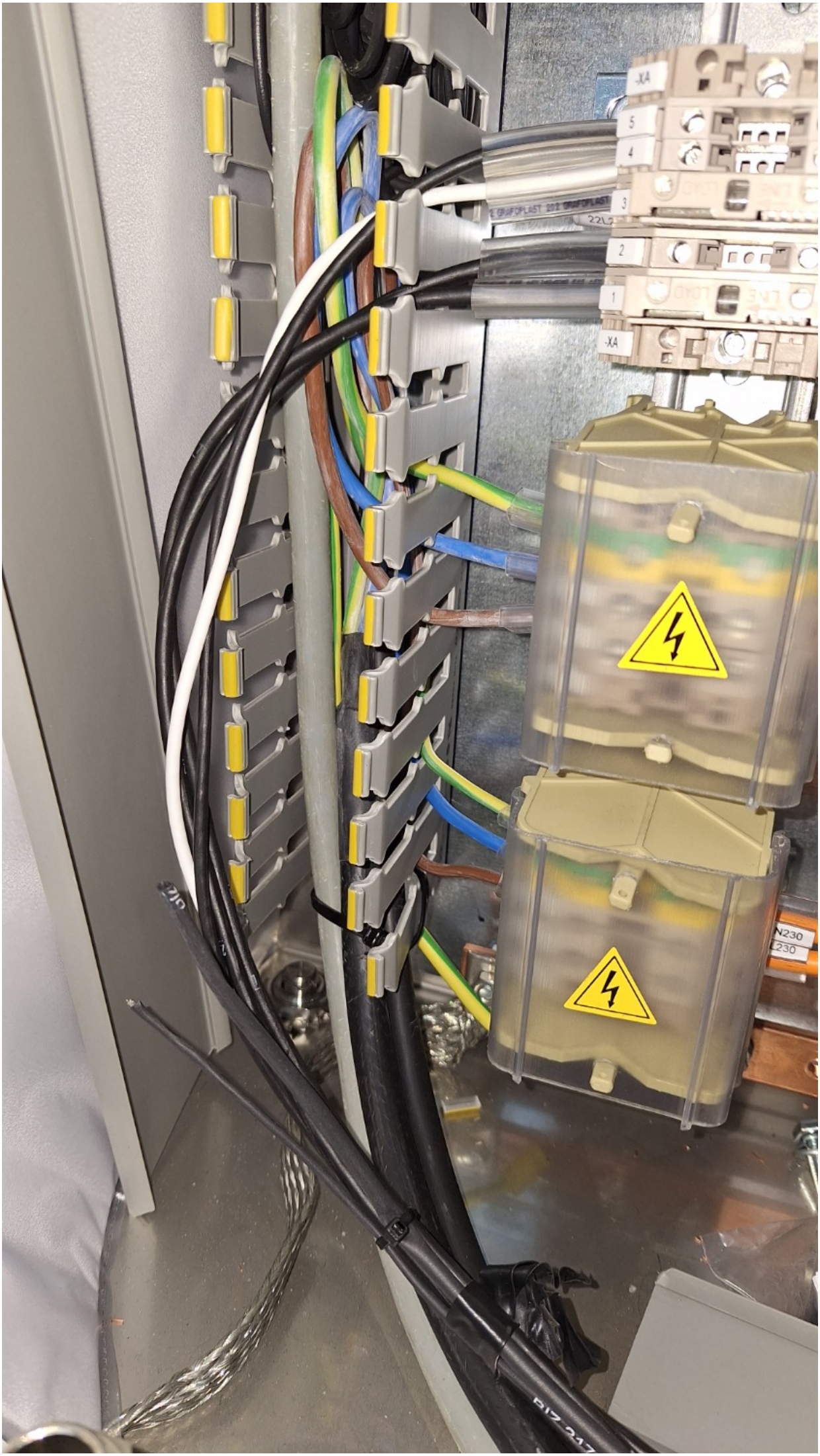
DONE

Name: Andrea Andreani
Date: 2025-02-15
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


X31
X52
X54
X50
X49
X48
X47
X46
X45
X44
X43
X42
X41
X40
N/X49/N/84318-CEL
N/X48/N/84306-CEL
N/X46/N/84304-CEL
N/X45/N/84303-CEL
N/X44/N/84302-CEL
N/X43/N/84301-CEL
N/X42/N/84317-CEL
N/X41/N/84316-CEL
N/X40/N/84315-CEL
X31
PE


XA
5
4
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-XA
N230
230

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001290

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000630	1.4 Discipline	Electrical
1.2 Item	83111-CEL		Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

Missing the earth connection between the terminal block (PE) and the earthing bar (PE). see 123A90-DDL-EL-DG-20149 sh.53. side A-64000

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

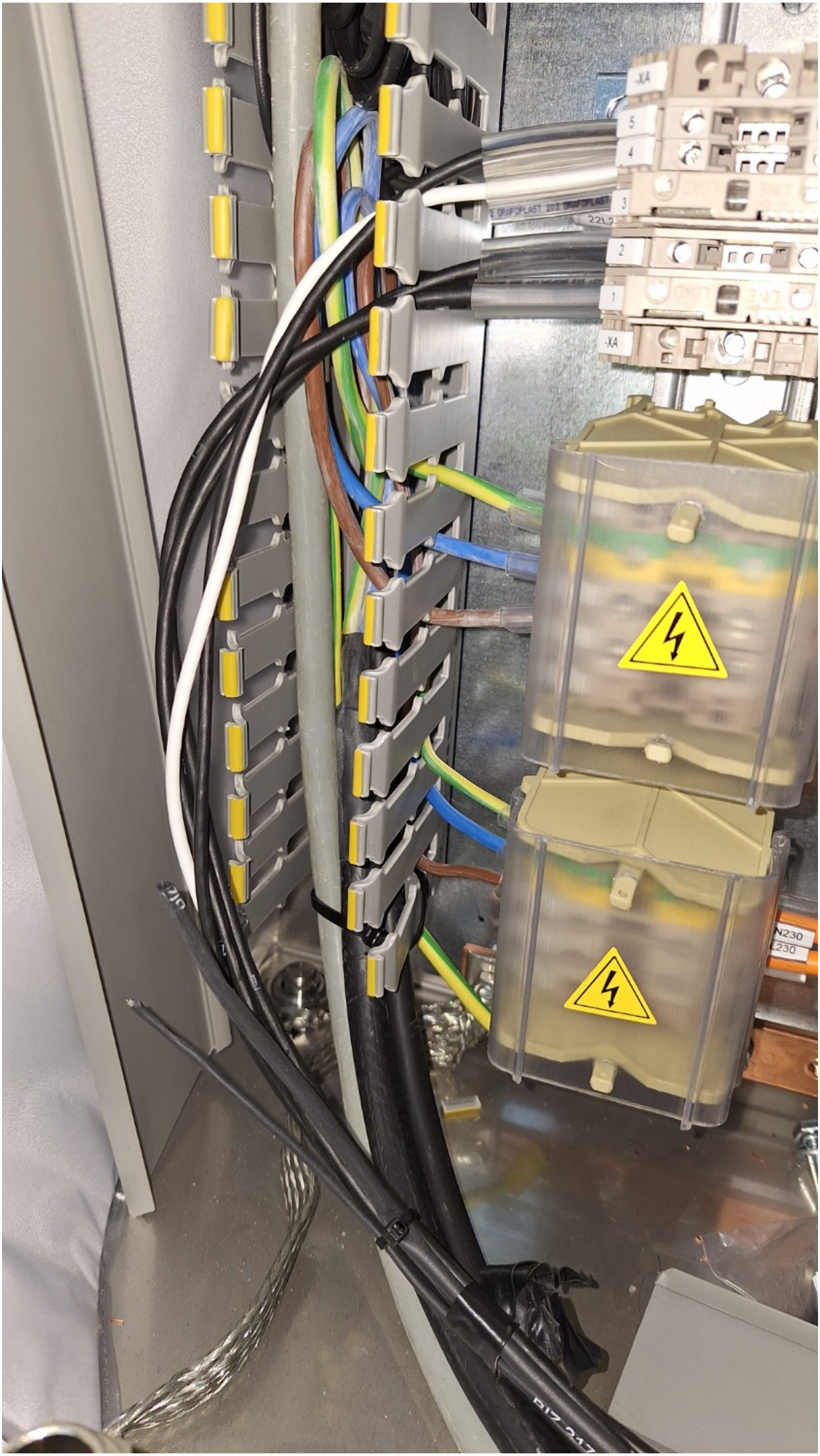
5 - CLEARANCE CHECK

The terminal earthing connection is grounded in the panel.

Name: Giovanni Tangianu
Date: 2024-12-06
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


XA
5
4
3
2
1
-XA
N230
230

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001291

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000630	1.4 Discipline	Electrical
1.2 Item	83111-CEL		Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

Missing cable tag . side DP-200N1 / A-64000

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic
Date: 2025-02-27
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:




SSWIND

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001292

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000630	1.4 Discipline	Electrical
1.2 Item	83111-CEL		Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

Missing cores identification tag. Cabinet side DP-200N1 / A-64000 . (see document 123A90-DDL-EL-DD-20092 sh.7-8)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

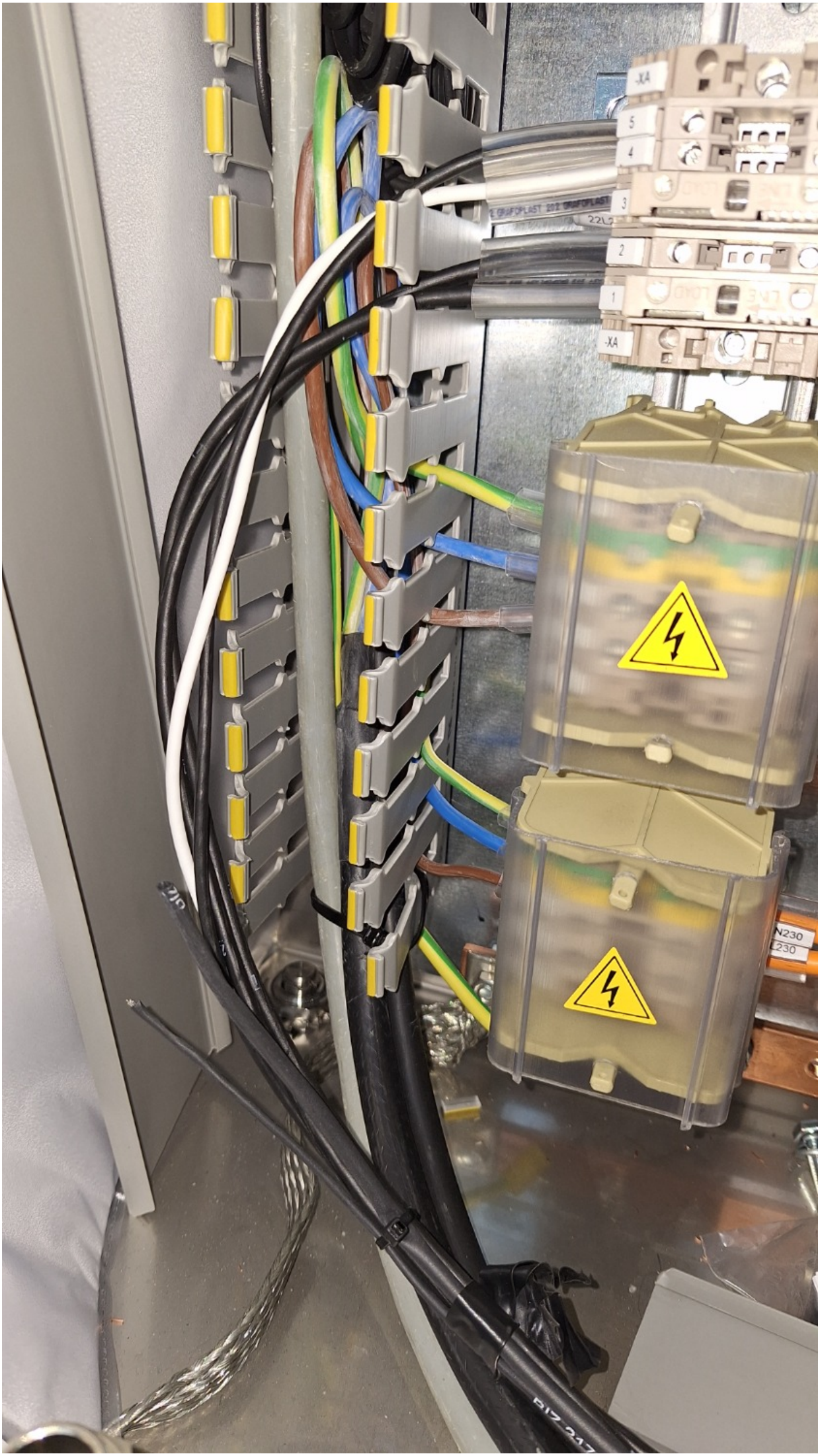
5 - CLEARANCE CHECK

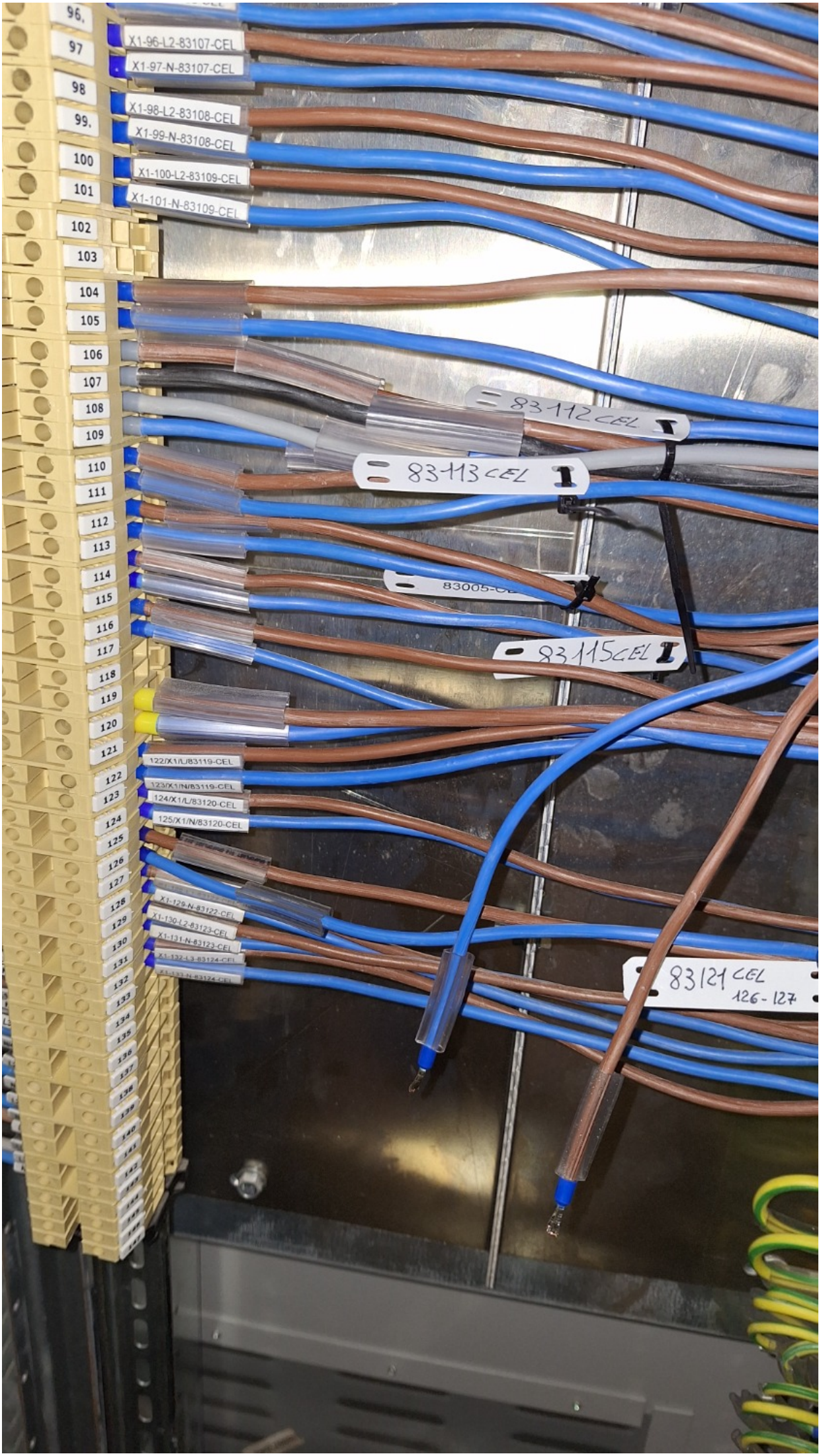
Installed.

Name: Giovanni Tangianu
Date: 2025-02-08
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


XA
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4
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-XA
N230
230


96.
97
X1-96-L2-83107-CEL
X1-97-N-83107-CEL
98
X1-98-L2-83108-CEL
99.
X1-99-N-83108-CEL
100
X1-100-L2-83109-CEL
101
X1-101-N-83109-CEL
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122/X1/L/83119-CEL
123/X1/N/83119-CEL
124/X1/L/83120-CEL
125/X1/N/83120-CEL
126
127
128
129
130
131
132
133
134
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136
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138
139
140
141
142
143
144
145
146
147
X1-129-N-83122-CEL
X1-130-L2-83123-CEL
X1-131-N-83123-CEL
83112 CEL
83113 CEL
83005-CEL
83115 CEL
83121 CEL
126 - 127

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001311

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002355	1.4 Discipline	Electrical
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-23
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001312

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002355	1.4 Discipline	Electrical
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cables are not adequately preserved. inside Skid

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2025-01-22

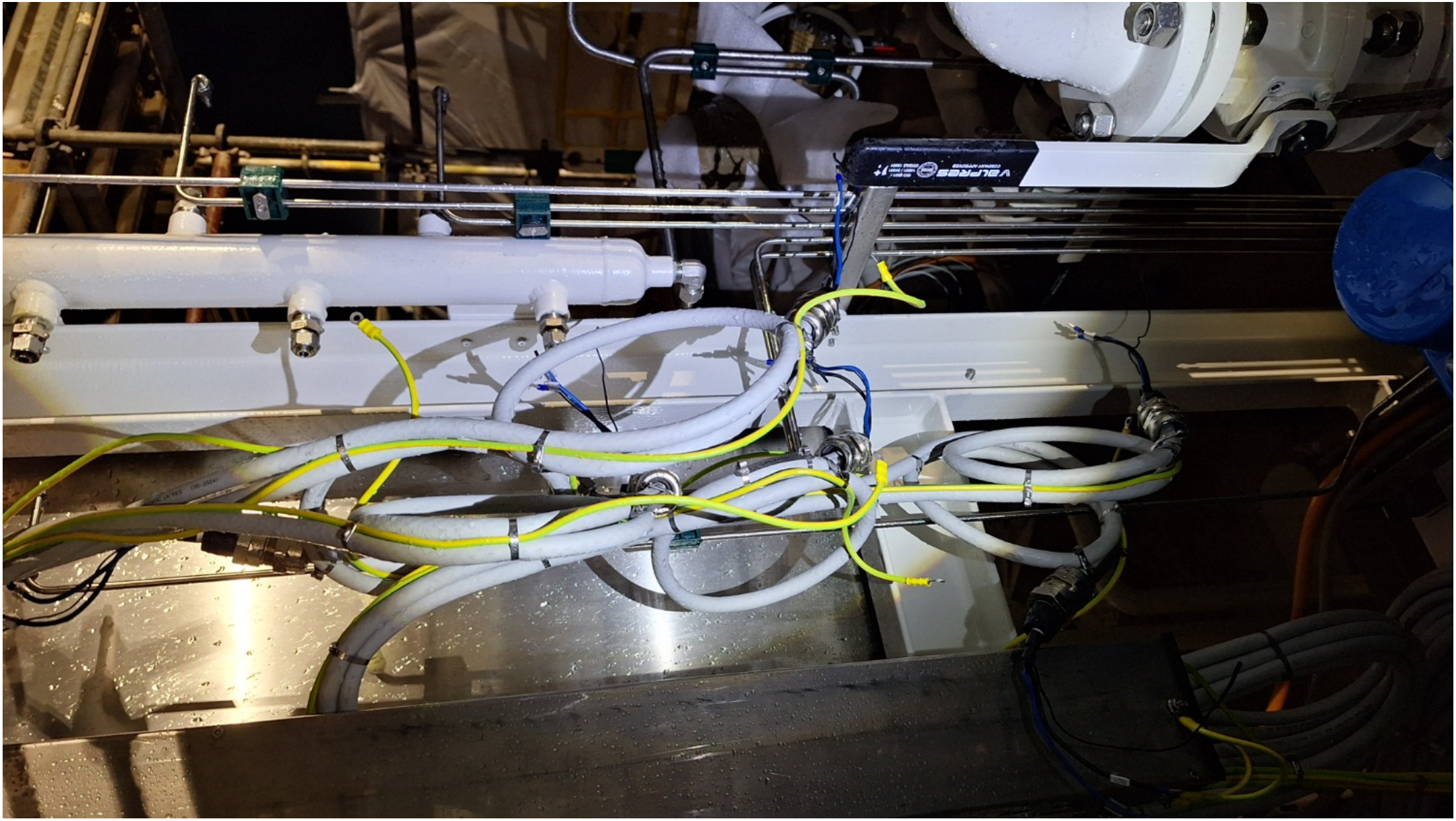
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001313

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002356	1.4 Discipline	Instrumental
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Earthing System is not as indicated by the Electrical Typical Installation Details document . see 123A90-DDL-EL-DD-20090 sh.3

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

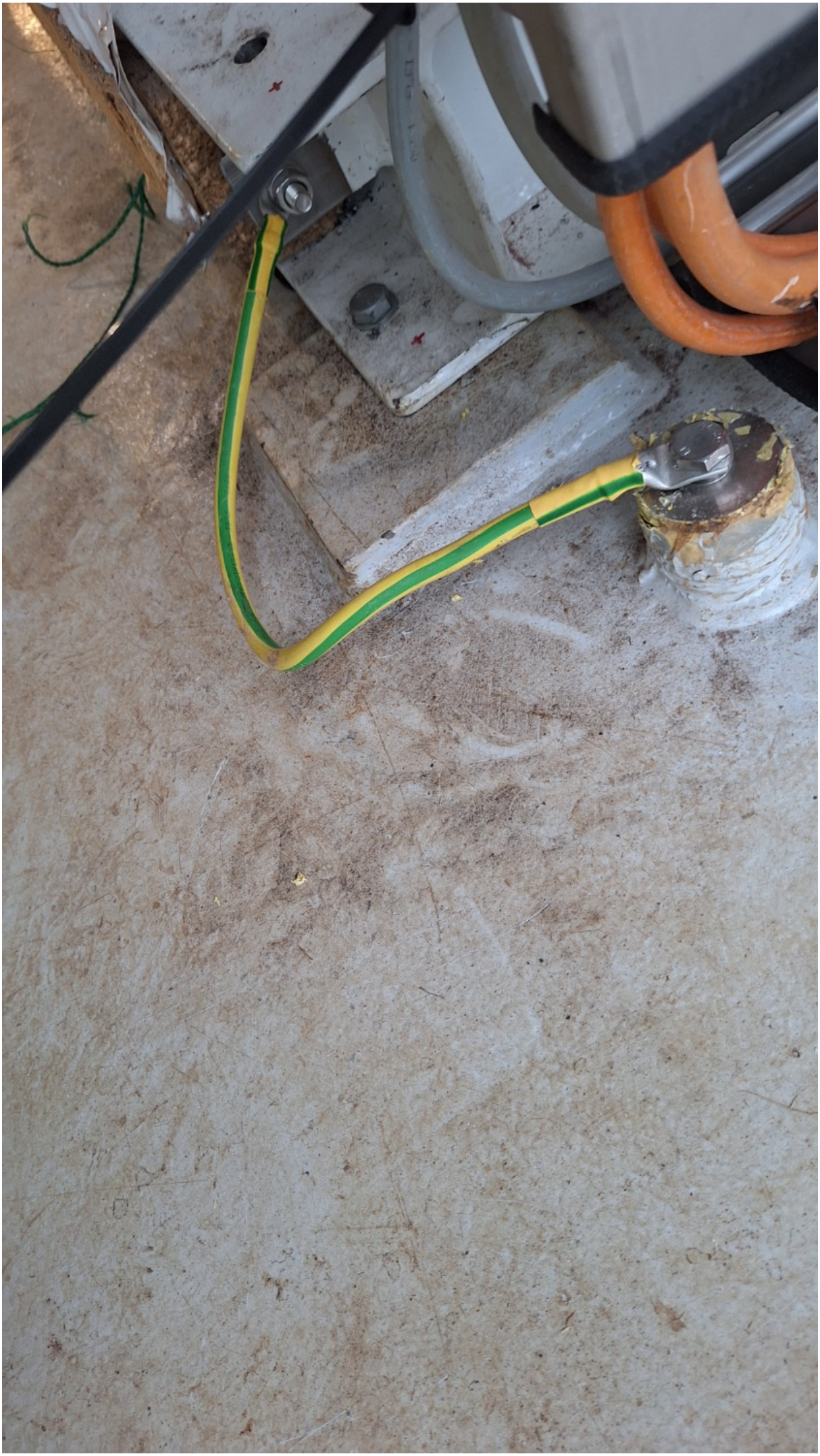
5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-23
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001316

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002356	1.4 Discipline	Instrumental
1.2 Item	A-64000	Nitrogen Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The tubing are not adequately preserved. inside Skid

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto
Date: 2025-01-22
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001380

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000588	1.4 Discipline	Electrical
1.2 Item	84312-CEL	AC UPS - PAS DB / UCP - N2 Package	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable gland are not closed in accordance with specification.

Name: Alessio Polo
Date: 2024-12-05
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-05
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic
Date: 2025-02-25
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


84312-CEL
84311-CEL
8431 4-CEL
8431 8-CEL

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002638

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003601	1.4 Discipline	Piping
1.2 Item	64-00-TP-049	Test Pack 64-00-TP-049	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Sk.120 (Sh.1/1): For support PS-01026 the position R1 (STD-211) has not been installed yet. Position F1 has not been drilled yet.

Name: Kangi Albonetti
Date: 2025-01-10
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Support assembled as for specification.

Name: Kangi Albonetti
Date: 2025-01-31
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002642

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Items 64-PSV-053 and 64-PSV-054 have not been installed.

Name: Kangi Albonetti
Date: 2025-01-10
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

PSV' spool has been installed and tightened.

Name: Kangi Albonetti
Date: 2025-01-16
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002643

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Valve BLPH-MV-819 has not been installed.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-01-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002644

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Valve BLPH-MV-820 has not been installed.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-01-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002645

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Indicator and trasnmitters 64-PI-058 and 64-PT-059 not installed. The Items are in Stainless steel but the fasteners are carbon steel, need insulation kit or different fasteners.

Name: Kangi Albonetti
Date: 2025-01-10
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga
Date: 2025-01-15
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002646

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Earthing lug: there are two earthing lugs instead of one as in the GA drawing n1724000437-MAC-DD-00006. Only one is connected and is the one installed on the leg marked as "detail B", where the original one as for the drawing is diconnected.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2025-03-25

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002648

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004520	1.4 Discipline	Mechanical
1.2 Item	V-64001	Nitrogen Receiver Vessel	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Anchor down system is different from the one marked in the GA drawing 1724000437-MAC-DD-00006. Item 42 has been substituted by M30x65 and there is no item 44 because the assembly is "blind bottom hole" type.

Name: Kangi Albonetti

Date: 2025-01-10

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Kangi Albonetti
3.4 Activity code	MC Mechanical Completion	Date	2025-01-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Accepted by Rosetti Marino.

Name: Lorenzo Novaga

Date: 2025-03-06

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000510

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

TO BE UPDATED DWG N. 1724000428-MAG-DG-00009 - CORRECT RAL 9002

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	VND Vendor	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Re Issued

Name	Vendor Crosswind
Date	2025-03-19
Signature	

5 - CLEARANCE CHECK

Name	Stefano Linari
Date	2025-03-19
Signature	

6- CLEARANCE APPROVAL

Name	
Date	2025-03-19
Signature	

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000511

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING.
SEE NCR 2024-Q-123A90-0009

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

NCR IS CLOSED

Name VENDOR COES

Date 2025-01-15

Signature

5 - CLEARANCE CHECK

NCR IS CLOSED

Name Stefano Linari

Date 2025-01-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000512

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

CONTINUITY AND MEGGER TEST REPORTS ARE MISSING.
TO BE PROVIDE

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

done

Name VENDOR COES

Date 2025-01-30

Signature

5 - CLEARANCE CHECK

done

Name Stefano Linari

Date 2025-01-30

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

COES Srl
24040 STEZZANO - ITALY - Via Pontida, 265
tel +39 035 2050 511
e.mail: coes@coessrl.com

Sedi operative
24040 STEZZANO – Via Pontida, 265
24040 COMUN NUOVO – Via Europa, 9

CONTINUITY AND INSULATION RESISTANCE TEST CERTIFICATE

CUSTOMER:	ROSETTI MARINO
PURCHASE ORDER:	1724000437
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project
SCOPE OF SUPPLY:	NITROGEN GENERATION PACKAGE
ITEM:	U-64000
INSPECTION AND TEST PLAN:	1724000437-QC-ITP-00002
FAT PROCEDURE:	1724000437-QC-PRO-00023
COES JOB:	167/24

ACTIVITY	**RESULT**
CHECK THE CONTINUITY OF THE PROTECTIVE BONDING CIRCUIT	**CONFORM**

Test parameters:

Open circuit voltage: 24Vac/dc
Test current: 10A
Test time: 5 s
Localization of the PE terminal: Earth bar

ACTIVITY	**RESULT**
INSULATION RESISTANCE TEST	**CONFORM**

Test parameters:

Test voltage: 500V
Localization of the PE terminal: Earth bar

(When performing the strength tests of insulation, the insulation resistance measured at 500V DC between conductors of the power circuit and the protective bonding circuit shall not be less than 1MΩ.)

COES SRL
W R

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000513

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

done

Name VENDOR COES

Date 2025-01-30

Signature

5 - CLEARANCE CHECK

done

Name Stefano Linari

Date 2025-01-30

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

COES Srl
24040 STEZZANO - ITALY - Via Pontida, 265
tel +39 035 2050 511
e.mail: coes@coessrl.com

Sedi operative
24040 STEZZANO – Via Pontida, 265
24040 COMUN NUOVO – Via Europa, 9

LEAKAGE TEST CERTIFICATE

CUSTOMER:	ROSETTI MARINO
PURCHASE ORDER:	1724000428
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project
SCOPE OF SUPPLY:	INSTRUMENT AIR PACKAGE
ITEM:	A-63000
INSPECTION AND TEST PLAN:	1724000428-QC-ITP-00002
FAT PROCEDURE:	1724000428-QC-PRO-00024
COES JOB:	166/24

ACTIVITY	RESULT
PNEUMATIC LEAKAGE CHECK @ 7 barg	**CONFORM**

Notes:
Test performed at RM Piomboni Yard

COES SRL

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000514

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

MISSING TAG PLATE ON PSV 64-053 / PSV-64-054

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

Done

Name COES

Date 2025-03-25

Signature

5 - CLEARANCE CHECK

Name Stefano Linari

Date 2025-03-25

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000959

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The copper conductor of the cable armor must be individually connected to the earthing bar. See 123A90-DDL-EL-DD-20090.

Name: Alessio Polo
Date: 2024-11-27
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

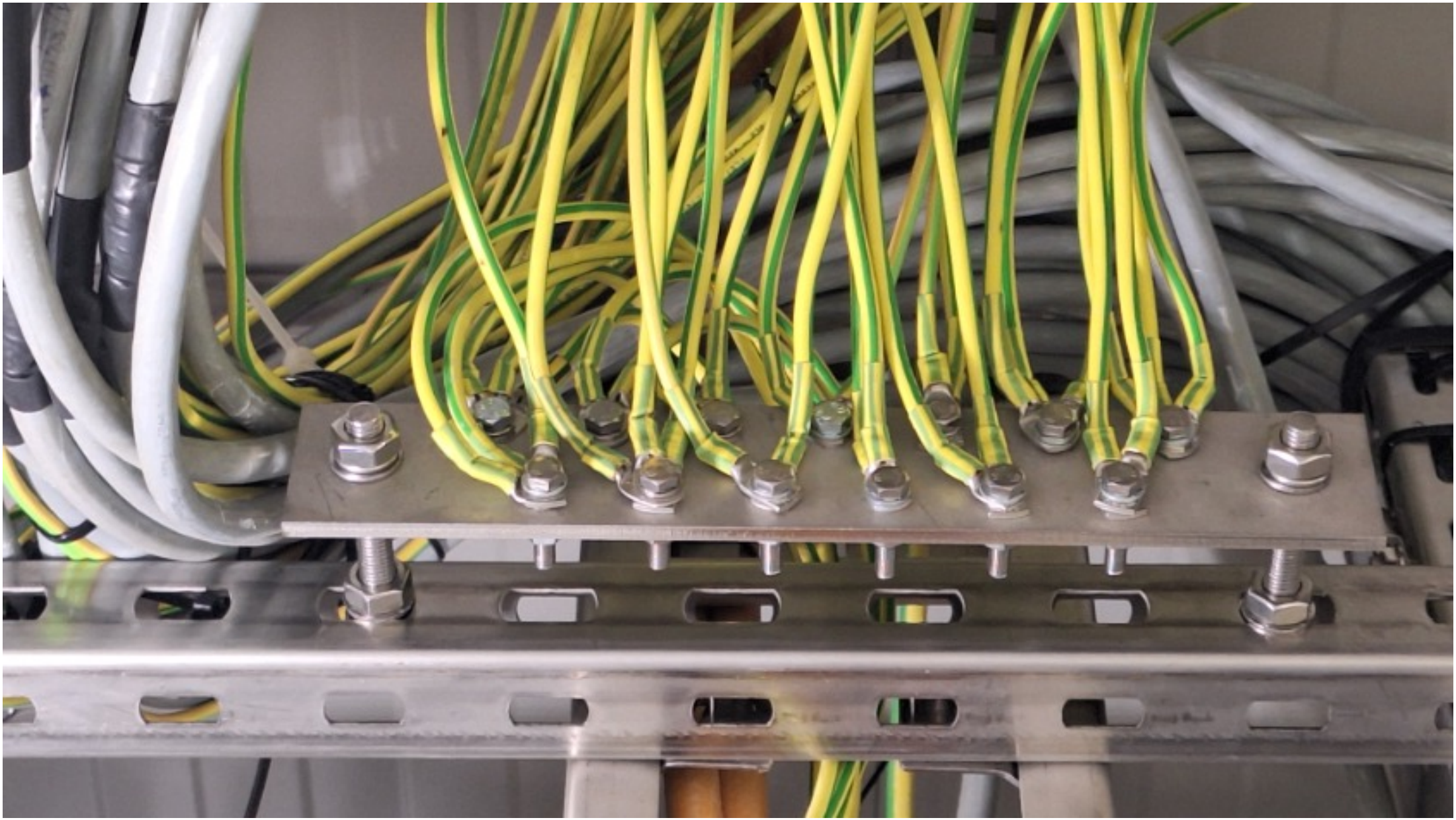
5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-02-04
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000960

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cable tag SS project, outside panel U-64000.

Name: Alessio Polo

Date: 2024-11-27

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000962

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable is not supported and fixed to the rack outside panel U-64000

Name: Alessio Polo
Date: 2024-11-27
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu
Date: 2025-02-08
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000963

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable termination is not installed in accordance with Electrical Typical Installation Details. see 123A90-DDL-EL-DD-20090 sh.8 / 29. (U-64000)

Name: Alessio Polo
Date: 2024-11-27
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

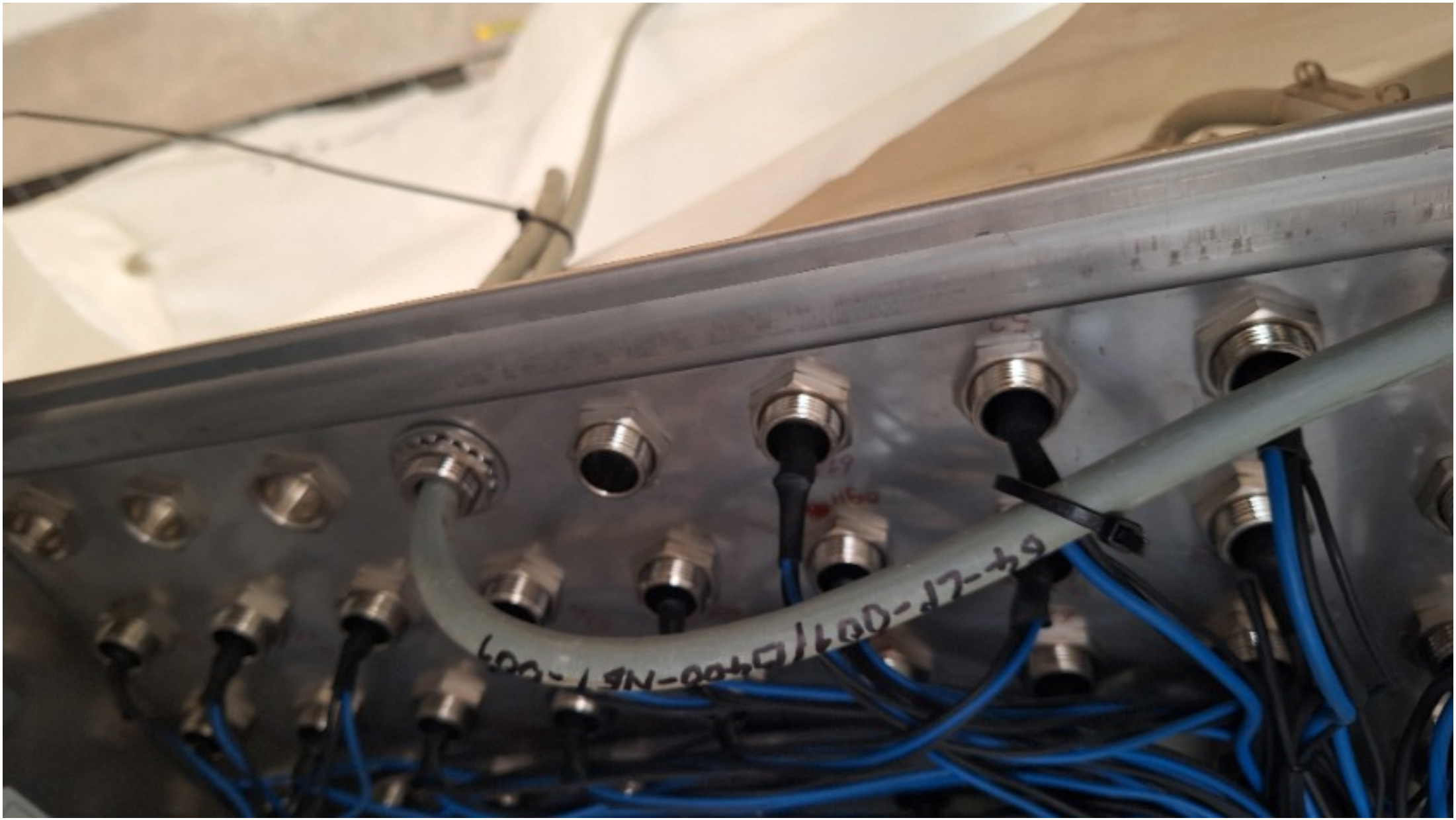
Done

Name: Alessio Polo
Date: 2024-12-05
Signature:

6- CLEARANCE APPROVAL

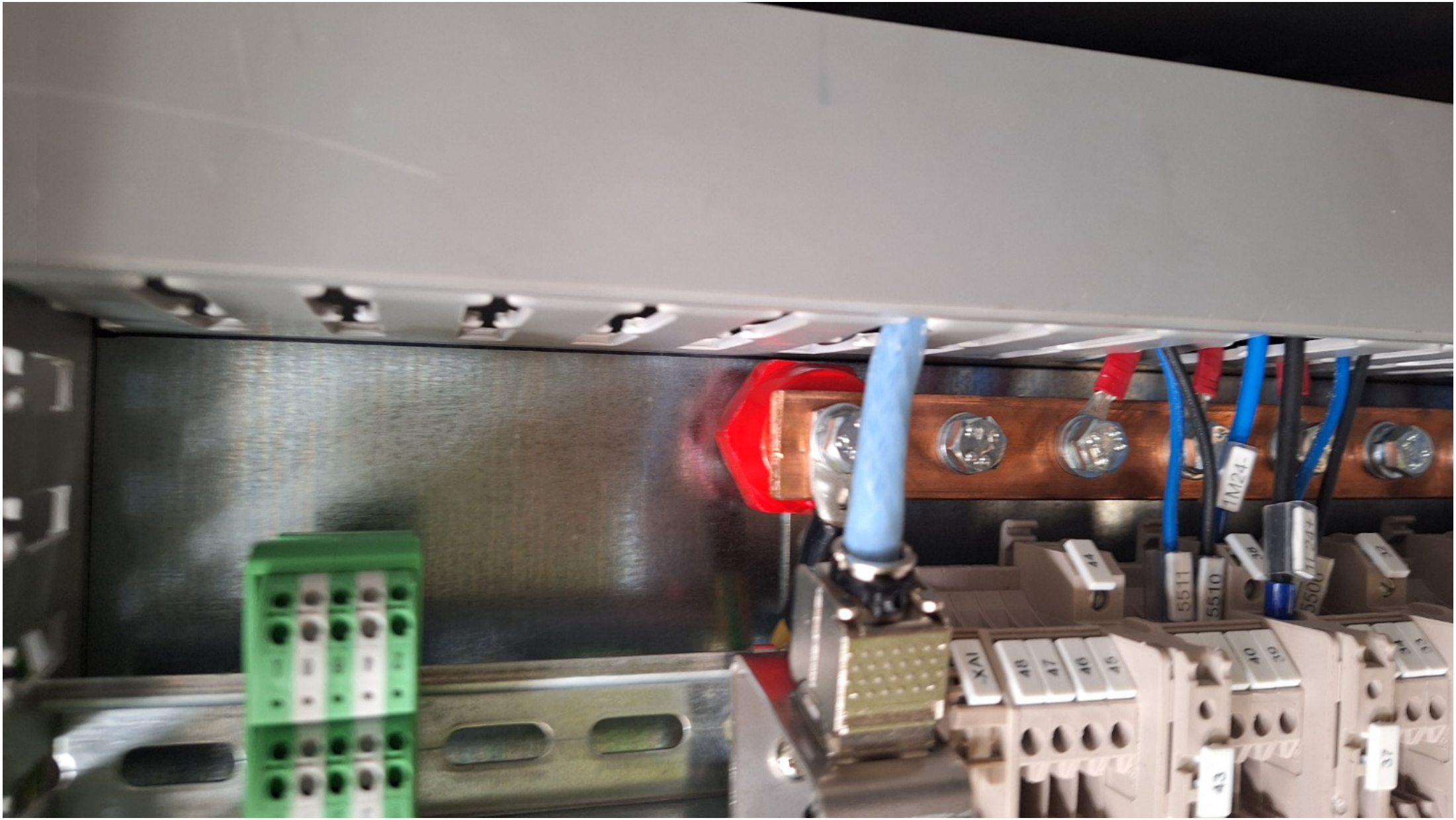
Name:
Date:
Signature:






SFG
6.8
SCH




XA1
48
47
46
45
5511
5510
1M24

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000969

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004350	1.4 Discipline	Telecom
1.2 Item	64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing the Thermo-shrink of on the final destination cable end
Bending radius is not within the specified limits.

Name: Alessio Polo
Date: 2024-11-27
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

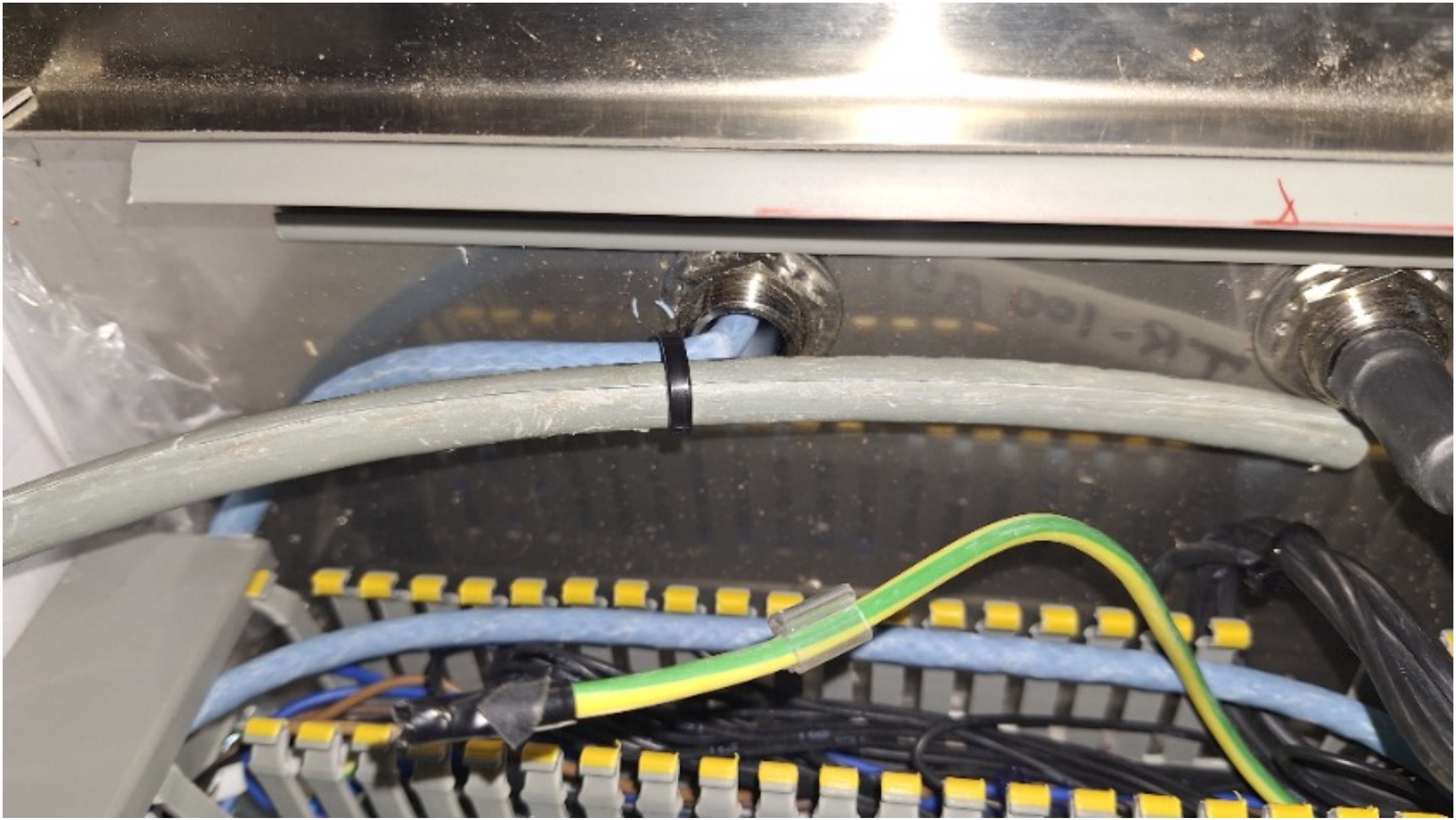
5 - CLEARANCE CHECK

Done

Name: Alessio Polo
Date: 2024-12-05
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001021

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003600	1.4 Discipline	Piping
1.2 Item	64-00-TP-049	Test Pack 64-00-TP-049	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

General final touch-up to do.

Name: Massimo Bruschi
Date: 2024-11-28
Signature:

3 - DEFECT ASSESSMENT

-

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Massimo Bruschi
3.4 Activity code	MC Mechanical Completion	Date	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Activity done

Name: Kangi Albonetti
Date: 2025-02-06
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001022

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003600	1.4 Discipline	Piping
1.2 Item	64-00-TP-049	Test Pack 64-00-TP-049	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Unmounted spool with its erection materials.

Name: Massimo Bruschi

Date: 2024-11-28

Signature:

3 - DEFECT ASSESSMENT

-

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Massimo Bruschi
3.4 Activity code	MC Mechanical Completion	Date	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

.

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Flange management activities done for this test pack.

Name: Lorenzo Novaga

Date: 2025-01-17

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001272

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001459	1.4 Discipline	Instrumental
1.2 Item	C-64-XA-003/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cable tag SS

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001273

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001459	1.4 Discipline	Instrumental
1.2 Item	C-64-XA-003/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cores identification tag. Cabinet side A-640000 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

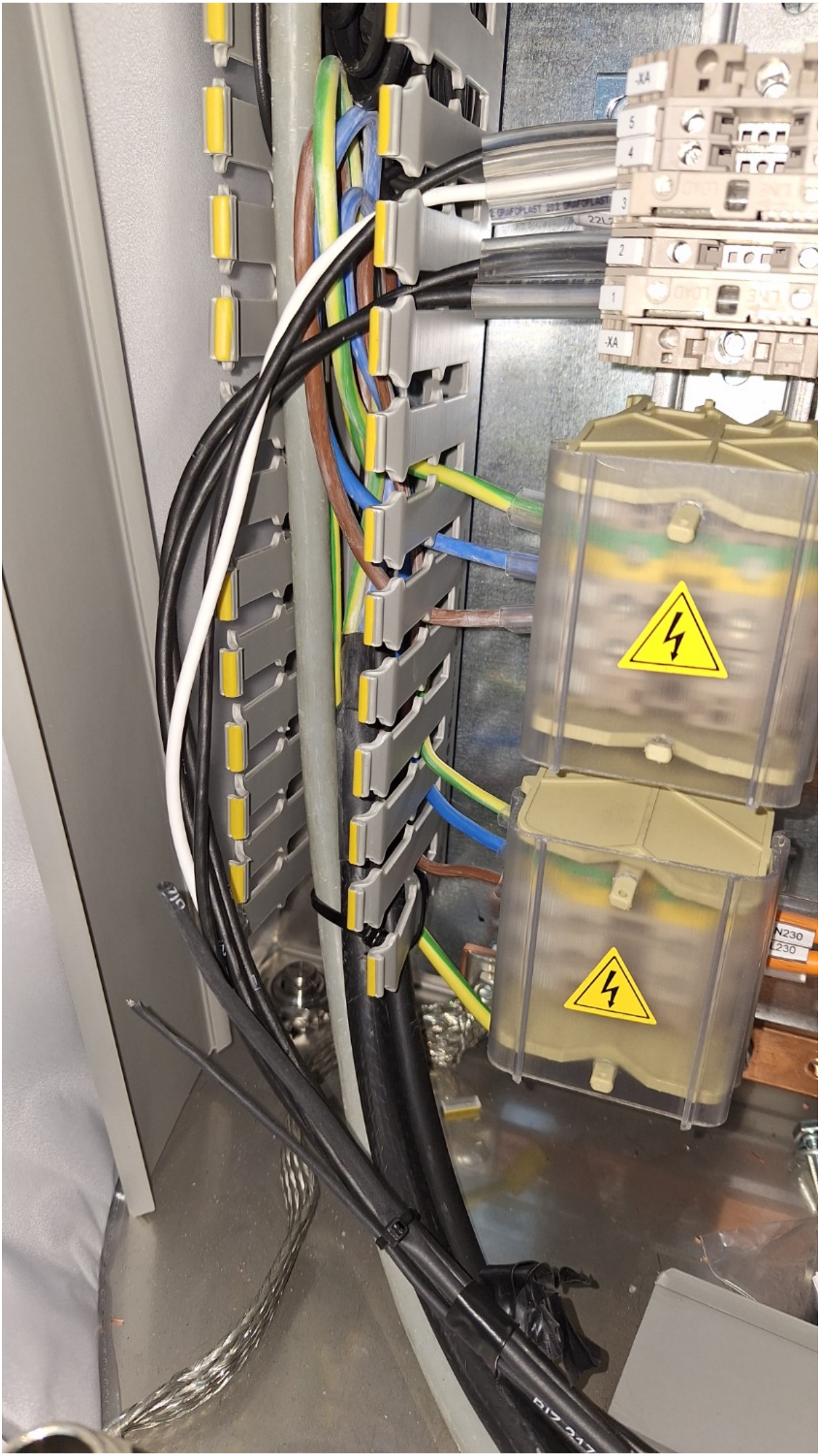
5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu
Date: 2025-02-08
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


XA
5
4
3
2
1
-XA
N230
230

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001274

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001459	1.4 Discipline	Instrumental
1.2 Item	C-64-XA-003/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

The cable is not supported and fixed to the rack (outside panel A-64000)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-23
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001277

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001452	1.4 Discipline	Instrumental
1.2 Item	C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Wrong cores identification tag. side A-64000 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

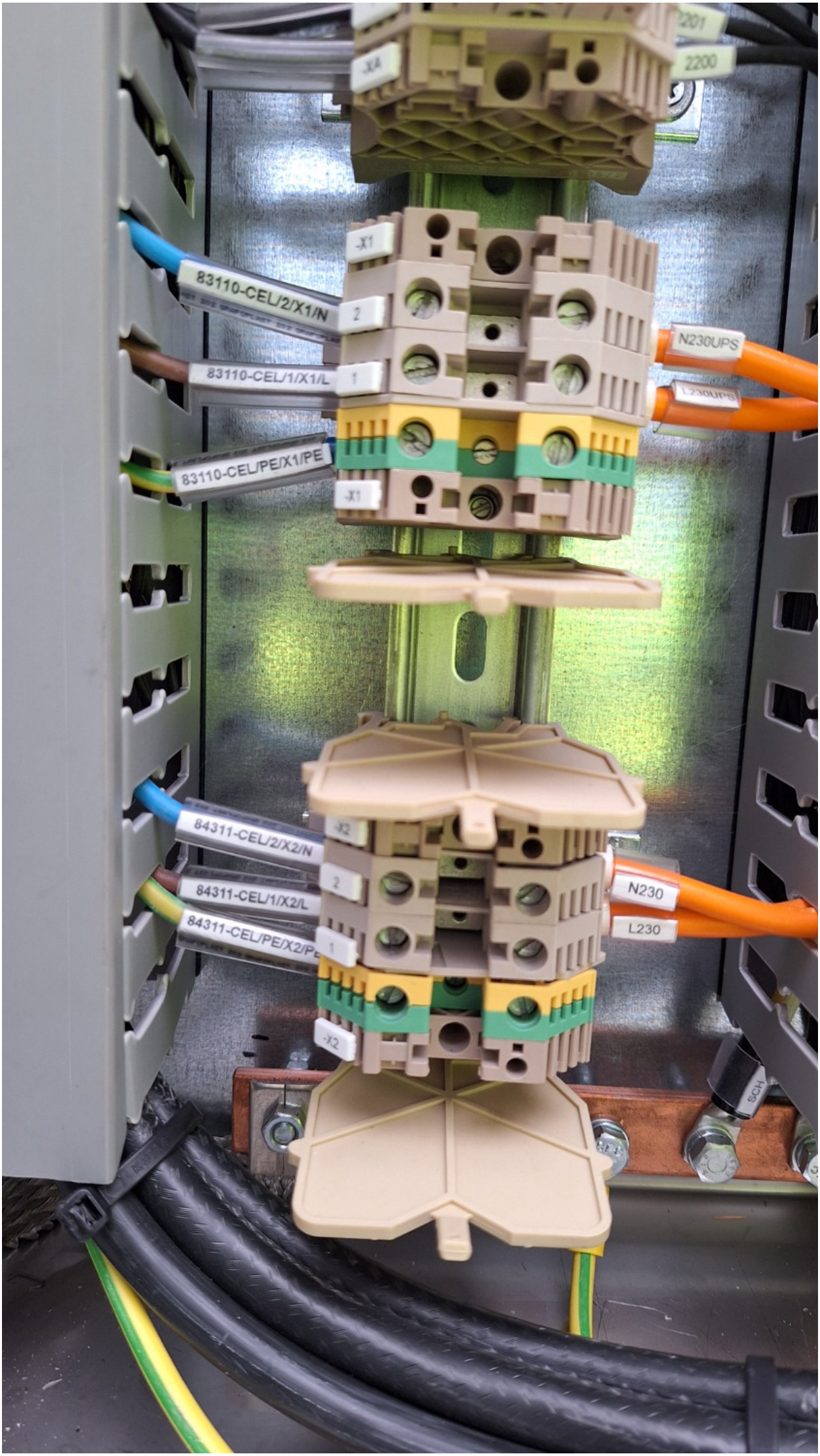
5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu
Date: 2025-02-08
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


2201
-XA
2200
-X1
83110-CEL/2/X1/N
2
N230UPS
83110-CEL/1/X1/L
1
L230UPS
83110-CEL/PE/X1/PE
-X1
84311-CEL/2/X2/N
-X2
2
N230
84311-CEL/1/X2/L
L230
1
-X2
SCH

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001278

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001452	1.4 Discipline	Instrumental
1.2 Item	C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cable tag. B400-SIS-001 / A-64000

Name: Alessio Polo

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

C-63-PS-052
C-63-PS-064
C-63-ZSH-040
C-63-ZSL-040
C-63-XX-053

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001279

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001452	1.4 Discipline	Instrumental
1.2 Item	C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	
1.3 Subsystem	64-00	Nitrogen Generator Package (U-64000)	

2 - OBSERVATION

Missing cores identification tag. Cabinet side B400-SIS-001 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic
Date: 2025-02-26
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000499

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

Package to be test with PLC set to REMOTE MODE

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	RM Rosetti Marino Quality	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Name Stefano Linari

Date 2025-03-19

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000500

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

THE SOLENOID 64-XV-054 DOES NOT WORK, TO BE INVESTIGATE.

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER

Name VENDOR COES

Date 2025-01-15

Signature

5 - CLEARANCE CHECK

VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER

Name Stefano Linari

Date 2025-01-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000501

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID WILL BE RE INSTALLED

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER

Name VENDOR COES

Date 2025-01-15

Signature

5 - CLEARANCE CHECK

VALVE INSTALLED AFTER CHECK OF SUB SUPPLIER

Name Stefano Linari

Date 2025-01-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000502

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

During on-site testing phase, it will be necessary to validate that PACKAGE does not suffer malfunctions due ti the low pressure

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	VND Vendor	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Name Stefano Linari

Date 2025-03-19

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000503

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task

1.4 Discipline Mechanical

1.2 Item A-64000 Nitrogen Package

1.3 Subsystem 64-00 Nitrogen Generator Package (U-64000)

2 - OBSERVATION

HARDWIRED & PROFINET SIGNALS STILL TO BE TESTED

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority B PL B

3.4 Activity code FAT factory acceptance test

3.5 Action by

Name Stefano Linari

Date 2024-10-29

Signature --- Proverlis ---
Duplicata issued from database information
Signature is on original form

4 - PERFORMED ACTION

ACTIVITY DONE

Name VENDOR COES

Date 2025-01-27

Signature

5 - CLEARANCE CHECK

ACTIVITY DONE

Name Stefano Linari

Date 2025-01-27

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000504

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task

1.4 Discipline Mechanical

1.2 Item A-64000 Nitrogen Package

1.3 Subsystem 64-00 Nitrogen Generator Package (U-64000)

2 - OBSERVATION

MAX PRESSURE ON VALVE ACTUATORS = 8 BAR IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR.

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority B PL B

3.4 Activity code FAT factory acceptance test

3.5 Action by

Name Stefano Linari

Date 2024-10-29

Signature --- Proverlis ---
Duplicata issued from database information
Signature is on original form

4 - PERFORMED ACTION

PRESSURE 8 BARG

Name VENDOR COES

Date 2025-01-27

Signature

5 - CLEARANCE CHECK

PRESSURE 8 BARG

Name Stefano Linari

Date 2025-01-27

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000505

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

THE OXYGEN VALUE DURING PRESSURIZATION IS NOT STABLE. IN THIS PHASE IT IS POSSIBLE TO CHECK THE CLOSURE OF VALVE 64-XV-058 AND OPENING OF THE VALVE OF VENT 64-XV-059

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	VND Vendor	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name	Vendor Crosswind
Date	2025-03-19
Signature	

5 - CLEARANCE CHECK

Name	Stefano Linari
Date	2025-03-19
Signature	

6- CLEARANCE APPROVAL

Name	
Date	2025-03-19
Signature	

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000506

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering.

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	RM Rosetti Marino Quality	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name	Vendor Crosswind
Date	2025-03-19
Signature	

5 - CLEARANCE CHECK

Name	Stefano Linari
Date	2025-03-19
Signature	

6- CLEARANCE APPROVAL

Name	
Date	2025-03-19
Signature	

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000507

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE MANDATORY BEFORE PERFORMING THE FUNCTIONAL AND PERFORMANCE TESTS OF THE PACKAGE. ALL PERFORMANCE MUST BE TESTED AND ACCEPTED AT THE CONSTRUCTION SITE

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by		Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

TEST WILL BE REPEATED ON SITE

Name VENDOR COES

Date 2025-01-15

Signature

5 - CLEARANCE CHECK

TEST WILL BE REPEATED ON SITE

Name Stefano Linari

Date 2025-01-15

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000508

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

BALL FLOW METER UPSTREAM OF THE 64-AT-051 OXYGEN TO THE NITROGEN GENERATION TO BE ADDED IN PKG PID

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	VND Vendor	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

DONE

Name	Vendor Crosswind
Date	2025-03-19
Signature	

5 - CLEARANCE CHECK

Name	Stefano Linari
Date	2025-03-19
Signature	

6- CLEARANCE APPROVAL

Name	
Date	2025-03-19
Signature	

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000509

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Mechanical
1.2 Item	A-64000		Nitrogen Package
1.3 Subsystem	64-00		Nitrogen Generator Package (U-64000)

2 - OBSERVATION

ALL THE ALARMS AND SET POINT OF NITROGEN GENERATION PACKAGE TO BE TESTED

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Stefano Linari
3.4 Activity code	FAT factory acceptance test	Date	2024-10-29
3.5 Action by	RM Rosetti Marino Quality	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

OTP DONE POINT CLOSED

Name Vendor Crosswind

Date 2025-03-19

Signature

5 - CLEARANCE CHECK

Name Stefano Linari

Date 2025-03-19

Signature

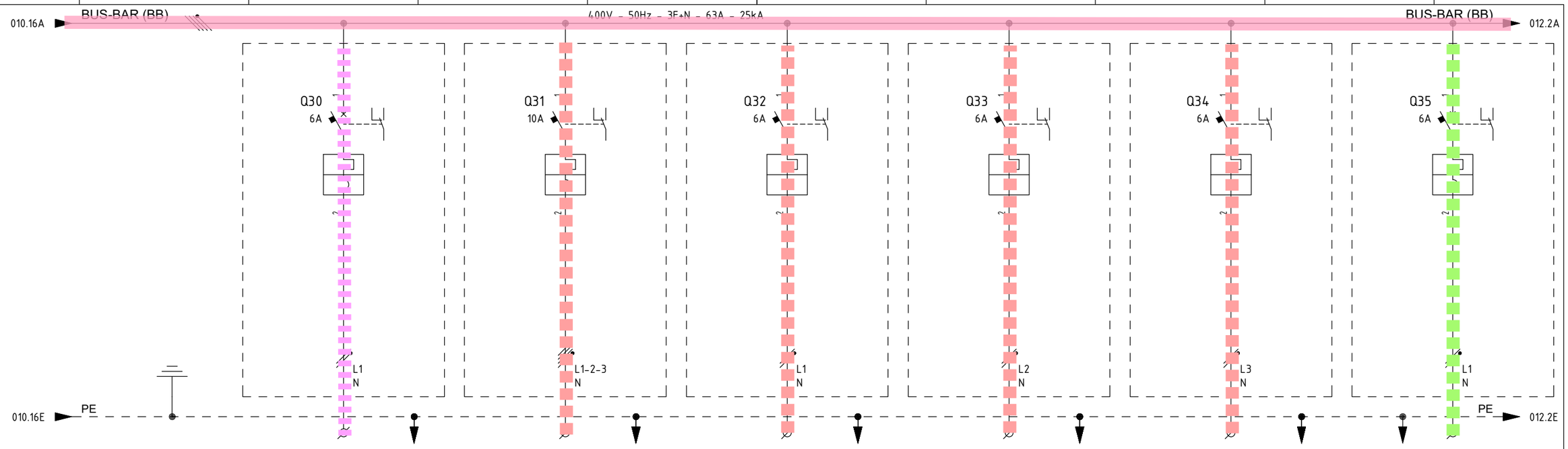
6- CLEARANCE APPROVAL

Name

Date 2025-03-19

Signature

Section 3 SYSTEM,SUB-SYSTEM LIMIT DRAWINGS



ITEM			1	CP-640F1	CP-100E2	CP-100E3	CP-100E4	RR-100D1	CP-200E1
UTILITY			2	UCP - N2 PACKAGE - AUXILIARY	AUXILIARY TRAFO OLTC	AUXILIARY TRAFO AVR	AUXILIARY TRAFO 7MVA	AUXILIARY NER	AUXILIARY TRAFO 1.6MVA
CUBICLE			3	+03	+03	+03	+03	+03	+03
RATED POWER | RATED CURRENT			4/5	0.5 KW | 2.72 A	1 KW | 1.81 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A
TYPICAL FUNCTIONAL			6	-	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C6	S304P-C10	S302P-C6	S302P-C6	S302P-C6	S302P-C6
	VERSION		8	2P / MINIATURE	4P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS		9	In=6A - Curve C	In=10A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C
	Icu	KA	10	25kA	25kA	25kA	25kA	25kA	25kA
OVERLOAD	L	Range A	11	-	-	-	-	-	-
		Range t	12	-	-	-	-	-	-
SEL. SHORT-CIRCUIT	S	Range A	13	-	-	-	-	-	-
		Range t	14	-	-	-	-	-	-
INST. SHORT-CIRCUIT	I	Range A	15	-	-	-	-	-	-
		Range t	16	-	-	-	-	-	-
EARTH FAULT PROTECTION	G	Range A	17	-	-	-	-	-	-
		Range t	18	-	-	-	-	-	-
CONTACTOR (ABB)			19	-	-	-	-	-	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-	-
SURGE ARRESTERS (DHENN)			21	-	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-	-
FUSE HOLDER (ABB)			23	-	-	-	-	-	-
TWILIGHT SWITCH (ABB)			24	-	-	-	-	-	-
VOLTMETER (FRER)			25	-	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-	-
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4
POWER CONDUCTOR		mm²	31	3G2.5	5G4	3G2.5	3G2.5	3G2.5	3G2.5

SUBSYSTEM 64-00

SUBSYSTEM 81-20

SUBSYSTEM 81-20

SUBSYSTEM 81-20

SUBSYSTEM 81-20

SUBSYSTEM 82-40

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

DWG n° : 231298/SD/13

Item n° : PF1002888/101

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00013

SHEET 011

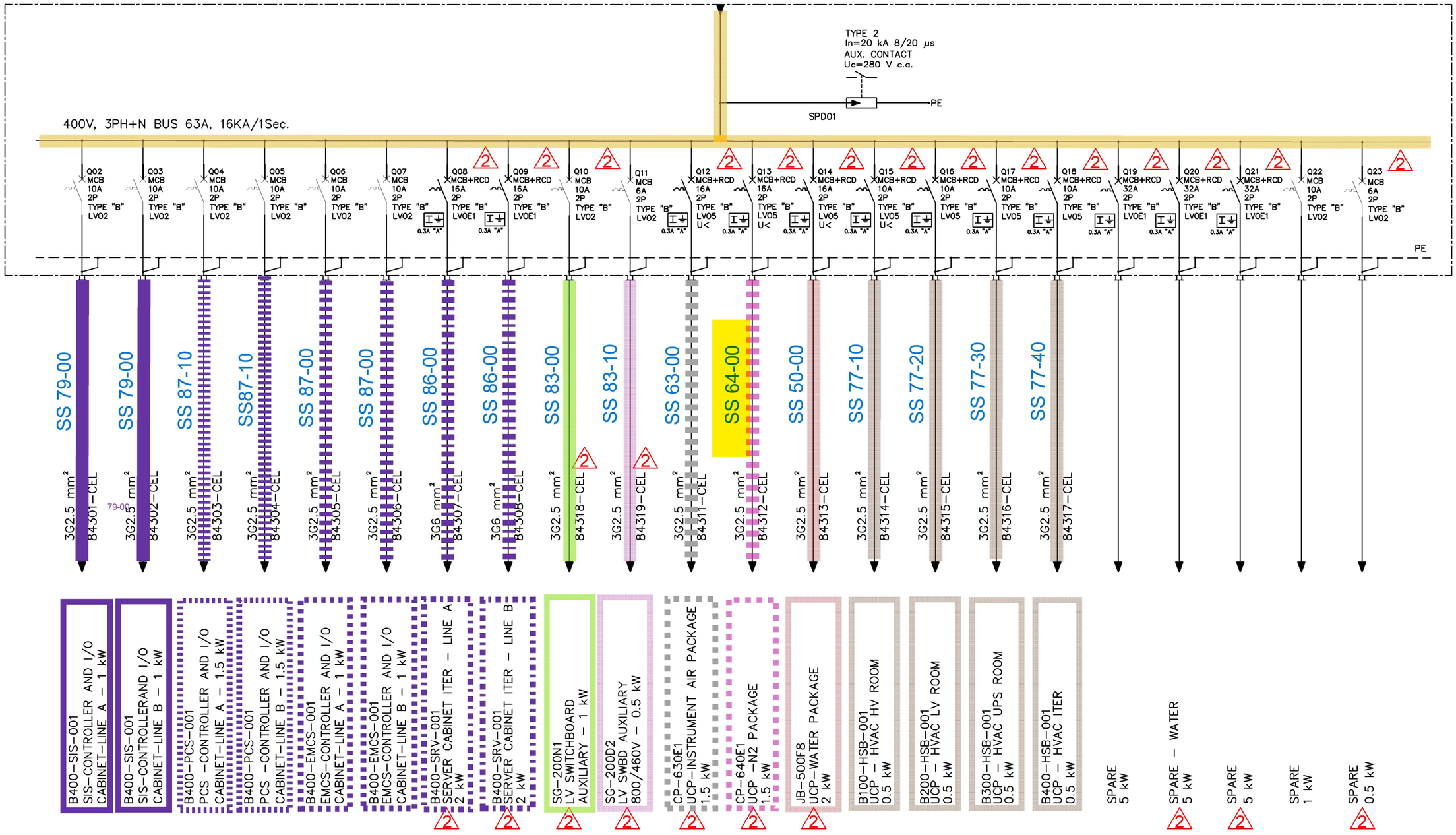
REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03

AC UPS – PAS SINGLE LINE DIAGRAM(UP–200F3) DISTRIBUTION BOARD DETAILS

AC UPS DISTRIBUTION BOARD–PAS
DP–200F3



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/09/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	12/04/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	14/02/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL SINGLE LINE DIAGRAMS AC UPS SYSTEMS
AC UPS – PAS DISTRIBUTION BOARD SLD (UP–200F3)

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90–DDL–EL–DG–20160 | SHEET 005 | REV. 02

File Name : 123A90–DDL–EL–DG–20160 Rev. 02

F.to UNI A3: 420mmx297mm

DRAWING NO. DRAWING_NO.

REV. REV

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
CAPACITY : 313 Sm3/h (PRODUCTION)

A-64000
NITROGEN GENERATION SYSTEM
CAPACITY : 52.7 Sm3/h (PRODUCTION)

Waste Water Brine Discharge System	SS 55-01
Instrument Air Distrubution Network	SS 63-30
Instrument Air Package	SS 63-00
Nitrogen Distribution Network	SS 64-10
Nitrogen Generator Package	SS 64-00

SUCTION 63 PI 001 | DISCHARGE 63 PI 002 | COMMON ALARM 63 XA 001 | MCC DEVICE COMMS FAIL 63 XI 001 | AVAILABLE STATUS 63 XI 002 | RUN/STOP STATUS 63 XI 003 | SHUTDOWN STATUS 63 XI 004 | SHUTDOWN ALARM 63 XA 002 | ESD I

FAULT PACKAGE 63 XA 003

ESD I — 63-XS-001 SHUT-DOWN

NOTE 14

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
SEE VENDOR DIAGRAM
NOTE 2, 3, 4, 5, 6

1-1/2"-IA-263-01SS-N

V-63001
AIR RECEIVER
C

63 PI 004 LL | 63 PI 003 L | ESD I

63 PT 003 | 63 PT 004

INSTR. PIPING

BLPH-MV-150 3/4" FLG x 1/2" NPTF | BLPH-MV-151 3/4" FLG x 1/2" NPTF

B — TP 041 — LO — BLPH-MV-149

1-1/2"-IA-108-01SS-N

123A90-DDL-PR-PID-80041
TO INSTRUMENT AIR DISTRIBUTION HEADER

A — TP 039 — BLPH-MV-269 — SB LO

1"-WW-079-01CS-H

123A90-DDL-PR-PID-80025
TO BRINE DISCHARGE CAISSON

BLPH-MV-270 LO 1.1/2"

1-1/2"-IA-204-01SS-N

TO SAFE LOCATION

ESD I — 2"-AV-224-01CS-N

TP 043 — A — TP 045 — C

A-64000
NITROGEN SYSTEM
SEE VENDOR DIAGRAM

B — TP 042 — BLPH-MV-271 SB LO — 3/4" BLPH-MV-275 — 1"-N-158-01CS-N

D — 1"-N-262-01CS-N

ESD I — 64-XS-001 SHUT-DOWN — ESD I — NOTE 14

64 XA 003 FAULT PACKAGE

V-64001
NITROGEN RECEIVER
E

64 HS 031 | 64 PIC 031A H L | 64 PIC 031B H L

64 PT 031A | 64 PT 031B | 64 PT 002

64 PV 031A — FL-DC TYP.6 1" — N-158

64 PV 031B — FL-DC TYP.6 1" — N-100

INSTR. PIPING

BLPH-MV-386 3/4" FLG x 1/2" NPTF | BLPH-MV-166 3/4" FLG x 1/2" NPTF | BLPH-MV-167 3/4" FLG x 1/2" NPTF

1"-N-100-01CS-N

64 PI 002 L — NOTE 15

64 PSV 001 — NOTE 1, 12 SET @ 30 barg — NOTE 10 TO ATM

2"-AV-160-01CS-N

1.5" x 1" — BLPH-MV-278 SB FB-LO 1.1/2" — 1-1/2"-N-197-01CS-N — 1.5" x 1"

1"-N-101-01CS-N — 123A90-DDL-PR-PID-80028 TO HYDROGEN VENT HEADER

1"-N-125-03HSS-N — 123A90-DDL-PR-PID-80017 TO HYDROGEN STORAGE VESSEL C

1"-N-124-03HSS-N — 123A90-DDL-PR-PID-80016 TO HYDROGEN STORAGE VESSEL B

1"-N-028-03HSS-N — 123A90-DDL-PR-PID-80015 TO HYDROGEN STORAGE VESSEL A

1"-N-257-03HSS-N

UPPER LEVEL
LOWER LEVEL

1"-N-126-03HSS-N — 123A90-DDL-PR-PID-80018 TO HYDROGEN STORAGE VESSEL D

1"-N-127-03HSS-N — 123A90-DDL-PR-PID-80019 TO HYDROGEN STORAGE VESSEL E

1"-N-128-03HSS-N — 123A90-DDL-PR-PID-80020 TO HYDROGEN STORAGE VESSEL F

1"-N-151-01CS-N — 123A90-DDL-PR-PID-80011 TO ELECTROLYSER PACKAGE

64 SDV 001 — NOTE 13 — NC FC TYP.2

64 SDY 001

01CS 03HSS

NOTES

1. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
2. COMPRESSORS AND DRIERS DESIGNED FOR 2 X 100% CONFIGURATION. INSTRUMENT AIR RECEIVER DESIGNED FOR 1 X 100%.
3. VENDOR TO PROVIDE NECESSARY CONTROLS, INSTRUMENTATIONS AND ISOLATIONS IN ORDER TO OPERATE THE PLANT IN SAFE MANNER.
4. COMPRESSORS WILL OPERATE ON THE BASIS OF ONE WORKING AND ONE ON STANDBY.
5. COMPRESSORS TO BE ROTARY SCREW TYPE OIL FREE.
6. AIR COMPRESSOR INLET TO BE LOCATED AWAY FROM ANY VENTS.
7. DELETED. 02
8. DELETED.
9. DELETED.
10. TO SAFE LOCATION, ROUTED AWAY FROM WALKWAYS.
11. DELETED. 02
12. 64PSV001 SIZED FOR UPSTREAM CV FAILURE.
13. 64SDV001 IS NORMALLY CLOSED. IF REQUIRED THE OPERATOR CAN REMOTELY OPEN THE VALVE TO ALLOW PURGING OPERATION. VALVE 64SDV001 IS ALSO CONNECTED TO THE PCS SYSTEM.
14. SERIAL COMMUNICATION WITH CONTROL SYSTEM.
15. THE ALARM 64-PAL-002 WILL CLOSE 64-SDV-001 THROUGH SAFETY SYSTEM.

02

HOLDS

1. DELETED.
2. DELETED. 02
3. DELETED.
4. DELETED.

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	12/06/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	15/02/2024	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
INSTRUMENT AIR PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE	
A1	DRAWING NO. 123A90-DDL-PR-PID-80027		SHEET 001	REV. 02

File Name : FILE_NAME

Section 4 MECHANICAL COMPLETION STATUS INDEX - BUILDING DISCIPLINE

NOT APPLICABLE

Section 5 MECHANICAL COMPLETION STATUS INDEX - ELECTRICAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC & discipline : E

Electrical	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
83111-CEL	Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary	ONSHORE	C10000630	CPX09	100	2024-12-04	RFC 1
84312-CEL	AC UPS - PAS DB / UCP - N2 Package	ONSHORE	C10000588	CPX09	100	2024-12-04	RFC 1
A-64000	Nitrogen Package	ONSHORE	C10002355	CZX01E	100	2024-12-04	RFC 2

ITEM	Tag	84312-CEL	: AC UPS - PAS DB / UCP - N2 Package		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD_B-300/UD	
TASK	code	C10000588	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX09	LV Power Cable

CABLE DATA

Type	Cores/Size mm²	Color
Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH	3G2,5 mm2	ORANGE

From DP-200F3 To CP-640E1

1	Confirm cable is as specified in project cable schedule	OK
2	Visual Check cable physical integrity.	OK
3	Check is installed in accordance with layout drawing (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to project specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	OK
7	Check gland plate for single core cables is non ferrous (non -magnetic).	NA
8	Confirm cable labelling is in accordance with specifications.	PL
9	Check cable is correctly loomed and segregated in accordance with specification.	OK
10	Check cable earthing against lastest drawings.	PL
11	Check cores marking are in accordance with termination diagram	PL
12	Check terminations are in accordance with latest termination diagram	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

REFER TO FINAL SHEET FOR ACCEPTANCE

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	84312-CEL	: AC UPS - PAS DB / UCP - N2 Package	Dwg	123A90-DDL-EL-LIS-20148		
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)	Module	LD_B-300/UD		
TASK	code	C10000588	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form CPX09	LV Power Cable

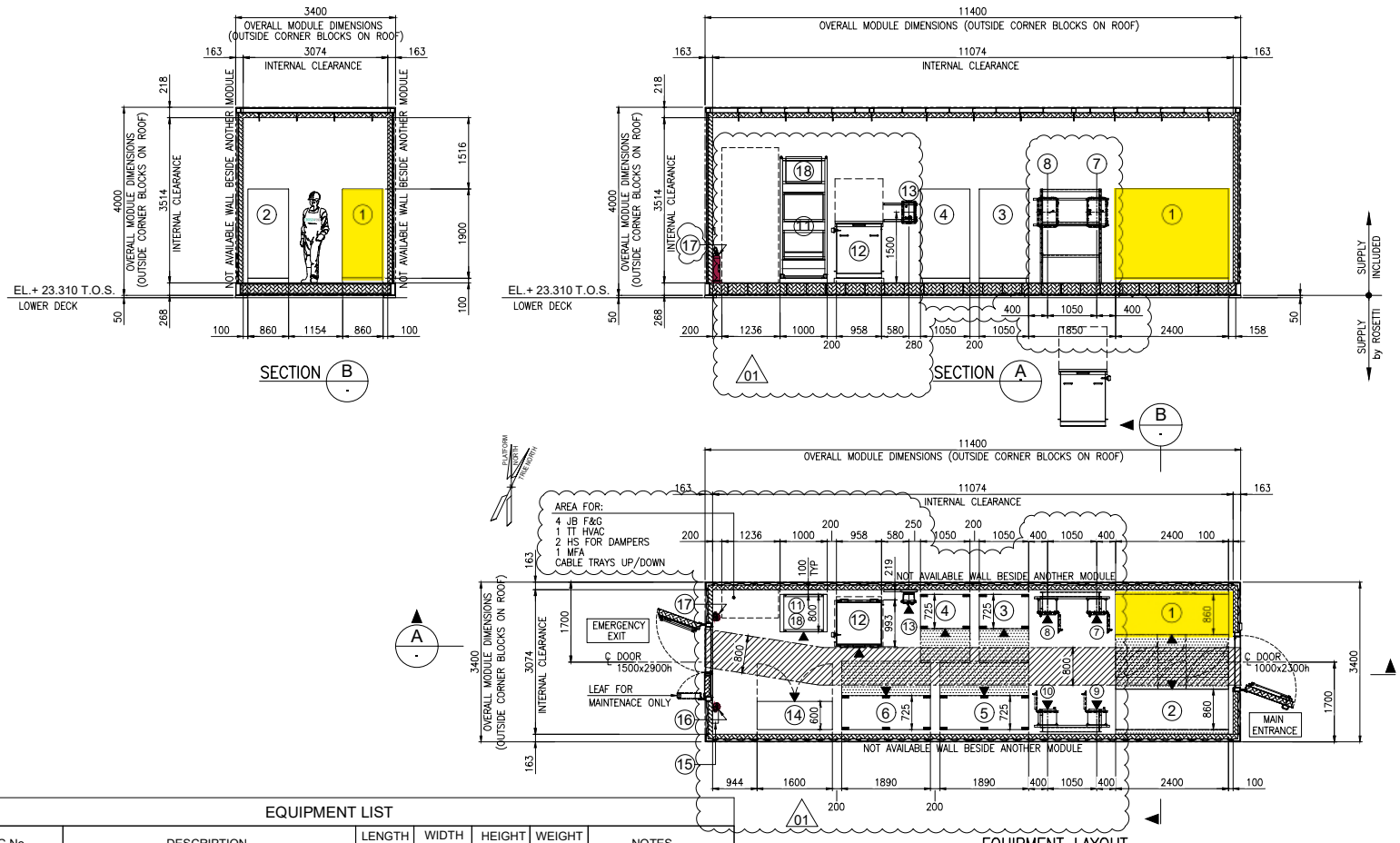
CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0.4	
6		PH 2	0.4	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0.4	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0.4	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>1999	
11		PH2 / PH1-PH3-A-E	>1999	
12		PH3 / PH1-PH2-A-E	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: Nota 4: refer to PL C30000679/C30000681

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-12-03	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T17:02:35.652Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-04T14:45:02.537Z	

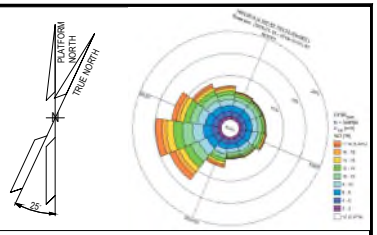
DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01



EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

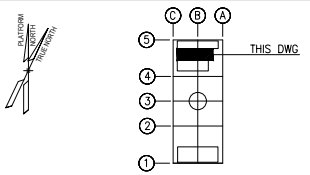
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106
REV.: 1_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

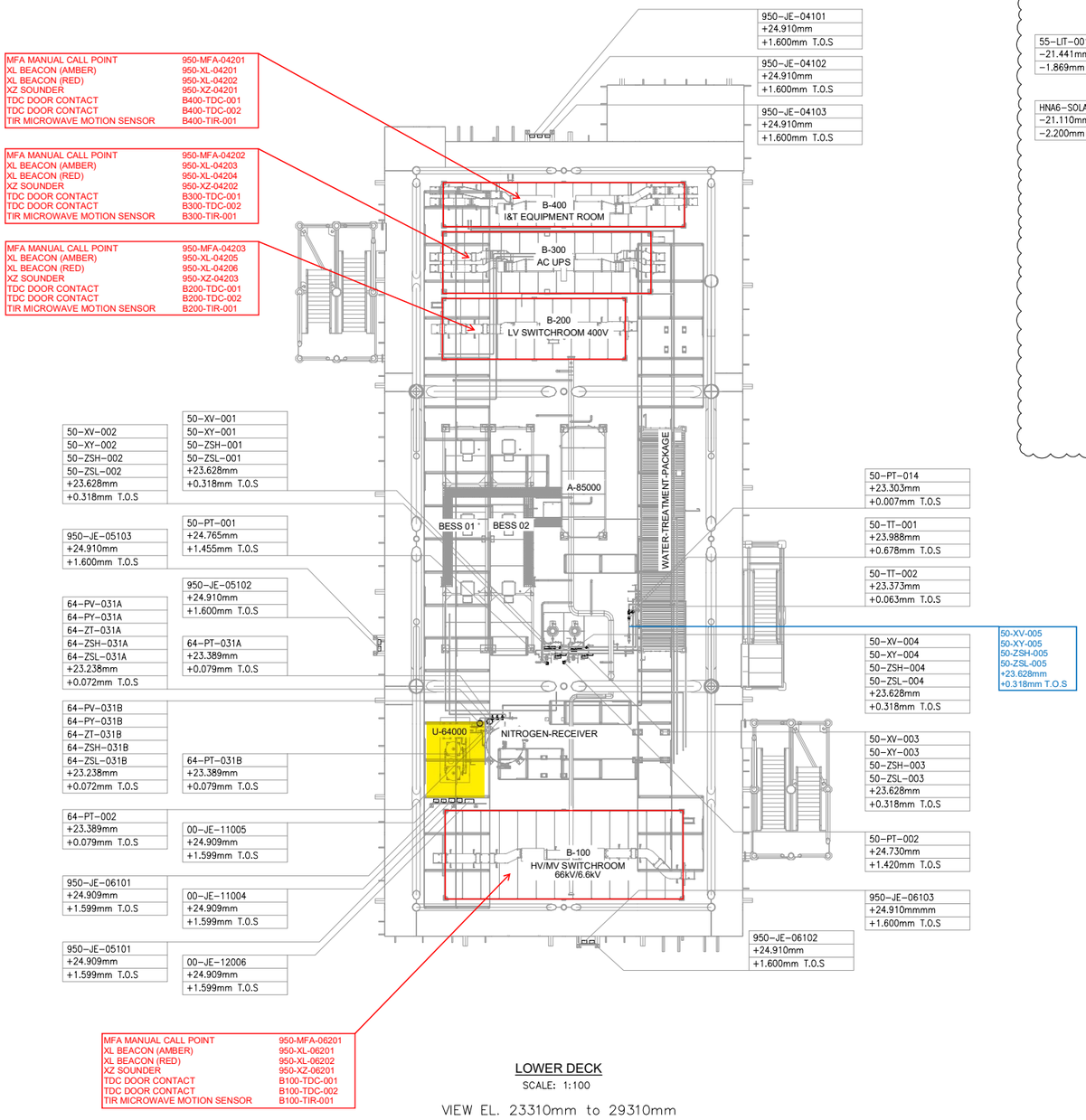
TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

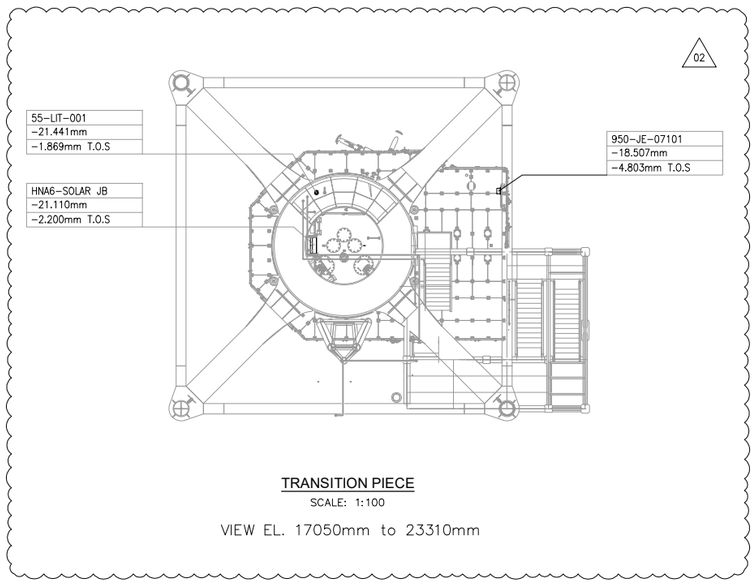
File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

DRAWING NO. 123A90-DDL-IN-DL-40080

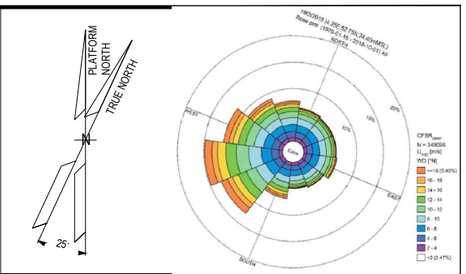
REV. 02



LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_C	06/11/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

FROM	TO

DESCRIPTION: AC UPS - PAS DB
TAG NUMBER: DP-200F3

-X35
U — BN
N — BU
PE — Y/G
Arm.
PE

84312-CEL
3G2.5 mm²

DESCRIPTION: UCP - N2 PACKAGE
TAG NUMBER: CP-640E1

SS 64-00
-X2
BN — 1
BU — 2
Y/G — PE
Arm.
PE

-X36
V — BN
N — BU
PE — Y/G
Arm.
PE

84313-CEL
3G2.5 mm²

DESCRIPTION: UCP - WATER PACKAGE
TAG NUMBER: JB-500F8

SS 60-10 ~~50-10~~
-TB-1
BN — L
BU — N
Y/G — PE
Arm.
PE

-X39
V — BN
N — BU
PE — Y/G
Arm.
PE

84314-CEL
3G2.5 mm²

DESCRIPTION: UCP - HVAC HV ROOM
TAG NUMBER: B100-HSB-001

SS 77-10
XPS
BN — L1UPS
BU — NUPS
Y/G — PE
Arm.
PE

-X40
V — BN
N — BU
PE — Y/G
Arm.
PE

84315-CEL
3G2.5 mm²

DESCRIPTION: UCP - HVAC LV ROOM
TAG NUMBER: B200-HSB-001

SS 77-20
XPS
BN — L1UPS
BU — NUPS
Y/G — PE
Arm.
PE

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DG-20149
REV.: 2_C | DATE: 02/12/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	19/11/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	16/10/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	SAI	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
AC UPS – PAS DB DP-200F3

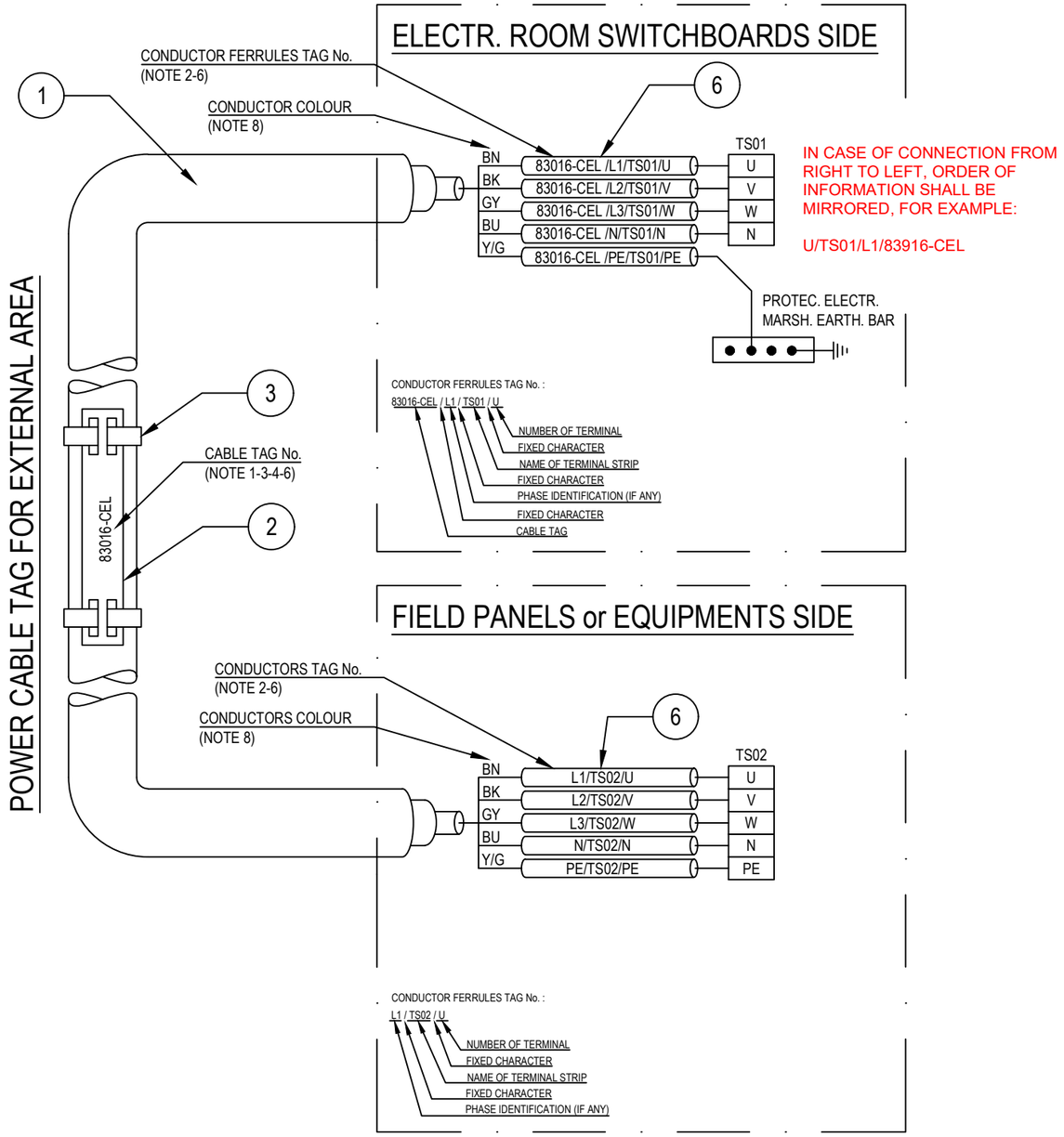
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 041 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DG-20149 Rev. 02

C02



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 25 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

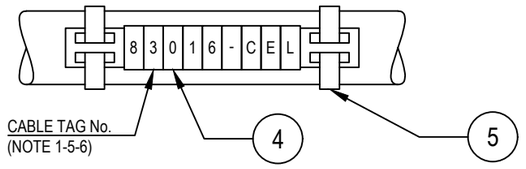
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
- PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH BAR
- EARTH BAR AND EARTH BOSS

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

POWER CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20092**

REV.:	DATE:	SIGNATURE:
2_B	28/11/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR POWER CABLES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DD-20092	007	02

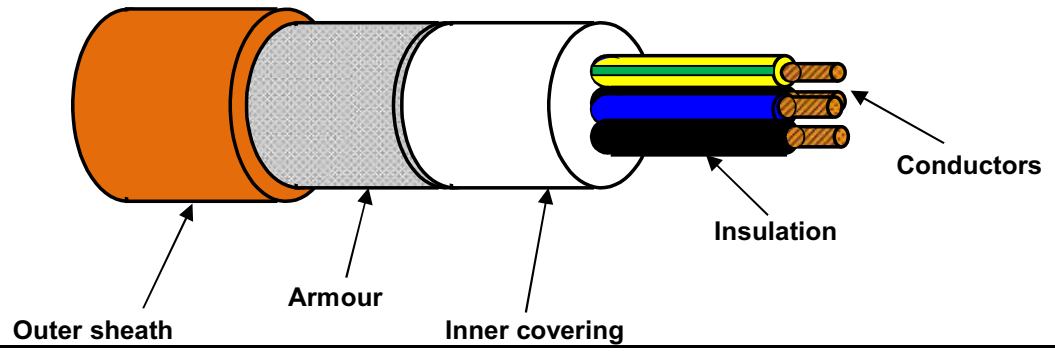
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
84312-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148					DP-200F3	AC UPS 35 KVA Distribution Board	Lower Deck (B-300)	CP-640E1	UCP - N2 Package U-6400	Lower Deck	ELECV19-3G2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 3G2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-450-101-LVT-040 / L-600-101-LVT-036 / L-600-101-LVT-037 / L-600-101-LVT-035 / E-MCT-301 / L-300-101-LVT-006 / L-450-101-LVT-008 / L-600-101-LVT-012 / L-300-101-LVT-098

Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1 KV

3G2,5 - L.V. POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Brown - Blue - Yellow/Green**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	Not required	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,3 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,7 ± 10%) mm	
Over Armour diameter :	(12,9 ± 10%) mm	
Outer diameter :	(15,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

ITEM	Tag	83111-CEL	: Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD_B-200/LD
TASK	code	C10000630		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

CABLE DATA

Type: Cu Cl.2/EPR/LSZH | Cores/Size mm²: 3G2,5 mm2 | Color: GREY

From: DP-200N1 | To: CP-640E1

1	Confirm cable is as specified in project cable schedule	OK
2	Visual Check cable physical integrity.	OK
3	Check is installed in accordance with layout drawing (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to project specification.	Note
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	OK
7	Check gland plate for single core cables is non ferrous (non -magnetic).	NA
8	Confirm cable labelling is in accordance with specifications.	PL
9	Check cable is correctly loomed and segregated in accordance with specification.	OK
10	Check cable earthing against lastest drawings.	PL
11	Check cores marking are in accordance with termination diagram	PL
12	Check terminations are in accordance with latest termination diagram	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

REFER TO FINAL SHEET FOR ACCEPTANCE

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	83111-CEL	: Lighting & Small Power DB BoP / UCP - N2 Package - Auxiliary			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD_B-200/LD
TASK	code	C10000630		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

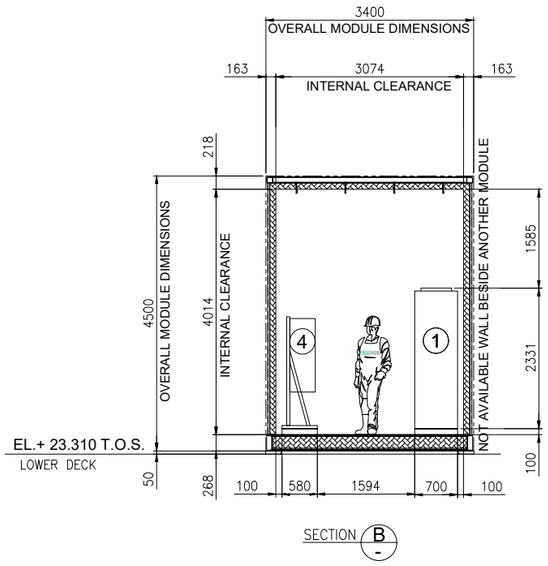
CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0.7	
6		PH 2	0.7	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		NA	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0.7	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>1999	
11		PH2 / PH1-PH3-A-E	>1999	
12		PH3 / PH1-PH2-A-E	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

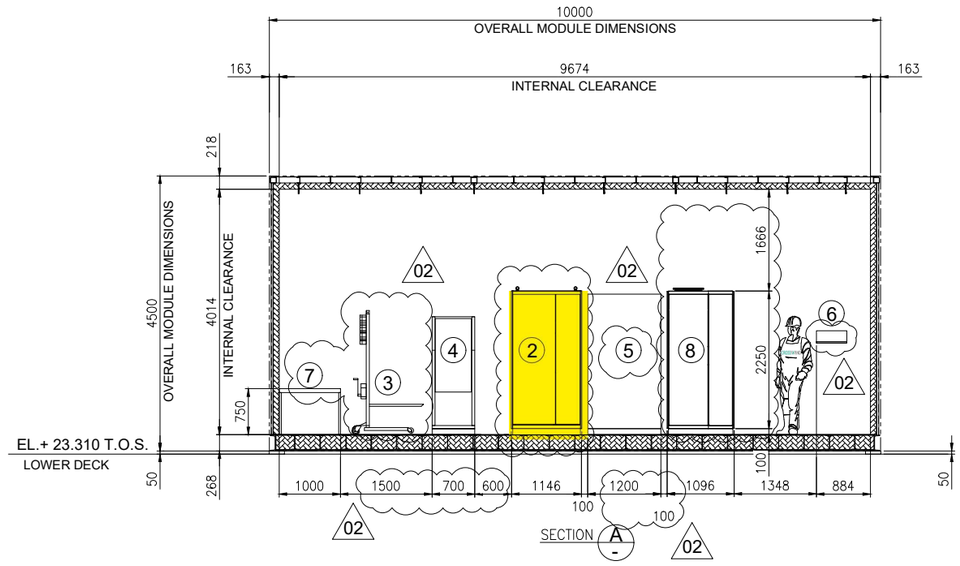
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

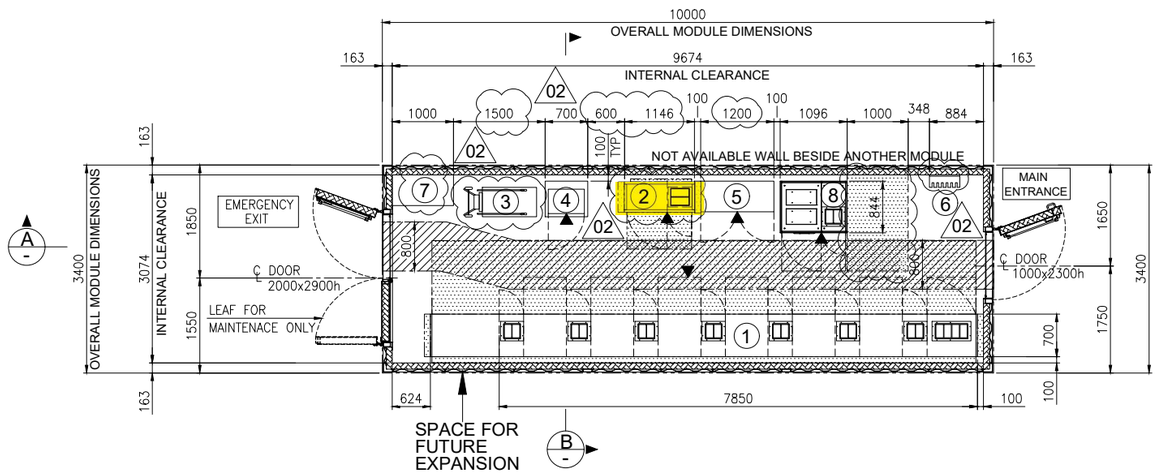
Comments: Nota 4: refer to PL C30000679

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Francesco Zucca	Alessio Polo	
Date	2024-12-02	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-02T16:20:32.869Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-04T14:58:59.838Z	

DRAWING NO. 123A90-DDL-EL-DL-20105 | REV. 02





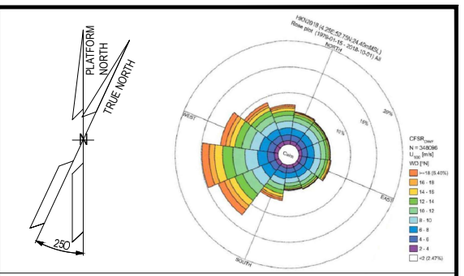


EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

1

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	SG-200N1	400V SWITCHGEAR	7850	700	2331	
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.	1146	520	2250	
3	-	SERVICE TROLLEY FOR 400V SWITCHGEAR	1034	490	2030	
4	CN-200N1	ICCP PANEL	700	580	1830	
5	B200-HSB-001	DISTRIBUTION & HVAC PANEL - LV ROOM	1200	600	1900	02
6	-	TOOL BOX	495	200	200	
7	-	TABLE	1000	500	750	
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE	1096	844	2294	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED.
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

LEGEND

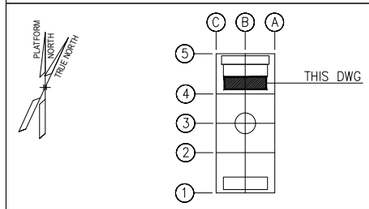
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
SG-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00007
SG-200D2 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00008
DP-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00009
AC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00004
AC UPS – BATTERY LAYOUT INTERCONNECTING DIAGRAM	1724000372-EL-DG-00011
B-200 -GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00015
ICCC PANEL GENERAL ARRANGEMENT DRAWING	144671-CORR-TF-FAB-DWG-0003

02

KEY PLAN



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20105
REV.: 2_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	08/11/2023	DSF	CB/AMA	OYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

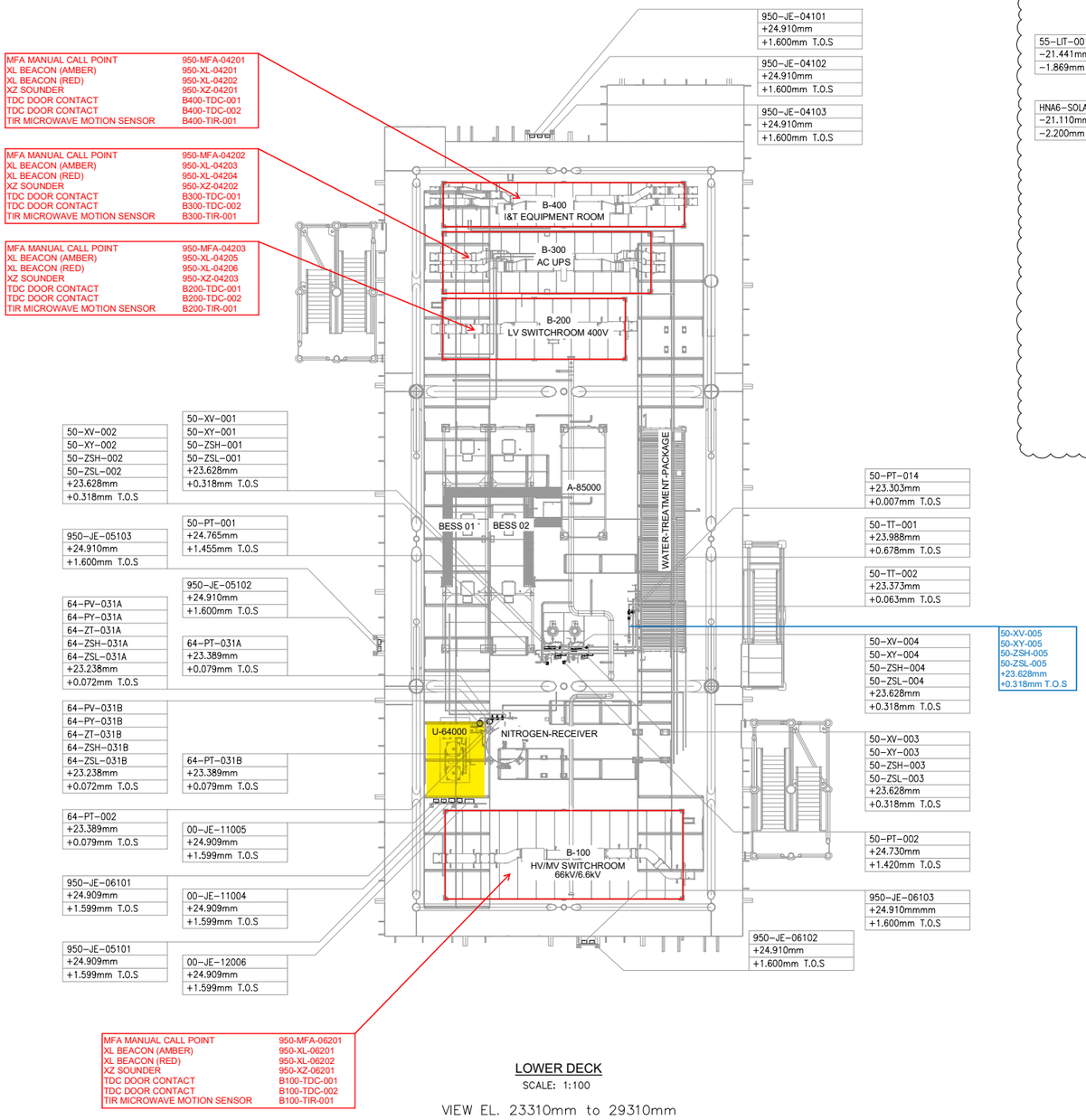
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN FMO	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024
A1	DRAWING NO. 123A90-DDL-EL-DL-20105	SHEET 001	REV. 02

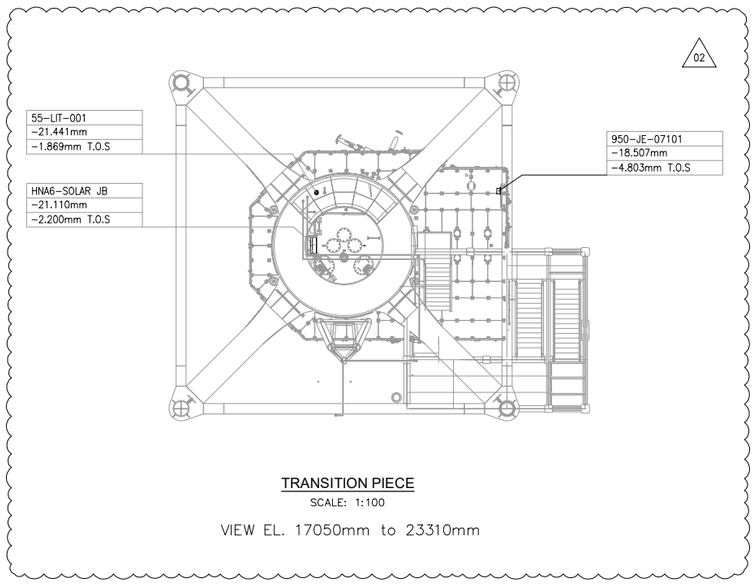
File Name : 123A90-DDL-EL-DL-20105_REV02.dwg

DRAWING NO. 123A90-DDL-IN-DL-40080

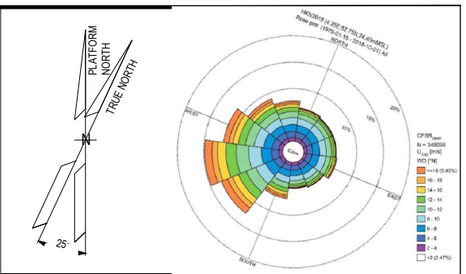
REV. 02



LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_C	06/11/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

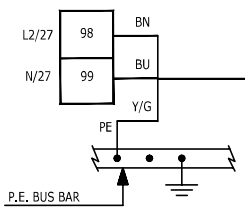
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

FROM

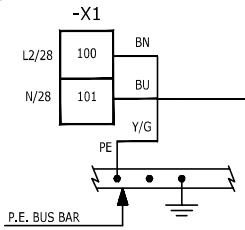
DESCRIPTION: LIGHTING & SMALL POWER DB BOP
TAG NUMBER: DP-200N1

CUBICLE/CB: +03/Q27



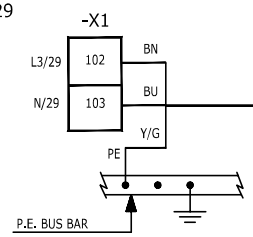
83108-CEL
3G2.5 mm²

CUBICLE/CB: +03/Q28



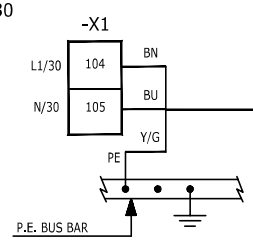
83109-CEL
3G2.5 mm²

CUBICLE/CB: +03/Q29



83110-CEL
3G2.5 mm²

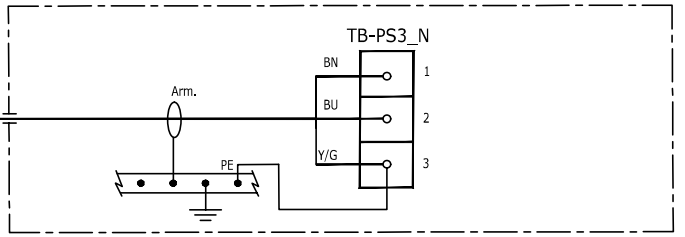
CUBICLE/CB: +03/Q30



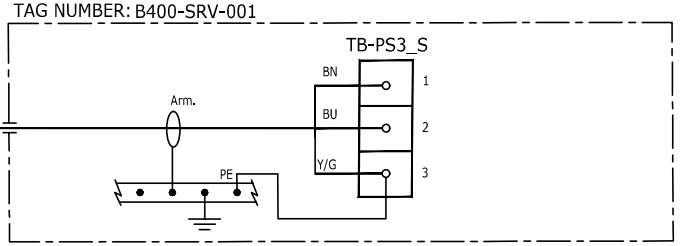
83111-CEL
3G2.5 mm²

TO

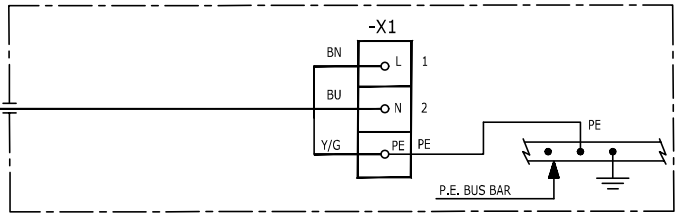
DESCRIPTION: SYSTEM SERVER / NETWORK CABINET - AUXILIARY
TAG NUMBER: B400-NET-001



DESCRIPTION: SERVER CABINER ITER - AUXILIARY
TAG NUMBER: B400-SRV-001

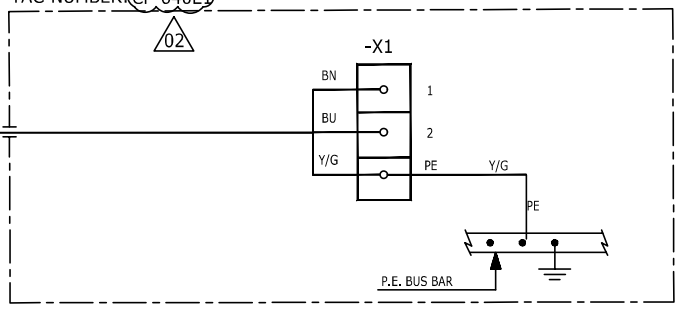


DESCRIPTION: UCP - INSTRUMENT AIR PACKAGE -A-63000 - AUXILIARY
TAG NUMBER: CP-630E1



DESCRIPTION: UCP - N2 PACKAGE - AUXILIARY
TAG NUMBER: CP-640E1

02



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DG-20149
REV.: 2_C | DATE: 02/12/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	19/11/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	16/10/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	SAI	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
LIGHTING & SMALL POWER DB BOP

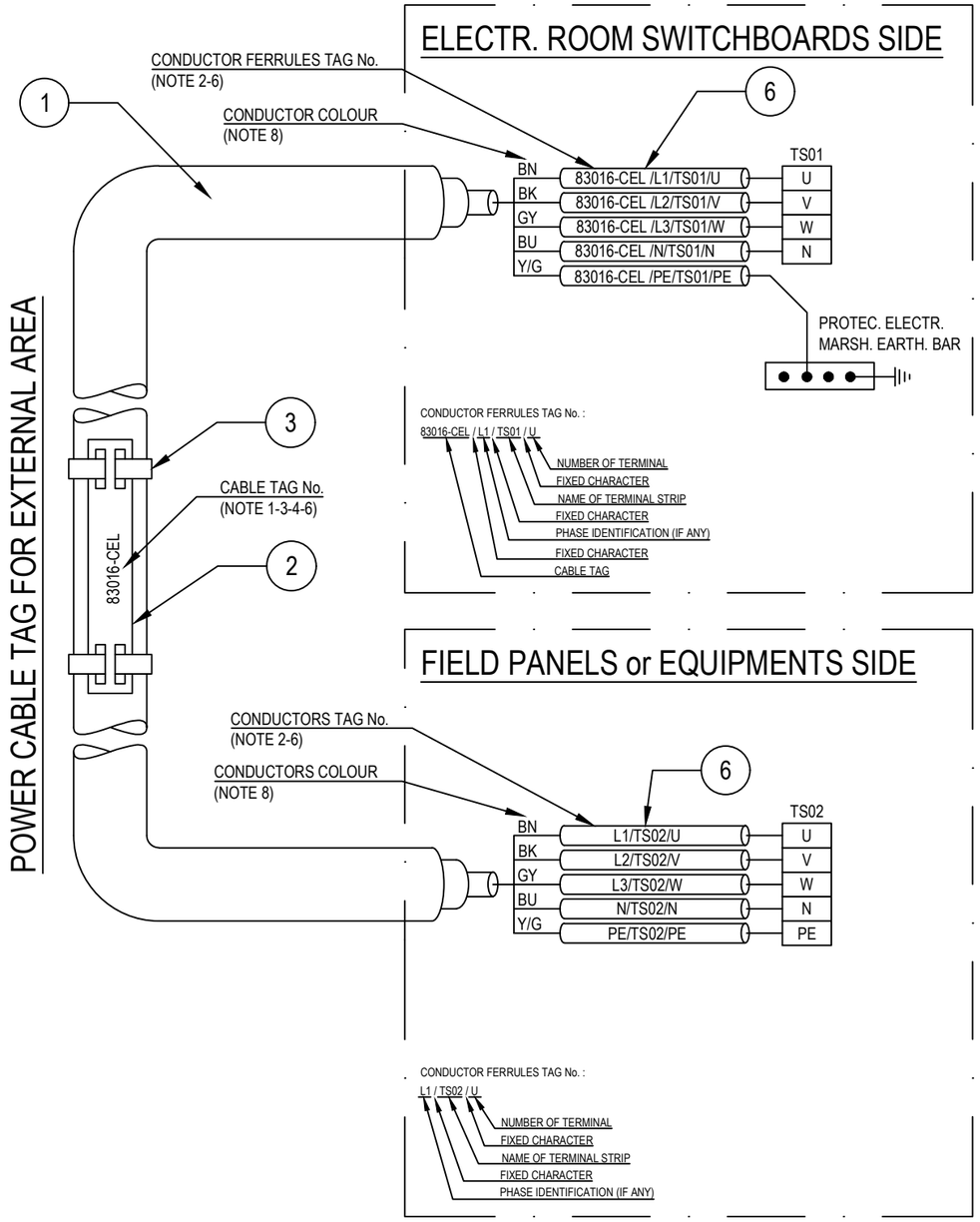
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 053 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DG-20149 Rev. 02

C02



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 25 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

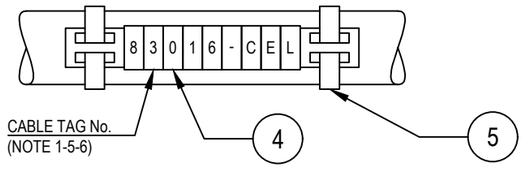
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
- PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH BAR
- EARTH BAR AND EARTH BOSS

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

POWER CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR POWER CABLES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 007 | REV. 02

F.to UNI A3: 420mmx297mm

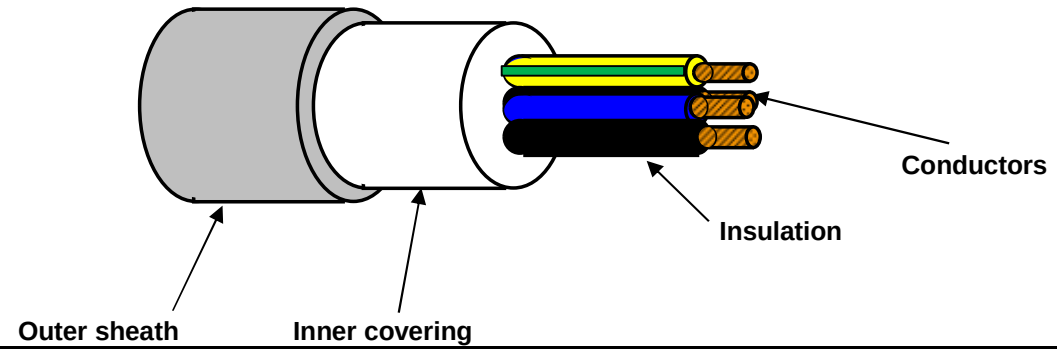
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
83111-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						DP-200N1	LV 0,4 / 0,23 kV Distribution Switchgear	Lower Deck (B-200)	CP-640E1	UCP - N2 Package U-6400	Lower Deck	ELECV06-3G2,5	Cable Cu Cl.2/EPR/LSZH 0,6/1kV 3G2,5mm² - Grey	M20	n.a.			T1_M20_Single				L-450-101-LVT-030 / L-600-101-LVT-020 / L-600-101-LVT-018 / L-600-101-LVT-017 / E-MCT-201 / L-750-101-LVT-011 / L-600-101-LVT-012 / L-300-101-LVT-098

FLEI s.r.l.

Cu Cl.2/EPR/LSZH 0,6/1 KV

3G2,5 - L.V. POWER CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Brown - Blue - Yellow/Green**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	Not required	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,2 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G2,5 SQMM - EPR/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(13,0 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 1100 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

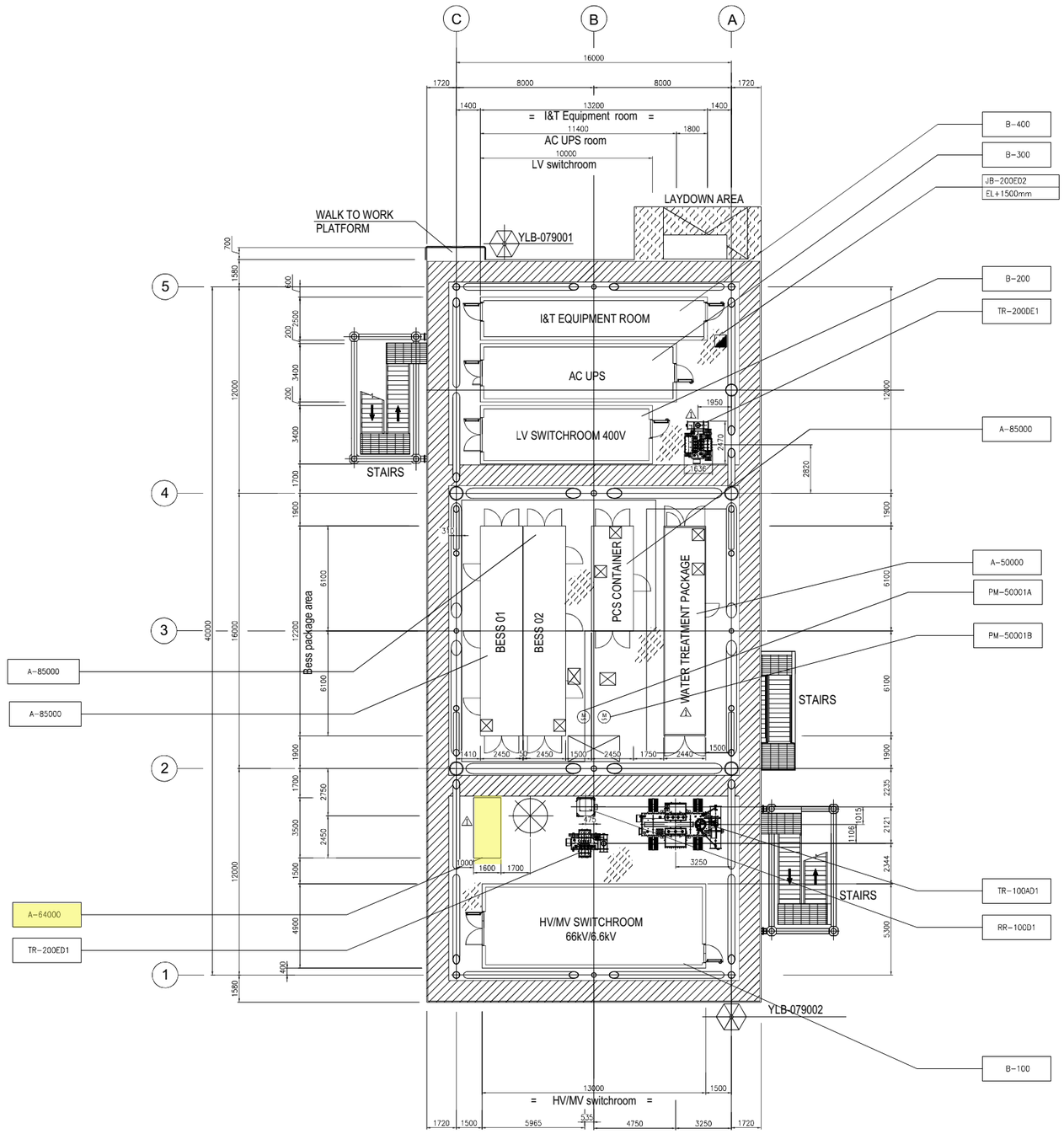
All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

ITEM	Tag	A-64000	: Nitrogen Package			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10002355		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CZX01E Package - E

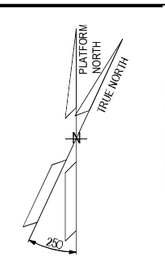
1	Check that electrical component is not damaged.	OK
2	Check that the cables are adequately supported and protected.	PL
3	Check that the equipment, including cables and glands, have been correctly installed (only visual inspection).	OK
4	Check that all equipment has been earthed and bonded.	PL
5	Check if accessibility and maintenance are possible and safe.	OK
6	Verify that all vendor punch list created during FAT are uploaded in the Database.	OK
7	Check identification tag plate.	OK
8	If required produce Red Line Mark Up for "AS BUILT"	

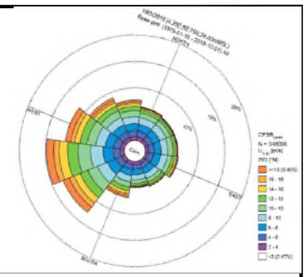
Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-12-03	2024-12-04	
Signature	Digitaly signed by Francesco Zucca 2024-12-03T17:08:32.192Z	Digitaly signed by Alessio Polo 2024-12-04T17:36:56.702Z	



PLAN ON LOWER DECK
EL+23.310 T.O.S.





NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

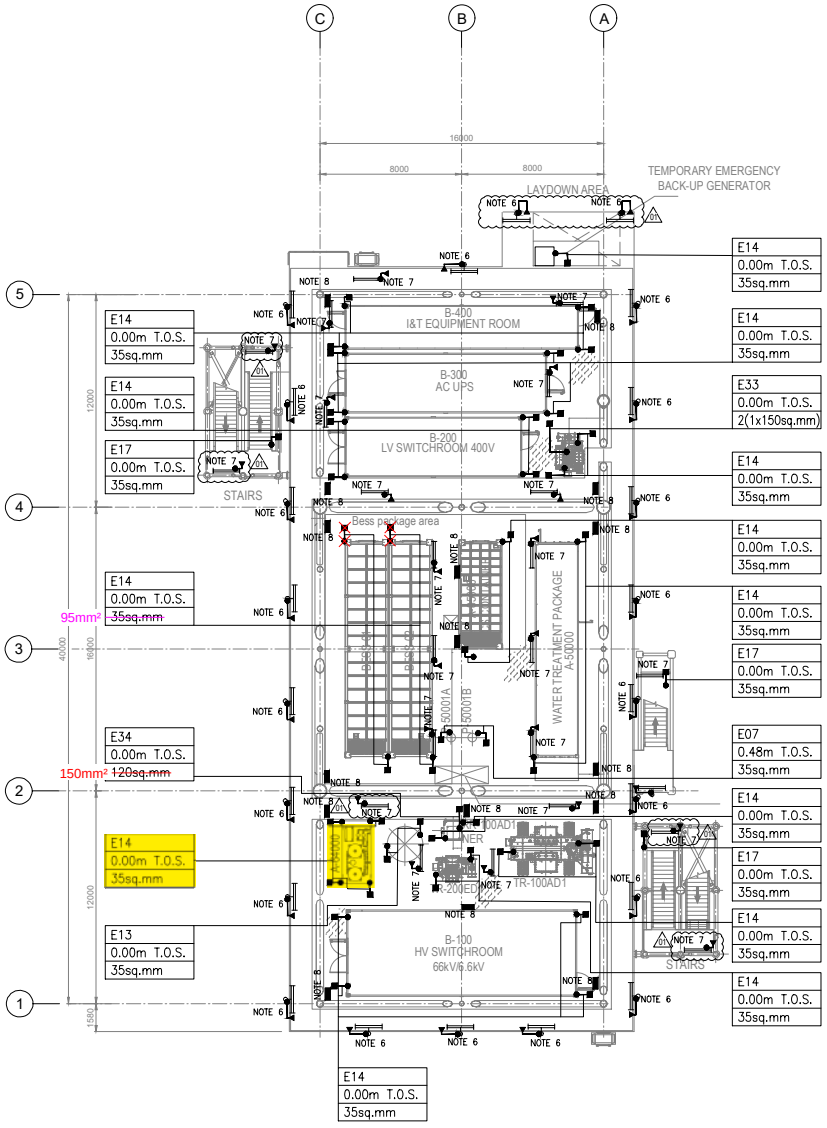
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101 REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

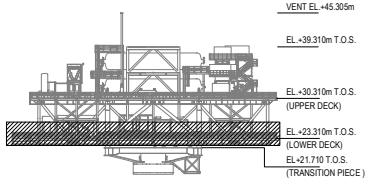
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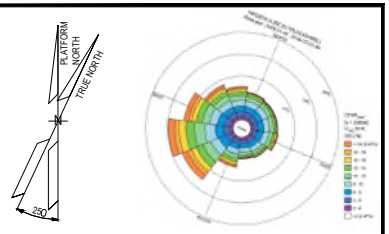
REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.

KEY PLAN





NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DOCUMENT IS ONLY VALID FOR EARTHING LAYOUT.
4. ALL ELECTRICAL EQUIPMENT NOT DIRECTLY WELDED TO SKID FRAME SHALL BE BONDED TO STEEL TO THE STRUCTURE OF SKID BASEFRAME.
5. FOR LIGHTNING PROTECTION SYSTEM SURGE PROTECTIVE DEVICES (SPD), REFER TO THE DOCUMENT 123A90-DDL-EL-RE-20154.
6. ALL NON-WELDED POLES WILL BE EARTHED AS PER TYPICAL E05 AND E24. (1)
7. ALL LINEAR LIGHTING FIXTURE WILL BE EARTHED AS PER TYPICAL E32.
8. EARTH BAR WILL BE FIXED TO THE PRIMARY BEAMS OF THE UPPER DECK. COMPLETE EARTHING INCLUDING WITH 2 THREADED STUDS. ALL EARTH BAR WILL BE EARTHED AS PER TYPICAL E03D / 6.00M T.O.S. / 35 SQ MM.
9. EQUIPOTENTIAL BONDING GROUPING FOR BOLTED HANDRAILS ARE PROVIDED EVERY 3M FOR THE ENTIRE PERIMETER AS TYPICAL E16 AND WILL BE DEFINED DURING ASSEMBLY PHASE

LEGEND

- LIGHTING FIXTURE POLE MOUNTED
- LINEAR LIGHTING FIXTURE
- EARTHING BOSS AISI316L
- COMPRESSION TYPE LUG TINNED COPPER
- THREADED STUD FOR EARTHING CONNECTION
- Exx EARTHING TYPICAL CODE
- EARTHING BAR

TYP.	TYPICAL
ELE	ELEVATION
SIZE	

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DD-20090	ELECTRICAL TYPICAL INSTALLATION DETAILS - EARTHING SYSTEM
123A90-DDL-EL-RE-20154	LIGHTNING PROTECTION SYSTEM CALCULATION REPORT
123A90-DDL-EL-DL-20119	LIGHTING & SOCKET LAYOUT - LOWER DECK
123A90-DDL-EL-DL-20101	ELECTRICAL EQUIPMENT LAYOUT - LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	25/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	29/05/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EARTHING & LIGHTNING LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150

DRAWN SPS | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 25/07/24

A1 | DRAWING NO. 123A90-DDL-EL-DL-20133 | SHEET 001 | REV. 01

SHEET 001 OF 002

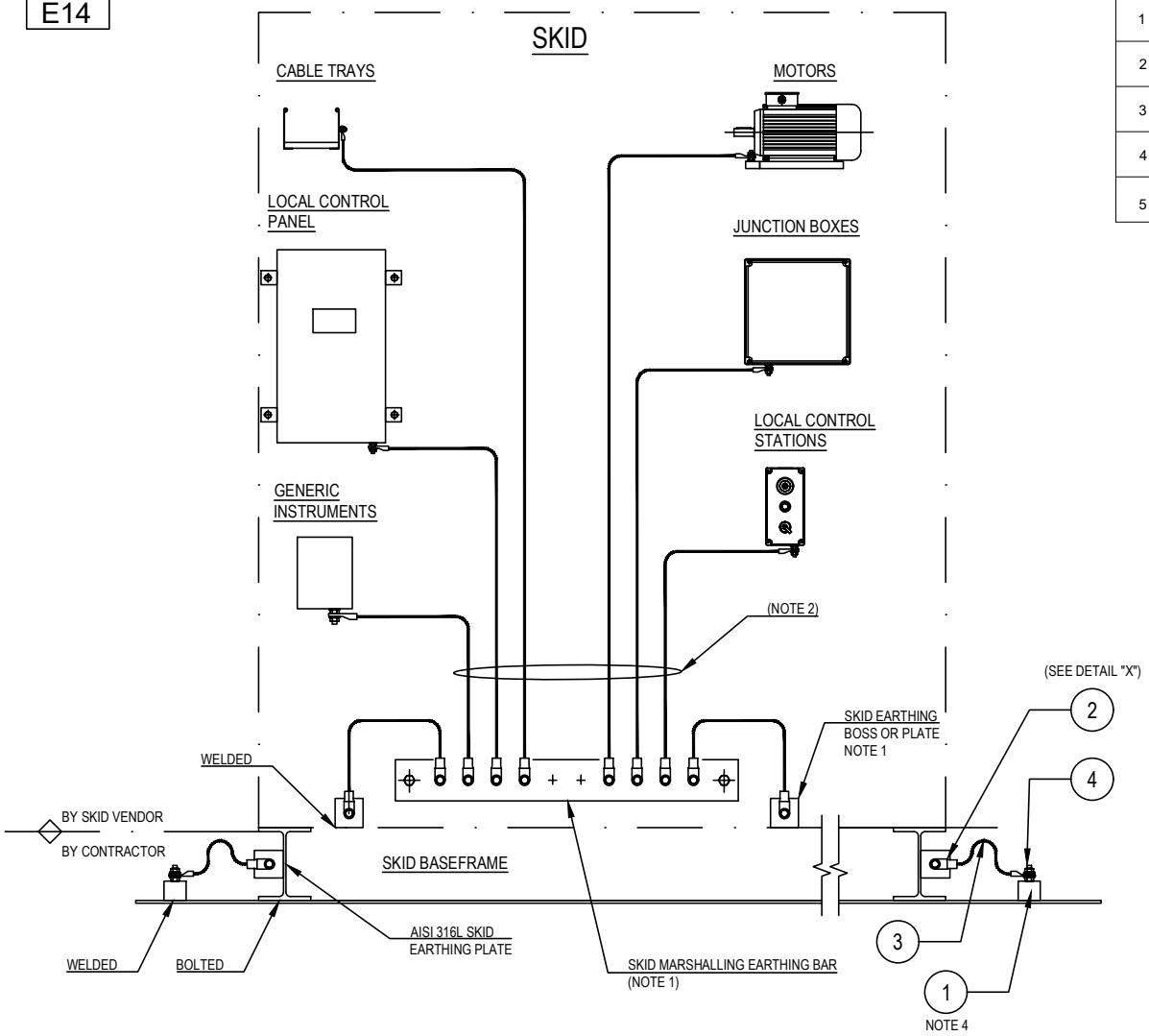
VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20133

REV.:	DATE:	SIGNATURE:
1_C	26/11/24	G.Randi

ROSETTI MARINO SpA

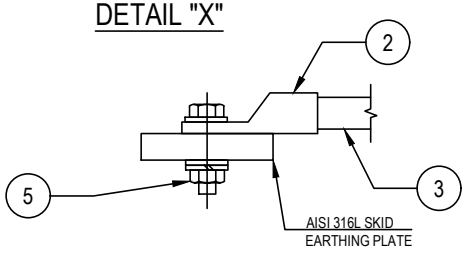
File Name : 123A90-DDL-EL-DL-20133

E14



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	EARTHING BOSS WITH THREADED HOLE M10	AISI 316L	50X50		NOTE 5
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	35mm^2		~~NOTE 3~~
3	Y/G INSULATING COPPER CONDUCTOR	COPPER	35mm^2		~~NOTE 3~~
4	STUD BOLT WITH PLANE WASHER, SPRING WASHER AND NUT	AISI 316L	M10X50		
5	HEXAG. BOLT COMPLETE WITH PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M10X30		

DETAIL "X"



NOTES:
1) EARTHING BAR/BOSS/PLATE SUPPLIED BY SKID MANUFACTURER
2) ALL EQUIPMENTS AND CABLE TRAYS WILL BE EARTHING ON SKID EARTHING BAR BY SKID MANUFACTURER
3) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY~~
4) FOR EARTHING BOSS TYPICAL DETAIL E11A
5) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20090
REV.: 2_I | DATE: 07/11/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR SKID BASEFRAME

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20090 | SHEET 014 | REV. 02

CROSSWIND

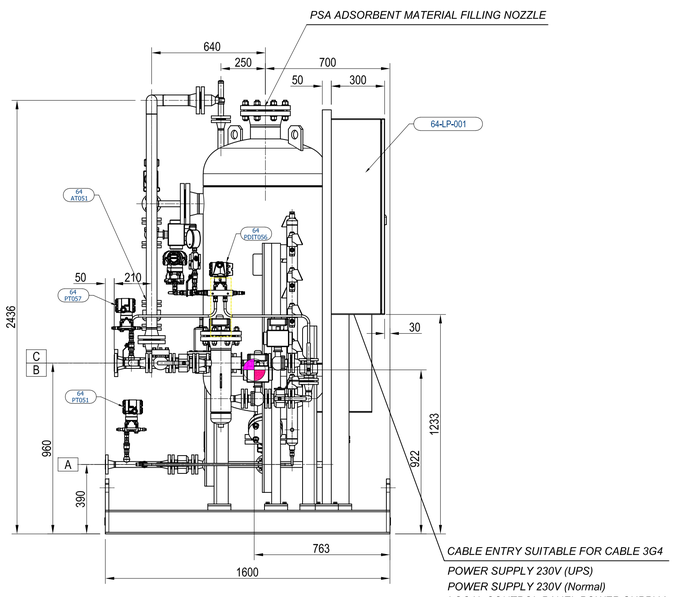
ROSETTI MARINO

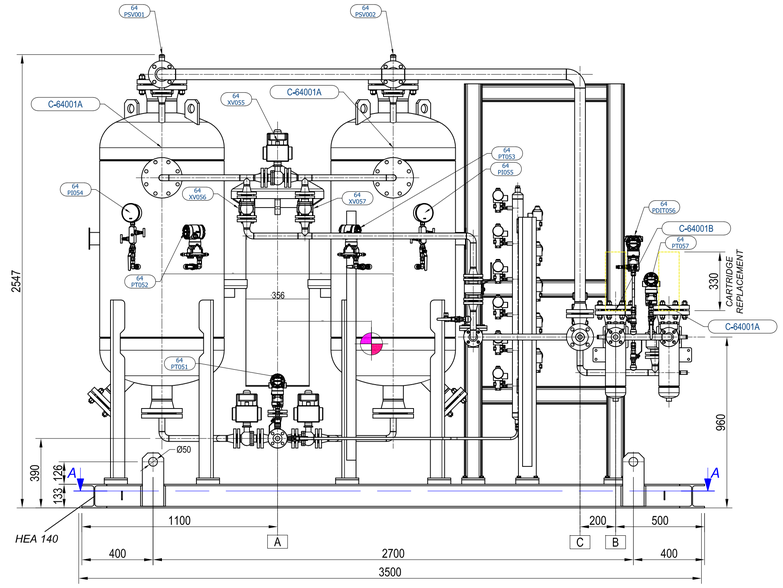
F.to UNI A3: 420mmx297mm

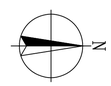
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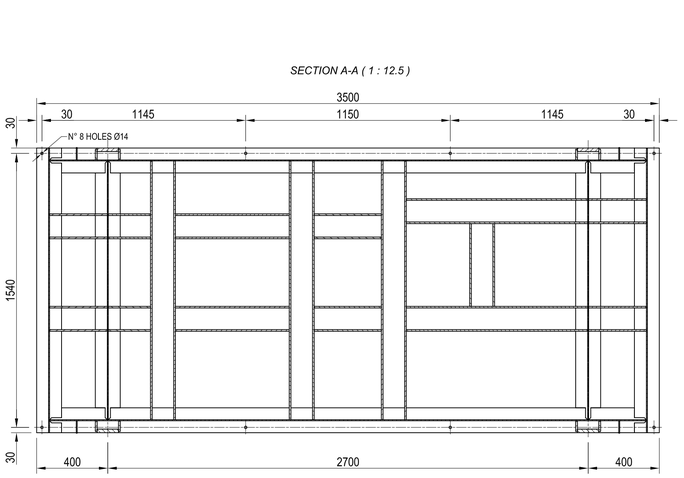
DRAWING NO. 1724000437-MAC-DA-00005

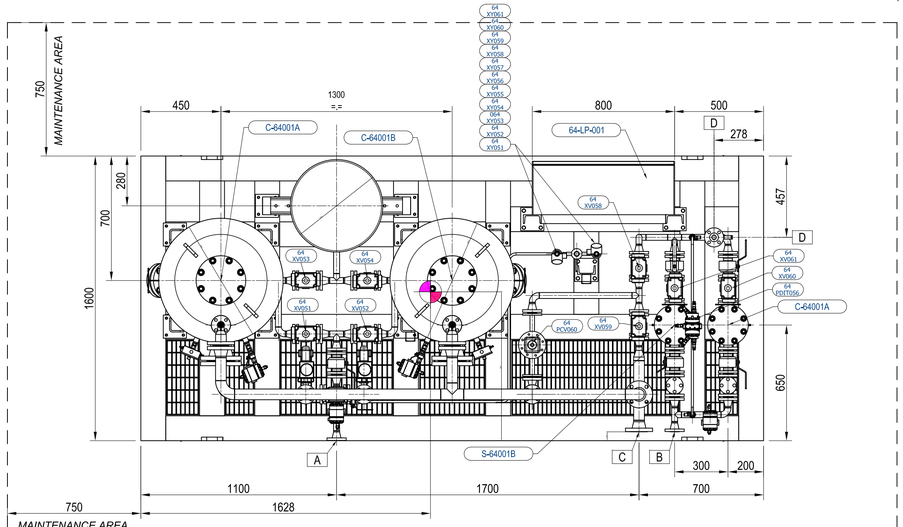
REV. 02

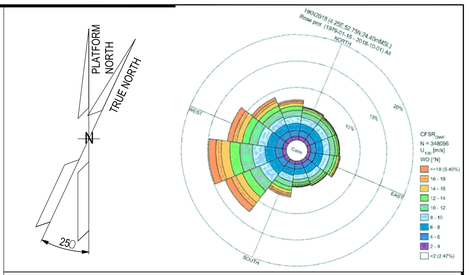


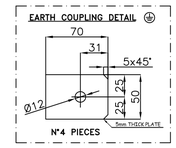












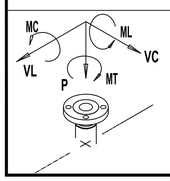
NOTES

1. SKID TOTAL WEIGHT: 5000 kg
2. FOR EQUIPMENT WEIGHT REFER TO EQUIPMENT DS, DOC. NO. 1724000437-MAC-DS-00011
3. FOR DESIGN PARAMETERS & CODES REFER TO EQUIPMENT DS, DOC. NO. 1724000437-MAC-DS-00011
4. FOR WELDING DETAILS REFER TO WELDING SPECIFICATION, DOC. NO. 1724000437-WEL-LIS-00020
5. FOR PAINTING DETAILS REFER TO PAINTING SPECIFICATION, DOC. NO. 1724000437-MAT-PRO-00021
6. NO LUBRICATION REQUIRED

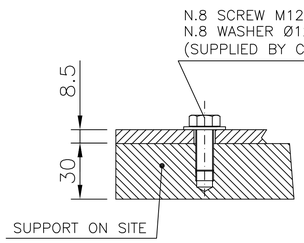
LEGEND

HOLDS

FOUNDATION LOADS TABLE			
	LIFTING	EMPTY	OPERATION
VERTICAL (kN)	8.2	7.5	8.2
SHEAR Y (kN)	0	0	0
SHEAR X (kN)	0	0	0
MOMENT Y (kNm)	0	0	0
MOMENT X (kNm)	0	0	0



MAX ALLOWABLE LOADS AT B.L. CONNECTIONS						
	FORCES [kN]			MOMENTS [kNm]		
	VL	P	VC	MC	MT	ML
A	1,8	1,5	1,8	0,3	0,4	0,2
B	1,8	1,5	1,8	0,3	0,4	0,2
C	1,8	1,5	1,8	0,3	0,4	0,2
D	1,8	1,5	1,8	0,3	0,4	0,2



TAG NUMBER OF EQUIPMENTS	
TAG	DESCRIPTION
C-64001A/B	PSA TOWERS
S-64001A/B	PSA AFTER FILTERS

CONNECTIONS			
POS.	TYPE	SERVICE	MATERIAL
A	ø 1" ANSI B16.5 150# R.F.	DRY AIR INLET	SS 316/316L
B	ø 1" ANSI B16.5 150# R.F.	NITROGEN OUTLET	C.S.
C	ø 1" ANSI B16.5 150# R.F.	NITROGEN VENT	C.S.
D	ø 1" ANSI B16.5 150# R.F.	CONNECTION TO RECEIVER	C.S.

NAMEPLATE "COES"

MANUFACTURER	COES SRL - STEZZANO (BG)		
SERVICE	NITROGEN GENERATION PACKAGE		
YEAR	2024	SERIAL NUMBER	*****
WEIGHT	5000 kg	ITEM	A-64000
PRESSURE	12 barg	TEMPERATURE	-10°C / 80°C

CE 0425 2014/68/UE - Cat.IV

coes

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	22/07/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)
01	08/05/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)
00	26/03/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PACKAGE GENERAL ARRANGEMENT
NITROGEN GENERATION PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	N/A
DRAWN GT	CHECKED MC	APPROVED TM	DATE 22/07/24
A1	DRAWING NO. 1724000437-MAC-DA-00005	SHEET 001	REV. 02

File Name : 1724000437-MAC-DA-00005

Base Load Power Hub (BLPH)

NITROGEN GENERATION PACKAGE
PACKAGE WIRING DIAGRAM
INCLUDING LAYOUT OF PACKAGE CONTROL PANEL

Document Number: 1724000437-MAC-DG-00009

Document Class: 2

02	22/10/2024	Accepted for Construction (AFC)	GT	MC	TM
01	01/07/2024	Issue for Review (IFR)	GT	MC	TM
00	08/05/2024	Issue for Review (IFR)	GT	MC	TM
Rev.	Date	Description	Prepared	Reviewed	Approved

COES

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

	PREPARED	CHECKED AND APPROVED	CUSTOMER APPROVAL	DATE	DESCRIPTION
	ASSOLARI O.	TIRABOSCHI T.		02.05.2024	FIRST ISSUE
A	ASSOLARI O.	TIRABOSCHI T.		30.05.2024	ACCORDING TO CUSTOMER COMMENTS
B	ASSOLARI O.	TIRABOSCHI T.		01.08.2024	ACCORDING TO CUSTOMER COMMENTS
C					
D					
E					
F					

	PREPARED	CHECKED AND APPROVED	CUSTOMER APPROVAL	DATE	DESCRIPTION
G					
H					
I					
L					
M					
N					

TEST CERTIFICATE N	2024...

ELECTRICAL CABINET	=PLANT +LOCATION	WORK ORDER SERIAL NUMBER

TITLE

COMMAND AND CONTROL SWITCHBOARDS NITROGEN GENERATION PACKAGE 64-LP-001 WIRING DIAGRAM

REF. Netherlands

TECHNICAL AND CONSTRUCTIVE FEATURES

ELECTRICAL

RATED VOLTAGE:

RATED FREQUENCY:
50Hz

RATED CURRENT:
32A

AUXILIARY CIRCUIT SUPPLY:
230Vac~ 24Vdc

SHORT CIRCUIT CURRENT:
10kA

EARTH BUSBAR SECTION:
Cu 20x5 mm²

REFERENCE STANDARDS:
IEC 61439-1

MECHANICALS

DEGREE OF PROTECTION (INT.):
IP20

DEGREE OF PROTECTION (EXT.):
IP66

INTERNAL PAINTING:
RAL7035

EXTERNAL PAINTING:
RAL7035

SEGREGATION FORM:
--

INSTALLATION CONDITIONS

ENVIRONMENT TEMPERATURE:
-5° - 41°C

RELATIVE HUMIDITY:
90%

ALTITUDE:
<= 1000mt s.l.m.

INSTALLATION:
FOR EXTERNAL

CABLE INCOMING:
FROM LOW

CABLE OUTGOING:
FROM LOW

WIRING

COLORS

POWER CIRCUITS:
BLACK

ac AUXILIARY CIRCUITS:
RED

dc AUXILIARY CIRCUITS:
BLUE

CIRCUITS NOT ISOLATED BY GENERAL DEVICE:
ORANGE

EARTH CIRCUITS:
YELLOW/GREEN

SECTIONS

POWER CIRCUITS:
MINIMUM 2,5mm²

AUXILIARY CIRCUITS:
MINIMUM 1,5mm²

ELECTRONIC CIRCUITS:
MINIMUM 0,5mm²

CURRENT MEASURE CIRCUITS:
2,5mm²

VOLTAGE MEAUSURE CIRCUITS:
2,5mm²

CABLE TYPE:
FS17

TERMINALS

AUXILIARY:
2,5mm²

VOLTAGE MEAUSURE CIRCUITS:
6mm² WITH DISCONNECTING SLIDE-LINK

CURRENT MEASURE CIRCUITS:
6mm² WITH DISCONNECTING SLIDE-LINK AND SHORT-CIRCUIT CROSS CONNECT.

THE SECTIONS OF THE WIRE DON'T SPECIFIED ARE mm²; THE COLORS OF THE WIRE DON'T SPECIFIED ARE:

COES S.r.l.
Via Pontida , 265
24040 Stezzano (BG)-Italy
Tel. +39 035 2050 511 Fax +39 035 2050 532
www.coessrl.com coes@coessrl.com

LEVELS	DRAWING N.	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	d241024-WD		01
	WORK ORDER N. 2024.4813_001	LOCATION	NEXT 02
DESCRIPTION: COVER			TOTAL 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

LETTER	TYPE OF COMPONENT	EXAMPLE	MARK
A	ASSEMBLED	LASER MASER REGULATOR	A
		TRANSISTOR AMPLIFIER INTEGRATED CIRCUITS AMPLIFIER MAGNETIC AMPLIFIER VALVE AMPLIFIER	AD AJ - AP AM - AT AV - AR
B	TRASDUCER OF QUANTITY NON-ELECTIC TO ELECTRIC OR VICEVERSA	PHOTOELECTRIC CELL ELECTRIC DYNAMOMETER CRISTAL TRASDUCER MICROPHONE PICK-UP LOUDSPEAKER SYNCRONOUS TRANSMITTER	B
		TRANSDUCER OR ANALOGIC SENSOR OR NUMERIC WITH MULTIPLE STEPS (USABLE FOR INDICATION OR THE MEASURE): PRESSURE TRANSDUCER POSITION TRANSDUCER ROTATION TRANSDUCER (TACHOMETRIC GENERATOR) TEMPERATURE TRANSDUCER VELOCITY TRANSDUCER	 BP BQ BR BT BV
C	CAPACITORS	CAPACITORS	C
D	BYNARY ELEMENTS DEVICE OF DELAY DEVICE OF STORAGE	DEVICE AND INTEGRATED CIRCUITS DIGITAL: DELAY LINE ELEMENT BISTABLE ELEMENT MONOSTABLE RECORDER MEMORY MAGNETIC RECORDER ON TAPE OR ON DISC	D
E	MATERIALS SUNDRIES	DEVICE NOT SPECIFIED IN THIS TABLE	E
		HEATER ILLUMINATION LAMP VENTILATOR	EH EL EV
F	PROTECTION DEVICE	OVER-VOLTAGE DEVICE SOURGE ARRESTER	F
		DEVICE OF PROTECTION WITH CURRENT THRESHOLD WITH INSTANTANEOUS ACTION DEVICE OF PROTECTION WITH CURRENT THRESHOLD WITH DELAYED ACTION DEVICE OF PROTECTION WITH CURRENT THRESHOLD WITH INSTANTANEOUS ACTION AND DELAYED FUSE DEVICE OF PROTECTION WITH VOLTAGE THRESHOLD	 FA FR FS FU FV
G	GENERATOR POWER SUPPLY	ROTATING GENERATOR QUARZ OSCILLATOR	G
		BATTERY OF ACCUMULATORS CONVERTER OF FREQUENCY ROTATING OR STATIC POWER SUPPLY	GB GF GS
H	SEGNALLING DEVICE	ACUSTIC SIGNAL OPTICAL / LUMINOUS INDICATOR	HA HL
K	RELAY CONTACTOR	RELÈ ISTANTANEO CON TUTTO O NIENTE O CONTATTORI ISTANTANEO RELÈ BISTABILI O CONTATTORI INTERBLOCCATI (RELÈ CON TUTTO O NIENTE CON ACCOPPIATORE MECCANICO O MAGNETE PERMANENTE) CONTATTORI RELÈ POLARIZZATO RELÈ REED RELÈ TEMPO CON TUTTO O NIENTE (TIMER)	KA KL KM KP KR KT
L	INDUCTOR, REACTOR	INDUCTOR, RECTOR, COIL	L
M	MOTOR	MOTOR	M
N	ANALOG CIRCUIT INTEGRATED	OPERATIONAL AMPLIFIER ANALOG/DIGITAL HYBRID APPARATUS	N

LETTER	TYPE OF COMPONENT	EXAMPLE	MARK
P	TEST DEVICE AND INSTRUMENT	DEVICE OF MEASURE INDICATOR RECORDERS AND INTEGRATORS GENERATOR OF SIGNALS	P
		AMPEROMETER COUNTER OF IMPULSES WATTMETER APPARATUS RECORDER CLOCK / COUNTER OF HOURS OF SERVICE VOLTMETER	PA PC PJ PS PT PV
Q	MANOEUVRE APPARATUS FOR POWER CIRCUITS	SWITCH AUTOMATIC MOTOR PROTECTION DISCONNETTING SWITCH	QF QM QS
R	RESISTOR	FIXED OR VARIABLE (RHEOSTAT) RESISTOR	R
		POTENTIOMETER DERIVATIVE RESISTOR WITH INTRINSIC VARIATION DEPENDENT OF TEMPERATURE (THERMISTOR) RESISTOR WITH INTRINSIC VARIATION DEPENDENT OF VOLTAGE (VARISTOR)	RP RS RT RV
S	COMMAND OR CONTROL APPARATUS	SELECTOR OR COMMUTATOR PUSH BUTTON (INTO DEVICE ELECTRONIC OF COMMAND WITH PROXIMITY) SENSORS WITH ALL OR NOTHING NUMERIC (WITH STEP SINGLE) OF NATURE MECCANIC AND ELECTRONIC: - SENSOR OF LEVEL OF LIQUID - SENSOR OF PRESSURE - SENSOR OF POSITION (INTO OF PROXIMITY) - SENSOR OF ROTATION - SENSOR OF TEMPERATURE	SA SB SL SP SQ SR ST
T	TRANSFORMER	CURRENT TRANSFORMER COMMAND CIRCUITS POWER SUPPLY TRANSFORMER POWER TRANSFORMER MAGNETIC STABILIZER VOLTAGE TRANSFORMER	TA TC TM TS TV
U	MODULATOR CONVERTER	DISCRIMINATOR DEMODULATOR FREQUENCY CONVERTER ENCODER CONVERTER INVERTER TELEGRAPHIC TRANSLATOR	U
V	ELECTRONIC TUBE SEMICONDUCTOR	ELECTRONIC TUBE GAS DISCHARGE TUBE DIODE TRANSISTOR THYRISTOR	V
		RECTIFIER FOR COMMAND CIRCUITS POWER SUPPLY	VC
W	TRANSMISSION WAYS WAVE GUIDES AERIALS	WIRE CABLE BUS BAR WAVE GUIDE WAVE GUIDE DIRECTIONAL COUPLER DIPOLE PARABOLIC AERIAL	W
X	TERMINAL OUTLET PLUG	CONNECTING BUS BAR TEST PLUG PLUG OUTLET TERMINAL BOARD	XB XJ XP XS XT
Y	APPARATUS MECHANICS ELECTRICALLY OPERATED	ELECTROMAGNET ELECTROMAGNETIC BRAKE ELECTROMAGNETIC FRICTION MAGNETIC MANDREL OR TABLE ELECTROMAGNETIC VALVE	YA YB YC YH YV
Z	TRANSFORMER, IMPEDANCE ADAPTOR EQUALIZER, BAND LIMITER	EQUALIZER OF LINE COMPRESSOR CRYSTAL FILTER	Z

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

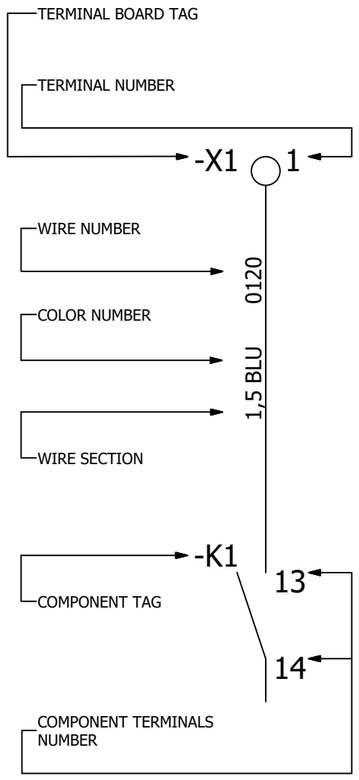
coes 20th coes 1997 - 2017

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 02
DESCRIPTION MARKS OF IDENTIFIERS ACC. TO IEC 204-2	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 03
	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

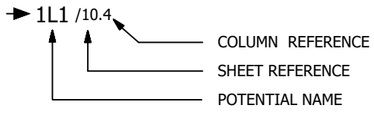
TABLE SYMBOLS

DEFINITION OF IDENTIFIERS (CEI3-34)		
CODE 1	PLANT	=
CODE 2	LOCATION	+
CODE 3	TAG	-
CODE 4	TERMINAL	:

NUMERATION WIRES AND TERMINALS
(CEI 16-1)



POTENTIAL CHAIN

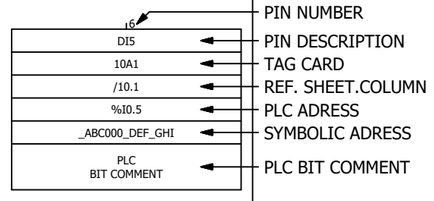


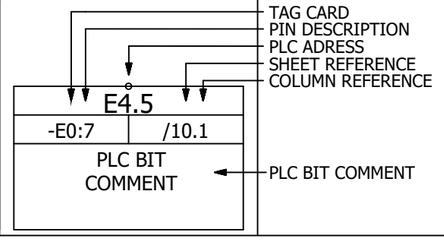
SYMBOL	DESCRIPTION
	TERMINAL
	COLLECTOR BUS-BAR CONNECTION
	FUSE TERMINAL
	FUSE TERMINAL WITH LED
	PUSH BUTTONS
COLOR	HEAD
COLOR	GENERICS
COLOR	LUMINOUS
	SELECTORS
NC	POSITION 0/1
NO	POSITION 1/0/2 FIXED
	POSITION 1/0/2 IMPULSIVE
COLOR	LUMINOUS
	WITH KEY
COLOR COLOR	LED - LAMP
COLOR	LIGHTING BODY FOR OPERATOR LIGHT
	ISOLATED BARRIER (SWITCH AMPLIFIER)
	ISOLATED BARRIER (TEMPERATURE REPEATER)

SYMBOL	DESCRIPTION
	AUXILIARY RELAY POWER RELAY
	TIMED RELAY DELAYED TO EXCITATION
	TIMED RELAY DELAYED TO THE DROP-OUT
	RELAY STEP BY STEP
	POWER CONTACT
	OPEN AND CLOSE AUXILIARY CONTACT
	EXCHANGE AUXILIARY CONTACT
	NORMALLY OPEN NORMALLY CLOSE AUXILIARY CONTACT DELAYED ON OPENING
	NORMALLY OPEN NORMALLY CLOSE AUXILIARY CONTACT DELAYED ON CLOSING
RC	OVERVOTAGE LIMITER

SYMBOL	DESCRIPTION
	TOROIDAL TRANSFORMER
NETWORK ANALIZER	NETWORK ANALIZER
	GENERIC PROTECTION COMMON: -VOLTMETRIC -AMMETRIC -TRANSDUCER
V	VOLTMETER
A	AMMETER
	COMMUTATOR: VOTMETRIC
	AMMETRIC
...n	DIODE MODULE
	Ac/Dc POWER SUPPLY

BIT PLC





SYMBOL	DESCRIPTION
	HORN
	RESISTOR
	OUTLET SOCKET
	FAN
	MECHANICAL INTERLOCKED
	KEY FREE WITH CLOSED DOOR
	KEY FREE
	KEY LOCKED
	CONNECTOR
	LIMIT SWITCH
P>	AIR PRESSURE SWITCH
L	LEVEL SWITCH
F	SENSOR FILTER
T f	THERMOSTAT
	REED MAGNETIC PROXIMITY SENSOR

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

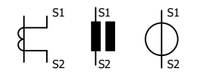
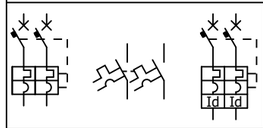
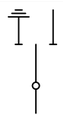
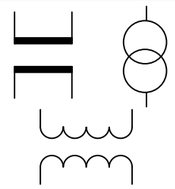
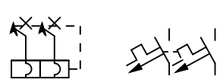
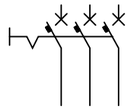
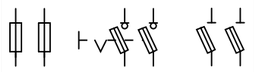
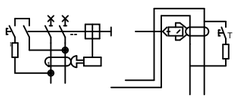
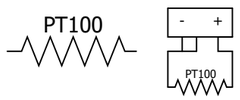
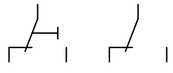
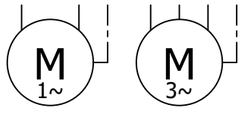
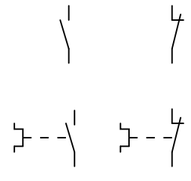
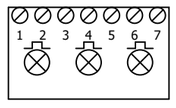
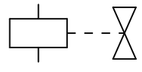
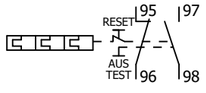
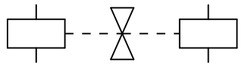
coes 20th coes 1997 - 2017

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
COMMON SYMBOLS

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	03
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	04
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

TABLE SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SWITCH DISCONNETING SWITCH		GEARED MOTOR DEVICE		LINE/EARTH DISCONNECTING SWITCH MEDIUM VOLTAGE		CURRENT TRANSFORMER
	SWITCH: MAGNETOTHERMAL MAGNETOTERMAL+DIFFERENTIAL	YO	OPENING COIL		LINE/EARTH DISCONNECTING SWITCH MEDIUM VOLTAGE		VOLTAGE TRANSFORMER
		YC	CLOSING COIL				
		YU	MINIMUM VOLTAGE COIL				POWER TRANSFORMER
	AUTOMATIC SWITCH		CAPACITOR POLARIZD CAPACITOR		MEDIUM VOLTAGE SWITCH		
	DISCONNETTING SWITCH WITH FUSE		REACTOR		EARTH DISCONNETTING SWITCH MEDIUM VOLTAGE		
	DIFFERENTIAL SWITCH MINIATURE DIFFERENTIAL		THERMIC PROBE PT100		CAPACITIVE LIVE LINE INDICATOR		
	SOURGE ARRESTER		THERMOCOUPLE				
	EXCHANGE AUXILIARY CONTACT OF: -POSITION -SIGNALLING FOR SWITCH-DISCONNECTOR		ASYNCHRONOUS MOTOR SINGLE-PHASE THREE-PHASE				
	NORMALLY OPEN/CLOSE AUXILIARY CONTACT FOR: -SWITCH-DISCONNECTING SWITCH -AUTOMATIC/MAGNETOTH. SWITCH -THERMAL RELAY		THREE-PHASE FLASHING-LIGHT				
			SIMPLE SOLENOID VALVE				
	RELAY THERMAL WITH AUXILIARY CONTACTS		DOUBLE SOLENOID VALVE				

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN
	DATE 02.05.2024	APPROVED	LOCATION + QE
DESCRIPTION COMMON SYMBOLS	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD	TOTAL SHEETS 48

PAGE 04 — NEXT 05

INDEX PAGES

PAGE	DATE	PREPARED	DESCRIPTION	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.
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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 05
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 06
DESCRIPTION INDEX PAGES	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

INDEX PAGES

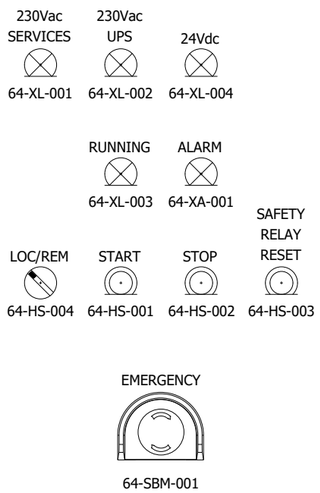
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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

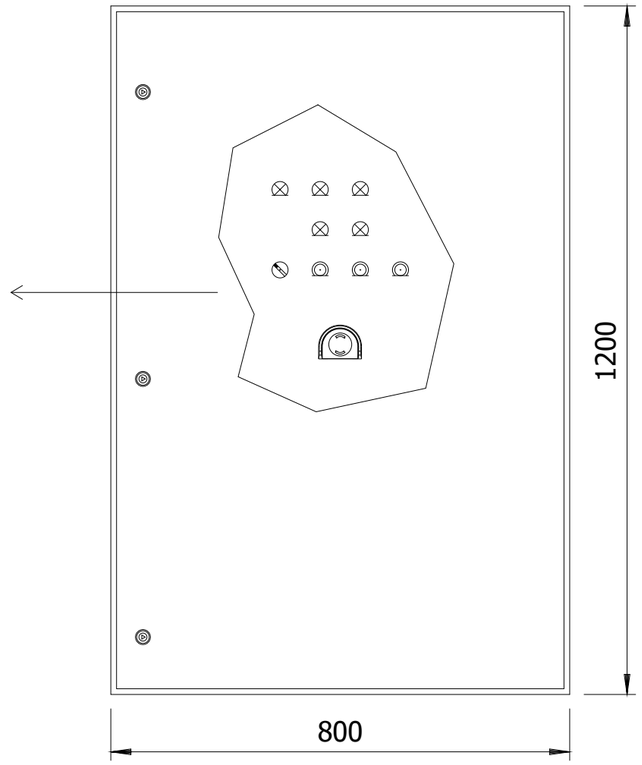
PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 06
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 10
DESCRIPTION INDEX PAGES	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

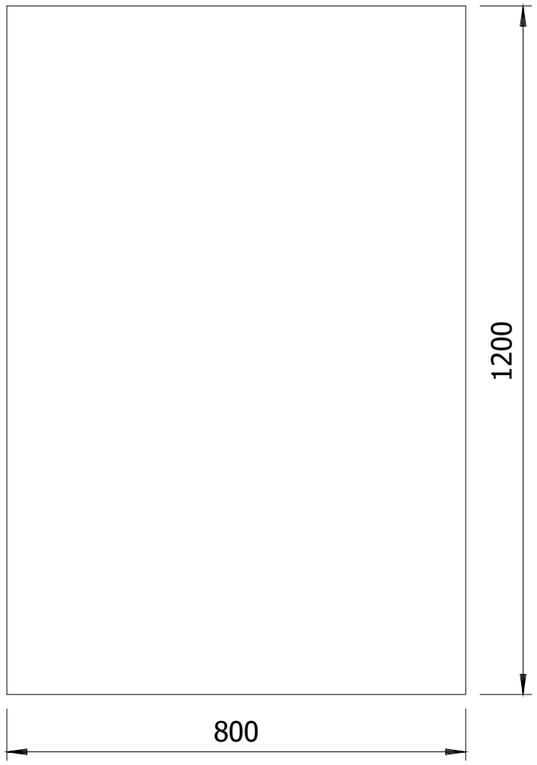
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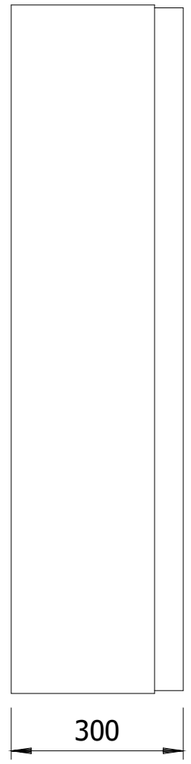
64-LP-001 FRONT



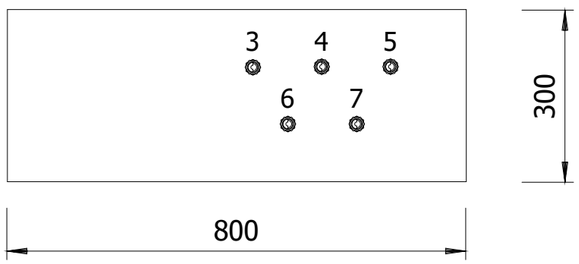
FRONT WITHOUT DOOR



SIDE



FRONT BOTTTOM



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4 =M20 CABLE "83111-CEL"

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6 =M20 CABLE "C-64-XA-003/B400-SIS-001"

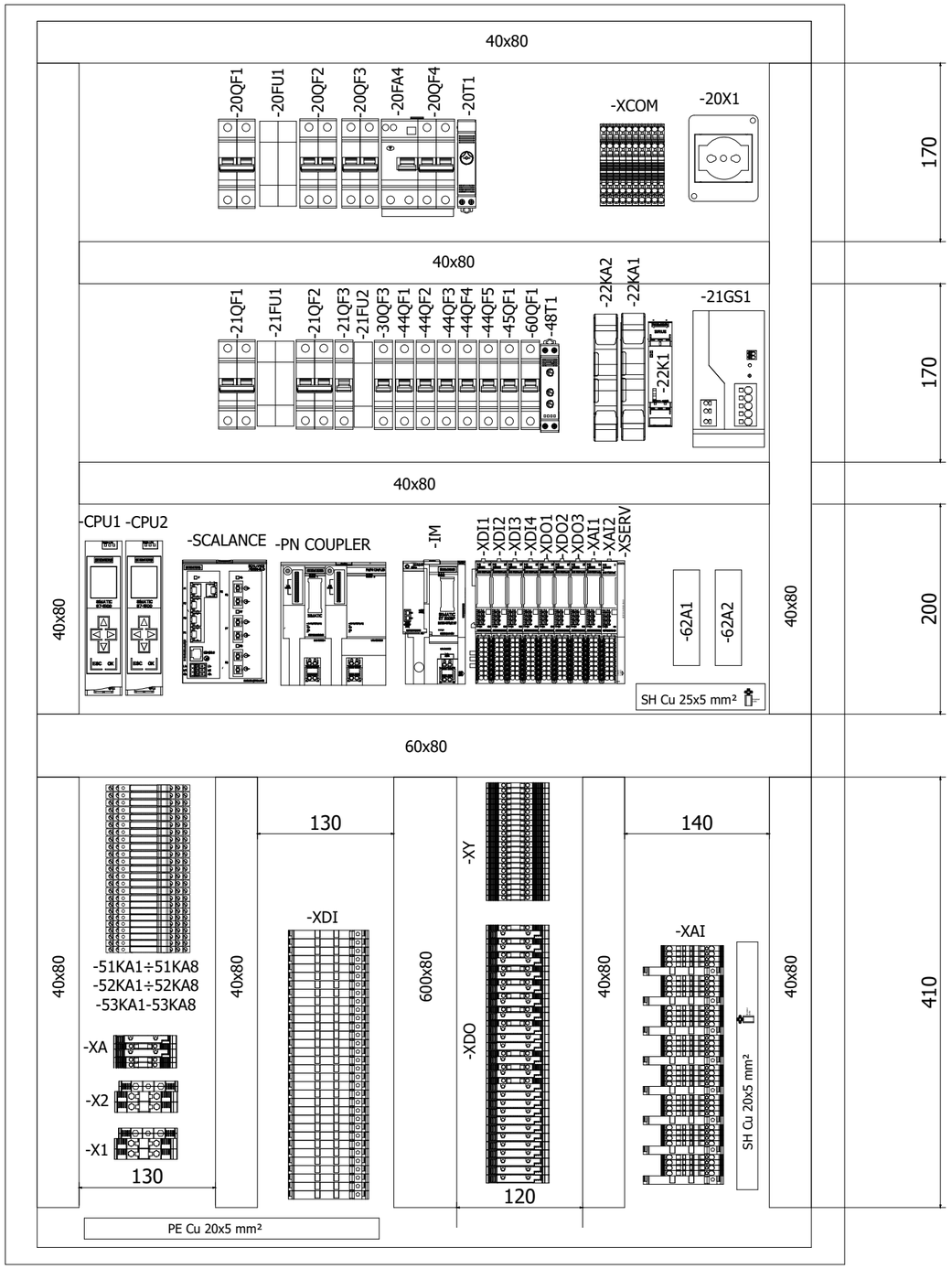
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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024				
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: EXTERNAL VIEWS	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48
			PAGE: 10
			NEXT: 11

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

64-LP-001
INTERNAL



							PLANT	PREPARED	CHECKED	PLANT	PAGE
							COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	11
								DATE	APPROVED	LOCATION	NEXT
A	30.05.2024	O.A.					DESCRIPTION	02.05.2024		+ QE	20
REV.	DATE	PREPARED	REV.	DATE	PREPARED		INTERNAL VIEWS	WORK ORDER N	DRAWING N		TOTAL SHEETS
								2024.4813_001	d241024-WD		48

RM REFERENCE: 123A90-DDL-EL-DGF-20149 details electrical interface to Package systems

INCOMING LINE 230VAC
SERVICES - from DP-200N1

L N PE

-X1 1 2 PE

L230 N230

-20QF1
S202M C
32A

1L230 1N230 1L230 1N230

-20FU1
500V
10x38
2A

2000 2001

64-XL-001
230..240V
WHITE

X1 X2

VOLTAGE ON
SERVICES
230Vac

230Vac

1L230 1N230

-20QF2
S202M C
2A

2002 2003

-20S1

2004

PE

Y.G

X2

-20H1

X1

INTERNAL
LIGHTING

2005 2006

-20T1
/20.12
panel thermostat/hygrostat
1P - 10A
FINDER
7T.51.0.230.4360

A1 A2

1L230 1N230

-20QF3
S202M C
2A

2005 2006

-20T1
/20.9
panel thermostat/hygrostat
1P - 10A
7T.51.0.230.4360

2007

PE

L

-20E1
100W

N

ANTICONDENSATE
RESISTOR

1L230 1N230

-20QF4
S202M C
16A

-20FA4
DDA202 AC
25A-30mA

2008 2009

PE

Y.G

L PE N

-20X1
SOCKET 16A

SERVICE
SOCKET

PE = Busbar Switchboard
PE Cu 20x5 mm²

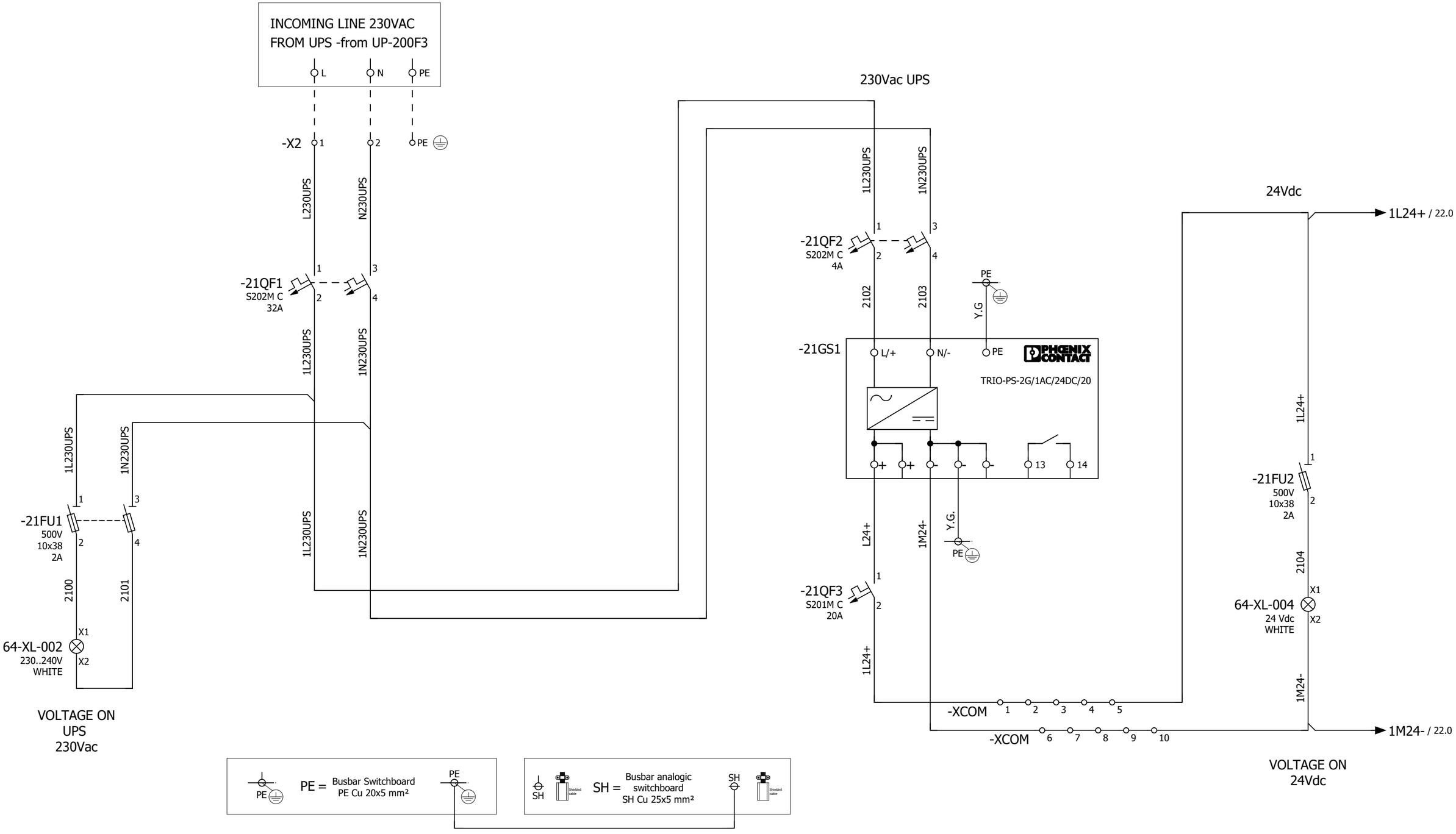
SH = Busbar analogic
switchboard
SH Cu 25x5 mm²

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT	PREPARED	CHECKED	PLANT
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN
DESCRIPTION	DATE	APPROVED	LOCATION
INCOMING LINE 230Vac SERVICES	02.05.2024		+ QE
	WORK ORDER N	DRAWING N	
	2024.4813_001	d241024-WD	

PAGE	NEXT	TOTAL SHEETS
20	21	48

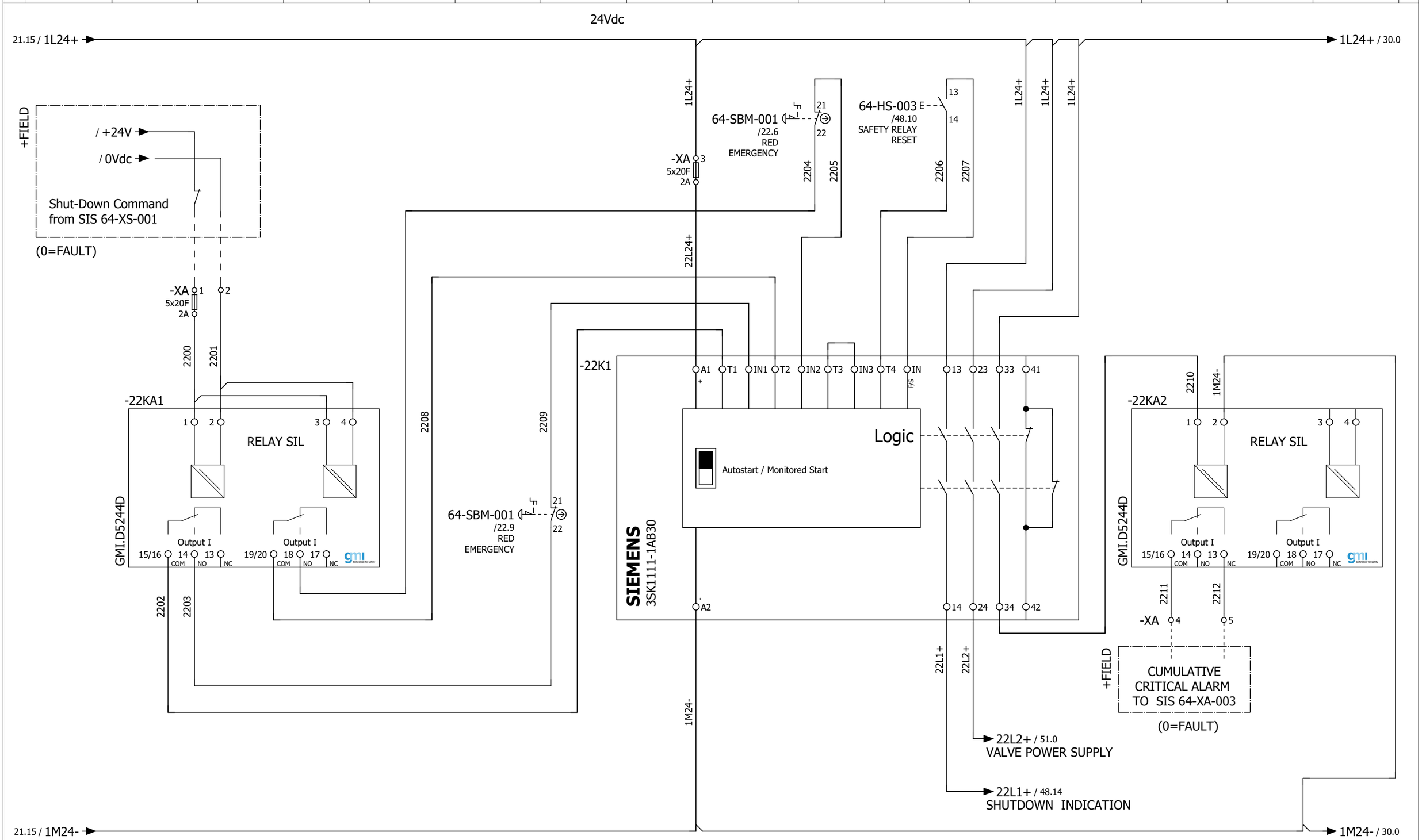
RM REFERENCE: 123A90-DDL-EL-DGF-20149 details electrical interface to Package systems



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: INCOMING LINE 230Vac FROM UPS	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

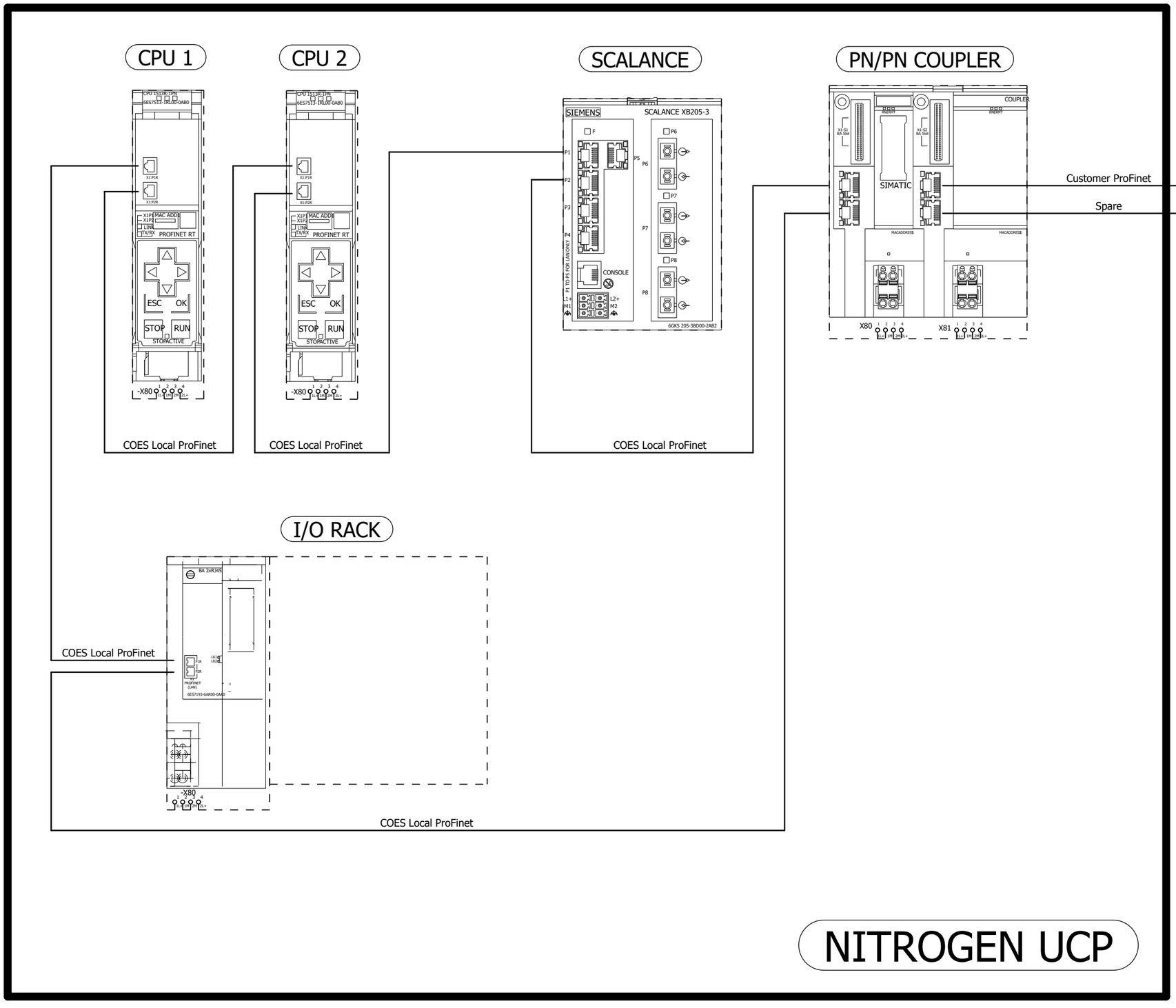
PAGE	NEXT
21	22



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: SAFETY RELAY 24Vdc	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

PAGE	NEXT
22	25

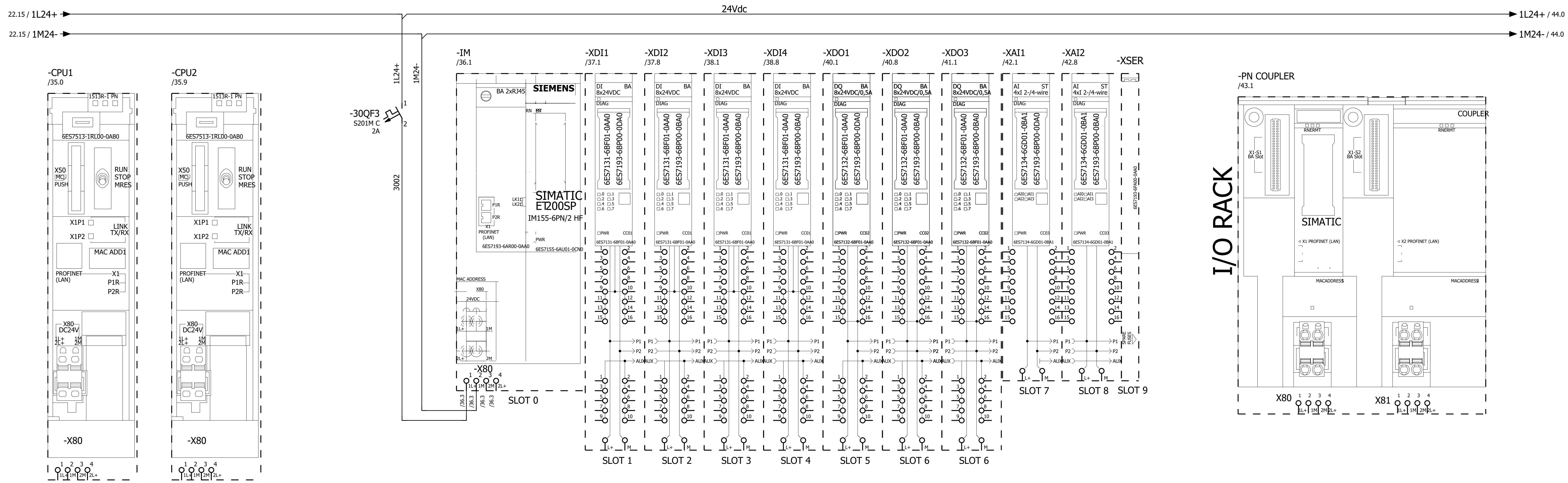


RM REFERENCE: 123A90-DDL-EL-DGF-20149 details electrical interface to Package systems

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: NETWORK ARCHITECTURE	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
25	30	48



REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
PLC CONFIGURATION

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	30
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	35
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

-CPU1
/30.0
/44.10
SIE.6ES7513-1RL00-0AB0
SIE.6ES7954-8LF03-0AA0

S7-1500 SIEMENS
CPU 1513 R

X1P1 R: PN — /61.1
X1P2 R: PN — /61.2

-X80:1 1L+ — /44.10 POWER SUPPLY CPU 1513R-1PN - CPU1
-X80:2 1M — /44.10
-X80:3 2M — /44.10
-X80:4 2L+ — /44.11

6ES7513-1RL00-0AB0

-CPU2
/30.1
/44.13
SIE.6ES7513-1RL00-0AB0
SIE.6ES7954-8LF03-0AA0

S7-1500 SIEMENS
CPU 1513 R

X1P1 R: PN — /61.5
X1P2 R: PN — /61.6

-X80:1 1L+ — /44.13 POWER SUPPLY CPU 1513R-1PN - CPU2
-X80:2 1M — /44.13
-X80:3 2M — /44.13
-X80:4 2L+ — /44.13

6ES7513-1RL00-0AB0

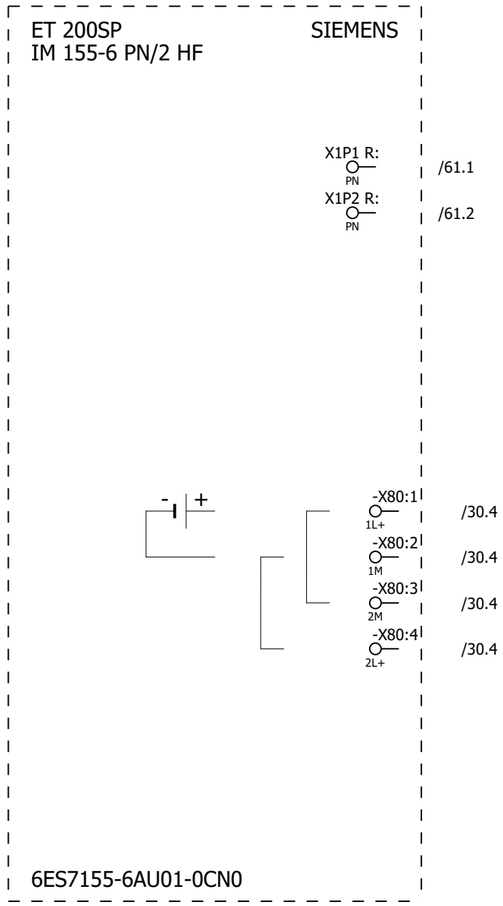
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 35
DESCRIPTION: SUMMARY CPU	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 36
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

/30.4
-IM
SIE.6ES7155-6AU01-0CN0
SIE.6ES7193-6AR00-0AA0



REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 36
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 37
DESCRIPTION SUMMARY CARDS I/O RACK	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7131-6BF01-0AA0
6ES7193-6BP00-0DA0

-XDI1
/30.5

0	%I0.0	1 DI0	/46.0	64-ZSH-051	VALVE 64-XV-051 OPEN LIMIT SWITCH	
0		9 24VDC				
1	%I0.1	2 DI1	/46.2	64-ZSL-051	VALVE 64-XV-051 CLOSED LIMIT SWITCH	
1		10 24VDC				
2	%I0.2	3 DI2	/46.4	64-ZSH-052	VALVE 64-XV-052 OPEN LIMIT SWITCH	
2		11 24VDC				
3	%I0.3	4 DI3	/46.6	64-ZSL-052	VALVE 64-XV-052 CLOSED LIMIT SWITCH	
3		12 24VDC				
4	%I0.4	5 DI4	/46.8	64-ZSH-053	VALVE 64-XV-053 OPEN LIMIT SWITCH	
4		13 24VDC				
5	%I0.5	6 DI5	/46.10	64-ZSL-053	VALVE 64-XV-053 CLOSED LIMIT SWITCH	
5		14 24VDC				
6	%I0.6	7 DI6	/46.12	64-ZSH-0514	VALVE 64-XV-054 OPEN LIMIT SWITCH	
6		15 24VDC				
7	%I0.7	8 DI7	/46.14	64-ZSL-054	VALVE 64-XV-054 CLOSED LIMIT SWITCH	
7		16 24VDC				
		L+ 24VDC	/44.1		POWER SUPPLY WHITE CARD DIGITAL INPUT -XDI1	
		M 0VDC	/44.1			
		SH				

SIEMENS

6ES7131-6BF01-0AA0
6ES7193-6BP00-0BA0

-XDI2
/30.6

0	%I1.0	1 DI0	/47.0	64-ZSH-055	VALVE 64-XV-055 OPEN LIMIT SWITCH	
0		9 24VDC				
1	%I1.1	2 DI1	/47.2	64-ZSL-055	VALVE 64-XV-055 CLOSED LIMIT SWITCH	
1		10 24VDC				
2	%I1.2	3 DI2	/47.4	64-ZSH-056	VALVE 64-XV-056 OPEN LIMIT SWITCH	
2		11 24VDC				
3	%I1.3	4 DI3	/47.6	64-ZSL-056	VALVE 64-XV-056 CLOSED LIMIT SWITCH	
3		12 24VDC				
4	%I1.4	5 DI4	/47.8	64-ZSH-057	VALVE 64-XV-057 OPEN LIMIT SWITCH	
4		13 24VDC				
5	%I1.5	6 DI5	/47.10	64-ZSL-057	VALVE 64-XV-057 CLOSED LIMIT SWITCH	
5		14 24VDC				
6	%I1.6	7 DI6	/47.12	64-ZSH-058	VALVE 64-XV-058 OPEN LIMIT SWITCH	
6		15 24VDC				
7	%I1.7	8 DI7	/47.14	64-ZSL-058	VALVE 64-XV-058 CLOSED LIMIT SWITCH	
7		16 24VDC				
		L+ 24VDC				
		M 0VDC				
		SH				

SIEMENS

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

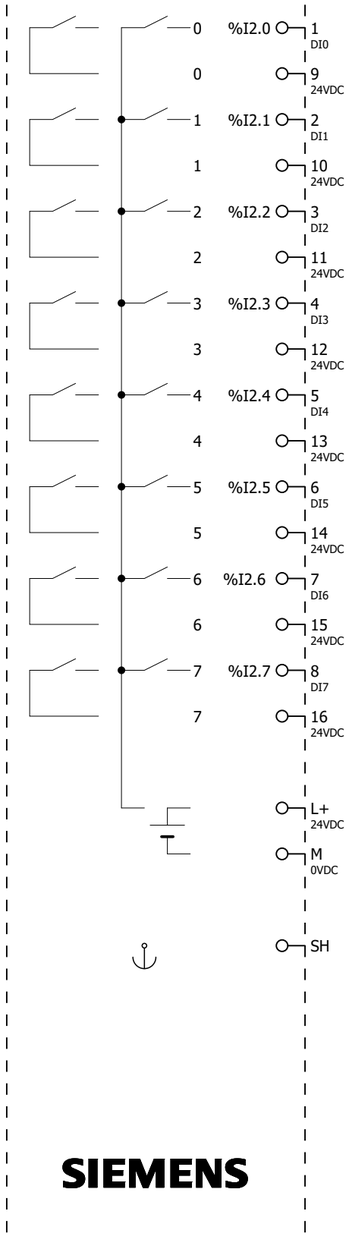
coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SUMMARY CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48
			PAGE: 37
			NEXT: 38

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7131-6BF01-0AA0
6ES7193-6BP00-0BA0

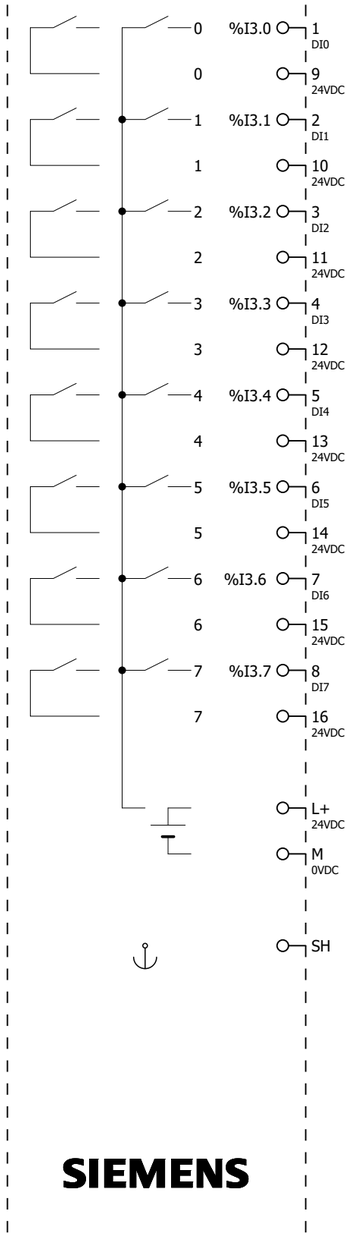
-XDI3
/30.7



%I2.0	/48.0	64-ZSH-059	VALVE 64-XV-059 OPEN LIMIT SWITCH
%I2.1	/48.2	64-ZSL-059	VALVE 64-XV-059 CLOSED LIMIT SWITCH
%I2.2	/48.4	64-TH-001	INTERNAL CABINET THERMOSTAT
%I2.3	/48.6	64-HS-001	LOCAL START PUSH BUTTON
%I2.4	/48.8	64-HS-002	LOCAL STOP PUSH BUTTON
%I2.5	/48.10	64-HS-003	LOCAL ALARM RESET
%I2.6	/48.12	64-HS-004	LOCAL REMOTE SELECTOR STATUS
%I2.7	/48.14	64-ESD-001	SHUTDOWN ALARM FROM SIS - INDICATION ONLY

6ES7131-6BF01-0AA0
6ES7193-6BP00-0BA0

-XDI4
/30.7



%I3.0	/49.0	64-ZSH-060	VALVE 64-XV-060 OPEN LIMIT SWITCH
%I3.1	/49.2	64-ZSL-060	VALVE 64-XV-060 CLOSED LIMIT SWITCH
%I3.2	/49.4	64-ZSH-061	VALVE 64-XV-061 OPEN LIMIT SWITCH
%I3.3	/49.6	64-ZSL-061	VALVE 64-XV-061 CLOSED LIMIT SWITCH
%I3.4	/49.8		SPARE
%I3.5	/49.10		SPARE
%I3.6	/49.12		SPARE
%I3.7	/49.14		SPARE

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

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PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
SUMMARY CARDS I/O RACK

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	38
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	40
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7132-6BF01-0AA0
6ES7193-6BP00-0DA0

-XDO1
/30.8

0	%Q0.0	1 DQ0	/51.0	64-XV-051	VALVE 64-XV-051 COMMAND	
0		9 M				
1	%Q0.1	2 DQ1	/51.2	64-XV-052	VALVE 64-XV-052 COMMAND	
1		10 M				
2	%Q0.2	3 DQ2	/51.4	64-XV-053	VALVE 64-XV-053 COMMAND	
2		11 M				
3	%Q0.3	4 DQ3	/51.6	64-XV-054	VALVE 64-XV-054 COMMAND	
3		12 M				
4	%Q0.4	5 DQ4	/51.8	64-XV-055	VALVE 64-XV-055 COMMAND	
4		13 M				
5	%Q0.5	6 DQ5	/51.10	64-XV-056	VALVE 64-XV-056 COMMAND	
5		14 M				
6	%Q0.6	7 DQ6	/51.12	64-XV-057	VALVE 64-XV-057 COMMAND	
6		15 M				
7	%Q0.7	8 DQ7	/51.14	64-XV-058	VALVE 64-XV-058 COMMAND	
7		16 M				
		L+ 24VDC	/44.3		POWER SUPPLY WHITE CARD DIGITAL OUTPUT -XDO1	
		M 0VDC	/44.3			
		SH				

SIEMENS

6ES7132-6BF01-0AA0
6ES7193-6BP00-0BA0

-XDO2
/30.8

0	%Q1.0	1 DQ0	/52.0	64-XV-059	VALVE 64-XV-059 COMMAND	
0		9 M				
1	%Q1.1	2 DQ1	/52.2		SPARE	
1		10 M				
2	%Q1.2	3 DQ2	/52.4	64-XL-003	RUNNING SYSTEM LAMP	
2		11 M				
3	%Q1.3	4 DQ3	/52.6	64-XA-001	GENERAL ALARM SYSTEM LAMP	
3		12 M				
4	%Q1.4	5 DQ4	/52.8	64-XL-003-DCS	NITROGEN GENERATOR RUNNING (TO DCS)	
4		13 M				
5	%Q1.5	6 DQ5	/52.10	64-XA-001-DCS	NITROGEN GENERATOR ALARM (TO DCS)	
5		14 M				
6	%Q1.6	7 DQ6	/52.12	64-XV-060	VALVE 64 XV-060 COMMAND	
6		15 M				
7	%Q1.7	8 DQ7	/52.14	64-XV-061	VALVE 64 XV-061 COMMAND	
7		16 M				
		L+ 24VDC				
		M 0VDC				
		SH				

SIEMENS

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

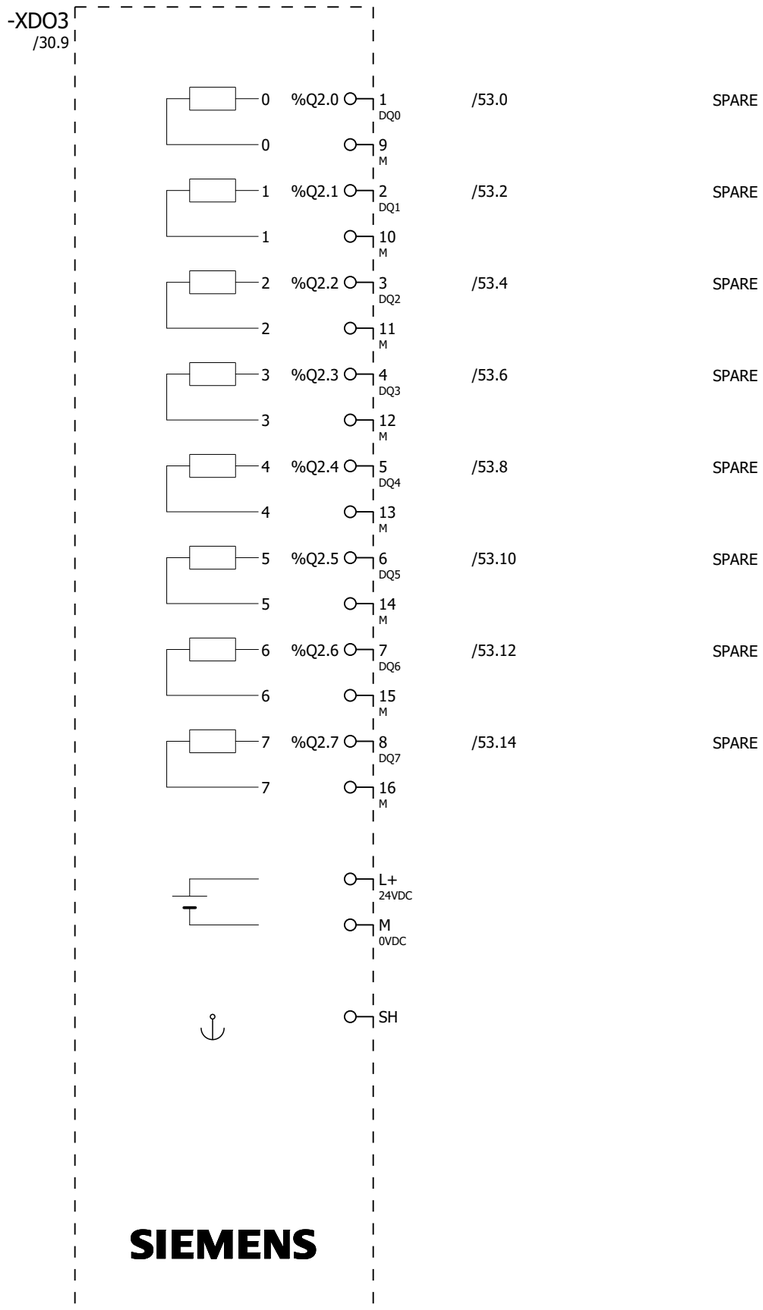
coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SUMMARY CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
40	41	48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7132-6BF01-0AA0
6ES7193-6BP00-0BA0



/53.0	SPARE	
/53.2	SPARE	
/53.4	SPARE	
/53.6	SPARE	
/53.8	SPARE	
/53.10	SPARE	
/53.12	SPARE	
/53.14	SPARE	

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SUMMARY CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

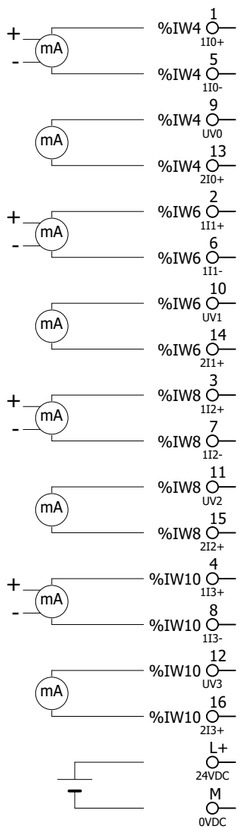
PAGE	NEXT
41	42

/30.9

-XAI1

SIE.6ES7134-6GD01-0BA1
SIE.6ES7193-6BP00-0DA0

ET 200SP SIEMENS
AI 4xI 2-/4-wire ST



%IW4 1I0+	/54.1		
%IW4 1I0-	/54.1		
%IW4 UV0	/54.2	64_PT_051	INLET PRESSUTE TRANSMITTER
%IW4 2I0+	/54.2		
%IW6 1I1+	/54.5		
%IW6 1I1-	/54.5		
%IW6 UV1	/54.6	64_PT_052	TOWER 1 PRESSUTE TRANSMITTER
%IW6 2I1+	/54.6		
%IW8 1I2+	/54.9		
%IW8 1I2-	/54.9		
%IW8 UV2	/54.10	64_PT_053	TOWER 2 PRESSUTE TRANSMITTER
%IW8 2I2+	/54.10		
%IW10 1I3+	/54.13		
%IW10 1I3-	/54.13		
%IW10 UV3	/54.14	64_PT_057	OUTLET B PRESSUTE TRANSMITTER
%IW10 2I3+	/54.14		
L+ 24VDC	/44.6		POWER SUPPLY WHITE CARD ANALOG INPUT -XAI1
M 0VDC	/44.7		

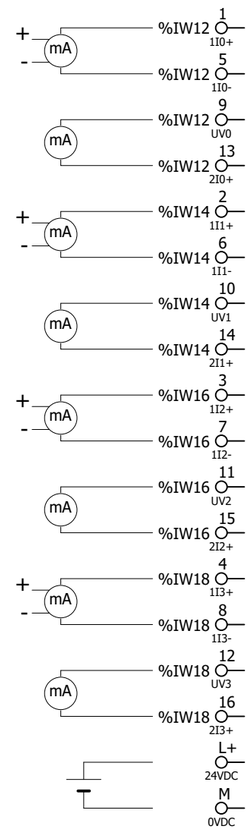
6ES7134-6GD01-0BA1

/30.10

-XAI2

SIE.6ES7134-6GD01-0BA1
SIE.6ES7193-6BP00-0BA0

ET 200SP SIEMENS
AI 4xI 2-/4-wire ST



%IW12 1I0+	/55.1		
%IW12 1I0-	/55.1		
%IW12 UV0	/55.2	64_PT_059	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER
%IW12 2I0+	/55.2		
%IW14 1I1+	/55.5		
%IW14 1I1-	/55.5		
%IW14 UV1	/55.6	64_PDIT_056	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS
%IW14 2I1+	/55.6		
%IW16 1I2+	/55.9		
%IW16 1I2-	/55.9		
%IW16 UV2	/55.10	64_AT_051	OXYGEN TRANSMITTER
%IW16 2I2+	/55.10		
%IW18 1I3+	/55.13		
%IW18 1I3-	/55.13		
%IW18 UV3	/55.14	_XAI_45	SPARE
%IW18 2I3+	/55.14		
L+ 24VDC			
M 0VDC			

6ES7134-6GD01-0BA1

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
SUMMARY CARDS I/O RACK

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	42
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	43
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

-PN COUPLER
/30.12

6ES7158-3AD10-0XA0
6ES7193-6RA00-1AN0

X80:1 1L+ /45.1 POWER SUPPLY PN/PN COUPLER CARD (X80)
X80:2 1M /45.2
X80:3 2M /45.1
X80:4 2L+ /45.1

K1
X300
X1P1 R: PN /61.9
X1P2 R: PN /61.11
6ES7193-6AF00-0AA0

-K2
X301
X1P1 R: PN /61.12
X1P2 R: PN /61.13
6ES7193-6AF00-0AA0

X81:1 1L+ /45.3 POWER SUPPLY PN/PN COUPLER CARD (X81)
X81:2 1M /45.4
X81:3 2M /45.4
X81:4 2L+ /45.4

SIEMENS

-SCALANCE
/60.1
/60.11
/61.0
/43.10
SIE.6GK5205-3BD00-2AB2

SCALANCE
/43.7

SCALANCE XB205-3 SIEMENS

P1/IE — P1 IE — /61.1
P2/IE — P2 IE — /61.2
P3/IE — P3 IE — /61.2
P4/IE — P4 IE — /61.3
P5/IE — P5 IE — /61.4
CONS/RJ11 — CONS RJ11 — /61.5
P6_RXT/FX — P6_RXT FX — /61.5
P6_TXT/FX — P6_TXT FX — /61.6
P7_RXT/FX — P7_RXT FX — /61.7
P7_TXT/FX — P7_TXT FX — /61.8
P8_RXT/FX — P8_RXT FX — /61.9
P8_TXT/FX — P8_TXT FX — /61.9

SCALANCE XB205-3 SIEMENS

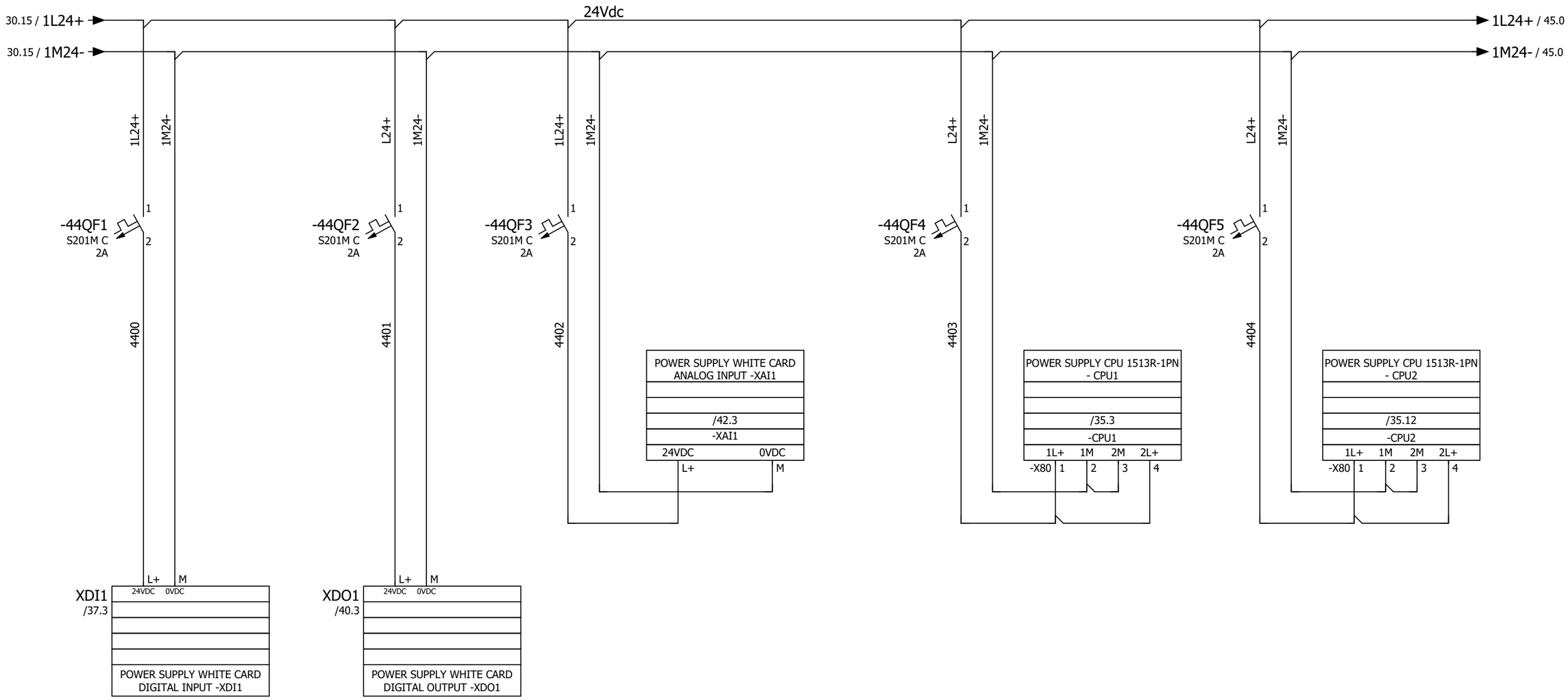
L1+/24VDC — L1+ 24VDC — /60.2
M1/GND — M1 GND — /60.3
FGND1/Functional GND — FGND1 Functional GND — /60.5
L2+/24VDC — L2+ 24VDC — /60.6
M2/GND — M2 GND — /60.7
FGND2/Functional GND — FGND2 Functional GND — /60.9

6GK5205-3BD00-2AB2

REV.	DATE	PREPARED	REV.	DATE	PREPARED

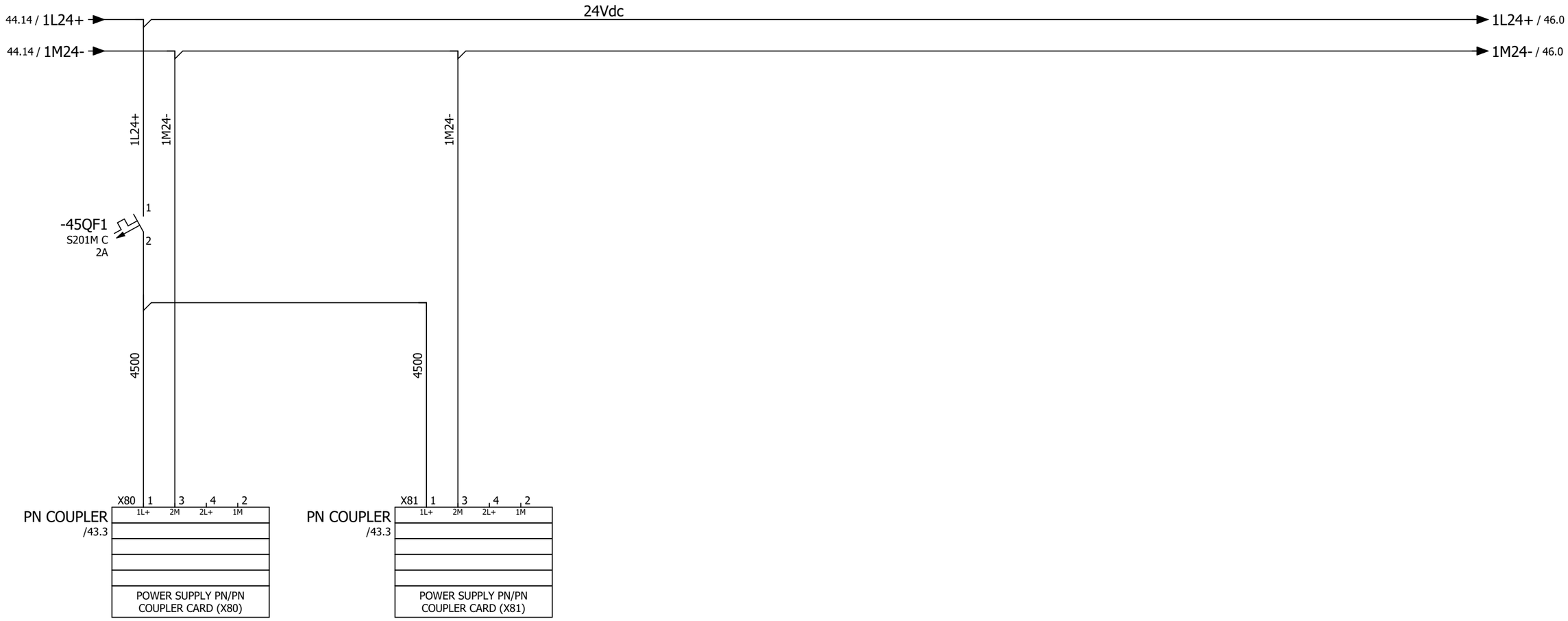
coes 20th 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 43
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 44
DESCRIPTION: SUMMARY CARD PN COUPLER AND SWITCH SCALANCE	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48



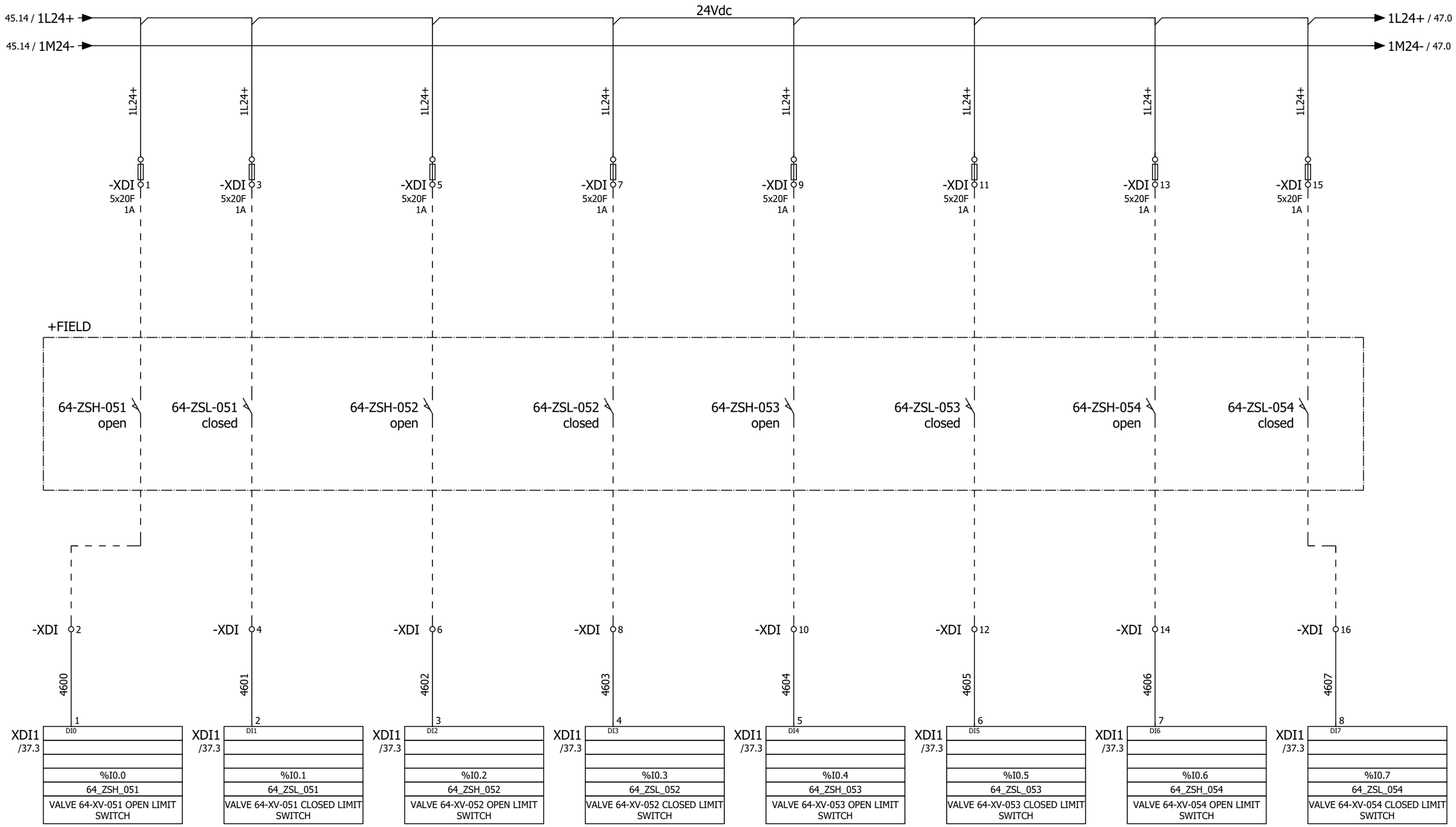
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT	COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED	ASSOLARI O.	CHECKED	TIRABOSCHI T.	PLANT	= NITROGEN	PAGE	44
DESCRIPTION	POWER SUPPLY CPU AND CARDS I/O RACK	DATE	02.05.2024	APPROVED		LOCATION	+ QE	NEXT	45
		WORK ORDER N	2024.4813_001	DRAWING N	d241024-WD			TOTAL SHEETS	48



REV.	DATE	PREPARED	REV.	DATE	PREPARED

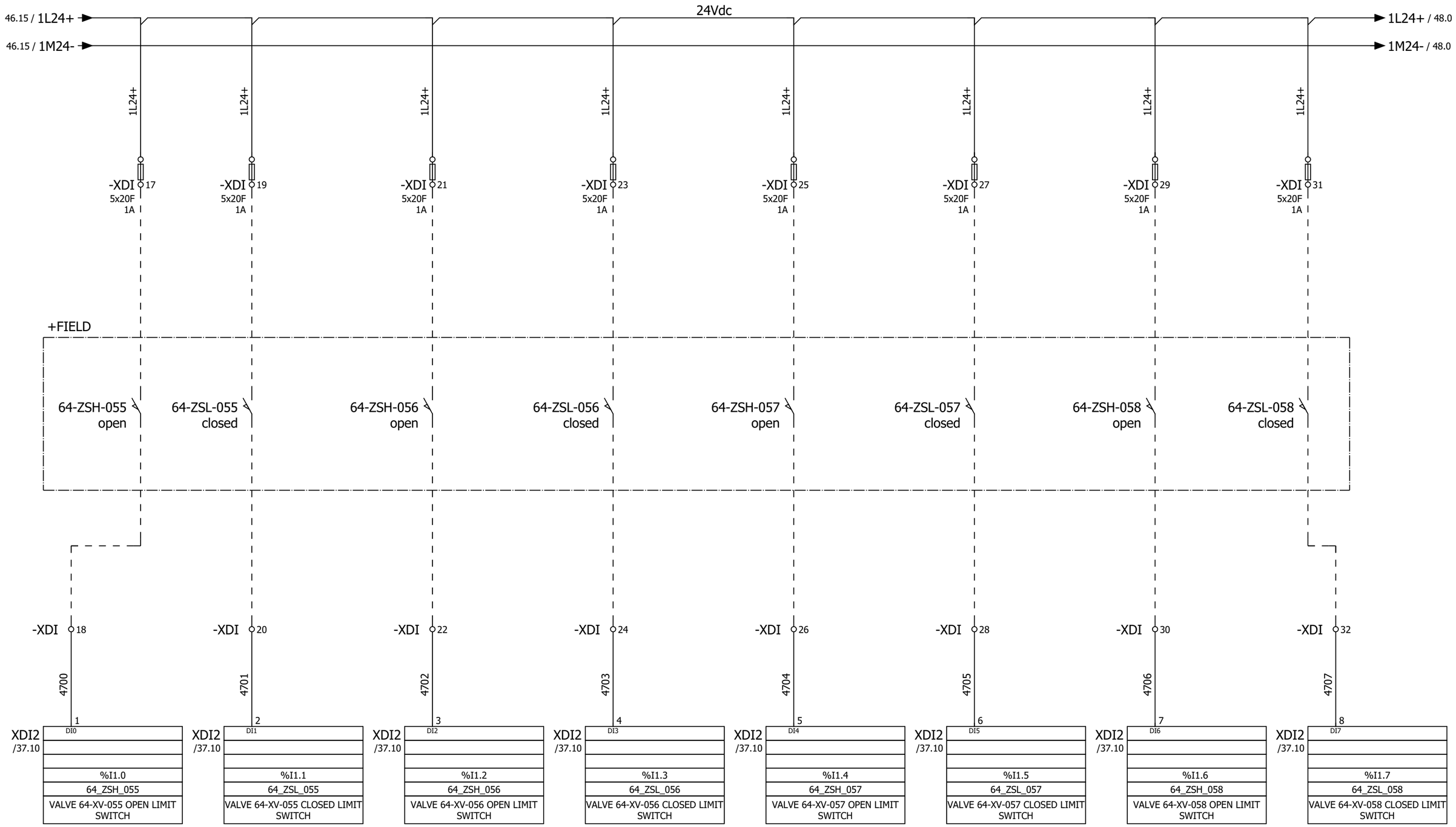
PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 45
DESCRIPTION POWER SUPPLY PN/PN COUPLER	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 46
	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

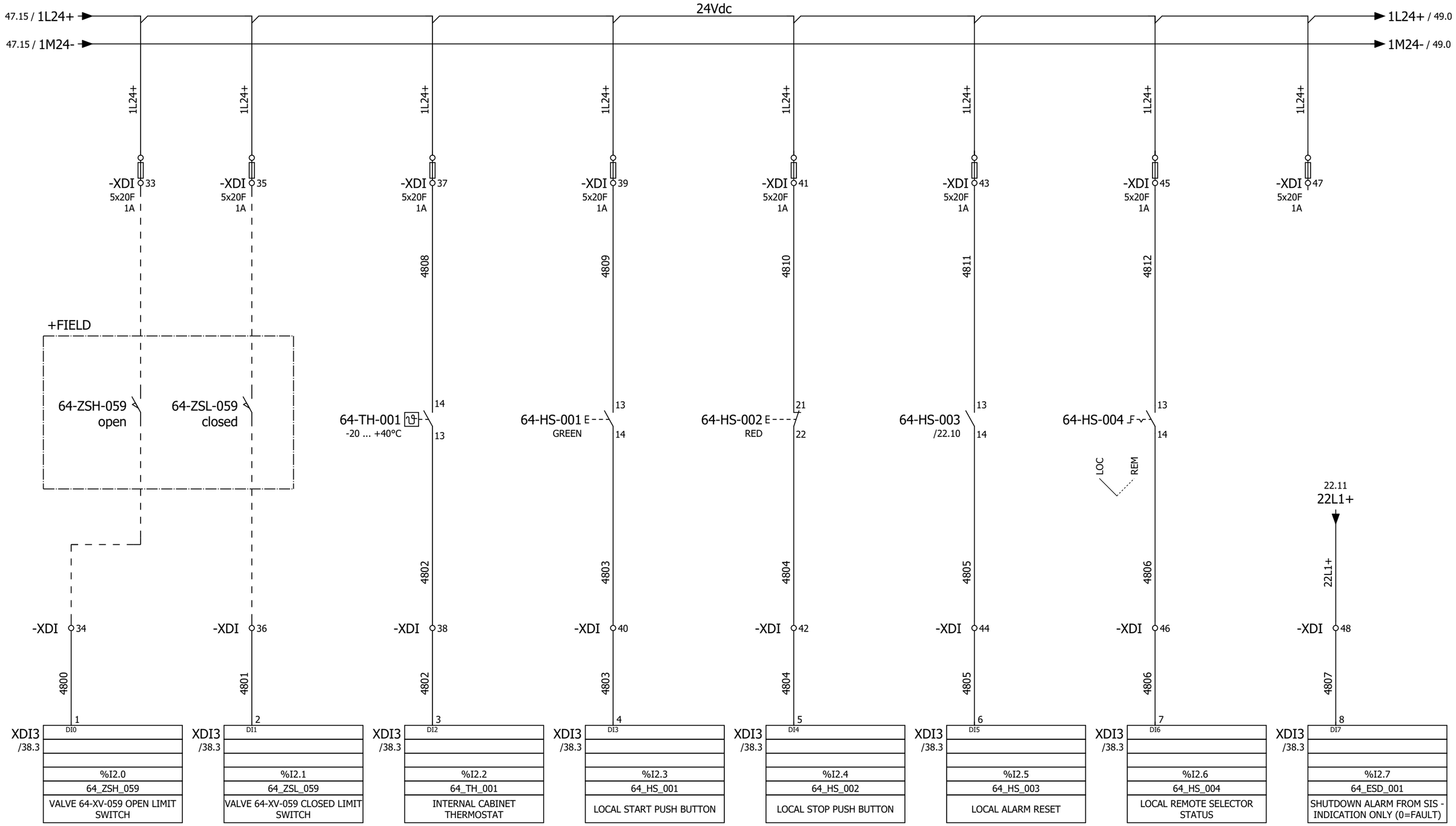
PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: DIGITAL INPUT I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

PAGE: 46
NEXT: 47



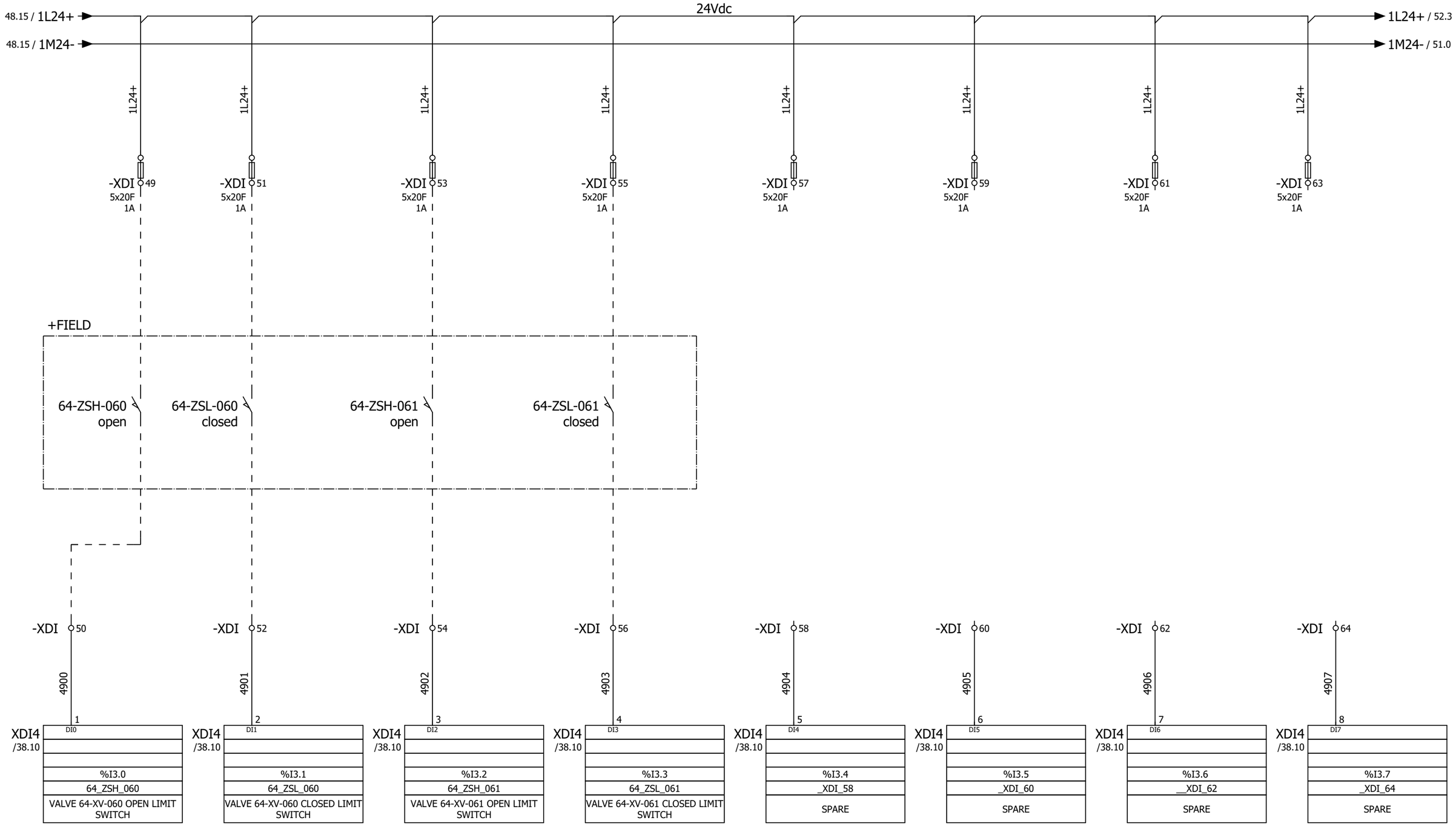
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT	COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED	ASSOLARI O.	CHECKED	TIRABOSCHI T.	PLANT	= NITROGEN	PAGE	47
DESCRIPTION	DIGITAL INPUT I/O RACK	DATE	02.05.2024	APPROVED		LOCATION	+ QE	NEXT	48
		WORK ORDER N	2024.4813_001	DRAWING N	d241024-WD			TOTAL SHEETS	48



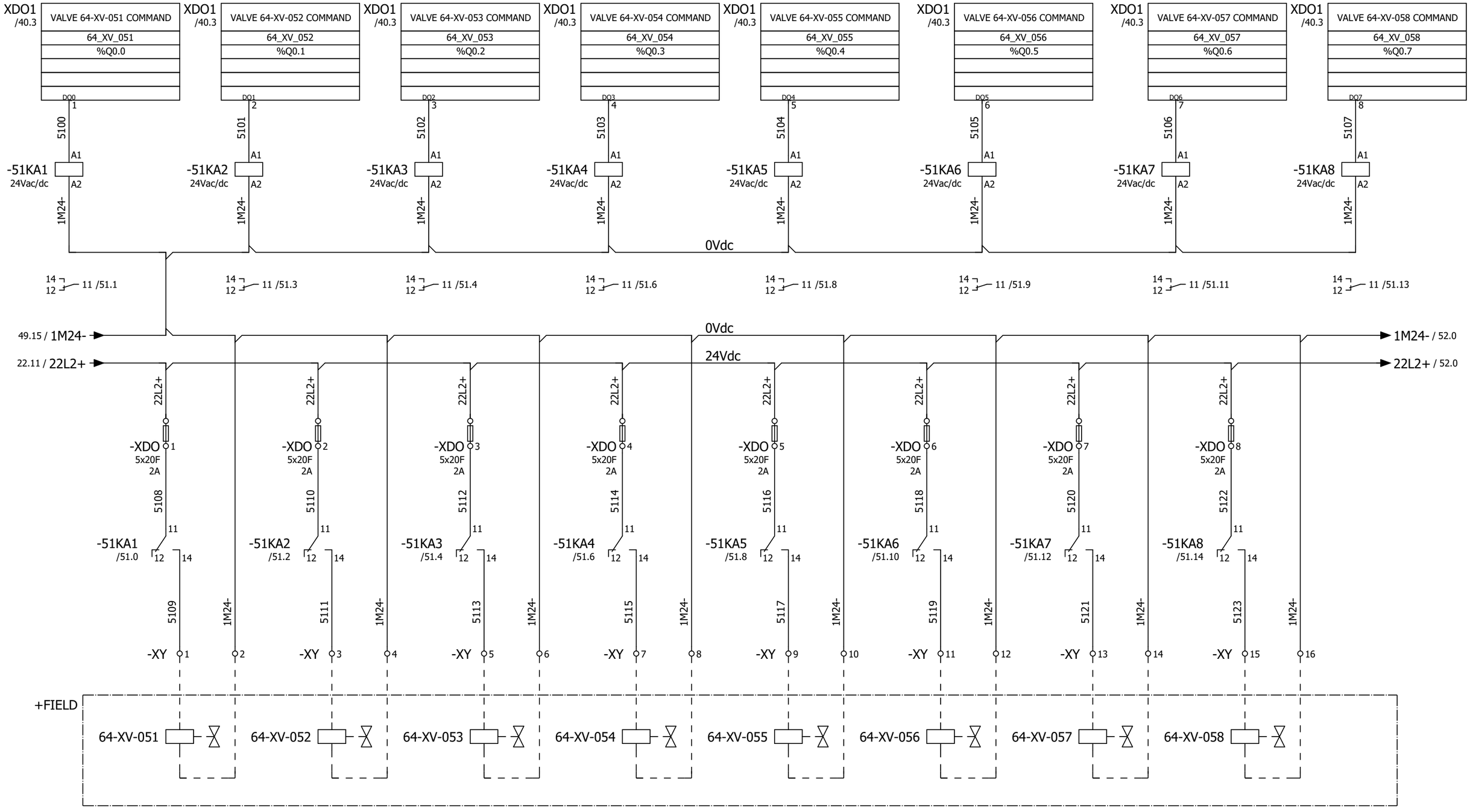
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 48
DESCRIPTION: DIGITAL INPUT I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 49
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48



REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: DIGITAL INPUT I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48
			PAGE: 49
			NEXT: 51

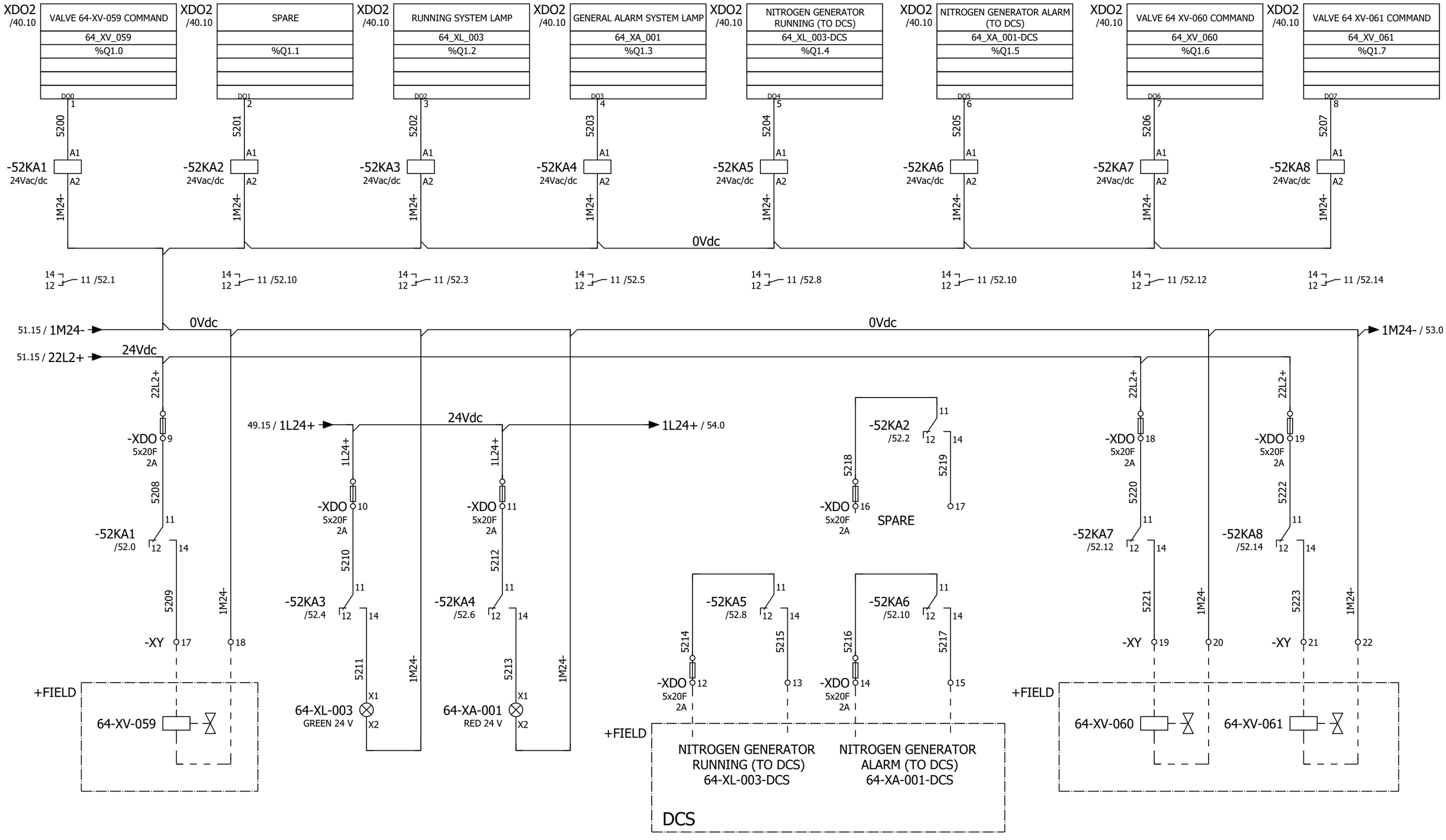


A	30.05.2024	O.A.															
REV.	DATE	PREPARED	REV.	DATE	PREPARED												

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

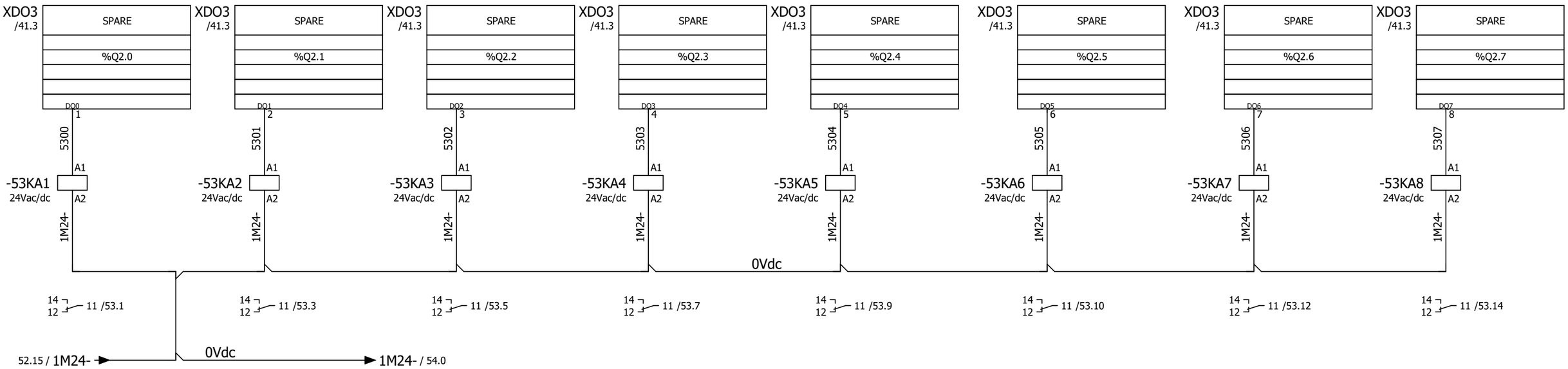
DESCRIPTION
DIGITAL OUTPUT I/O RACK

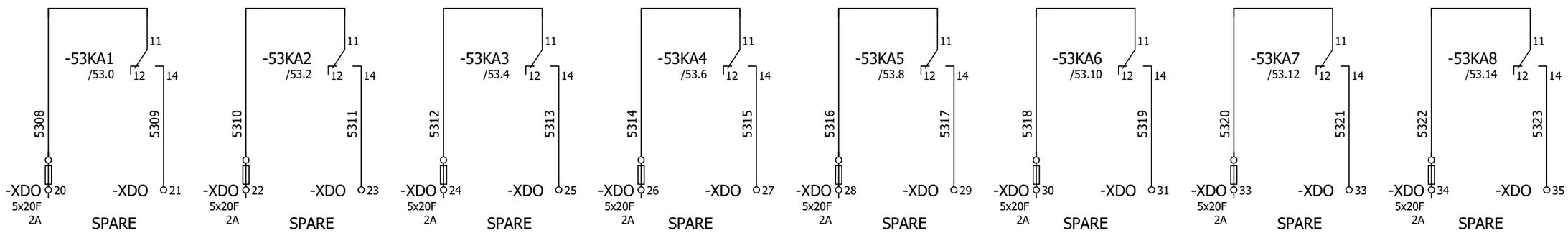
PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	51
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	52
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48



REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 52
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 53
DESCRIPTION: DIGITAL OUTPUT I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48





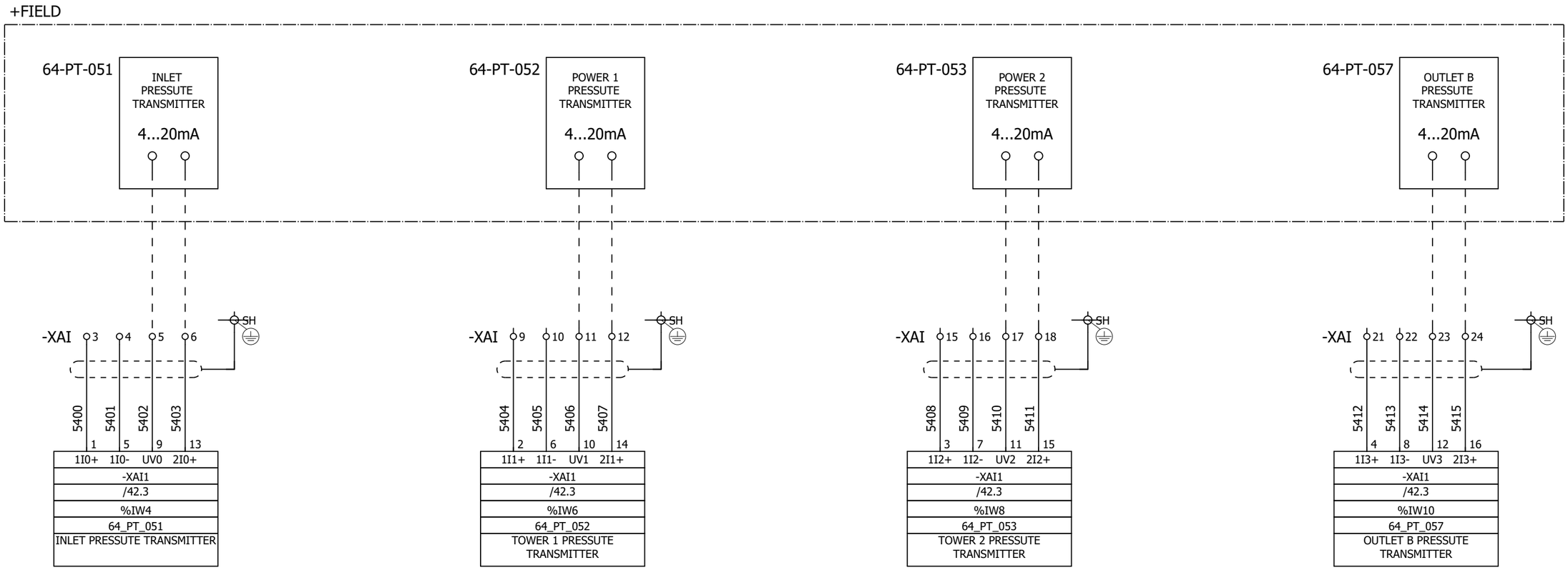
B	01.08.2024	O.A.															
REV.	DATE	PREPARED	REV.	DATE	PREPARED												

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PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 53
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 54
DESCRIPTION DIGITAL OUTPUT I/O RACK	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15





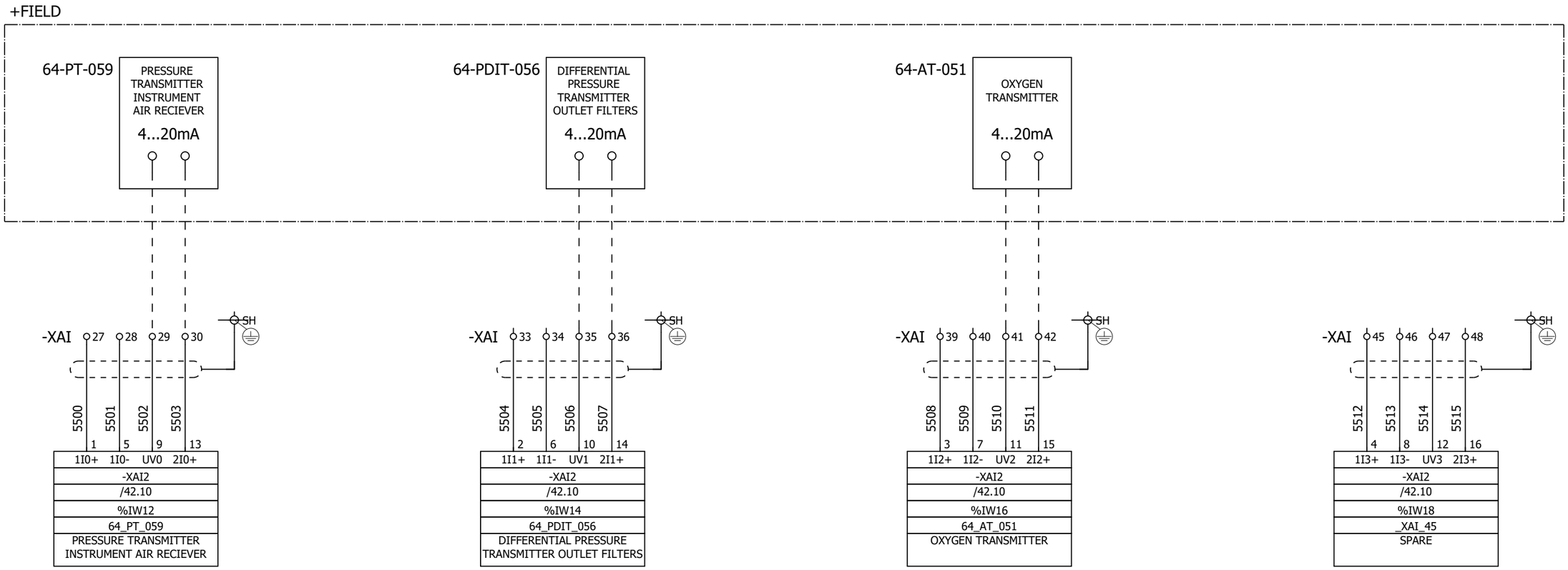
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
ANALOG INPUT I/O RACK

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	54
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	55
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48



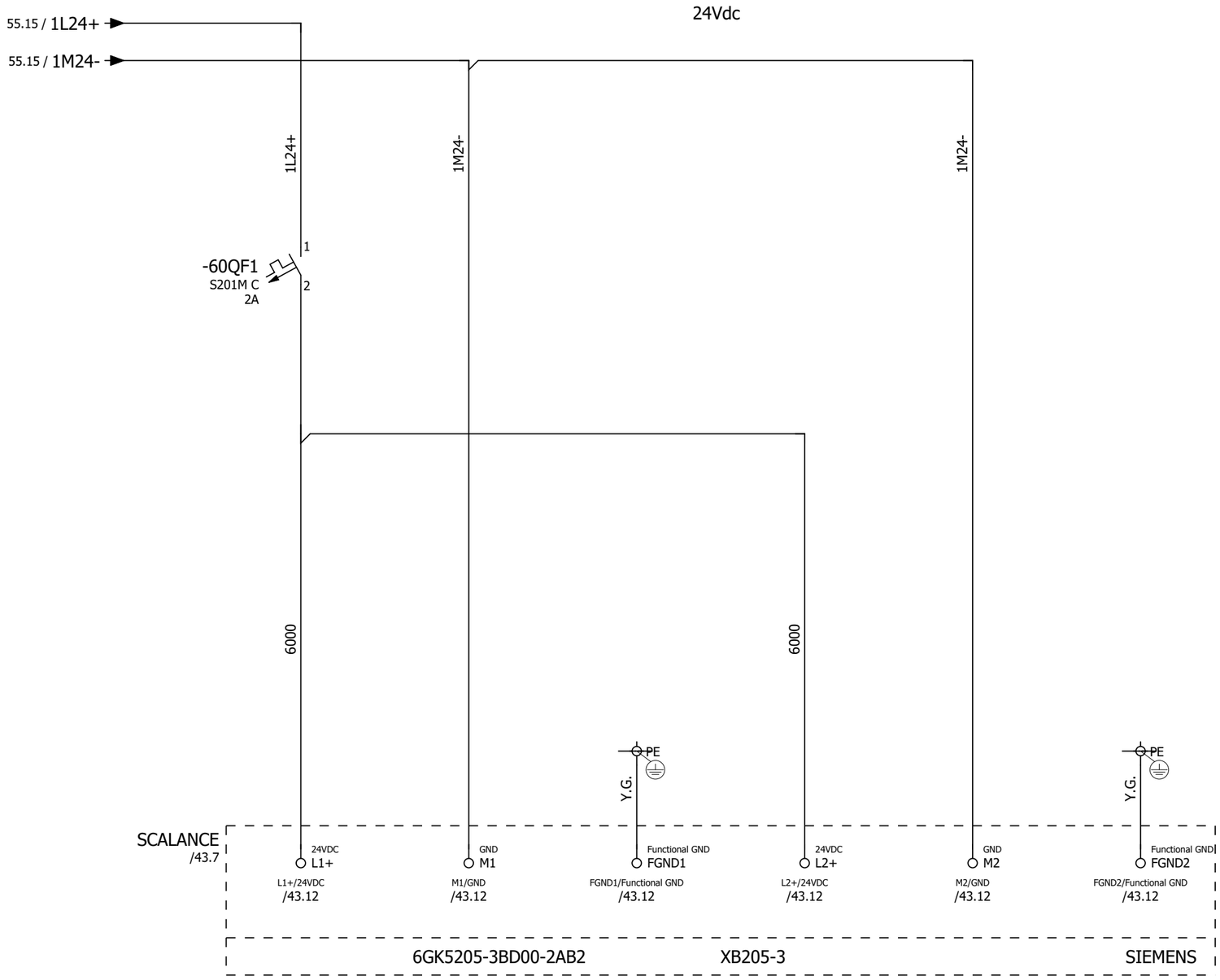


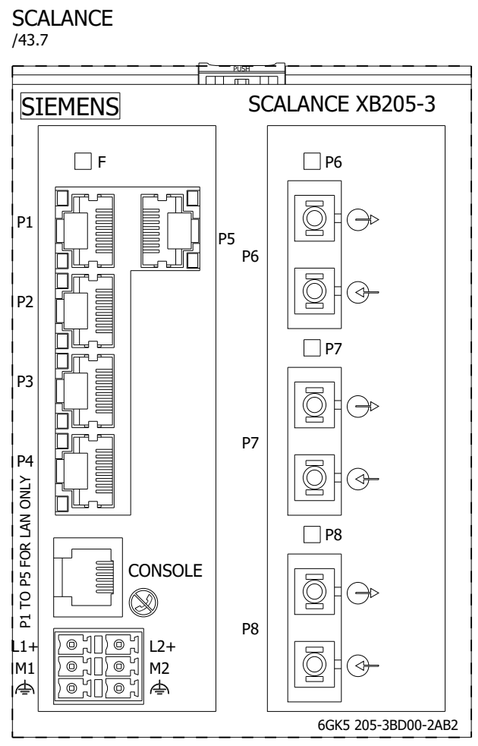
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: ANALOG INPUT I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

PAGE: 55
NEXT: 60

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

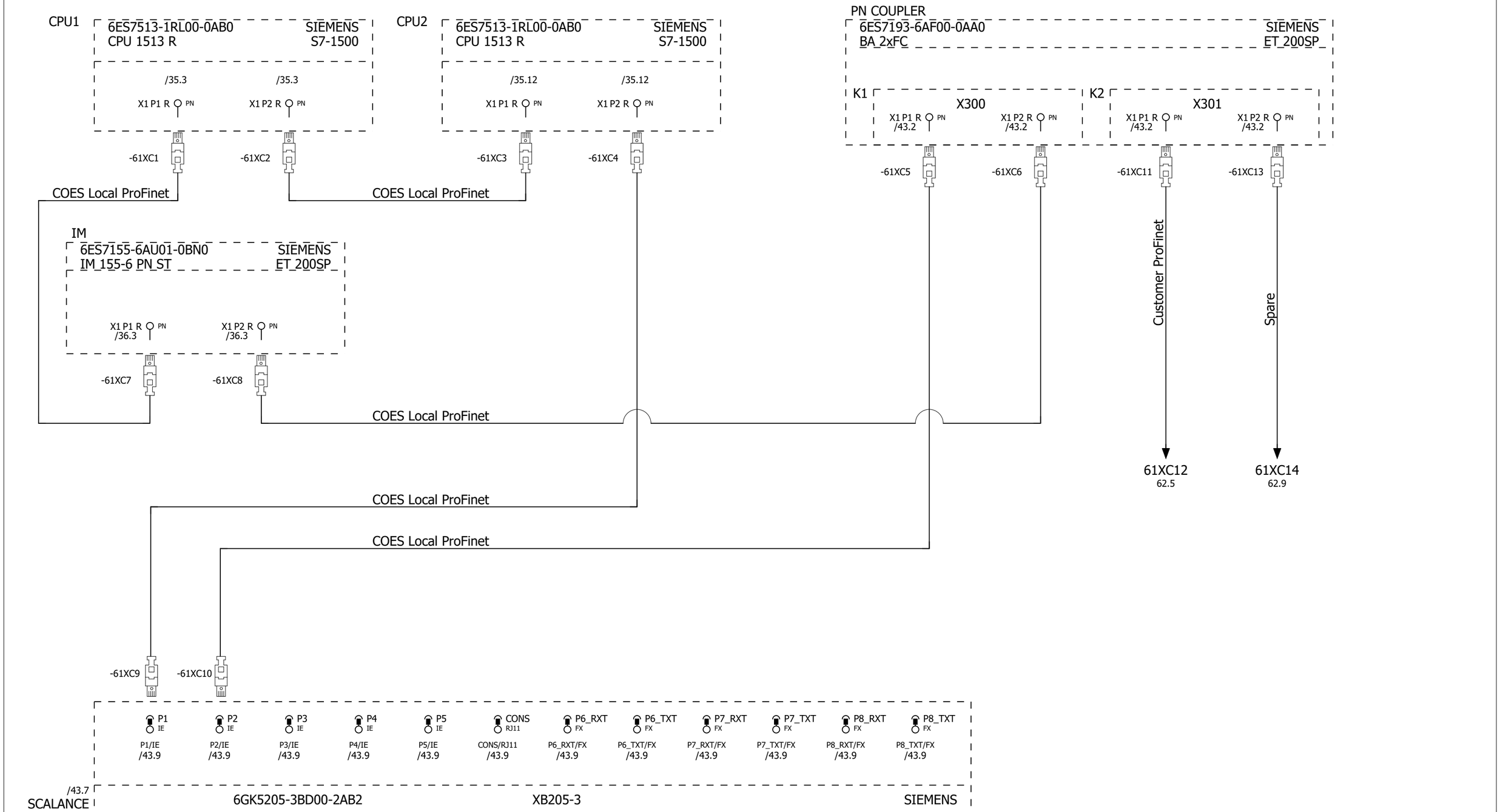




REV.	DATE	PREPARED	REV.	DATE	PREPARED

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PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 60
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 61
DESCRIPTION AUXILIARY CIRCUIT SWTCH 5 PORT PROFINET	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

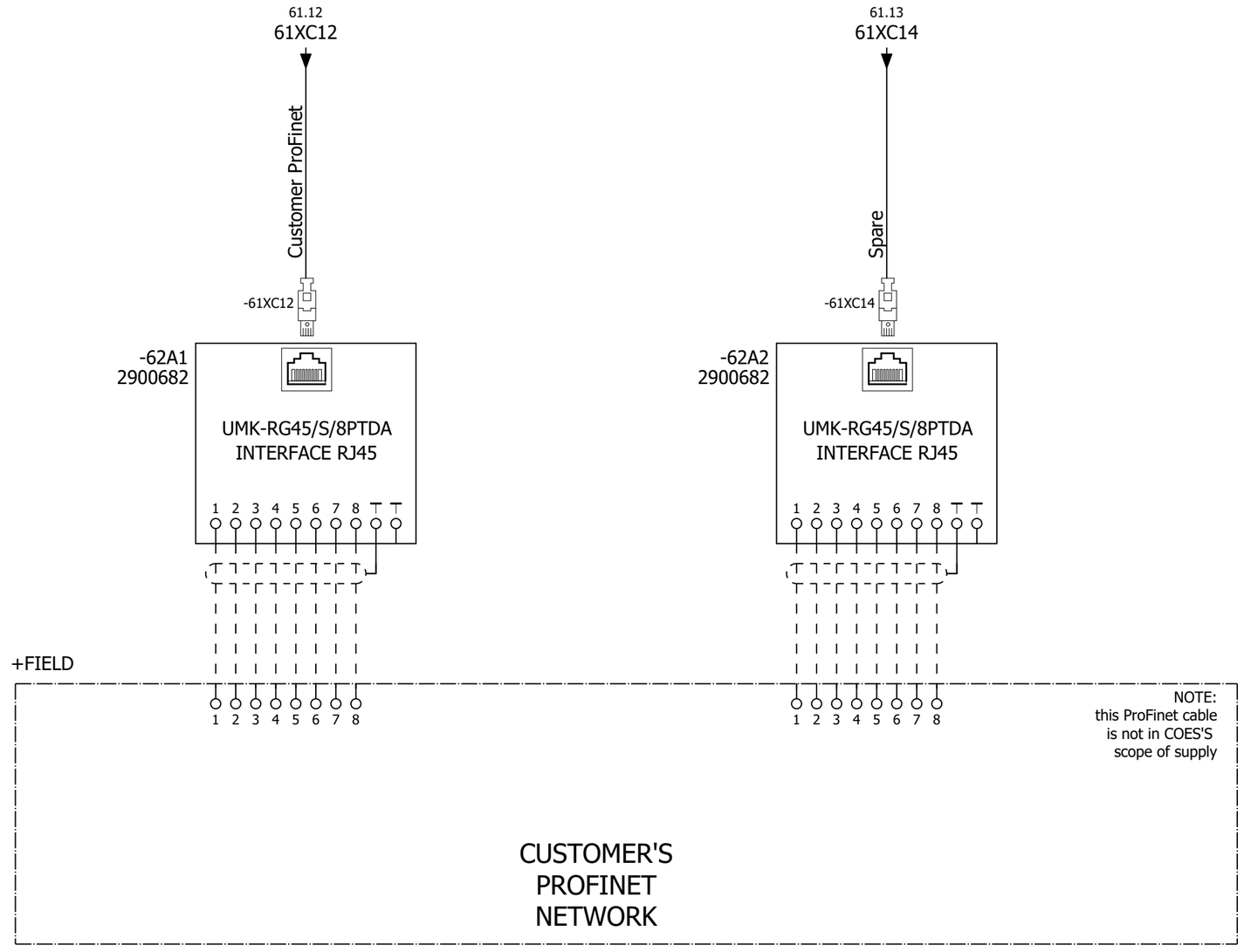


REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
CONNECTION ProfiNet INTERNAL
SWITCHBOARD

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	61
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	62
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: CONNECTION ProfiNet EXTERNAL SWITCHBOARD	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

PAGE: 62
NEXT: 70

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-X1

SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/20.2	/20.2	/20.3
		CONNECT.	1	3	
		DEVICE IDENT. CODE	-20QF1	-20QF1	-PE
		WIRING	L230	N230	
	TERMINAL JUM	TERM. TYPE	WDU 10	WDU 10	WPE 10
			-	-	-
		TERM. NUM.	1	2	PE
PLANT	DESTIN. DEVICE	CONNECT.			
		DEVICE IDENT. CODE	-L	-N	

REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 70
DESCRIPTION TERMINAL BOARD -X1	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 71
	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

TERMINAL STRIP

=NITROGEN+QE-X2

SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/21.3	/21.3	/21.4
		CONNECT.	1	3	
		DEVICE IDENT. CODE	-21QF1	-21QF1	-PE
		WIRING	L230UPS	N230UPS	
	TERMINAL JUM	TERM. TYPE	WDU 10	WDU 10	WPE 10
			-	-	-
		TERM. NUM.	1	2	PE
PLANT	DESTIN. DEVICE	CONNECT.			
		DEVICE IDENT. CODE	-L	-N	

REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 71
DESCRIPTION: TERMINAL BOARD -X2	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 72
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XA

SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/22.1	/22.2	/21.14	/22.10	/22.13	/22.13
		CONNECT.			1	13	15/16	14
		DEVICE IDENT. CODE			-21FU2	-22K1	-22KA2	-22KA2
		WIRING			1L24+	1L24+	2211	2212
	TERMINAL JUM	TERM. TYPE	WSI 6	WDU 2.5	WSI 6		WDU 2.5	WDU 2.5
			-	-	-		-	-
		TERM. NUM.	1	2	3		4	5
PLANT	DESTIN. DEVICE	CONNECT.	1	2	A1			
		DEVICE IDENT. CODE	-22KA1	-22KA1	-22K1			

A	30.05.2024	O.A.			
REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 72
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 73
DESCRIPTION: TERMINAL BOARD -XA	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48

TERMINAL STRIP

=NITROGEN+QE-XDI

TERM. NUM.	SWITCHBOARD – DESTIN. DEVICE: SHEET AND COLUMN	CONNECT.	DEVICE IDENT. CODE	WIRING	TERMINAL JUM: TERM. TYPE	PLANT – DESTIN. DEVICE: CONNECT.	DEVICE IDENT. CODE
1	/46.1		+FIELD-64-ZSH-051		KDKS 1/35 DB	1	-45QF1
2	/46.1		+FIELD-64-ZSH-051			1	-XDI1
3	/46.2		+FIELD-64-ZSL-051		KDKS 1/35 DB		
4	/46.2		+FIELD-64-ZSL-051			2	-XDI1
5	/46.4		+FIELD-64-ZSH-052		KDKS 1/35 DB		
6	/46.4		+FIELD-64-ZSH-052			3	-XDI1
7	/46.6		+FIELD-64-ZSL-052		KDKS 1/35 DB		
8	/46.6		+FIELD-64-ZSL-052			4	-XDI1
9	/46.8		+FIELD-64-ZSH-053		KDKS 1/35 DB		
10	/46.8		+FIELD-64-ZSH-053			5	-XDI1
11	/46.10		+FIELD-64-ZSL-053		KDKS 1/35 DB		
12	/46.10		+FIELD-64-ZSL-053			6	-XDI1
13	/46.12		+FIELD-64-ZSH-054		KDKS 1/35 DB		
14	/46.12		+FIELD-64-ZSH-054			7	-XDI1
15	/46.14		+FIELD-64-ZSL-054		KDKS 1/35 DB		
16	/46.14		+FIELD-64-ZSL-054			8	-XDI1
17	/47.1		+FIELD-64-ZSH-055		KDKS 1/35 DB		
18	/47.1		+FIELD-64-ZSH-055			1	-XDI2
19	/47.2		+FIELD-64-ZSL-055		KDKS 1/35 DB		
20	/47.2		+FIELD-64-ZSL-055			2	-XDI2
21	/47.4		+FIELD-64-ZSH-056		KDKS 1/35 DB		
22	/47.4		+FIELD-64-ZSH-056			3	-XDI2
23	/47.6		+FIELD-64-ZSL-056		KDKS 1/35 DB		
24	/47.6		+FIELD-64-ZSL-056			4	-XDI2
25	/47.8		+FIELD-64-ZSH-057		KDKS 1/35 DB		
26	/47.8		+FIELD-64-ZSH-057			5	-XDI2
27	/47.10		+FIELD-64-ZSL-057		KDKS 1/35 DB		
28	/47.10		+FIELD-64-ZSL-057			6	-XDI2
29	/47.12		+FIELD-64-ZSH-058		KDKS 1/35 DB		
30	/47.12		+FIELD-64-ZSH-058			7	-XDI2
31	/47.14		+FIELD-64-ZSL-058		KDKS 1/35 DB		
32	/47.14		+FIELD-64-ZSL-058			8	-XDI2
33	/48.1		+FIELD-64-ZSH-059		KDKS 1/35 DB		
34	/48.1		+FIELD-64-ZSH-059			1	-XDI3
35	/48.2		+FIELD-64-ZSL-059		KDKS 1/35 DB		
36	/48.2		+FIELD-64-ZSL-059			2	-XDI3
37	/48.4	14	-64-TH-001	4808	KDKS 1/35 DB		
38	/48.4	13	-64-TH-001	4802		3	-XDI3
39	/48.6	13	-64-HS-001	4809	KDKS 1/35 DB		
40	/48.6	14	-64-HS-001	4803		4	-XDI3

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 73
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 74
DESCRIPTION: TERMINAL BOARD -XDI	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48

TERMINAL STRIP

=NITROGEN+QE-XDI

TERM. NUM.	TERM. TYPE (TERMINAL JUM)	SWITCHBOARD – DESTIN. DEVICE: SHEET AND COLUMN	CONNECT.	DEVICE IDENT. CODE	WIRING	PLANT – DESTIN. DEVICE: CONNECT.	DEVICE IDENT. CODE
41	KDKS 1/35 DB	/48.8	21	-64-HS-002	4810		
42		/48.8	22	-64-HS-002	4804	5	-XDI3
43	KDKS 1/35 DB	/48.10	13	-64-HS-003	4811		
44		/48.10	14	-64-HS-003	4805	6	-XDI3
45	KDKS 1/35 DB	/48.12	13	-64-HS-004	4812		
46		/48.12	14	-64-HS-004	4806	7	-XDI3
47	KDKS 1/35 DB						
48		/22.10	14	-22K1	22L1+	8	-XDI3
49	KDKS 1/35 DB	/49.1		+FIELD-64-ZSH-060			
50		/49.1		+FIELD-64-ZSH-060		1	-XDI4
51	KDKS 1/35 DB	/49.2		+FIELD-64-ZSL-060			
52		/49.2		+FIELD-64-ZSL-060		2	-XDI4
53	KDKS 1/35 DB	/49.4		+FIELD-64-ZSH-061			
54		/49.4		+FIELD-64-ZSH-061		3	-XDI4
55	KDKS 1/35 DB	/49.6		+FIELD-64-ZSL-061			
56		/49.6		+FIELD-64-ZSL-061		4	-XDI4
57	KDKS 1/35 DB						
58						5	-XDI4
59	KDKS 1/35 DB						
60						6	-XDI4
61	KDKS 1/35 DB						
62						7	-XDI4
63	KDKS 1/35 DB					10	-XDO
64						8	-XDI4

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM

DESCRIPTION: TERMINAL BOARD -XDI

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	74
DATE: 02.05.2024	APPROVED	LOCATION: + QE	NEXT: 75
WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48

TERMINAL STRIP

=NITROGEN+QE-XDO

TERMINAL JUM				DESTIN. DEVICE		SHEET AND COLUMN
TERM. TYPE		TERM. NUM.		WIRING	DEVICE IDENT. CODE	CONNECT.	
WSI 6	-	1		5108	-51KA1	11	/51.1
WSI 6	-	2		5110	-51KA2	11	/51.3
WSI 6	-	3		5112	-51KA3	11	/51.4
WSI 6	-	4		5114	-51KA4	11	/51.6
WSI 6	-	5		5116	-51KA5	11	/51.8
WSI 6	-	6		5118	-51KA6	11	/51.9
WSI 6	-	7		5120	-51KA7	11	/51.11
WSI 6	-	8		5122	-51KA8	11	/51.13
WSI 6	-	9		5208	-52KA1	11	/52.1
WSI 6	-	10		5210	-52KA3	11	/52.3
WSI 6	-	11		5212	-52KA4	11	/52.5
WSI 6	-	12			-52KA5		/52.7
WDU 2.5	-	13		5215	-52KA5	14	/52.8
WSI 6	-	14			-52KA6		/52.9
WDU 2.5	-	15		5217	-52KA6	14	/52.10
WSI 6	-	16			-52KA2		
WDU 2.5	-	17		5219	-52KA2	14	/52.10
WSI 6	-	18		5220	-52KA7	11	/52.12
WSI 6	-	19		5222	-52KA8	11	/52.14
WSI 6	-	20					
WDU 2.5	-	21		5309	-53KA1	14	/53.1
WSI 6	-	22					
WDU 2.5	-	23		5311	-53KA2	14	/53.3
WSI 6	-	24					
WDU 2.5	-	25		5313	-53KA3	14	/53.5
WSI 6	-	26					
WDU 2.5	-	27		5315	-53KA4	14	/53.7
WSI 6	-	28					
WDU 2.5	-	29		5317	-53KA5	14	/53.9
WSI 6	-	30					
WDU 2.5	-	31		5319	-53KA6	14	/53.10
WSI 6	-	33					
WDU 2.5	-	33		5321	-53KA7	14	/53.12
WSI 6	-	34					
WDU 2.5	-	35		5323	-53KA8	14	/53.14

PLANT	DESTIN. DEVICE		
	CONNECT.	DEVICE IDENT. CODE	
24		-22K1	
63		-XDI	
1		-XAI	
11		-52KA5	
11		-52KA6	
11		-52KA2	
11		-53KA1	
11		-53KA2	
11		-53KA3	
11		-53KA4	
11		-53KA5	
11		-53KA6	
11		-53KA7	
11		-53KA8	

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

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PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN
	DATE 02.05.2024	APPROVED	LOCATION + QE
DESCRIPTION TERMINAL BOARD -XDO	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD	

PAGE	
75	
NEXT	76
TOTAL SHEETS	48

TERMINAL STRIP

=NITROGEN+QE-XY

SWITCHBOARD – DESTIN. DEVICE: SHEET AND COLUMN	CONNECT.	DEVICE IDENT. CODE	WIRING	TERMINAL JUM: TERM. TYPE		TERM. NUM.	PLANT – DESTIN. DEVICE: CONNECT.	DEVICE IDENT. CODE
/51.1	14	-51KA1	5109	WDU 2.5	-	1		+FIELD-64-XV-051
/51.0	A2	-51KA1	1M24-	WDU 2.5		2		+FIELD-64-XV-051
/51.2	A2	-51KA2	1M24-					
/51.3	14	-51KA2	5111	WDU 2.5	-	3		+FIELD-64-XV-052
				WDU 2.5		4		+FIELD-64-XV-052
/51.4	14	-51KA3	5113	WDU 2.5	-	5		+FIELD-64-XV-053
				WDU 2.5		6		+FIELD-64-XV-053
/51.6	14	-51KA4	5115	WDU 2.5	-	7		+FIELD-64-XV-054
				WDU 2.5		8		+FIELD-64-XV-054
/51.8	14	-51KA5	5117	WDU 2.5	-	9		+FIELD-64-XV-055
				WDU 2.5		10		+FIELD-64-XV-055
/51.9	14	-51KA6	5119	WDU 2.5	-	11		+FIELD-64-XV-056
				WDU 2.5		12		+FIELD-64-XV-056
/51.11	14	-51KA7	5121	WDU 2.5	-	13		+FIELD-64-XV-057
				WDU 2.5		14		+FIELD-64-XV-057
/51.13	14	-51KA8	5123	WDU 2.5	-	15		+FIELD-64-XV-058
/52.0	A2	-52KA1	1M24-	WDU 2.5		16		+FIELD-64-XV-058
/52.2	A2	-52KA2	1M24-					
/52.1	14	-52KA1	5209	WDU 2.5		17		+FIELD-64-XV-059
/52.0	A2	-52KA1	1M24-	WDU 2.5		18		+FIELD-64-XV-059
/52.2	A2	-52KA2	1M24-					
/52.3	X2	-64-XL-003	1M24-					
/52.12	14	-52KA7	5221	WDU 2.5		19		+FIELD-64-XV-060
/52.5	X2	-64-XA-001	1M24-	WDU 2.5		20		+FIELD-64-XV-060
/52.14	14	-52KA8	5223	WDU 2.5	-	21		+FIELD-64-XV-061
/53.0	A2	-53KA1	1M24-	WDU 2.5		22		+FIELD-64-XV-061
/53.2	A2	-53KA2	1M24-					

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	76
DESCRIPTION	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 77
TERMINAL BOARD -XY	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XAI

TERM. NUM.	SWITCHBOARD – DESTIN. DEVICE: SHEET AND COLUMN	SWITCHBOARD – DESTIN. DEVICE: CONNECT.	SWITCHBOARD – DESTIN. DEVICE: DEVICE IDENT. CODE	WIRING	TERMINAL JUM: TERM. TYPE	TERMINAL JUM	PLANT – DESTIN. DEVICE: CONNECT.	PLANT – DESTIN. DEVICE: DEVICE IDENT. CODE
1					KDKS 1/35 DB	-	11	-XDO
2	/52.5	X2	-64-XA-001	1M24-		-		
3	/54.1	1	-XAI1	5400	WDU 2.5	-		
4	/54.1	5	-XAI1	5401	WDU 2.5	-		
5	/54.2	9	-XAI1	5402	WDU 2.5	-		+FIELD-64-PT-051
6	/54.2	13	-XAI1	5403	WDU 2.5	-		+FIELD-64-PT-051
7					KDKS 1/35 DB			
8						-		
9					WDU 2.5	-	2	-XAI1
10					WDU 2.5	-	6	-XAI1
11	/54.6		+FIELD-64-PT-052	0Vdc	WDU 2.5	-	10	-XAI1
12	/54.6		+FIELD-64-PT-052	0Vdc	WDU 2.5	-	14	-XAI1
13					KDKS 1/35 DB			
14						-		
15					WDU 2.5	-	3	-XAI1
16					WDU 2.5	-	7	-XAI1
17	/54.10		+FIELD-64-PT-053	0Vdc	WDU 2.5	-	11	-XAI1
18	/54.10		+FIELD-64-PT-053	0Vdc	WDU 2.5	-	15	-XAI1
19					KDKS 1/35 DB			
20						-		
21					WDU 2.5	-	4	-XAI1
22					WDU 2.5	-	8	-XAI1
23	/54.14		+FIELD-64-PT-057	0Vdc	WDU 2.5	-	12	-XAI1
24	/54.14		+FIELD-64-PT-057	0Vdc	WDU 2.5	-	16	-XAI1
25					KDKS 1/35 DB			
26						-		
27	/55.1	1	-XAI2	5500	WDU 2.5	-		
28	/55.1	5	-XAI2	5501	WDU 2.5	-		
29	/55.2	9	-XAI2	5502	WDU 2.5	-		+FIELD-64-PT-059
30	/55.2	13	-XAI2	5503	WDU 2.5	-		+FIELD-64-PT-059
31					KDKS 1/35 DB			
32						-		
33					WDU 2.5	-	2	-XAI2
34					WDU 2.5	-	6	-XAI2
35	/55.6		+FIELD-64-PDIT-056	0Vdc	WDU 2.5	-	10	-XAI2
36	/55.6		+FIELD-64-PDIT-056	0Vdc	WDU 2.5	-	14	-XAI2
37					KDKS 1/35 DB			
38						-		
39					WDU 2.5	-	3	-XAI2
40					WDU 2.5	-	7	-XAI2

REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	77
DESCRIPTION	DATE	APPROVED	LOCATION	NEXT
TERMINAL BOARD -XAI	02.05.2024		+ QE	78
	WORK ORDER N	DRAWING N		TOTAL SHEETS
	2024.4813_001	d241024-WD		48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XAI

Section	Group	Field								
SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/55.10	/55.10		/60.3				
		CONNECT.				M1				
		DEVICE IDENT. CODE	+FIELD-64-AT-051	+FIELD-64-AT-051		-SCALANCE				
		WIRING	0Vdc	0Vdc		1M24-				
	TERMINAL JUM	TERM. TYPE	WDU 2.5	WDU 2.5	KDKS 1/35 DB		WDU 2.5	WDU 2.5	WDU 2.5	WDU 2.5
			-	-		-	-	-	-	-
		TERM. NUM.	41	42	43	44	45	46	47	48
PLANT	DESTIN. DEVICE	CONNECT.	11	15	1		4	8	12	16
		DEVICE IDENT. CODE	-XAI2	-XAI2	-60QF1		-XAI2	-XAI2	-XAI2	-XAI2

REV.	DATE	PREPARED	REV.	DATE	PREPARED

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PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	78
DESCRIPTION	DATE	APPROVED	LOCATION	NEXT
TERMINAL BOARD -XAI	02.05.2024		+ QE	85
	WORK ORDER N	DRAWING N		TOTAL SHEETS
	2024.4813_001	d241024-WD		48

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-64-HS-001	1	Green flush complete pushbutton Ø22 spring return 1NO "unmarked"	SE.XB4BA31	SCHNEIDER	48
-64-HS-002	1	Red flush complete pushbutton Ø22 spring return 1NC "unmarked"	SE.XB4BA42	SCHNEIDER	48
-64-HS-003	1	Blue flush complete pushbutton Ø22 spring return 1NO	SE.XB4BA61	SCHNEIDER	22
-64-HS-003	1	Harmony XB4/XB5 1NO contact	SE.ZBE101	SCHNEIDER	22
-64-HS-004	1	Black selector switch Ø22 2-position stay put 1NO+1NC 600V	SE.XB4BD25	SCHNEIDER	48
-64-SBM-001	1	Red Ø40 Emergency stop, switching off Ø22 latching turn release 2NC+1NO	SE.XB4BS84441	SCHNEIDER	22
-64-SBM-001	1	Round guard for Ø 40 Emergency stop, plastic, yellow, 63.5 mm	SE.ZB4BZ1905	SCHNEIDER	22
-64-TH-001	1	Panel thermostat, 1 contacts NO (-20...+40)°C	FIN.7T.81.0.000.2301	FINDER	48
-64-XA-001	1	Red complete pilot light Ø22 plain lens with integral LED 24V	SE.XB4BVB4	SCHNEIDER	52
-64-XL-001	1	White complete pilot light Ø22 plain lens with integral LED 230...240V	SE.XB4BVM1	SCHNEIDER	20
-64-XL-002	1	White complete pilot light Ø22 plain lens with integral LED 230...240V	SE.XB4BVM1	SCHNEIDER	21
-64-XL-003	1	Green complete pilot light Ø22 plain lens with integral LED 24V	SE.XB4BVB3	SCHNEIDER	52
-64-XL-004	1	White complete pilot light Ø22 plain lens with integral LED 24V	SE.XB4BVB1	SCHNEIDER	21
-62A1	1	UMK-RJ45/S/8PTDA - VARIOFACE module for connecting a RJ45 socket with spring-cage double connection terminal blocks in direct plug-in method.	PXC.2900682	PHOENIX CONTACT	62
-62A2	1	UMK-RJ45/S/8PTDA - VARIOFACE module for connecting a RJ45 socket with spring-cage double connection terminal blocks in direct plug-in method.	PXC.2900682	PHOENIX CONTACT	62
-CPU1	1	SIMATIC S7-1500R CPU 1513R-1 PN, 300KB program/1,5MB data	SIE.6ES7513-1RL00-0AB0	SIEMENS	35
-CPU1	1	SIMATIC S7 MEMORY CARD, 24 MB	SIE.6ES7954-8LF03-0AA0	SIEMENS	35
-CPU2	1	SIMATIC S7-1500R CPU 1513R-1 PN, 300KB program/1,5MB data	SIE.6ES7513-1RL00-0AB0	SIEMENS	35
-CPU2	1	SIMATIC S7 MEMORY CARD, 24 MB	SIE.6ES7954-8LF03-0AA0	SIEMENS	35
-20E1	1	HEATER 100W 230VAC 90X80X110	HJSHT100	ALFA PLASTIC	20
-20FA4	1	Residual current device DDA202 type AC 25A 30mA - 2P	ABB.2CSB202001R1250	ABB	20
-20FU1	1	FUSE HOLDER 2P 10X38 , 32A 690V	LOV.FB01F2P	LOVATO	20
-20FU1	2	CYLINDRICAL FUSE C10G2 10x38, GG, 2A, 500V AC	KMC10G2	EATON BUSSMAN	20
-21FU1	1	FUSE HOLDER 2P 10X38 , 32A 690V	LOV.FB01F2P	LOVATO	21
-21FU1	2	CYLINDRICAL FUSE C10G2 10x38, GG, 2A, 500V AC	KMC10G2	EATON BUSSMAN	21
-21FU2	1	FUSE HOLDER 1P 10X38 , 32A 690V	LOV.FB01F1P	LOVATO	21
-21FU2	1	CYLINDRICAL FUSE C10G2 10x38, GG, 2A, 500V AC	KMC10G2	EATON BUSSMAN	21
-21GS1	1	TRIO-PS-2G/1AC/24DC/20 Primary-switched TRIO POWER power supply input: 100VAC...240VAC single-phase, output: 24 V DC/20 A	PXC.2903151	PHOENIX CONTACT	21

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: COMPONENT LIST	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48
			PAGE: 85 / NEXT: 86

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-20H1	1	Plafoniera lineare a led, 110÷240V AC, 50/60HZ,600 lm, 368mm	050PEL3C	NEW ELFIN	20
-IM	1	ET 200SP PROFINET INTERFACE MODULE IM155-6PN/2 HF , INCLUDING SERVER MODULE (6ES7193-6PA00-0AA0	SIE.6ES7155-6AU01-0CN0	SIEMENS	36
-IM	1	SIMATIC ET 200SP, BUSADAPTER BA 2X RJ45, 2 RJ45 SOCKETS FOR PROFINET	SIE.6ES7193-6AR00-0AA0	SIEMENS	36
-22K1	1	SIRIUS safety relay Basic unit Standard series Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact Us = 24 V AC/DC screw terminal	SIE.3SK1111-1AB30	SIEMENS	22
-22KA1	1	SIL 2 - SIL 3 Digital Relay Output Loop Powered DIN-Rail and terminal board Models D5244D - 2 channels relay output ,provides 2 port isolation (input/output) Supply 24Vdc	GMI.D5244D	gmi	22
-22KA2	1	SIL 2 - SIL 3 Digital Relay Output Loop Powered DIN-Rail and terminal board Models D5244D - 2 channels relay output ,provides 2 port isolation (input/output) Supply 24Vdc	GMI.D5244D	gmi	22
-51KA1	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA2	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA3	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA4	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA5	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA6	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA7	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA8	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-52KA1	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA2	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA3	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA4	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA5	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA6	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA7	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA8	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-53KA1	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA2	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA3	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA4	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA5	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA6	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
COMPONENT LIST

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	86
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	87
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-53KA7	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA8	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-PN COUPLER	1	SIMATIC PN/PN Coupler for deterministic data exchange between max.4 PN-Controller per subnet, , PROFIsafe data exchange, I/O-, MSI-, MSO- and data record communication, redundant power supply, PN-connection via SIMATIC BusAdapter (BA)	SIE.6ES7158-3AD10-0XA0	SIEMENS	43
-PN COUPLER	1	5 pcs. strain relief for PROFINET cable at SIMATIC BusAdapter	SIE.6ES7193-6RA00-1AN0	SIEMENS	43
-20QF1	1	Miniature Circuit Breaker - S202M - 2P - C - 32 A	ABB.2CDS272001R0324	ABB	20
-20QF2	1	Miniature Circuit Breaker - S202M - 2P - C - 2 A	ABB.2CDS272001R0024	ABB	20
-20QF3	1	Miniature Circuit Breaker - S202M - 2P - C - 2 A	ABB.2CDS272001R0024	ABB	20
-20QF4	1	Miniature Circuit Breaker - S202M - 2P - C - 16 A	ABB.2CDS272001R0164	ABB	20
-21QF1	1	Miniature Circuit Breaker - S202M - 2P - C - 32 A	ABB.2CDS272001R0324	ABB	21
-21QF2	1	Miniature Circuit Breaker - S202M - 2P - C - 4 A	ABB.2CDS272001R0044	ABB	21
-21QF3	1	Miniature Circuit Breaker - S201M - 1P - C - 20 A	ABB.2CDS271001R0204	ABB	21
-30QF3	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	30
-44QF1	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF2	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF3	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF4	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF5	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-45QF1	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	45
-60QF1	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	60
-20S1	1	Limit switch ausiliary contacts 1NO+1NC	PIZ.FR505	PIZZATO	20
-SCALANCE	1	SCALANCE XB205-3	SIE.6GK5205-3BD00-2AB2	SIEMENS	43
-20T1	1	Panel thernostat/hygrostat, 1 pole, 10 A - NO - (+10...+60)°C / (50...90)% - Nominal voltage 110...230 VAC/DC	FIN.7T.51.0.230.4360	FINDER	20
-20X1	1	Shuko/Italian std. socket 2P+T 16A (two module white system series)	GW20246	GEWISS	20
-20X1	1	Wall mounting modular box IP40 (2 modules)	GW27002	GEWISS	20
-XAI1	1	ET 200SP, AI 4XI 2-/4-WIRE ST, PU 1	SIE.6ES7134-6GD01-0BA1	SIEMENS	42
-XAI1	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	SIE.6ES7193-6BP00-0DA0	SIEMENS	42
-XAI2	1	ET 200SP, AI 4XI 2-/4-WIRE ST, PU 1	SIE.6ES7134-6GD01-0BA1	SIEMENS	42
-XAI2	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	42

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: COMPONENT LIST	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
87	88	48

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-61XC1	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC2	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC3	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC4	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC5	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC6	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC7	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC8	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC9	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC10	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC11	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC12	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	62
-61XC13	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC14	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	62
-XDI1	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	37
-XDI1	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	SIE.6ES7193-6BP00-0DA0	SIEMENS	37
-XDI2	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	37
-XDI2	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	37
-XDI3	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	38
-XDI3	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	38
-XDI4	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	38
-XDI4	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	38
-XDO1	1	SIMATIC ET 200SP, DQ 8x 24V DC/0,5A Basic, Source output	SIE.6ES7132-6BF01-0AA0	SIEMENS	40
-XDO1	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	SIE.6ES7193-6BP00-0DA0	SIEMENS	40
-XDO2	1	SIMATIC ET 200SP, DQ 8x 24V DC/0,5A Basic, Source output	SIE.6ES7132-6BF01-0AA0	SIEMENS	40
-XDO2	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	40
-XDO3	1	SIMATIC ET 200SP, DQ 8x 24V DC/0,5A Basic, Source output	SIE.6ES7132-6BF01-0AA0	SIEMENS	41
-XDO3	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	41

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED	LOCATION: + QE
DESCRIPTION: COMPONENT LIST	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

Base Load Power Hub (BLPH)

NITROGEN GENERATION PACKAGE
EQUIPMENT DATA SHEETS
INCLUDING PSA, ETC.

Document Number: 1724000437-MAC-DS-00011

Document Class: 2

01	08/05/2024	Issue for Review (IFR)	GT	MC	TM
00	28/03/2024	Issue for Review (IFR)	GT	MC	TM
Rev.	Date	Description	Prepared	Reviewed	Approved

COES

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coes	CLIENTE / CUSTOMER	:	ROSETTI MARINO	COMM: / JOB:	: 167/24
	RIFERIMENTO / REFERENCE	:	CROSSWIND	UNITA' / ITEM	: /
	IMPIANTO / DRYING UNIT	:	NITROGEN GENERATION PACKAGE	FOGLIO N° / SHEET	: 1 DI / OF 3

FOGLIO DATI PER IMPIANTO GENERATORE AZOTO
NITROGEN GENERATOR DATA SHEET

DATI GENERALI
GENERAL DATA

1	QUANTITA' / QUANTITY	:	1
2	ITEM / TAG	:	C-64001A/B
3	SERVIZIO / SERVICE	:	NITROGEN GENERATOR
4	RIGENERAZIONE / REGENERATION	:	PSA

DATI PROGETTO MECCANICO
MECHANICAL DESIGN DATA

5	PRESSIONE PROGETTO SERBATOI / VESSELS DESIGN PRESSURE	:	12 barg	TEMPERATURA PROGETTO SERBATOI / VESSELS DESIGN TEMPERATURE	:	-29 / +80°C
6	MATERIALE SERBATOI / VESSELS MATERIAL	:	LTCS	SOVRASPESS. CORROSIONE SERBATOI / VESSELS CORROSION OVER-THICKNESS	:	3 mm
7	NORMATIVA PROGETTO SERBATOI / VESSELS DESIGN CODE	:	ASME VIII DIV.1	NORMATIVA COLLAUDO SERBATOI / VESSELS INSPECTION CODE	:	2014/68/EU PED
8						

DATI FUNZIONALI
FUNCTIONAL DATA

9	PORTATA ARIA IN INGRESSO / INLET AIR FLOWRATE	:	150	Nm3/h
10	PRESSIONE DI ESERCIZIO / OPERATING PRESSURE	:	9	barg
11	TEMPERATURA DI ESERCIZIO / OPERATING TEMPERATURE	:	35	°C
12	PUNTO DI RUGIADA IN INGRESSO / INLET DEW POINT	:	-40	°C
13	TIPO MATERIALE ADSORBENTE / DESICCANT MATERIAL TYPE	:	CARBON MOLECULAR SIEVE	
14	QUANTITA' ADSORBENTE PER TORRE / DESICCANT QUANTITY/EACH TOWER	:	200	kg
15	PORTATA AZOTO IN USCITA / OUTLET NITROGEN FLOWRATE	:	60	Nm3/h
16	PUREZZA AZOTO IN USCITA / OUTLET NITROGEN PURITY	:	97	%
17	POTENZA TOTALE INSTALLATA / TOTAL DEMANDE RATE	:	0.05	kW
18	PERDITA DI CARICO / PRESSURE DROP	:	0.5	bar
19	DURATA CICLO / LENGHT OF CYCLE	:	1+1	min
20	CONSUMO kWh PER RIGENERAZIONE / kWh CONSUMPTION/EACH REGENERATION	:	/	
21	TENSIONE DI ALIMENTAZIONE / SUPPLY VOLTAGE	:	24	VDC AUX.
22	GRADO DI PROTEZIONE / PROTECTION DEGREE	:	IP 65	
23	CLASSIFICAZIONE AREA / AREA CLASSIFICATION	:	SAFE	
24	RADIOGRAFIE / RT TEST	:	☐ YES	☒ NO
25	VERNICIATURA / PAINTING	:	☒ EXTERNAL	☐ INTERNAL
26	ZINCATURA / GALVANIZING	:	☐ YES	☒ NO
27	RUMOROSITA' / NOISE LEVEL	:	85dB(A) max PRESSURE LEVEL at 1 m	
28				
29	Notes: - details of nozzle are included into equipment sectional drawing			

REV. REV.	DESCRIZIONE DESCRIPTION	EMESSO ISSUED	APPROVATO APPROVED	DATA DATE
01	ISSUE FOR REVIEW	GT	TM	08-mag-24
00	ISSUE FOR REVIEW	GT	TM	28-mar-24

coes	CLIENTE CUSTOMER	:	ROSETTI MARINO	COMM: JOB:	:	167/24	
	RIFERIMENTO REFERENCE	:	CROSSWIND	UNITA' ITEM	:	/	
	IMPIANTO DRYING UNIT	:	NITROGEN GENERATION PACKAGE	FOGLIO N° SHEET	:	2	DI : 3 OF

FOGLIO DATI PER SERBATOIO
PRESSURE VESSEL DATA SHEET

DATI PROGETTO MECCANICO
MECAHNICAL DESIGN DATA

1	QUANTITA' QUANTITY	:	1			
2	ITEM TAG	:	V-64001			
3	SERVIZIO SERVICE	:	SERBATOIO AZOTO NITROGEN TANK			
4	TIPO TYPE	:	VERTICALE VERTICAL			
5	MATERIALE MATERIAL	:	LTCS			
6	NORMATIVA PROGETTO DESIGN CODE	:	ASME VIII DIV.1	NORMATIVA COLLAUDO INSPECTION CODE	:	2014/68/EU PED
7	MATERIALE MATERIAL	:	LTCS	SOVRASPESS. CORROSIONE CORROSION OVER-THICKNESS	:	3 mm
8	PRESSIONE PROGETTO DESIGN PRESSURE	:	12 barg	TEMPERATURA PROGETTO DESIGN TEMPERATURE	:	-29 / +80 °C
9	DIAMETRO ESTERNO EXTERNAL DIAMETER	:	2000 mm	LUNGHEZZA T/T T/T LENGHT	:	2900 mm
10	VOLUME VOLUME	:	11 m3			
11	RADIOGRAFIE RT TEST	:	☒ YES SPOT	☐ NO		
12	VERNICIATURA PAINTING	:	☒ EXTERNAL	☐ INTERNAL		
11	ZINCATURA GALVANIZING	:	☐ YES	☒ NO		
12						
13	Notes: - details of nozzle are included into equipment sectional drawing					
14						

ELENCO CONNESSIONI
NOZZLES LIST

	SIGLA TAG	DIAMETRO DIAMETER	TIPO TYPE	SERIE RATING	SERVIZIO SERVICE	NOTE REMARKS
16	N1	1"	WN	ANSI 150	PROCESS INLET/OUTLET	
17	N2	1"	WN	ANSI 150	SAFETY VALVE	
18	N3	1/2"	NPT	3000#	PRESSURE GAUGE	HALF COUPLING
19	N4	1/2"	NPT	3000#	PRESSURE TRANSMITTER	HALF COUPLING
20	N5	1"	WN	ANSI 150	DRAIN	
21	N6	16"	WN	ANSI 150	MAN HOLE	
22						
23						

STRUMENTI - ACCESSORI
INSTRUMENTS - ACCESSORIES

24	☒	VALVOLA DI SICUREZZA SAFETY VALVE
25	☒	MANOMETRO PRESSURE GAUGE
26	☒	TRASMETTITORE DI PRESSIONE PRESSURE TRANSMITTER
27	☒	VALVOLA DI DRENAGGIO MANUALE MANUAL DRAIN VALVE
28	☐	SCARICATORE DI CONDENSA DRAIN TRAP
29		

REV. REV.	DESCRIZIONE DESCRIPTION	EMESSO ISSUED	APPROVATO APPROVED	DATA DATE
01	ISSUE FOR REVIEW	GT	TM	08-mag-24
00	ISSUE FOR REVIEW	GT	TM	28-mar-24

coes	CLIENTE / CUSTOMER	:	ROSETTI MARINO	COMM: / JOB:	:	167/24	
	RIFERIMENTO / REFERENCE	:	CROSSWIND	UNITA' / ITEM	:	/	
	IMPIANTO / DRYING UNIT	:	NITROGEN GENERATION PACKAGE	FOGLIO N° / SHEET	:	3	DI / OF : 3

FOGLIO DATI PER FILTRO
FILTER DATA SHEET

DATI GENERALI
GENERAL DATA

1	QUANTITA' / QUANTITY	:	2
2	ITEM / TAG	:	S-64001A/B
3	SERVIZIO / SERVICE	:	DUST REMOVING
4			

DATI PROGETTO CALDARERIA
VESSELS DESIGN DATA

5	PRESSIONE PROGETTO / DESIGN PRESSURE	:	12 barg	TEMPERATURA PROGETTO / DESIGN TEMPERATURE	:	-29 / +80 °C
6	MATERIALE / MATERIAL	:	LTCS	SOVRASPESS. CORROSIONE / CORROSION OVER-THICKNESS	:	3 mm
7	NORMATIVA PROGETTO / DESIGN CODE	:	ASME VIII DIV.1	NORMATIVA COLLAUDO / INSPECTION CODE	:	2014/68/EU PED
8						

DATI FUNZIONALI
FUNCTIONAL DATA

9	GAS DA TRATTARE / GAS TO BE TREATED	:	NITROGEN 97%	PORTATA IN INGRESSO / INLET FLOWRATE	:	60 Nm3/h
10	PRESSIONE DI ESERCIZIO / OPERATING PRESSURE	:	8.5 barg	TEMPERATURA DI ESERCIZIO / OPERATING TEMPERATURE	:	35 °C
11	PERDITA DI CARICO/FILTRO PULITO / PRESSURE DROP/CLEAN FILTER	:	0,1 bar	PERDITA DI CARICO/FILTRO SPORCO / PRESSURE DROP/DIRTY FILTER	:	0.3 bar
12	EFFICIENZA / EFFICIENCY	:	99.9 %	GRADO DI FILTRAZIONE / FILTRATION DEGREE	:	1 μm
13	OLIO RESIDUO / RESIDUAL OIL	:	N/A			
14						

CARATTERISTICHE ELEMENTI FILTRANTI
FILTRATION ELEMENTS DATA

15	TIPO ELEMENTO FILTRANTE / FILTRATION ELEMENT TYPE	:	CARTRIDGE	MATERIALE / MATERIAL	:	COALESCING MICROFIBER
16	N° CARTUCCE PER FILTRO / No. OF ELEMENTS/EACH FILTER	:	1	MODELLO / MODEL	:	30A
17						

STRUMENTI - ACCESSORI
INSTRUMENTS - ACCESSORIES

18	☐	BY-PASS FILTRO / FILTER BY-PASS						
19	☒	TUBAZIONE DI RACCORDO FILTRO / CONNECTION PIPE TO FILTER						
20	☒	VALVOLE INTERCETTAZIONE / ON/OFF VALVES	☒	2 VIE / 2-WAY	☐	3 VIE / 3-WAY	☐	AUTOMATICHE / AUTOMATIC
21	☐	MANOMETRO DIFFERENZIALE / DIFFERENTIAL PRESSURE GAUGE						
22	☒	TRASMETTITORE DI PRESSIONE DIFFERENZIALE / DIFFERENTIAL PRESSURE TRANSMITTER	AS PER P&ID NO. 1724000437-PR-PID-00018					
23	☒	VALVOLA DI DRENAGGIO / DRAIN VALVE						
24	☐	SCARICATORE DI CONDENSA / STEAM TRAP			☐	AUTOMATICO / AUTOMATIC	☐	GALLEGGIANTE / FLOATING
25	☐	VALVOLE DI SICUREZZA / SAFETY VALVES						

NOTE / REMARKS :

REV. / REV.	DESCRIZIONE / DESCRIPTION	EMESSO / ISSUED	APPROVATO / APPROVED	DATA / DATE
01	ISSUE FOR REVIEW	GT	TM	08-mag-24
00	ISSUE FOR REVIEW	GT	TM	28-mar-24

3 CABLE LIST

CABLE LIST																
Revision index	Service	Cable Tag.	Cable ID	Section	Colour		Screened		Type	Fire Resistant	Flame Retardant	Routing		Cable lenght (meter)	Cable gland type	Cable gland size
					External	Internal	Overal	Indivudual				From	To			
0	ANS	C-64PT051	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-PT-051	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ANS	C-64PT052	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-PT-052	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ANS	C-64PT053	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-PT-053	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ANS	C-64PT057	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-PT-057	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ANS	C-64PDIT056	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-PDIT-056	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ANS	C-64AIT051	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-AIT-051	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ANS	* C-64PT059	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-PT-059	64-LP-001	N.A.	Double compression	ISO M20x1,5
0	ZS	C-64ZSL051	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-051	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH051	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-051	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL052	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-052	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH052	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-052	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL053	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-053	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH053	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-053	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL054	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-054	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH054	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-054	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL055	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-055	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH055	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-055	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL056	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-056	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH056	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-056	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL057	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-057	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH057	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-057	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL058	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-058	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH058	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-058	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL059	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-059	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH059	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-059	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL060	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-060	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH060	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-060	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSL061	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSL-061	64-LP-001	TBA	Double compression	ISO M20x1,5
0	ZS	C-64ZSH061	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x1mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-ZSH-061	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY051	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-051	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY052	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-052	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY053	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-053	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY054	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-054	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY055	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-055	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY056	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-056	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY057	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-057	64-LP-001	TBA	Double compression	ISO M20x1,5

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0	SOV	C-64XY058	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-058	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY059	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-059	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY060	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-060	64-LP-001	TBA	Double compression	ISO M20x1,5
0	SOV	C-64XY061	XLPE/OS/PVC/SWB/PVC - 300V	circular 1x2x2,5mm2 + shield	Grey	Black(+) White(-)	X		SWB Armored	NO	IEC 60332-3-22	64-XY-061	64-LP-001	TBA	Double compression	ISO M20x1,5

Legenda:
SOV = Solenoid Valve
ZS = Switch
ANS = Signal 4-20mA
* = NOT IN COES SCOPE OF SUPPLY

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Section 6 MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC & discipline : I

Instrumental	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
A-64000	Nitrogen Package	ONSHORE	C10002356	CZX01I	100	2024-12-04	RFC 2
C-64-XA-003/B400-SIS-001	UCP FAULT ALARM / MARSHALLING PCS	ONSHORE	C10001459	CJX10	100	2024-12-04	RFC 1
C-64-XS-001/B400-SIS-001	TRIP SIGNAL TO UCP / MARSHALLING PCS	ONSHORE	C10001452	CJX10	100	2024-12-04	RFC 1

ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-64-XS-001/B400-SIS-001	: TRIP SIGNAL TO UCP / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091		
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)	Module	LD/LD_B-400		
TASK	code	C10001452	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form	CJX10

Multi/Single-Core Instrument Control Cable

CABLE DATA

Type: Cu-MICA-XLPE-OS-LSZH-SWB-LSZH — Cores/Size mm²: 2X2,5 mm2 — Color: ORANGE

From: A-64000 — To: B400-SIS-001

1	Check cable is as specified in project cable schedule.	OK
2	Check relevant documents are at the latest revision.	OK
3	Check cable is routed in accordance with cable layout drawings.	OK
4	Check cable for any physical damage.	OK
5	Check cable is adequately supported and correctly fixed to rack according to Project specification.	PL
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	OK
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	PL
12	Check gland plate for single core cables is non-ferrous.	NA
13	If required produce Red Line Mark Up for "AS BUILT"	

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	1,2	Ω
	SCREEN	1,2	Ω
	EARTH	NA	Ω
	ARMr	1,2	Ω
	TEST VOLTS	500	V

TEST ALL CORES AND RECORD LOWEST VALUE

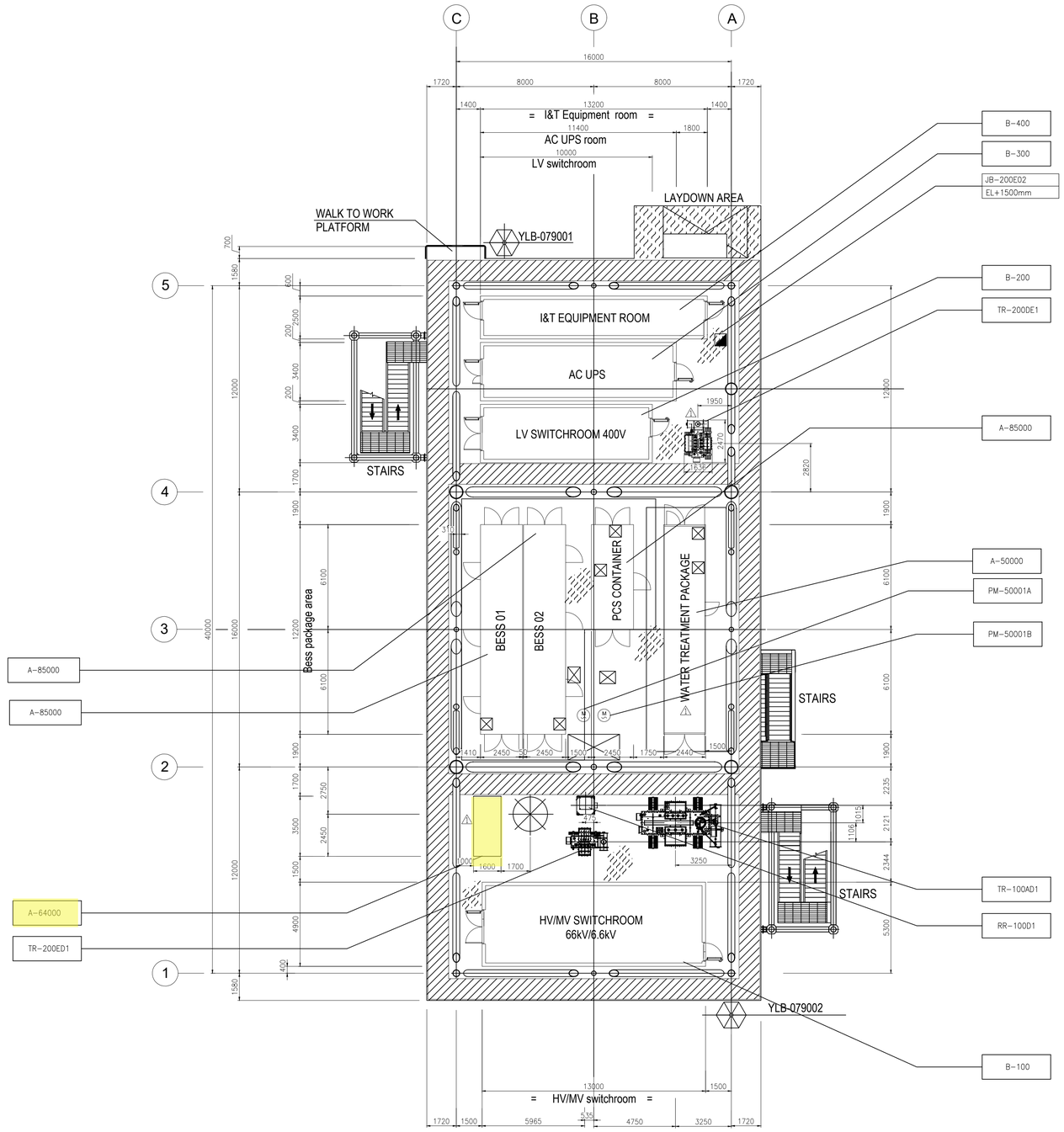
Notes: The lowest value is recorded and must be within project specifications

TESTING INSTRUMENTS USED

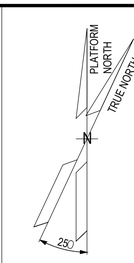
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 — Calibration date: N°7722/24 10/07/2024

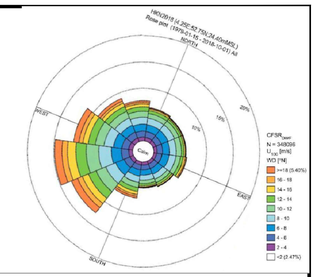
Comments: Nota 5: refer to PL C30000680

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-12-03	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T17:05:39.568Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-04T14:20:22.501Z	



PLAN ON LOWER DECK
EL+23.310 T.O.S.





NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

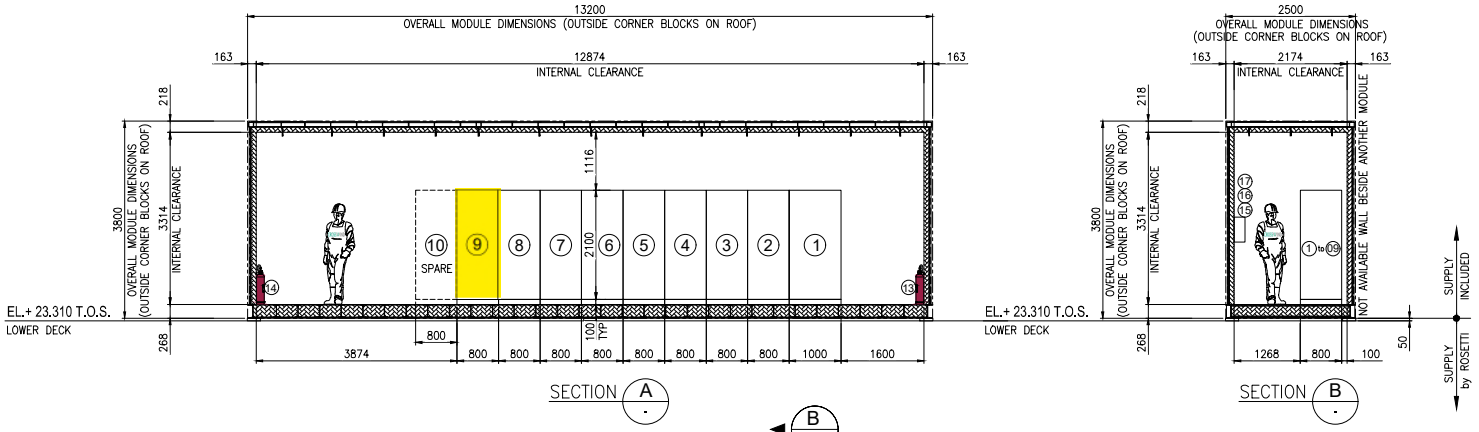
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

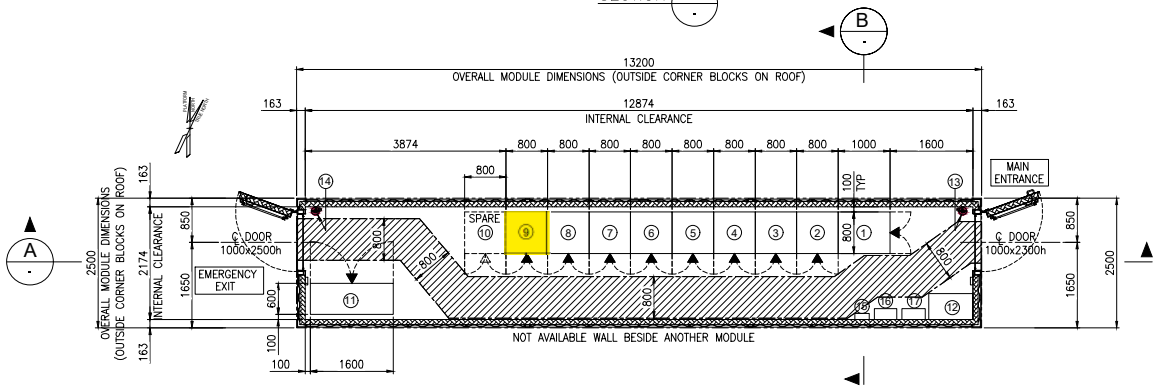
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101
REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03

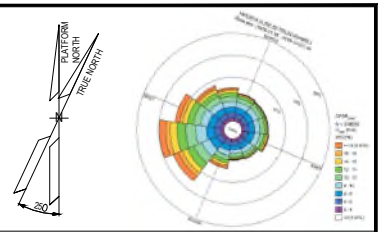




EQUIPMENT LAYOUT
"B-400" I&T EQUIPMENT ROOM
BOTTOM PLAN

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	B400-SRV-001	SERVER CABINET	1000	800	2100	
2	B400-NET-001	NETWORK CABINET	800	800	2100	
3	B400-EMCS-001	EMCS SYSTEM CABINET	800	800	2100	
4	B400-PCS-002	PCS MARSHALLING CABINET	800	800	2100	
5	B400-PCS-001	PCS SYSTEM CABINET 03	800	800	2100	
6	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-001	FGS SYSTEM CABINET	800	800	2100	
9	B400-SIS-001	SIS SYSTEM/MARSHALLING CABINET	800	800	2100	
10	-	SPARE				
11	B400-HSB-001	DISTRIBUTION & HVAC PANEL - I&T ROOM	1600	600	2300	
12	-	TABLE	850	500	750	
13	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
14	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
15	-	FIRST AID KIT	280	115	200	
16	-	RESUSCITATION UNIT	430	210	480	
17	-	CABINET INCLUDED N.10 ESCAPE MASK	448	213	422	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DOCUMENT VALID ONLY FOR INSTRUMENT COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.

LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ EQUIPMENT ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

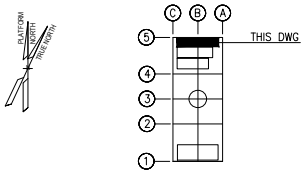
HOLDS

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REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
Control System Architecture Detailed Drawings	123A90-DDL-IN-DD-40096
Data Network Architecture Drawings	123A90-DDL-IN-DD-40019
Earthing layouts drawings (CCR, ITER)	123A90-DDL-IN-DL-40013
Instrument and Telecom MCT Layout – Lower Deck	123A90-DDL-IN-DL-40086
"B-400" I&T Equipment Room – Architectural Layout	123A90-DDL-AR-DL-10015
"B-400" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10015
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00017
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DD-00021
"B-400" HVAC SYSTEM G.A. and DETAILS	1724000049-HV-DA-00067

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
02	27/05/24	MGA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	22/01/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)
00	07/11/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40012
REV.: 3_A | DATE: 07/10/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

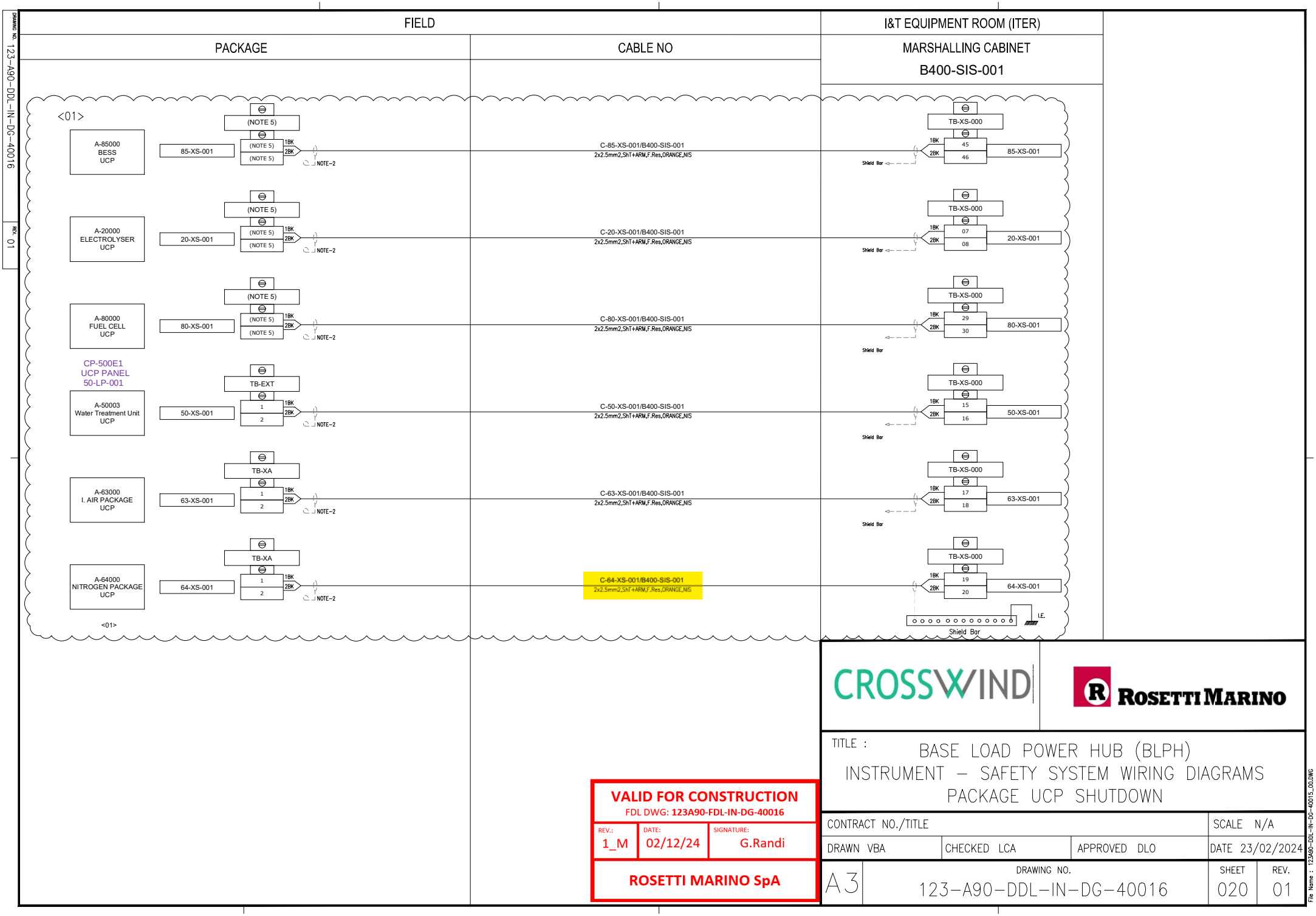
TITLE : BASE LOAD POWER HUB (BLPH)
OFF-SHORE ITER
EQUIPMENT LAYOUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:33,3
DRAWN MGA	CHECKED LCA	APPROVED DLO	DATE 27/05/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40012	SHEET 001	REV. 03

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01



VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

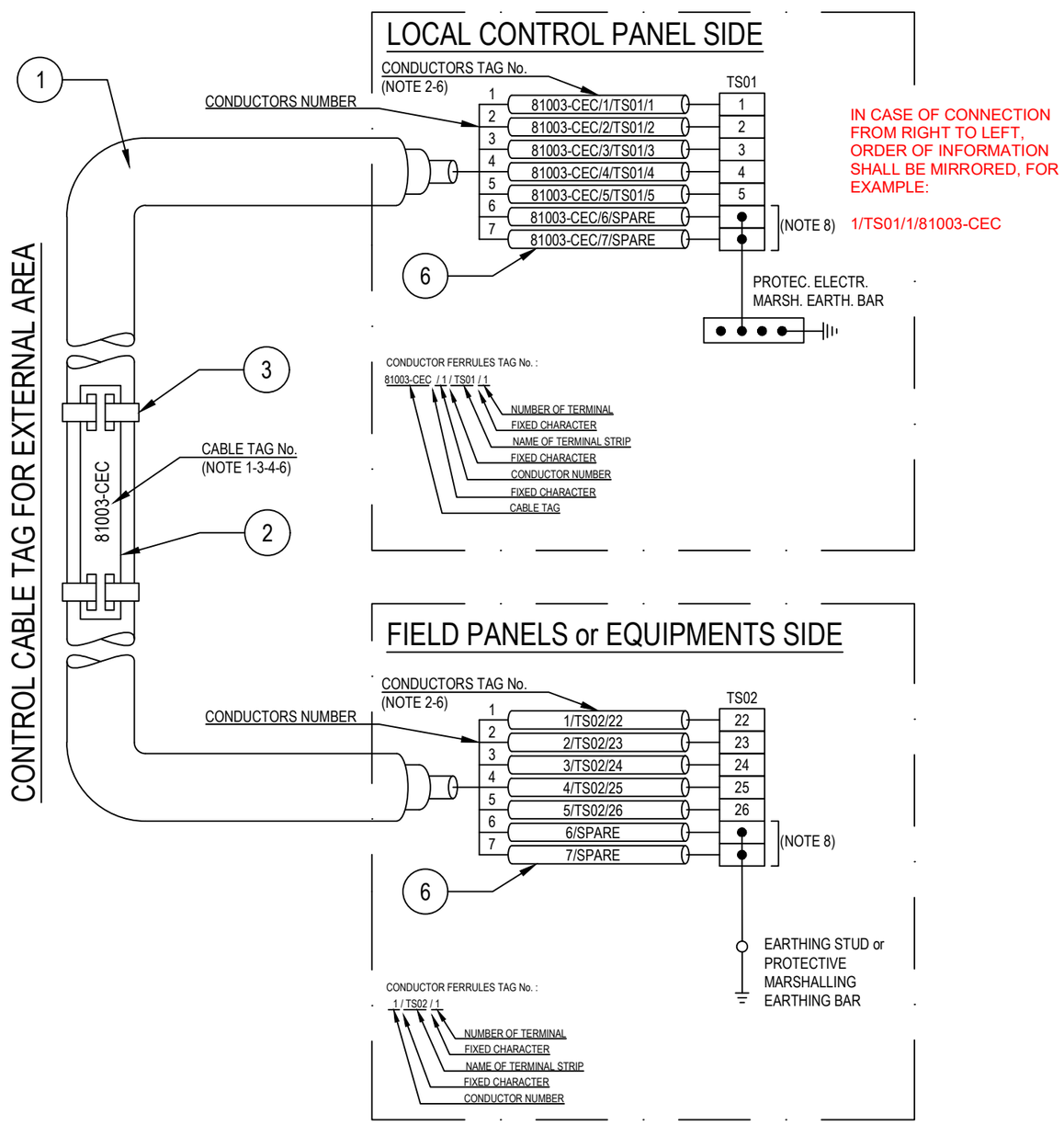
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
PACKAGE UCP SHUTDOWN

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123-A90-DDL-IN-DG-40016	020	01

File Name : 123A90-DDL-IN-DG-40015_00.DWG

C04



IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED, FOR EXAMPLE:

1/TS01/1/81003-CEC

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 50 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

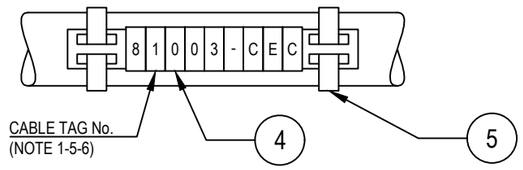
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) THE EARTHING CONNECTION OF THE ARMOUR CABLE IS NOT APPLICABILE IF THE ARMOUR IS CONNECTED TO EARTH WITH METALLIC CABLE GLAND.
WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
- PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH RING
- EARTHING BOSS AND EARTH RING
- EARTH BAR AND EARTH BAR (IF ANY).

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

CONTROL CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092

REV.:	DATE:	SIGNATURE:
2_B	28/11/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR CONTROL CABLES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

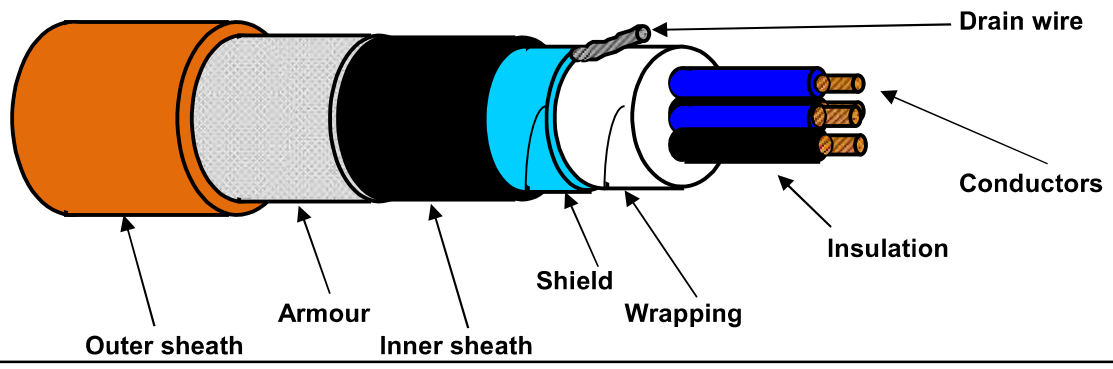
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Info	Category	Discipl	Eng Statu	NativeDoc	Service	Entity Type	Main Function	Module	Area	From Tag	From Main Fun	From Tag Section	To Tag	To Main Func	To Tag Sectio	Material ID	Material Desc.	Gland	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-64-XS-001/B400-SIS-001		Cable	IN	VFC	123A90-DDL-IN-LIS-40091						A-64000	Package	64-XS-001	B400-SIS-001	SIS		SMICV12-2X2,5	Orange	M20	e			n.a.				L-SEC-12 / L-SEC-1I / L-SEC-1H / I-MCT-401

FLEI s.r.l.

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

2X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm	
Cores colour code :	**Black NUMBERED (from 1 to 2)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	8/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,3 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 2X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(10,3 ± 10%) mm	
Over armour diameter :	(11,5 ± 10%) mm	
Outer diameter :	(14,1 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-64-XA-003/B400-SIS-001	: UCP FAULT ALARM / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091		
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)	Module	LD/LD_B-400		
TASK	code	C10001459	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form	CJX10

Multi/Single-Core Instrument Control Cable

CABLE DATA

Type: Cu-MICA-XLPE-OS-LSZH-SWB-LSZH — Cores/Size mm²: 1X2X0,75 mm2 — Color: ORANGE

From: A-64000 — To: B400-SIS-001

1	Check cable is as specified in project cable schedule.	OK
2	Check relevant documents are at the latest revision.	OK
3	Check cable is routed in accordance with cable layout drawings.	OK
4	Check cable for any physical damage.	OK
5	Check cable is adequately supported and correctly fixed to rack according to Project specification.	PL
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	PL
12	Check gland plate for single core cables is non-ferrous.	NA
13	If required produce Red Line Mark Up for "AS BUILT"	

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	1,1	Ω
	SCREEN	1,1	Ω
	EARTH	NA	Ω
	ARMr	1,1	Ω
	TEST VOLTS	500	V

TEST ALL CORES AND RECORD LOWEST VALUE

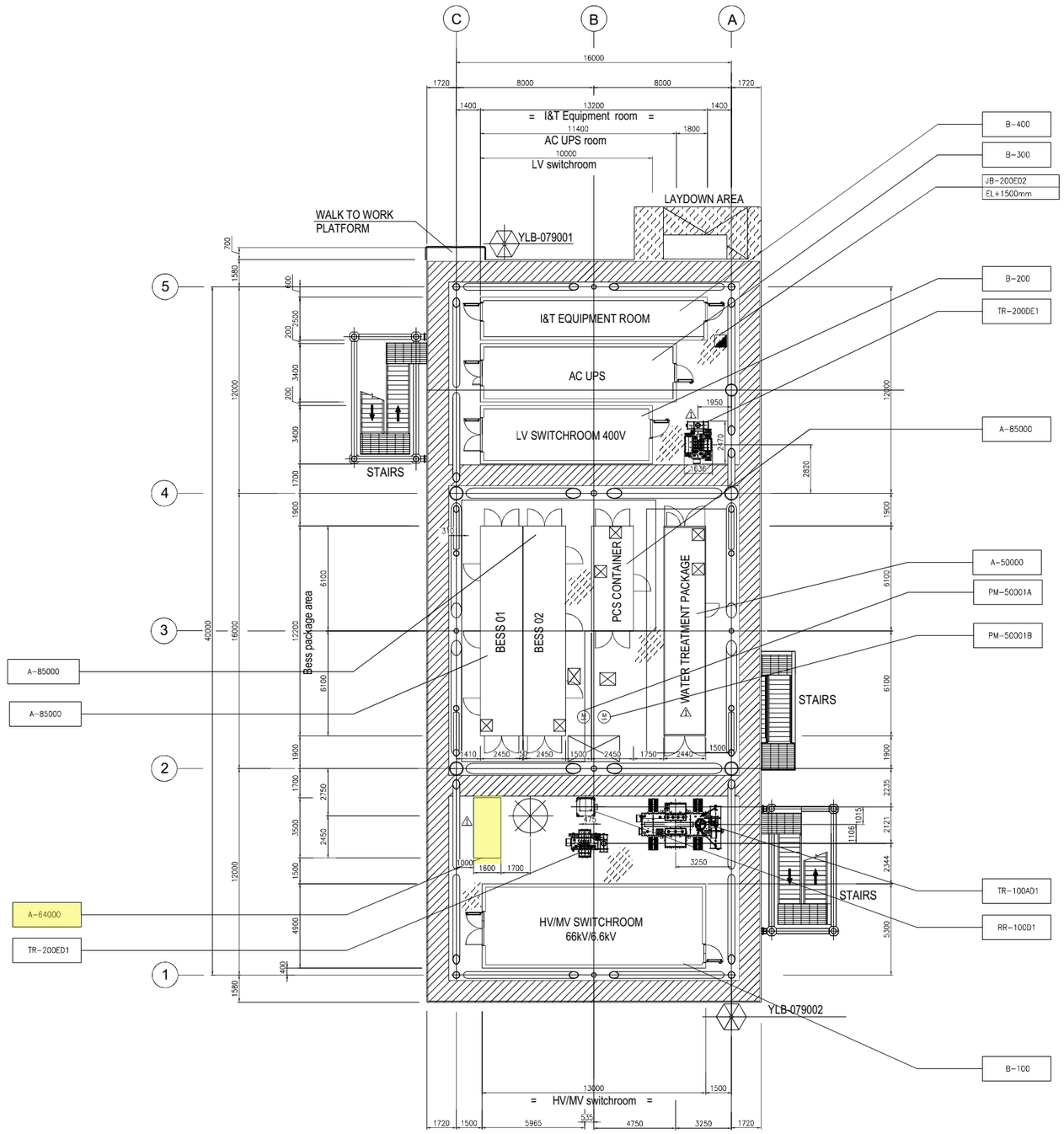
Notes: The lowest value is recorded and must be within project specifications

TESTING INSTRUMENTS USED

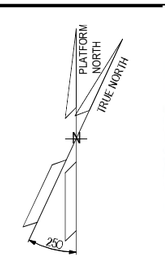
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 — Calibration date: N°7722/24 10/07/2024

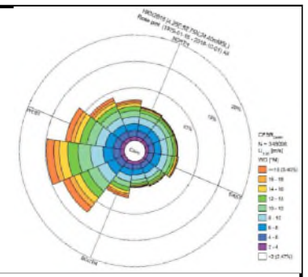
Comments: Nota 5: refer to PL C30000680

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-12-03	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T17:06:02.261Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-04T14:04:39.701Z	



PLAN ON LOWER DECK
EL+23.310 T.O.S.





NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

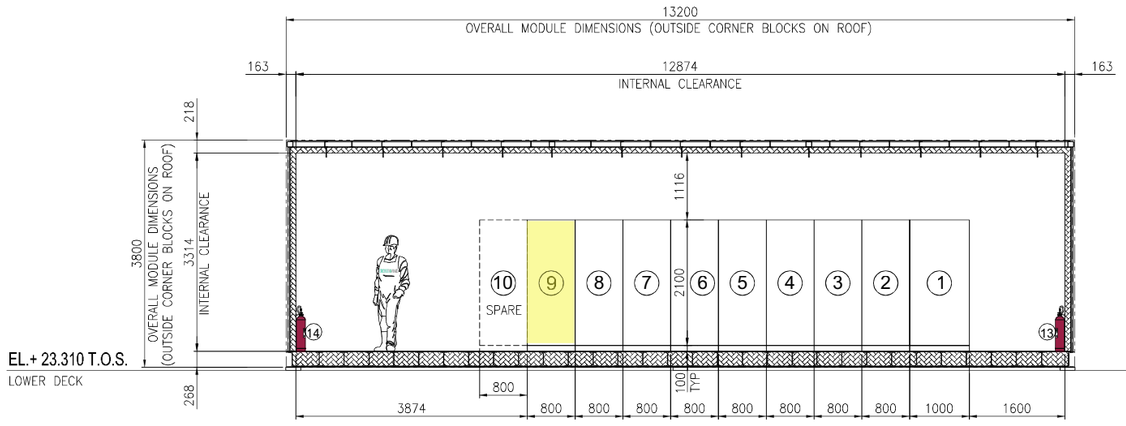
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

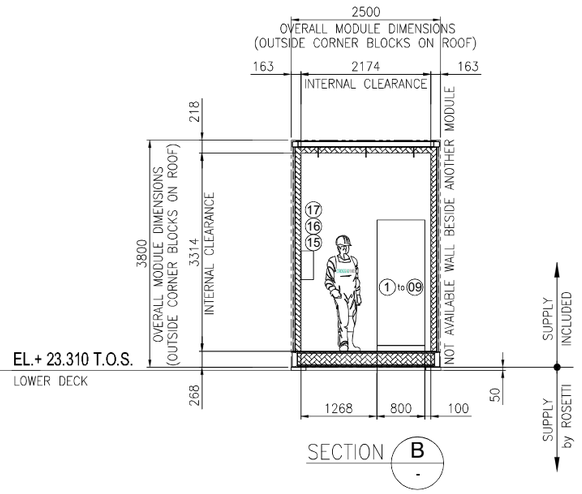
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File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

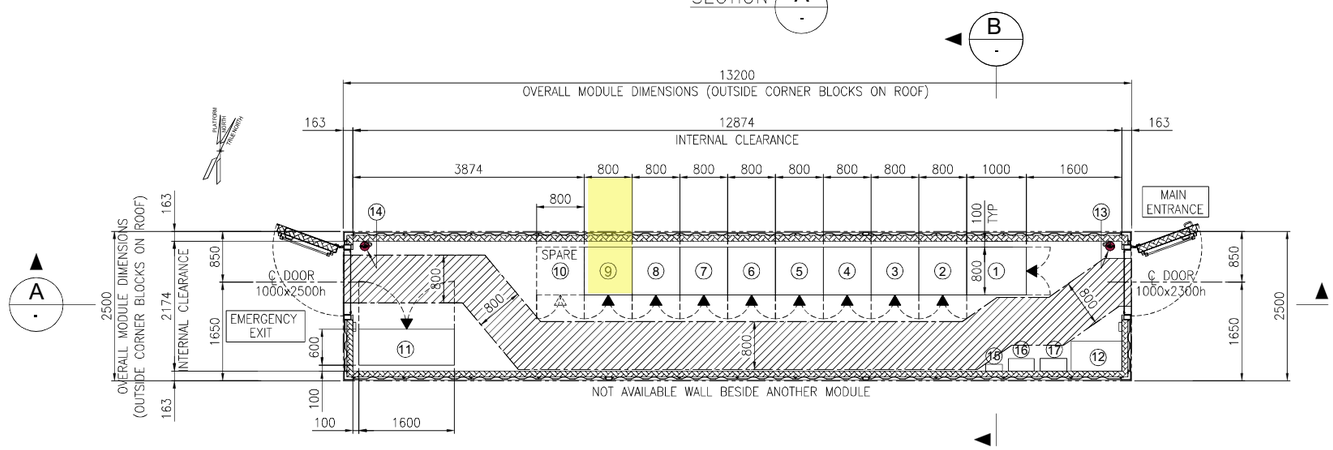
DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03



SECTION A -



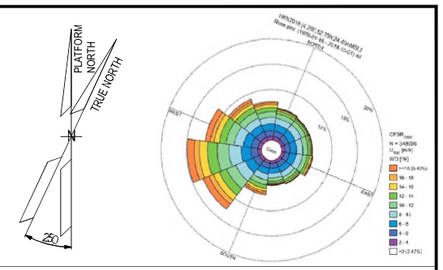
SECTION B -



EQUIPMENT LAYOUT
"B-400" I&T EQUIPMENT ROOM
BOTTOM PLAN

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	B400-SRV-001	SERVER CABINET	1000	800	2100	
2	B400-NET-001	NETWORK CABINET	800	800	2100	
3	B400-EMCS-001	EMCS SYSTEM CABINET	800	800	2100	
4	B400-PCS-002	PCS MARSHALLING CABINET	800	800	2100	
5	B400-PCS-001	PCS SYSTEM CABINET 03	800	800	2100	
6	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-001	FGS SYSTEM CABINET	800	800	2100	
9	B400-SIS-001	SIS SYSTEM/MARSHALLING CABINET	800	800	2100	
10	-	SPARE				
11	B400-HSB-001	DISTRIBUTION & HVAC PANEL - I&T ROOM	1600	600	2300	
12	-	TABLE	850	500	750	
13	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
14	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
15	-	FIRST AID KIT	280	115	200	
16	-	RESUSCITATION UNIT	430	210	480	
17	-	CABINET INCLUDED N.10 ESCAPE MASK	448	213	422	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DOCUMENT VALID ONLY FOR INSTRUMENT COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.

LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ EQUIPMENT ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

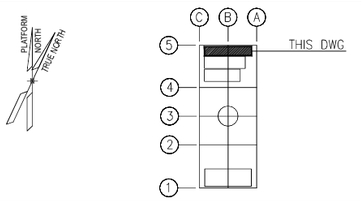
HOLDS

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REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
Control System Architecture Detailed Drawings	123A90-DDL-IN-DD-40096
Data Network Architecture Drawings	123A90-DDL-IN-DD-40019
Earthing layouts drawings (CCR, ITER)	123A90-DDL-IN-DL-40013
Instrument and Telecom MCT Layout – Lower Deck	123A90-DDL-IN-DL-40086
"B-400" I&T Equipment Room – Architectural Layout	123A90-DDL-AR-DL-10015
"B-400" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10015
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00017
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DD-00021
"B-400" HVAC SYSTEM G.A. and DETAILS	1724000049-HV-DA-00067

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
02	27/05/24	MGA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	22/01/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)
00	07/11/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40012**

REV.:	DATE:	SIGNATURE:
3_A	07/10/24	G.Randi

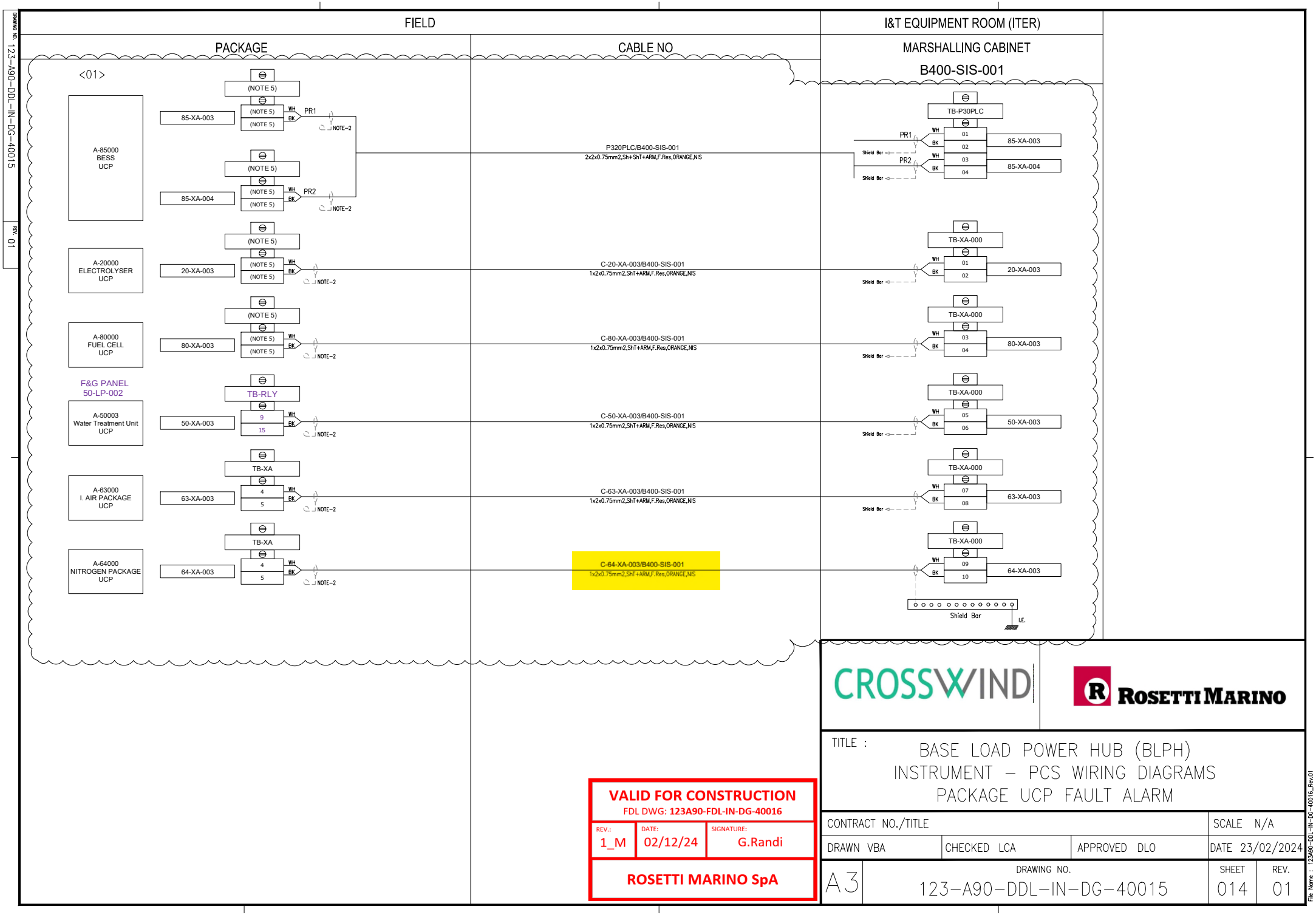
ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
OFF-SHORE ITER
EQUIPMENT LAYOUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:33,3
DRAWN MGA	CHECKED LCA	APPROVED DLO	DATE 27/05/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40012	SHEET 001	REV. 03

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40015 REV. 01



CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT – PCS WIRING DIAGRAMS
PACKAGE UCP FAULT ALARM

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

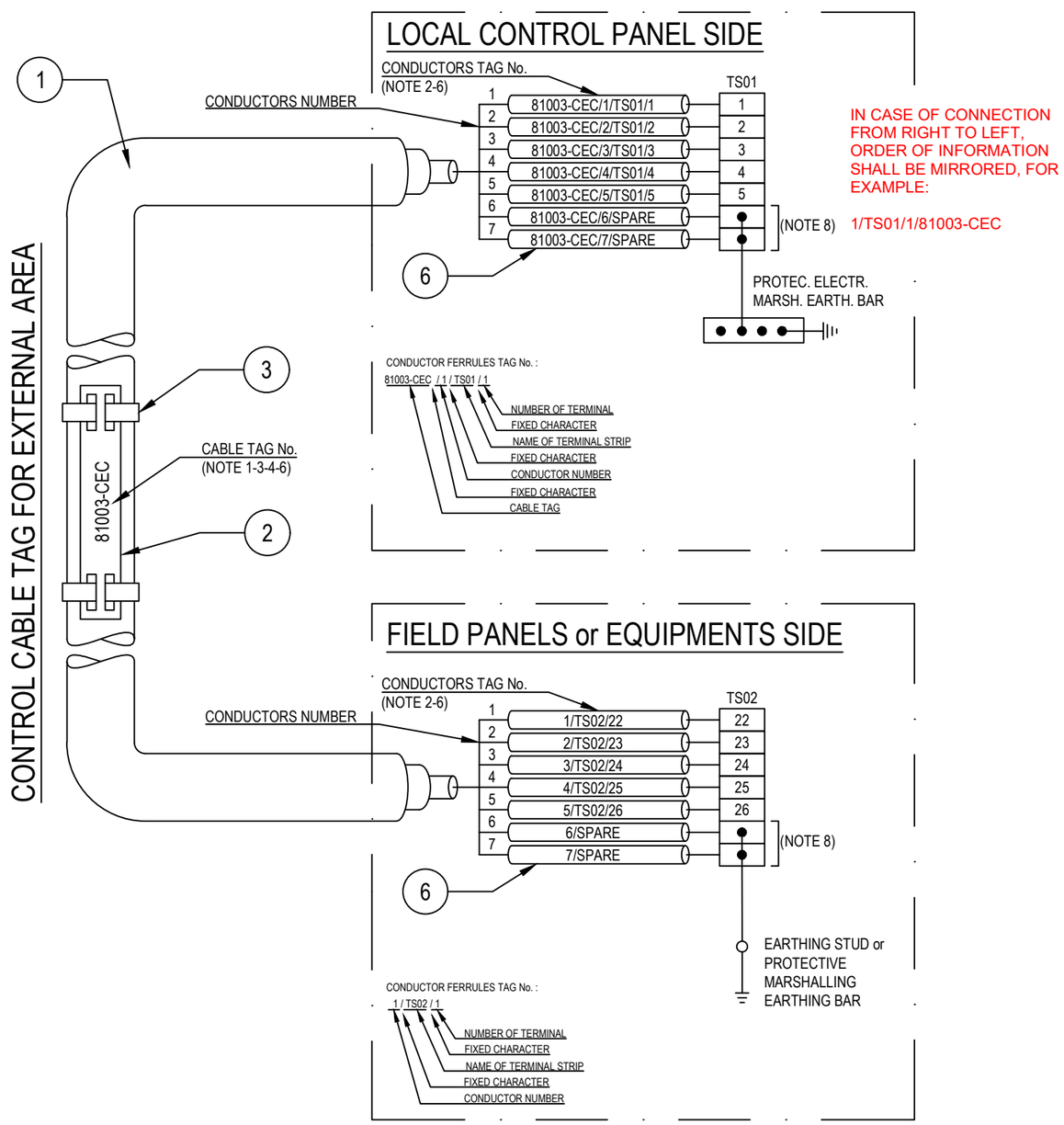
ROSETTI MARINO SpA

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123-A90-DDL-IN-DG-40015	014	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

C04



IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED, FOR EXAMPLE:

1/TS01/1/81003-CEC

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
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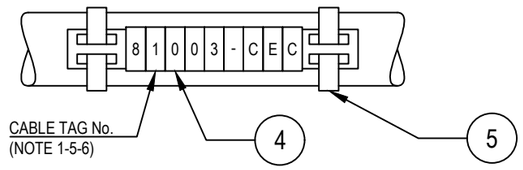
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- EARTHING BOSS AND EARTH RING
- EARTH BAR AND EARTH BAR (IF ANY).

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CONTROL CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092

REV.:	DATE:	SIGNATURE:
2_B	28/11/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR CONTROL CABLES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 008 | REV. 02

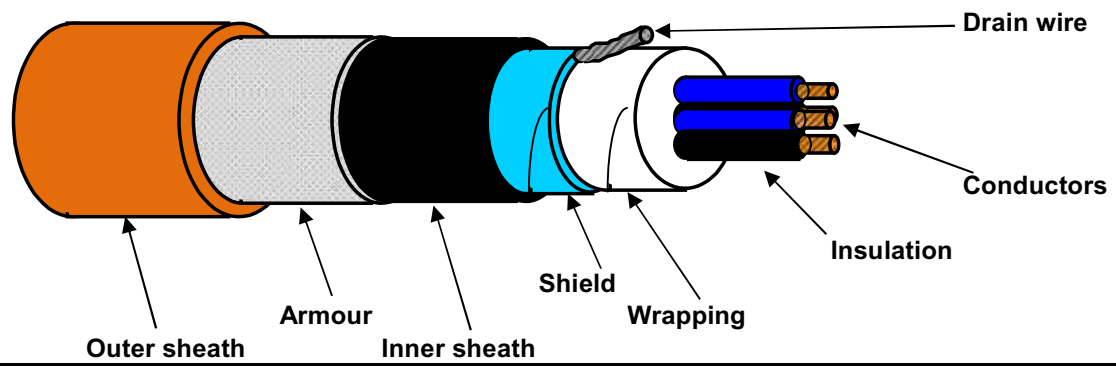
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-64-XA-003/B400-SIS-001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						A-64000	Nitrogen Package	Lower Deck	B400-SIS-001	Marshalling SIS	Lower Deck (B-400)	SMICV08-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Orange	M20S	T2_M20S_Double			n.a.				L-SEC-12 / L-SEC-1I / L-SEC-1H / L-SEC-1G / L-SEC-1F / L-SEC-1E / L-SEC-1D / L-SEC-1C / L-SEC-1B / L-SEC-1A / B-400-SEC-1A / I-MCT-401

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,5 mm	
Cores colour code :	**White - Black**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	10/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 0,5 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,2 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 1X2X0,75 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(8,5 ± 10%) mm	
Over armour diameter :	(9,3 ± 10%) mm	
Outer diameter :	(11,7 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 26 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 25 µH/Ω	
Inductance :	≤ 0,9 mH/km	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

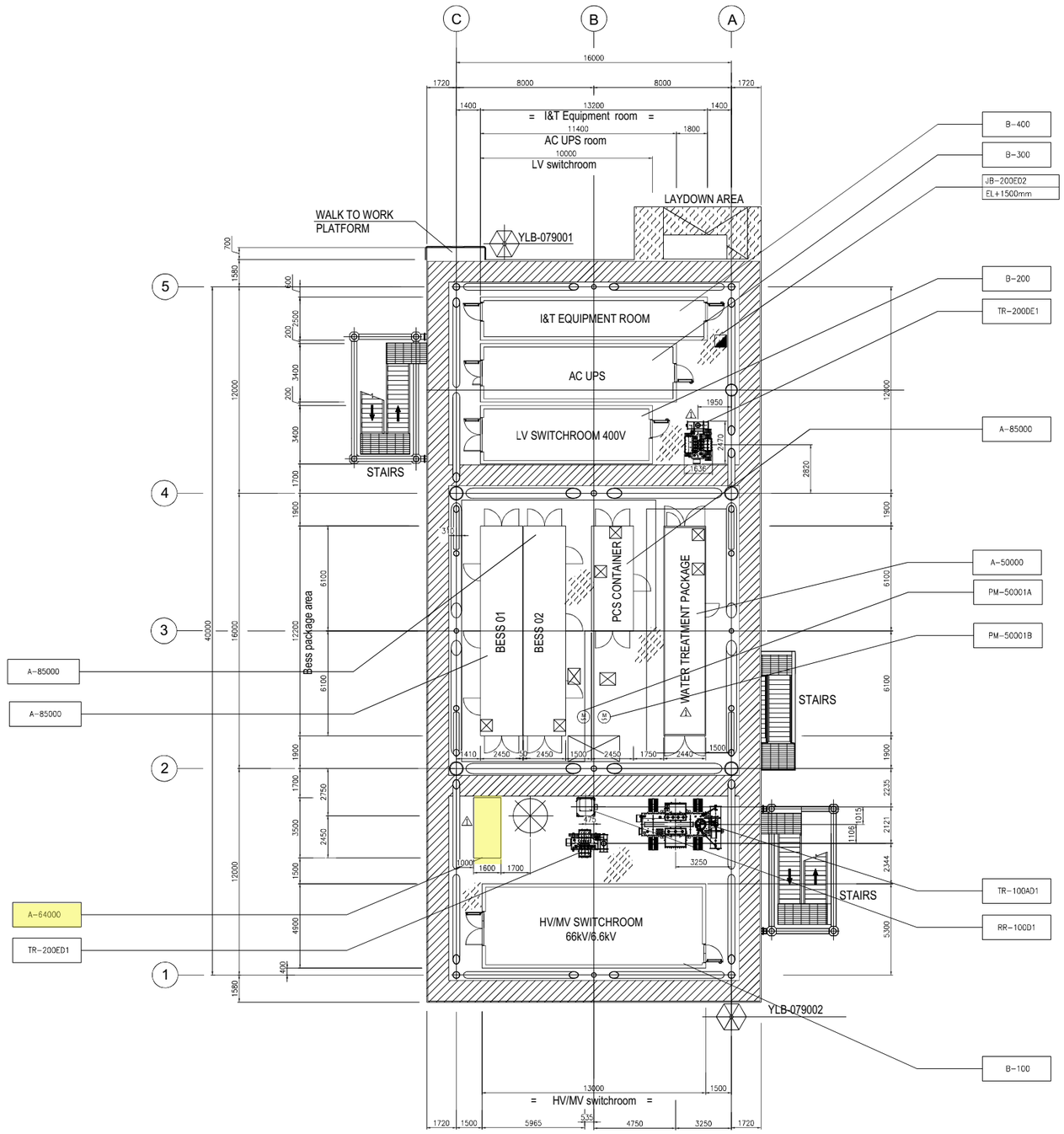
All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.
The data provided are only relevant for the product with the same code and do not extend to other products, even if similar. The user is responsible for the choice of the product in relation to its intended use, for the correct installation and for the observance of all the informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

ITEM	Tag	A-64000	: Nitrogen Package			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10002356		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental Form CZX01I		Package - I

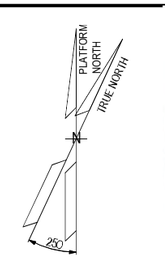
1	Check that electrical component is not damaged.	OK
2	Check that the cables are adequately supported and protected.	PL
3	Check that the equipment, including cables and glands, have been correctly installed (only visual inspection).	OK
4	Check that all equipment has been earthed and bonded.	PL
5	Check if accessibility and maintenance are possible and safe.	OK
6	Verify that all vendor punch list created during FAT are uploaded in the Database.	OK
7	Check if accessibility and maintenance are possible and safe.	OK
8	Check identification tag plate	OK
9	If required produce Red Line Mark Up for "AS BUILT"	

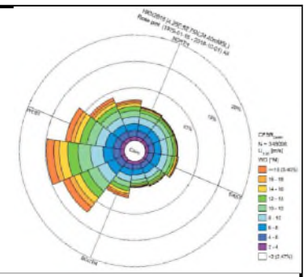
Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM8ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-12-03	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T17:08:44.865Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-04T17:44:12.308Z	



PLAN ON LOWER DECK
EL+23.310 T.O.S.





NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

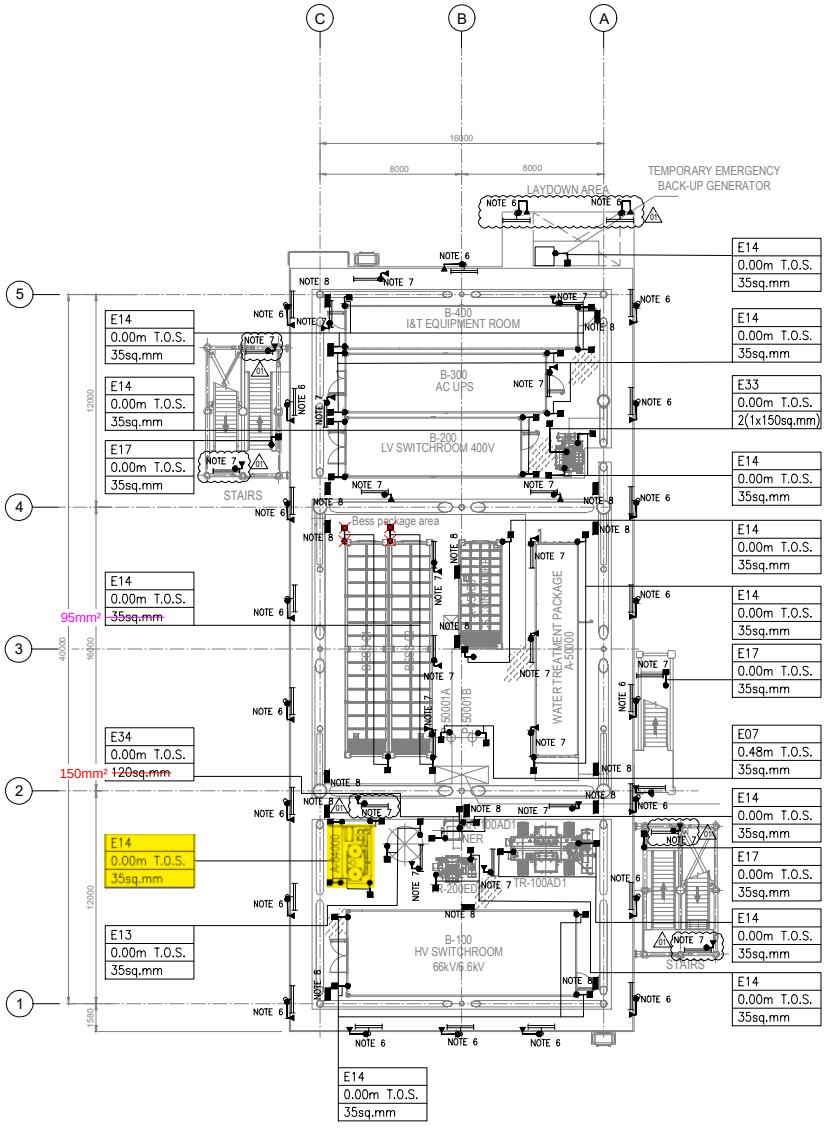
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101 REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

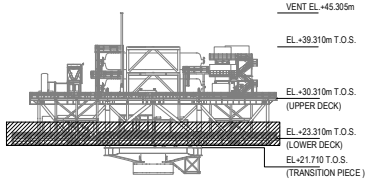
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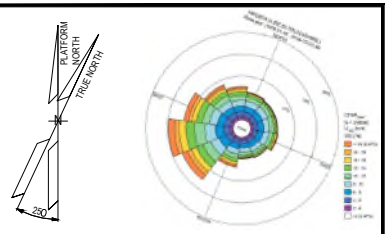
REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.

KEY PLAN





NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DOCUMENT IS ONLY VALID FOR EARTHING LAYOUT.
4. ALL ELECTRICAL EQUIPMENT NOT DIRECTLY WELDED TO SKID FRAME SHALL BE BONDED TO STEEL TO THE STRUCTURE OF SKID BASEFRAME.
5. FOR LIGHTNING PROTECTION SYSTEM SURGE PROTECTIVE DEVICES (SPD), REFER TO THE DOCUMENT 123A90-DDL-EL-RE-20154.
6. ALL NON-WELDED POLES WILL BE EARTHED AS PER TYPICAL E05 AND E24. (1)
7. ALL LINEAR LIGHTING FIXTURE WILL BE EARTHED AS PER TYPICAL E32.
8. EARTH BAR WILL BE FIXED TO THE PRIMARY BEAMS OF THE UPPER DECK. COMPLETE EARTHING INCLUDING WITH 2 THREADED STUDS. ALL EARTH BAR WILL BE EARTHED AS PER TYPICAL E03D / 6.00M T.O.S. / 35 SQ MM.
9. EQUIPOTENTIAL BONDING GROUPING FOR BOLTED HANDRAILS ARE PROVIDED EVERY 3M FOR THE ENTIRE PERIMETER AS TYPICAL E16 AND WILL BE DEFINED DURING ASSEMBLY PHASE

LEGEND

- LIGHTING FIXTURE POLE MOUNTED
- LINEAR LIGHTING FIXTURE
- EARTHING BOSS AISI316L
- COMPRESSION TYPE LUG TINNED COPPER
- THREADED STUD FOR EARTHING CONNECTION
- Exx EARTHING TYPICAL CODE
- EARTHING BAR

TYP.	TYPICAL
ELE	ELEVATION
SIZE	

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DD-20090	ELECTRICAL TYPICAL INSTALLATION DETAILS - EARTHING SYSTEM
123A90-DDL-EL-RE-20154	LIGHTNING PROTECTION SYSTEM CALCULATION REPORT
123A90-DDL-EL-DL-20119	LIGHTING & SOCKET LAYOUT - LOWER DECK
123A90-DDL-EL-DL-20101	ELECTRICAL EQUIPMENT LAYOUT - LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	25/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	29/05/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EARTHING & LIGHTNING LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150

DRAWN SPS | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 25/07/24

A1 | DRAWING NO. 123A90-DDL-EL-DL-20133 | SHEET 001 | REV. 01

SHEET 001 OF 002

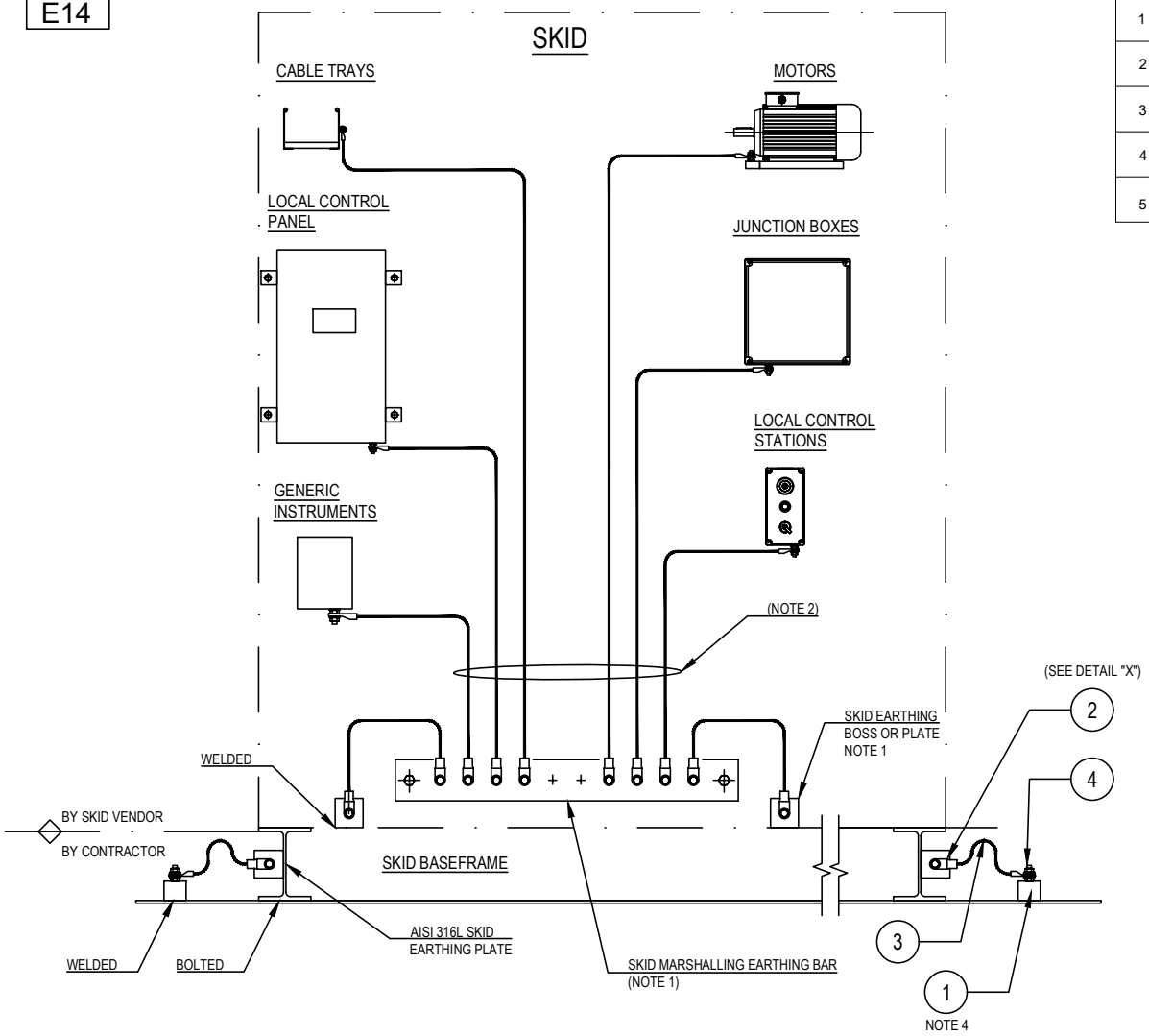
VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20133

REV.:	DATE:	SIGNATURE:
1_C	26/11/24	G.Randi

ROSETTI MARINO SpA

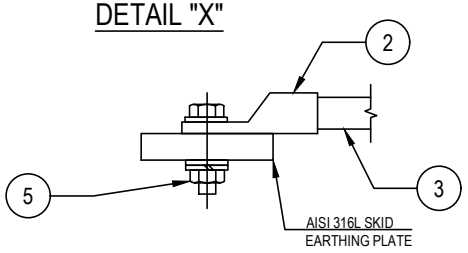
File Name : 123A90-DDL-EL-DL-20133

E14



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	EARTHING BOSS WITH THREADED HOLE M10	AISI 316L	50X50		NOTE 5
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	35mm^2		~~NOTE 3~~
3	Y/G INSULATING COPPER CONDUCTOR	COPPER	35mm^2		~~NOTE 3~~
4	STUD BOLT WITH PLANE WASHER, SPRING WASHER AND NUT	AISI 316L	M10X50		
5	HEXAG. BOLT COMPLETE WITH PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M10X30		

DETAIL "X"



NOTES:
1) EARTHING BAR/BOSS/PLATE SUPPLIED BY SKID MANUFACTURER
2) ALL EQUIPMENTS AND CABLE TRAYS WILL BE EARTHING ON SKID EARTHING BAR BY SKID MANUFACTURER
3) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY~~
4) FOR EARTHING BOSS TYPICAL DETAIL E11A
5) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20090
REV.: 2_I | DATE: 07/11/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR SKID BASEFRAME

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20090 | SHEET 014 | REV. 02

CROSSWIND

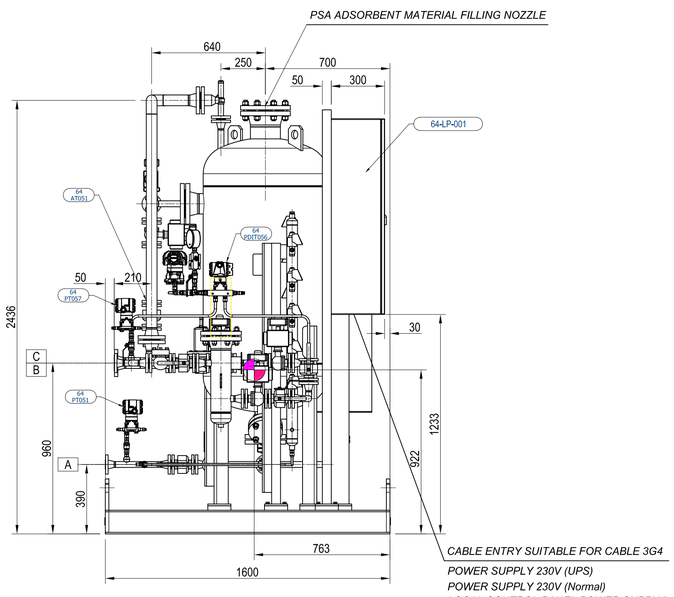
ROSETTI MARINO

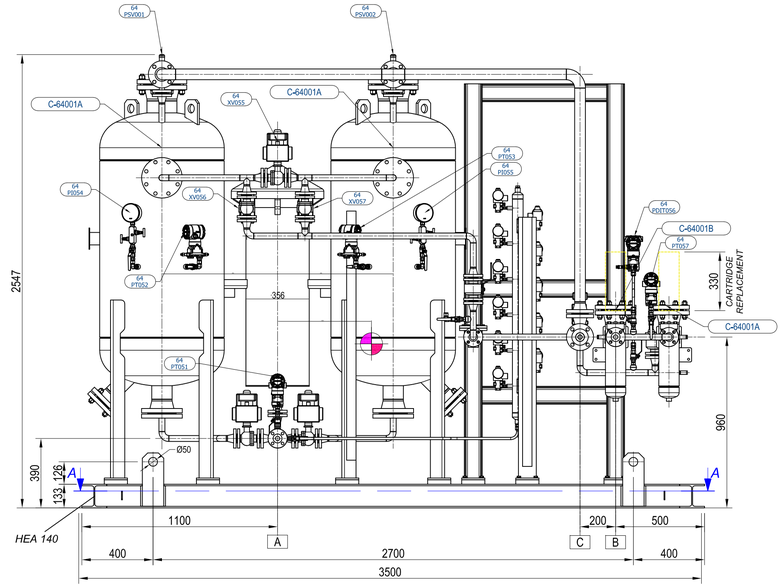
F.to UNI A3: 420mmx297mm

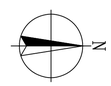
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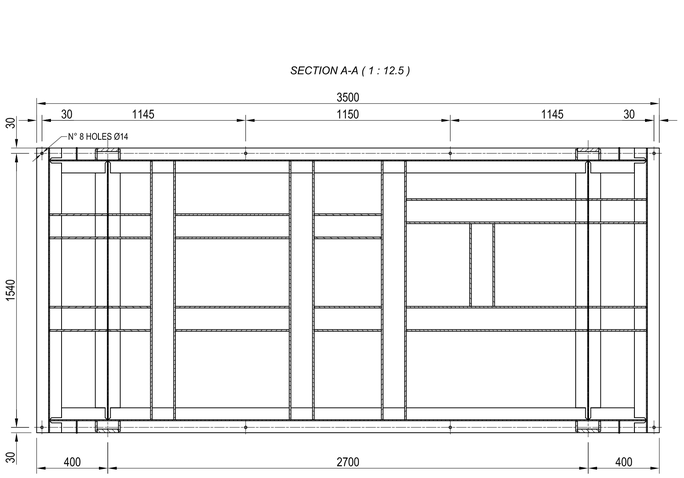
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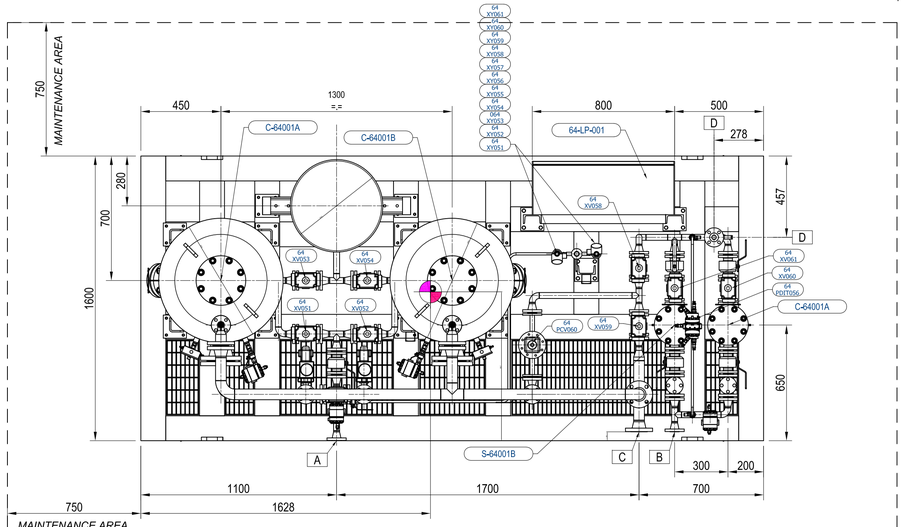
REV. 02

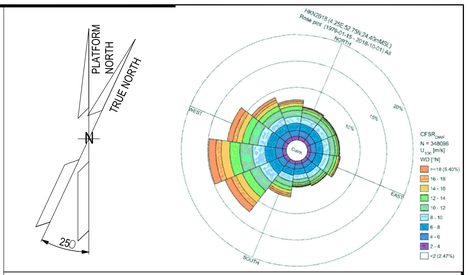


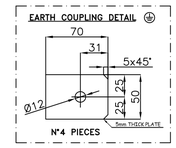












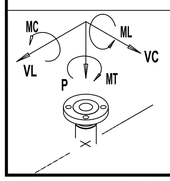
NOTES

1. SKID TOTAL WEIGHT: 5000 kg
2. FOR EQUIPMENT WEIGHT REFER TO EQUIPMENT DS, DOC. NO. 1724000437-MAC-DS-00011
3. FOR DESIGN PARAMETERS & CODES REFER TO EQUIPMENT DS, DOC. NO. 1724000437-MAC-DS-00011
4. FOR WELDING DETAILS REFER TO WELDING SPECIFICATION, DOC. NO. 1724000437-WEL-LIS-00020
5. FOR PAINTING DETAILS REFER TO PAINTING SPECIFICATION, DOC. NO. 1724000437-MAT-PRO-00021
6. NO LUBRICATION REQUIRED

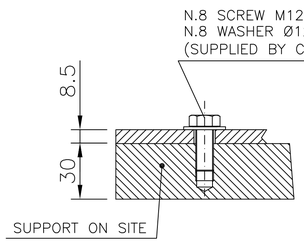
LEGEND

HOLDS

FOUNDATION LOADS TABLE			
	LIFTING	EMPTY	OPERATION
VERTICAL (kN)	8.2	7.5	8.2
SHEAR Y (kN)	0	0	0
SHEAR X (kN)	0	0	0
MOMENT Y (kNm)	0	0	0
MOMENT X (kNm)	0	0	0



MAX ALLOWABLE LOADS AT B.L. CONNECTIONS						
	FORCES [kN]			MOMENTS [kNm]		
	VL	P	VC	MC	MT	ML
A	1,8	1,5	1,8	0,3	0,4	0,2
B	1,8	1,5	1,8	0,3	0,4	0,2
C	1,8	1,5	1,8	0,3	0,4	0,2
D	1,8	1,5	1,8	0,3	0,4	0,2



TAG NUMBER OF EQUIPMENTS	
TAG	DESCRIPTION
C-64001A/B	PSA TOWERS
S-64001A/B	PSA AFTER FILTERS

CONNECTIONS			
POS.	TYPE	SERVICE	MATERIAL
A	ø 1" ANSI B16.5 150# R.F.	DRY AIR INLET	SS 316/316L
B	ø 1" ANSI B16.5 150# R.F.	NITROGEN OUTLET	C.S.
C	ø 1" ANSI B16.5 150# R.F.	NITROGEN VENT	C.S.
D	ø 1" ANSI B16.5 150# R.F.	CONNECTION TO RECEIVER	C.S.

NAMEPLATE "COES"

MANUFACTURER	COES SRL - STEZZANO (BG)		
SERVICE	NITROGEN GENERATION PACKAGE		
YEAR	2024	SERIAL NUMBER	*****
WEIGHT	5000 kg	ITEM	A-64000
PRESSURE	12 barg	TEMPERATURE	-10°C / 80°C

CE 0425 2014/68/UE - Cat.IV

coes

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	22/07/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)
01	08/05/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)
00	26/03/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PACKAGE GENERAL ARRANGEMENT
NITROGEN GENERATION PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	N/A
DRAWN GT	CHECKED MC	APPROVED TM	DATE 22/07/24
A1	DRAWING NO. 1724000437-MAC-DA-00005	SHEET 001	REV. 02

File Name : 1724000437-MAC-DA-00005

Base Load Power Hub (BLPH)

NITROGEN GENERATION PACKAGE
PACKAGE WIRING DIAGRAM
INCLUDING LAYOUT OF PACKAGE CONTROL PANEL

Document Number: 1724000437-MAC-DG-00009

Document Class: 2

02	22/10/2024	Accepted for Construction (AFC)	GT	MC	TM
01	01/07/2024	Issue for Review (IFR)	GT	MC	TM
00	08/05/2024	Issue for Review (IFR)	GT	MC	TM
Rev.	Date	Description	Prepared	Reviewed	Approved

COES

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

	PREPARED	CHECKED AND APPROVED	CUSTOMER APPROVAL	DATE	DESCRIPTION
	ASSOLARI O.	TIRABOSCHI T.		02.05.2024	FIRST ISSUE
A	ASSOLARI O.	TIRABOSCHI T.		30.05.2024	ACCORDING TO CUSTOMER COMMENTS
B	ASSOLARI O.	TIRABOSCHI T.		01.08.2024	ACCORDING TO CUSTOMER COMMENTS
C					
D					
E					
F					

	PREPARED	CHECKED AND APPROVED	CUSTOMER APPROVAL	DATE	DESCRIPTION
G					
H					
I					
L					
M					
N					

TEST CERTIFICATE N	2024...

ELECTRICAL CABINET	=PLANT +LOCATION	WORK ORDER SERIAL NUMBER

TITLE

COMMAND AND CONTROL SWITCHBOARDS NITROGEN GENERATION PACKAGE 64-LP-001 WIRING DIAGRAM

REF. Netherlands

TECHNICAL AND CONSTRUCTIVE FEATURES

ELECTRICAL

RATED VOLTAGE:

RATED FREQUENCY:
50Hz

RATED CURRENT:
32A

AUXILIARY CIRCUIT SUPPLY:
230Vac~ 24Vdc

SHORT CIRCUIT CURRENT:
10kA

EARTH BUSBAR SECTION:
Cu 20x5 mm²

REFERENCE STANDARDS:
IEC 61439-1

MECHANICALS

DEGREE OF PROTECTION (INT.):
IP20

DEGREE OF PROTECTION (EXT.):
IP66

INTERNAL PAINTING:
RAL7035

EXTERNAL PAINTING:
RAL7035

SEGREGATION FORM:
--

INSTALLATION CONDITIONS

ENVIRONMENT TEMPERATURE:
-5° - 41°C

RELATIVE HUMIDITY:
90%

ALTITUDE:
<= 1000mt s.l.m.

INSTALLATION:
FOR EXTERNAL

CABLE INCOMING:
FROM LOW

CABLE OUTGOING:
FROM LOW

WIRING

COLORS

POWER CIRCUITS:
BLACK

ac AUXILIARY CIRCUITS:
RED

dc AUXILIARY CIRCUITS:
BLUE

CIRCUITS NOT ISOLATED BY GENERAL DEVICE:
ORANGE

EARTH CIRCUITS:
YELLOW/GREEN

SECTIONS

POWER CIRCUITS:
MINIMUM 2,5mm²

AUXILIARY CIRCUITS:
MINIMUM 1,5mm²

ELECTRONIC CIRCUITS:
MINIMUM 0,5mm²

CURRENT MEASURE CIRCUITS:
2,5mm²

VOLTAGE MEAUSURE CIRCUITS:
2,5mm²

CABLE TYPE:
FS17

TERMINALS

AUXILIARY:
2,5mm²

VOLTAGE MEAUSURE CIRCUITS:
6mm² WITH DISCONNECTING SLIDE-LINK

CURRENT MEASURE CIRCUITS:
6mm² WITH DISCONNECTING SLIDE-LINK AND SHORT-CIRCUIT CROSS CONNECT.

THE SECTIONS OF THE WIRE DON'T SPECIFIED ARE mm²; THE COLORS OF THE WIRE DON'T SPECIFIED ARE:

COES S.r.l.
Via Pontida , 265
24040 Stezzano (BG)-Italy
Tel. +39 035 2050 511 Fax +39 035 2050 532
www.coessrl.com coes@coessrl.com

LEVELS	DRAWING N.	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	d241024-WD		01
	WORK ORDER N. 2024.4813_001	LOCATION	NEXT 02
DESCRIPTION: COVER			TOTAL 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

LETTER	TYPE OF COMPONENT	EXAMPLE	MARK
A	ASSEMBLED	LASER MASER REGULATOR	A
		TRANSISTOR AMPLIFIER INTEGRATED CIRCUITS AMPLIFIER MAGNETIC AMPLIFIER VALVE AMPLIFIER	AD AJ - AP AM - AT AV - AR
B	TRASDUCER OF QUANTITY NON-ELECTIC TO ELECTRIC OR VICEVERSA	PHOTOELECTRIC CELL ELECTRIC DYNAMOMETER CRISTAL TRASDUCER MICROPHONE PICK-UP LOUDSPEAKER SYNCRONOUS TRANSMITTER	B
		TRANSDUCER OR ANALOGIC SENSOR OR NUMERIC WITH MULTIPLE STEPS (USABLE FOR INDICATION OR THE MEASURE): PRESSURE TRANSDUCER POSITION TRANSDUCER ROTATION TRANSDUCER (TACHOMETRIC GENERATOR) TEMPERATURE TRANSDUCER VELOCITY TRANSDUCER	 BP BQ BR BT BV
C	CAPACITORS	CAPACITORS	C
D	BYNARY ELEMENTS DEVICE OF DELAY DEVICE OF STORAGE	DEVICE AND INTEGRATED CIRCUITS DIGITAL: DELAY LINE ELEMENT BISTABLE ELEMENT MONOSTABLE RECORDER MEMORY MAGNETIC RECORDER ON TAPE OR ON DISC	D
E	MATERIALS SUNDRIES	DEVICE NOT SPECIFIED IN THIS TABLE	E
		HEATER ILLUMINATION LAMP VENTILATOR	EH EL EV
F	PROTECTION DEVICE	OVER-VOLTAGE DEVICE SOURGE ARRESTER	F
		DEVICE OF PROTECTION WITH CURRENT THRESHOLD WITH INSTANTANEOUS ACTION DEVICE OF PROTECTION WITH CURRENT THRESHOLD WITH DELAYED ACTION DEVICE OF PROTECTION WITH CURRENT THRESHOLD WITH INSTANTANEOUS ACTION AND DELAYED FUSE DEVICE OF PROTECTION WITH VOLTAGE THRESHOLD	 FA FR FS FU FV
G	GENERATOR POWER SUPPLY	ROTATING GENERATOR QUARZ OSCILLATOR	G
		BATTERY OF ACCUMULATORS CONVERTER OF FREQUENCY ROTATING OR STATIC POWER SUPPLY	GB GF GS
H	SEGNALLING DEVICE	ACUSTIC SIGNAL OPTICAL / LUMINOUS INDICATOR	HA HL
K	RELAY CONTACTOR	RELÈ ISTANTANEO CON TUTTO O NIENTE O CONTATTORI ISTANTANEO RELÈ BISTABILI O CONTATTORI INTERBLOCCATI (RELÈ CON TUTTO O NIENTE CON ACCOPPIATORE MECCANICO O MAGNETE PERMANENTE) CONTATTORI RELÈ POLARIZZATO RELÈ REED RELÈ TEMPO CON TUTTO O NIENTE (TIMER)	KA KL KM KP KR KT
L	INDUCTOR, REACTOR	INDUCTOR, RECTOR, COIL	L
M	MOTOR	MOTOR	M
N	ANALOG CIRCUIT INTEGRATED	OPERATIONAL AMPLIFIER ANALOG/DIGITAL HYBRID APPARATUS	N

LETTER	TYPE OF COMPONENT	EXAMPLE	MARK
P	TEST DEVICE AND INSTRUMENT	DEVICE OF MEASURE INDICATOR RECORDERS AND INTEGRATORS GENERATOR OF SIGNALS	P
		AMPEROMETER COUNTER OF IMPULSES WATTMETER APPARATUS RECORDER CLOCK / COUNTER OF HOURS OF SERVICE VOLTMETER	PA PC PJ PS PT PV
Q	MANOEUVRE APPARATUS FOR POWER CIRCUITS	SWITCH AUTOMATIC MOTOR PROTECTION DISCONNETTING SWITCH	QF QM QS
R	RESISTOR	FIXED OR VARIABLE (RHEOSTAT) RESISTOR	R
		POTENTIOMETER DERIVATIVE RESISTOR WITH INTRINSIC VARIATION DEPENDENT OF TEMPERATURE (THERMISTOR) RESISTOR WITH INTRINSIC VARIATION DEPENDENT OF VOLTAGE (VARISTOR)	RP RS RT RV
S	COMMAND OR CONTROL APPARATUS	SELECTOR OR COMMUTATOR PUSH BUTTON (INTO DEVICE ELECTRONIC OF COMMAND WITH PROXIMITY) SENSORS WITH ALL OR NOTHING NUMERIC (WITH STEP SINGLE) OF NATURE MECCANIC AND ELECTRONIC: - SENSOR OF LEVEL OF LIQUID - SENSOR OF PRESSURE - SENSOR OF POSITION (INTO OF PROXIMITY) - SENSOR OF ROTATION - SENSOR OF TEMPERATURE	SA SB SL SP SQ SR ST
T	TRANSFORMER	CURRENT TRANSFORMER COMMAND CIRCUITS POWER SUPPLY TRANSFORMER POWER TRANSFORMER MAGNETIC STABILIZER VOLTAGE TRANSFORMER	TA TC TM TS TV
U	MODULATOR CONVERTER	DISCRIMINATOR DEMODULATOR FREQUENCY CONVERTER ENCODER CONVERTER INVERTER TELEGRAPHIC TRANSLATOR	U
V	ELECTRONIC TUBE SEMICONDUCTOR	ELECTRONIC TUBE GAS DISCHARGE TUBE DIODE TRANSISTOR THYRISTOR	V
		RECTIFIER FOR COMMAND CIRCUITS POWER SUPPLY	VC
W	TRANSMISSION WAYS WAVE GUIDES AERIALS	WIRE CABLE BUS BAR WAVE GUIDE WAVE GUIDE DIRECTIONAL COUPLER DIPOLE PARABOLIC AERIAL	W
X	TERMINAL OUTLET PLUG	CONNECTING BUS BAR TEST PLUG PLUG OUTLET TERMINAL BOARD	XB XJ XP XS XT
Y	APPARATUS MECHANICS ELECTRICALLY OPERATED	ELECTROMAGNET ELECTROMAGNETIC BRAKE ELECTROMAGNETIC FRICTION MAGNETIC MANDREL OR TABLE ELECTROMAGNETIC VALVE	YA YB YC YH YV
Z	TRANSFORMER, IMPEDANCE ADAPTOR EQUALIZER, BAND LIMITER	EQUALIZER OF LINE COMPRESSOR CRYSTAL FILTER	Z

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

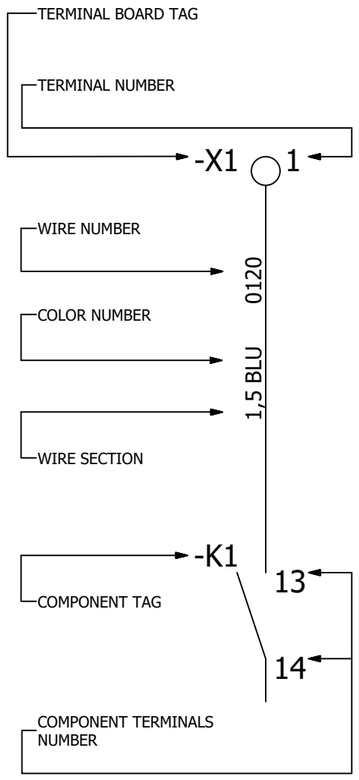
coes 20th coes 1997 - 2017

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 02
DESCRIPTION MARKS OF IDENTIFIERS ACC. TO IEC 204-2	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 03
	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

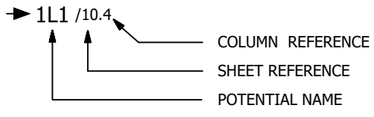
TABLE SYMBOLS

DEFINITION OF IDENTIFIERS (CEI3-34)		
CODE 1	PLANT	=
CODE 2	LOCATION	+
CODE 3	TAG	-
CODE 4	TERMINAL	:

NUMERATION WIRES AND TERMINALS
(CEI 16-1)



POTENTIAL CHAIN

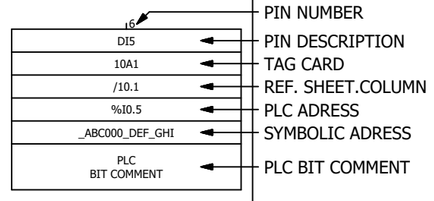


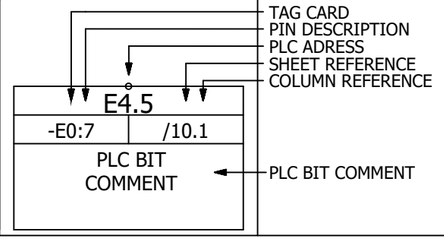
SYMBOL	DESCRIPTION
	TERMINAL
	COLLECTOR BUS-BAR CONNECTION
	FUSE TERMINAL
	FUSE TERMINAL WITH LED
	PUSH BUTTONS
COLOR	HEAD
COLOR	GENERICS
COLOR	LUMINOUS
	SELECTORS
NC	POSITION 0/1
NO	POSITION 1/0/2 FIXED
	POSITION 1/0/2 IMPULSIVE
COLOR	LUMINOUS
	WITH KEY
COLOR COLOR	LED - LAMP
COLOR	LIGHTING BODY FOR OPERATOR LIGHT
	ISOLATED BARRIER (SWITCH AMPLIFIER)
	ISOLATED BARRIER (TEMPERATURE REPEATER)

SYMBOL	DESCRIPTION
	AUXILIARY RELAY POWER RELAY
	TIMED RELAY DELAYED TO EXCITATION
	TIMED RELAY DELAYED TO THE DROP-OUT
	RELAY STEP BY STEP
	POWER CONTACT
	OPEN AND CLOSE AUXILIARY CONTACT
	EXCHANGE AUXILIARY CONTACT
	NORMALLY OPEN NORMALLY CLOSE AUXILIARY CONTACT DELAYED ON OPENING
	NORMALLY OPEN NORMALLY CLOSE AUXILIARY CONTACT DELAYED ON CLOSING
RC	OVERVOTAGE LIMITER

SYMBOL	DESCRIPTION
	TOROIDAL TRANSFORMER
NETWORK ANALIZER	NETWORK ANALIZER
	GENERIC PROTECTION COMMON: -VOLTMETRIC -AMMETRIC -TRANSDUCER
V	VOLTMETER
A	AMMETER
	COMMUTATOR: VOTMETRIC
	AMMETRIC
...n	DIODE MODULE
	Ac/Dc POWER SUPPLY

BIT PLC





SYMBOL	DESCRIPTION
	HORN
	RESISTOR
	OUTLET SOCKET
	FAN
	MECHANICAL INTERLOCKED
	KEY FREE WITH CLOSED DOOR
	KEY FREE
	KEY LOCKED
	CONNECTOR
	LIMIT SWITCH
P>	AIR PRESSURE SWITCH
L	LEVEL SWITCH
F	SENSOR FILTER
T f	THERMOSTAT
	REED MAGNETIC PROXIMITY SENSOR

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

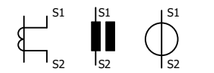
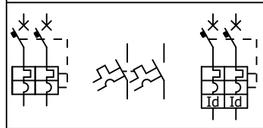
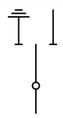
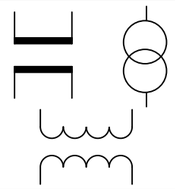
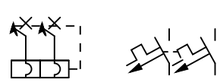
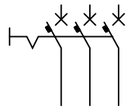
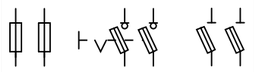
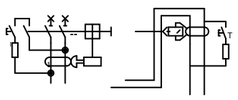
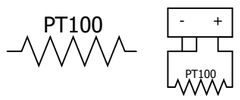
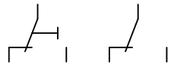
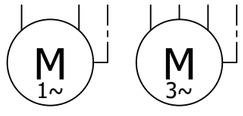
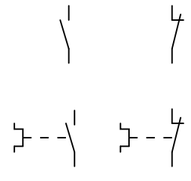
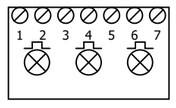
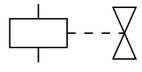
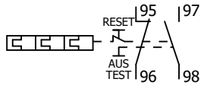
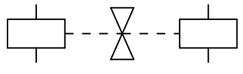
coes 20th coes 1997 - 2017

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
COMMON SYMBOLS

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	03
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	04
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

TABLE SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SWITCH DISCONNETING SWITCH		GEARED MOTOR DEVICE		LINE/EARTH DISCONNECTING SWITCH MEDIUM VOLTAGE		CURRENT TRANSFORMER
	SWITCH: MAGNETOTHERMAL MAGNETOTERMAL+DIFFERENTIAL	YO	OPENING COIL		LINE/EARTH DISCONNECTING SWITCH MEDIUM VOLTAGE		VOLTAGE TRANSFORMER
		YC	CLOSING COIL				
		YU	MINIMUM VOLTAGE COIL				POWER TRANSFORMER
	AUTOMATIC SWITCH		CAPACITOR POLARIZD CAPACITOR		MEDIUM VOLTAGE SWITCH		
	DISCONNETTING SWITCH WITH FUSE		REACTOR		EARTH DISCONNETTING SWITCH MEDIUM VOLTAGE		
	DIFFERENTIAL SWITCH MINIATURE DIFFERENTIAL		THERMIC PROBE PT100		CAPACITIVE LIVE LINE INDICATOR		
	SOURGE ARRESTER		THERMOCOUPLE				
	EXCHANGE AUXILIARY CONTACT OF: -POSITION -SIGNALLING FOR SWITCH-DISCONNECTOR		ASYNCHRONOUS MOTOR SINGLE-PHASE THREE-PHASE				
	NORMALLY OPEN/CLOSE AUXILIARY CONTACT FOR: -SWITCH-DISCONNECTING SWITCH -AUTOMATIC/MAGNETOTH. SWITCH -THERMAL RELAY		THREE-PHASE FLASHING-LIGHT				
			SIMPLE SOLENOID VALVE				
	RELAY THERMAL WITH AUXILIARY CONTACTS		DOUBLE SOLENOID VALVE				

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN
	DATE 02.05.2024	APPROVED	LOCATION + QE
DESCRIPTION COMMON SYMBOLS	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD	TOTAL SHEETS 48

PAGE 04 — NEXT 05

INDEX PAGES

PAGE	DATE	PREPARED	DESCRIPTION	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.	DATE	REV.
=NITROGEN+QE/01	02.05.2024	ASSOLARI O.	COVER	30.05.2024	A	01.08.2024	B																				
=NITROGEN+QE/02	02.05.2024	ASSOLARI O.	MARKS OF IDENTIFIERS ACC. TO IEC 204-2	30.05.2024	A																						
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=NITROGEN+QE/22	02.05.2024	ASSOLARI O.	SAFETY RELAY 24Vdc	30.05.2024	A																						
=NITROGEN+QE/25	02.05.2024	ASSOLARI O.	NETWORK ARCHITECTURE	30.05.2024	A																						
=NITROGEN+QE/30	02.05.2024	ASSOLARI O.	PLC CONFIGURATION			01.08.2024	B																				
=NITROGEN+QE/35	02.05.2024	ASSOLARI O.	SUMMARY CPU	30.05.2024	A																						
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=NITROGEN+QE/42	02.05.2024	ASSOLARI O.	SUMMARY CARDS I/O RACK	30.05.2024	A																						
=NITROGEN+QE/43	02.05.2024	ASSOLARI O.	SUMMARY CARD PN COUPLER AND SWITCH SCALANCE																								
=NITROGEN+QE/44	02.05.2024	ASSOLARI O.	POWER SUPPLY CPU AND CARDS I/O RACK	30.05.2024	A																						
=NITROGEN+QE/45	02.05.2024	ASSOLARI O.	POWER SUPPLY PN/PN COUPLER																								
=NITROGEN+QE/46	02.05.2024	ASSOLARI O.	DIGITAL INPUT I/O RACK	30.05.2024	A																						
=NITROGEN+QE/47	02.05.2024	ASSOLARI O.	DIGITAL INPUT I/O RACK	30.05.2024	A																						
=NITROGEN+QE/48	02.05.2024	ASSOLARI O.	DIGITAL INPUT I/O RACK	30.05.2024	A																						
=NITROGEN+QE/49	02.05.2024	ASSOLARI O.	DIGITAL INPUT I/O RACK			01.08.2024	B																				
=NITROGEN+QE/51	02.05.2024	ASSOLARI O.	DIGITAL OUTPUT I/O RACK	30.05.2024	A																						
=NITROGEN+QE/52	02.05.2024	ASSOLARI O.	DIGITAL OUTPUT I/O RACK	30.05.2024	A	01.08.2024	B																				
=NITROGEN+QE/53	02.05.2024	ASSOLARI O.	DIGITAL OUTPUT I/O RACK			01.08.2024	B																				

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 05
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 06
DESCRIPTION INDEX PAGES	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

INDEX PAGES

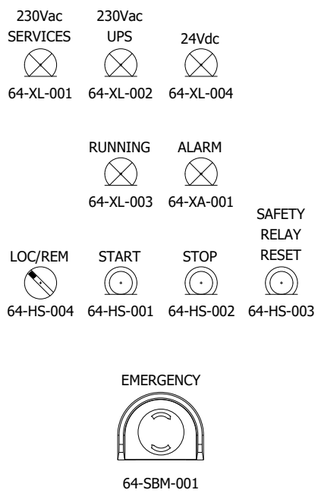
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=NITROGEN+QE/54	02.05.2024	ASSOLARI O.	ANALOG INPUT I/O RACK	30.05.2024	A																						
=NITROGEN+QE/55	02.05.2024	ASSOLARI O.	ANALOG INPUT I/O RACK	30.05.2024	A																						
=NITROGEN+QE/60	02.05.2024	ASSOLARI O.	AUXILIARY CIRCUIT SWTCH 5 PORT PROFINET																								
=NITROGEN+QE/61	02.05.2024	ASSOLARI O.	CONNECTION ProfiNet INTERNAL SWITCHBOARD	30.05.2024	A																						
=NITROGEN+QE/62	02.05.2024	ASSOLARI O.	CONNECTION ProfiNet EXTERNAL SWITCHBOARD	30.05.2024	A																						
=NITROGEN+QE/70	02.05.2024	ASSOLARI O.	TERMINAL BOARD -X1																								
=NITROGEN+QE/71	02.05.2024	ASSOLARI O.	TERMINAL BOARD -X2																								
=NITROGEN+QE/72	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XA	30.05.2024	A																						
=NITROGEN+QE/73	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XDI			01.08.2024	B																				
=NITROGEN+QE/74	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XDI			01.08.2024	B																				
=NITROGEN+QE/75	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XDO			01.08.2024	B																				
=NITROGEN+QE/76	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XY			01.08.2024	B																				
=NITROGEN+QE/77	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XAI																								
=NITROGEN+QE/78	02.05.2024	ASSOLARI O.	TERMINAL BOARD -XAI																								
=NITROGEN+QE/85	02.05.2024	ASSOLARI O.	COMPONENT LIST	30.05.2024	A	01.08.2024	B																				
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=NITROGEN+QE/88	02.05.2024	ASSOLARI O.	COMPONENT LIST	30.05.2024	A	01.08.2024	B																				

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B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

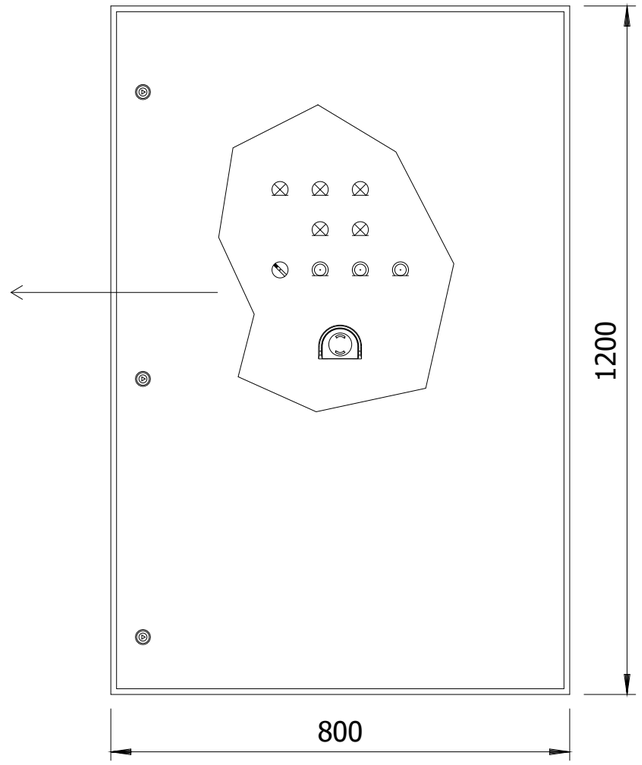
PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 06
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 10
DESCRIPTION INDEX PAGES	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

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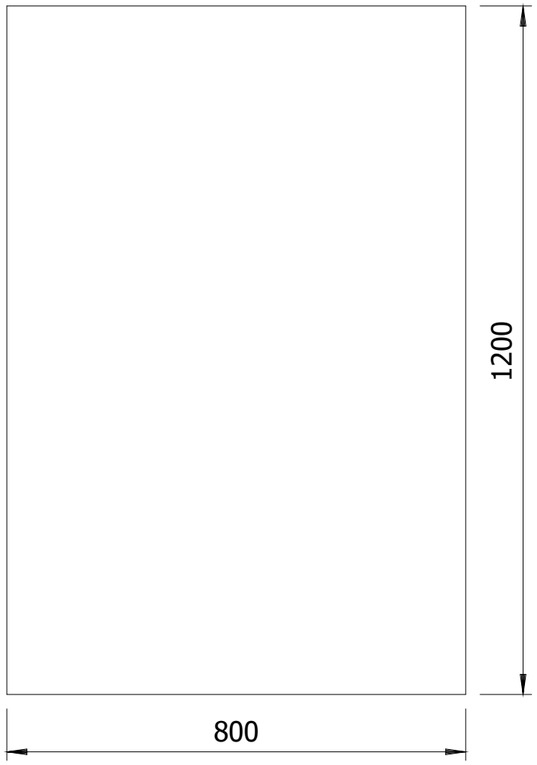
OPERATORS EXAMPLE



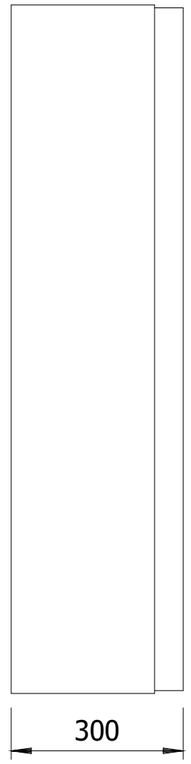
64-LP-001 FRONT



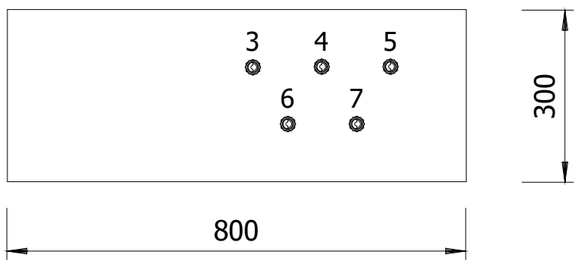
FRONT WITHOUT DOOR



SIDE



FRONT BOTTTOM



3 =M20 CABLE "84312-CEL"

4 =M20 CABLE "83111-CEL"

5 =M20 CABLE "C-64-XS-001/B400-SIS-001"

6 =M20 CABLE "C-64-XA-003/B400-SIS-001"

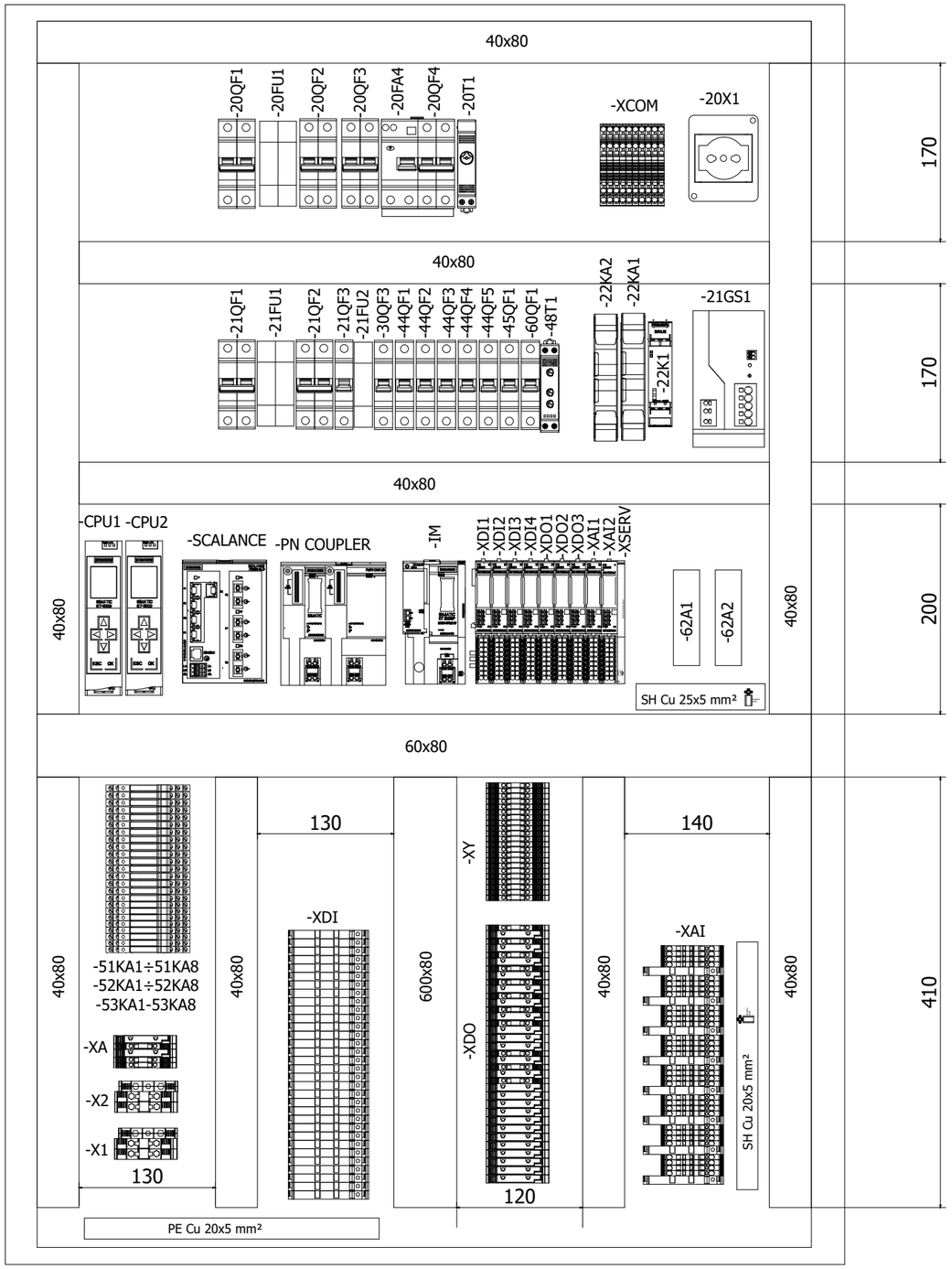
7 =M20 CABLE "64-LP-001/B400-NET-001"

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024				
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: EXTERNAL VIEWS	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48
			PAGE: 10
			NEXT: 11

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64-LP-001
INTERNAL



							PLANT	PREPARED	CHECKED	PLANT	PAGE
							COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	11
								DATE	APPROVED	LOCATION	NEXT
A	30.05.2024	O.A.					DESCRIPTION	02.05.2024		+ QE	20
REV.	DATE	PREPARED	REV.	DATE	PREPARED		INTERNAL VIEWS	WORK ORDER N	DRAWING N		TOTAL SHEETS
								2024.4813_001	d241024-WD		48

RM REFERENCE: 123A90-DDL-EL-DGF-20149 details electrical interface to Package systems

INCOMING LINE 230VAC
SERVICES - from DP-200N1

L N PE

-X1 1 2 PE

L230 N230

-20QF1
S202M C
32A

1L230 1N230 1L230 1N230

-20FU1
500V
10x38
2A

2000 2001

64-XL-001
230..240V
WHITE

X1 X2

VOLTAGE ON
SERVICES
230Vac

230Vac

1L230 1N230

-20QF2
S202M C
2A

2002 2003

-20S1

2004

PE

Y.G

X2

-20H1

X1

INTERNAL
LIGHTING

2005 2006

-20T1
/20.12
panel thermostat/hygrostat
1P - 10A
FINDER
7T.51.0.230.4360

A1 A2

1L230 1N230

-20QF3
S202M C
2A

2005 2006

-20T1
/20.9
panel thermostat/hygrostat
1P - 10A
7T.51.0.230.4360

2007

PE

L

-20E1
100W

N

ANTICONDENSATE
RESISTOR

1L230 1N230

-20QF4
S202M C
16A

-20FA4
DDA202 AC
25A-30mA

2008 2009

PE

Y.G

L PE N

-20X1
SOCKET 16A

SERVICE
SOCKET

PE = Busbar Switchboard
PE Cu 20x5 mm²

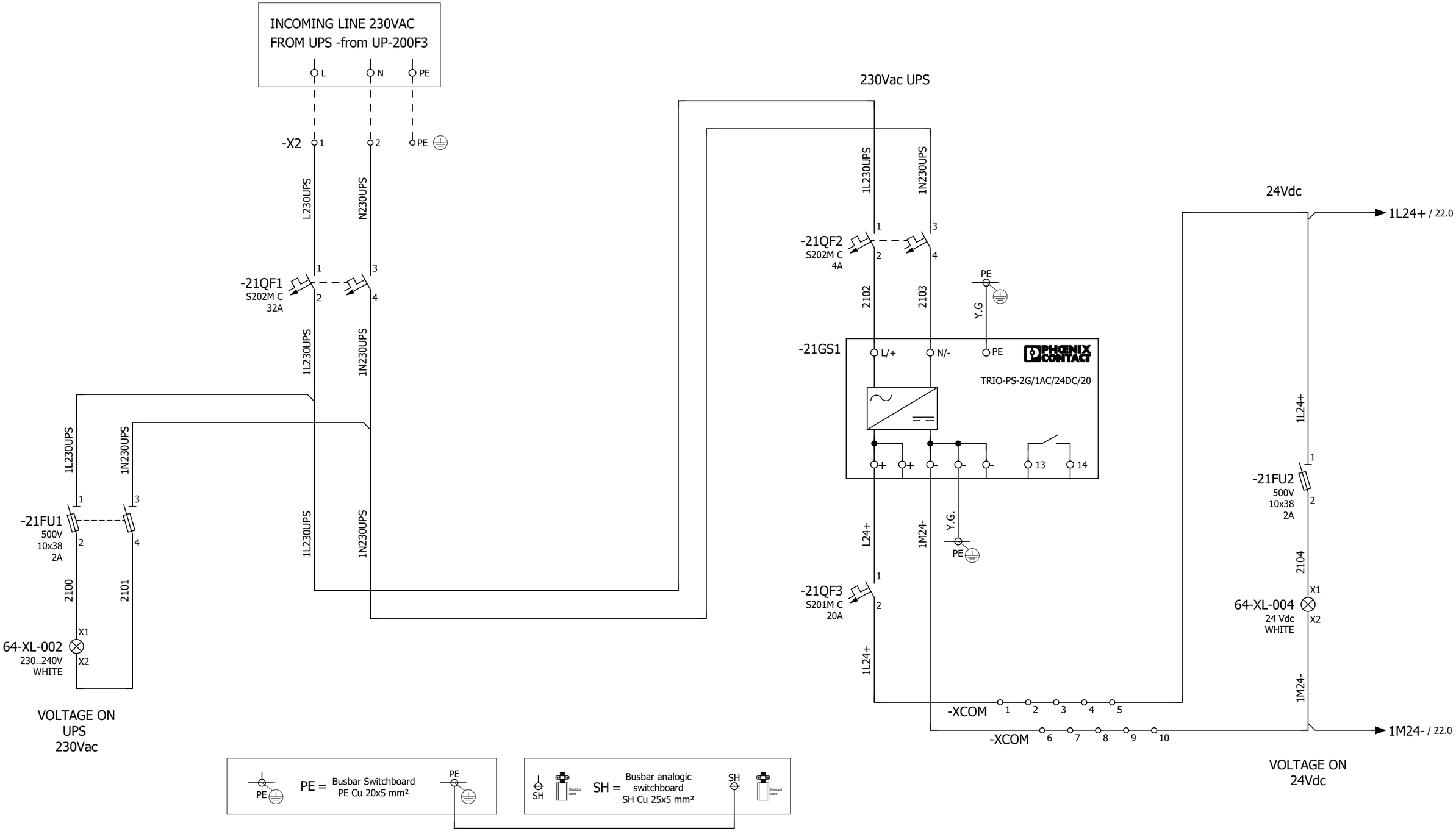
SH = Busbar analogic
switchboard
SH Cu 25x5 mm²

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT	PREPARED	CHECKED	PLANT
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN
DESCRIPTION	DATE	APPROVED	LOCATION
INCOMING LINE 230Vac SERVICES	02.05.2024		+ QE
	WORK ORDER N	DRAWING N	
	2024.4813_001	d241024-WD	

PAGE	NEXT	TOTAL SHEETS
20	21	48

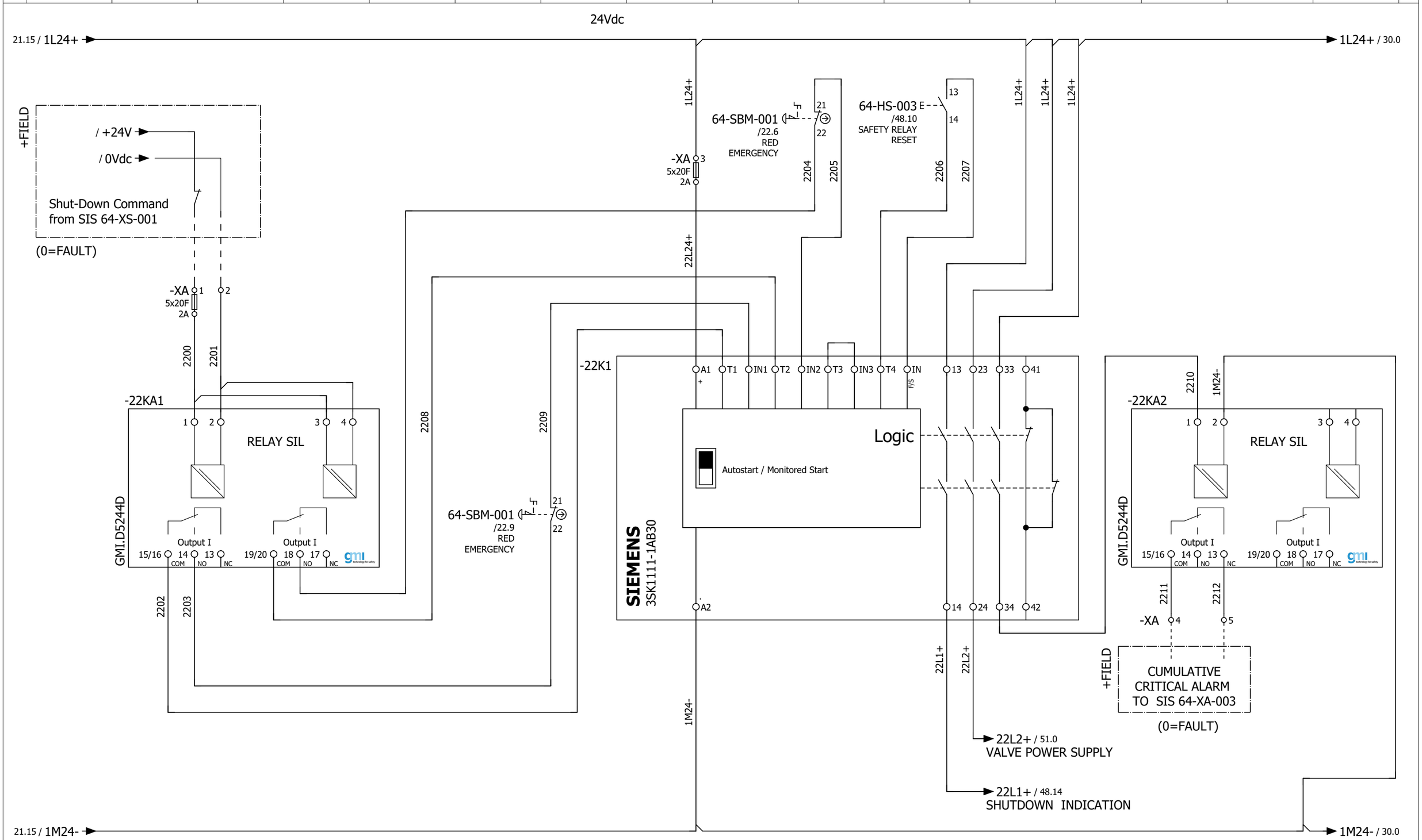
RM REFERENCE: 123A90-DDL-EL-DGF-20149 details electrical interface to Package systems



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: INCOMING LINE 230Vac FROM UPS	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

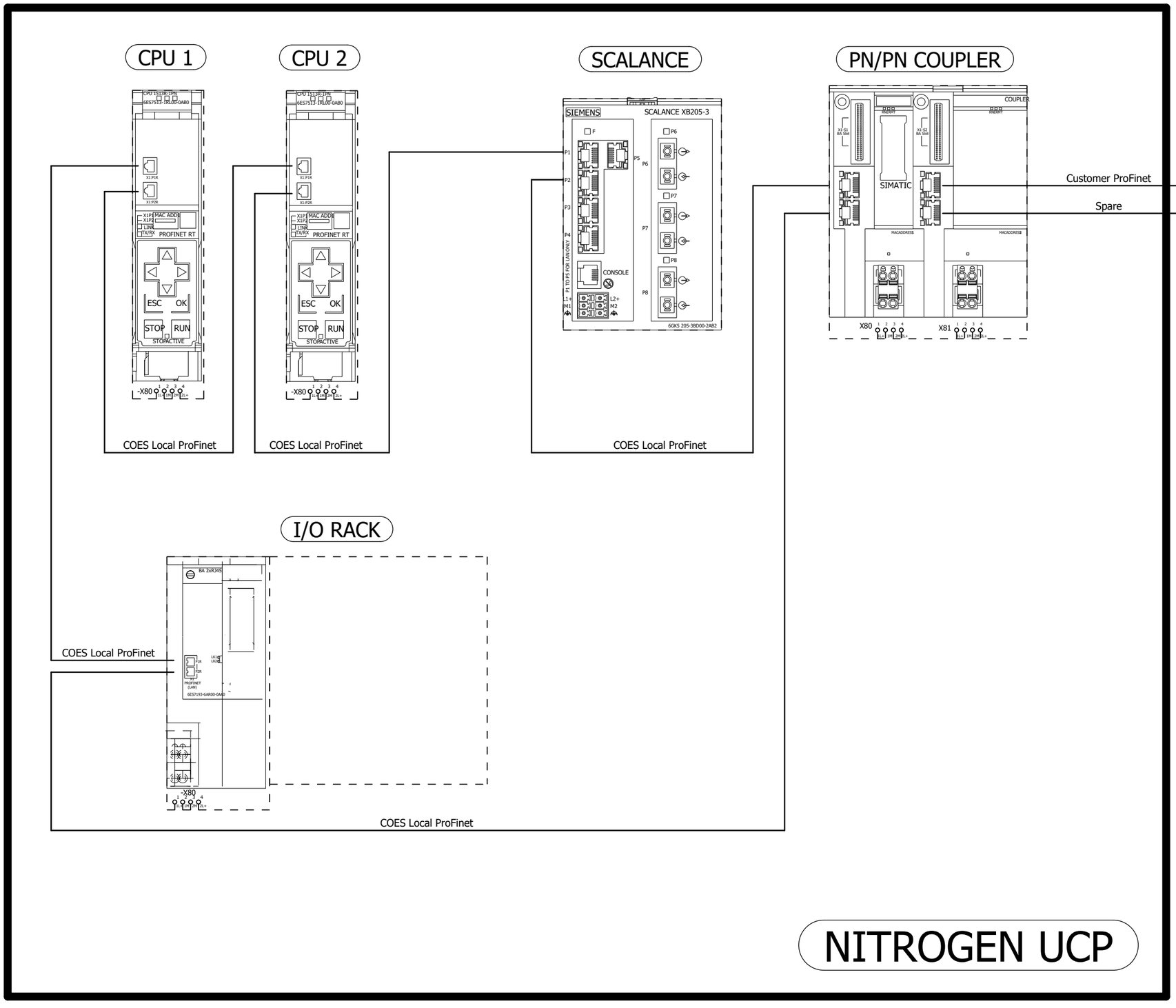
PAGE	NEXT
21	22



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: SAFETY RELAY 24Vdc	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

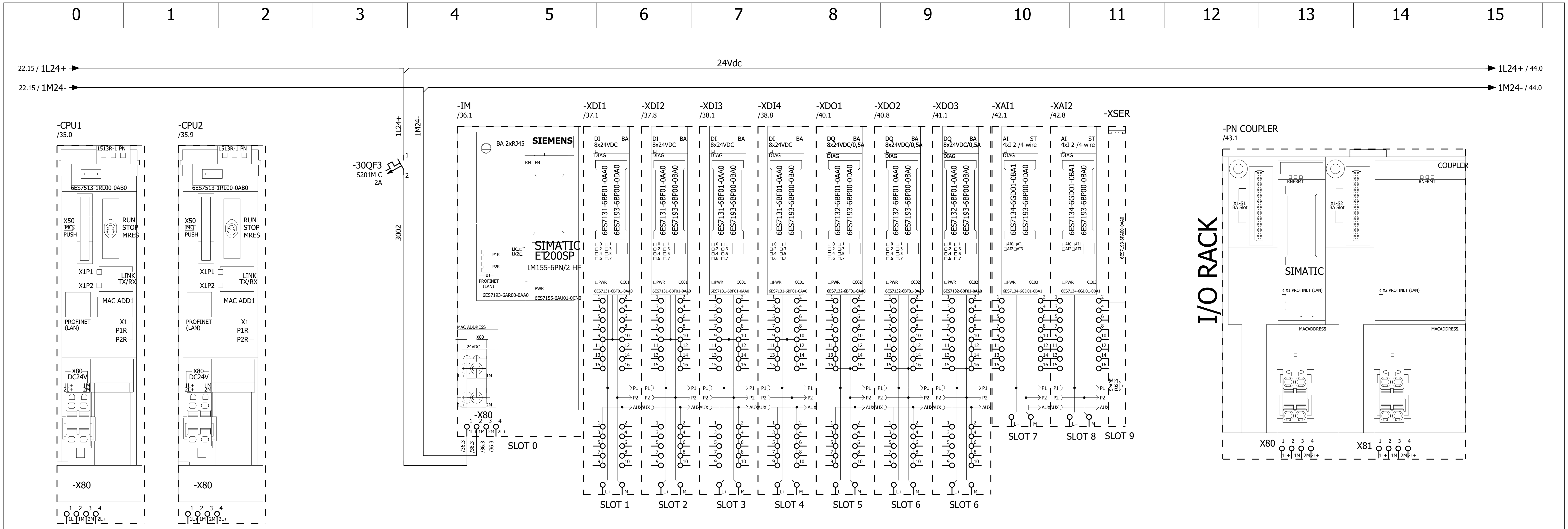
PAGE	NEXT
22	25



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: NETWORK ARCHITECTURE	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

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REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 30
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 35
DESCRIPTION PLC CONFIGURATION	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

-CPU1
/30.0
/44.10
SIE.6ES7513-1RL00-0AB0
SIE.6ES7954-8LF03-0AA0

S7-1500 SIEMENS
CPU 1513 R

X1P1 R: PN — /61.1
X1P2 R: PN — /61.2

-X80:1 1L+ — /44.10 POWER SUPPLY CPU 1513R-1PN - CPU1
-X80:2 1M — /44.10
-X80:3 2M — /44.10
-X80:4 2L+ — /44.11

6ES7513-1RL00-0AB0

-CPU2
/30.1
/44.13
SIE.6ES7513-1RL00-0AB0
SIE.6ES7954-8LF03-0AA0

S7-1500 SIEMENS
CPU 1513 R

X1P1 R: PN — /61.5
X1P2 R: PN — /61.6

-X80:1 1L+ — /44.13 POWER SUPPLY CPU 1513R-1PN - CPU2
-X80:2 1M — /44.13
-X80:3 2M — /44.13
-X80:4 2L+ — /44.13

6ES7513-1RL00-0AB0

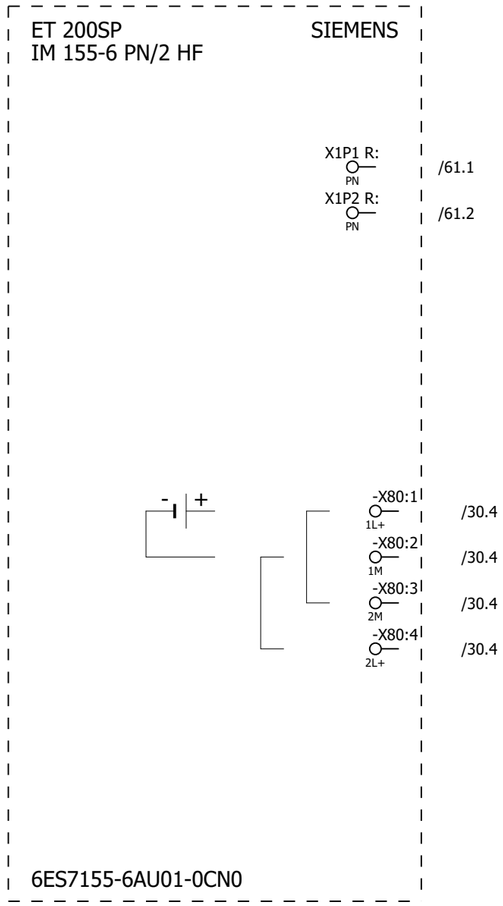
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 35
DESCRIPTION: SUMMARY CPU	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 36
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

/30.4
-IM
SIE.6ES7155-6AU01-0CN0
SIE.6ES7193-6AR00-0AA0



REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 36
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 37
DESCRIPTION SUMMARY CARDS I/O RACK	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7131-6BF01-0AA0
6ES7193-6BP00-0DA0

-XDI1
/30.5

0	%I0.0	1 DI0	/46.0	64-ZSH-051	VALVE 64-XV-051 OPEN LIMIT SWITCH	
0		9 24VDC				
1	%I0.1	2 DI1	/46.2	64-ZSL-051	VALVE 64-XV-051 CLOSED LIMIT SWITCH	
1		10 24VDC				
2	%I0.2	3 DI2	/46.4	64-ZSH-052	VALVE 64-XV-052 OPEN LIMIT SWITCH	
2		11 24VDC				
3	%I0.3	4 DI3	/46.6	64-ZSL-052	VALVE 64-XV-052 CLOSED LIMIT SWITCH	
3		12 24VDC				
4	%I0.4	5 DI4	/46.8	64-ZSH-053	VALVE 64-XV-053 OPEN LIMIT SWITCH	
4		13 24VDC				
5	%I0.5	6 DI5	/46.10	64-ZSL-053	VALVE 64-XV-053 CLOSED LIMIT SWITCH	
5		14 24VDC				
6	%I0.6	7 DI6	/46.12	64-ZSH-0514	VALVE 64-XV-054 OPEN LIMIT SWITCH	
6		15 24VDC				
7	%I0.7	8 DI7	/46.14	64-ZSL-054	VALVE 64-XV-054 CLOSED LIMIT SWITCH	
7		16 24VDC				
		L+ 24VDC	/44.1		POWER SUPPLY WHITE CARD DIGITAL INPUT -XDI1	
		M 0VDC	/44.1			
		SH				

SIEMENS

6ES7131-6BF01-0AA0
6ES7193-6BP00-0BA0

-XDI2
/30.6

0	%I1.0	1 DI0	/47.0	64-ZSH-055	VALVE 64-XV-055 OPEN LIMIT SWITCH	
0		9 24VDC				
1	%I1.1	2 DI1	/47.2	64-ZSL-055	VALVE 64-XV-055 CLOSED LIMIT SWITCH	
1		10 24VDC				
2	%I1.2	3 DI2	/47.4	64-ZSH-056	VALVE 64-XV-056 OPEN LIMIT SWITCH	
2		11 24VDC				
3	%I1.3	4 DI3	/47.6	64-ZSL-056	VALVE 64-XV-056 CLOSED LIMIT SWITCH	
3		12 24VDC				
4	%I1.4	5 DI4	/47.8	64-ZSH-057	VALVE 64-XV-057 OPEN LIMIT SWITCH	
4		13 24VDC				
5	%I1.5	6 DI5	/47.10	64-ZSL-057	VALVE 64-XV-057 CLOSED LIMIT SWITCH	
5		14 24VDC				
6	%I1.6	7 DI6	/47.12	64-ZSH-058	VALVE 64-XV-058 OPEN LIMIT SWITCH	
6		15 24VDC				
7	%I1.7	8 DI7	/47.14	64-ZSL-058	VALVE 64-XV-058 CLOSED LIMIT SWITCH	
7		16 24VDC				
		L+ 24VDC				
		M 0VDC				
		SH				

SIEMENS

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

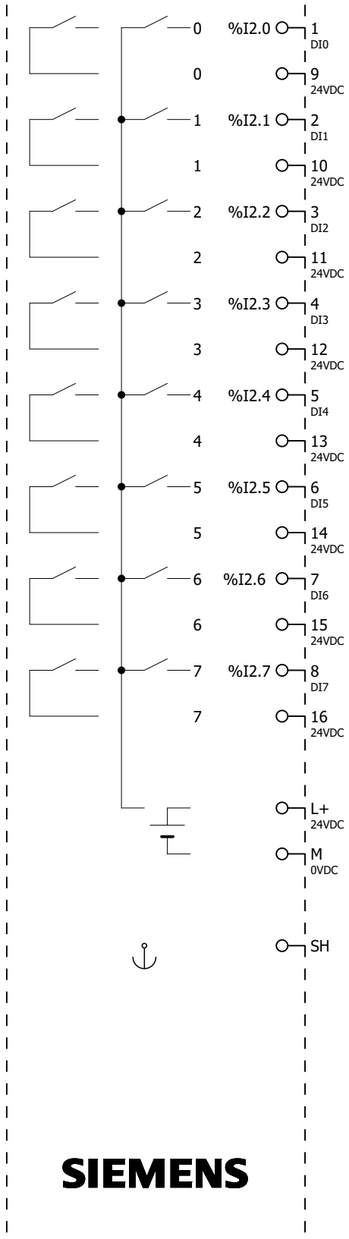
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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SUMMARY CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48
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			NEXT: 38

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7131-6BF01-0AA0
6ES7193-6BP00-0BA0

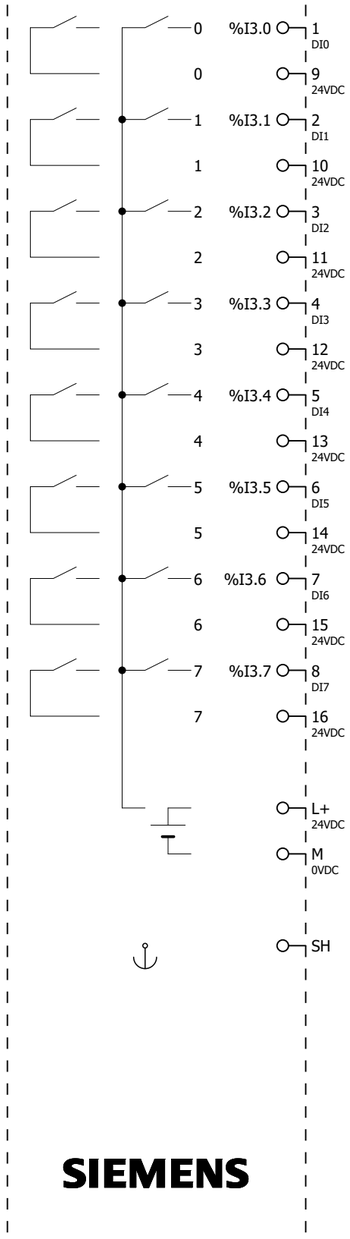
-XDI3
/30.7



%I2.0	/48.0	64-ZSH-059	VALVE 64-XV-059 OPEN LIMIT SWITCH
%I2.1	/48.2	64-ZSL-059	VALVE 64-XV-059 CLOSED LIMIT SWITCH
%I2.2	/48.4	64-TH-001	INTERNAL CABINET THERMOSTAT
%I2.3	/48.6	64-HS-001	LOCAL START PUSH BUTTON
%I2.4	/48.8	64-HS-002	LOCAL STOP PUSH BUTTON
%I2.5	/48.10	64-HS-003	LOCAL ALARM RESET
%I2.6	/48.12	64-HS-004	LOCAL REMOTE SELECTOR STATUS
%I2.7	/48.14	64-ESD-001	SHUTDOWN ALARM FROM SIS - INDICATION ONLY

6ES7131-6BF01-0AA0
6ES7193-6BP00-0BA0

-XDI4
/30.7



%I3.0	/49.0	64-ZSH-060	VALVE 64-XV-060 OPEN LIMIT SWITCH
%I3.1	/49.2	64-ZSL-060	VALVE 64-XV-060 CLOSED LIMIT SWITCH
%I3.2	/49.4	64-ZSH-061	VALVE 64-XV-061 OPEN LIMIT SWITCH
%I3.3	/49.6	64-ZSL-061	VALVE 64-XV-061 CLOSED LIMIT SWITCH
%I3.4	/49.8		SPARE
%I3.5	/49.10		SPARE
%I3.6	/49.12		SPARE
%I3.7	/49.14		SPARE

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

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PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
SUMMARY CARDS I/O RACK

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	38
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	40
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7132-6BF01-0AA0
6ES7193-6BP00-0DA0

-XDO1
/30.8

0	%Q0.0	1 DQ0	/51.0	64-XV-051	VALVE 64-XV-051 COMMAND	
0		9 M				
1	%Q0.1	2 DQ1	/51.2	64-XV-052	VALVE 64-XV-052 COMMAND	
1		10 M				
2	%Q0.2	3 DQ2	/51.4	64-XV-053	VALVE 64-XV-053 COMMAND	
2		11 M				
3	%Q0.3	4 DQ3	/51.6	64-XV-054	VALVE 64-XV-054 COMMAND	
3		12 M				
4	%Q0.4	5 DQ4	/51.8	64-XV-055	VALVE 64-XV-055 COMMAND	
4		13 M				
5	%Q0.5	6 DQ5	/51.10	64-XV-056	VALVE 64-XV-056 COMMAND	
5		14 M				
6	%Q0.6	7 DQ6	/51.12	64-XV-057	VALVE 64-XV-057 COMMAND	
6		15 M				
7	%Q0.7	8 DQ7	/51.14	64-XV-058	VALVE 64-XV-058 COMMAND	
7		16 M				
		L+ 24VDC	/44.3		POWER SUPPLY WHITE CARD DIGITAL OUTPUT -XDO1	
		M 0VDC	/44.3			
		SH				

SIEMENS

6ES7132-6BF01-0AA0
6ES7193-6BP00-0BA0

-XDO2
/30.8

0	%Q1.0	1 DQ0	/52.0	64-XV-059	VALVE 64-XV-059 COMMAND	
0		9 M				
1	%Q1.1	2 DQ1	/52.2		SPARE	
1		10 M				
2	%Q1.2	3 DQ2	/52.4	64-XL-003	RUNNING SYSTEM LAMP	
2		11 M				
3	%Q1.3	4 DQ3	/52.6	64-XA-001	GENERAL ALARM SYSTEM LAMP	
3		12 M				
4	%Q1.4	5 DQ4	/52.8	64-XL-003-DCS	NITROGEN GENERATOR RUNNING (TO DCS)	
4		13 M				
5	%Q1.5	6 DQ5	/52.10	64-XA-001-DCS	NITROGEN GENERATOR ALARM (TO DCS)	
5		14 M				
6	%Q1.6	7 DQ6	/52.12	64-XV-060	VALVE 64 XV-060 COMMAND	
6		15 M				
7	%Q1.7	8 DQ7	/52.14	64-XV-061	VALVE 64 XV-061 COMMAND	
7		16 M				
		L+ 24VDC				
		M 0VDC				
		SH				

SIEMENS

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

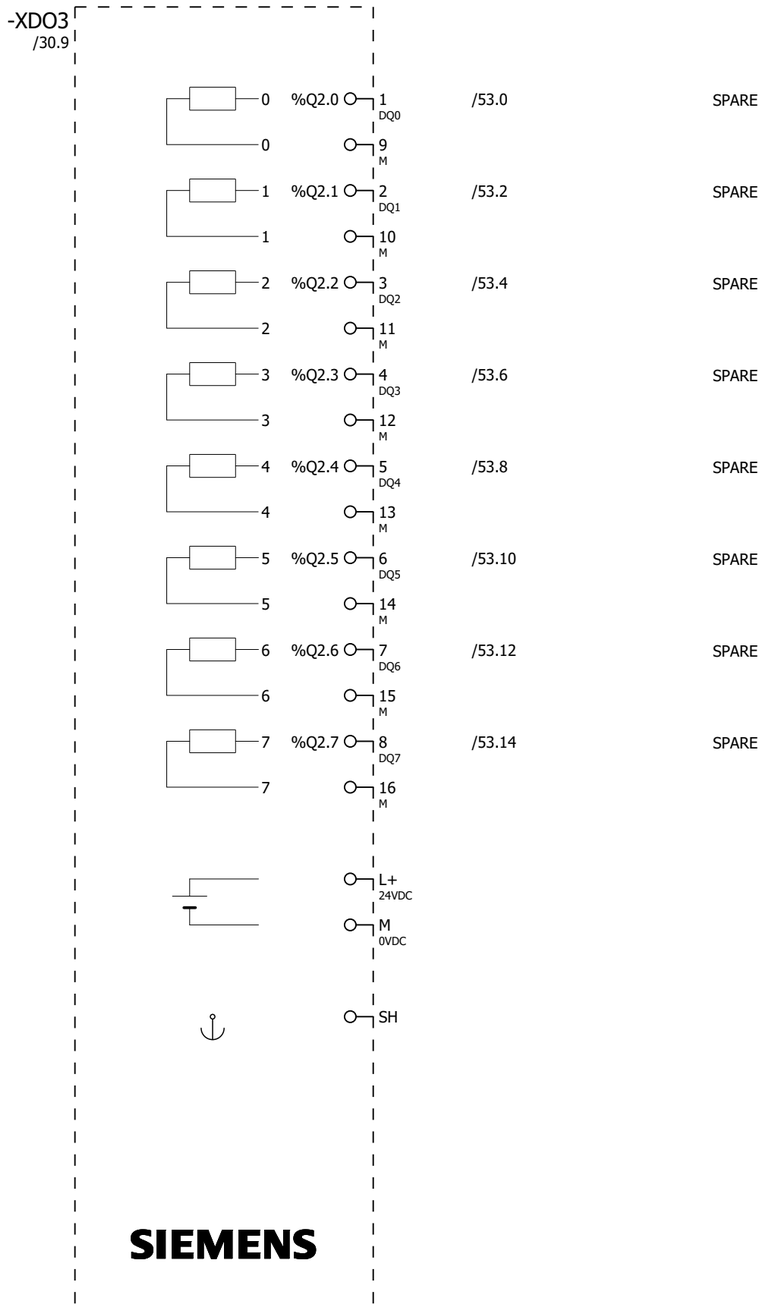
coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SUMMARY CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
40	41	48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

6ES7132-6BF01-0AA0
6ES7193-6BP00-0BA0



/53.0	SPARE	
/53.2	SPARE	
/53.4	SPARE	
/53.6	SPARE	
/53.8	SPARE	
/53.10	SPARE	
/53.12	SPARE	
/53.14	SPARE	

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: SUMMARY CARDS I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

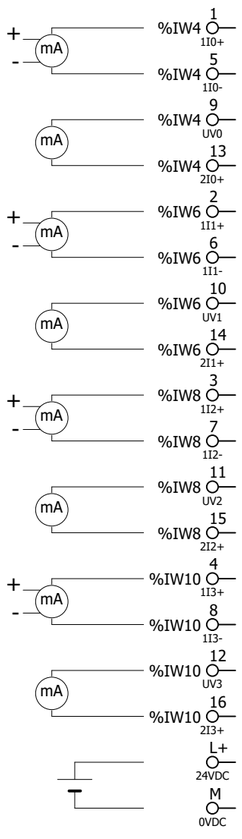
PAGE	NEXT
41	42

/30.9

-XAI1

SIE.6ES7134-6GD01-0BA1
SIE.6ES7193-6BP00-0DA0

ET 200SP SIEMENS
AI 4xI 2-/4-wire ST



%IW4 1I0+	/54.1		
%IW4 1I0-	/54.1		
%IW4 UV0	/54.2	64_PT_051	INLET PRESSUTE TRANSMITTER
%IW4 2I0+	/54.2		
%IW6 1I1+	/54.5		
%IW6 1I1-	/54.5		
%IW6 UV1	/54.6	64_PT_052	TOWER 1 PRESSUTE TRANSMITTER
%IW6 2I1+	/54.6		
%IW8 1I2+	/54.9		
%IW8 1I2-	/54.9		
%IW8 UV2	/54.10	64_PT_053	TOWER 2 PRESSUTE TRANSMITTER
%IW8 2I2+	/54.10		
%IW10 1I3+	/54.13		
%IW10 1I3-	/54.13		
%IW10 UV3	/54.14	64_PT_057	OUTLET B PRESSUTE TRANSMITTER
%IW10 2I3+	/54.14		
L+ 24VDC	/44.6		POWER SUPPLY WHITE CARD ANALOG INPUT -XAI1
M 0VDC	/44.7		

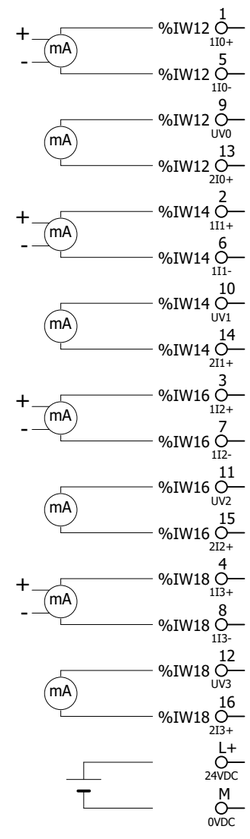
6ES7134-6GD01-0BA1

/30.10

-XAI2

SIE.6ES7134-6GD01-0BA1
SIE.6ES7193-6BP00-0BA0

ET 200SP SIEMENS
AI 4xI 2-/4-wire ST



%IW12 1I0+	/55.1		
%IW12 1I0-	/55.1		
%IW12 UV0	/55.2	64_PT_059	PRESSURE TRANSMITTER INSTRUMENT AIR RECIEVER
%IW12 2I0+	/55.2		
%IW14 1I1+	/55.5		
%IW14 1I1-	/55.5		
%IW14 UV1	/55.6	64_PDIT_056	DIFFERENTIAL PRESSURE TRANSMITTER OUTLET FILTERS
%IW14 2I1+	/55.6		
%IW16 1I2+	/55.9		
%IW16 1I2-	/55.9		
%IW16 UV2	/55.10	64_AT_051	OXYGEN TRANSMITTER
%IW16 2I2+	/55.10		
%IW18 1I3+	/55.13		
%IW18 1I3-	/55.13		
%IW18 UV3	/55.14	_XAI_45	SPARE
%IW18 2I3+	/55.14		
L+ 24VDC			
M 0VDC			

6ES7134-6GD01-0BA1

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
SUMMARY CARDS I/O RACK

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	42
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	43
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

-PN COUPLER
/30.12

6ES7158-3AD10-0XA0
6ES7193-6RA00-1AN0

X80:1 1L+ /45.1 POWER SUPPLY PN/PN COUPLER CARD (X80)
X80:2 1M /45.2
X80:3 2M /45.1
X80:4 2L+ /45.1

K1
X300
X1P1 R: PN /61.9
X1P2 R: PN /61.11
6ES7193-6AF00-0AA0

-K2
X301
X1P1 R: PN /61.12
X1P2 R: PN /61.13
6ES7193-6AF00-0AA0

X81:1 1L+ /45.3 POWER SUPPLY PN/PN COUPLER CARD (X81)
X81:2 1M /45.4
X81:3 2M /45.4
X81:4 2L+ /45.4

SIEMENS

-SCALANCE
/60.1
/60.11
/61.0
/43.10
SIE.6GK5205-3BD00-2AB2

SCALANCE
/43.7

SCALANCE XB205-3 SIEMENS

P1/IE — P1 IE — /61.1
P2/IE — P2 IE — /61.2
P3/IE — P3 IE — /61.2
P4/IE — P4 IE — /61.3
P5/IE — P5 IE — /61.4
CONS/RJ11 — CONS RJ11 — /61.5
P6_RXT/FX — P6_RXT FX — /61.5
P6_TXT/FX — P6_TXT FX — /61.6
P7_RXT/FX — P7_RXT FX — /61.7
P7_TXT/FX — P7_TXT FX — /61.8
P8_RXT/FX — P8_RXT FX — /61.9
P8_TXT/FX — P8_TXT FX — /61.9

SCALANCE XB205-3 SIEMENS

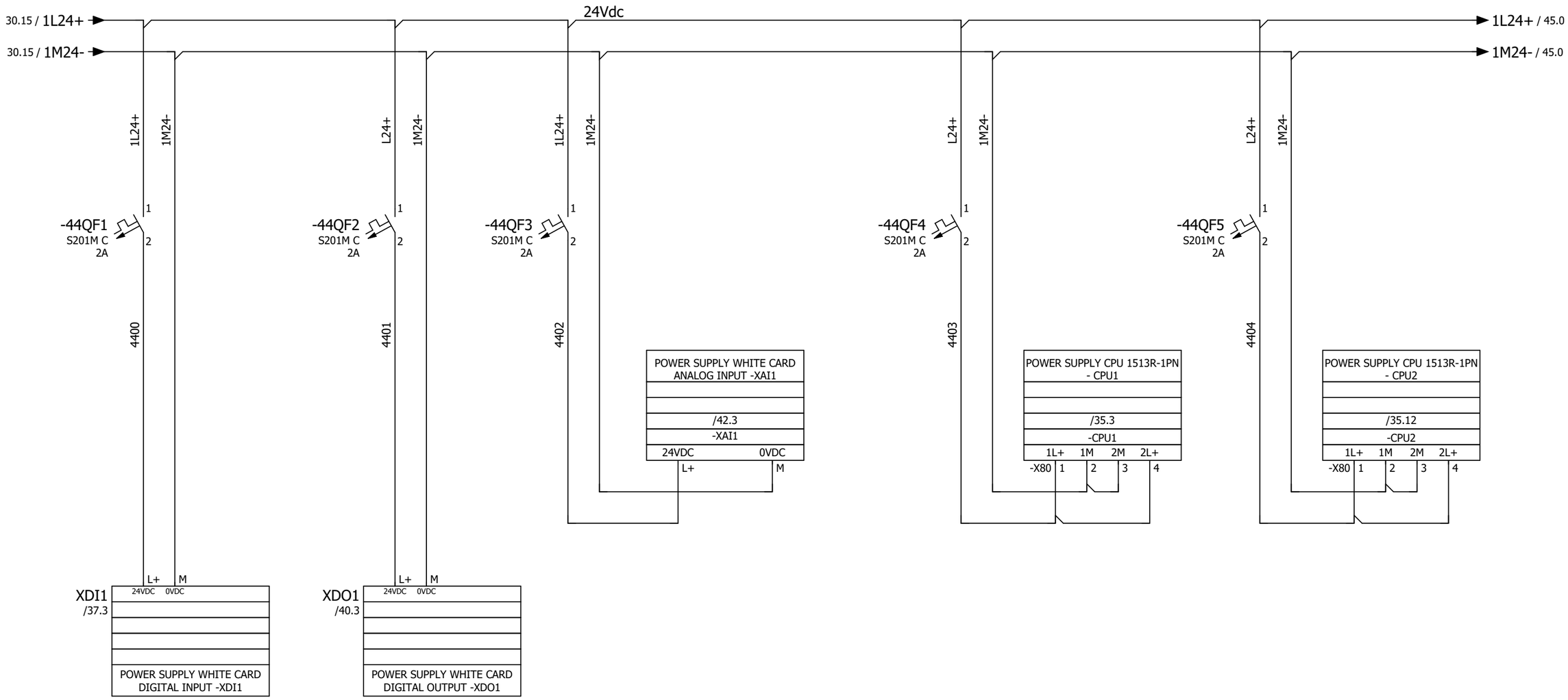
L1+/24VDC — L1+ 24VDC — /60.2
M1/GND — M1 GND — /60.3
FGND1/Functional GND — FGND1 Functional GND — /60.5
L2+/24VDC — L2+ 24VDC — /60.6
M2/GND — M2 GND — /60.7
FGND2/Functional GND — FGND2 Functional GND — /60.9

6GK5205-3BD00-2AB2

REV.	DATE	PREPARED	REV.	DATE	PREPARED

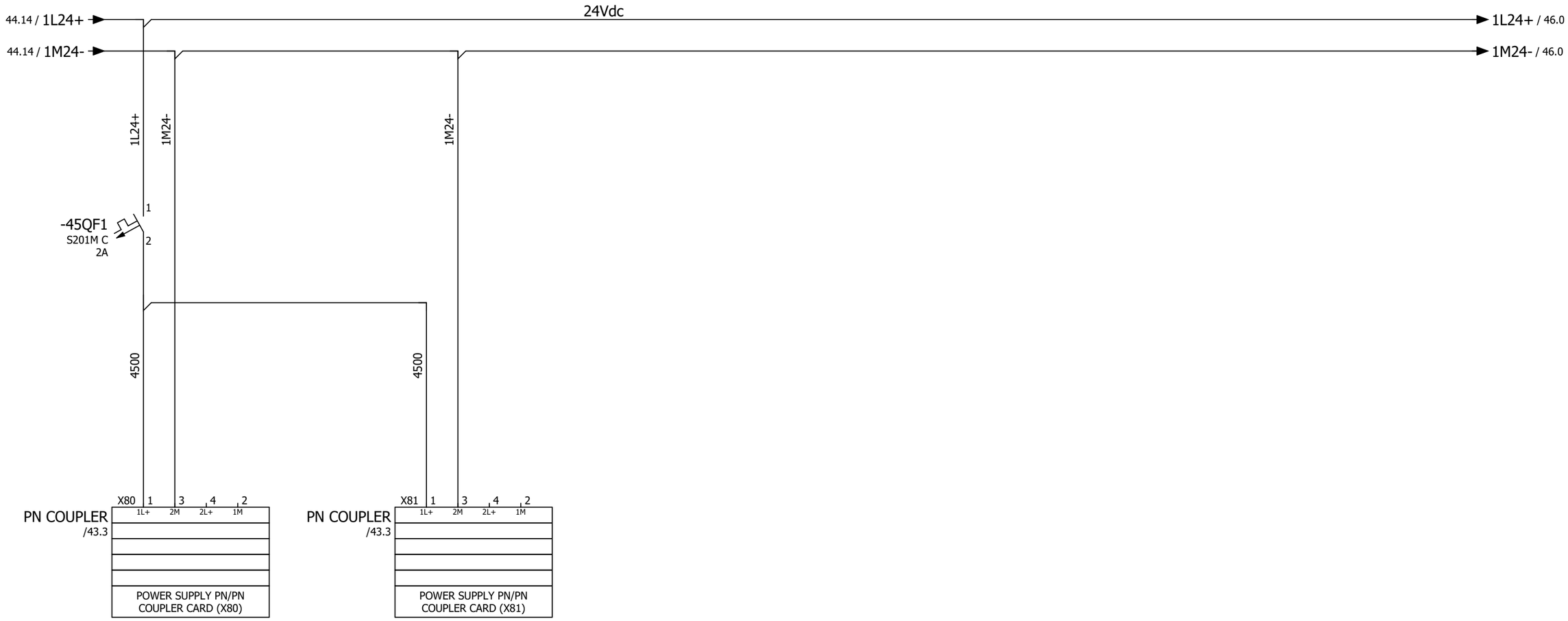
coes 20th 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 43
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 44
DESCRIPTION: SUMMARY CARD PN COUPLER AND SWITCH SCALANCE	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48



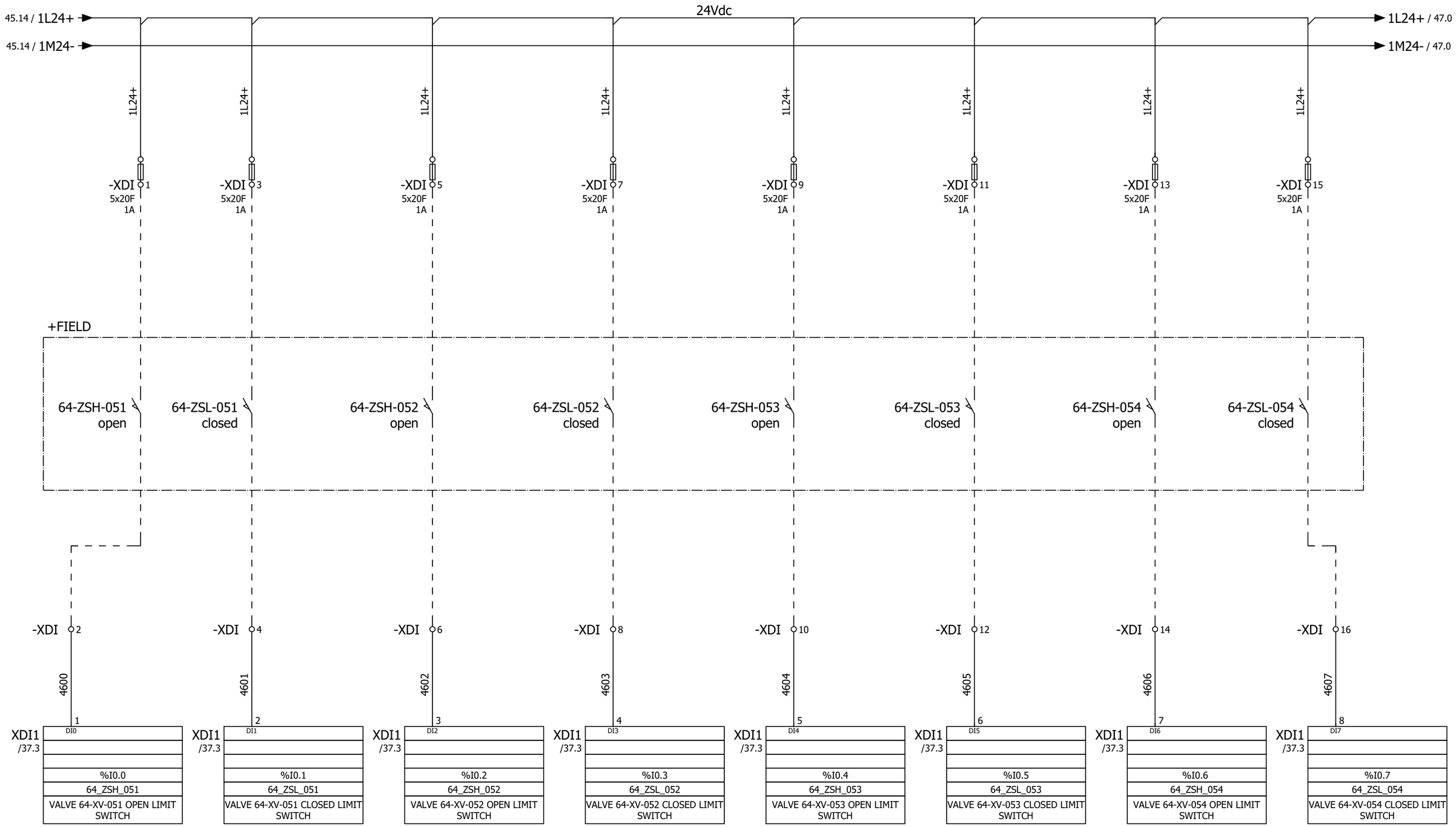
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT	COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED	ASSOLARI O.	CHECKED	TIRABOSCHI T.	PLANT	= NITROGEN	PAGE	44
DESCRIPTION	POWER SUPPLY CPU AND CARDS I/O RACK	DATE	02.05.2024	APPROVED		LOCATION	+ QE	NEXT	45
		WORK ORDER N	2024.4813_001	DRAWING N	d241024-WD			TOTAL SHEETS	48



REV.	DATE	PREPARED	REV.	DATE	PREPARED

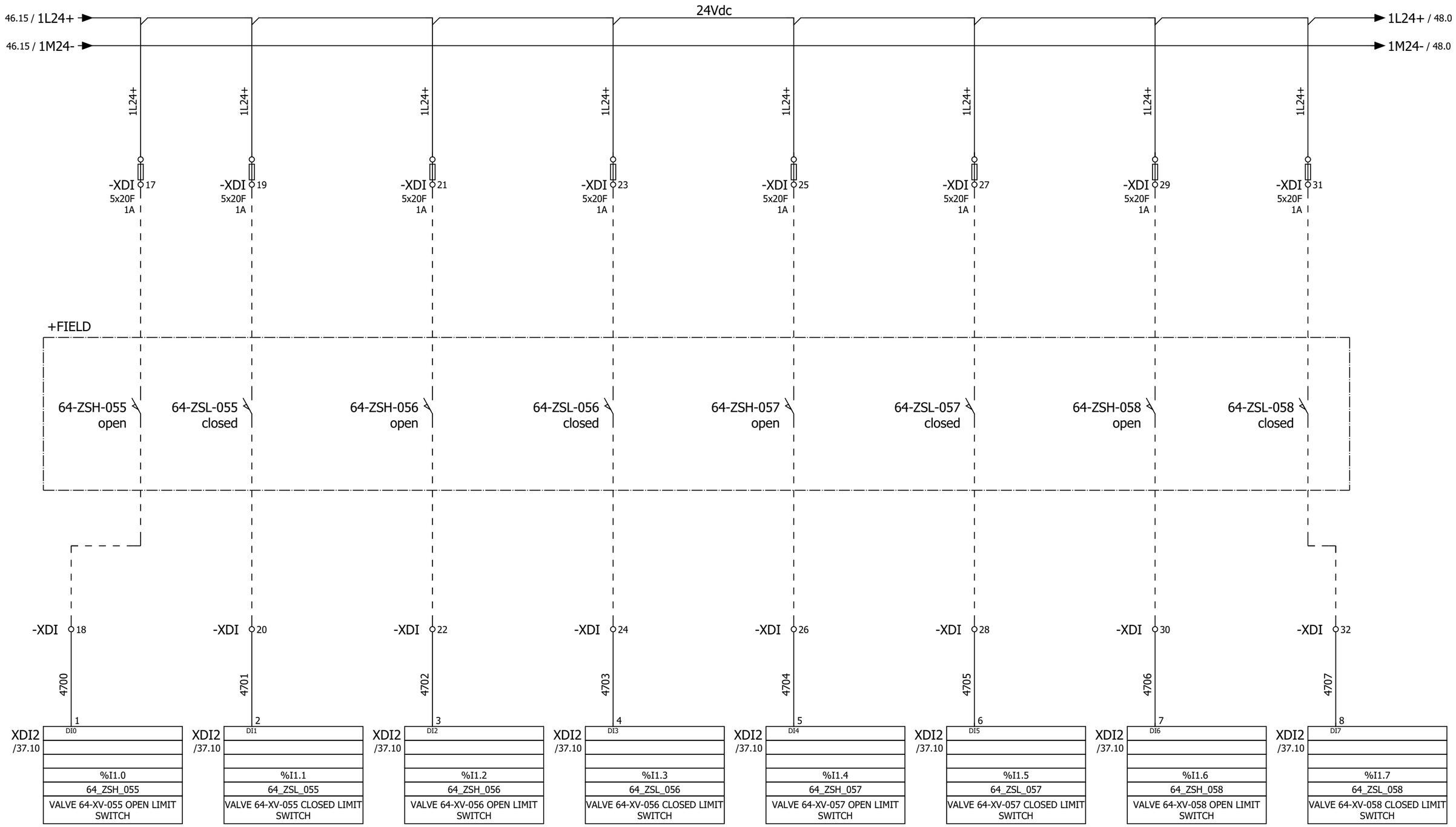
PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 45
DESCRIPTION POWER SUPPLY PN/PN COUPLER	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 46
	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: DIGITAL INPUT I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

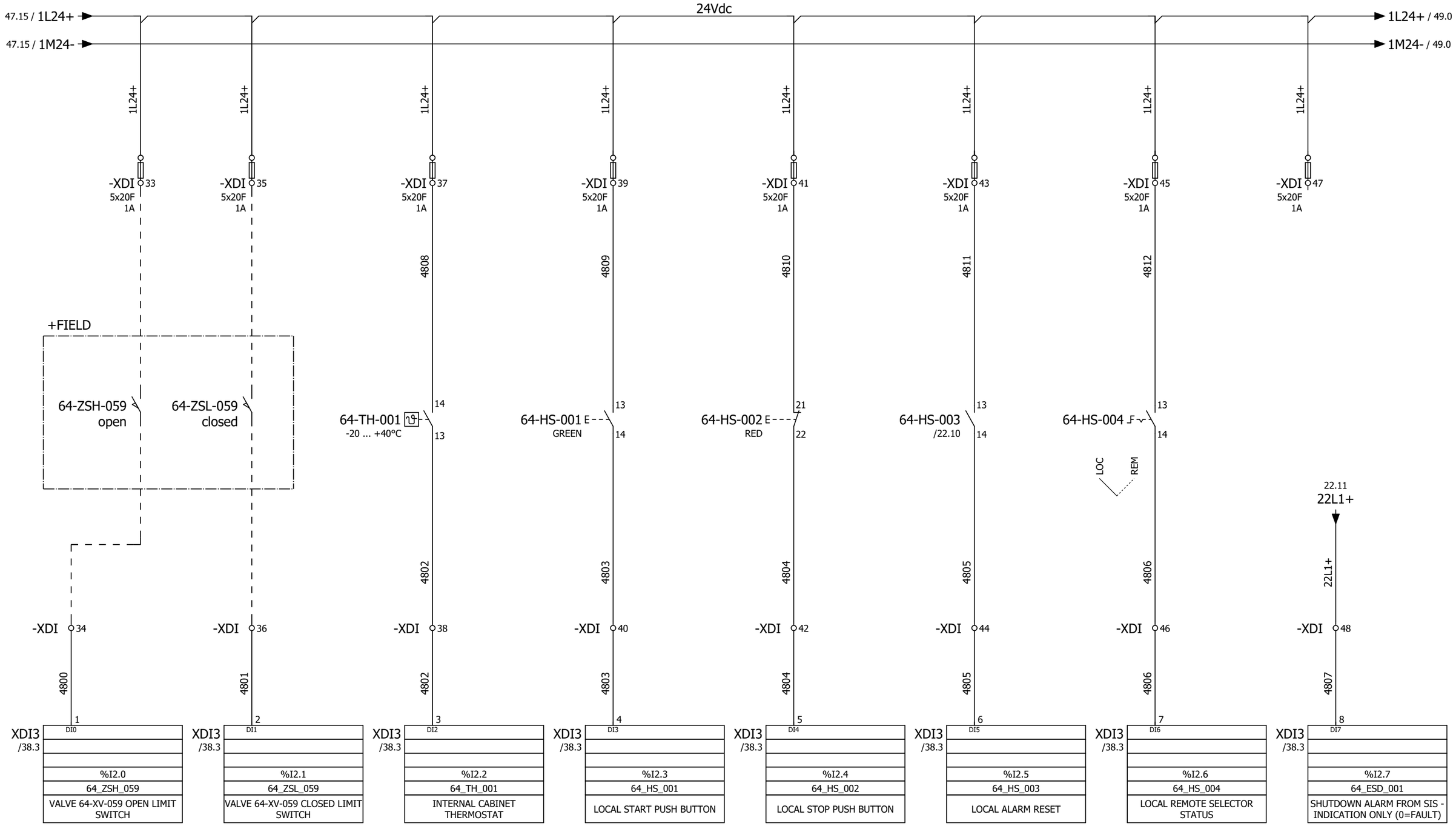
PAGE: 46
NEXT: 47



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

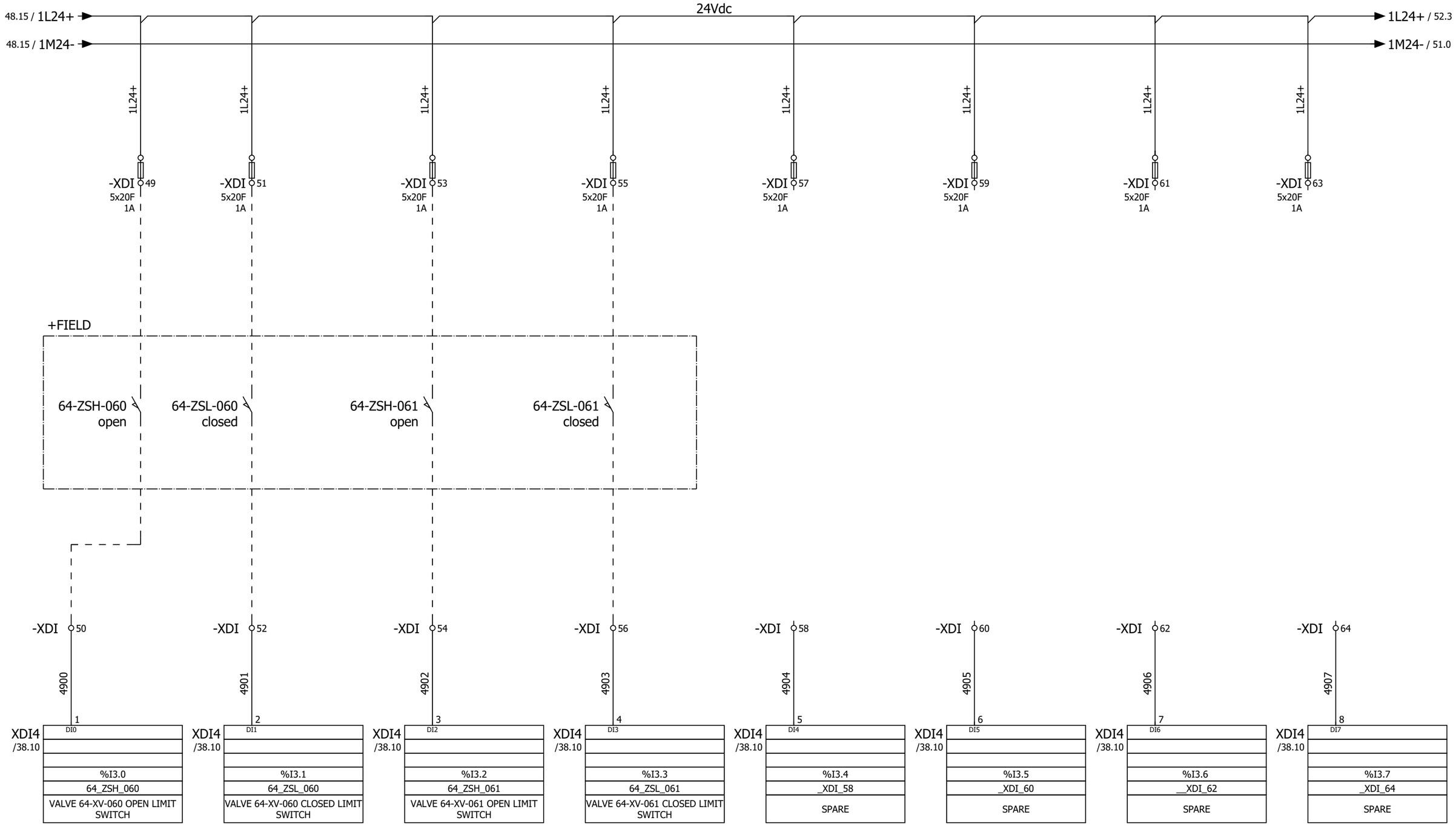
PLANT	COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED	ASSOLARI O.	CHECKED	TIRABOSCHI T.
DESCRIPTION	DIGITAL INPUT I/O RACK	DATE	02.05.2024	APPROVED	
		WORK ORDER N	2024.4813_001	DRAWING N	d241024-WD

PLANT	= NITROGEN	PAGE	47
LOCATION	+ QE	NEXT	48
		TOTAL SHEETS	48



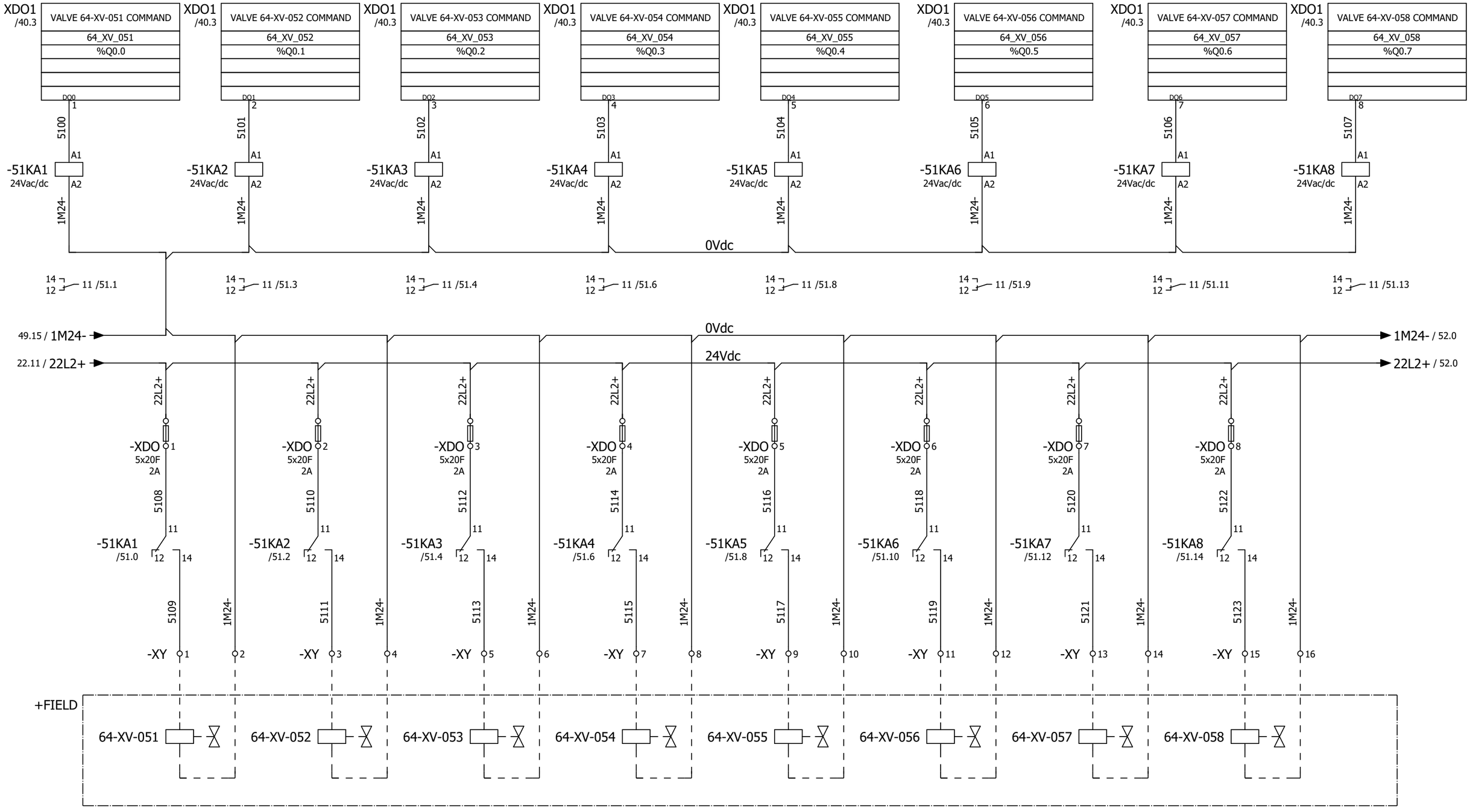
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 48
DESCRIPTION: DIGITAL INPUT I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 49
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48



REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: DIGITAL INPUT I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48
			PAGE: 49
			NEXT: 51

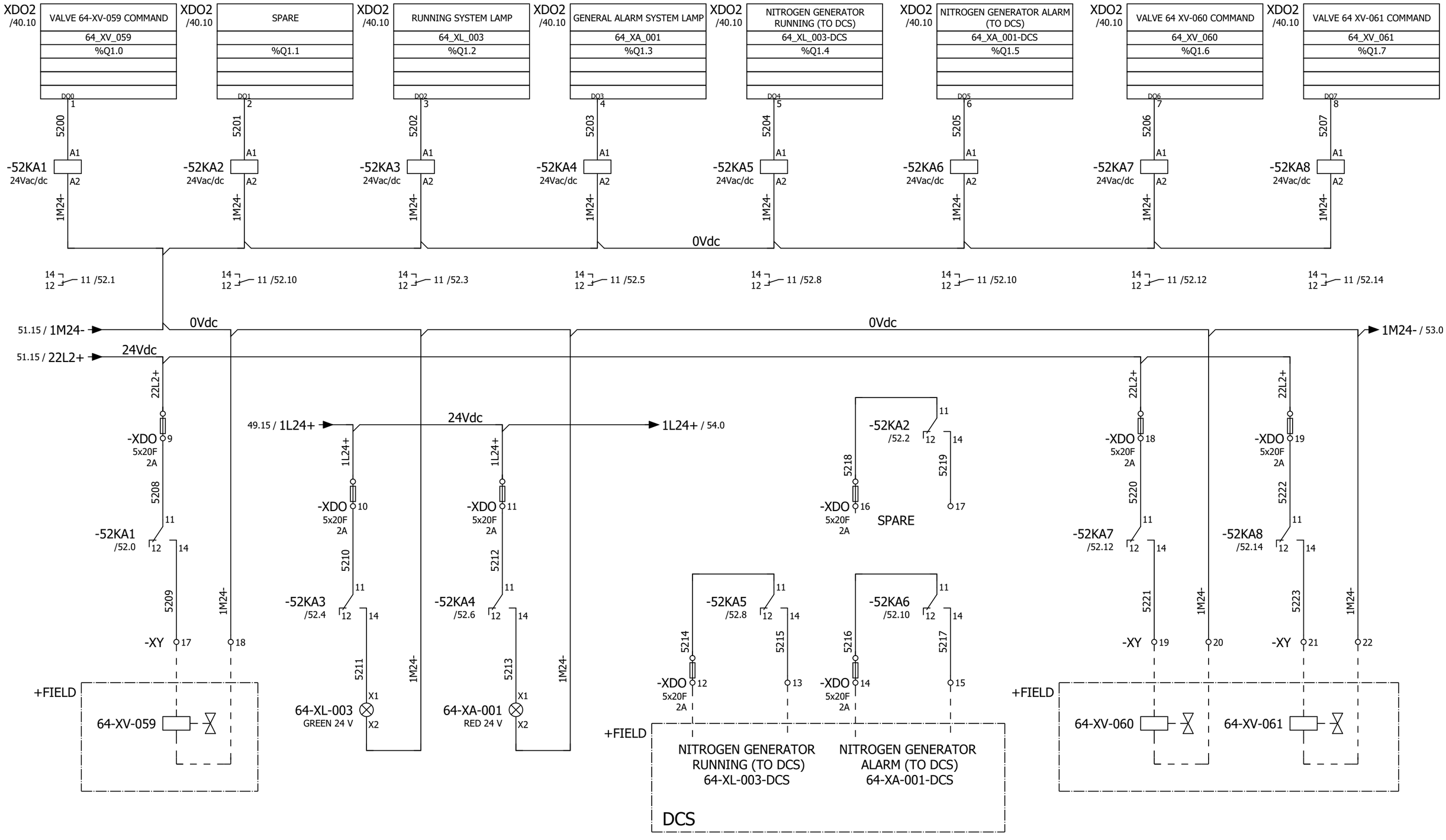


A	30.05.2024	O.A.															
REV.	DATE	PREPARED	REV.	DATE	PREPARED												

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

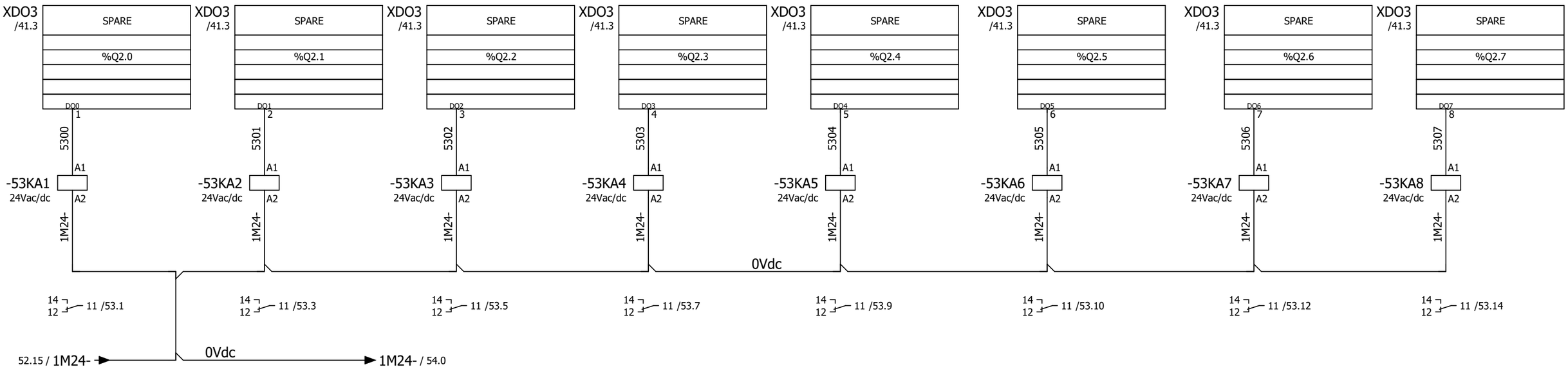
DESCRIPTION
DIGITAL OUTPUT I/O RACK

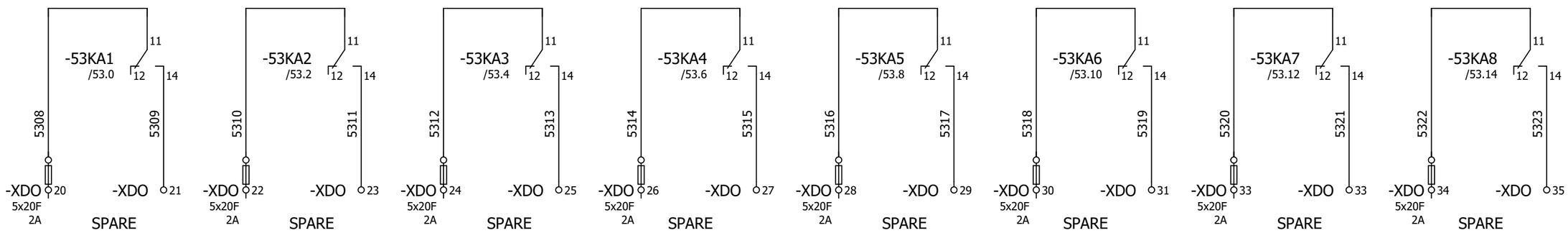
PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	51
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	52
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48



REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 52
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 53
DESCRIPTION: DIGITAL OUTPUT I/O RACK	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48





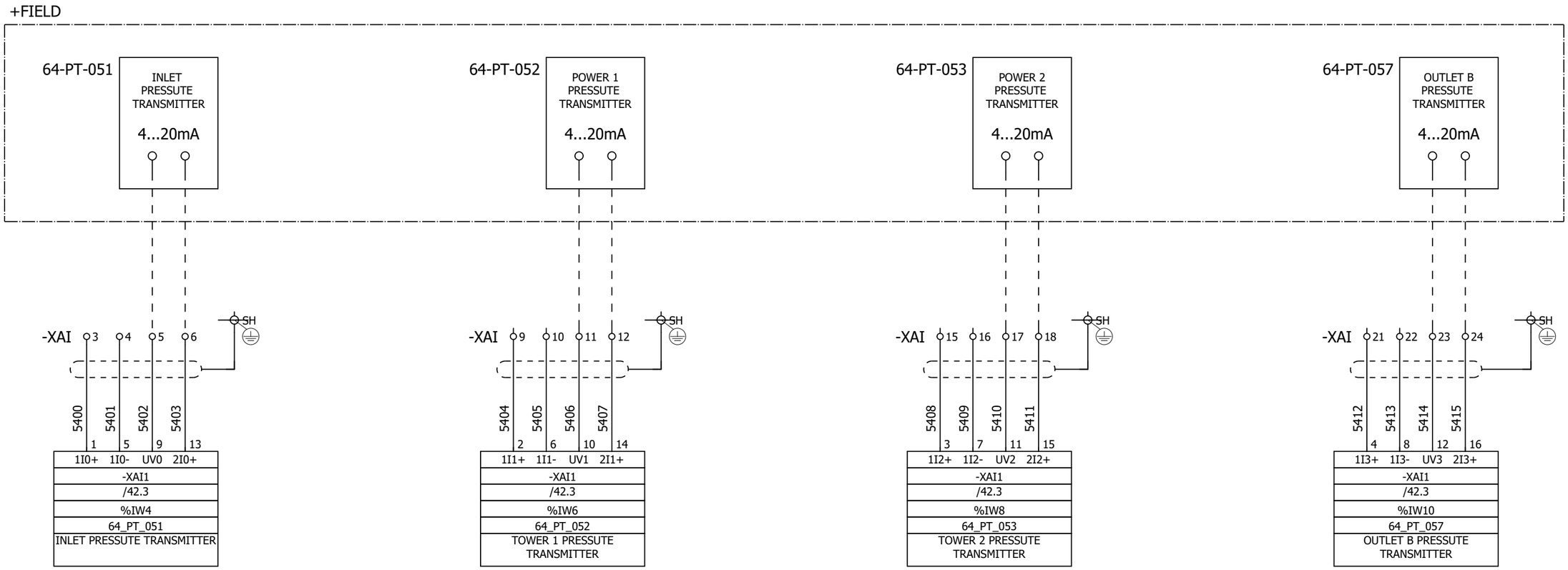
B	01.08.2024	O.A.															
REV.	DATE	PREPARED	REV.	DATE	PREPARED												

coes 20th coes 1997 - 2017

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 53
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 54
DESCRIPTION DIGITAL OUTPUT I/O RACK	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15





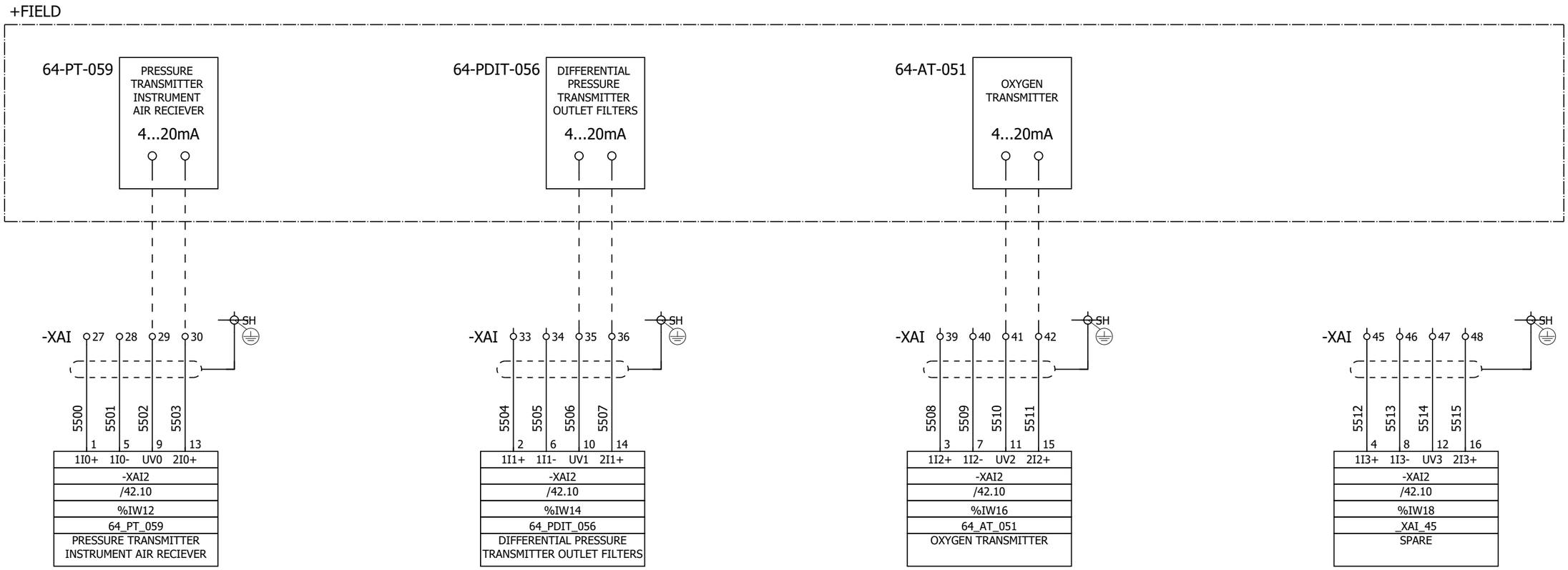
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
ANALOG INPUT I/O RACK

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	54
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	55
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48



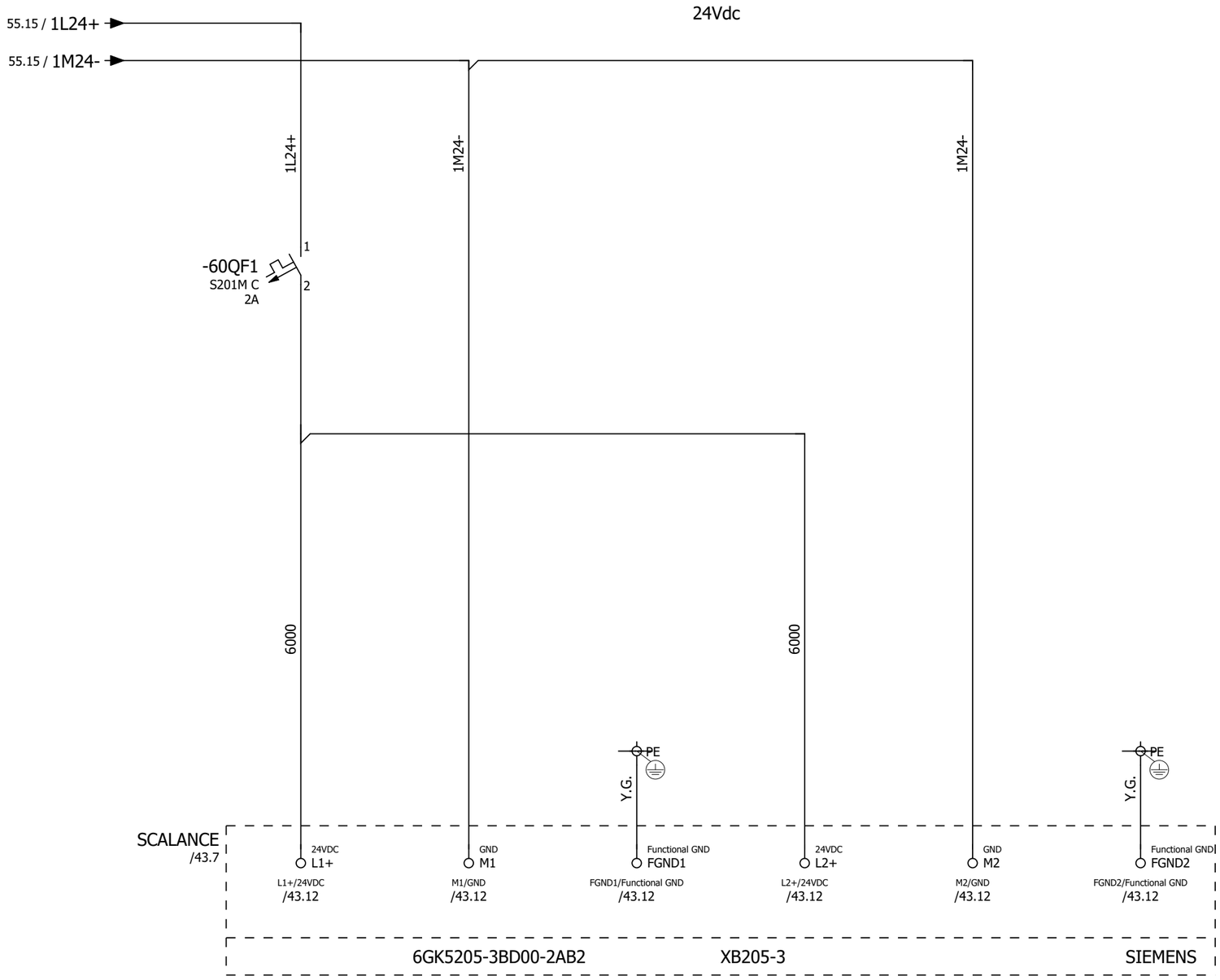


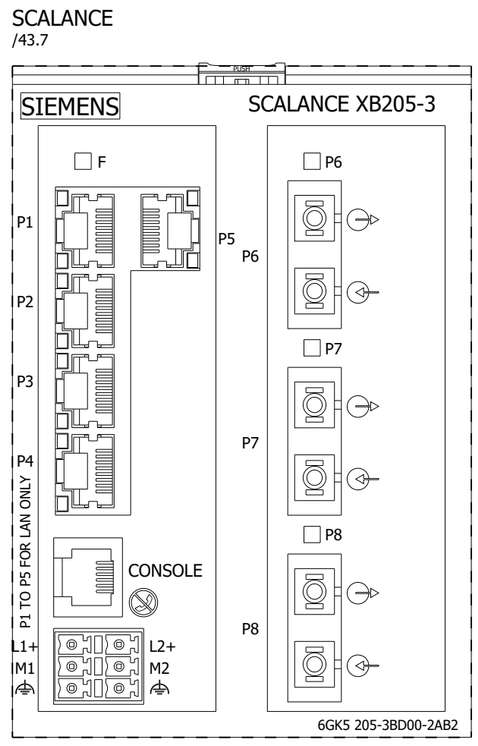
REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: ANALOG INPUT I/O RACK	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

PAGE: 55
NEXT: 60

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

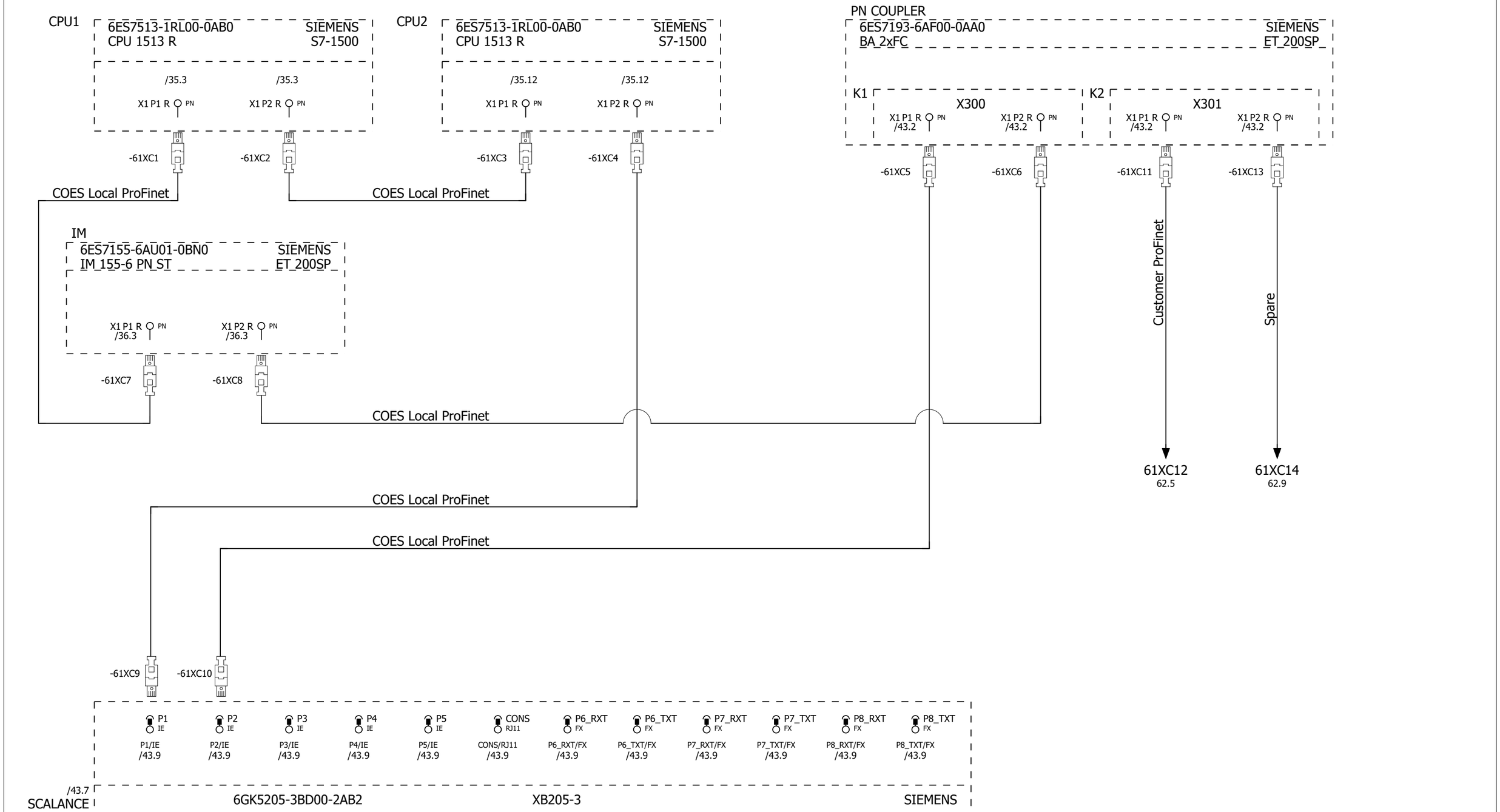




REV.	DATE	PREPARED	REV.	DATE	PREPARED

coes 20th 1997 - 2017

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 60
	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 61
DESCRIPTION AUXILIARY CIRCUIT SWTCH 5 PORT PROFINET	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

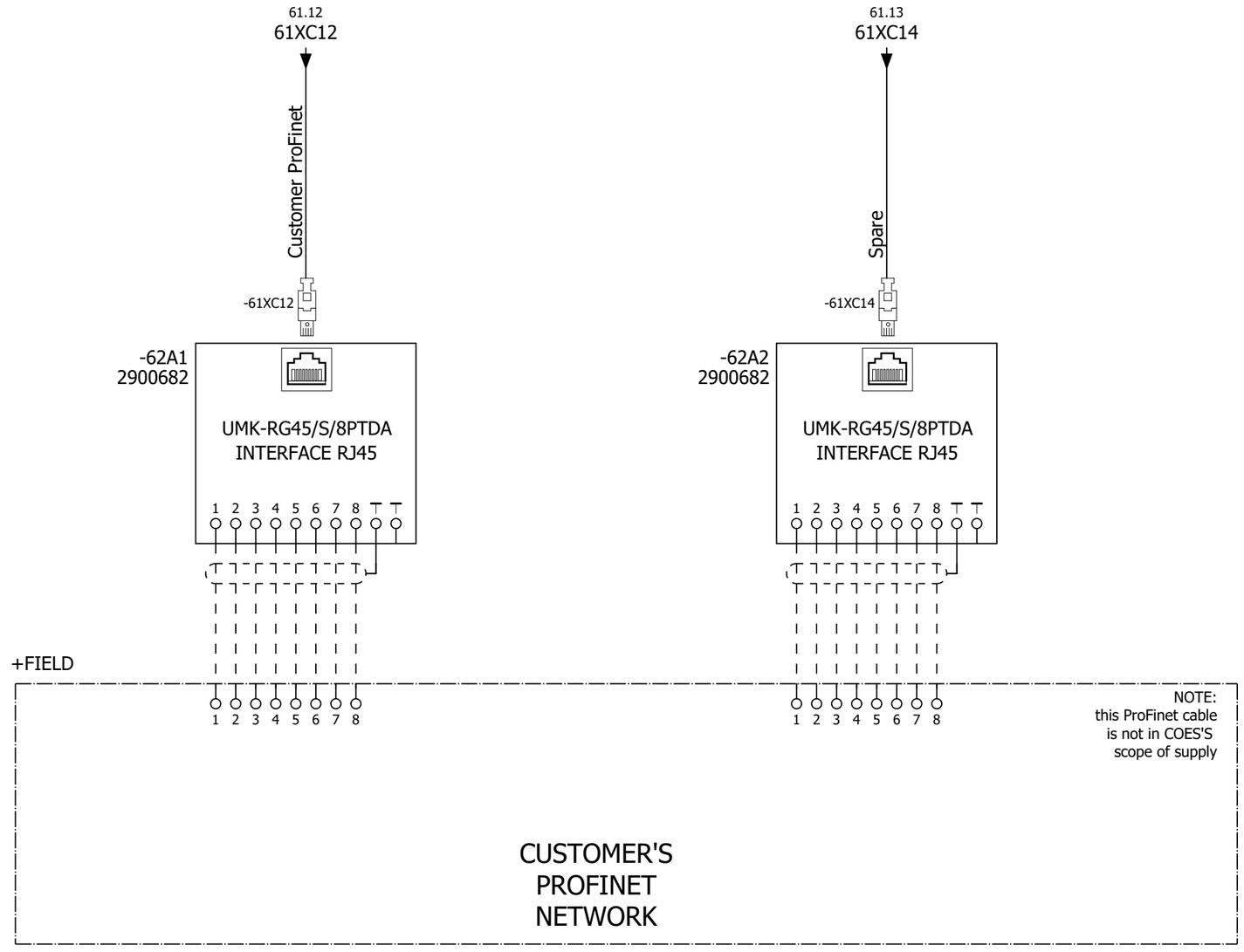


REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
CONNECTION ProfiNet INTERNAL
SWITCHBOARD

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	61
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	62
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48



REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: CONNECTION ProfiNet EXTERNAL SWITCHBOARD	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48

PAGE: 62
NEXT: 70

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-X1

SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/20.2	/20.2	/20.3
		CONNECT.	1	3	
		DEVICE IDENT. CODE	-20QF1	-20QF1	-PE
		WIRING	L230	N230	
	TERMINAL JUM	TERM. TYPE	WDU 10	WDU 10	WPE 10
			-	-	-
		TERM. NUM.	1	2	PE
PLANT	DESTIN. DEVICE	CONNECT.			
		DEVICE IDENT. CODE	-L	-N	

REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN	PAGE: 70
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE	NEXT: 71
DESCRIPTION: TERMINAL BOARD -X1	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD		TOTAL SHEETS: 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-X2

SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/21.3	/21.3	/21.4
		CONNECT.	1	3	
		DEVICE IDENT. CODE	-21QF1	-21QF1	-PE
		WIRING	L230UPS	N230UPS	
	TERMINAL JUM	TERM. TYPE	WDU 10	WDU 10	WPE 10
			-	-	-
		TERM. NUM.	1	2	PE
PLANT	DESTIN. DEVICE	CONNECT.			
		DEVICE IDENT. CODE	-L	-N	

REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 71
DESCRIPTION TERMINAL BOARD -X2	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 72
	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

TERMINAL STRIP

=NITROGEN+QE-XA

SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/22.1	/22.2	/21.14	/22.10	/22.13	/22.13
		CONNECT.			1	13	15/16	14
		DEVICE IDENT. CODE			-21FU2	-22K1	-22KA2	-22KA2
		WIRING			1L24+	1L24+	2211	2212
	TERMINAL JUM	TERM. TYPE	WSI 6	WDU 2.5	WSI 6		WDU 2.5	WDU 2.5
			-	-	-		-	-
		TERM. NUM.	1	2	3		4	5
PLANT	DESTIN. DEVICE	CONNECT.	1	2	A1			
		DEVICE IDENT. CODE	-22KA1	-22KA1	-22K1			

REV.	DATE	PREPARED	REV.	DATE	PREPARED
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
TERMINAL BOARD -XA

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	72
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	73
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XDI

TERM. NUM.	SWITCHBOARD – DESTIN. DEVICE: SHEET AND COLUMN	CONNECT.	DEVICE IDENT. CODE	WIRING	TERMINAL JUM: TERM. TYPE	TERMINAL JUM	PLANT – DESTIN. DEVICE: CONNECT.	DEVICE IDENT. CODE
1	/46.1		+FIELD-64-ZSH-051		KDKS 1/35 DB	-	1	-45QF1
2	/46.1		+FIELD-64-ZSH-051			-	1	-XDI1
3	/46.2		+FIELD-64-ZSL-051		KDKS 1/35 DB	-		
4	/46.2		+FIELD-64-ZSL-051			-	2	-XDI1
5	/46.4		+FIELD-64-ZSH-052		KDKS 1/35 DB	-		
6	/46.4		+FIELD-64-ZSH-052			-	3	-XDI1
7	/46.6		+FIELD-64-ZSL-052		KDKS 1/35 DB	-		
8	/46.6		+FIELD-64-ZSL-052			-	4	-XDI1
9	/46.8		+FIELD-64-ZSH-053		KDKS 1/35 DB	-		
10	/46.8		+FIELD-64-ZSH-053			-	5	-XDI1
11	/46.10		+FIELD-64-ZSL-053		KDKS 1/35 DB	-		
12	/46.10		+FIELD-64-ZSL-053			-	6	-XDI1
13	/46.12		+FIELD-64-ZSH-054		KDKS 1/35 DB	-		
14	/46.12		+FIELD-64-ZSH-054			-	7	-XDI1
15	/46.14		+FIELD-64-ZSL-054		KDKS 1/35 DB	-		
16	/46.14		+FIELD-64-ZSL-054			-	8	-XDI1
17	/47.1		+FIELD-64-ZSH-055		KDKS 1/35 DB	-		
18	/47.1		+FIELD-64-ZSH-055			-	1	-XDI2
19	/47.2		+FIELD-64-ZSL-055		KDKS 1/35 DB	-		
20	/47.2		+FIELD-64-ZSL-055			-	2	-XDI2
21	/47.4		+FIELD-64-ZSH-056		KDKS 1/35 DB	-		
22	/47.4		+FIELD-64-ZSH-056			-	3	-XDI2
23	/47.6		+FIELD-64-ZSL-056		KDKS 1/35 DB	-		
24	/47.6		+FIELD-64-ZSL-056			-	4	-XDI2
25	/47.8		+FIELD-64-ZSH-057		KDKS 1/35 DB	-		
26	/47.8		+FIELD-64-ZSH-057			-	5	-XDI2
27	/47.10		+FIELD-64-ZSL-057		KDKS 1/35 DB	-		
28	/47.10		+FIELD-64-ZSL-057			-	6	-XDI2
29	/47.12		+FIELD-64-ZSH-058		KDKS 1/35 DB	-		
30	/47.12		+FIELD-64-ZSH-058			-	7	-XDI2
31	/47.14		+FIELD-64-ZSL-058		KDKS 1/35 DB	-		
32	/47.14		+FIELD-64-ZSL-058			-	8	-XDI2
33	/48.1		+FIELD-64-ZSH-059		KDKS 1/35 DB	-		
34	/48.1		+FIELD-64-ZSH-059			-	1	-XDI3
35	/48.2		+FIELD-64-ZSL-059		KDKS 1/35 DB	-		
36	/48.2		+FIELD-64-ZSL-059			-	2	-XDI3
37	/48.4	14	-64-TH-001	4808	KDKS 1/35 DB	-		
38	/48.4	13	-64-TH-001	4802		-	3	-XDI3
39	/48.6	13	-64-HS-001	4809	KDKS 1/35 DB	-		
40	/48.6	14	-64-HS-001	4803		-	4	-XDI3

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	73
DESCRIPTION	DATE	APPROVED	LOCATION	NEXT
TERMINAL BOARD -XDI	02.05.2024		+ QE	74
	WORK ORDER N	DRAWING N		TOTAL SHEETS
	2024.4813_001	d241024-WD		48

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

TERMINAL STRIP

=NITROGEN+QE-XDI

TERM. NUM.	SWITCHBOARD – DESTIN. DEVICE: SHEET AND COLUMN	CONNECT.	DEVICE IDENT. CODE	WIRING	TERMINAL JUM: TERM. TYPE	PLANT – DESTIN. DEVICE: CONNECT.	DEVICE IDENT. CODE
41	/48.8	21	-64-HS-002	4810	KDKS 1/35 DB		
42	/48.8	22	-64-HS-002	4804		5	-XDI3
43	/48.10	13	-64-HS-003	4811	KDKS 1/35 DB		
44	/48.10	14	-64-HS-003	4805		6	-XDI3
45	/48.12	13	-64-HS-004	4812	KDKS 1/35 DB		
46	/48.12	14	-64-HS-004	4806		7	-XDI3
47					KDKS 1/35 DB		
48	/22.10	14	-22K1	22L1+		8	-XDI3
49	/49.1		+FIELD-64-ZSH-060		KDKS 1/35 DB		
50	/49.1		+FIELD-64-ZSH-060			1	-XDI4
51	/49.2		+FIELD-64-ZSL-060		KDKS 1/35 DB		
52	/49.2		+FIELD-64-ZSL-060			2	-XDI4
53	/49.4		+FIELD-64-ZSH-061		KDKS 1/35 DB		
54	/49.4		+FIELD-64-ZSH-061			3	-XDI4
55	/49.6		+FIELD-64-ZSL-061		KDKS 1/35 DB		
56	/49.6		+FIELD-64-ZSL-061			4	-XDI4
57					KDKS 1/35 DB		
58						5	-XDI4
59					KDKS 1/35 DB		
60						6	-XDI4
61					KDKS 1/35 DB		
62						7	-XDI4
63					KDKS 1/35 DB	10	-XDO
64						8	-XDI4

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	74
DESCRIPTION	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 75
TERMINAL BOARD -XDI	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

TERMINAL STRIP

=NITROGEN+QE-XDO

TERMINAL JUM				DESTIN. DEVICE		SHEET AND COLUMN
TERM. TYPE		TERM. NUM.		WIRING	DEVICE IDENT. CODE	CONNECT.	
WSI 6	-	1		5108	-51KA1	11	/51.1
WSI 6	-	2		5110	-51KA2	11	/51.3
WSI 6	-	3		5112	-51KA3	11	/51.4
WSI 6	-	4		5114	-51KA4	11	/51.6
WSI 6	-	5		5116	-51KA5	11	/51.8
WSI 6	-	6		5118	-51KA6	11	/51.9
WSI 6	-	7		5120	-51KA7	11	/51.11
WSI 6	-	8		5122	-51KA8	11	/51.13
WSI 6	-	9		5208	-52KA1	11	/52.1
WSI 6	-	10		5210	-52KA3	11	/52.3
WSI 6	-	11		5212	-52KA4	11	/52.5
WSI 6	-	12			-52KA5		/52.7
WDU 2.5	-	13		5215	-52KA5	14	/52.8
WSI 6	-	14			-52KA6		/52.9
WDU 2.5	-	15		5217	-52KA6	14	/52.10
WSI 6	-	16			-52KA2		
WDU 2.5	-	17		5219	-52KA2	14	/52.10
WSI 6	-	18		5220	-52KA7	11	/52.12
WSI 6	-	19		5222	-52KA8	11	/52.14
WSI 6	-	20					
WDU 2.5	-	21		5309	-53KA1	14	/53.1
WSI 6	-	22					
WDU 2.5	-	23		5311	-53KA2	14	/53.3
WSI 6	-	24					
WDU 2.5	-	25		5313	-53KA3	14	/53.5
WSI 6	-	26					
WDU 2.5	-	27		5315	-53KA4	14	/53.7
WSI 6	-	28					
WDU 2.5	-	29		5317	-53KA5	14	/53.9
WSI 6	-	30					
WDU 2.5	-	31		5319	-53KA6	14	/53.10
WSI 6	-	33					
WDU 2.5	-	33		5321	-53KA7	14	/53.12
WSI 6	-	34					
WDU 2.5	-	35		5323	-53KA8	14	/53.14

PLANT	DESTIN. DEVICE		
	CONNECT.	DEVICE IDENT. CODE	
24		-22K1	
63		-XDI	
1		-XAI	
11		-52KA5	
11		-52KA6	
11		-52KA2	
11		-53KA1	
11		-53KA2	
11		-53KA3	
11		-53KA4	
11		-53KA5	
11		-53KA6	
11		-53KA7	
11		-53KA8	

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN
	DATE 02.05.2024	APPROVED	LOCATION + QE
DESCRIPTION TERMINAL BOARD -XDO	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD	

PAGE	
75	
NEXT	76
TOTAL SHEETS	48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XY

SWITCHBOARD / DESTIN. DEVICE: SHEET AND COLUMN	CONNECT.	DEVICE IDENT. CODE	WIRING	TERMINAL JUM: TERM. TYPE	(jumper)	TERM. NUM.	PLANT / DESTIN. DEVICE: CONNECT.	DEVICE IDENT. CODE
/51.1	14	-51KA1	5109	WDU 2.5	-	1		+FIELD-64-XV-051
/51.0	A2	-51KA1	1M24-	WDU 2.5	•	2		+FIELD-64-XV-051
/51.2	A2	-51KA2	1M24-					
/51.3	14	-51KA2	5111	WDU 2.5	-	3		+FIELD-64-XV-052
				WDU 2.5	•	4		+FIELD-64-XV-052
/51.4	14	-51KA3	5113	WDU 2.5	-	5		+FIELD-64-XV-053
				WDU 2.5	•	6		+FIELD-64-XV-053
/51.6	14	-51KA4	5115	WDU 2.5	-	7		+FIELD-64-XV-054
				WDU 2.5	•	8		+FIELD-64-XV-054
/51.8	14	-51KA5	5117	WDU 2.5	-	9		+FIELD-64-XV-055
				WDU 2.5	•	10		+FIELD-64-XV-055
/51.9	14	-51KA6	5119	WDU 2.5	-	11		+FIELD-64-XV-056
				WDU 2.5	•	12		+FIELD-64-XV-056
/51.11	14	-51KA7	5121	WDU 2.5	-	13		+FIELD-64-XV-057
				WDU 2.5	•	14		+FIELD-64-XV-057
/51.13	14	-51KA8	5123	WDU 2.5	-	15		+FIELD-64-XV-058
/52.0	A2	-52KA1	1M24-	WDU 2.5	•	16		+FIELD-64-XV-058
/52.2	A2	-52KA2	1M24-					
/52.1	14	-52KA1	5209	WDU 2.5		17		+FIELD-64-XV-059
/52.0	A2	-52KA1	1M24-	WDU 2.5	•	18		+FIELD-64-XV-059
/52.2	A2	-52KA2	1M24-					
/52.3	X2	-64-XL-003	1M24-					
/52.12	14	-52KA7	5221	WDU 2.5		19		+FIELD-64-XV-060
/52.5	X2	-64-XA-001	1M24-	WDU 2.5	•	20		+FIELD-64-XV-060
/52.14	14	-52KA8	5223	WDU 2.5	-	21		+FIELD-64-XV-061
/53.0	A2	-53KA1	1M24-	WDU 2.5	•	22		+FIELD-64-XV-061
/53.2	A2	-53KA2	1M24-					

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			

PLANT	PREPARED	CHECKED	PLANT	PAGE
COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	76
DESCRIPTION	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 77
TERMINAL BOARD -XY	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XAI

TERM. NUM.	SWITCHBOARD – DESTIN. DEVICE: SHEET AND COLUMN	SWITCHBOARD – DESTIN. DEVICE: CONNECT.	SWITCHBOARD – DESTIN. DEVICE: DEVICE IDENT. CODE	SWITCHBOARD – DESTIN. DEVICE: WIRING	TERMINAL JUM: TERM. TYPE	PLANT – DESTIN. DEVICE: CONNECT.	PLANT – DESTIN. DEVICE: DEVICE IDENT. CODE
1					KDKS 1/35 DB	11	-XDO
2	/52.5	X2	-64-XA-001	1M24-			
3	/54.1	1	-XAI1	5400	WDU 2.5		
4	/54.1	5	-XAI1	5401	WDU 2.5		
5	/54.2	9	-XAI1	5402	WDU 2.5		+FIELD-64-PT-051
6	/54.2	13	-XAI1	5403	WDU 2.5		+FIELD-64-PT-051
7					KDKS 1/35 DB		
8							
9					WDU 2.5	2	-XAI1
10					WDU 2.5	6	-XAI1
11	/54.6		+FIELD-64-PT-052	0Vdc	WDU 2.5	10	-XAI1
12	/54.6		+FIELD-64-PT-052	0Vdc	WDU 2.5	14	-XAI1
13					KDKS 1/35 DB		
14							
15					WDU 2.5	3	-XAI1
16					WDU 2.5	7	-XAI1
17	/54.10		+FIELD-64-PT-053	0Vdc	WDU 2.5	11	-XAI1
18	/54.10		+FIELD-64-PT-053	0Vdc	WDU 2.5	15	-XAI1
19					KDKS 1/35 DB		
20							
21					WDU 2.5	4	-XAI1
22					WDU 2.5	8	-XAI1
23	/54.14		+FIELD-64-PT-057	0Vdc	WDU 2.5	12	-XAI1
24	/54.14		+FIELD-64-PT-057	0Vdc	WDU 2.5	16	-XAI1
25					KDKS 1/35 DB		
26							
27	/55.1	1	-XAI2	5500	WDU 2.5		
28	/55.1	5	-XAI2	5501	WDU 2.5		
29	/55.2	9	-XAI2	5502	WDU 2.5		+FIELD-64-PT-059
30	/55.2	13	-XAI2	5503	WDU 2.5		+FIELD-64-PT-059
31					KDKS 1/35 DB		
32							
33					WDU 2.5	2	-XAI2
34					WDU 2.5	6	-XAI2
35	/55.6		+FIELD-64-PDIT-056	0Vdc	WDU 2.5	10	-XAI2
36	/55.6		+FIELD-64-PDIT-056	0Vdc	WDU 2.5	14	-XAI2
37					KDKS 1/35 DB		
38							
39					WDU 2.5	3	-XAI2
40					WDU 2.5	7	-XAI2

REV.	DATE	PREPARED	REV.	DATE	PREPARED

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

TERMINAL STRIP

=NITROGEN+QE-XAI

SWITCHBOARD	DESTIN. DEVICE	SHEET AND COLUMN	/55.10	/55.10		/60.3				
		CONNECT.				M1				
		DEVICE IDENT. CODE	+FIELD-64-AT-051	+FIELD-64-AT-051		-SCALANCE				
		WIRING	0Vdc	0Vdc		1M24-				
	TERMINAL JUM	TERM. TYPE	WDU 2.5	WDU 2.5	KDKS 1/35 DB		WDU 2.5	WDU 2.5	WDU 2.5	WDU 2.5
			-	-		-	-	-	-	-
		TERM. NUM.	41	42	43	44	45	46	47	48
PLANT	DESTIN. DEVICE	CONNECT.	11	15	1		4	8	12	16
		DEVICE IDENT. CODE	-XAI2	-XAI2	-60QF1		-XAI2	-XAI2	-XAI2	-XAI2

REV.	DATE	PREPARED	REV.	DATE	PREPARED

PLANT COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED ASSOLARI O.	CHECKED TIRABOSCHI T.	PLANT = NITROGEN	PAGE 78
DESCRIPTION TERMINAL BOARD -XAI	DATE 02.05.2024	APPROVED	LOCATION + QE	NEXT 85
	WORK ORDER N 2024.4813_001	DRAWING N d241024-WD		TOTAL SHEETS 48

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-64-HS-001	1	Green flush complete pushbutton Ø22 spring return 1NO "unmarked"	SE.XB4BA31	SCHNEIDER	48
-64-HS-002	1	Red flush complete pushbutton Ø22 spring return 1NC "unmarked"	SE.XB4BA42	SCHNEIDER	48
-64-HS-003	1	Blue flush complete pushbutton Ø22 spring return 1NO	SE.XB4BA61	SCHNEIDER	22
-64-HS-003	1	Harmony XB4/XB5 1NO contact	SE.ZBE101	SCHNEIDER	22
-64-HS-004	1	Black selector switch Ø22 2-position stay put 1NO+1NC 600V	SE.XB4BD25	SCHNEIDER	48
-64-SBM-001	1	Red Ø40 Emergency stop, switching off Ø22 latching turn release 2NC+1NO	SE.XB4BS84441	SCHNEIDER	22
-64-SBM-001	1	Round guard for Ø 40 Emergency stop, plastic, yellow, 63.5 mm	SE.ZB4BZ1905	SCHNEIDER	22
-64-TH-001	1	Panel thermostat, 1 contacts NO (-20...+40)°C	FIN.7T.81.0.000.2301	FINDER	48
-64-XA-001	1	Red complete pilot light Ø22 plain lens with integral LED 24V	SE.XB4BVB4	SCHNEIDER	52
-64-XL-001	1	White complete pilot light Ø22 plain lens with integral LED 230...240V	SE.XB4BVM1	SCHNEIDER	20
-64-XL-002	1	White complete pilot light Ø22 plain lens with integral LED 230...240V	SE.XB4BVM1	SCHNEIDER	21
-64-XL-003	1	Green complete pilot light Ø22 plain lens with integral LED 24V	SE.XB4BVB3	SCHNEIDER	52
-64-XL-004	1	White complete pilot light Ø22 plain lens with integral LED 24V	SE.XB4BVB1	SCHNEIDER	21
-62A1	1	UMK-RJ45/S/8PTDA - VARIOFACE module for connecting a RJ45 socket with spring-cage double connection terminal blocks in direct plug-in method.	PXC.2900682	PHOENIX CONTACT	62
-62A2	1	UMK-RJ45/S/8PTDA - VARIOFACE module for connecting a RJ45 socket with spring-cage double connection terminal blocks in direct plug-in method.	PXC.2900682	PHOENIX CONTACT	62
-CPU1	1	SIMATIC S7-1500R CPU 1513R-1 PN, 300KB program/1,5MB data	SIE.6ES7513-1RL00-0AB0	SIEMENS	35
-CPU1	1	SIMATIC S7 MEMORY CARD, 24 MB	SIE.6ES7954-8LF03-0AA0	SIEMENS	35
-CPU2	1	SIMATIC S7-1500R CPU 1513R-1 PN, 300KB program/1,5MB data	SIE.6ES7513-1RL00-0AB0	SIEMENS	35
-CPU2	1	SIMATIC S7 MEMORY CARD, 24 MB	SIE.6ES7954-8LF03-0AA0	SIEMENS	35
-20E1	1	HEATER 100W 230VAC 90X80X110	HJSHT100	ALFA PLASTIC	20
-20FA4	1	Residual current device DDA202 type AC 25A 30mA - 2P	ABB.2CSB202001R1250	ABB	20
-20FU1	1	FUSE HOLDER 2P 10X38 , 32A 690V	LOV.FB01F2P	LOVATO	20
-20FU1	2	CYLINDRICAL FUSE C10G2 10x38, GG, 2A, 500V AC	KMC10G2	EATON BUSSMAN	20
-21FU1	1	FUSE HOLDER 2P 10X38 , 32A 690V	LOV.FB01F2P	LOVATO	21
-21FU1	2	CYLINDRICAL FUSE C10G2 10x38, GG, 2A, 500V AC	KMC10G2	EATON BUSSMAN	21
-21FU2	1	FUSE HOLDER 1P 10X38 , 32A 690V	LOV.FB01F1P	LOVATO	21
-21FU2	1	CYLINDRICAL FUSE C10G2 10x38, GG, 2A, 500V AC	KMC10G2	EATON BUSSMAN	21
-21GS1	1	TRIO-PS-2G/1AC/24DC/20 Primary-switched TRIO POWER power supply input: 100VAC...240VAC single-phase, output: 24 V DC/20 A	PXC.2903151	PHOENIX CONTACT	21

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

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PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
DESCRIPTION: COMPONENT LIST	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	TOTAL SHEETS: 48
			PAGE: 85 / NEXT: 86

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-20H1	1	Plafoniera lineare a led, 110÷240V AC, 50/60HZ,600 lm, 368mm	050PEL3C	NEW ELFIN	20
-IM	1	ET 200SP PROFINET INTERFACE MODULE IM155-6PN/2 HF , INCLUDING SERVER MODULE (6ES7193-6PA00-0AA0	SIE.6ES7155-6AU01-0CN0	SIEMENS	36
-IM	1	SIMATIC ET 200SP, BUSADAPTER BA 2X RJ45, 2 RJ45 SOCKETS FOR PROFINET	SIE.6ES7193-6AR00-0AA0	SIEMENS	36
-22K1	1	SIRIUS safety relay Basic unit Standard series Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact Us = 24 V AC/DC screw terminal	SIE.3SK1111-1AB30	SIEMENS	22
-22KA1	1	SIL 2 - SIL 3 Digital Relay Output Loop Powered DIN-Rail and terminal board Models D5244D - 2 channels relay output ,provides 2 port isolation (input/output) Supply 24Vdc	GMI.D5244D	gmi	22
-22KA2	1	SIL 2 - SIL 3 Digital Relay Output Loop Powered DIN-Rail and terminal board Models D5244D - 2 channels relay output ,provides 2 port isolation (input/output) Supply 24Vdc	GMI.D5244D	gmi	22
-51KA1	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA2	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA3	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA4	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA5	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA6	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA7	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-51KA8	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	51
-52KA1	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA2	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA3	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA4	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA5	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA6	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA7	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-52KA8	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	52
-53KA1	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA2	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA3	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA4	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA5	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA6	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

PLANT
COMMAND AND CONTROL SWITCHBOARDS
NITROGEN - WIRING DIAGRAM

DESCRIPTION
COMPONENT LIST

PREPARED	CHECKED	PLANT	PAGE
ASSOLARI O.	TIRABOSCHI T.	= NITROGEN	86
DATE	APPROVED	LOCATION	NEXT
02.05.2024		+ QE	87
WORK ORDER N	DRAWING N		TOTAL SHEETS
2024.4813_001	d241024-WD		48

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-53KA7	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-53KA8	1	PLC-RSC- 24UC/21 PLC-INTERFACE, consisting of basic terminal block PLC-BSC.../21 with screw connection and plug-in miniature relay with power contact, for assembly on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V AC/DC	PXC.2966184	PHOENIX CONTACT	53
-PN COUPLER	1	SIMATIC PN/PN Coupler for deterministic data exchange between max.4 PN-Controller per subnet, , PROFIsafe data exchange, I/O-, MSI-, MSO- and data record communication, redundant power supply, PN-connection via SIMATIC BusAdapter (BA)	SIE.6ES7158-3AD10-0XA0	SIEMENS	43
-PN COUPLER	1	5 pcs. strain relief for PROFINET cable at SIMATIC BusAdapter	SIE.6ES7193-6RA00-1AN0	SIEMENS	43
-20QF1	1	Miniature Circuit Breaker - S202M - 2P - C - 32 A	ABB.2CDS272001R0324	ABB	20
-20QF2	1	Miniature Circuit Breaker - S202M - 2P - C - 2 A	ABB.2CDS272001R0024	ABB	20
-20QF3	1	Miniature Circuit Breaker - S202M - 2P - C - 2 A	ABB.2CDS272001R0024	ABB	20
-20QF4	1	Miniature Circuit Breaker - S202M - 2P - C - 16 A	ABB.2CDS272001R0164	ABB	20
-21QF1	1	Miniature Circuit Breaker - S202M - 2P - C - 32 A	ABB.2CDS272001R0324	ABB	21
-21QF2	1	Miniature Circuit Breaker - S202M - 2P - C - 4 A	ABB.2CDS272001R0044	ABB	21
-21QF3	1	Miniature Circuit Breaker - S201M - 1P - C - 20 A	ABB.2CDS271001R0204	ABB	21
-30QF3	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	30
-44QF1	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF2	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF3	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF4	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-44QF5	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	44
-45QF1	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	45
-60QF1	1	Miniature Circuit Breaker - S201M - 1P - C - 2 A	ABB.2CDS271001R0024	ABB	60
-20S1	1	Limit switch ausiliary contacts 1NO+1NC	PIZ.FR505	PIZZATO	20
-SCALANCE	1	SCALANCE XB205-3	SIE.6GK5205-3BD00-2AB2	SIEMENS	43
-20T1	1	Panel thernostat/hygrostat, 1 pole, 10 A - NO - (+10...+60)°C / (50...90)% - Nominal voltage 110...230 VAC/DC	FIN.7T.51.0.230.4360	FINDER	20
-20X1	1	Shuko/Italian std. socket 2P+T 16A (two module white system series)	GW20246	GEWISS	20
-20X1	1	Wall mounting modular box IP40 (2 modules)	GW27002	GEWISS	20
-XAI1	1	ET 200SP, AI 4XI 2-/4-WIRE ST, PU 1	SIE.6ES7134-6GD01-0BA1	SIEMENS	42
-XAI1	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	SIE.6ES7193-6BP00-0DA0	SIEMENS	42
-XAI2	1	ET 200SP, AI 4XI 2-/4-WIRE ST, PU 1	SIE.6ES7134-6GD01-0BA1	SIEMENS	42
-XAI2	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	42

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED:	LOCATION: + QE
DESCRIPTION: COMPONENT LIST	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

PAGE	NEXT	TOTAL SHEETS
87	88	48

COMPONENT LIST

COMPONENT TAG	QUANTITY	DESCRIPTION	ARTICLE CODE	CONSTRUCTOR	SHEET
-61XC1	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC2	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC3	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC4	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC5	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC6	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC7	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC8	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC9	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC10	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC11	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC12	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	62
-61XC13	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	61
-61XC14	1	RJ45 connector	PXC.1419001	PHOENIX CONTACT	62
-XDI1	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	37
-XDI1	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	SIE.6ES7193-6BP00-0DA0	SIEMENS	37
-XDI2	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	37
-XDI2	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	37
-XDI3	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	38
-XDI3	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	38
-XDI4	1	SIMATIC ET 200SP DI 8x 24V DC Basic ,sink input	SIE.6ES7131-6BF01-0AA0	SIEMENS	38
-XDI4	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	38
-XDO1	1	SIMATIC ET 200SP, DQ 8x 24V DC/0,5A Basic, Source output	SIE.6ES7132-6BF01-0AA0	SIEMENS	40
-XDO1	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	SIE.6ES7193-6BP00-0DA0	SIEMENS	40
-XDO2	1	SIMATIC ET 200SP, DQ 8x 24V DC/0,5A Basic, Source output	SIE.6ES7132-6BF01-0AA0	SIEMENS	40
-XDO2	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	40
-XDO3	1	SIMATIC ET 200SP, DQ 8x 24V DC/0,5A Basic, Source output	SIE.6ES7132-6BF01-0AA0	SIEMENS	41
-XDO3	1	BASEUNIT TYPE A0, BU15-P16+A0+2B	SIE.6ES7193-6BP00-0BA0	SIEMENS	41

REV.	DATE	PREPARED	REV.	DATE	PREPARED
B	01.08.2024	O.A.			
A	30.05.2024	O.A.			

coes 20th coes 1997 - 2017

PLANT: COMMAND AND CONTROL SWITCHBOARDS NITROGEN - WIRING DIAGRAM	PREPARED: ASSOLARI O.	CHECKED: TIRABOSCHI T.	PLANT: = NITROGEN
	DATE: 02.05.2024	APPROVED	LOCATION: + QE
DESCRIPTION: COMPONENT LIST	WORK ORDER N: 2024.4813_001	DRAWING N: d241024-WD	

Base Load Power Hub (BLPH)

NITROGEN GENERATION PACKAGE
EQUIPMENT DATA SHEETS
INCLUDING PSA, ETC.

Document Number: 1724000437-MAC-DS-00011

Document Class: 2

01	08/05/2024	Issue for Review (IFR)	GT	MC	TM
00	28/03/2024	Issue for Review (IFR)	GT	MC	TM
Rev.	Date	Description	Prepared	Reviewed	Approved

COES

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coes	CLIENTE / CUSTOMER	:	ROSETTI MARINO	COMM: / JOB:	: 167/24
	RIFERIMENTO / REFERENCE	:	CROSSWIND	UNITA' / ITEM	: /
	IMPIANTO / DRYING UNIT	:	NITROGEN GENERATION PACKAGE	FOGLIO N° / SHEET	: 1 DI / OF 3

FOGLIO DATI PER IMPIANTO GENERATORE AZOTO
NITROGEN GENERATOR DATA SHEET

DATI GENERALI
GENERAL DATA

1	QUANTITA' / QUANTITY	:	1
2	ITEM / TAG	:	C-64001A/B
3	SERVIZIO / SERVICE	:	NITROGEN GENERATOR
4	RIGENERAZIONE / REGENERATION	:	PSA

DATI PROGETTO MECCANICO
MECHANICAL DESIGN DATA

5	PRESSIONE PROGETTO SERBATOI / VESSELS DESIGN PRESSURE	:	12 barg	TEMPERATURA PROGETTO SERBATOI / VESSELS DESIGN TEMPERATURE	:	-29 / +80°C
6	MATERIALE SERBATOI / VESSELS MATERIAL	:	LTCS	SOVRASPESS. CORROSIONE SERBATOI / VESSELS CORROSION OVER-THICKNESS	:	3 mm
7	NORMATIVA PROGETTO SERBATOI / VESSELS DESIGN CODE	:	ASME VIII DIV.1	NORMATIVA COLLAUDO SERBATOI / VESSELS INSPECTION CODE	:	2014/68/EU PED
8						

DATI FUNZIONALI
FUNCTIONAL DATA

9	PORTATA ARIA IN INGRESSO / INLET AIR FLOWRATE	:	150	Nm3/h
10	PRESSIONE DI ESERCIZIO / OPERATING PRESSURE	:	9	barg
11	TEMPERATURA DI ESERCIZIO / OPERATING TEMPERATURE	:	35	°C
12	PUNTO DI RUGIADA IN INGRESSO / INLET DEW POINT	:	-40	°C
13	TIPO MATERIALE ADSORBENTE / DESICCANT MATERIAL TYPE	:	CARBON MOLECULAR SIEVE	
14	QUANTITA' ADSORBENTE PER TORRE / DESICCANT QUANTITY/EACH TOWER	:	200	kg
15	PORTATA AZOTO IN USCITA / OUTLET NITROGEN FLOWRATE	:	60	Nm3/h
16	PUREZZA AZOTO IN USCITA / OUTLET NITROGEN PURITY	:	97	%
17	POTENZA TOTALE INSTALLATA / TOTAL DEMANDE RATE	:	0.05	kW
18	PERDITA DI CARICO / PRESSURE DROP	:	0.5	bar
19	DURATA CICLO / LENGHT OF CYCLE	:	1+1	min
20	CONSUMO kWh PER RIGENERAZIONE / kWh CONSUMPTION/EACH REGENERATION	:	/	
21	TENSIONE DI ALIMENTAZIONE / SUPPLY VOLTAGE	:	24	VDC AUX.
22	GRADO DI PROTEZIONE / PROTECTION DEGREE	:	IP 65	
23	CLASSIFICAZIONE AREA / AREA CLASSIFICATION	:	SAFE	
24	RADIOGRAFIE / RT TEST	:	☐ YES	☒ NO
25	VERNICIATURA / PAINTING	:	☒ EXTERNAL	☐ INTERNAL
26	ZINCATURA / GALVANIZING	:	☐ YES	☒ NO
27	RUMOROSITA' / NOISE LEVEL	:	85dB(A) max PRESSURE LEVEL at 1 m	
28				
29	Notes: - details of nozzle are included into equipment sectional drawing			

REV. REV.	DESCRIZIONE DESCRIPTION	EMESSO ISSUED	APPROVATO APPROVED	DATA DATE
01	ISSUE FOR REVIEW	GT	TM	08-mag-24
00	ISSUE FOR REVIEW	GT	TM	28-mar-24

coes	CLIENTE CUSTOMER	:	ROSETTI MARINO	COMM: JOB:	:	167/24	
	RIFERIMENTO REFERENCE	:	CROSSWIND	UNITA' ITEM	:	/	
	IMPIANTO DRYING UNIT	:	NITROGEN GENERATION PACKAGE	FOGLIO N° SHEET	:	2	DI : 3 OF

FOGLIO DATI PER SERBATOIO
PRESSURE VESSEL DATA SHEET

DATI PROGETTO MECCANICO
MECAHNICAL DESIGN DATA

1	QUANTITA' QUANTITY	:	1			
2	ITEM TAG	:	V-64001			
3	SERVIZIO SERVICE	:	SERBATOIO AZOTO NITROGEN TANK			
4	TIPO TYPE	:	VERTICALE VERTICAL			
5	MATERIALE MATERIAL	:	LTCS			
6	NORMATIVA PROGETTO DESIGN CODE	:	ASME VIII DIV.1	NORMATIVA COLLAUDO INSPECTION CODE	:	2014/68/EU PED
7	MATERIALE MATERIAL	:	LTCS	SOVRASPESS. CORROSIONE CORROSION OVER-THICKNESS	:	3 mm
8	PRESSIONE PROGETTO DESIGN PRESSURE	:	12 barg	TEMPERATURA PROGETTO DESIGN TEMPERATURE	:	-29 / +80 °C
9	DIAMETRO ESTERNO EXTERNAL DIAMETER	:	2000 mm	LUNGHEZZA T/T T/T LENGHT	:	2900 mm
10	VOLUME VOLUME	:	11 m3			
11	RADIOGRAFIE RT TEST	:	☒ YES SPOT	☐ NO		
12	VERNICIATURA PAINTING	:	☒ EXTERNAL	☐ INTERNAL		
11	ZINCATURA GALVANIZING	:	☐ YES	☒ NO		
12						
13	Notes: - details of nozzle are included into equipment sectional drawing					
14						

ELENCO CONNESSIONI
NOZZLES LIST

	SIGLA TAG	DIAMETRO DIAMETER	TIPO TYPE	SERIE RATING	SERVIZIO SERVICE	NOTE REMARKS
16	N1	1"	WN	ANSI 150	PROCESS INLET/OUTLET	
17	N2	1"	WN	ANSI 150	SAFETY VALVE	
18	N3	1/2"	NPT	3000#	PRESSURE GAUGE	HALF COUPLING
19	N4	1/2"	NPT	3000#	PRESSURE TRANSMITTER	HALF COUPLING
20	N5	1"	WN	ANSI 150	DRAIN	
21	N6	16"	WN	ANSI 150	MAN HOLE	
22						
23						

STRUMENTI - ACCESSORI
INSTRUMENTS - ACCESSORIES

24	☒	VALVOLA DI SICUREZZA SAFETY VALVE
25	☒	MANOMETRO PRESSURE GAUGE
26	☒	TRASMETTITORE DI PRESSIONE PRESSURE TRANSMITTER
27	☒	VALVOLA DI DRENAGGIO MANUALE MANUAL DRAIN VALVE
28	☐	SCARICATORE DI CONDENSA DRAIN TRAP
29		

REV. REV.	DESCRIZIONE DESCRIPTION	EMESSO ISSUED	APPROVATO APPROVED	DATA DATE
01	ISSUE FOR REVIEW	GT	TM	08-mag-24
00	ISSUE FOR REVIEW	GT	TM	28-mar-24

coes	CLIENTE / CUSTOMER	:	ROSETTI MARINO	COMM: / JOB:	:	167/24	
	RIFERIMENTO / REFERENCE	:	CROSSWIND	UNITA' / ITEM	:	/	
	IMPIANTO / DRYING UNIT	:	NITROGEN GENERATION PACKAGE	FOGLIO N° / SHEET	:	3	DI / OF : 3

FOGLIO DATI PER FILTRO
FILTER DATA SHEET

DATI GENERALI
GENERAL DATA

1	QUANTITA' / QUANTITY	:	2
2	ITEM / TAG	:	S-64001A/B
3	SERVIZIO / SERVICE	:	DUST REMOVING
4			

DATI PROGETTO CALDARERIA
VESSELS DESIGN DATA

5	PRESSIONE PROGETTO / DESIGN PRESSURE	:	12 barg	TEMPERATURA PROGETTO / DESIGN TEMPERATURE	:	-29 / +80 °C
6	MATERIALE / MATERIAL	:	LTCS	SOVRASPESS. CORROSIONE / CORROSION OVER-THICKNESS	:	3 mm
7	NORMATIVA PROGETTO / DESIGN CODE	:	ASME VIII DIV.1	NORMATIVA COLLAUDO / INSPECTION CODE	:	2014/68/EU PED
8						

DATI FUNZIONALI
FUNCTIONAL DATA

9	GAS DA TRATTARE / GAS TO BE TREATED	:	NITROGEN 97%	PORTATA IN INGRESSO / INLET FLOWRATE	:	60 Nm3/h
10	PRESSIONE DI ESERCIZIO / OPERATING PRESSURE	:	8.5 barg	TEMPERATURA DI ESERCIZIO / OPERATING TEMPERATURE	:	35 °C
11	PERDITA DI CARICO/FILTRO PULITO / PRESSURE DROP/CLEAN FILTER	:	0,1 bar	PERDITA DI CARICO/FILTRO SPORCO / PRESSURE DROP/DIRTY FILTER	:	0.3 bar
12	EFFICIENZA / EFFICIENCY	:	99.9 %	GRADO DI FILTRAZIONE / FILTRATION DEGREE	:	1 μm
13	OLIO RESIDUO / RESIDUAL OIL	:	N/A			
14						

CARATTERISTICHE ELEMENTI FILTRANTI
FILTRATION ELEMENTS DATA

15	TIPO ELEMENTO FILTRANTE / FILTRATION ELEMENT TYPE	:	CARTRIDGE	MATERIALE / MATERIAL	:	COALESCING MICROFIBER
16	N° CARTUCCE PER FILTRO / No. OF ELEMENTS/EACH FILTER	:	1	MODELLO / MODEL	:	30A
17						

STRUMENTI - ACCESSORI
INSTRUMENTS - ACCESSORIES

18	☐	BY-PASS FILTRO / FILTER BY-PASS						
19	☒	TUBAZIONE DI RACCORDO FILTRO / CONNECTION PIPE TO FILTER						
20	☒	VALVOLE INTERCETTAZIONE / ON/OFF VALVES	☒	2 VIE / 2-WAY	☐	3 VIE / 3-WAY	☐	AUTOMATICHE / AUTOMATIC
21	☐	MANOMETRO DIFFERENZIALE / DIFFERENTIAL PRESSURE GAUGE						
22	☒	TRASMETTITORE DI PRESSIONE DIFFERENZIALE / DIFFERENTIAL PRESSURE TRANSMITTER	AS PER P&ID NO. 1724000437-PR-PID-00018					
23	☒	VALVOLA DI DRENAGGIO / DRAIN VALVE						
24	☐	SCARICATORE DI CONDENSA / STEAM TRAP			☐	AUTOMATICO / AUTOMATIC	☐	GALLEGGIANTE / FLOATING
25	☐	VALVOLE DI SICUREZZA / SAFETY VALVES						

NOTE / REMARKS :

REV. / REV.	DESCRIZIONE / DESCRIPTION	EMESSO / ISSUED	APPROVATO / APPROVED	DATA / DATE
01	ISSUE FOR REVIEW	GT	TM	08-mag-24
00	ISSUE FOR REVIEW	GT	TM	28-mar-24

Base Load Power Hub (BLPH)

NITROGEN GENERATION PACKAGE A-64000
INSTRUMENT DATA SHEETS

Document Number: 1724000437-MAC-DS-00013

Document Class: 3

02	04/09/2024	Issue for Information (IFI)	GT	MC	TM
01	01/07/2024	Issue for Information (IFI)	GT	MC	TM
00	20/05/2024	Issue for Information (IFI)	GT	MC	TM
Rev.	Date	Description	Prepared	Reviewed	Approved

COES

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Revision / Change Log

Rev.	Description
00	Issue for Information (IFI)
01	Issue for Information (IFI)
02	Issue for Information (IFI)

HOLDS LIST

No.	Description
1	
2	
3	
4	

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None

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

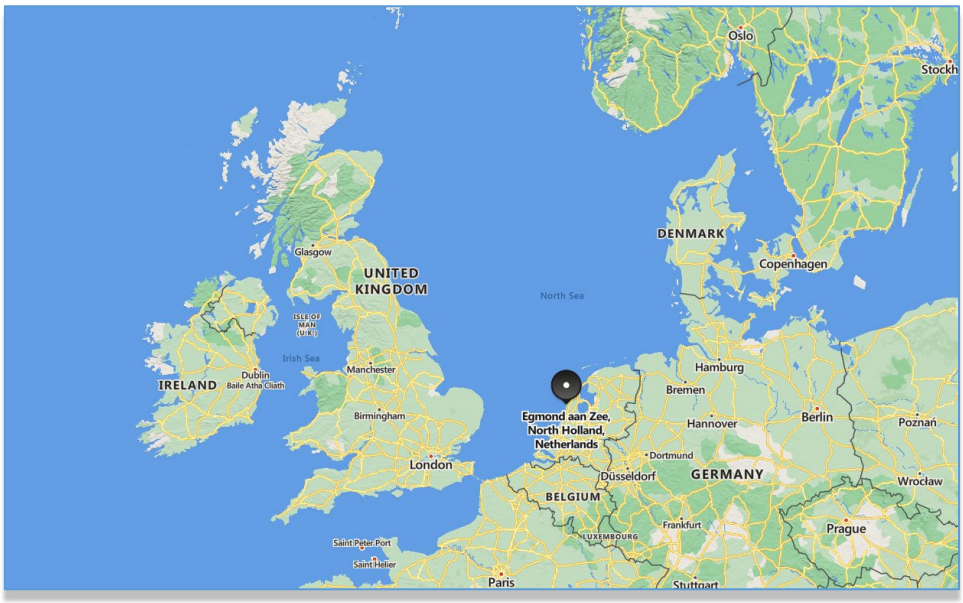


Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map

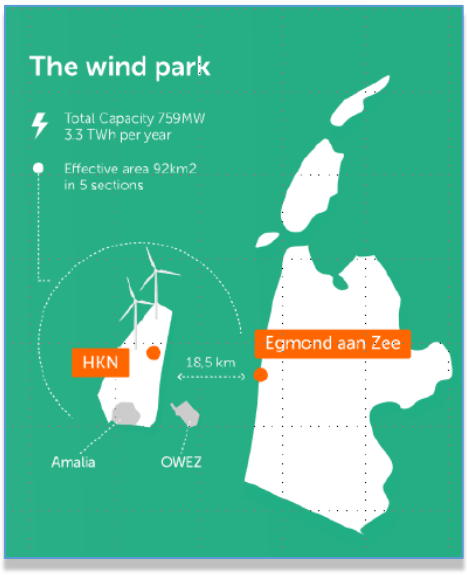


Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

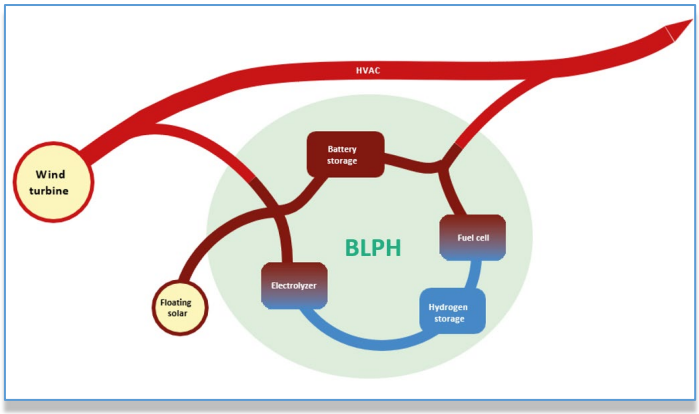


Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

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2 DOCUMENT SCOPE

This document identifies any electrical equipment to be fed with its main characteristics.

2.1 REFERENCES

Doc. No.	Description
1724000437-PR-PID-00018	PACKAGE P&ID
1724000437-MAC-DS-00011	EQUIPMENT DATA SHEETS INCLUDING PSA, ETC.

Table 1 - Reference Documents

2.2 DEFINITIONS AND ABBREVIATIONS

COMPANY or Client (CPY):	Crosswind
CONTRACTOR (CTR):	ROSETTI MARINO S.p.A.
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project

Table 2 - Definitions and Abbreviations

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3 INSTRUMENT DATASHEET

PRESSURE TRANSMITTER			
General	1	Tag number	64-PIT-051
	2	Service	Instrument air inlet pressure
	3	Quantity	1
Process	4	Fluid	Air
	5	Operating pressure	9 barg
	6	Operating temperature	40°C
	7	Design pressure	12 barg
	8	Design temperature	80°C
	9	Area classification	Safe
	10	Ambient temperature	-8.4 ÷ 25°C
Transmitter	11	Output	4…20mA HART 7
	12	Available range	-0.98 ÷ 20.7 bar
	13	Calibrated range	0 ÷ 16 barg
	14	Element type	Isolating Diaphragm
	15	Wetted parts material	SS 316L
	16	Element material	SS 316L
	17	Case material	SS 316L
	18	Execution	IP66
	19	Process connections	Female thread 1/2-14 NPT-F
	20	Cable entry	M20x1.5
	21	Digital display	YES - LCD type integrated
	22	Accuracy	Better than 0,25% of adjusted span
	23	Power supply	24 VDC
	24	Certification:	ATEX, II 1/2 G Ex db IIC T6…T4 Ga/Gb
Accessories	25	Manifold Supplier	EMERSON
	26	Manifold type / Model	2-Valves / R305C22B11L4
	27	Manifold mat.l Body / seal	SS316 / PTFE
Purchase	28	Instrument Manufacturer	EMERSON
	29	Model	2051CG4A22A1KS5E8L4M5D4T1Q4Q8HR7
Notes	30		

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PRESSURE TRANSMITTER			
General	1	Tag number	64-PIT-052, 64-PIT-053
	2	Service	PSA tower pressure
	3	Quantity	2
Process	4	Fluid	Air
	5	Operating pressure	9 barg
	6	Operating temperature	40°C
	7	Design pressure	12 barg
	8	Design temperature	80°C
	9	Area classification	Safe
	10	Ambient temperature	-8.4 ÷ 25°C
Transmitter	11	Output	4…20mA HART 7
	12	Available range	-0.98 ÷ 20.7 bar
	13	Calibrated range	0 ÷ 16 barg
	14	Element type	Isolating Diaphragm
	15	Wetted parts material	SS 316L
	16	Element material	SS 316L
	17	Case material	SS 316L
	18	Execution	IP66
	19	Process connections	Female thread 1/2-14 NPT-F
	20	Cable entry	M20x1.5
	21	Digital display	YES - LCD type integrated
	22	Accuracy	Better than 0,25% of adjusted span
	23	Power supply	24 VDC
	24	Certification:	ATEX, II 1/2 G Ex db IIC T6…T4 Ga/Gb
Accessories	25	Manifold Supplier	EMERSON
	26	Manifold type / Model	2-Valves / R305C22B11L4
	27	Manifold mat.l Body / seal	SS316 / PTFE
Purchase	28	Instrument Manufacturer	EMERSON
	29	Model	2051CG4A22A1KS5E8L4M5D4T1Q4Q8HR7
Notes	30		

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PRESSURE TRANSMITTER			
General	1	Tag number	64-PIT-057
	2	Service	Nitrogen outlet pressure
	3	Quantity	1
Process	4	Fluid	Nitrogen
	5	Operating pressure	8 barg
	6	Operating temperature	40°C
	7	Design pressure	12 barg
	8	Design temperature	80°C
	9	Area classification	Safe
	10	Ambient temperature	-8.4 ÷ 25°C
Transmitter	11	Output	4…20mA HART 7
	12	Available range	-0.98 ÷ 20.7 bar
	13	Calibrated range	0 ÷ 16 barg
	14	Element type	Isolating Diaphragm
	15	Wetted parts material	SS 316L
	16	Element material	SS 316L
	17	Case material	SS 316L
	18	Execution	IP66
	19	Process connections	Female thread 1/2-14 NPT-F
	20	Cable entry	M20x1.5
	21	Digital display	YES - LCD type integrated
	22	Accuracy	Better than 0,25% of adjusted span
	23	Power supply	24 VDC
	24	Certification:	ATEX, II 1/2 G Ex db IIC T6…T4 Ga/Gb
Accessories	25	Manifold Supplier	EMERSON
	26	Manifold type / Model	2-Valves / R305C22B11L4
	27	Manifold mat.l Body / seal	SS316 / PTFE
Purchase	28	Instrument Manufacturer	EMERSON
	29	Model	2051CG4A22A1KS5E8L4M5D4T1Q4Q8HR7
Notes	30		

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PRESSURE TRANSMITTER			
General	1	Tag number	64-PIT-059
	2	Service	Nitrogen receiver pressure
	3	Quantity	1
Process	4	Fluid	Nitrogen
	5	Operating pressure	8 barg
	6	Operating temperature	40°C
	7	Design pressure	12 barg
	8	Design temperature	80°C
	9	Area classification	Safe
	10	Ambient temperature	-8.4 ÷ 25°C
Transmitter	11	Output	4…20mA HART 7
	12	Available range	-0.98 ÷ 20.7 bar
	13	Calibrated range	0 ÷ 16 barg
	14	Element type	Isolating Diaphragm
	15	Wetted parts material	SS 316L
	16	Element material	SS 316L
	17	Case material	SS 316L
	18	Execution	IP66
	19	Process connections	Female thread 1/2-14 NPT-F
	20	Cable entry	M20x1.5
	21	Digital display	YES - LCD type integrated
	22	Accuracy	Better than 0,25% of adjusted span
	23	Power supply	24 VDC
	24	Certification:	ATEX, II 1/2 G Ex db IIC T6…T4 Ga/Gb
Accessories	25	Manifold Supplier	EMERSON
	26	Manifold type / Model	2-Valves / R305C22B11L4
	27	Manifold mat.l Body / seal	SS316 / PTFE
Purchase	28	Instrument Manufacturer	EMERSON
	29	Model	2051CG4A22A1KS5E8L4M5D4T1Q4Q8HR7
Notes	30		

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DIFFERENTIAL PRESSURE TRANSMITTER			
General	1	Tag number	64-PDIT-056
	2	Service	After-filters pressure drop
	3	Quantity	1
Process	4	Fluid	Nitrogen
	5	Operating pressure	8 barg
	6	Operating temperature	40°C
	7	Design pressure	12 barg
	8	Design temperature	80°C
	9	Area classification	Safe
	10	Ambient temperature	-8.4 ÷ 25°C
Transmitter	11	Output	4…20mA HART 7
	12	Available range	-2.5 ÷ 2.5 bar
	13	Calibrated range	0 ÷ 1 bar
	14	Element type	Isolating Diaphragm
	15	Wetted parts material	SS 316L
	16	Element material	SS 316L
	17	Case material	SS 316L
	18	Execution	IP66
	19	Process connections	Female thread 1/2-14 NPT-F
	20	Cable entry	M20x1.5
	21	Digital display	YES - LCD type integrated
	22	Accuracy	Better than 0,25% of adjusted span
	23	Power supply	24 VDC
	24	Certification:	ATEX, ATEX, II 1/2 G Ex db IIC T6…T4 Ga/Gb
Accessories	25	Manifold Supplier	EMERSON
	26	Manifold type / Model	5-Valves / R305RC52B11
	27	Manifold mat.l Body / seal	SS316 / PTFE
Purchase	28	Instrument Manufacturer	EMERSON
	29	Model	2051CD3A22A1KS5E8L4M5D4T1Q4Q8HR7
Notes	30		

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PRESSURE GAUGES			
General	1	Tag number	64-PI-054, 64-PI-055
	2	Service	PSA towers pressure
	3	Quantity	2
Process	4	Fluid	Air
	5	Operating pressure	9 barg
	6	Operating temperature	40°C
	7	Design pressure	12 barg
	8	Design temperature	80°C
	9	Area classification	Safe
	10	Ambient temperature	-8.4 ÷ 25°C
Gauge	11	Type	Bourdon Tube
	12	Range	0 ÷ 16 barg
	13	Mounting	Local
	14	Dial size	DN100 mm
	15	Dial / Pointer color / material	White / black / aluminum
	16	Case material	Stainless steel SS 316
	17	Ring material	Stainless steel SS 316
	18	Blow out protection	With solid baffle wall and blow-out back
	19	Lens material	Safety glass
	20	Pressure element type	Bourdon
	21	Pressure element material	SS 316L (1.4571)
	22	Socket material	Stainless Steel SS 316
	23	Movement material	Stainless Steel SS 316
	24	Connection size	1/2" NPT-M
	25	Connection type	Radial Bottom
	26	Protection degree	IP66
	27	Nominal accuracy	CLASS 1 EN837 - 1% on range
	28	Over pressure	30% of span
	29	Certification:	ATEX, Ex h Gas II 2G Ex h IIC T6 ...T1 Gb X
Accessories	30	Diaphragm seal	NO
	31	Manifold	2 Valves
Purchase	32	Instruments Manufacturer	WIKA
	33	Model	233.30
Notes	34		

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PRESSURE GAUGES			
General	1	Tag number	64-PI-058
	2	Service	Nitrogen receiver pressure
	3	Quantity	1
Process	4	Fluid	Nitrogen
	5	Operating pressure	8 barg
	6	Operating temperature	40°C
	7	Design pressure	12 barg
	8	Design temperature	80°C
	9	Area classification	Safe
	10	Ambient temperature	-8.4 ÷ 25°C
Gauge	11	Type	Bourdon Tube
	12	Range	0 ÷ 16 barg
	13	Mounting	Local
	14	Dial size	DN100 mm
	15	Dial / Pointer color / material	White / black / aluminum
	16	Case material	Stainless steel SS 316
	17	Ring material	Stainless steel SS 316
	18	Blow out protection	With solid baffle wall and blow-out back
	19	Lens material	Safety glass
	20	Pressure element type	Bourdon
	21	Pressure element material	SS 316L (1.4571)
	22	Socket material	Stainless Steel SS 316
	23	Movement material	Stainless Steel SS 316
	24	Connection size	1/2" NPT-M
	25	Connection type	Radial Bottom
	26	Protection degree	IP66
	27	Nominal accuracy	CLASS 1 EN837 - 1% on range
	28	Over pressure	30% of span
	29	Certification:	ATEX, Ex h Gas II 2G Ex h IIC T6 ...T1 Gb X
Accessories	30	Diaphragm seal	NO
	31	Manifold	2 Valves
Purchase	32	Instruments Manufacturer	WIKA
	33	Model	233.30
Notes	34		

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OXYGEN ANALYZER			
General	1	Tag number	64-AT-051
	2	Service	PSA Outlet oxygen content
	3	Quantity	1
Process	4	Fluid	Nitrogen
	5	Operating pressure	8 barg
	6	Operating temperature	40°C
	7	Design pressure	12 barg
	8	Design temperature	80°C
	9	Area classification	Safe
	10	Ambient temperature	-8.4 ÷ 25°C
Transmitter	11	Analog output	4÷20mA
	12	Digital interface	0% to 5%
	13	Calibrated Range	0% ÷ 5%
	14	Power supply	24 VDC
	15	Accuracy	±1 of span
	16	Repeatability	±0.2% of span
	17	Execution	IP66
	18	Enclosure	SS 316
	19	Warm-up time	30 minutes
	20	Certification:	ATEX, Ex II 2 GD Ex d IIc TC
Probe	21	Mounting	Local
Accessories	22	Digital display	No
	23	Isolation valves	YES
Purchase	24	Manufacturer	GE SENSING
	25	Model	XM02-7-CE-3-1-0 XCAL-3-1-1-1
Notes	26		

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SOLENOID VALVE			
General	1	Tag number	64-XY-051, 64-XY-052, 64-XY-053, 64-XY-054, 64-XY-055, 64-XY-056 64-XY-056, 64-XY-057, 64-XY-058, 64-XY-059, 64-XY-060, 64-XY-061
	2	Service	Actuated valves command
	3	Type	Solenoid valve
Body	4	Material	SS 316
	5	Connections	1/4" NPT-F
	6	Seals	NBR
Acting	7	Ways/Position	3/2
	8	Type	UNIVERSAL
Coil	9	Power supply	24Vdc
	10	Insulation class	H
	11	Protection degree	IP66
	12	Electrical connection	M20 x 1.5
	13	Power consumption	11W
Purchase	14	Manufacturer	NADI
	15	Model	C28I60D0C
	16	Certification	ATEX, Eexd IIC T6
Notes	17	Installed inside local control panel	

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SAFETY VALVE			
General	1	Tag number	64-PSV-001, 64-PSV-002
	2	Service	Vessel protection
	3	Quantity	2
	4	Type	Safety relief valve
Process	5	Fluid	N2
	6	Operating pressure	12 barg
	7	Operating temperature	40°C
	8	Design pressure	12 barg
	9	Design temperature	80°C
	10	Area classification	Safe
	11	Ambient temperature	-8.4 ÷ 25°C
Design	12	Design	2014/68/EU PED
	13	Code	ISO 4126-1
	14	Design case	Fire case
	15	Inlet connection	1” ANSI 150 RF
	16	Outlet connection	2” ANSI 150 RF
	17	Orifice designation	D
	18	Set pressure	12 barg
	19	Back pressure	0
	20	Overpressure	10%
Materials	21	Diaphragm seal	NO
	22	Body	SS316
Purchase	23	Manufacturer	N.G.I.
	24	Model	G10-API
Notes	25		

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SAFETY VALVE			
General	1	Tag number	64-PSV-003, 64-PSV-004
	2	Service	N2 receiver protection
	3	Quantity	1
	4	Type	Safety relief valve
Process	5	Fluid	N2
	6	Operating pressure	12 barg
	7	Operating temperature	40°C
	8	Design pressure	12 barg
	9	Design temperature	80°C
	10	Area classification	Safe
	11	Ambient temperature	-8.4 ÷ 25°C
Design	12	Design	2014/68/EU PED
	13	Code	ISO 4126-1
	14	Design case	Fire case
	15	Inlet connection	2” ANSI 150 RF
	16	Outlet connection	3” ANSI 150 RF
	17	Orifice designation	J
	18	Set pressure	12 barg
	19	Back pressure	0
	20	Overpressure	10%
Materials	21	Diaphragm seal	NO
	22	Body	SS316
Purchase	23	Manufacturer	N.G.I.
	24	Model	G32-API
Notes	25		

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as “NOT CONTROLLED” copy

ACTUATED VALVES			
General	1	Tag number	64-XV-051, 64-XV-052, 64-XV-053, 64-XV-054
	2	Service	ON-OFF actuated valves
	3	Quantity	4
	4	Type	Ball valve
Process	5	Fluid	N2
	6	Operating pressure	12 barg
	7	Operating temperature	40°C
	8	Design pressure	12 barg
	9	Design temperature	80°C
	10	Area classification	Safe
	11	Ambient temperature	-8.4 ÷ 25°C
Body	12	Size	1”
	13	Rating	150
	14	End connections	RF
	15	Material	A351 CF8M
	16	Ball	SS 316
	17	Seat	FKM+GRAPHITE
Actuator	18	Type	RACK & PINION
	19	Fail position	CLOSE
Purchase	20	Manufacturer	VALPRES
	21	Model	ART.68J000
Notes	22		

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as “NOT CONTROLLED” copy

ACTUATED VALVES			
General	1	Tag number	64-XV-055, 64-XV-056, 64-XV-056, 64-XV-057, 64-XV-058, 64-XV-059
	2	Service	ON-OFF actuated valves
	3	Quantity	6
	4	Type	Ball valve
Process	5	Fluid	N2
	6	Operating pressure	12 barg
	7	Operating temperature	40°C
	8	Design pressure	12 barg
	9	Design temperature	80°C
	10	Area classification	Safe
	11	Ambient temperature	-8.4 ÷ 25°C
Body	12	Size	1”
	13	Rating	150
	14	End connections	RF
	15	Material	A352 LCC
	16	Ball	A352 LCC
	17	Seat	FKM+GRAPHITE
Actuator	18	Type	RACK & PINION
	19	Fail position	CLOSE
Purchase	20	Manufacturer	VALPRES
	21	Model	ART.68J000
Notes	22		

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as “NOT CONTROLLED” copy

ACTUATED VALVES			
General	1	Tag number	64-XV-060, 64-XV-061
	2	Service	ON-OFF actuated valves
	3	Quantity	2
	4	Type	Ball valve
Process	5	Fluid	N2
	6	Operating pressure	12 barg
	7	Operating temperature	40°C
	8	Design pressure	12 barg
	9	Design temperature	80°C
	10	Area classification	Safe
	11	Ambient temperature	-8.4 ÷ 25°C
Body	12	Size	1”
	13	Rating	150
	14	End connections	RF
	15	Material	A352 LCC
	16	Ball	A352 LCC
	17	Seat	FKM+GRAPHITE
Actuator	18	Type	RACK & PINION
	19	Fail position	OPEN
Purchase	20	Manufacturer	VALPRES
	21	Model	ART.68J000
Notes	22		

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as “NOT CONTROLLED” copy

Section 7 MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC & discipline : M

Mechanical	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
A-64000	Nitrogen Package	ONSHORE	C10002357	CZX01M	100	2025-01-15	RFC 2
V-64001	Nitrogen Receiver Vessel	ONSHORE	C10004520	CDX01	100	2025-01-10	RFC 2

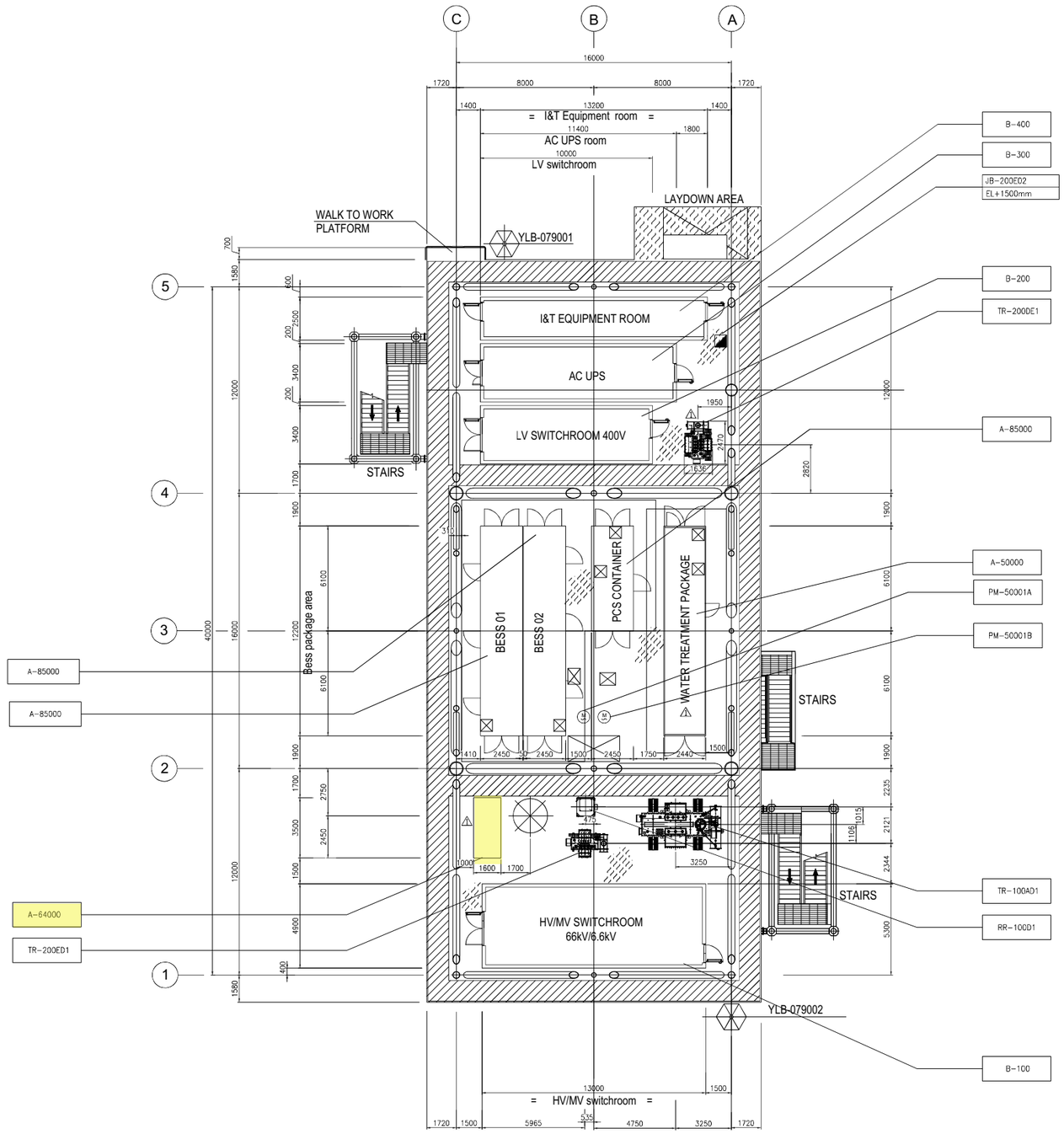
ITEM	Tag	A-64000	: Nitrogen Package			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10002357		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Mechanical Form CZX01M		Package - M

1	Check that the nameplate details and tag number are complete and correct.	Note
2	Check that the holding down arrangements are correct.	OK
3	Check for all interface piping/mechanical reinstated on site by contractor.	OK
4	Check that the package Mechanical equipment is complete and not damaged.	PL
5	Check all the equipment for correct lubrication, for oil leaks and cleanliness.	OK
6	Check for the free rotation of rotating equipment.	OK
7	Check the insulation, painting and for correct tagging and identification.	PL
8	Check that the earthing system of the equipment is as per specification.	OK
9	Check that the Package is fixed and tightened to the structures.	OK
10	Check the release note, FAT report and outstanding Punch list for the Package	Note
11	If required produce Red Line Mark Up for "AS BUILT".	

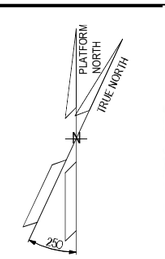
Comments:

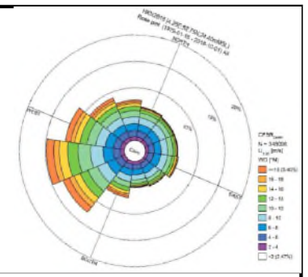
1. SN.I240008. In the Nitrogen package GA the SN is not marked.
10. Point checked. Release note missing. FAT report is nonconforming but all related PL are still outstanding.

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (Rosetti Marino)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2025-01-15	2025-01-15	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-15T06:19:13.973Z	PROVERLIS Digitaly signed by Massimo Bruschi 2025-01-15T07:21:08.279Z	



PLAN ON LOWER DECK
EL+23.310 T.O.S.





NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

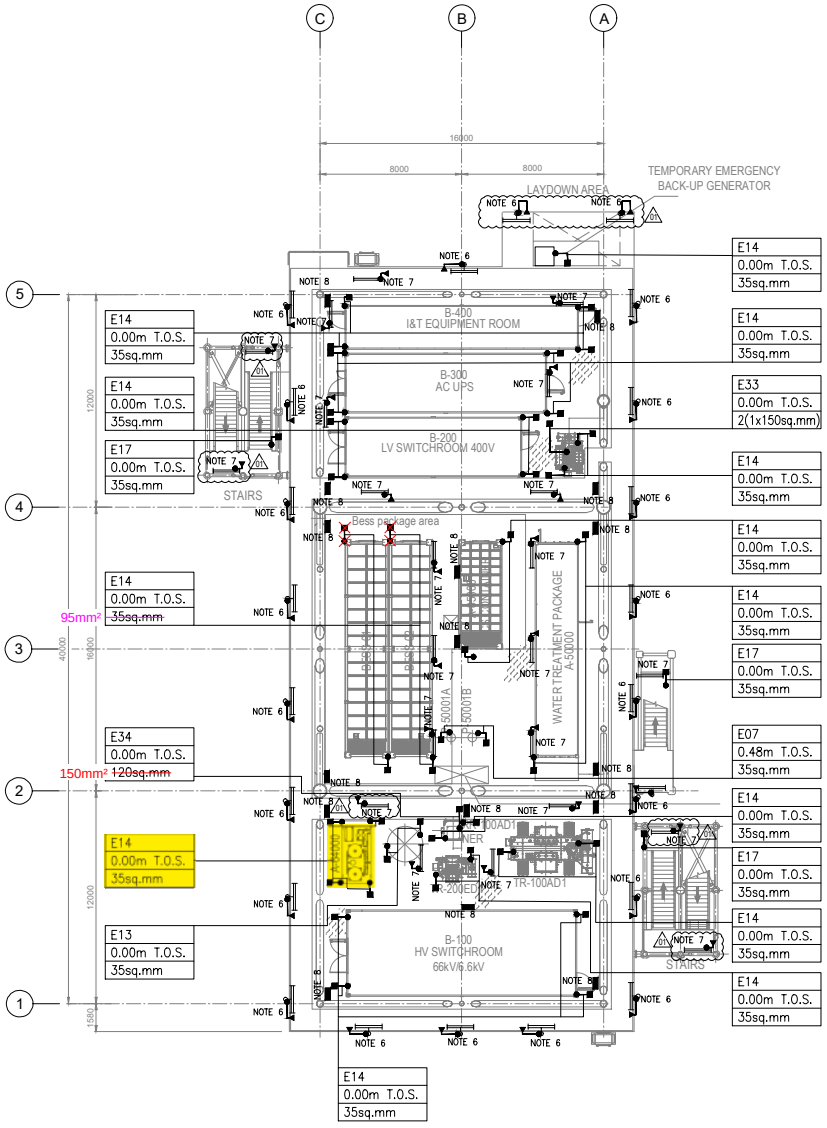
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101 REV. 01

File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

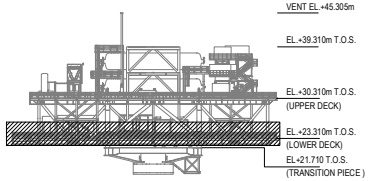
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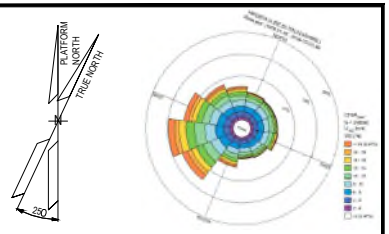
REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.

KEY PLAN





NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DOCUMENT IS ONLY VALID FOR EARTHING LAYOUT.
4. ALL ELECTRICAL EQUIPMENT NOT DIRECTLY WELDED TO SKID FRAME SHALL BE BONDED TO STEEL TO THE STRUCTURE OF SKID BASEFRAME.
5. FOR LIGHTNING PROTECTION SYSTEM SURGE PROTECTIVE DEVICES (SPD), REFER TO THE DOCUMENT 123A90-DDL-EL-RE-20154.
6. ALL NON-WELDED POLES WILL BE EARTHED AS PER TYPICAL E05 AND E24. (1)
7. ALL LINEAR LIGHTING FIXTURE WILL BE EARTHED AS PER TYPICAL E32.
8. EARTH BAR WILL BE FIXED TO THE PRIMARY BEAMS OF THE UPPER DECK. COMPLETE EARTHING INCLUDING WITH 2 THREADED STUDS. ALL EARTH BAR WILL BE EARTHED AS PER TYPICAL E03D / 6.00M T.O.S. / 35 SQ MM.
9. EQUIPOTENTIAL BONDING GROUPING FOR BOLTED HANDRAILS ARE PROVIDED EVERY 3M FOR THE ENTIRE PERIMETER AS TYPICAL E16 AND WILL BE DEFINED DURING ASSEMBLY PHASE

LEGEND

- LIGHTING FIXTURE POLE MOUNTED
- LINEAR LIGHTING FIXTURE
- EARTHING BOSS AISI316L
- COMPRESSION TYPE LUG TINNED COPPER
- THREADED STUD FOR EARTHING CONNECTION
- Exx EARTHING TYPICAL CODE
- EARTHING BAR

TYP.	TYPICAL
ELE	ELEVATION
SIZE	

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DD-20090	ELECTRICAL TYPICAL INSTALLATION DETAILS - EARTHING SYSTEM
123A90-DDL-EL-RE-20154	LIGHTNING PROTECTION SYSTEM CALCULATION REPORT
123A90-DDL-EL-DL-20119	LIGHTING & SOCKET LAYOUT - LOWER DECK
123A90-DDL-EL-DL-20101	ELECTRICAL EQUIPMENT LAYOUT - LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	25/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	29/05/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EARTHING & LIGHTNING LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150

DRAWN SPS | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 25/07/24

A1 | DRAWING NO. 123A90-DDL-EL-DL-20133 | SHEET 001 | REV. 01

SHEET 001 OF 002

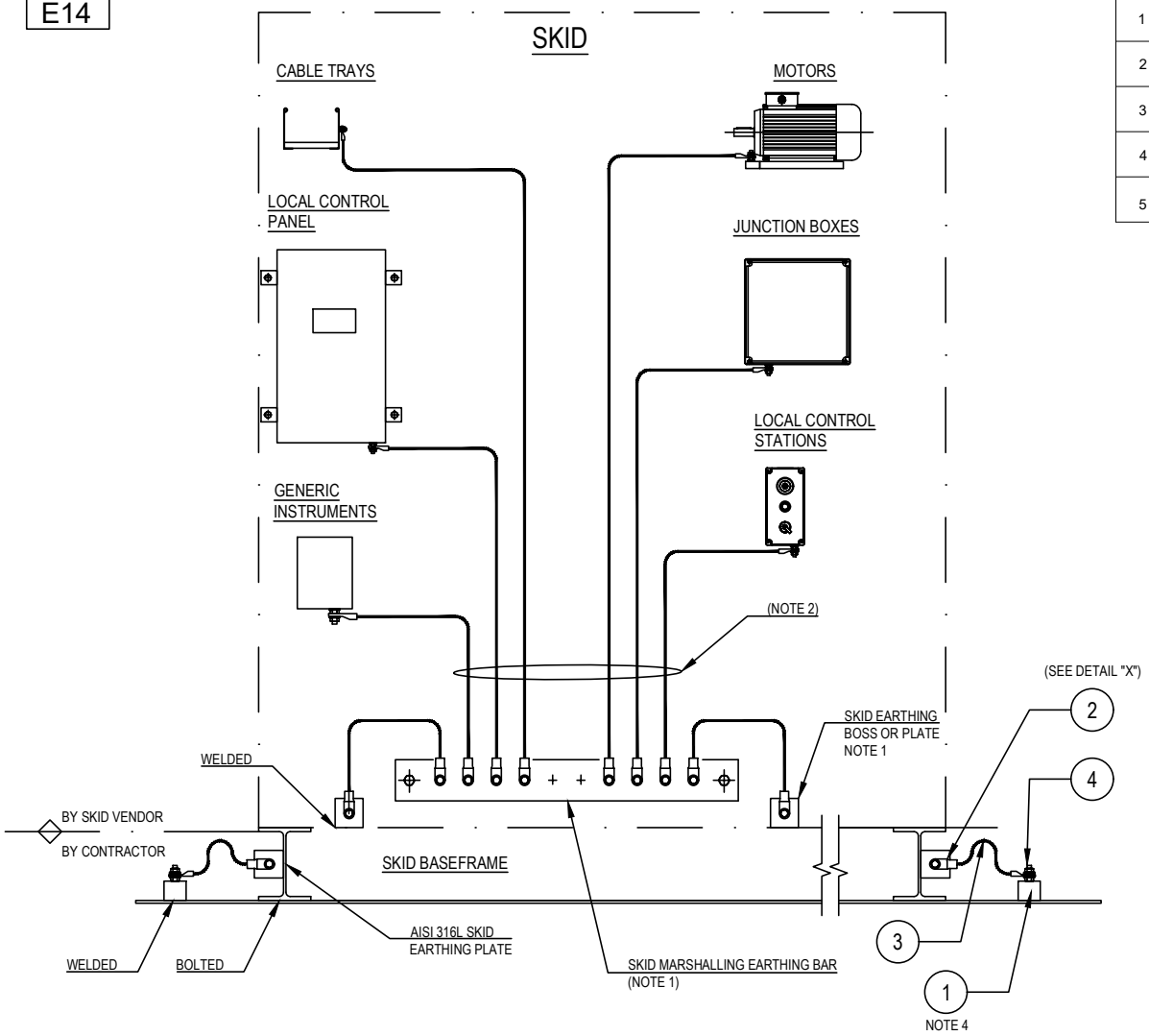
VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20133

REV.:	DATE:	SIGNATURE:
1_C	26/11/24	G.Randi

ROSETTI MARINO SpA

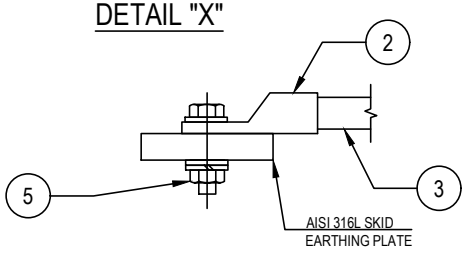
File Name : 123A90-DDL-EL-DL-20133

E14



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	EARTHING BOSS WITH THREADED HOLE M10	AISI 316L	50X50		NOTE 5
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	35mm^2		~~NOTE 3~~
3	Y/G INSULATING COPPER CONDUCTOR	COPPER	35mm^2		~~NOTE 3~~
4	STUD BOLT WITH PLANE WASHER, SPRING WASHER AND NUT	AISI 316L	M10X50		
5	HEXAG. BOLT COMPLETE WITH PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M10X30		

DETAIL "X"



NOTES:
1) EARTHING BAR/BOSS/PLATE SUPPLIED BY SKID MANUFACTURER
2) ALL EQUIPMENTS AND CABLE TRAYS WILL BE EARTHING ON SKID EARTHING BAR BY SKID MANUFACTURER
3) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY~~
4) FOR EARTHING BOSS TYPICAL DETAIL E11A
5) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20090
REV.: 2_I | DATE: 07/11/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR SKID BASEFRAME

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20090 | SHEET 014 | REV. 02

CROSSWIND

ROSETTI MARINO

F.to UNI A3: 420mmx297mm

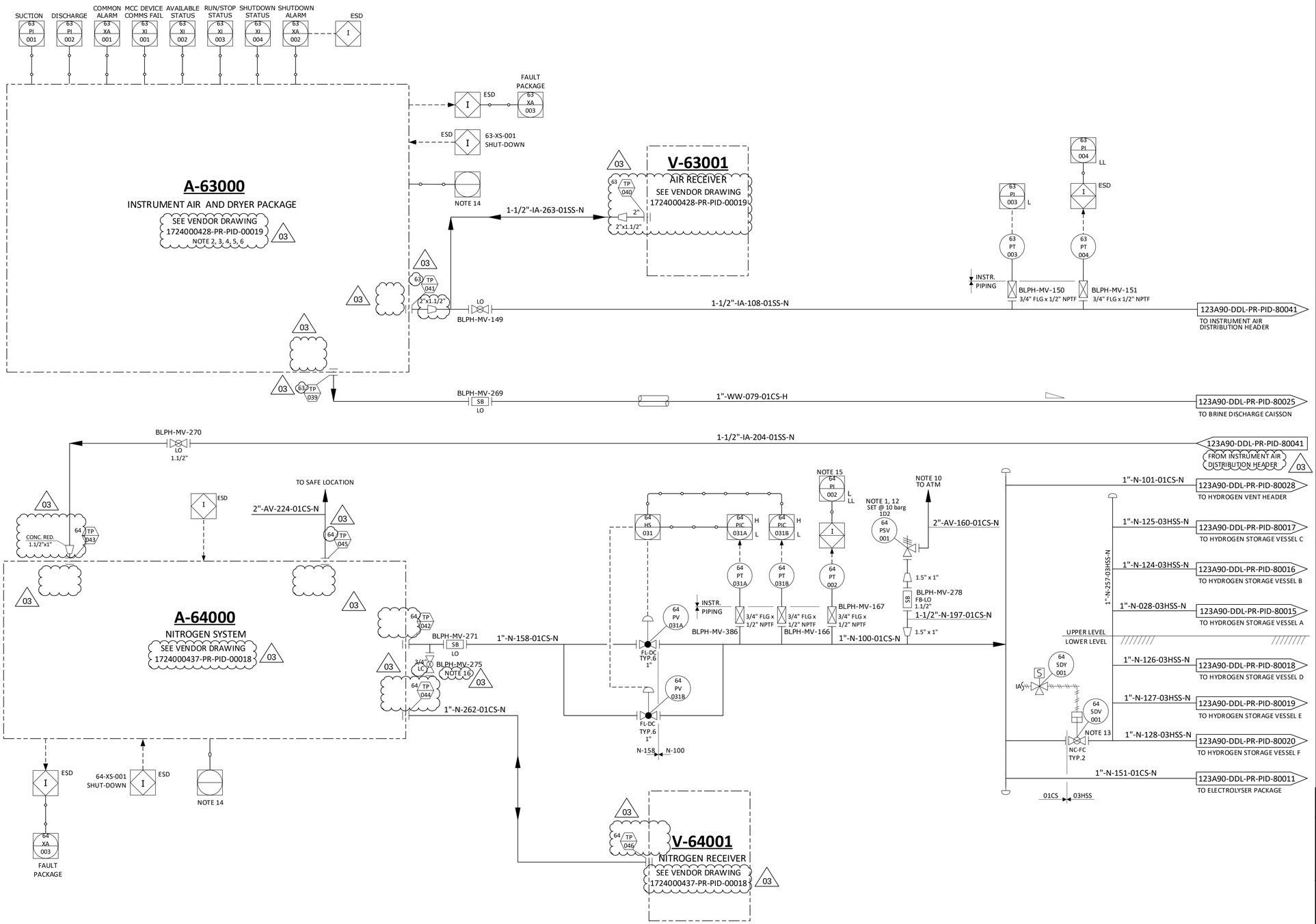
File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

DRAWING NO. DRAWING_NO.

REV. REV

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
CAPACITY : 313 Sm³/h (PRODUCTION)

A-64000
NITROGEN GENERATION SYSTEM
CAPACITY : 52.7 Sm³/h (PRODUCTION)



NOTES

1. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
2. COMPRESSORS AND DRIERS DESIGNED FOR 2 X 100% CONFIGURATION. INSTRUMENT AIR RECEIVER DESIGNED FOR 1 X 100%.
3. VENDOR TO PROVIDE NECESSARY CONTROLS, INSTRUMENTATIONS AND ISOLATIONS IN ORDER TO OPERATE THE PLANT IN SAFE MANNER.
4. COMPRESSORS WILL OPERATE ON THE BASIS OF ONE WORKING AND ONE ON STANDBY.
5. COMPRESSORS TO BE ROTARY SCREW TYPE OIL FREE.
6. AIR COMPRESSOR INLET TO BE LOCATED AWAY FROM ANY VENTS.
7. DELETED.
8. DELETED.
9. DELETED.
10. TO SAFE LOCATION, ROUTED AWAY FROM WALKWAYS.
11. DELETED.
12. 64-PSV-001 SIZED FOR UPSTREAM 64-PV-031 CV FAILURE.
13. 64-SDV-001 IS NORMALLY CLOSED. IF REQUIRED THE OPERATOR CAN REMOTELY OPEN THE VALVE TO ALLOW PURGING OPERATION. VALVE 64-SDV-001 IS ALSO CONNECTED TO THE PCS SYSTEM.
14. SERIAL COMMUNICATION WITH CONTROL SYSTEM.
15. THE ALARM 64-PAL-002 WILL CLOSE 64-SDV-001 THROUGH SAFETY SYSTEM.
16. MANUAL VALVE BLPH-MV-275 TO BE CONNECTED WITH MANUAL VALVE BLPH-MV-466 (INSTALLED ON ELECTROLYSER PACKAGE EXIT LINE) BY MEAN ON A FLEXIBLE HOSE DURING COMMISSIONING PHASE FOR PURGING OPERATION.

HOLDS

1. DELETED.
2. DELETED.
3. DELETED.
4. DELETED.

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	09/09/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
02	12/06/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	15/02/2024	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

ROSETTI MARINO

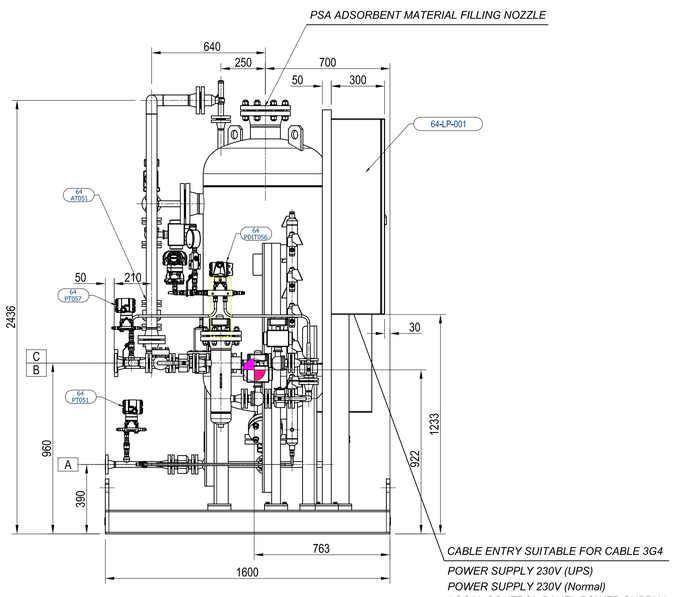
TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
INSTRUMENT AIR PACKAGE

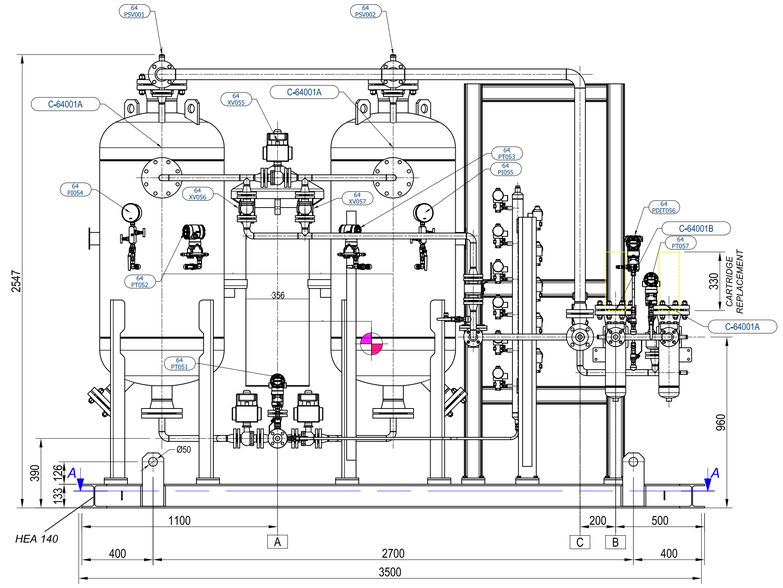
CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE NTS
DRAWN	CHECKED	APPROVED	DATE
A1	DRAWING NO. 123A90-DDL-PR-PID-80027		SHEET 001 / REV. 03

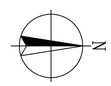
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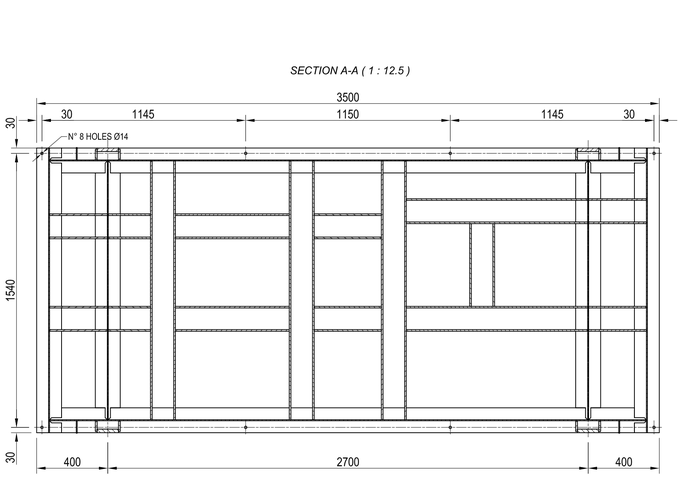
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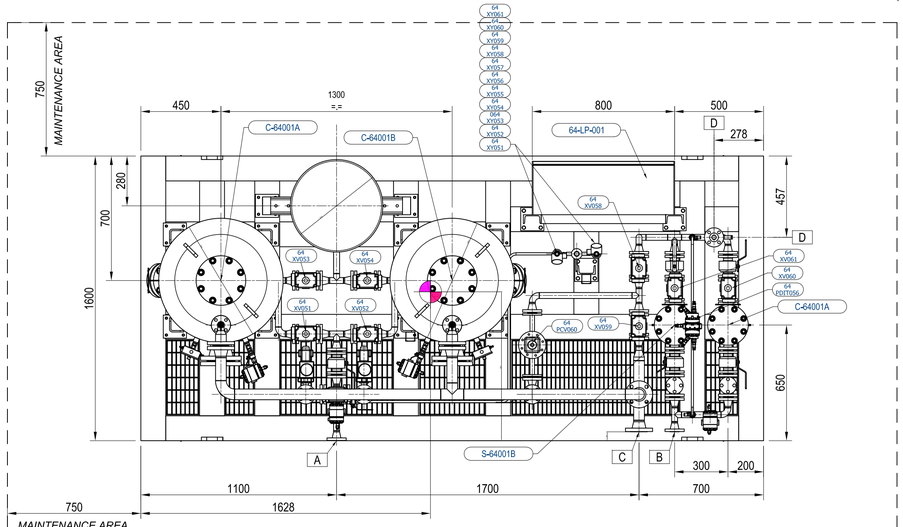
REV. 02

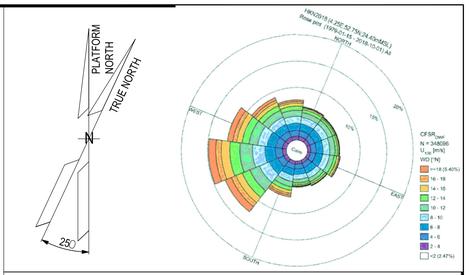


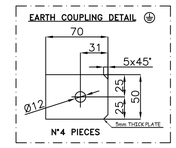












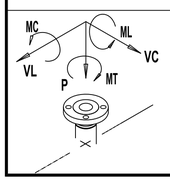
NOTES

1. SKID TOTAL WEIGHT: 5000 kg
2. FOR EQUIPMENT WEIGHT REFER TO EQUIPMENT DS, DOC. NO. 1724000437-MAC-DS-00011
3. FOR DESIGN PARAMETERS & CODES REFER TO EQUIPMENT DS, DOC. NO. 1724000437-MAC-DS-00011
4. FOR WELDING DETAILS REFER TO WELDING SPECIFICATION, DOC. NO. 1724000437-WEL-LIS-00020
5. FOR PAINTING DETAILS REFER TO PAINTING SPECIFICATION, DOC. NO. 1724000437-MAT-PRO-00021
6. NO LUBRICATION REQUIRED

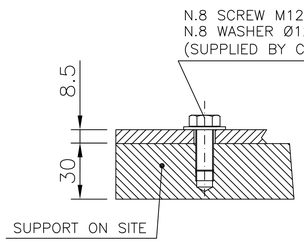
LEGEND

HOLDS

FOUNDATION LOADS TABLE			
	LIFTING	EMPTY	OPERATION
VERTICAL (kN)	8.2	7.5	8.2
SHEAR Y (kN)	0	0	0
SHEAR X (kN)	0	0	0
MOMENT Y (kNm)	0	0	0
MOMENT X (kNm)	0	0	0



MAX ALLOWABLE LOADS AT B.L. CONNECTIONS						
	FORCES [kN]			MOMENTS [kNm]		
	VL	P	VC	MC	MT	ML
A	1,8	1,5	1,8	0,3	0,4	0,2
B	1,8	1,5	1,8	0,3	0,4	0,2
C	1,8	1,5	1,8	0,3	0,4	0,2
D	1,8	1,5	1,8	0,3	0,4	0,2



TAG NUMBER OF EQUIPMENTS	
TAG	DESCRIPTION
C-64001A/B	PSA TOWERS
S-64001A/B	PSA AFTER FILTERS

CONNECTIONS			
POS.	TYPE	SERVICE	MATERIAL
A	ø 1" ANSI B16.5 150# R.F.	DRY AIR INLET	SS 316/316L
B	ø 1" ANSI B16.5 150# R.F.	NITROGEN OUTLET	C.S.
C	ø 1" ANSI B16.5 150# R.F.	NITROGEN VENT	C.S.
D	ø 1" ANSI B16.5 150# R.F.	CONNECTION TO RECEIVER	C.S.

NAMEPLATE "COES"

MANUFACTURER	COES SRL - STEZZANO (BG)		
SERVICE	NITROGEN GENERATION PACKAGE		
YEAR	2024	SERIAL NUMBER	*****
WEIGHT	5000 kg	ITEM	A-64000
PRESSURE	12 barg	TEMPERATURE	-10°C / 80°C

CE 0425 2014/68/UE - Cat.IV

coes

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	22/07/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)
01	08/05/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)
00	26/03/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PACKAGE GENERAL ARRANGEMENT
NITROGEN GENERATION PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	N/A
DRAWN GT	CHECKED MC	APPROVED TM	DATE 22/07/24
A1	DRAWING NO. 1724000437-MAC-DA-00005	SHEET 001	REV. 02

File Name : 1724000437-MAC-DA-00005

Base Load Power Hub (BLPH)

NITROGEN GENERATION PACKAGE
PACKAGE PIPING SCHEMATICS AND BILL OF MATERIALS

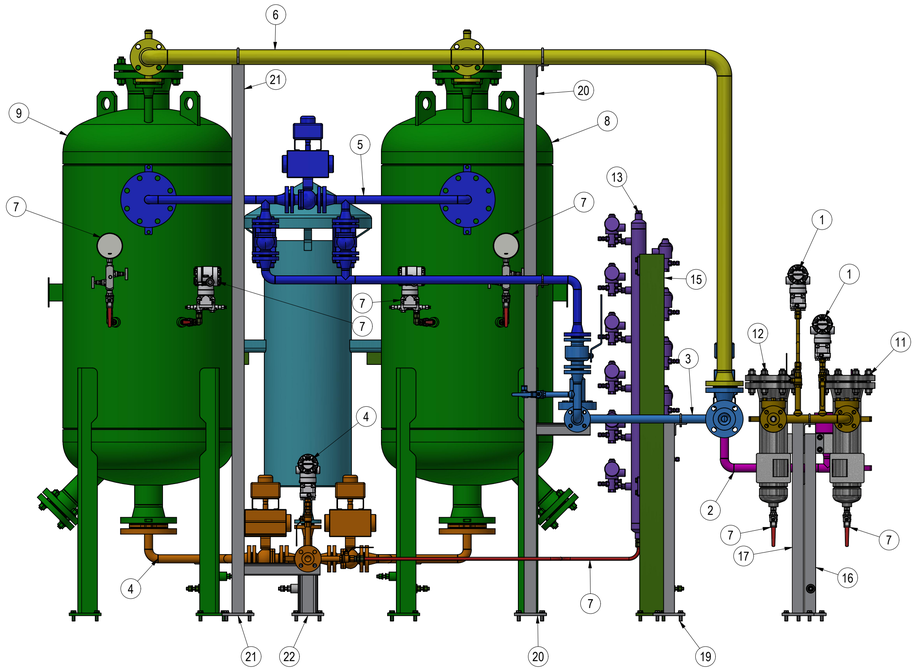
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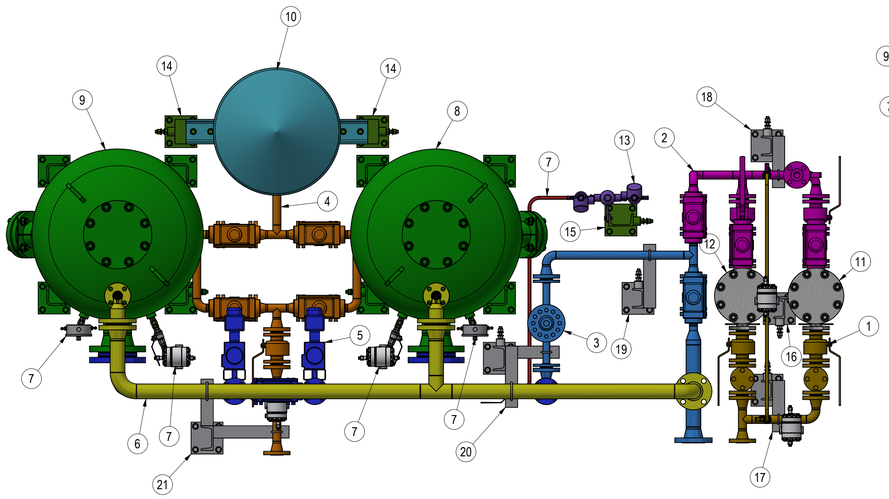
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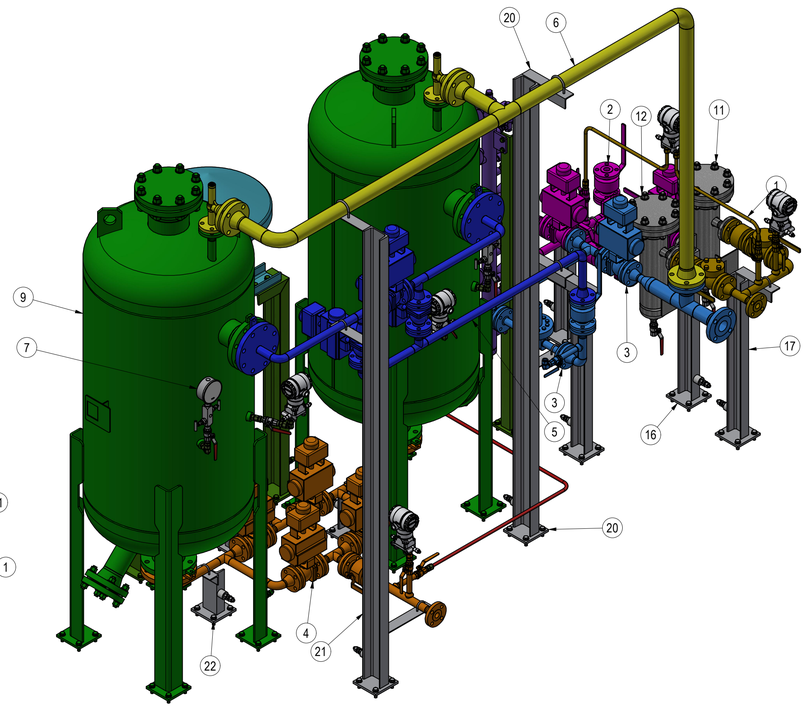
00	03/09/2024	Issue for Review (IFR)	GT	MC	TM
Rev.	Date	Description	Prepared	Reviewed	Approved

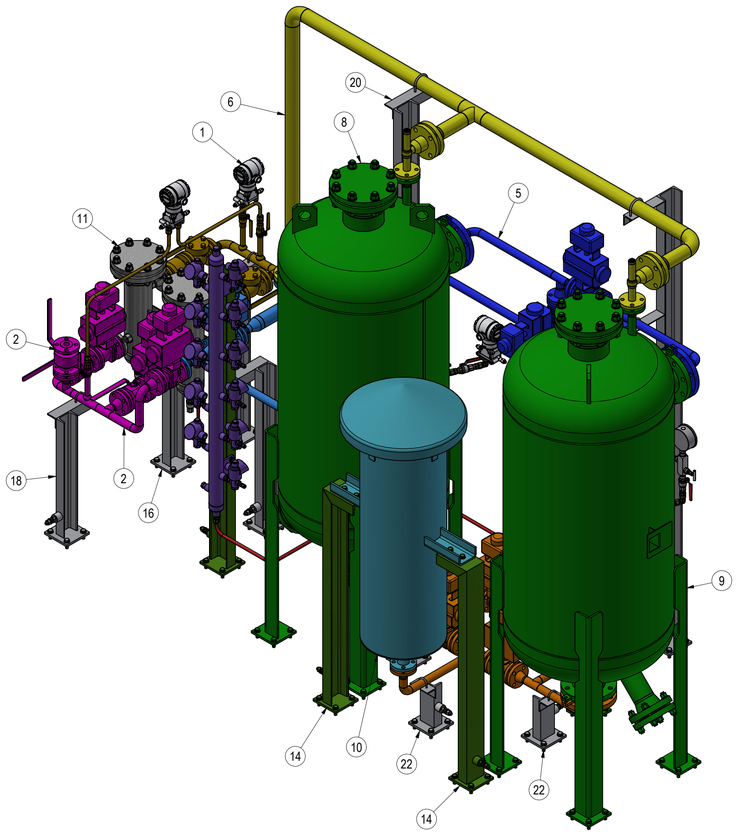
COES

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy







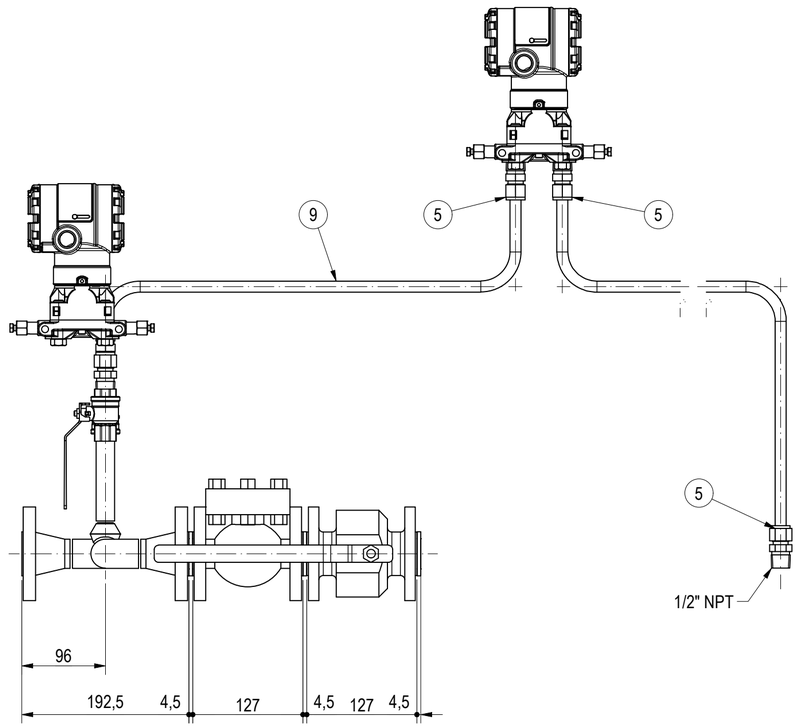


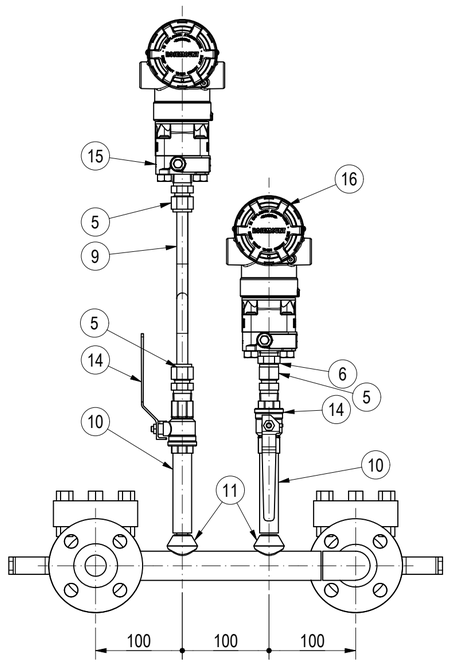
ELENCO PARTI / BILL OF MATERIAL						
POS	QTY	DESCRIPTION	MATERIAL	WGT	NOTE	COD. COES
1	1	PIPING 01 - LTCS		26		L4580
2	1	PIPING 02 - LTCS		73,3		L4581
3	1	PIPING 03 - LTCS		52,7		L4582
4	1	PIPING 04 - SS		120		L4583
5	1	PIPING 05 - LTCS		91,5		L4584
6	1	PIPING 06 - LTCS		50,3		L4585
7	1	HOOK UPS		12		L4594
8	1	VESSEL N2 Ø700	SA 516 Gr.70	338,6	CCO54050	L4388
9	1	VESSEL N2 Ø700	SA 516 Gr.70	338,6	CCO54050	L4388
10	1	N2 SILENCER 1" 150# RF		73	CCO54051	L4394
11	1	DUST FILTER IN/OUT 1" 150#	SA 516 Gr.70	36	CCO54049	L4391
12	1	DUST FILTER IN/OUT 1" 150#	SA 516 Gr.70	36	CCO54049	L4391
13	1	ASSIEME COLLETTORE 2" - N° 11 EV 1/4" NPT		21,1	L4593	L4593
14	2	SILENCER SUPPORT		29,5	L4590	L4590
15	1	PALINA SUPPORTO COLLETTORE 2"		17,4	L4595	L4595
16	1	PALINA DI FISSAGGIO FILTRI		8,9	L5183	L5183
17	1	SUPPORTO PIPING 1" H=802		9,4	L5184	L5184
18	1	SUPPORTO PIPING 1" H=602		7,6	L5185	L5185
19	1	SUPPORTO PIPING 1" H=802		9,5	L5186	L5186
20	1	SUPPORTO PIPING 1" H1=802 - 1" H2=1370 - 2" H3=2268.5		28,4	L5187	L5187
21	1	SUPPORTO PIPING 1" H1=232 - 1" H2=1697 - 2" H3=2278.5		28,3	L5188	L5188
22	3	SUPPORTO PIPING 1" H=232		12	L5189	L5189

REV	DATE	DESCRIPTION	PREPARED	APPROVED
0	21/08/2024	ISSUE	STC	GT

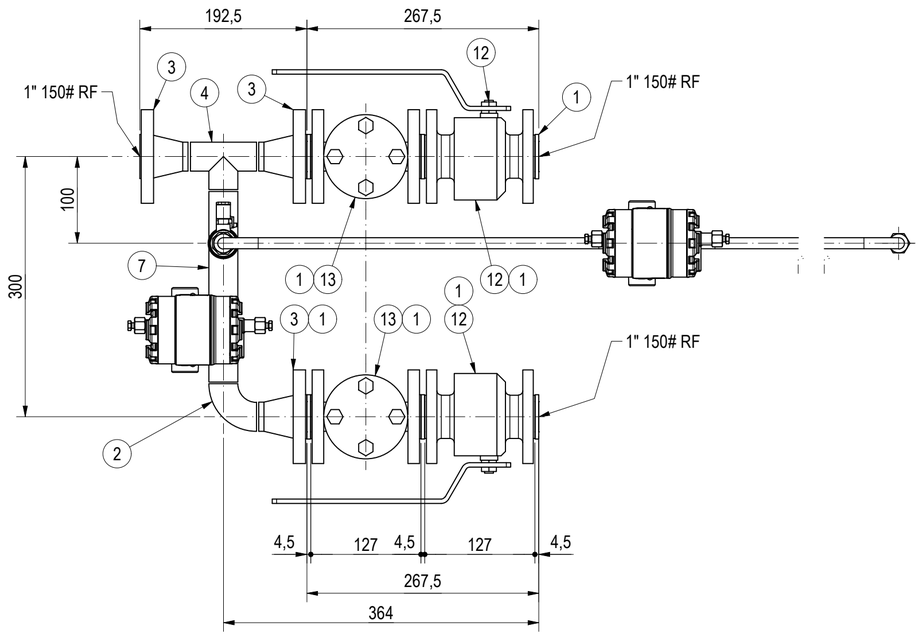
COMMESSA N° JOB N° 167/24	SERIAL N°	FORMATO SIZE A1	SCALA SCALE 1 : 12.5	
coes	ROSETTI MARINO N2 SKID - BLPH NETHERLAND PIPING ASSEMBLY COES CODE L4579		DISEGNO N° DRAWING N° CCO54058	
			FOGLIO SHEET 1	DI OF 8

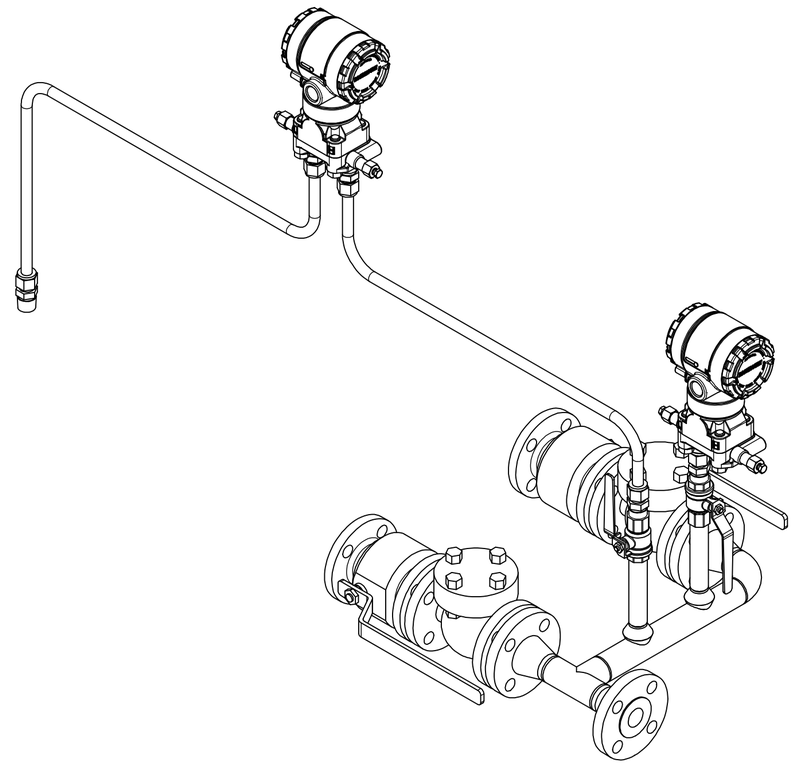
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ELENCO PARTI / BILL OF MATERIAL						
POS	QTY	DESCRIPTION	MATERIAL	WGT	NOTE	COD. COES
1	6	GKT SPIRAL WOUND 1" 150# Thk. 4.5mm	316L+GRAPHITE	0,3		C3052
2	1	ELBOW L.R. 90° 1" Sch. 80	SA 420 WPL6	0,2		D6263
3	3	FLANGE W.N.1" Sch. 80 150# RF	SA 350 Gr. LF2 Cl.1	3,5		D6282
4	1	TEE 1" Sch.80	SA 420 WPL6	0,3		D6278
5	5	MALE CONNECTOR Ø1/2 x 1/2 NPT/M	AISI 316	0,5	P-8-8-DM	G5521
6	1	MALE ADAPTER Ø1/2 x 1/2 NPT/M	AISI 316	0,1	P-8-8-AM	G7465
7	219,800 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	0,7		D6261
8	855,500 mm	TUBING 1/2" x 1,65	Acciaio	0,4		D1577
9	659,000 mm	TUBING 1/2" x 1,65	Acciaio	0,3		D1577
10	200,000 mm	PIPE SMLSS 1/2 Sch.40	SA 333 Gr. 6	0,3		F8764
11	2	WELDOLET DN 1" x 1/2" Sch.80	SA 350 Gr. LF2 Cl.1	0,1		L5179
12	2	BALL VALVE 1" 150#RF - ART. 68J000 SPLIT BODY FB	SA 352 LCC	9,6		L4626
13	2	PISTON CHECK VALVE BB FB FL 1" LF2/F6 150# RF	SA 350 Gr. LF2 Cl.1	9,3		L4446
14	2	BALL VALVE 1/2"NPTF ATEX	SA 351 CF8M	0,5		L3428
16	1	PRESSURE TRANSMITTER 2051CG4 - INTEGRATED MANIFOLD		0		L4361
15	1	Differential Pressure Transmitter EMERSON MOD.2051CD3A02A1KS5E1M5D4T1Q4Q8HR7		0		L4362





0	21/08/2024	ISSUE	STC	GT
REV	DATE	DESCRIPTION	PREPARED	APPROVED

COMMESSA N° / JOB N°	167/24	SERIAL N°	FORMATO / SIZE A2	SCALA / SCALE	1 : 5

coes

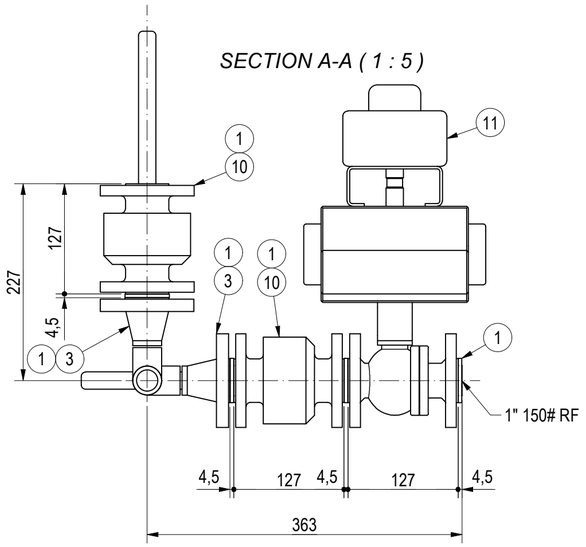
ROSETTI MARINO
N2 SKID - BLPH NETHERLAND
- PIPING 01 -
COES CODE L4580

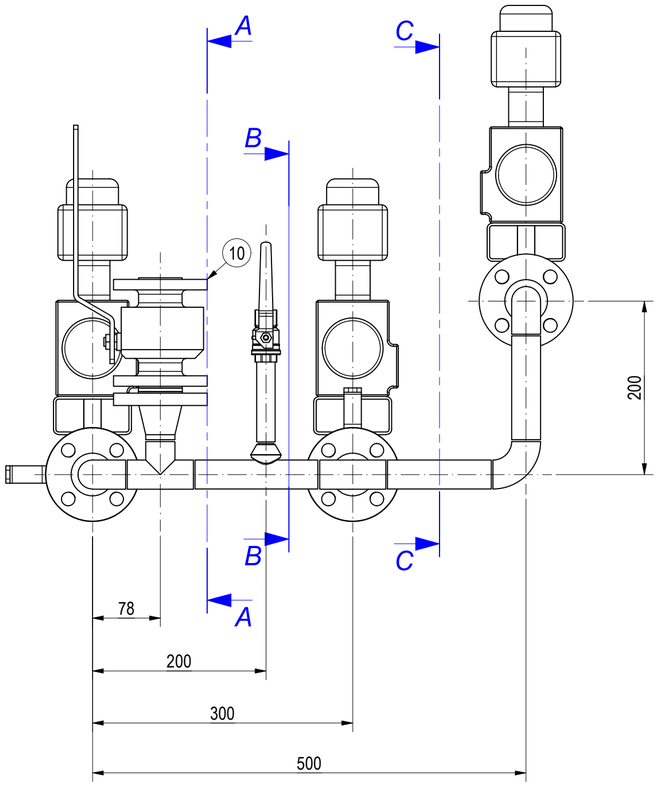
DISEGNO N° / DRAWING N°
CCO54058

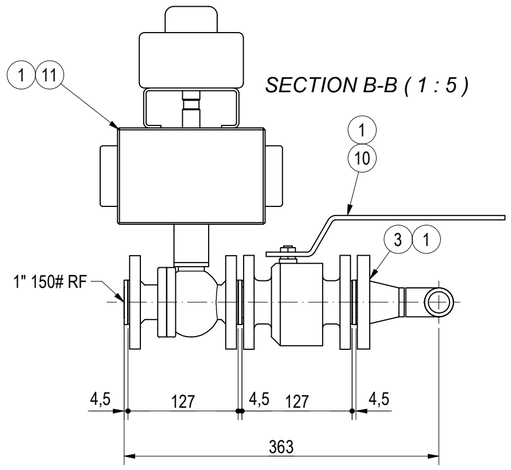
FOGLIO / SHEET 2 | DI / OF 8

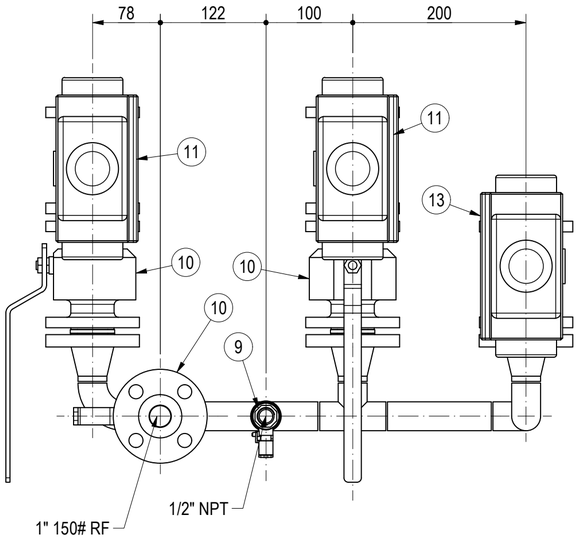
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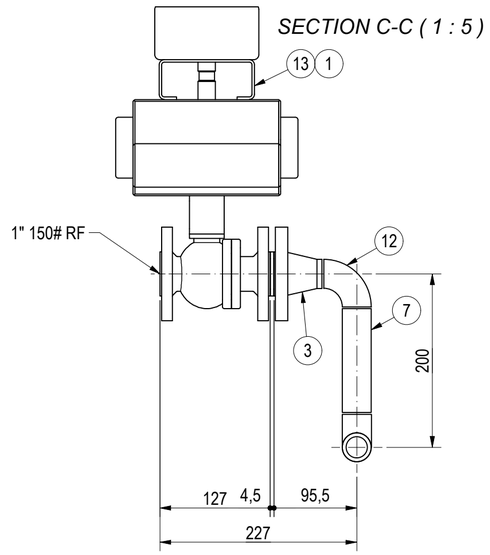
ELENCO PARTI / BILL OF MATERIAL						
POS	QTY	DESCRIPTION	MATERIAL	WGT	NOTE	COD. COES
1	8	GKT SPIRAL WOUND 1" 150# Thk. 4.5mm	316L+GRAPHITE	0,4		C3052
2	100,000 mm	PIPE SMLSS 1/2 Sch.40	SA 333 Gr. 6	0,1		F8764
3	4	FLANGE W.N.1" Sch. 80 150# RF	SA 350 Gr. LF2 Cl.1	4,6		D6282
4	2	TEE 1" Sch.80	SA 420 WPL6	0,6		D6278
5	141,600 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	0,4		D6261
6	119,800 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	0,4		D6261
7	119,800 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	0,4		D6261
8	1	WELDOLET DN 1" x 1/2" Sch.80	SA 350 Gr. LF2 Cl.1	0,1		L5179
9	1	BALL VALVE 1/2"NPTF	AISI 316	0,3		31227
10	3	BALL VALVE 1" 150#RF - ART. 68J000 SPLIT BODY FB	SA 352 LCC	14,4		L4626
11	2	PNEUMATIC BALL VALVE Ø1" 150# RF-68J000-SR75-04-CL	SA 352 LCC	34	MOLLA APRE	L4625
13	1	PNEUMATIC BALL VALVE Ø1" 150# RF-68J000-SR75-04-CL	SA 352 LCC	17	MOLLA CHIUDE	L4623
12	3	ELBOW L.R. 90° 1" Sch. 80	SA 420 WPL6	0,6		D6263

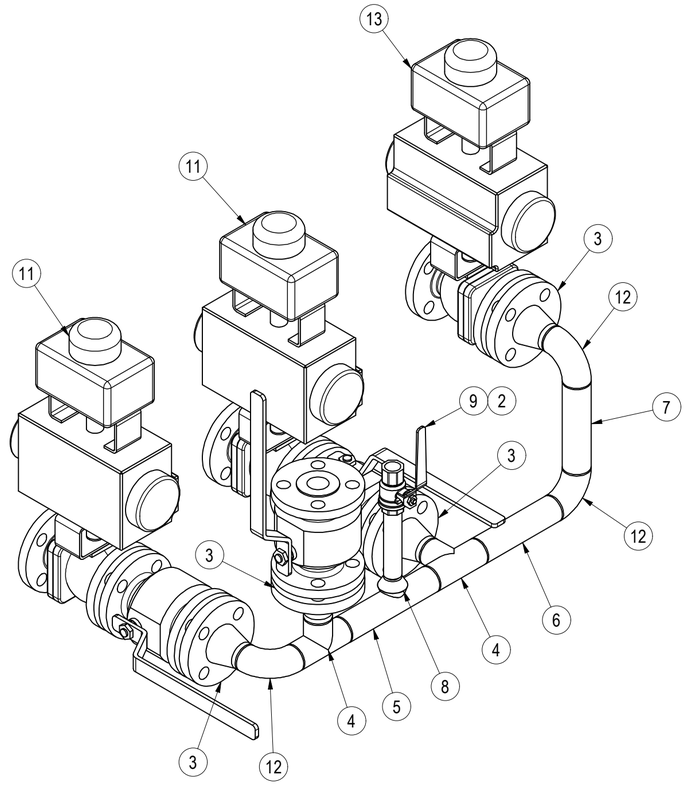






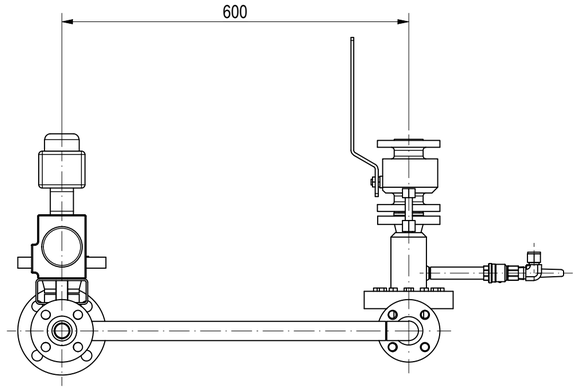


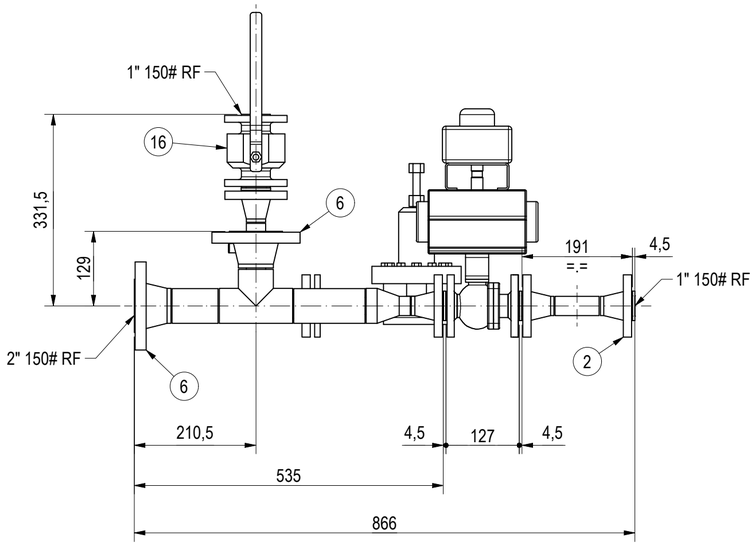


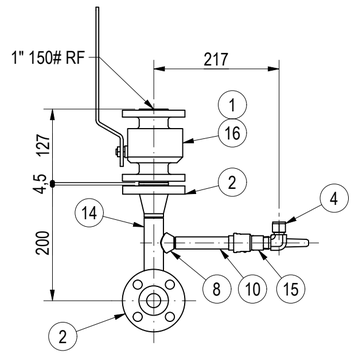


0	21/08/2024	ISSUE		STC	GT
REV	DATE	DESCRIPTION		PREPARED	APPROVED
COMMESSA N° JOB N°	167/24	SERIAL N°	FORMATO SIZE A2	SCALA SCALE	1 : 5
coes	ROSETTI MARINO N2 SKID - BLPH NETHERLAND - PIPING 02 - COES CODE L4581			DISEGNO N° DRAWING N°	CCO54058
				FOGLIO SHEET 3	DI OF 8

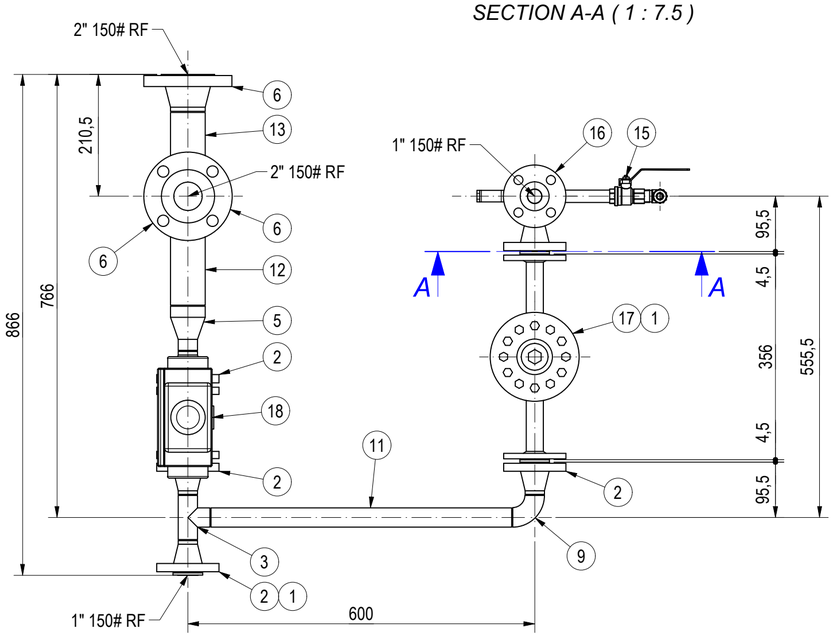
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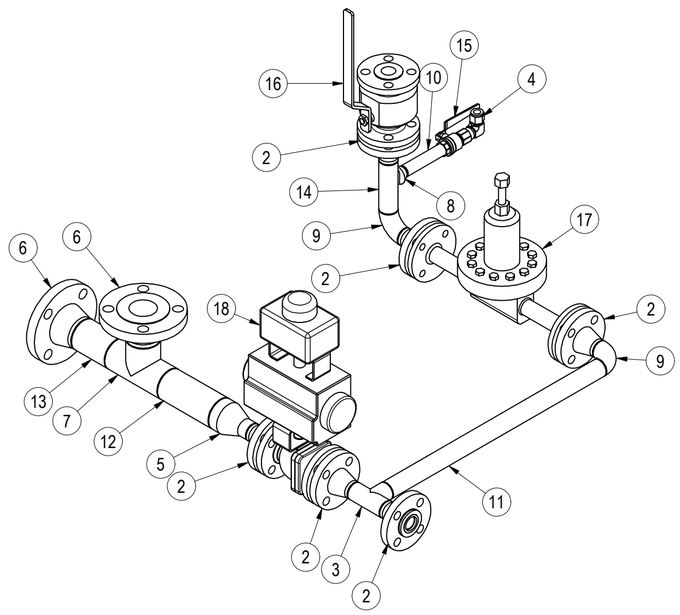






SECTION A-A (1 : 7.5)





ELENCO PARTI / BILL OF MATERIAL						
POS	QTY	DESCRIPTION	MATERIAL	WGT	NOTE	COD. COES
1	6	GKT SPIRAL WOUND 1" 150# Thk. 4.5mm	316L+GRAPHITE	0,3		C3052
2	6	FLANGE W.N.1" Sch. 80 150# RF	SA 350 Gr. LF2 Cl.1	7		D6282
3	1	TEE 1" Sch.80	SA 420 WPL6	0,3		D6278
4	1	ELBOW 90° CONNECTOR Ø1/2 x 1/2 NPT/M	AISI 316	0,1	P-8-8-GM	G7466
5	1	CONC_REDUCTION 2" x 1" Sch.80	SA 420 WPL6	0,4		G5816
6	2	FLANGE W.N.2" Sch. 80 150# RF	SA 350 Gr. LF2 Cl.1	5,8		F0529
7	1	TEE 2" Sch.80	SA 420 WPL6	1,2		C1407
8	1	WELDOLET DN 1" x 1/2" Sch.80	SA 350 Gr. LF2 Cl.1	0,1		L5179
9	2	ELBOW L.R. 90° 1" Sch.80	SA 420 WPL6	0,4		D6263
10	100,000 mm	PIPE SMLSS 1/2 Sch.40	SA 333 Gr. 6	0,1		F8764
11	519,800 mm	PIPE SMLSS 1" Sch.80S	SA 312 TP316L	1,7		C0792
12	123,000 mm	PIPE SMLSS 2 Sch.80	SA 333 Gr. 6	0,9		C1402
13	79,484 mm	PIPE SMLSS 2 Sch.80	SA 333 Gr. 6	0,6		C1402
14	102,528 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	0,3		D6261
15	1	BALL VALVE 1/2"NPTF ATEX	SA 351 CF8M	0,3		L3428
16	1	BALL VALVE 1" 150#RF - ART. 68J000 SPLIT BODY FB	SA 352 LCC	4,8		L4626
17	1	Back Pressure Regulator MR98H-3048-2347838	SA 216 WCC	11,4		1" 150# RF
18	1	PNEUMATIC BALL VALVE Ø1" 150# RF-68J000-SR75-04-CL	SA 352 LCC	17	MOLLA CHIUDE	L4623

0	21/08/2024	ISSUE	STC	GT
REV	DATE	DESCRIPTION	PREPARED	APPROVED

COMMESSA N° / JOB N°	167/24	SERIAL N°	FORMATO / SIZE	A2	SCALA / SCALE	1 : 7.5

coes

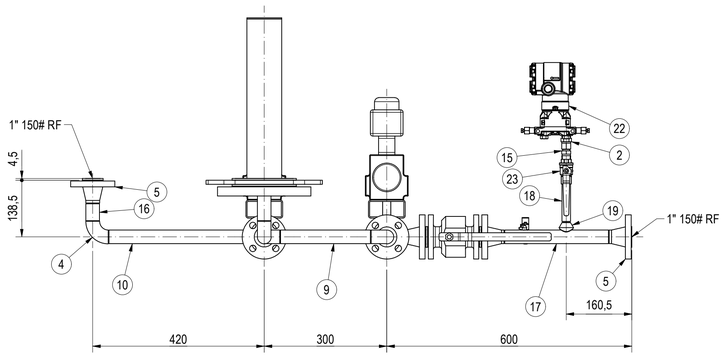
ROSETTI MARINO
N2 SKID - BLPH NETHERLAND
- PIPING 03 -
COES CODE L4582

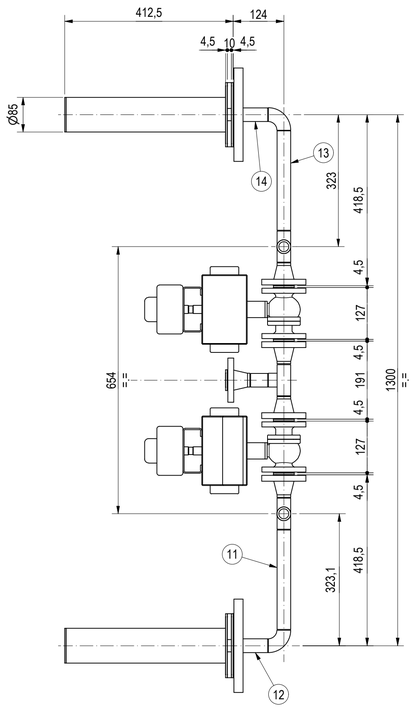
DISEGNO N° / DRAWING N°
CCO54058

FOGLIO / SHEET 4 | DI / OF 8

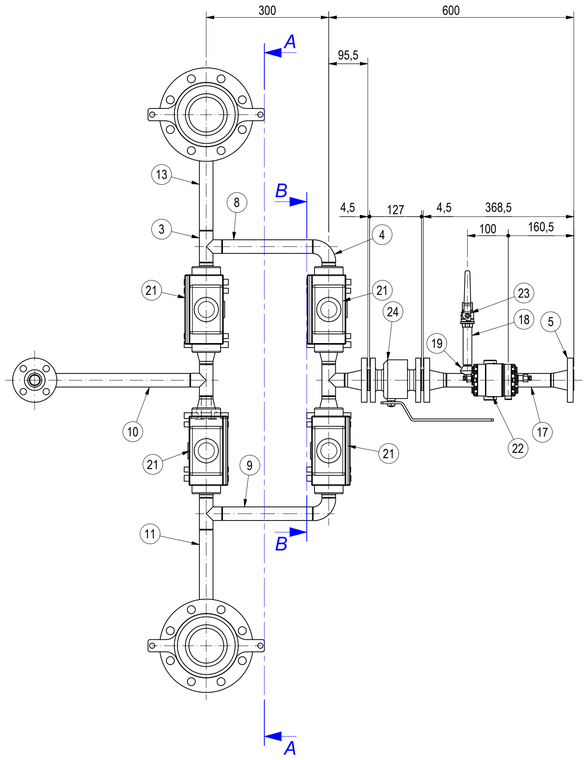
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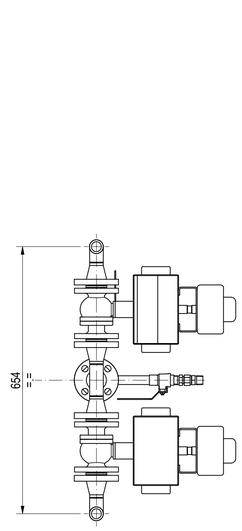
ELENCO PARTI / BILL OF MATERIAL						
POS	QTY	DESCRIPTION	MATERIAL	WGT	NOTE	COD. COES
1	11	GKT SPIRAL WOUND 1" 150# Thk. 4.5mm	316L+GRAPHITE	0,5		C3052
2	1	MALE ADAPTER Ø1/2 x 1/2 NPT/M	AISI 316	0,1	P-8-8-AM	G7465
3	4	TEE 1" Sch.80S	SA 403 WP316/316L	1,3		D0611
4	5	ELBOW L.R. 90° 1" Sch.80S	SA 403 WP316/316L	1		C4372
5	12	FLANGE W.N.1" Sch. 80S 150# RF	SA 182 F316/316L	14,3		C4188
6	4	GKT SPIRAL WOUND 4" 150# Thk. 4.5mm	316L+GRAPHITE	1,6		D0778
7	2	FLANGE BLIND B16.5 4" 150# RF	SA 213 TP316/316L	14,1		C7362
8	219,800 mm	PIPE SMLSS 1" Sch.80S	SA 312 TP316L	0,7		C0792
9	219,800 mm	PIPE SMLSS 1" Sch.80S	SA 312 TP316L	0,7		C0792
10	340,300 mm	PIPE SMLSS 1" Sch.80S	SA 312 TP316L	1,1		C0792
11	243,356 mm	PIPE SMLSS 1" Sch.80S	SA 312 TP316L	0,8		C0792
12	60,524 mm	PIPE SMLSS 1" Sch.80S	SA 312 TP316L	0,2		C0792
13	243,356 mm	PIPE SMLSS 1" Sch.80S	SA 312 TP316L	0,8		C0792
14	60,524 mm	PIPE SMLSS 1" Sch.80S	SA 312 TP316L	0,2		C0792
15	1	MALE CONNECTOR Ø1/2 x 1/2 NPT/M	AISI 316	0,1	P-8-8-DM	G5521
16	41,528 mm	PIPE SMLSS 1" Sch.80S	SA 312 TP316L	0,1		C0792
17	253,784 mm	PIPE SMLSS 1" Sch.40S	SA 312 TP316L	0,6		11603
18	200,000 mm	PIPE SMLSS 1/2" Sch.40S	SA 312 TP316/316L	0,3		C5215
19	2	WELDOLET DN 1" x 1/2" Sch.40S	SA 182 F316/316L	0,2		L5180
20	2	CESTELLO Ø85 L=400 FLG. 4" 150#	S 275 JR	7,9	CCO02242	C2579
21	4	PNEUMATIC BALL VALVE Ø1" 150# RF-68J000-SR75-04-CL	SA 352 LCC	68	MOLLA CHIUDE	L4624
22	1	PRESSURE TRANSMITTER 2051CG4 - INTEGRATED MANIFOLD	ALUMINUM	0		L4361
23	2	BALL VALVE 1/2"NPTF ATEX	SA 351 CF8M	0,5		L3428
24	1	BALL VALVE 1" 150#RF - ART. 68J000 SPLIT BODY FB	SA 351 CF8M	4,8		L4621



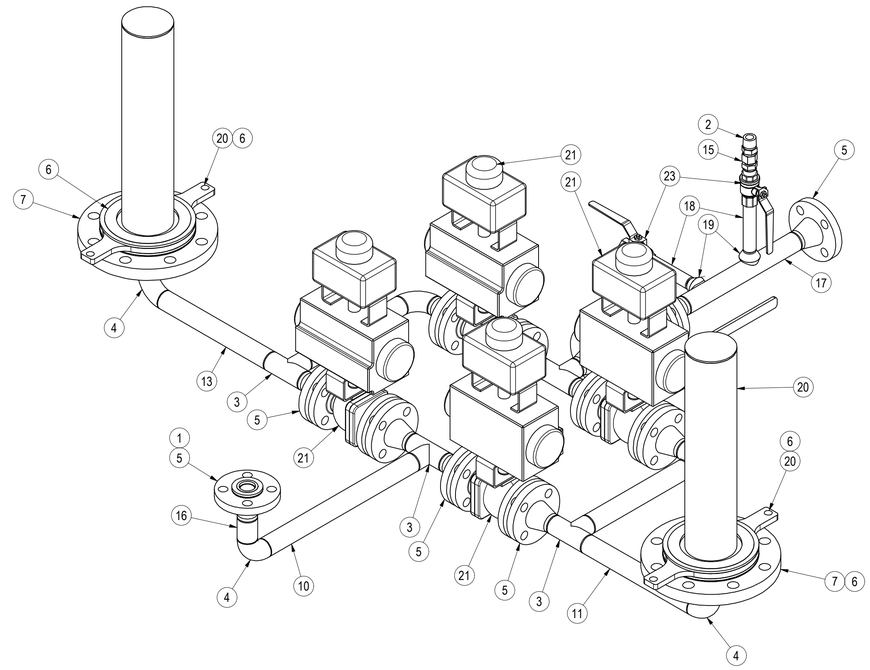


SECTION A-A (1 : 7.5)





SECTION B-B (1 : 7.5)

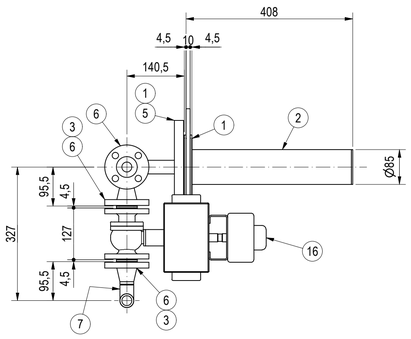


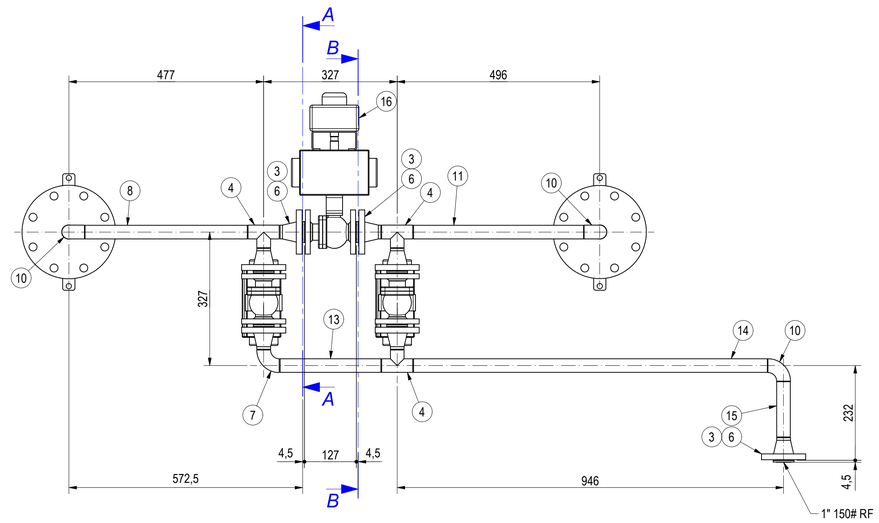
0	21/08/2024	ISSUE		STC	GT
REV	DATE	DESCRIPTION		PREPARED	APPROVED
COMMESSA N° JOB N°	167/24	SERIAL N°	FORMATO SIZE A1	SCALA SCALE	1 : 7.5
coes	ROSETTI MARINO N2 SKID - BLPH NETHERLAND - PIPING 04 - COES CODE L4583			DISEGNO N° DRAWING N°	CCO54058
				FOGLIO SHEET 5	DI OF 8

This dwg is the property of COES S.r.l. and is solely for the use of the party to which it is handed over

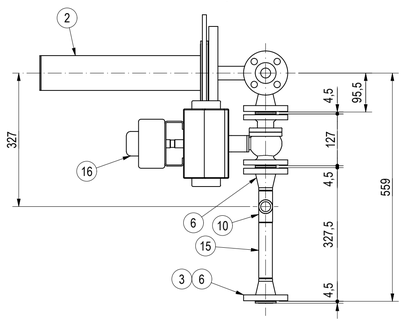
ELENCO PARTI / BILL OF MATERIAL						
POS	QTY	DESCRIPTION	MATERIAL	WGT	NOTE	COD. COES
1	4	GKT SPIRAL WOUND 4" 150# Thk. 4.5mm	316L+GRAPHITE	1,6		D0778
2	2	CESTELLO Ø85 L=400 FLG. 4" 150#	S 275 JR	7,9	CCO02242	C2579
3	7	GKT SPIRAL WOUND 1" 150# Thk. 4.5mm	316L+GRAPHITE	0,3		C3052
4	3	TEE 1" Sch.80	SA 420 WPL6	0,9		D6278
5	2	FLANGE BLIND B16.5 4" 150# RF	SA 350 Gr. LF2 Cl.1	13,7		C0696
6	7	FLANGE W.N.1" Sch. 80 150# RF	SA 350 Gr. LF2 Cl.1	8,1		D6282
7	1	ELBOW L.R. 90° 1" Sch. 80	SA 420 WPL6	0,2		D6263
8	397,328 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	1,3		D6261
9	77,040 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	0,2		D6261
10	3	ELBOW L.R. 90° 1" Sch.80	SA 420 WPL6	0,6		D6263
11	416,328 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	1,3		D6261
12	77,040 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	0,2		D6261
13	246,744 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	0,8		D6261
14	866,328 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	2,8		D6261
15	135,084 mm	PIPE SMLSS 1 Sch.80	SA 333 Gr. 6	0,4		D6261
16	3	PNEUMATIC BALL VALVE Ø1" 150# RF-68J000-SR75-04-CL	SA 352 LCC	51	MOLLA CHIUDE	L4623

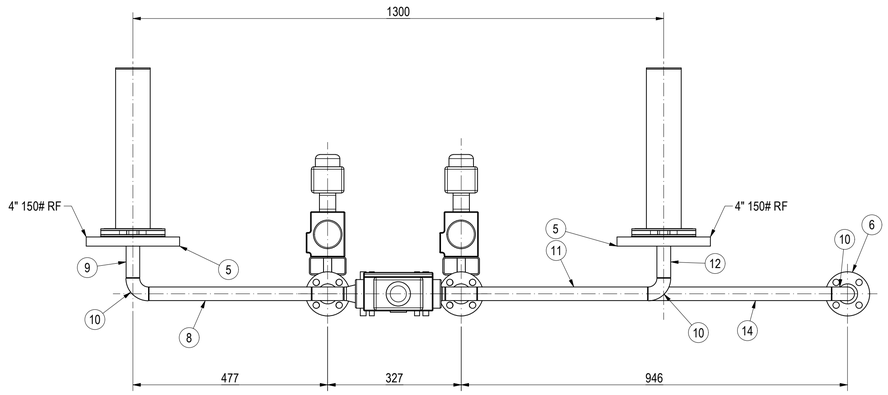
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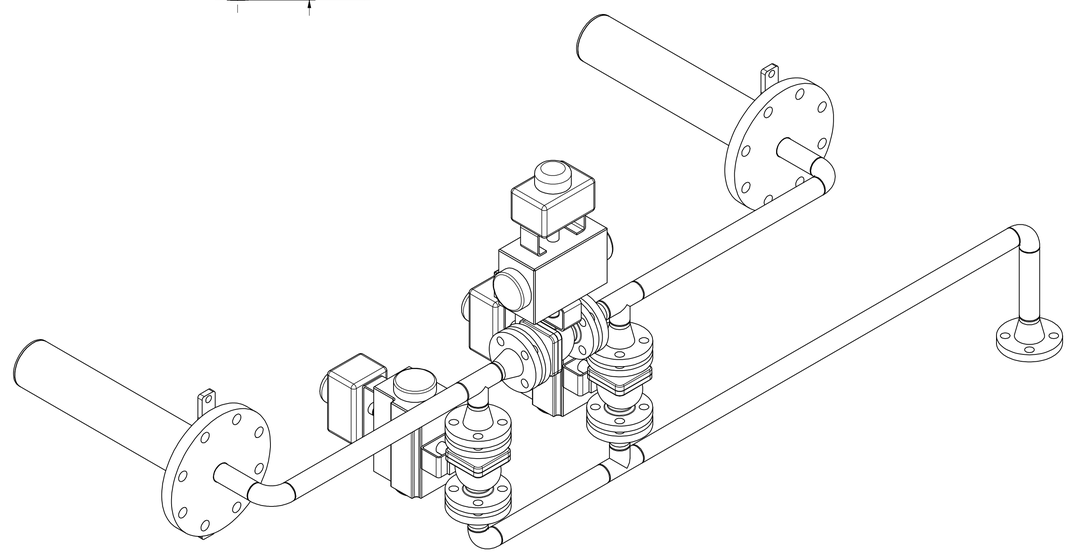




SECTION B-B (1 : 7.5)



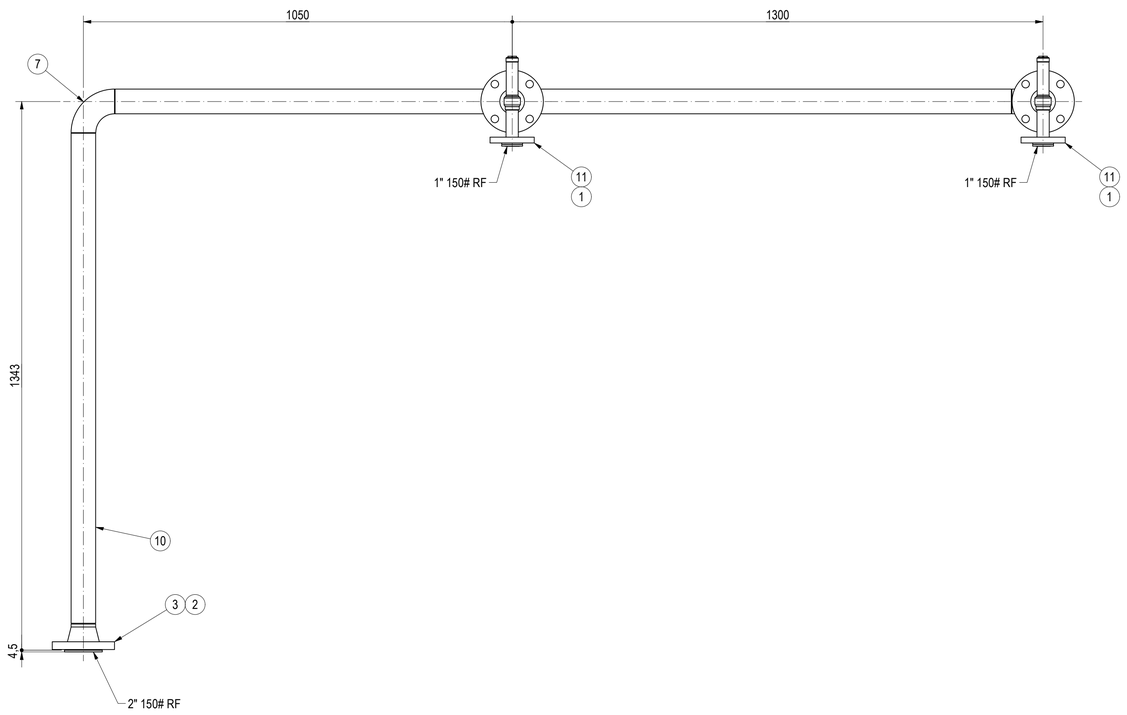


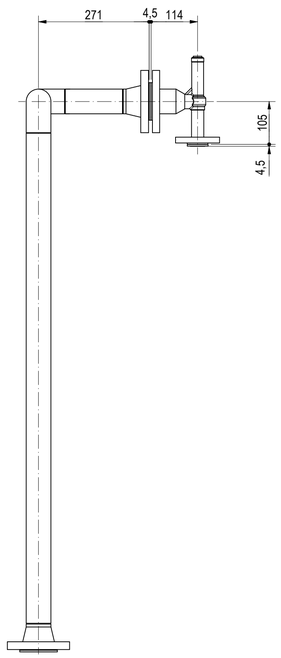


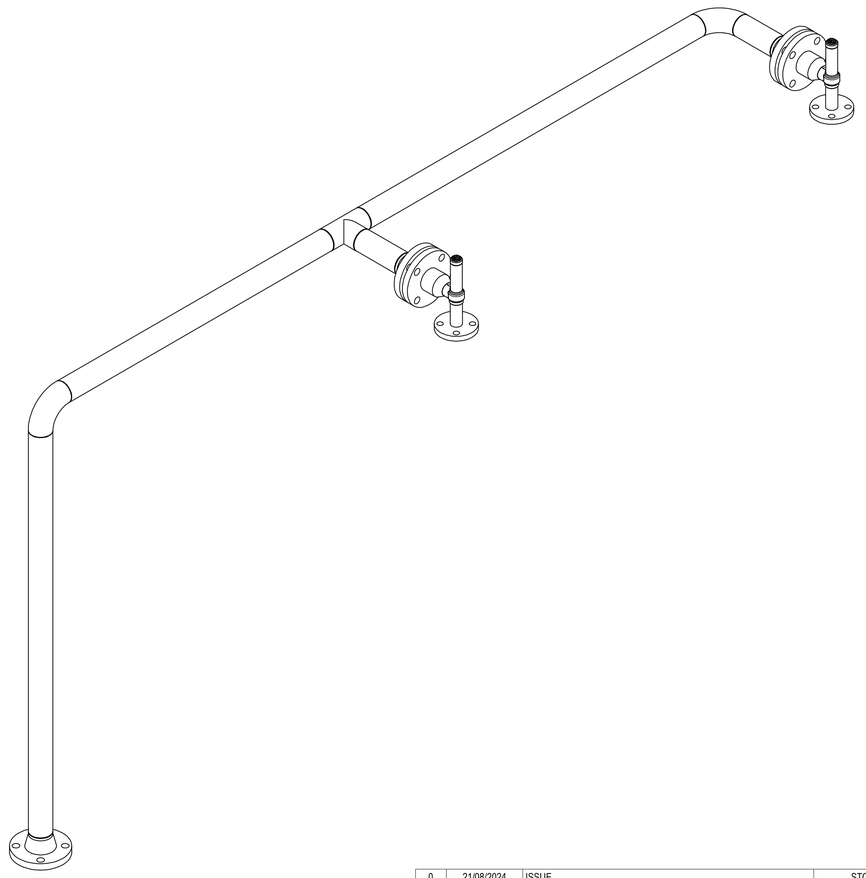
0	21/08/2024	ISSUE		STC	GT
REV	DATE	DESCRIPTION		PREPARED	APPROVED
COMMESSA N° JOB N°	167/24	SERIAL N°	FORMATO SIZE A1	SCALA SCALE	1 : 7.5
coes	ROSETTI MARINO N2 SKID - BLPH NETHERLAND - PIPING 05 - COES CODE L4584			DISEGNO N° DRAWING N°	CCO54058
				FOGLIO SHEET 6	DI OF 8

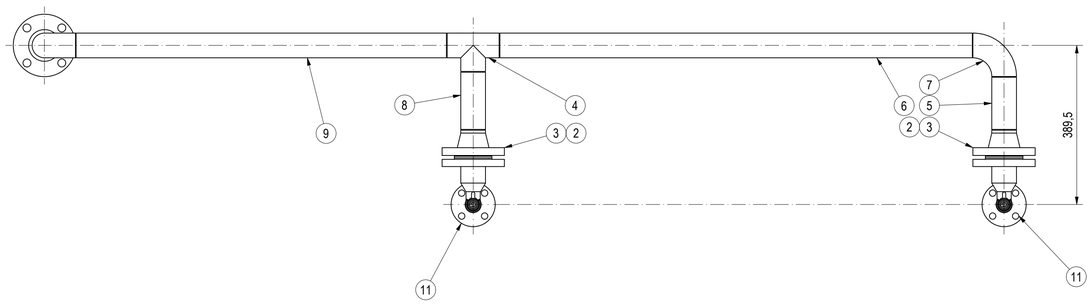
This dwg is the property of COES S.r.l. and is solely for the use of the party to which it is handed over

ELENCO PARTI / BILL OF MATERIAL						
POS	QTY	DESCRIPTION	MATERIAL	WGT	NOTE	COD. COES
1	2	GKT SPIRAL WOUND 1" 150# Thk. 4.5mm	316L+GRAPHITE	0,1		C3052
2	3	GKT SPIRAL WOUND 2" 150# Thk. 4.5mm	316L+GRAPHITE	0,5		C2416
3	3	FLANGE W.N.2" Sch. 80 150# RF	SA 350 Gr. LF2 Cl.1	8,7		F0529
4	1	TEE 2" Sch.80	SA 420 WPL6	1,2		C1407
5	127,816 mm	PIPE SMLSS 2 Sch.80	SA 333 Gr. 6	1		C1402
6	1156,800 mm	PIPE SMLSS 2 Sch.80	SA 333 Gr. 6	8,7		C1402
7	2	ELBOW L.R. 90° 2" Sch.80	SA 420 WPL6	1,8		C1403
8	140,016 mm	PIPE SMLSS 2 Sch.80	SA 333 Gr. 6	1		C1402
9	906,800 mm	PIPE SMLSS 2 Sch.80	SA 333 Gr. 6	6,8		C1402
10	1199,800 mm	PIPE SMLSS 2 Sch.80	SA 333 Gr. 6	9		C1402
11	2	PSV N2 G10-API IN=1" 150# OUT=2" 150# - 12 bar	AISI 316/316L	11,6		L4438









0	21/08/2024	ISSUE	STC	GT
REV	DATE	DESCRIPTION	PREPARED	APPROVED

COMMESSA N° JOB N° 167/24	SERIAL N°	FORMATO SIZE A1	SCALA SCALE	1 : 7.5
coes	ROSETTI MARINO N2 SKID - BLPH NETHERLAND - PIPING 06 - COES CODE L4585		DISEGNO N° DRAWING N°	CCO54058
			FOGLIO SHEET 7	DI OF 8

This dwg is the property of COES S.r.l. and is solely for the use of the party to which it is handed over

ITEM	Tag	V-64001	: Nitrogen Receiver Vessel			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004520		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Mechanical Form CDX01		Storage Tank

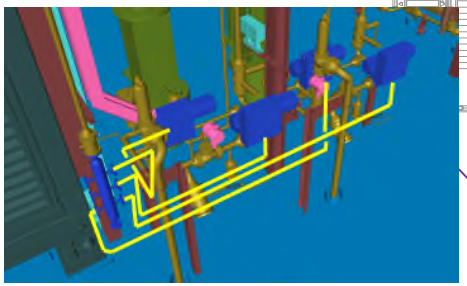
1	Check that the nameplate details are correct.	OK
2	Check the location, elevation, orientation and that the vessel is level.	OK
3	Check that the holding down arrangements are correct.	PL
4	Check for any installation damage.	OK
5	Check the vessel internals are as per approved drawings.	PL
6	Check the vessel internally for cleanliness.	PL
7	Check all platforms and ladders are installed as per approved drawings. Also man ways are accessible and suitable for operation.	OK
8	Check out the painting, insulation and the lining for damage.	OK
9	Check the earthing and bonding are as per Project Specifications.	PL
10	Check that the pipe supports are in accordance with the approved design.	OK
11	Check the disconnected pipework flanges against the nozzle flanges for correct alignment.	OK
12	Atmospheric Transportable Drain Vessel to be equipped with Breathing / Vacuum breaker valve.	NA
13	Check Flame Arrestor (if any).	NA
14	If required produce Red Line Mark Up for "AS BUILT".	

Comments:

	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (Rosetti Marino)	
Name	Emanuele Delfino	Kangi Albonetti	
Date	2025-01-04	2025-01-10	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-04T06:02:14.500Z	PROVERLIS Digitaly signed by Kangi Albonetti 2025-01-10T15:53:07.607Z	

DRAWING NO. 123A90-DDL-IN-DL-40084

REV. 01



50-XV-001
+23.628mm
+0.318mm T.O.S

50-XV-002
+23.628mm
+0.318mm T.O.S

AV-63008
+24.188mm
+0.878mm T.O.S

64-PV-031A
+23.238mm
+0.072mm T.O.S

64-PV-031B
+23.238mm
+0.072mm T.O.S

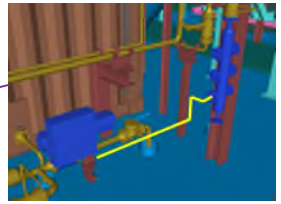
AV-63005
+24.185mm
+0.875mm T.O.S

50-XV-005
+23.628mm
+0.318mm T.O.S

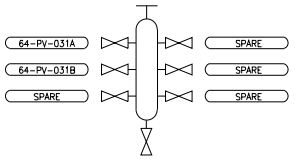
50-XV-004
+23.628mm
+0.318mm T.O.S

AV-63009
+24.235mm
+0.925mm T.O.S

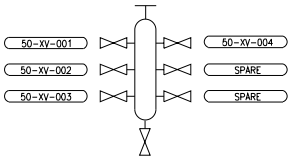
50-XV-003
+23.628mm
+0.318mm T.O.S



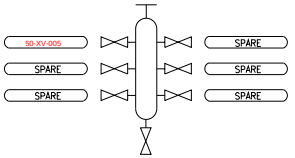
AV-63005



AV-63008



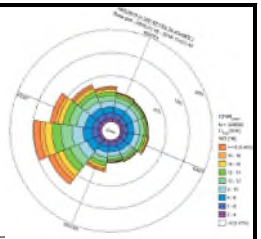
AV-63009



LOWER DECK

SCALE: 1:1

VIEW EL. 23310mm to 29310mm



NOTES

1) TUBING ROUTING > 2m IS SHOWN AND IT IS INDICATIVE ONLY.
TUBING ROUTING SHALL BE FINALIZED DURING CONSTRUCTION ACTIVITIES.

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40084

REV.:	DATE:	SIGNATURE:
1_C	25/11/24	G.Randi

ROSETTI MARINO SpA

LEGEND

- AIR DISTRIBUTION POT
- CONTROL VALVE
- ON-OFF VALVE
- TUBING

HOLDS

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/02/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

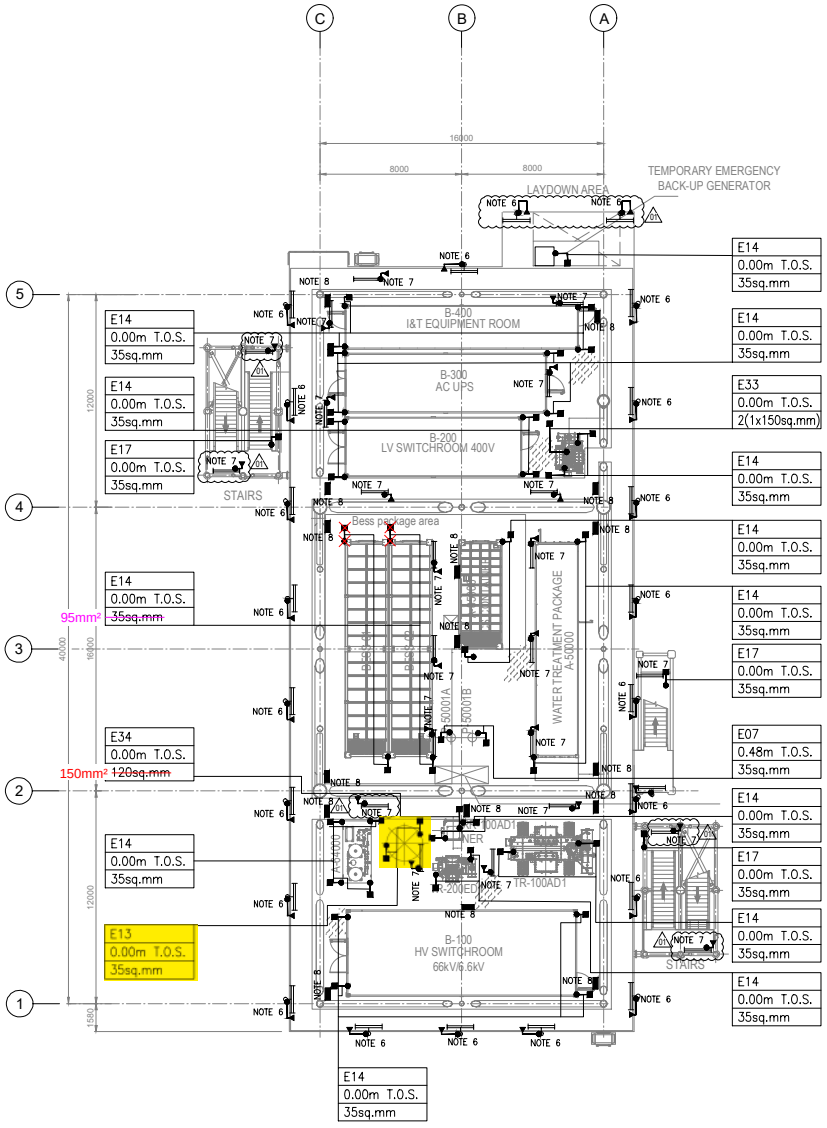
TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT TUBING LAYOUT
ELEVATION 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK				SCALE 1:100
DRAWN DRAWN_BY	CHECKED CHECKED_BY	APPROVED APPROVED_BY		DATE DD/MM/YY
A1	DRAWING NO. 123A90-DDL-IN-DL-40084		SHEET 001	REV. 01

File Name : - 12390-DDL-IN-DL-40084_Rev.01

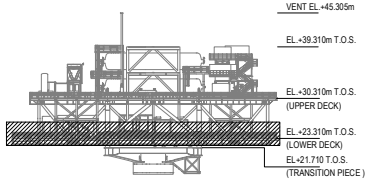
DRAWING NO. 123A90-DDL-EL-DL-20133

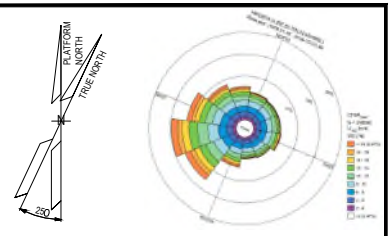
REV. 01



PLAN ON LOWER DECK
EL+23.310 T.O.S.

KEY PLAN





NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DOCUMENT IS ONLY VALID FOR EARTHING LAYOUT.
4. ALL ELECTRICAL EQUIPMENT NOT DIRECTLY WELDED TO SKID FRAME SHALL BE BONDED TO STEEL TO THE STRUCTURE OF SKID BASEFRAME.
5. FOR LIGHTNING PROTECTION SYSTEM SURGE PROTECTIVE DEVICES (SPD), REFER TO THE DOCUMENT 123A90-DDL-EL-RE-20154.
6. ALL NON-WELDED POLES WILL BE EARTHED AS PER TYPICAL E05 AND E24. (1)
7. ALL LINEAR LIGHTING FIXTURE WILL BE EARTHED AS PER TYPICAL E32.
8. EARTH BAR WILL BE FIXED TO THE PRIMARY BEAMS OF THE UPPER DECK. COMPLETE EARTHING INCLUDING WITH 2 THREADED STUDS. ALL EARTH BAR WILL BE EARTHED AS PER TYPICAL E03D / 6.00M T.O.S. / 35 SQ MM.
9. EQUIPOTENTIAL BONDING GROUPING FOR BOLTED HANDRAILS ARE PROVIDED EVERY 3M FOR THE ENTIRE PERIMETER AS TYPICAL E16 AND WILL BE DEFINED DURING ASSEMBLY PHASE

LEGEND

- LIGHTING FIXTURE POLE MOUNTED
- LINEAR LIGHTING FIXTURE
- EARTHING BOSS AISI316L
- COMPRESSION TYPE LUG TINNED COPPER
- THREADED STUD FOR EARTHING CONNECTION
- Exx EARTHING TYPICAL CODE
- EARTHING BAR

TYP.	TYPICAL
ELE	ELEVATION
SIZE	

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DD-20090	ELECTRICAL TYPICAL INSTALLATION DETAILS - EARTHING SYSTEM
123A90-DDL-EL-RE-20154	LIGHTNING PROTECTION SYSTEM CALCULATION REPORT
123A90-DDL-EL-DL-20119	LIGHTING & SOCKET LAYOUT - LOWER DECK
123A90-DDL-EL-DL-20101	ELECTRICAL EQUIPMENT LAYOUT - LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	25/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	29/05/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EARTHING & LIGHTNING LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SPS	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 25/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20133	SHEET 001	REV. 01

SHEET 001 OF 002

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20133

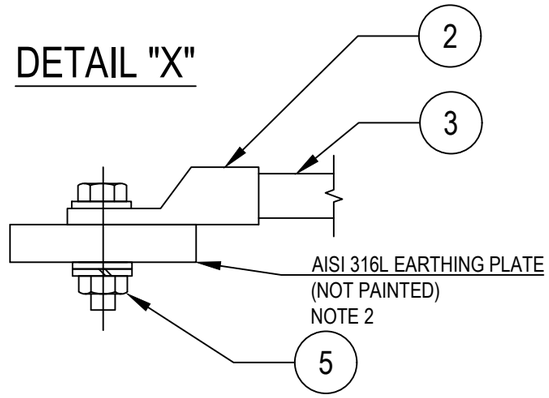
REV.:	DATE:	SIGNATURE:
1_C	26/11/24	G.Randi

ROSETTI MARINO SpA

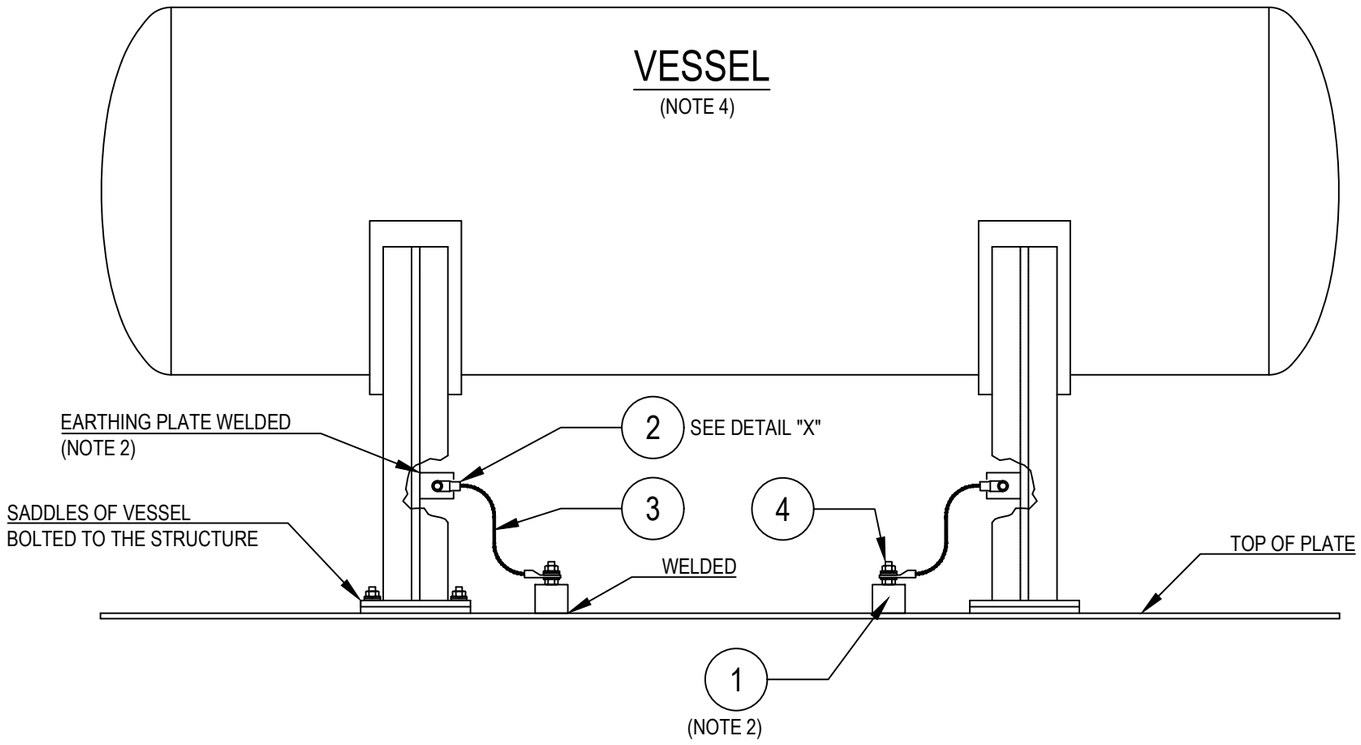
File Name : 123A90-DDL-EL-DL-20133

E13

DETAIL "X"



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	EARTHING BOSS WITH THREADED HOLE M10	AISI 316L	50X50	2	NOTE 3
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	35mm^2	4	~~NOTE 1~~
3	Y/G INSULATING COPPER CONDUCTOR	COPPER	35mm^2		~~NOTE 1~~
4	STUD BOLT WITH PLANE WASHER, SPRING WASHER AND NUT	AISI 316L	M10X50	2	
5	HEXAG. BOLT COMPLETE WITH PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M10X30	2	



NOTES:
~~1) CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
2) FOR EARTHING BOSS/PLATE DETAIL SEE TYPICAL DETAIL E11A
3) EARTHING BOSS SHALL BE PROTECTED AGAINST CORROSION USING AN OXIDE RESISTANT COMPOUND

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_I	07/11/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR VESSEL WITH LEGS BOLTED ON STRUCTURE

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90–DDL–EL–DD–20090	016	02

F.to UNI A3: 420mmx297mm

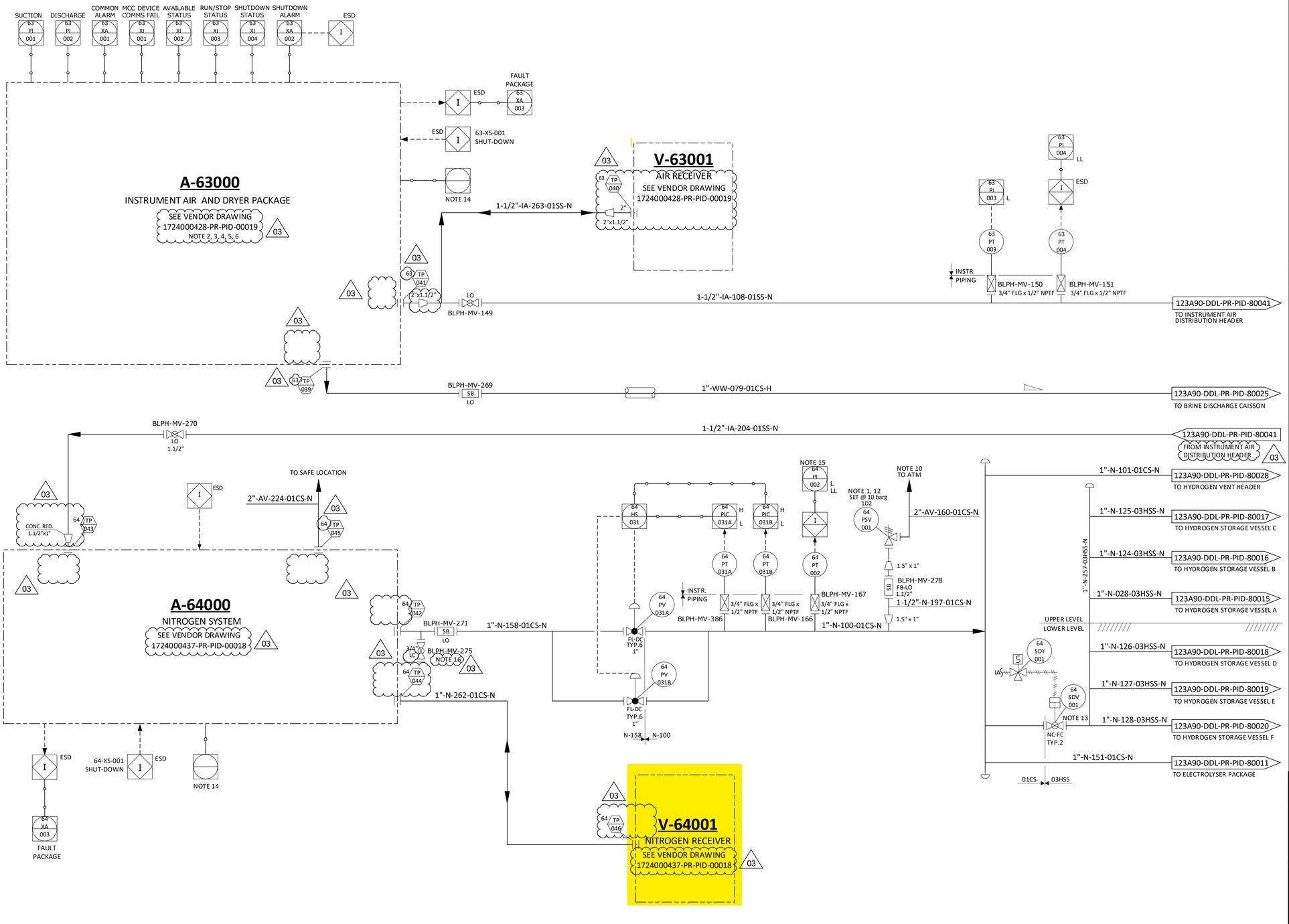
File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

DRAWING NO. DRAWING_NO.

REV. REV

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
CAPACITY : 313 Sm³/h (PRODUCTION)

A-64000
NITROGEN GENERATION SYSTEM
CAPACITY : 52.7 Sm³/h (PRODUCTION)



NOTES

1. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
2. COMPRESSORS AND DRIERS DESIGNED FOR 2 X 100% CONFIGURATION. INSTRUMENT AIR RECEIVER DESIGNED FOR 1 X 100%.
3. VENDOR TO PROVIDE NECESSARY CONTROLS, INSTRUMENTATIONS AND ISOLATIONS IN ORDER TO OPERATE THE PLANT IN SAFE MANNER.
4. COMPRESSORS WILL OPERATE ON THE BASIS OF ONE WORKING AND ONE ON STANDBY.
5. COMPRESSORS TO BE ROTARY SCREW TYPE OIL FREE.
6. AIR COMPRESSOR INLET TO BE LOCATED AWAY FROM ANY VENTS.
7. DELETED.
8. DELETED.
9. DELETED.
10. TO SAFE LOCATION, ROUTED AWAY FROM WALKWAYS.
11. DELETED.
12. 64-PSV-001 SIZED FOR UPSTREAM 64-PV-031 CV FAILURE. (03)
13. 64-SDV-001 IS NORMALLY CLOSED. IF REQUIRED THE OPERATOR CAN REMOTELY OPEN THE VALVE TO ALLOW PURGING OPERATION. VALVE 64-SDV-001 IS ALSO CONNECTED TO THE PCS SYSTEM.
14. SERIAL COMMUNICATION WITH CONTROL SYSTEM.
15. THE ALARM 64-PAL-002 WILL CLOSE 64-SDV-001 THROUGH SAFETY SYSTEM.
16. MANUAL VALVE BLPH-MV-275 TO BE CONNECTED WITH MANUAL VALVE BLPH-MV-466 (INSTALLED ON ELECTROLYSER PACKAGE EXIT LINE) BY MEAN ON A FLEXIBLE HOSE DURING COMMISSIONING PHASE FOR PURGING OPERATION. (03)

HOLDS

1. DELETED.
2. DELETED.
3. DELETED.
4. DELETED.

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	09/09/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
02	12/06/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	15/02/2024	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
INSTRUMENT AIR PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE

A1	DRAWING NO.	SHEET	REV.
	123A90-DDL-PR-PID-80027	001	03

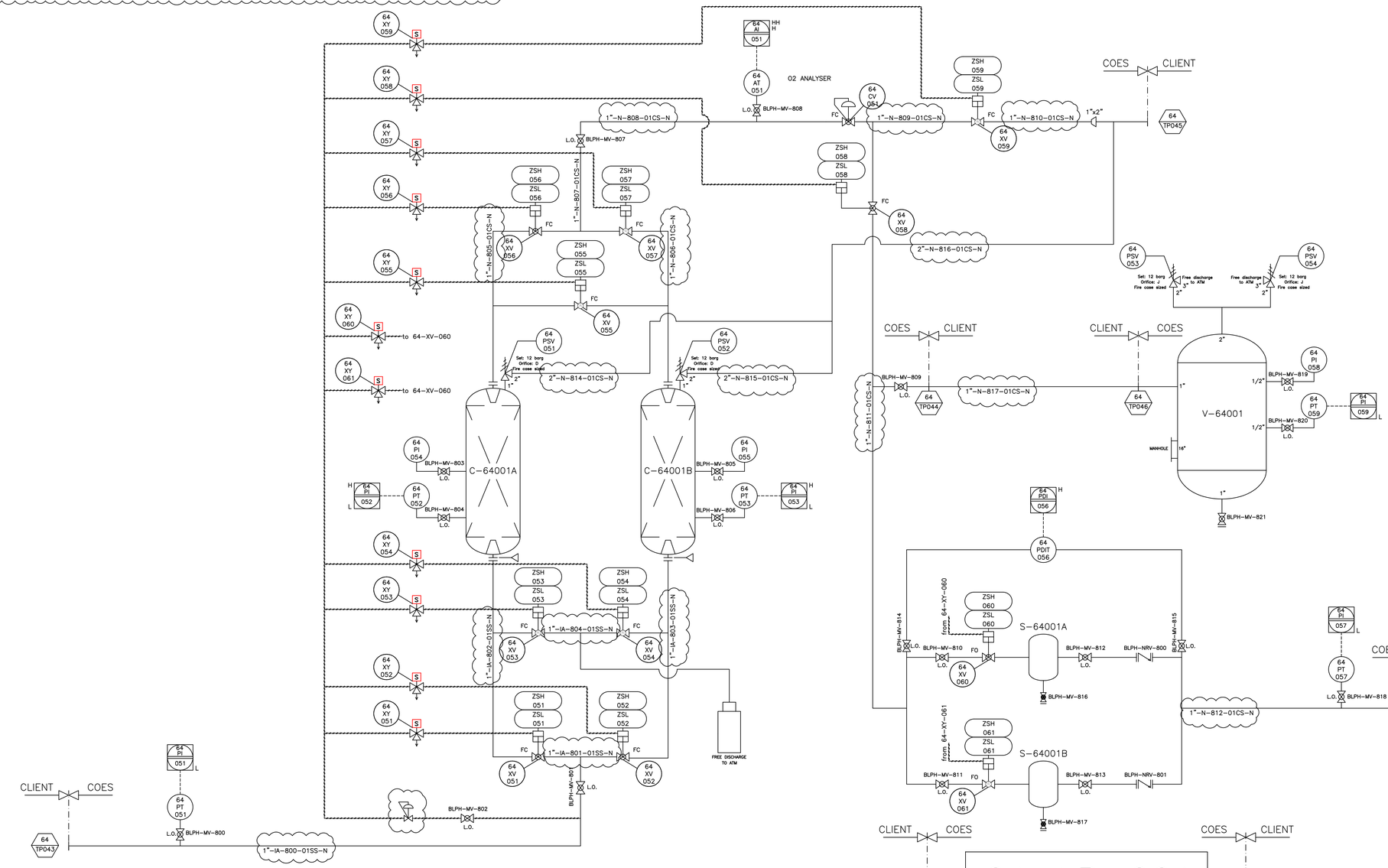
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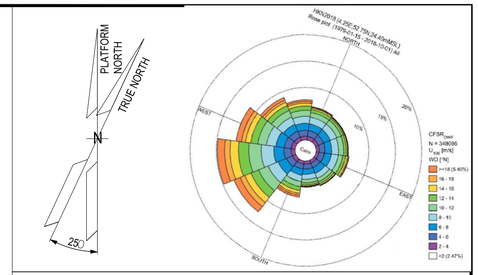
DRAWING NO. 1724000437-PR-PID-00018 REV. 04

TAG: C-64001A/C-64001B	
PSA TOWERS	
DESIGN CAPACITY	150 Nm³/h
DESIGN PRESSURE	12 barg
DESIGN TEMPERATURE	80°C
OPERATING PRESSURE	9 barg
MATERIAL	CARBON STEEL

TAG: S-64001A/S-64001B	
PSA AFTER-FILTERS	
DESIGN CAPACITY	60 Nm³/h
DESIGN PRESSURE	12 barg
DESIGN TEMPERATURE	80°C
OPERATING PRESSURE	8.5 barg
MATERIAL	CARBON STEEL

TAG: V-64001	
N2 RECEIVER	
DESIGN PRESSURE	12 barg
DESIGN TEMPERATURE	80°C
OPERATING PRESSURE	8.4 barg
VOLUME	11 m³
DIAMETER	2000 mm
T-T	3126 mm
MATERIAL	LTCS





NOTES

1) NITROGEN RECEIVER IS SUPPLIED LOOSE
2) FOR THE EXCHANGED SERIAL SIGNALS SEE VENDOR'S DOCUMENT "I/O LIST" NUMBER 1724000437-IN-LIS-00015

LEGEND

- SKID MOUNTED INSTRUMENT
- TIE-IN POINT
- SKID PLC SIGNAL
- PROCESS LINE
- INSTRUMENT AIR / IMPULSE LINE
- ELECTRICAL / INSTRUMENT SIGNAL
- SOFTWARE SIGNAL
- SILENCER
- TEMPORIZED DRAIN TRAP
- THREADED BALL VALVE
- ACTUATED BALL VALVE
- FLANGED BALL VALVE
- CHECK VALVE
- PRESSURE RELIEF VALVE
- SOLENOID VALVE
- SELF-ACTUATED BALL VALVE
- PRESSURE REDUCER

HOLDS

UPS POWER SUPPLY
230V-1PH-50HZ
POWER SUPPLY
230V-1PH-50HZ

64-LP-001
N2 SYSTEM
LOCAL CONTROL PANEL
LOCAL INDICATORS
START PUSH BUTTON
STOP PUSH BUTTON
LOC/REM SELECTOR SWITCH
230Vac (UPS) POWER ON LINE
230Vac POWER ON LINE
GENERAL ALARM LAMP
PSA RUNNING LAMP

CRITICAL FAULT TO SIS
SHUTDOWN ALARM FROM SIS (SIL2 Relay)
NITROGEN GENERATOR RUNNING (NOTE 2)
NITROGEN GENERATOR ALARM (NOTE 2)
PROFINET SIGNALS (NOTE 2)

BATTERY LIMIT CONNECTIONS

POS.	DESCRIPTION	TYPE	DIMENSIONS	DN	MATERIAL	FLOW (normal)	FLOW (design)	NOTES
TP043	DRY AIR INLET	ANSI B16.5 - RF	ø1" 150#	25	SS 316/316L	125 Nm³/h @ 9 barg	150 Nm³/h @ 9 barg	
TP042	NITROGEN OUTLET	ANSI B16.5 - RF	ø1" 150#	25	CS	50 Nm³/h @ 8 barg	60 Nm³/h @ 8 barg	PURITY=97%
TP045	NITROGEN VENT	ANSI B16.5 - RF	ø2" 150#	50	CS	MAX 50 Nm³/h	MAX 60 Nm³/h	LOW PURITY
TP044	CONNECTION TO RECEIVER	ANSI B16.5 - RF	ø1" 150#	25	CS			
TP046	INLET/OUTLET RECEIVER	ANSI B16.5 - RF	ø1" 150#	25	CS			

coes

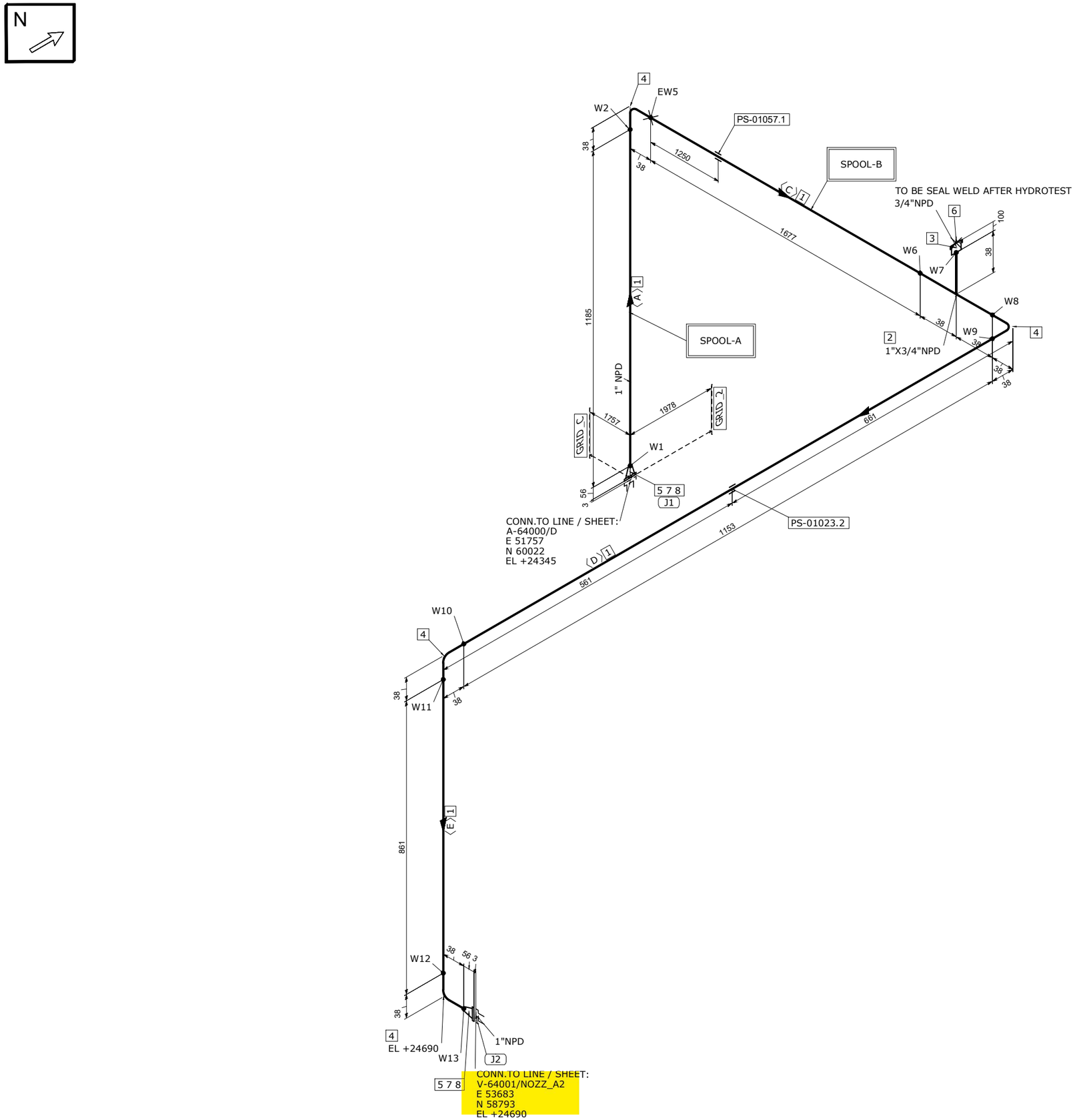
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	23/12/24	GT	MC	TM	ACCEPTED FOR CONSTRUCTION (AFC)
03	05/09/24	GT	MC	TM	ACCEPTED FOR CONSTRUCTION (AFC)
02	04/07/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)
01	02/05/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)
00	21/03/24	GT	MC	TM	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
PACKAGE P&ID
NITROGEN GENERATION PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	N/A
DRAWN GT	CHECKED MC	APPROVED TM	DATE 23/12/24
A1	DRAWING NO. 1724000437-PR-PID-00018	SHEET 001	REV. 04

File Name : 1724000437-PR-PID-00018



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1	PIPECS08300100	Pipe ASME B36.10M PE 4,55 SML ASTM/ASME A/SA333 Gr.6	4.9M	15.8
2	1X3/4	TER0CS2607013Q	Tee Reducing ASME B16.9 BW 4,55x3,91 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.5
3	3/4	N100CS05453Q00	Nipple L=100mm ASME B36.10M THRD-M NPT x PE 3,91 SML ASTM/ASME A/SA333 Gr.6	1	0.2
4	1	E90RCS01780100	90 Deg Elbow Long Radius ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	4	0.7
5	1	FLW0CS16540100	Flange WN ASME B16.5 150LB RF 4,55 FRG ASTM/ASME A/SA350 Gr.LF2	2	2.8

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
6	3/4	CAPFCS00673Q00	Cap Forged ASME B16.11 THRD-F NPT 3000# FRG ASTM/ASME A/SA350 Gr.LF2	1	0.2
7	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
8	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	8	1.0

FABRICATION WEIGHT [kg]	20.0
ERECTION WEIGHT [kg]	1.3
OVERALL WEIGHT [kg]	21.3

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1	BW
W2	1	BW
EW5	1	BW
W6	1	BW
W7	3/4	BW
W8	1	BW
W9	1	BW
W10	1	BW
W11	1	BW
W12	1	BW
W13	1	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1	1185	BEVEL	BEVEL
C	1	1677	BEVEL	BEVEL
D	1	1153	BEVEL	BEVEL
E	1	861	BEVEL	BEVEL

SUPPORT LIST

PS-01023.2
PS-01057.1

SPOOL	WELD [inches]	WEIGHT [kg]
A	2	5.4
B	7.75	11.0
MONT	1	1.3

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	27-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE
SHOP DRAWING ISOMETRIC
LINE NR. 1"-N-262-01CS-N

SK.126

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK					SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM	DATE	27-08-2024
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00126			SHEET / OF	1/1
						REV.	00

LINE DATA

NDT INSPECTION CATEGORY	2		PED CATEGORY	Art. 4, par. 3			
PAINTING	SYSTEM 1	BASE RAL RAL-9002	FLUID PHASE	Gas			
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 12 [barg]	TEMP. -46 / 100 [°C]		
HEAT TRACING	N/A		TEST	PRESS. 18 [barg]	TEMP. AMB	MEDIUM Water	

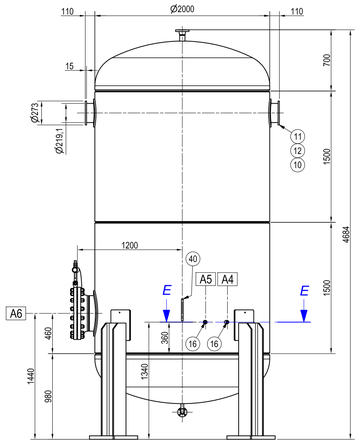
REFERENCE DOCUMENTS

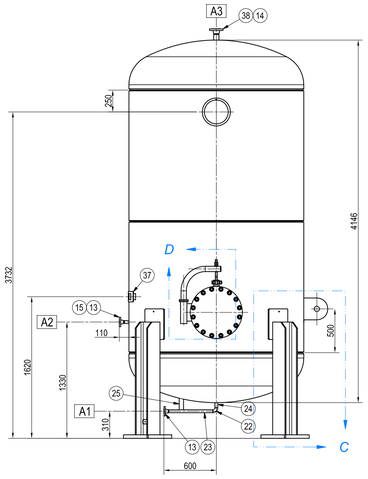
P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

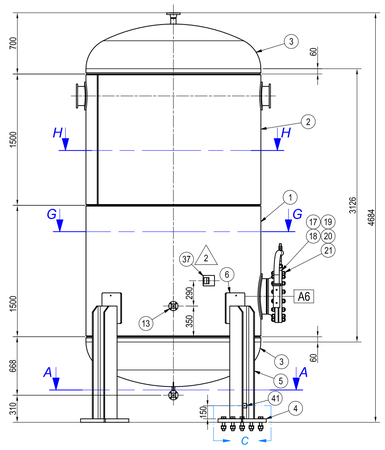
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MASTER

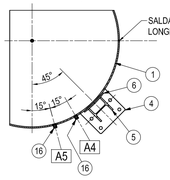
DRAWING NO. 1724000437-MAC-DD-00006 REV. 02



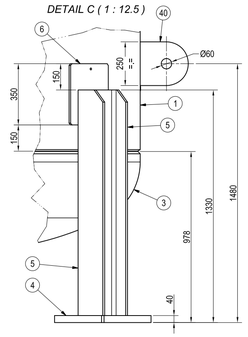


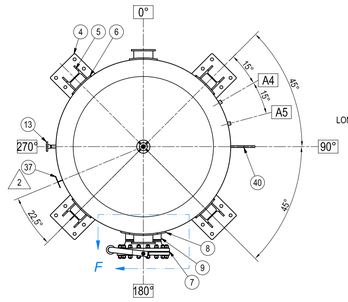


SECTION E-E (1 : 25)

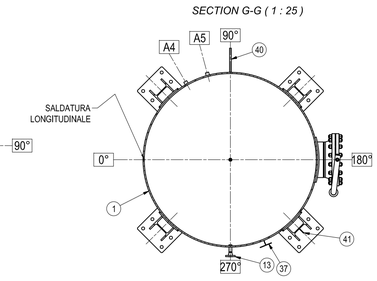


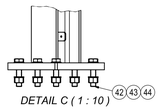
DETAIL C (1 : 12.5)





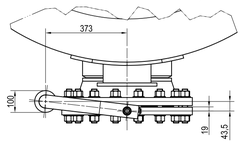
SECTION G-G (1 : 25)



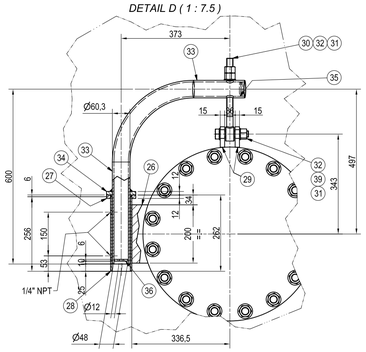


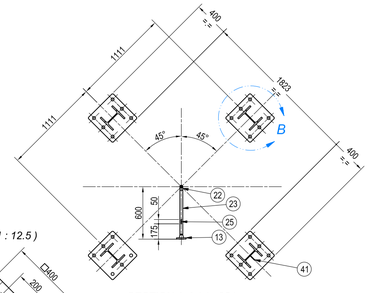
DETAIL C (1 : 10)

DETAIL F (1 : 10)



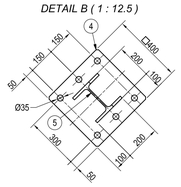
DETAIL D (1 : 7.5)

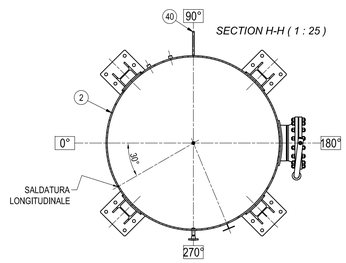




SECTION A-A (1 : 25)

DETAIL B (1 : 12.5)





SECTION H-H (1 : 25)

NAMEPLATE DETAIL

MANUFACTURER	COES SRL - STEZZANO (BG)
EQUIPMENT	N2 RECEIVER V-64001
SERIAL NUMBER	S240120 YEAR 2024
DESIGN CODE	ASME VIII Div. 1 Ed. 2021 / PED 2014/68/UE
CONFORMITY	Category IV
FLUID	N2
DESIGN PRESSURE	12 barg
DESIGN TEMPERATURE	-29 / + 80°C
TEST PRESSURE	17.2 barg
CORROSION ALLOWANCE	3 mm
WEIGHT	4000 kg
VOLUME	11000 l

CE 0425

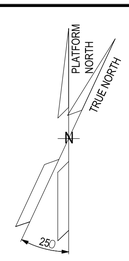
ELENCO PARTI / BILL OF MATERIAL

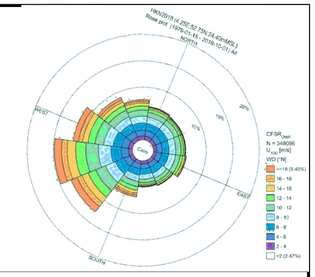
POS	QTY	DESCRIPTION	MATERIAL	WGT	TEST	COD. COES
1	1	SHELL øe2000 Thk. 15 L=1500 (Manhole 16" side)	SA 516 Gr.70	1080	B	L3723
2	1	SHELL øe2000 Thk. 15 L=1500	SA 516 Gr.70	1095,6	B	L3724
3	2	ELL. HEAD øl1970 Thk. 15mm (Thk. 12.75mm min.)	SA 516 Gr.70	1112,3	B	L3716
4	4	PLATE 400x400 thk=40 N° 6 HOLES Ø35	SA 516 Gr.70	194	C	L3719
5	5160,000 mm	PROFILE HEB 200 L=1290	S 355 J2	314,8	C	F7552
6	4	PAD 350x300 thk=15	SA 516 Gr.70	50	B	L3720
7	1	FLANGE W.N.16" Sch. 40 150# RF	SA 350 Gr. LF2 Cl.1	66,3	B	H1000
8	1	PAD Øe=510 Øi=410 thk=15 for Man Hole	SA 516 Gr.70	9,3	B	L3721
9	1	SHELL øe407 Thk. 15 L=110	SA 516 Gr.70	13,6	B	L3722
10	2	PAD Øe=320 Øi=220 thk=15 for Trunnion	SA 516 Gr.70	9,8	B	L3718
11	2	DISK Ø273 thk=15	SA 516 Gr.70	13,8	C	D2222
12	200,000 mm	PIPE SMLSS 8 Sch.80	SA 333 Gr. 6	12,5	C	D9560
13	2	FLANGE W.N.1" Sch. XXS 150# RF	SA 350 Gr. LF2 Cl.1	2,6	B	L3726
14	80,000 mm	PIPE SMLSS 2 Sch.160	SA 333 Gr. 6	0,9	B	C1399
15	80,000 mm	PIPE SMLSS 1 Sch.XXS	SA 333 Gr. 6	0,4	B	D9604
16	2	COUPLING 1/2" NPT-F 6000#	SA 350 Gr. LF2 CL1	0,7	B	K1337
17	1	GKT SPIRAL WOUND 16" 150# Thk. 4.5mm	316L+GRAPHITE	2	C	F8428
18	1	FLANGE BLIND B16.5 16" 150# RF	SA 350 Gr. LF2 CL1	76,2	B	L3727
19	32	WASHER 1	C.S.	1,5	C	C5634
20	32	NUT 1" UNC	SA 194 Gr.7	5,6 *	B	J2840
21	16	STUD-BOLT 1" UNC x 155	SA 320 Gr.L7	9,9 *	B	H9373
22	1	ELBOW L.R. 90° 1" Sch. XXS	SA 420 WPL6	0,3	B	D9605
23	502,528 mm	PIPE SMLSS 1 Sch.XXS	SA 333 Gr. 6	2,7	B	D9604
24	73,000 mm	PIPE SMLSS 1 Sch.XXS	SA 333 Gr. 6	0,4	B	D9604
25	200,000 mm	PLATE 50 x 6 L=132,5 mm	SA 516 Gr.70	0,3	B	L4381
26	1	PLATE 200x55 thk=18 (DAVIT 16" 150#)	SA 516 Gr.70	1,2	B	L4382
27	1	ROD Øe=100 Øi=74 Thk=12	SA 516 Gr.70	0,3	C	L4016
28	256,000 mm	PIPE SMLSS 2 1/2 Sch.40 L=256	SA 333 Gr. 6	2,2	C	G6831
29	2	PLATE 50x70 Thk. 15 mm FOR DAVIT 16"	SA 516 Gr.70	0,6	B	L4383
30	1	LIFTING EYE M22x260	SA 350 Gr. LF2 Cl.1	1	C	L4375
31	3	WASHER A 22	C 40	0,1	C	3393
32	3	NUT M22 UNI 5587	SA 194 Gr.7	0,3	C	L1368
33	1	BENDING PIPE SMLSS 2" SCH. 40 L=920 (DAVIT 16" 150#)	SA 333 Gr. 6	6,8	C	L4385
34	1	ROD Øe=100 Øi=61 Thk=12	SA 516 Gr.70	0,5	C	L4376
35	1	DISK Øe=48 thk=6	SA 516 Gr.70	0,1	C	L4377
36	1	DISK Øe=48 Øi=12 thk=6	SA 516 Gr.70	0,1	C	L4378
37	1	SUPPORT NAMEPLATE 140x120 Thk.4mm	SA 516 Gr.70	0,5	B	E4247
38	1	FLANGE W.N.2" Sch. 160 150# RF	SA 350 Gr. LF2 Cl.1	3,1	B	F7664
39	1	SCREW - M22 x 100 - UNI 5739	SA 320 Gr.L7	0,4	C	L0436
40	1	LIFTING LUG A=250 E=150 HOLE Ø60 THK=20	SA 516 Gr.70	9,3	B	L3717
41	1	EARTHING LUG 70 x 50 Thk.6	SA 516 Gr.70	0,2	C	L5167
42	24	SCREW - M30 x 140 - UNI 5739	CL 8.8	0,4	C	L5163
43	48	WASHER A 30	C 40	9,3	C	9169
44	24	NUT M30 UNI 5587	CL 8	0,2	C	L5164

MATERIAL TEST SYMB. (according to EN 10204)

A	Tested material (3.2)
B	Material with certificate of manufacturer (3.1)
C	Material without certificate
D	Material with certificate of manufacturer (2.2)

POS	DESCRIPTION	PIPE CONN.
A1	DRAIN	WN 1" 150# RF SCH. XXS
A2	IN/OUT	WN 1" 150# RF SCH. XXS
A3	PSV	WN 2" 150# RF SCH. XXS
A4	PRESSURE GAUGE PG	COUPLING 1/2"NPTF 6000#
A5	PRESSURE TRANSMITTER PT	COUPLING 1/2" NPTF 6000#
A6	MAN HOLE	WNF 16" 150# RF SCH. 40





NOTES

NOTE:
1. QUANTITIES IN MATERIAL LIST FOR No. 1 VESSEL.
2. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
3. ALL THICKNESSES SHOWN ARE MINIMUM AFTER FORMING.
4. TOLERANCE OF VESSELS: ACCORDING TO COES PROCEDURE CTP03684 Rev.2
5. FLANGES DRILLED HOLES SHALL STRADDLE MAIN CENTER AXIS OF VESSEL.
6. FLANGES FACE FINISHING: 125-250 AARH.
   FLANGES AND BLIND FLANGES <= 24" ACC TO ASME B16.5 (2020).
7. VENT HOLES ON REINF. PAD: 1/4" NPT/F EACH PAD OR SEGMENT
   PERFORM TEST AT 1 bar(g) WITH AIR AND SOAPY SOLUTION.
8. ALL NOZZLES WITHOUT INTERNAL PROJECTION, TO BE FLUSHED WITH INSIDE SURFACE OF THE VESSEL. THE INSIDE EDGE OF ALL NOZZLES TO BE ROUNDED.
9. FOR WELDING DETAILS REFER TO THE RELATED WELDING BOOK.
10. BUTTWELDING FITTINGS ACCORDING TO ASME B16.9 (2018)
11. THREADED FITTINGS ACCORDING TO ASME B16.11 (2021)
12. QUANTITY 1: SEE ORIENTATION PLAN.

LEGEND

HOLDS

DESIGN DATA

Code	Applicable codes and standards		ASME VIII Div.1 Ed. 2021 / PED 2014/68/EU		
	Third party		ICIM GROUP		
	STAMP		No		
	NATIONAL BOARD		No		
	CRN REGISTRATION		N.A.		
Pressure	Design pressure internal		12	barg	
	Working pressure		8	barg	
	Hydrotest pressure vertical		17,2	barg	
	Hydrotest pressure horizontal		N.A.	barg	
	Static head in design		0	barg	
	MAWP		12,72	barg	at temperature of 80 °C
Temperat.	Design temperature		80	°C	
	Working temperature		-	°C	
	M.D.M.T. @ MAWP		-29	°C	
	Test temperature min.		10	°C	
Miscellaneous	Corrosion allowance		3	mm	
	Out of roundness		1%		
	Insulation		-	mm	
	Capacity		11000,0	ℓ	
	Tollerance on thickness	Plates	0.25 (>4); 6% (<=4)	mm	
		Pipes	-12.5	%	
		Forgings	=0/1	mm	
Fluid	Nature		N2		
	Physical state		GAS		Group 2
	Specific weight		11,43	kg/m³	
Weldings	Joint efficiency (E)		0.85		
	Rad. Cat/class		RT 3		
	Test Coupons		NO		
	Radiographic Examination		SPOT	note:	
Heat treatement and testing	Head assembly in 1 piece		N.A.		
	Heat treatment		NO	note:	
	Liquid penetrant Examination (PT)		YES	note:	
	Ultrasonic Examination (UT)		NO	note:	
	Impact test		NO	note:	Exempt Para. UCS-66 / YES PED 2014/68/EU Annex 1
	External Finishing		According to Coating Specification no. 1724000437-MAT-PRO-00021		
	Internal Finishing		According to Coating Specification no. 1724000437-MAT-PRO-00021		
Ext. Loads	Wind		YES	note:	Project Spec. 123A90-DDL-ST-SP-90017
	Seismic		YES	note:	Project Spec. 123A90-DDL-ST-SP-90017
Weight	Empty		4000,0	kg	
	Hydrotest condition		15000,0	kg	

COES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	07/10/24	STC	GT	TM	ISSUE FOR INFORMATION (IFI)
01	05/07/24	STC	GT	TM	ISSUE FOR INFORMATION (IFI)
00	28/05/24	STC	GT	TM	ISSUE FOR INFORMATION (IFI)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
EQUIPMENT SECTIONAL DRAWING WITH BILL OF MATERIAL
NITROGEN GENERATION PACKAGE N2 RECEIVER

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:35

DRAWN STC | CHECKED GT | APPROVED TM | DATE 07/10/24

A1 | DRAWING NO. 1724000437-MAC-DD-00006 | SHEET 001 | REV. 02

File Name : 1724000437-MAC-DD-00006

coes	CLIENTE CUSTOMER	:	ROSETTI MARINO	COMM: JOB:	:	167/24	
	RIFERIMENTO REFERENCE	:	CROSSWIND	UNITA' ITEM	:	/	
	IMPIANTO DRYING UNIT	:	NITROGEN GENERATION PACKAGE	FOGLIO N° SHEET	:	2	DI : 3 OF

FOGLIO DATI PER SERBATOIO
PRESSURE VESSEL DATA SHEET

DATI PROGETTO MECCANICO
MECAHNICAL DESIGN DATA

1	QUANTITA' QUANTITY	:	1				
2	ITEM TAG	:	V-64001				
3	SERVIZIO SERVICE	:	SERBATOIO AZOTO NITROGEN TANK				
4	TIPO TYPE	:	VERTICALE VERTICAL				
5	MATERIALE MATERIAL	:	LTCS				
6	NORMATIVA PROGETTO DESIGN CODE	:	ASME VIII DIV.1	NORMATIVA COLLAUDO INSPECTION CODE	:	2014/68/EU PED	
7	MATERIALE MATERIAL	:	LTCS	SOVRASPESS. CORROSIONE CORROSION OVER-THICKNESS	:	3 mm	
8	PRESSIONE PROGETTO DESIGN PRESSURE	:	12 barg	TEMPERATURA PROGETTO DESIGN TEMPERATURE	:	-29 / +80 °C	
9	DIAMETRO ESTERNO EXTERNAL DIAMETER	:	2000 mm	LUNGHEZZA T/T T/T LENGHT	:	2900 mm	
10	VOLUME VOLUME	:	11 m3				
11	RADIOGRAFIE RT TEST	:	☒ YES SPOT	☐ NO			
12	VERNICIATURA PAINTING	:	☒ EXTERNAL	☐ INTERNAL			
11	ZINCATURA GALVANIZING	:	☐ YES	☒ NO			
12							
13	Notes: - details of nozzle are included into equipment sectional drawing						
14							

ELENCO CONNESSIONI
NOZZLES LIST

	SIGLA TAG	DIAMETRO DIAMETER	TIPO TYPE	SERIE RATING	SERVIZIO SERVICE	NOTE REMARKS
15						
16	N1	1"	WN	ANSI 150	PROCESS INLET/OUTLET	
17	N2	1"	WN	ANSI 150	SAFETY VALVE	
18	N3	1/2"	NPT	3000#	PRESSURE GAUGE	HALF COUPLING
19	N4	1/2"	NPT	3000#	PRESSURE TRANSMITTER	HALF COUPLING
20	N5	1"	WN	ANSI 150	DRAIN	
21	N6	16"	WN	ANSI 150	MAN HOLE	
22						
23						

STRUMENTI - ACCESSORI
INSTRUMENTS - ACCESSORIES

24	☒	VALVOLA DI SICUREZZA SAFETY VALVE
25	☒	MANOMETRO PRESSURE GAUGE
26	☒	TRASMETTITORE DI PRESSIONE PRESSURE TRANSMITTER
27	☒	VALVOLA DI DRENAGGIO MANUALE MANUAL DRAIN VALVE
28	☐	SCARICATORE DI CONDENSA DRAIN TRAP
29		

REV. REV.	DESCRIZIONE DESCRIPTION	EMESSO ISSUED	APPROVATO APPROVED	DATA DATE
01	ISSUE FOR REVIEW	GT	TM	08-mag-24
00	ISSUE FOR REVIEW	GT	TM	28-mar-24

Section 8 MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC & discipline : T

Telecom	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
64-LP-001/B400-NET-001	COMMUNICATION / NETWORK CABINET	ONSHORE	C10004350	CIX09	100	2024-11-27	RFC 1

ITEM	Tag	64-LP-001/B400-NET-001	: COMMUNICATION / NETWORK CABINET	Dwg	123A90-DDL-IN-LIS-40091		
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)	Module	LD/LD_B-400		
TASK	code	C10004350	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	Telecom	Form CIX09	Telecom Cable RJ45

CABLE DATA

Type: FTP-LSZH-IS-OS-SWB-LSZH | Cores/Size mm²: 4X2X23AWG mm2 | Color: GREY

From: 64-LP-001 | To: B400-NET-001

1	Confirm cable is as specified in project cable schedule	OK
2	Check cable physical integrity.	OK
3	Check is installed in accordance with layout drawing (segregation, distance…).	PL
4	Check cable is supported and fixed to rack according to project specification.	PL
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	OK
7	Confirm cable labelling is in accordance with specifications.	PL
8	Check cable is correctly loomed and segregated in accordance with specification.	OK
9	Check proper fitting of heat shrink sleeves and cable glands (if applicable).	OK
10	Check cores marking are in accordance with termination diagram.	OK
11	Check terminations are in accordance with latest termination diagram.	PL
12	To roll up that measured lenght complies with pulled lenght.	OK
13	To roll up the cable complies with Cat. 5E performance requirements (250 Mhz).	OK
14	Attach LAN tester print out to this test sheet.	OK
15	if required produce Red Line Mark Up for "AS BUILT"	

Comments: Nota 4: refer to PL C30000680

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-11-25	2024-11-27	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-25T11:04:29.905Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-27T12:21:28.945Z	

ROSETTI MARINO

Cable ID: 64-LP-001/B400-NET-001

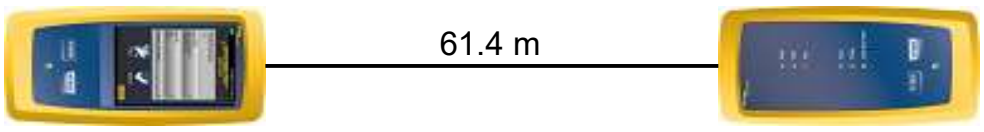
Test Limit: ISO11801 PL2 Class Ea
Limits Version: V7.6
Date / Time: 22-11-2024 16:19:14
Headroom 5.4 dB (NEXT 1,2-3,6)
Cable Type: Cat 6A S/FTP
NVP: 77.0%

Main: Versiv
S/N: 2226344
Software Version: V6.7 Build 1
Calibration Date: 12-12-2022
Adapter: DSX-8000 (DSX-PLA804)
S/N: 22340270

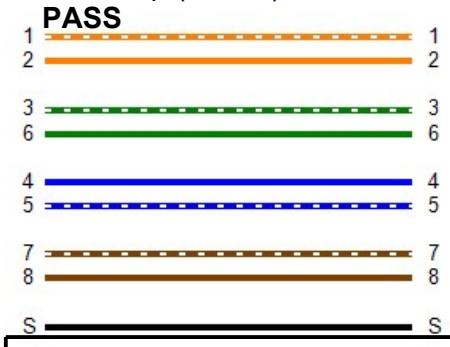
Test Summary: PASS

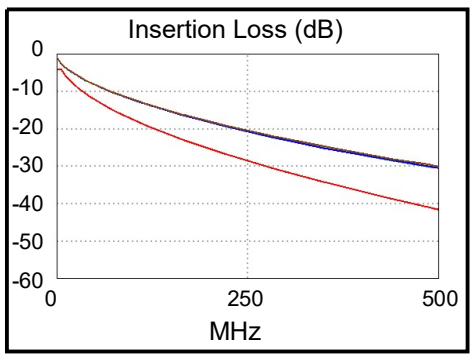
Remote: Versiv
S/N: 2226336
Software Version: V6.7 Build 1
Calibration Date: 12-12-2022
Adapter: DSX-8000R (DSX-PLA804)
S/N: 22340257

Length (m), Limit 90.0	[Pair 4,5]	61.4
Prop. Delay (ns), Limit 496	[Pair 1,2]	272
Delay Skew (ns), Limit 43	[Pair 1,2]	6
Resistance (ohms), Limit 20.60	[Pair 3,6]	8.61
Insertion Loss Margin (dB)	[Pair 1,2]	11.0
Frequency (MHz)	[Pair 1,2]	500.0
Limit (dB)	[Pair 1,2]	41.6

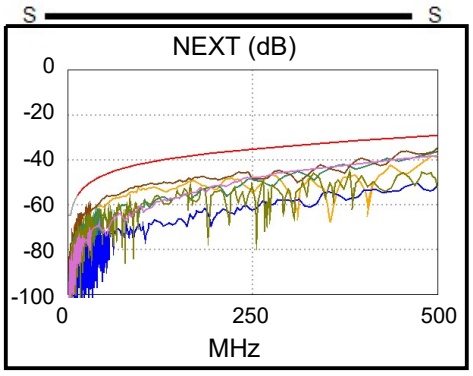


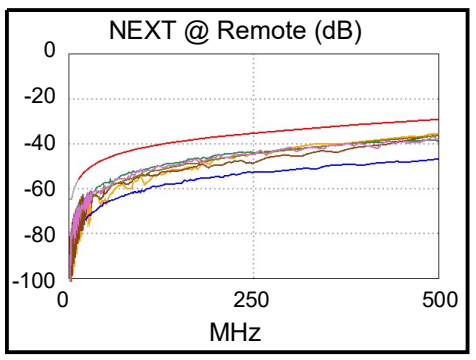
Wire Map (T568B)
PASS



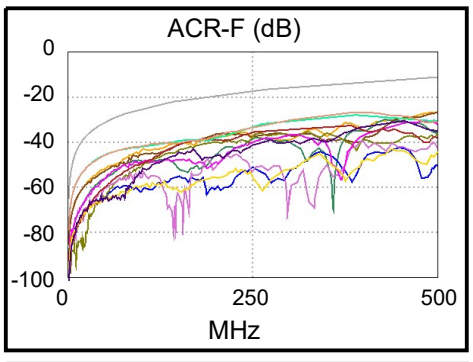


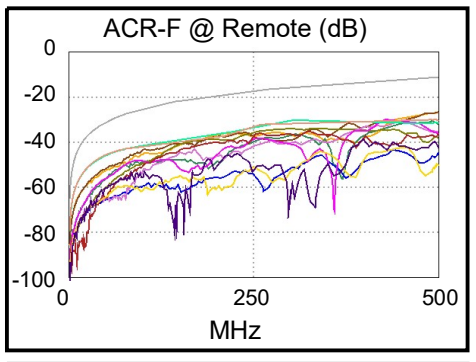
Worst Case Margin			Worst Case Value	
PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	1,2-3,6	3,6-4,5	1,2-3,6
NEXT (dB)	5.7	5.4	5.8	6.2
Freq. (MHz)	499.0	453.0	500.0	491.0
Limit (dB)	29.3	30.2	29.2	29.4
Worst Pair	4,5	3,6	4,5	3,6
PS NEXT (dB)	5.2	4.9	5.2	5.0
Freq. (MHz)	500.0	491.0	500.0	498.0
Limit (dB)	26.4	26.6	26.4	26.4



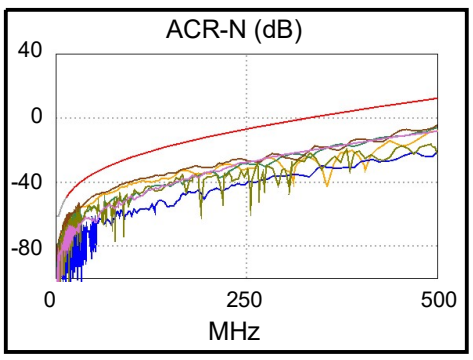


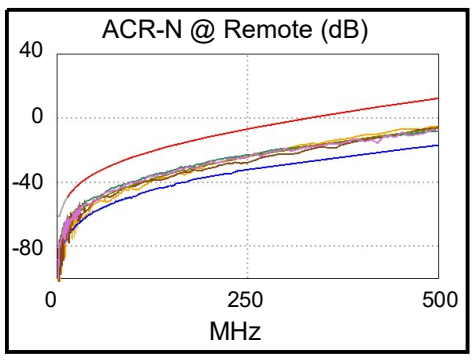
PASS	MAIN	SR	MAIN	SR
Worst Pair	7,8-4,5	4,5-7,8	7,8-4,5	3,6-1,2
ACR-F (dB)	12.7	13.2	13.6	15.3
Freq. (MHz)	346.0	364.0	410.0	500.0
Limit (dB)	14.5	14.0	13.0	11.3
Worst Pair	4,5	4,5	1,2	7,8
PS ACR-F (dB)	15.1	15.1	17.2	15.8
Freq. (MHz)	346.0	305.0	500.0	401.0
Limit (dB)	11.5	12.5	8.3	10.2



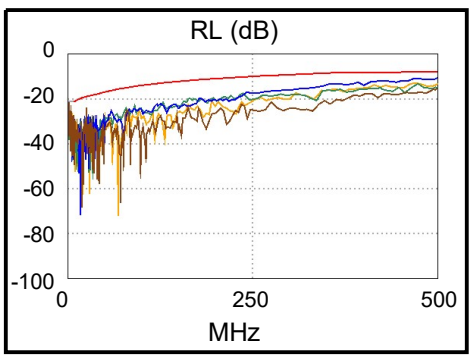


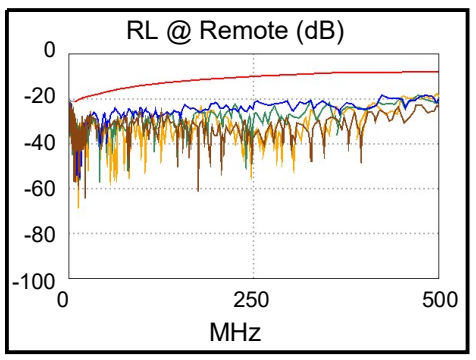
PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	1,2-4,5	3,6-4,5	1,2-3,6
ACR-N (dB)	13.2	13.9	16.9	17.6
Freq. (MHz)	20.6	13.0	500.0	498.0
Limit (dB)	45.0	49.8	-12.4	-12.3
Worst Pair	3,6	4,5	4,5	3,6
PS ACR-N (dB)	13.9	13.2	16.4	16.3
Freq. (MHz)	42.0	96.5	500.0	500.0
Limit (dB)	34.2	22.3	-15.3	-15.3





PASS	MAIN	SR	MAIN	SR
Worst Pair	4,5	4,5	4,5	1,2
RL (dB)	2.6	7.0	2.6	9.8
Freq. (MHz)	474.0	33.3	474.0	498.0
Limit (dB)	8.0	18.4	8.0	8.0





Compliant Network Standards:

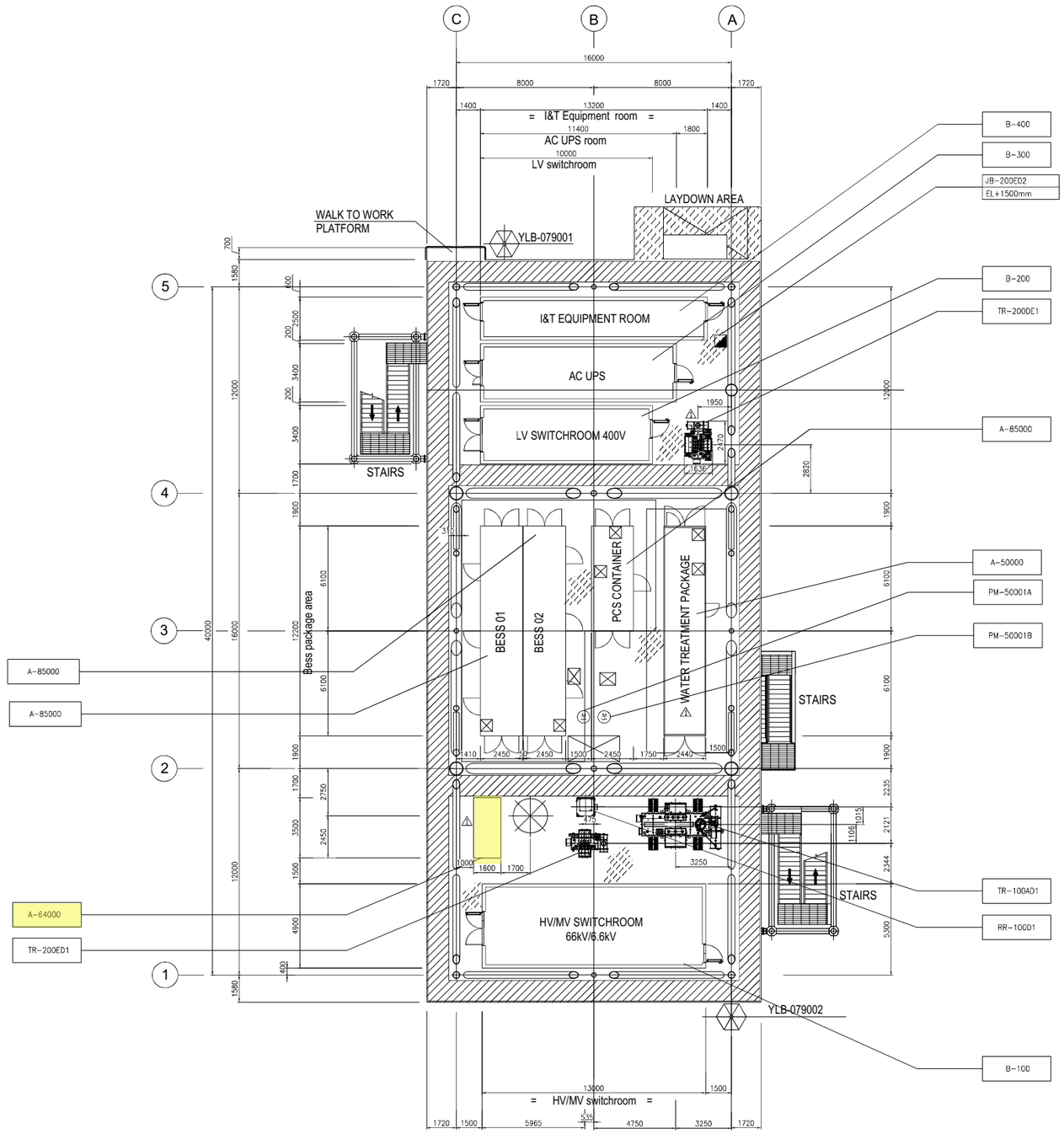
10BASE-T	100BASE-TX	100BASE-T4
1000BASE-T	2.5GBASE-T	5GBASE-T
10GBASE-T	ATM-25	ATM-51
ATM-155	100VG-AnyLan	TR-4
TR-16 Active	TR-16 Passive	

LinkWare™ PC Version 11.4

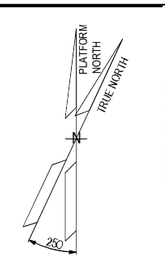
Project: CROSSWIND
Site: Not Set
Floor: Not Set
Rack: Not Set
ROSETTI - CROSSWIND RAME 22.11.2024.flw

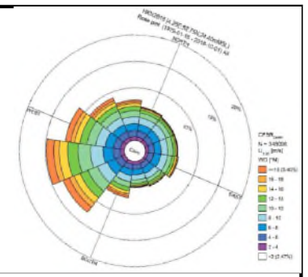
Building: Not Set
Room: Not Set
Patch: Not Set

FLUKE networks



PLAN ON LOWER DECK
EL+23.310 T.O.S.





NOTES

1. ALL DIMENSIONS IN MM UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS IN METERS. UNLESS NOTED OTHERWISE.
3. ELEVATIONS REFER TO T.O.S.
4. FOR ELECTRICAL EQUIPMENT LAYOUT OF CONTAINERS B-100, B-200, B-300, B-400 REFER TO THE RESPECTIVE LAYOUTS.

LEGEND

(M)	ELECTRIC MOTOR – LOW VOLTAGE
⊠	INTERFACE PANEL
◪	JUNCTION BOX
JB-200E2 / EL+500mm	TAG ITEM / REFERED ELEVATION TO T.O.S. (TOP OF STEEL)

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT UPSs & BATTERIES SWITCHROOM
⚠ 123A90-DDL-IN-DL-40012	ITER EQUIPMENT LAYOUT
123A90-DDL-EL-DL-20104	ELECTRICAL EQUIPMENT LAYOUT HV & MV SWITCHROOM
123A90-DDL-EL-DL-20105	LV SWITCHGEAR ROOM EQUIPMENT LAYOUT

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/05/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	04/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20101**

REV.:	DATE:	SIGNATURE:
1_A	08/08/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

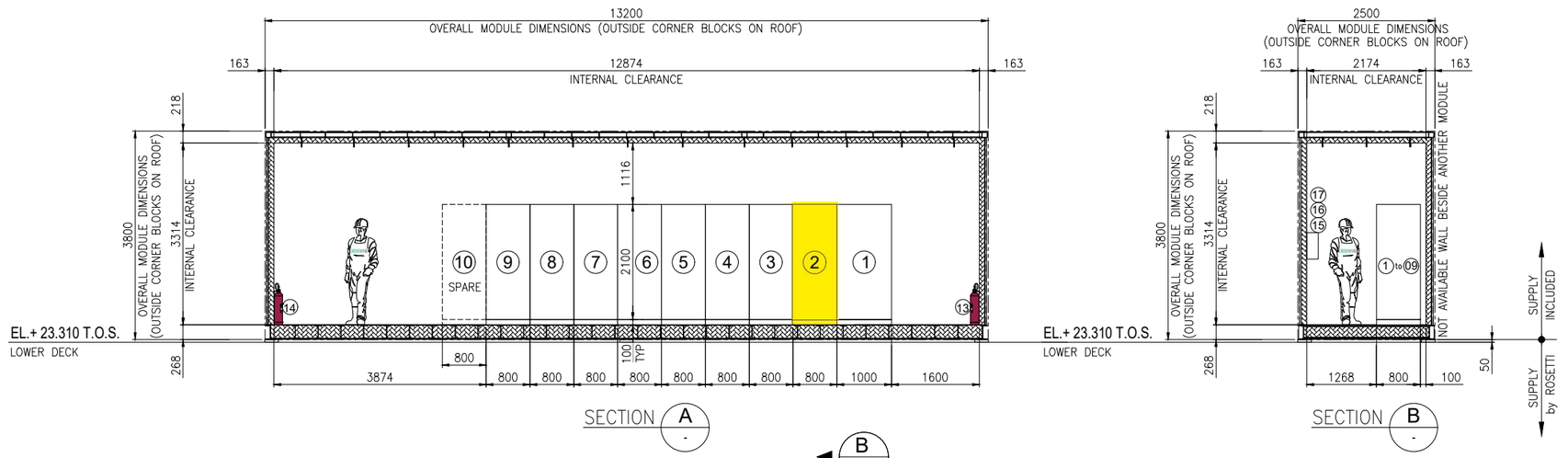
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 04/03/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20101	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20101 REV. 01

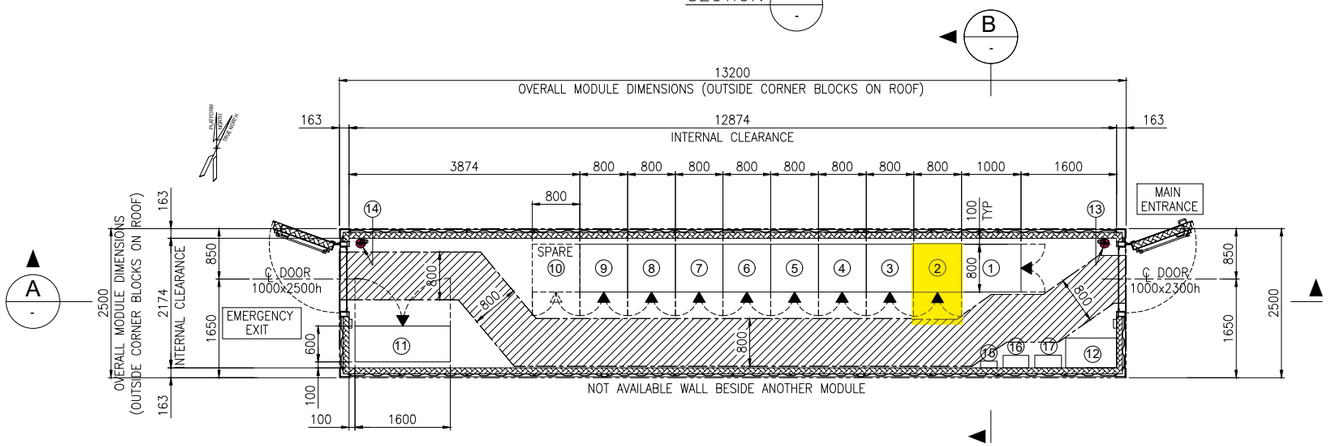
File Name : 123A90-DDL-EL-DL-20101-Electrical Equipment Layout – Lower Deck

DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03



SECTION A -

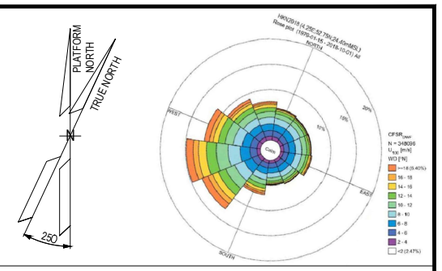
SECTION B -



EQUIPMENT LAYOUT
"B-400" I&T EQUIPMENT ROOM
BOTTOM PLAN

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	B400-SRV-001	SERVER CABINET	1000	800	2100	
2	B400-NET-001	NETWORK CABINET	800	800	2100	
3	B400-EMCS-001	EMCS SYSTEM CABINET	800	800	2100	
4	B400-PCS-002	PCS MARSHALLING CABINET	800	800	2100	
5	B400-PCS-001	PCS SYSTEM CABINET 03	800	800	2100	
6	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-001	FGS SYSTEM CABINET	800	800	2100	
9	B400-SIS-001	SIS SYSTEM/MARSHALLING CABINET	800	800	2100	
10	-	SPARE				
11	B400-HSB-001	DISTRIBUTION & HVAC PANEL - I&T ROOM	1600	600	2300	
12	-	TABLE	850	500	750	
13	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
14	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	
15	-	FIRST AID KIT	280	115	200	
16	-	RESUSCITATION UNIT	430	210	480	
17	-	CABINET INCLUDED N.10 ESCAPE MASK	448	213	422	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DOCUMENT VALID ONLY FOR INSTRUMENT COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.

LEGEND

U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ EQUIPMENT ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

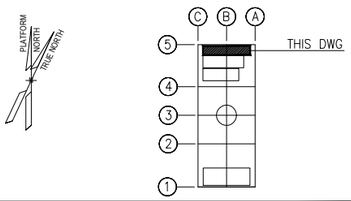
HOLDS

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REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
Control System Architecture Detailed Drawings	123A90-DDL-IN-DD-40096
Data Network Architecture Drawings	123A90-DDL-IN-DD-40019
Earthing layouts drawings (CCR, ITER)	123A90-DDL-IN-DL-40013
Instrument and Telecom MCT Layout – Lower Deck	123A90-DDL-IN-DL-40086
"B-400" I&T Equipment Room – Architectural Layout	123A90-DDL-AR-DL-10015
"B-400" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10015
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00017
"B-400" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DD-00021
"B-400" HVAC SYSTEM G.A. and DETAILS	1724000049-HV-DA-00067

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
02	27/05/24	MGA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	22/01/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)
00	07/11/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40012
REV.: 3_A | DATE: 07/10/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH) OFF-SHORE ITER EQUIPMENT LAYOUT

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:33,3
DRAWN MGA	CHECKED LCA	APPROVED DLO	DATE 27/05/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40012	SHEET 001	REV. 03

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

DRAWING NO. 123A90-DDL-IN-DG-40015

REV. 01

FIELD					I&T EQUIPMENT ROOM (ITER B400)		
					NETWORK CABINET - B400-NET-001		
					<01>		
CP-500E1 UCP PANEL	SEA WATER TREAT. (A-50003) 50-LP-001	ITEM: PORT: P3	RJ45	50-LP-001 / B400-NET-001 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-01 PORT: P16	
	I. A. PACKAGE (A-63000) 63-LP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	63-LP-001 / B400-NET-001 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-01 PORT: P17	
	NITROGEN SYSTEM (U-64000) 64-LP-001	ITEM: NOTE 5 PORT: NOTE 5	RJ45	64-LP-001 / B400-NET-001 CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GR	RJ45	SWITCH: COOP-01 PORT: P18	
	TRANSFORMER TR-100AD1 AVR	ITEM: TAPCON 230 - EXPERT PORT: SCADA ETHERNET	RJ45	TR-100AD1AVR/B400-NET-001 ~~TR-100AD1-AVR/ B400-EMGS-001~~ CAT.6A4x2xAWG23,Sh+ShT+ARM,F.Ret,GREEN,NIS	RJ45	SWITCH: COOP-01 PORT: P19	

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40015**

REV.:	DATE:	SIGNATURE:
1_E	19/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT – PCS WIRING DIAGRAMS
COMMUNICATION – CAT-6

CONTRACT NO./TITLE			SCALE 1:1
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO. 123A90-DDL-IN-DG-40015	SHEET 038	REV. 01

File Name : 123A90-DDL-IN-DG-40015_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40015

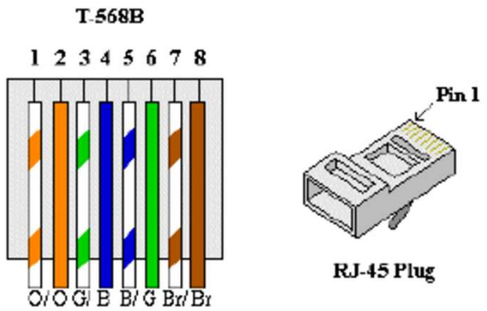
REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. SWITCH TAG NAME AND PORT WILL BE DEFINED DURING THE CONSTRUCTION PHASE
6. FIBER OPTIC TAG NAME WILL BE DEFINED DURING THE CONSTRUCTION PHASE.

<01>

7. CAT. 6A CABLE SHALL BE TERMINATED MEETING REQUIREMENTS OF STANDARD EIA/TIA 568B:



RJ-45 Plug

8. FOR OPTICAL FIBERS, USE THE FOLLOWING COLOR CODING:
   01) RED
   02) GREEN
   03) BLUE
   04) YELLOW
   05) GREY
   06) PURPLE
   07) BROWN
   08) ORANGE
   09) WHITE
   10) PINK
   11) BLACK
   12) TURQUOISE

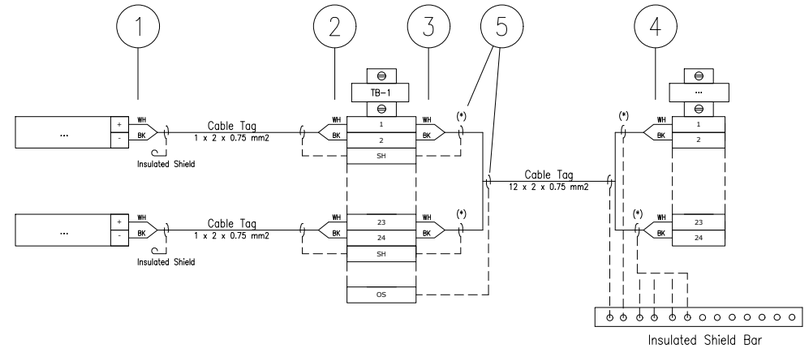
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN / YELLOW —— P.E. EARTH / BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40015**

REV.:	DATE:	SIGNATURE:
1_E	19/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT – PCS WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE 1:1
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO. 123A90-DDL-IN-DG-40015	SHEET 003	REV. 01

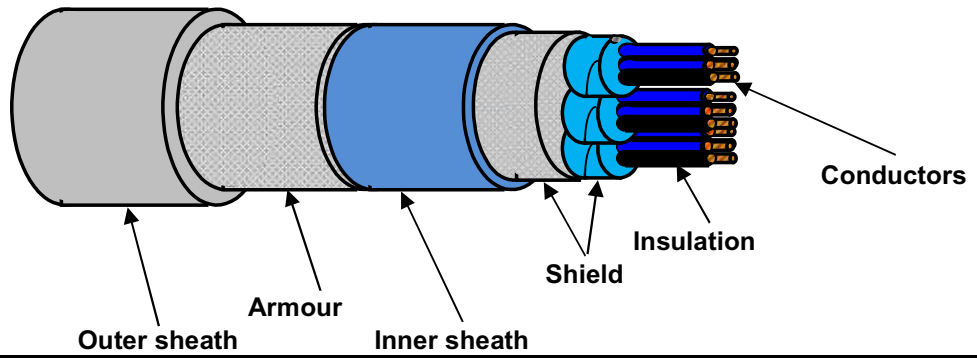
File Name : 123A90-DDL-IN-DG-40015_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
64-LP-001/B400-NET-001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						64-LP-001	Communication	Lower Deck	B400-NET-001	Network Cabinet / EMCS System	Lower Deck (B-400)	TELCV03-4X2X23AWG	Cable CAT 6A S/FTP 4x2x23AWG Armoured LSZH - Grey	M20S	n.a.			n.a.				L-SEC-12 / L-SEC-1I / L-SEC-1H / L-SEC-1G / L-SEC-1F / L-SEC-1E / L-SEC-1D / L-SEC-1C / L-SEC-1B / L-SEC-1A / B-400-SEC-3A / B-400-SEC-2I / B-400-SEC-2G / B-400-SEC-2E / B-400-SEC-2C / B-400-SEC-3B / I-MCT-402

FLEI s.r.l.

CAT. 6A S/FTP ARMOURED LSZH

4X2X23AWG - Based on Draka UC500 HS23



TECHNICAL FEATURES

Conductors :	**SOLID** plain annealed copper wires (AWG23) **ø 0,56 mm**
Insulation :	Foamskin PE - **ø 1,38 mm**
Cores colour code :	**blue/white; orange/white; green/white; brown/white**
Pair Assembling :	Cores twisted in pairs
Pair Shield :	Al-laminated plastic foil
Overall Shield:	Tinned copper braid
Inner sheath :	Extruded LSZH Thermoplastic Compound
Inner sheath color code:	**Blue**
Armour :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,2 mm
Outer sheath color code:	**Grey**
Outer printing (INKJET) :	**FLEI - 4X2X23AWG - CAT.6A S/FTP ARMOURED LSZH - IEC 60332.1.2 - IEC 60332.3.22 -**
(every 1000 mm)	**Year of Manufacture - CE + Meter Marking**
Under armour diameter :	(7,5 ± 10%) mm
Over armour diameter :	(8,3 ± 10%) mm
Outer diameter :	(10,7 ± 10%) mm
Bending radius :	cable outer diameter x 8 (in fixed installation)
Test Voltage :	1000 V DC for 1' (Between Cores) / 1000 V DC for 1' (Between Cores - Shield)
Loop Resistance :	≤ 154 Ω/Km (@ 20°C)
Insulation Resistance :	≥ 2000 MΩ x km (@ 20°C)
Mutual Capacitance :	Nom. 43 nF/km
Characteristic Impedance :	(100 ± 5) Ω
Applicable Standards	
Design Guidelines :	**Generally to ISO/IEC 11801 / IEC 61156-5 / EN 50173-1 / EN 50288-10 / IEEE 802.3at / af / bt**
ON COMPLETE CABLE	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22
Acid Gas generation :	IEC 60754.1/2
Smoke density/Light Transm	IEC 61034.2 (LT ≥ 60%)
Hazardous Areas :	IEC 60079.14 par.9.3.2a
Temperature Range :	
ON COMPLETE CABLE	
During Operation :	(-20°C up to +60°C) (in fixed installation)
During installation :	(0°C up to +50°C)
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner Sheath together with correct ATEX approved equipment or accessories.**

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/05/2024	Messa			
Checked :	29/05/2024	Spaccasassi			
Approved :	29/05/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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Section 9 MECHANICAL COMPLETION STATUS INDEX - HVAC DISCIPLINE

NOT APPLICABLE

Section 10 MECHANICAL COMPLETION STATUS INDEX - PIPING DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 64-00 & process: MC & discipline : P

Piping	64-00 Nitrogen Generator Package (U-64000)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
066-1-J1	Joint 066-1-J1	ONSHORE	C10004125	TMX27	100	2025-01-13	RFC 2
066-1-J2	Joint 066-1-J2	ONSHORE	C10004126	TMX27	100	2025-01-13	RFC 2
066-1-J6	Joint 066-1-J6	ONSHORE	C10004130	TMX27	100	2025-01-13	RFC 2
066-1-J7	Joint 066-1-J7	ONSHORE	C10004131	TMX27	100	2025-01-13	RFC 2
102-1-J1	Joint 102-1-J1	ONSHORE	C10004140	TMX27	100	2025-01-13	RFC 2
102-1-J2	Joint 102-1-J2	ONSHORE	C10004141	TMX27	100	2025-01-13	RFC 2
102-1-J3	Joint 102-1-J3	ONSHORE	C10004142	TMX27	100	2025-01-13	RFC 2
120-1-J1	Joint 120-1-J1	ONSHORE	C10004288	TMX27	100	2025-01-14	RFC 2
126-1-J1	Joint 126-1-J1	ONSHORE	C10004301	TMX27	100	2025-01-13	RFC 2
126-1-J2	Joint 126-1-J2	ONSHORE	C10004302	TMX27	100	2025-01-13	RFC 2
64-00-TP-029	Test Pack 64-00-TP-029	ONSHORE	C10003450	CLX02A	100	2024-12-03	RFC 3
		ONSHORE	C10003451	CLX02B	100	2025-02-03	RFC 3
		ONSHORE	C10003452	CXX02	100	2025-02-05	RFC 3
		ONSHORE	C10003453	TMX03	100	2024-12-03	RFC 3
		ONSHORE	C10003454	TMX05	100	2024-12-03	RFC 3
		ONSHORE	C10003456	TPLX05	100	2024-12-03	RFC 3
64-00-TP-049	Test Pack 64-00-TP-049	ONSHORE	C10003600	CLX02A	100	2024-11-29	RFC 3
		ONSHORE	C10003601	CLX02B	100	2025-01-10	RFC 3
		ONSHORE	C10003602	CXX02	100	2025-02-06	RFC 3
64-00-TP-063	Test Pack 64-00-TP-063	ONSHORE	C10003690	CLX02A	100	2024-12-11	RFC 3
		ONSHORE	C10003691	CLX02B	100	2025-02-04	RFC 3
		ONSHORE	C10003692	CXX02	100	2025-02-05	RFC 3
		ONSHORE	C10003693	TMX03	100	2024-12-13	RFC 3
		ONSHORE	C10003694	TMX05	100	2024-12-13	RFC 3
		ONSHORE	C10003696	TPLX05	100	2024-12-13	RFC 3

ITEM	Tag	64-00-TP-029	: Test Pack 64-00-TP-029		Dwg	123A90-DDL-PR-PID-80027	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD	
TASK	code	C10003450	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity PIP	Discipline Piping	Form	CLX02A	Pipework Before Test

1	Check for each line of the Test Pack the NDT clearance.	OK
2	Confirm that materials conforms to the line specifications (ref. to the last issued revision of the isometric material table)	OK
3	Check the installation of all pipe – supports are in accordance with the specifications and drawings.	NA
4	Check that pipework at pump and vessel nozzles are free from spring.	Note
5	Check that the pipe flanges have been mounted square to each other. Also that the bolting and gaskets are correct (all TMX27 are complete, if necessary).	Note
6	Check bolt tightening and flange management (excluded battery limit joints).	NA
7	Check that the flow direction of the valves and check – valve is in the correct sense / direction (ball valves to be set at half open).	NA
8	Check that the removed equipment is in accordance with the agreed list of fragile devices. Check valve should be removed or flappers locked.	NA
9	Check that spool pieces or other substitution means have been put in place instead of the removed fragile device.	NA
10	Check the Blind list.	NA
11	Check that all the temporary material to perform the task are conforms to the procedure & suitable pressure rating.	OK
12	If required produce Red Line Mark Up for "AS BUILT".	

Comments: Note 4, 5: to be checked during Flange Management activity.

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	Rodeo	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2024-12-02	2024-12-03	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2024-12-02T14:03:04.243Z	PROVERLIS Digitaly signed by Massimo Bruschi 2024-12-03T15:41:14.208Z	

ITEM	Tag	64-00-TP-029	: Test Pack 64-00-TP-029			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10003451		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	CLX02B Pipework After Test

1	Check that the pipework and equipment are drained as per procedure.	OK
2	Check if all temporary equipment (test spades, filters ,spool pieces..etc) have been removed.	OK
3	All plugs installed on vents and drains for test have been removed.	OK
4	Check that all removed devices and valves have been re-installed.	OK
5	Check that the new gaskets have been installed after pipework and equipment reinstallation.	OK
6	All specific blinds and / or spectacle blinds have been correctly installed as per P&ID.	NA
7	Check that the pipework, valves , check valves are undamaged. Also check the ancillaries and any other components.	OK
8	After the (re) installation of a valve check that it operates freely.	OK
9	Check that the flow direction of the valves and check – valve is in correct sense /direction in correct open/closed position as per P&ID.	OK
10	Check all locking device.	OK
11	Check that the valves have been correctly lubricated and that they have the correct spindle packing.	NA
12	Check that all the bolts and fasteners are suitably lubricated inline with the flange management procedure.	OK
13	Check that the bolts have been tightned at opened joints.	OK
14	Check that all golden welds (final tie-ins without hydrotest) have been performed as per procedure.	NA
15	Check for the correct tagging, labeling and colour coding of pipework and equipment (only for bare pipe lines).	NA
16	Check that the pipework and equipment (re) installation conforms to the specifications, drawings and to the P&ID's.	OK
17	If required produce Red Line Mark Up for "AS BUILT".	

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Andrea Mancini	
Date	2025-01-31	2025-02-03	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-31T12:05:54.723Z	PROVERLIS Digitaly signed by Andrea Mancini 2025-02-03T13:34:14.204Z	

ITEM	Tag	64-00-TP-029	: Test Pack 64-00-TP-029		Dwg	123A90-DDL-PR-PID-80027	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD	
TASK	code	C10003452	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Piping	Form	CXX02	Painting Line

1	Check that the completed painting is in accordance with the specifications covering quality and thickness.	OK
2	Check that the color coding conforms to the specifications.	PL
3	Check that the fluid direction is correct.	PL
4	Check that line marking is correct.	NA
5	Check that the painting of piping systems and of the equipment is "touched-up" and conforms to the specifications.	PL
6	If required produce Red Line Mark Up for "AS BUILT".	

Comments: 1. Checked the painting report made by Vendor and signed by RM coating Dpt.

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	IMPRESA DONELLI	RM (ROSETTI MARINO)	
Name	Alex Sanna	Kangi Albonetti	
Date	2025-02-04	2025-02-05	
Signature	PROVERLIS Digitaly signed by Alex Sanna 2025-02-04T12:35:04.440Z	PROVERLIS Digitaly signed by Kangi Albonetti 2025-02-05T12:42:24.387Z	

ROSETTI MARINO | CROSSWIND

ITEM	Tag	64-00-TP-029	: Test Pack 64-00-TP-029		Dwg	123A90-DDL-PR-PID-80027	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD	
TASK	code	C10003453	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity PIP	Discipline Piping	Form	TMX03	Cleaning

CLEANING MEDIUM

Air		Water	●	Steam		Oil		Other		Mechanical	

Component	NA					
Chemical treatment	No	NA	Filtration	No	Screen size	NA

EQUIPMENTS

Equipment **removed**	Yes	Agreed list of removed fragile devices to be attached to this Test Sheet	NA
Excepted removed equipments, pipework installation is conform to the specifications & PID's			OK
Equipment **added**	No	Exhaustive list to be attached (temporary filters, spools…etc)	NA

TEST RESULTS

Test date	03-12-2024	Start time	13:25	End time	13:40
Flow rate	NA	Duration	15 min	Medium T°	NA

Operation Description

Connected the water source to the lowest point of the piping system.
Maintained a high flow rate to help dislodging and carry away debrises.
Flushing flow kept until the water exiting the system was clear and free of visible contaminants. Expelled water inspected for any debris to be noted.

Safety Precautions

Delimit the test area.

Result and comments

All contaminants are expelled.

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2024-12-02	2024-12-03	
Signature	Digitaly signed by Emanuele Delfino 2024-12-02T14:03:58.373Z	Digitaly signed by Massimo Bruschi 2024-12-03T15:58:53.955Z	

ITEM	Tag	64-00-TP-029	: Test Pack 64-00-TP-029		Dwg	123A90-DDL-PR-PID-80027	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD	
TASK	code	C10003454	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity PIP	Discipline Piping	Form	TMX05	Pressure Test

TEST DATA

Reference procedure: 123A90-PML-QHSE-PRO-00092

Design pressure: 12 barg | Max test pressure: 18 barg | Min hold period: 30 min

TEST PREPARATION

Check all equipments used for the test are safe for use under pressure (valide certificate)	Yes
Pressure relief devices are installed and in line and set to correct pressure (calibration certificate)	Yes

Medium

Test medium: WATER

TEST RESULTS

Test date: See attachment | Start time: See attachment | End time: See attachment

Ambient temperature is recorded	NA			Test medium temperature is recorded	Yes
Pressure recorded during test hold period	Min: See attachment	Max: See attachment		Variation	See attachment
Line has been depressurised to	NA			At maximum of bar/min	See attachment
Pressure test completed sucessfully and approved	Yes			Temperature and pressure disc chart attached	NA
Instrument calibration certificates attached	Yes			Dead-weight tester log attached	NA
Record of failures and corrective action attached	No			Battery limits of the test attached	Yes

If required produce Red Line Mark Up for "AS BUILT".

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2024-12-02	2024-12-03	
Signature	Digitaly signed by Emanuele Delfino 2024-12-02T14:04:57.213Z	Digitaly signed by Massimo Bruschi 2024-12-03T15:45:35.374Z	

WIKA Italia S.r.l. & C. s.a.s.
Viale dell'Artigianato,
I Traversa, n. 8
70026 - Modugno (BA) • Italy
www.wika.it

Centro di Taratura LAT N°114
Calibration Centre
Laboratorio Accreditato di Taratura
Accredited Calibration Laboratory

LAT N° 114

CERTIFICATO DI TARATURA LAT 114 0514-SM-24

Certificate of Calibration

- data di emissione date of issue	2024-10-31
- cliente customer	FAST AUTOMATION SRL VIA DELLA PREVIDENZA SOCIALE, 8 IT-42124 REGGIO EMILIA (RE)
- destinatario receiver	ROSETTI MARINO SPA - YARD PIOMBONI VIA DEL MARCHESATO, 37 IT-48122 MARINA DI RAVENNA (RA)

Il presente certificato di taratura è emesso in base all'accreditamento LAT N. 114 rilasciato in accordo ai decreti attuativi della legge n. 273/1991 che ha istituito il Sistema Nazionale di Taratura (SNT). ACCREDIA attesta le capacità di misura e di taratura, le competenze metrologiche del Centro e la riferibilità delle tarature eseguite ai campioni nazionali ed internazionali delle unità del Sistema Internazionale delle Unità (SI).
Questo certificato non può essere riprodotto in modo parziale, salvo espressa autorizzazione scritta da parte del Centro.

Si riferisce a
referring to

- oggetto *item*	Misuratore di pressione elettronico Electrical pressure gauge
- costruttore *manufacturer*	WIKA
- modello *model*	CPG1500
- matricola *serial number*	1A014ILNH2N
- data di ricev. oggetto *date of receipt of item*	2024-10-24
- data delle misure *date of measurements*	2024-10-31
- registro di laboratorio *laboratory reference*	0514-SM-24

This certificate of calibration is issued in compliance with the accreditation LAT No.114 granted according to decrees connected with Italian law No. 273/1991 which has established the National Calibration System. ACCREDIA attests the calibration and measurement capability, metrological competence of the Centre and the traceability of calibration results to the national and International standards of the International System of Units (SI).
This certificate may not be partially reproduced, except with the prior written permission of the issuing Centre.

I risultati di misura riportati nel presente Certificato sono stati ottenuti applicando le procedure di taratura citate alla pagina seguente, dove sono specificati anche i campioni o gli strumenti che garantiscono la catena di riferibilità del Centro e i rispettivi certificati di taratura in corso di validità. Essi si riferiscono esclusivamente all'oggetto in taratura e sono validi nel momento e nelle condizioni di taratura, salvo diversamente specificato.

The measurement results reported in this Certificate were obtained following the calibration procedures given in the following page, where the reference standards or instruments are indicated which guarantee the traceability chain of the laboratory, and the related calibration certificates in the course of validity are indicated as well. They relate only to the calibrated item and they are valid for the time and conditions of calibration, unless otherwise specified.

Le incertezze di misura dichiarate in questo documento sono state determinate conformemente alla Guida ISO/IEC 98 e al documento EA-4/02. Solitamente sono espresse come incertezza estesa ottenuta moltiplicando l'incertezza tipo per il fattore di copertura *k* corrispondente ad un livello di fiducia di circa il 95 %. Normalmente tale fattore *k* vale 2.

The measurement uncertainties stated in this document have been determined according to the ISO/IEC Guide 98 and to EA-4/02. Usually, they have been estimated as expanded uncertainty obtained multiplying the standard uncertainty by the coverage factor k corresponding to a confidence level of about 95%. Normally, this factor k is 2.

Direzione Tecnica
(Approving Officer)

Enrico Reccagni

Enrico Reccagni

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www.wika.it

Centro di Taratura LAT N°114
Calibration Centre
Laboratorio Accreditato di Taratura
Accredited Calibration Laboratory

LAT N° 114

CARATTERISTICHE DELLO STRUMENTO IN TARATURA/ Properties of devices under calibration

Misuratore di pressione elettronico *Electrical pressure gauge*	
Tipo *Model*	Misuratore di pressione elettronico Electrical pressure gauge
Numero di matricola *Serial No.*	1A014ILNH2N
Campo di misura *Scale range*	(0 ... 1000) bar g
Accuratezza dichiarata dal costruttore *Accuracy declared by the manufacturer*	0,1 % FS
Risoluzione *Resolution (scale division)*	0,1 bar
Tag. N. *Tag No.*	--

Procedura di taratura e catena di riferibilità
Calibration procedure and traceability chain

La taratura è stata effettuata in accordo alla linea guida DKD-R 6-1 "Taratura di strumenti di pressione" (versione 03/2014) procedura B, per confronto fra i valori dello strumento in taratura con quelli di riferimento dati dal campione di lavoro.

Calibration was carried out according to DKD-R 6-1 "Kalibrierung von Druckmessgeräten" (Ausgabe 03/2014) procedure B, by comparing the measured values of the calibration item with those of the reference or working standard.

I risultati riportati sono stati ottenuti applicando le procedure n° LMO-PT-01 rev.2

The results have been obtained using the procedures n° LMO-PT-01 rev.2

La catena di riferibilità ha inizio dai campioni di riferimento n° PM1-09

The traceability chain starts from the reference standards n° PM1-09

muniti di certificati validi di taratura, rispettivamente n° D21090

with the relevant valid calibration certificates n° D21090

Luogo di taratura
Place of calibration

Laboratorio WIKA ITALIA - Laboratorio di Modugno (BA)
WIKA ITALY Laboratory - Modugno (BA)

Campione di lavoro
Working Standard

Norma di riferimento (RS) Bilancia di pressione *Reference standard (RS) Dead-weight tester*	
Tipo *Model*	PM1-09
Certificato di taratura *Calibration mark*	D-K-15105/D21090
Campo di misura *Scale range*	(10 ... 2500) bar g
Accuratezza *Accuracy*	0,015 % della lettura + 255 Pa

Operatore
Technichian

Francesco Donatelli

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Condizioni di misura
Measurement conditions

Schema di collegamento *Assembly*	
Fluido utilizzato	Sebacate
Pressure medium	*Sebacate*
Livello di riferimento	Superficie di tenuta DUT
Refence height (for reference value)	*Sealing face DUT*
Posizione di montaggio	verticale
Position during calibration	*vertical*

Note di taratura
Calibration Note

Lo strumento è stato tarato e riconsegnato nelle stesse condizioni in cui è arrivato nel laboratorio, in accordo con il metodo "as found as left" / The device under test (DUT) was calibrated in the same conditions it was arrived in laboratory, according to the method "as found as left".

Condizioni Ambientali
Environmental conditions

Temperatura *Temperature*	(22 ± 1,5)	°C
Pressione atmoferica *Atmospheric pressure*	(1016,6 ± 0,2)	hPa
Umidità relativa *Rel. Humidity*	(50 ± 15)	% UR

I dati meteo sono stati acquisiti tramite stazione meteo WIKA CPU6000-W s/n.1A00VCX6GJ2

Weather data were acquired via the WIKA CPU6000-W weather station s/n.1A00VCX6GJ2

Misure rilevate
Measurement results

Valore di riferimento *Reference value RS* bar	**Letture** *Reading DUT* bar		
	M1	**M2**	**M3**
0,00	0,0	0,0	0,0
99,91	99,9	100,0	99,9
199,82	199,9	199,9	199,9
299,72	299,8	299,9	299,8
399,63	399,7	399,8	399,7
499,53	499,6	499,6	499,6
599,43	599,5	599,5	599,5
699,33	699,3	699,4	699,4
799,24	799,2	799,2	799,2
899,13	899,1	899,1	899,1
999,03	999,0	999,0	999,0

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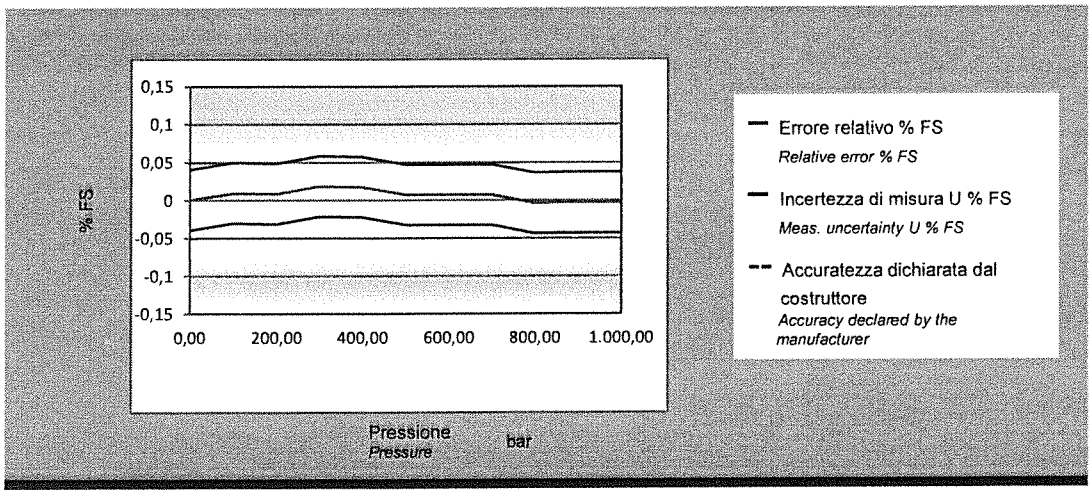
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Incertezza di misura
Uncertainty of measurement

Valori di riferimento *Reference value RS* bar	Media delle misure *Mean value* bar	Errore *Error* bar	Ripetibilità *Repeatability* bar	Isteresi *Hysteresis* bar	Incertezza di misura *Meas. Uncertainty* bar
0,00	0,0	0,0	0,0	0,0	0,40
99,91	100,0	0,1	0,0	0,1	0,40
199,82	199,9	0,1	0,0	0,0	0,40
299,72	299,9	0,2	0,0	0,1	0,40
399,63	399,8	0,2	0,0	0,1	0,40
499,53	499,6	0,1	0,0	0,0	0,40
599,43	599,5	0,1	0,0	0,0	0,40
699,33	699,4	0,1	0,1	0,1	0,40
799,24	799,2	0,0	0,0	0,0	0,40
899,13	899,1	0,0	0,0	0,0	0,40
999,03	999,0	0,0	0,0	0,0	0,40

Grafico degli errori di misura
Graphical representation of measurement uncertainty



L'incertezza estesa senza correzione del DUT è pari a 0,6 bar
The expanded uncertainty of the DUT without correction is equal to

Questo dato è ottenuto come MAX{Incertezza_di_misura$_i$ + |Errore$_i$|} della tabella precedente
This data is obatined as MAX{Meas._uncertainty$_i$ + |Error$_i$|} of the previous table

Il presente certificato non rappresenta una dichiarazione di conformità a specifica
This certificate is not a statement of compliance

Logger protocol

Protocollo di acquisizione elenco dati

Log no. *N. elenco dati*	123A90-64-00-TP029A-SS

Instrument

Strumento

Electrical pressure gauge *Misuratore di pressione elettronico*	
Model *Modello*	CPG1500
Serial number *Numero di serie*	1A014ILNH2N
Log temperature *Registrazioni di Temperatura*	Active *Attivo*
Scale range *Campo scala*	(0 ... 1000) bar a
Accuracy *Accuratezza*	0.1 % FS
Tag number *Numero tag*	
Communication *Comunicazione*	Wireless (00:13:43:85:E0:AF)

Measurement conditions

Condizioni di misura

Settings *Impostazioni*	
Mode *Modalità*	Automatic *Automatico*
Interval (ms) *Intervallo (ms)*	60000
Duration (hh:mm:ss) *Durata (hh:mm:ss)*	00:59:33
Start time (hh:mm:ss) *Tempo di avvio (hh:mm:ss)*	01:44:21 pm

Logger protocol

Protocollo di acquisizione elenco dati

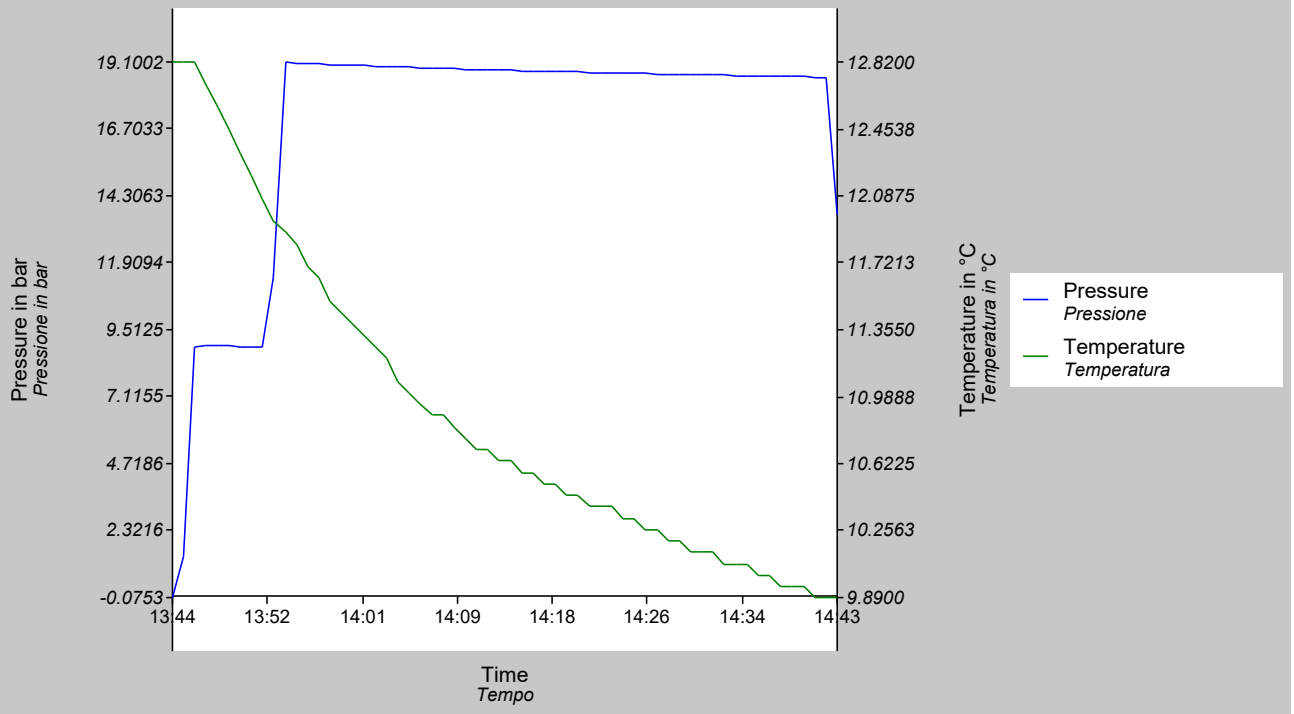
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Group of Companies

Log no. *N. elenco dati*	123A90-64-00-TP029A-SS

Measurement results

Risultati della misura

Graphical representation of progression
Rappresentazione grafica dell'andamento



Timestamp *Data e ora*	Measured value *Valore misurato* bar	Measured value *Valore misurato* °C
12/03/2024 13:44:21.000	-0.0753	12.8200
12/03/2024 13:45:21.000	1.3885	12.8200
12/03/2024 13:46:21.000	8.8718	12.8200
12/03/2024 13:47:21.000	8.9438	12.7000
12/03/2024 13:48:21.000	8.9293	12.5700
12/03/2024 13:49:21.000	8.9211	12.4500
12/03/2024 13:50:21.000	8.9159	12.3200
12/03/2024 13:51:21.000	8.9043	12.2000
12/03/2024 13:52:21.000	8.8994	12.0700
12/03/2024 13:53:21.000	11.3634	11.9500
12/03/2024 13:54:21.000	19.1002	11.8900
12/03/2024 13:55:21.000	19.0686	11.8200
12/03/2024 13:56:21.000	19.0468	11.7000
12/03/2024 13:57:21.000	19.0299	11.6400
12/03/2024 13:58:21.000	19.0109	11.5100
12/03/2024 13:59:21.000	18.9949	11.4500
12/03/2024 14:00:21.000	18.9802	11.3900

Logger protocol

Protocollo di acquisizione elenco dati

ROSETTI MARINO
Group of Companies

Log no. 123A90-64-00-TP029A-SS
N. elenco dati

Measurement results

Risultati della misura

Timestamp *Data e ora*	Measured value *Valore misurato* bar	Measured value *Valore misurato* °C
12/03/2024 14:01:21.000	18.9645	11.3200
12/03/2024 14:02:21.000	18.9496	11.2600
12/03/2024 14:03:21.000	18.9317	11.2000
12/03/2024 14:04:21.000	18.9157	11.0700
12/03/2024 14:05:21.000	18.9031	11.0100
12/03/2024 14:06:21.000	18.8953	10.9500
12/03/2024 14:07:21.000	18.8794	10.8900
12/03/2024 14:08:21.000	18.8646	10.8900
12/03/2024 14:09:21.000	18.8505	10.8200
12/03/2024 14:10:21.000	18.8410	10.7600
12/03/2024 14:11:21.000	18.8280	10.7000
12/03/2024 14:12:21.000	18.8185	10.7000
12/03/2024 14:13:21.000	18.8017	10.6400
12/03/2024 14:14:21.000	18.7944	10.6400
12/03/2024 14:15:21.000	18.7847	10.5700
12/03/2024 14:16:21.000	18.7766	10.5700
12/03/2024 14:17:21.000	18.7650	10.5100
12/03/2024 14:18:21.000	18.7543	10.5100
12/03/2024 14:19:21.000	18.7465	10.4500
12/03/2024 14:20:21.000	18.7361	10.4500
12/03/2024 14:21:21.000	18.7294	10.3900
12/03/2024 14:22:21.000	18.7213	10.3900
12/03/2024 14:23:21.000	18.7118	10.3900
12/03/2024 14:24:21.000	18.7060	10.3200
12/03/2024 14:25:21.000	18.6914	10.3200
12/03/2024 14:26:21.000	18.6854	10.2600
12/03/2024 14:27:21.000	18.6730	10.2600
12/03/2024 14:28:21.000	18.6622	10.2000
12/03/2024 14:29:21.000	18.6573	10.2000
12/03/2024 14:30:21.000	18.6517	10.1400
12/03/2024 14:31:21.000	18.6442	10.1400
12/03/2024 14:32:21.000	18.6322	10.1400
12/03/2024 14:33:21.000	18.6230	10.0700
12/03/2024 14:34:21.000	18.6149	10.0700
12/03/2024 14:35:21.000	18.6126	10.0700
12/03/2024 14:36:21.000	18.6001	10.0100
12/03/2024 14:37:21.000	18.5931	10.0100
12/03/2024 14:38:21.000	18.5832	9.9500
12/03/2024 14:39:21.000	18.5757	9.9500
12/03/2024 14:40:21.000	18.5711	9.9500
12/03/2024 14:41:21.000	18.5609	9.8900
12/03/2024 14:42:21.000	18.5528	9.8900
12/03/2024 14:43:21.000	13.6473	9.8900

Logger protocol

Protocollo di acquisizione elenco dati

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Log no. *N. elenco dati*	123A90-64-00-TP029B-CS

Instrument

Strumento

Electrical pressure gauge *Misuratore di pressione elettronico*	
Model *Modello*	CPG1500
Serial number *Numero di serie*	1A014ILNH2N
Log temperature *Registrazioni di Temperatura*	Active *Attivo*
Scale range *Campo scala*	(0 ... 1000) bar a
Accuracy *Accuratezza*	0.1 % FS
Tag number *Numero tag*	
Communication *Comunicazione*	Wireless (00:13:43:85:E0:AF)

Measurement conditions

Condizioni di misura

Settings *Impostazioni*	
Mode *Modalità*	Automatic *Automatico*
Interval (ms) *Intervallo (ms)*	60000
Duration (hh:mm:ss) *Durata (hh:mm:ss)*	00:41:41
Start time (hh:mm:ss) *Tempo di avvio (hh:mm:ss)*	03:01:45 pm

Logger protocol

Protocollo di acquisizione elenco dati

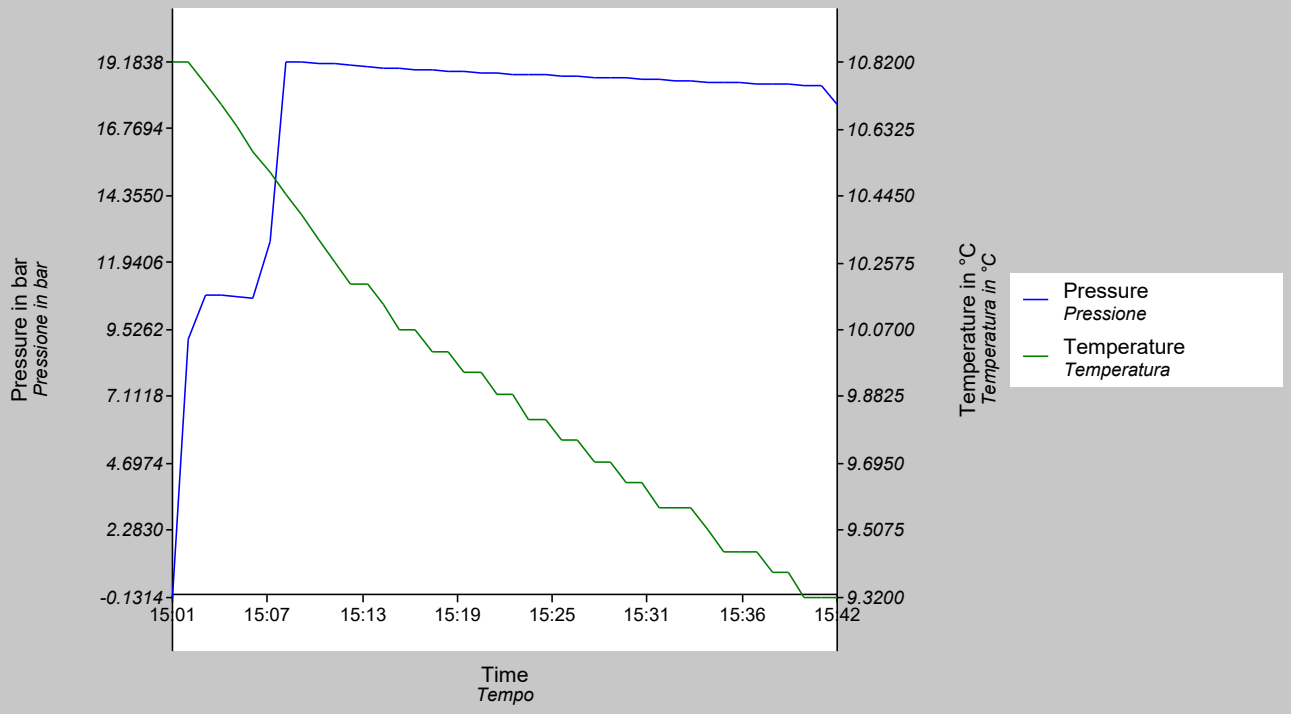
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Log no. *N. elenco dati*	123A90-64-00-TP029B-CS

Measurement results

Risultati della misura

Graphical representation of progression
Rappresentazione grafica dell'andamento



Timestamp *Data e ora*	Measured value *Valore misurato* bar	Measured value *Valore misurato* °C
12/03/2024 15:01:45.000	-0.1314	10.8200
12/03/2024 15:02:45.000	9.1834	10.8200
12/03/2024 15:03:45.000	10.7713	10.7600
12/03/2024 15:04:45.000	10.7477	10.7000
12/03/2024 15:05:45.000	10.7255	10.6400
12/03/2024 15:06:45.000	10.6860	10.5700
12/03/2024 15:07:45.000	12.6865	10.5100
12/03/2024 15:08:45.000	19.1838	10.4500
12/03/2024 15:09:45.000	19.1806	10.3900
12/03/2024 15:10:45.000	19.1366	10.3200
12/03/2024 15:11:45.000	19.1006	10.2600
12/03/2024 15:12:45.000	19.0607	10.2000
12/03/2024 15:13:45.000	19.0146	10.2000
12/03/2024 15:14:45.000	18.9763	10.1400
12/03/2024 15:15:45.000	18.9434	10.0700
12/03/2024 15:16:45.000	18.9119	10.0700
12/03/2024 15:17:45.000	18.8821	10.0100

Logger protocol

Protocollo di acquisizione elenco dati

ROSETTI MARINO
Group of Companies

Log no. *N. elenco dati*	123A90-64-00-TP029B-CS

Measurement results

Risultati della misura

Timestamp *Data e ora*	Measured value *Valore misurato* bar	Measured value *Valore misurato* °C
12/03/2024 15:18:45.000	18.8563	10.0100
12/03/2024 15:19:45.000	18.8332	9.9500
12/03/2024 15:20:45.000	18.8083	9.9500
12/03/2024 15:21:45.000	18.7803	9.8900
12/03/2024 15:22:45.000	18.7576	9.8900
12/03/2024 15:23:45.000	18.7321	9.8200
12/03/2024 15:24:45.000	18.7055	9.8200
12/03/2024 15:25:45.000	18.6794	9.7600
12/03/2024 15:26:45.000	18.6577	9.7600
12/03/2024 15:27:45.000	18.6337	9.7000
12/03/2024 15:28:45.000	18.6104	9.7000
12/03/2024 15:29:45.000	18.5887	9.6400
12/03/2024 15:30:45.000	18.5619	9.6400
12/03/2024 15:31:45.000	18.5480	9.5700
12/03/2024 15:32:45.000	18.5172	9.5700
12/03/2024 15:33:45.000	18.4924	9.5700
12/03/2024 15:34:45.000	18.4672	9.5100
12/03/2024 15:35:45.000	18.4471	9.4500
12/03/2024 15:36:45.000	18.4262	9.4500
12/03/2024 15:37:45.000	18.4013	9.4500
12/03/2024 15:38:45.000	18.3846	9.3900
12/03/2024 15:39:45.000	18.3642	9.3900
12/03/2024 15:40:45.000	18.3383	9.3200
12/03/2024 15:41:45.000	18.3180	9.3200
12/03/2024 15:42:45.000	17.6779	9.3200

Base Load Power Hub (BLPH)

TEST PACK

N°64-00-TP-029
SUB-SYSTEM N° 64-00

System	64
Sub-System	64-00
Test Pressure	18 barg
Test Fluid	WATER
Test Duration	30 min

Rev.	Date	Prepared by	Checked by
0	27/09/2024	J.Q.	L.M.

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6. EXTRACT OF SUPPORT LIST AND DETAILS – NOT APPLICABLE
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   - 8.8 TMX27 – Bolt Tensioning / Torquing
   - 8.9 TPLX05 - Drying

1. COLOURED MARKED P&IDs

DRAWING NO. DRAWING_NO.

REV. REV

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
CAPACITY : 313 Sm³/h (PRODUCTION)

A-64000
NITROGEN GENERATION SYSTEM
CAPACITY : 52.7 Sm³/h (PRODUCTION)

SUCTION 63 PI 001 | DISCHARGE 63 PI 002 | COMMON ALARM 63 XA 001 | MCC DEVICE COMMS FAIL 63 XI 001 | AVAILABLE STATUS 63 XI 002 | RUN/STOP STATUS 63 XI 003 | SHUTDOWN STATUS 63 XI 004 | SHUTDOWN ALARM 63 XA 002 | ESD I

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
SEE VENDOR DRAWING 1724000428-PR-PID-00019 NOTE 2, 3, 4, 5, 6 — 03

ESD I → FAULT PACKAGE 63 XA 003
ESD I → 63-XS-001 SHUT-DOWN
NOTE 14

1-1/2"-IA-263-01SS-N

03 — **V-63001** AIR RECEIVER SEE VENDOR DRAWING 1724000428-PR-PID-00019
63 TP 040 — 2" — 2"x1.1/2"

03 — 63 TP 041 — 2"x1.1/2" — LO — BLPH-MV-149 — 1-1/2"-IA-108-01SS-N

63 PI 004 — LL
63 PI 003 — L
ESD I — 63 PT 004
63 PT 003
INSTR. PIPING
BLPH-MV-150 3/4" FLG x 1/2" NPTF
BLPH-MV-151 3/4" FLG x 1/2" NPTF

1-1/2"-IA-108-01SS-N → 123A90-DDL-PR-PID-80041 TO INSTRUMENT AIR DISTRIBUTION HEADER

03 — 63 TP 039 — BLPH-MV-269 SB LO — 1"-WW-079-01CS-H → 123A90-DDL-PR-PID-80025 TO BRINE DISCHARGE CAISSON

BLPH-MV-270 LO 1.1/2"
1-1/2"-IA-204-01SS-N → 123A90-DDL-PR-PID-80041 FROM INSTRUMENT AIR DISTRIBUTION HEADER 03

03 — CONC. RED. 1.1/2"x1" — 64 TP 043
ESD I — TO SAFE LOCATION — 2"-AV-224-01CS-N — 03 — 64 TP 045

64-00-TP-029
18.00 barg

64 HS 031
64 PIC 031A H L
64 PIC 031B H L
NOTE 15 — 64 PI 002 L LL
ESD I — 64 PT 002
NOTE 1, 12 SET @ 10 barg 102 — 64 PSV 001
NOTE 10 TO ATM — 2"-AV-160-01CS-N
1.5" x 1"
SB BLPH-MV-278 FB-LO 1.1/2"
1-1/2"-IA-197-01CS-N
1.5" x 1"

1"-N-101-01CS-N → 123A90-DDL-PR-PID-80028 TO HYDROGEN VENT HEADER
1"-N-125-03HSS-N → 123A90-DDL-PR-PID-80017 TO HYDROGEN STORAGE VESSEL C
1"-N-124-03HSS-N → 123A90-DDL-PR-PID-80016 TO HYDROGEN STORAGE VESSEL B
1"-N-028-03HSS-N → 123A90-DDL-PR-PID-80015 TO HYDROGEN STORAGE VESSEL A
1"-N-126-03HSS-N → 123A90-DDL-PR-PID-80018 TO HYDROGEN STORAGE VESSEL D
1"-N-127-03HSS-N → 123A90-DDL-PR-PID-80019 TO HYDROGEN STORAGE VESSEL E
1"-N-128-03HSS-N → 123A90-DDL-PR-PID-80020 TO HYDROGEN STORAGE VESSEL F
1"-N-151-01CS-N → 123A90-DDL-PR-PID-80011 TO ELECTROLYSER PACKAGE
1" N-257-03HSS-N
UPPER LEVEL
LOWER LEVEL
01CS 03HSS

A-64000
NITROGEN SYSTEM
SEE VENDOR DRAWING 1724000437-PR-PID-00018 — 03

64 TP 042 — BLPH-MV-271 SB LO — 1"-N-158-01CS-N
03 — 3/4" LC — BLPH-MV-275 NOTE 16 — 03
64 TP 044 — 1"-N-262-01CS-N

64 PV 031A — INSTR. PIPING — 3/4" FLG x 1/2" NPTF — BLPH-MV-386 — 3/4" FLG x 1/2" NPTF — BLPH-MV-166 — BLPH-MV-167 3/4" FLG x 1/2" NPTF — 1"-N-100-01CS-N
FL-DC TYP.6 1"
64 PV 031B
FL-DC TYP.6 1"
N-158 — N-100

64 SDY 001 — IA
64 SDV 001 — NOTE 13 — NC-FC TYP.2

ESD I — 64 XA 003 — FAULT PACKAGE
64-XS-001 SHUT-DOWN — ESD I
NOTE 14

03 — 64 TP 046 — **V-64001** NITROGEN RECEIVER SEE VENDOR DRAWING 1724000437-PR-PID-00018 — 03

NOTES

1. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
2. COMPRESSORS AND DRIERS DESIGNED FOR 2 X 100% CONFIGURATION. INSTRUMENT AIR RECEIVER DESIGNED FOR 1 X 100%.
3. VENDOR TO PROVIDE NECESSARY CONTROLS, INSTRUMENTATIONS AND ISOLATIONS IN ORDER TO OPERATE THE PLANT IN SAFE MANNER.
4. COMPRESSORS WILL OPERATE ON THE BASIS OF ONE WORKING AND ONE ON STANDBY.
5. COMPRESSORS TO BE ROTARY SCREW TYPE OIL FREE.
6. AIR COMPRESSOR INLET TO BE LOCATED AWAY FROM ANY VENTS.
7. DELETED.
8. DELETED.
9. DELETED.
10. TO SAFE LOCATION, ROUTED AWAY FROM WALKWAYS.
11. DELETED.
12. 64-PSV-001 SIZED FOR UPSTREAM 64-PV-031 CV FAILURE. (03)
13. 64-SDV-001 IS NORMALLY CLOSED. IF REQUIRED THE OPERATOR CAN REMOTELY OPEN THE VALVE TO ALLOW PURGING OPERATION. VALVE 64-SDV-001 IS ALSO CONNECTED TO THE PCS SYSTEM.
14. SERIAL COMMUNICATION WITH CONTROL SYSTEM.
15. THE ALARM 64-PAL-002 WILL CLOSE 64-SDV-001 THROUGH SAFETY SYSTEM.
16. MANUAL VALVE BLPH-MV-275 TO BE CONNECTED WITH MANUAL VALVE BLPH-MV-466 (INSTALLED ON ELECTROLYSER PACKAGE EXIT LINE) BY MEAN ON A FLEXIBLE HOSE DURING COMMISSIONING PHASE FOR PURGING OPERATION. (03)

HOLDS

1. DELETED.
2. DELETED.
3. DELETED.
4. DELETED.

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	09/09/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
02	12/06/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	15/02/2024	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

ROSETTI MARINO

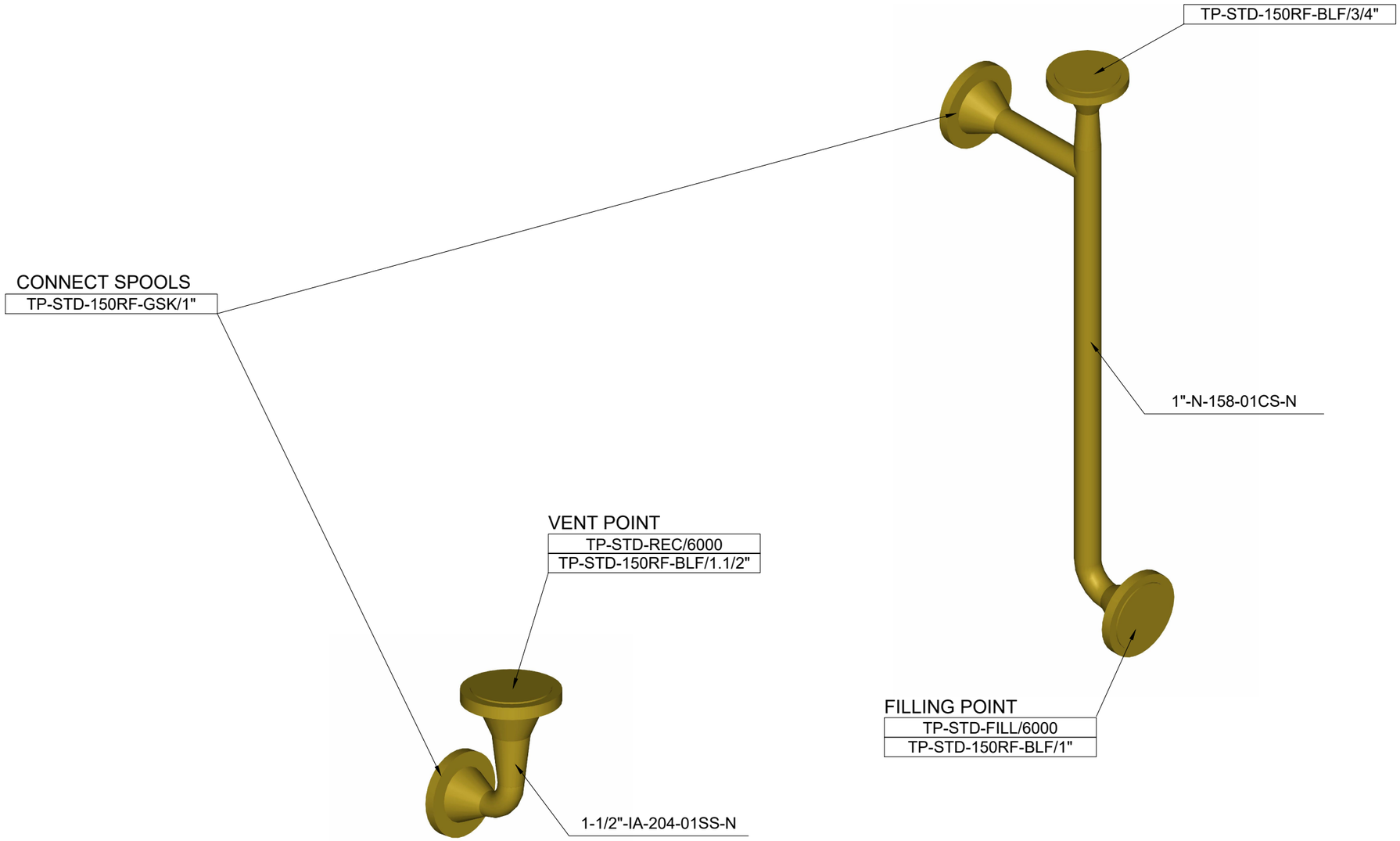
TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
INSTRUMENT AIR PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE

A1	DRAWING NO. 123A90-DDL-PR-PID-80027	SHEET 001	REV. 03

File Name : FILE_NAME

2. HYDROSTATIC TEST 3D CIRCUIT



64-00-TP-029

18 barg

NOTES

- MANUAL VALVES MAY BE EXCLUDED FROM THE TEST
- ALL INSTRUMENTS (PG, TT, etc.) SHALL BE EXCLUDED FROM THE TEST
- ALL INSTRUMENT VALVES (SDV, PCV, etc.) SHALL BE EXCLUDED FROM THE TEST
- FILLING POINT, VENTS & DRAINS SHALL BE DEFINED ON SITE AS FOR REAL TEST CIRCUIT CONFIGURATION

REV.	DATE	DESCRIPTION	DRN	CHKD	APPD
00	27-09-24	ISSUED FOR INFORMATION	J.Q.	T.L.	L.M.

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HOLLANDSE KUST NOORD WIND PARK

PIPING TEST 3D CIRCUIT
64-00-TP-029

FORMAT	SCALE	DRAWING N.	REV.	SHEET
A3	NTS	N/A	00	1 OF 1

3. MATERIAL LIST FOR TEST

CROSSWIND / ROSETTI MARINO	CONTRACTOR: Rosetti Marino SpA	JOB :	123A90
	PROJECT: Base Load Power Hub (BLPH)	DATE :	20/09/2024
	TITLE: MATERIAL LIST FOR HYDROSTATIC TEST	REV. :	00

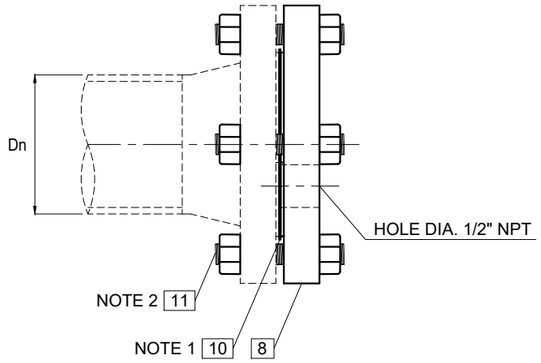
TEST REF.	TYPICAL ITEM CODE	ROSETTI CODE	ROSETTI DESCRIPTION	Q.TY X SINGLE STD	Q.TY STD X TP	Q.ty x TP	NOTES
ALL TEST	TP-STD-FILL/6000	1EQP252	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	5	1	5	
ALL TEST	TP-STD-FILL/6000	N100SS02660H00	Nipple L=100mm TBE ø1/2" Thk.4,78mm ASTM A312 Gr.TP316/316L	7	1	7	
ALL TEST	TP-STD-FILL/6000	TEEFSS00060H00	Tee THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	3	1	3	
ALL TEST	TP-STD-FILL/6000	1MECH069	Adapter THRD-M NPT x BSPP ø1/2" 400 bar ASTM A182 Gr.F316/316L	2	1	2	
ALL TEST	TP-STD-REC/6000	1EQP252	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	4	1	4	
ALL TEST	TP-STD-REC/6000	N100SS02660H00	Nipple L=100mm TBE ø1/2" Thk.4,78mm ASTM A312 Gr.TP316/316L	9	1	9	
ALL TEST	TP-STD-REC/6000	TEEFSS00060H00	Tee THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	2	1	2	
ALL TEST	TP-STD-REC/6000	CAPFSS00200H00	Cap Forged THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1	1	1	
ALL TEST	TP-STD-REC/6000	CPL0SS00240H00	Coupling THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1	1	1	
ALL TEST	TP-STD-REC/6000	E900SS00340H00	90 Deg Elbow THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1	1	1	
ALL TEST	TP-STD-PLGNPT/1/2"	PLGHSS00090H00	Plug Hex. Head THRD-M NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1	1	1	
TP-029	TP-STD-150RF-BLF/3/4"	FLBHCS01363Q0H	Flange Blind c/w NPT Hole ø3/4"x1/2" 150LB RF ASTM/ASME A/SA105	1	1	1	
TP-029	TP-STD-150RF-BLF/3/4"	GSW0GK11093Q00	Gasket Spiral Wound Thk. 3.2 mm ø3/4" 150LB RF AISI 316 + GRAPHITE c/w INNER RING	1	1	1	
TP-029	TP-STD-150RF-BLF/3/4"	SB20BO00980200	Stud Bolt + 2 Heavy Nuts 1/2" L=80MM ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	1	4	
TP-029	TP-STD-150RF-BLF/1"	FLBHCS0022010H	Flange Blind c/w NPT Hole ø1"x1/2" 150LB RF ASTM/ASME A/SA105	1	1	1	
TP-029	TP-STD-150RF-BLF/1"	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ø1" 150LB RF AISI 316 + GRAPHITE c/w INNER RING	1	1	1	
TP-029	TP-STD-150RF-BLF/1"	SB20BO00980200	Stud Bolt + 2 Heavy Nuts 1/2" L=80MM ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	1	4	
TP-029	TP-STD-150RF-BLF/1.1/2"	FLBHCS00241H0H	Flange Blind c/w NPT Hole ø1.1/2"x1/2" 150LB RF ASTM/ASME A/SA105	1	1	1	
TP-029	TP-STD-150RF-BLF/1.1/2"	GSW0GK11121H00	Gasket Spiral Wound Thk. 3.2 mm ø1.1/2" 150LB RF AISI 316 + GRAPHITE c/w INNER RING	1	1	1	
TP-029	TP-STD-150RF-BLF/1.1/2"	SB20BO00980200	Stud Bolt + 2 Heavy Nuts 1/2" L=80MM ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	1	4	
TP-029	TP-STD-150RF-GSK/1"	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ø1" 150LB RF AISI 316 + GRAPHITE c/w INNER RING	1	1	1	
TP-029	TP-STD-150RF-GSK/1"	SB20BO00980200	Stud Bolt + 2 Heavy Nuts 1/2" L=80MM ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	1	4	

STD NAME	RATING	DESCRIPTION
TP-STD-150RF	150 RF	STANDARD FOR BLIND POINT

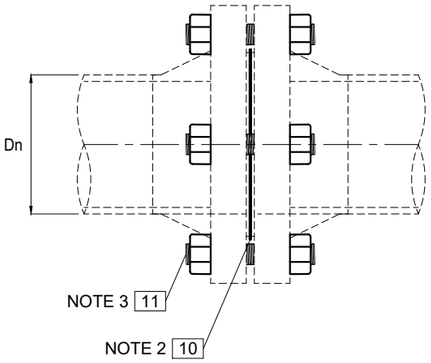
TP-STD-150RF-BLF/Dn
TP-STD-150RF-GSK/Dn

MATERIAL LIST

STD	POS.	DESCRIPTION	Q.TY
TP-STD-150RF-___/1/2"	8	Flange Blind c/w NPT Hole ø1/2"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø1/2" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=60 MM	4
TP-STD-150RF-___/3/4"	8	Flange Blind c/w NPT Hole ø3/4"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø3/4" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=65 MM	4
TP-STD-150RF-___/1"	8	Flange Blind c/w NPT Hole ø1"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø1" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=65 MM	4
TP-STD-150RF-___/1.1/4"	8	Flange Blind c/w NPT Hole ø1.1/4"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø1.1/4" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=70 MM	4
TP-STD-150RF-___/1.1/2"	8	Flange Blind c/w NPT Hole ø1.1/2"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø1.1/2" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=70 MM	4
TP-STD-150RF-___/2"	8	Flange Blind c/w NPT Hole ø2"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø2" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 5/8" L=85 MM	4
TP-STD-150RF-___/2.1/2"	8	Flange Blind c/w NPT Hole ø2.1/2"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø2.1/2" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 5/8" L=90 MM	4
TP-STD-150RF-___/3"	8	Flange Blind c/w NPT Hole ø3"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø3" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 5/8" L=90 MM	4
TP-STD-150RF-___/4"	8	Flange Blind c/w NPT Hole ø4"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø4" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 5/8" L=90 MM	8
TP-STD-150RF-___/6"	8	Flange Blind c/w NPT Hole ø6"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø6" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 3/4" L=105 MM	8
TP-STD-150RF-___/8"	8	Flange Blind c/w NPT Hole ø8"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø8" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 3/4" L=110 MM	8
TP-STD-150RF-___/10"	8	Flange Blind c/w NPT Hole ø10"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø10" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 7/8" L=120 MM	12
TP-STD-150RF-___/12"	8	Flange Blind c/w NPT Hole ø12"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø12" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 7/8" L=125 MM	12
TP-STD-150RF-___/14"	8	Flange Blind c/w NPT Hole ø14"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø14" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1" L=135 MM	12
TP-STD-150RF-___/16"	8	Flange Blind c/w NPT Hole ø16"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø16" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1" L=140 MM	16
TP-STD-150RF-___/18"	8	Flange Blind c/w NPT Hole ø18"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø18" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1.1/8" L=150 MM	16
TP-STD-150RF-___/20"	8	Flange Blind c/w NPT Hole ø20"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø20" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1.1/8" L=160 MM	20
TP-STD-150RF-___/24"	8	Flange Blind c/w NPT Hole ø24"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø24" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1.1/4" L=175 MM	20



TP-STD-150RF-BLF/Dn
BLIND FLANGE



TP-STD-150RF-GSK/Dn
GASKET ONLY

NOTES

1. GASKET MATERIAL AS PER PIPING CLASS
2. STUD BOLTS AND NUTS MATERIAL AS PER TEST MTO

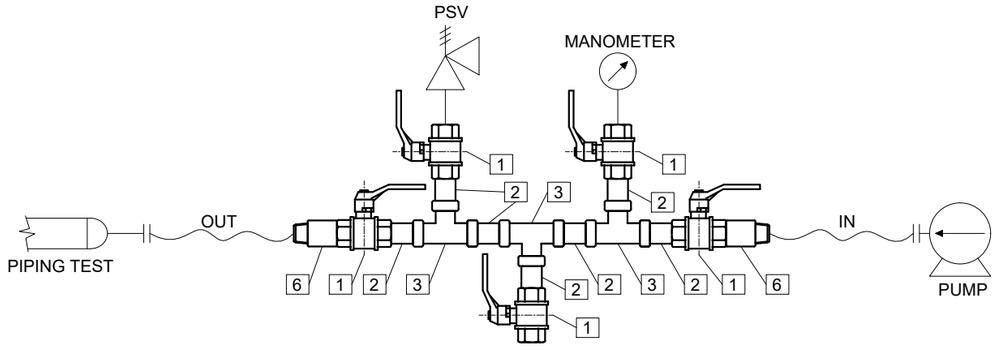
REV.	DATE	DESCRIPTION	DRN	CHKD	APPD
00	06-09-24	ISSUED FOR INFORMATION	J.Q.	T.L.	L.M.

ROSETTI MARINO

PIPING TEST STANDARD DRAWING
TP-STD-150RF
TP-STD-150RF-BLF/Dn
TP-STD-150RF-GSK/Dn

FORMAT	SCALE	DRAWING N.	REV.	SHEET
A3	NTS	TP_STD_150RF	00	1 OF 1

STD NAME	RATING	DESCRIPTION
TP-STD-FILL	3000 / 6000 / 9000	STANDARD FOR FILLING POINT
TP-STD-FILL/RATING		



TP-STD-FILL/RATING

FILLING POINT 3000/6000/9000

MATERIAL LIST

STD	POS.	DESCRIPTION	Q.TY
TP-STD-FILL/3000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	5
	2	Nipple L=100mm TBE ø1/2" Thk.3.73mm ASTM A312 Gr.TP316/316L	7
	3	Tee Forged THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	3
	6	Adapter THRD-M NPT x BSPP ø1/2" 400 bar ASTM A182 Gr.F316/316L	2
TP-STD-FILL/6000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	5
	2	Nipple L=100mm TBE ø1/2" Thk.4,78mm ASTM A312 Gr.TP316/316L	7
	3	Tee THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	3
	6	Adapter THRD-M NPT x BSPP ø1/2" 400 bar ASTM A182 Gr.F316/316L	2
TP-STD-FILL/9000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	5
	2	Nipple L=100mm TBE ø1/2" Thk.7,47mm ASTM A312 Gr.TP316/316L	7
	3	Tee Forged THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	3
	6	Adapter THRD-M NPT x BSPP ø1/2" 523 bar 304SS	2

NOTES

REV.	DATE	DESCRIPTION	DRN	CHKD	APPD
00	06-09-24	ISSUED FOR INFORMATION	J.Q.	T.L.	L.M.

ROSETTI MARINO

PIPING TEST STANDARD DRAWING

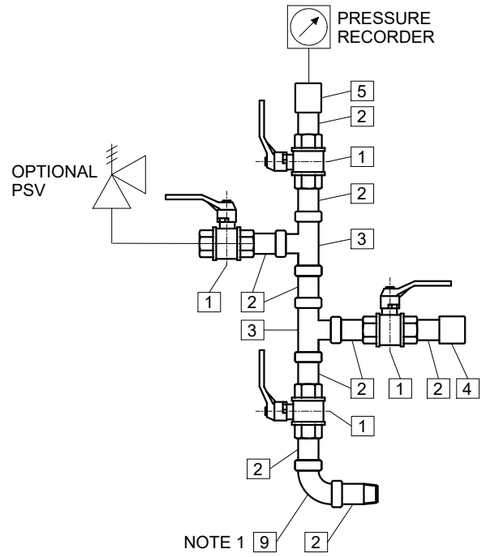
TP-STD-FILL

TP-STD-FILL/RATING

FORMAT	SCALE	DRAWING N.	REV.	SHEET
A3	NTS	TP_STD_FILL	00	1 OF 1

STD NAME	RATING	DESCRIPTION
TP-STD-REC	3000 / 6000 / 9000	STANDARD FOR RECORDING POINT

TP-STD-REC/RATING



TP-STD-REC/RATING
RECORDING POINT 3000/6000/9000

MATERIAL LIST

STD	POS.	DESCRIPTION	Q.TY
TP-STD-REC/3000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	4
	2	Nipple L=100mm TBE ø1/2" Thk.3.73mm ASTM A312 Gr.TP316/316L	9
	3	Tee Forged THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	2
	4	Cap Forged THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	1
	5	Coupling THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	1
	9	90 Deg Elbow THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	1
TP-STD-REC/6000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	4
	2	Nipple L=100mm TBE ø1/2" Thk.4,78mm ASTM A312 Gr.TP316/316L	9
	3	Tee THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	2
	4	Cap Forged THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1
	5	Coupling THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1
	9	90 Deg Elbow THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1
TP-STD-REC/9000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	4
	2	Nipple L=100mm TBE ø1/2" Thk.7,47mm ASTM A312 Gr.TP316/316L	9
	3	Tee Forged THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	2
	4	Cap Forged THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	1
	5	Coupling THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	1
	9	90 Deg Elbow THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	1

NOTES

1. 90 DEG ELBOW SHALL BE INSTALLED WHERE APPLICABLE ONLY

REV.	DATE	DESCRIPTION	DRN	CHKD	APPD
00	06-09-24	ISSUED FOR INFORMATION	J.Q.	T.L.	L.M.

ROSETTI MARINO

PIPING TEST STANDARD DRAWING
TP-STD-REC
TP-STD-REC/RATING

FORMAT	SCALE	DRAWING N.	REV.	SHEET
A3	NTS	TP_STD_REC	00	1 OF 1

4. EXTRACT OF LINE LIST

Isometric N°	Short Line N°	Sequential Number	Size [in]	Piping Class	Insulation Type	Pipe Wall Thicknes [mm]	Pipe Schedule	Tracing	Line Number	PID Number	Design Pressure [barg]	Commissioning System Code	Commissioning SubSystem Code	Test Pack N°	Test Fluid	Test Pressure [barg]	Fluid Service	Class Base Material	Line INF/SUP/TL	Ped Category	Painting System	Line Base Ral
66	N-158	158	1	01CS	N	4,55	80	N/A	1"-N-158-01CS-N	123A90-DDL-PR-PID-80027	12,00	64	64-00 / 64-10	TP-023/TP-029	Water	18.00	Nitrogen Gas	Carbon Steel	INF	Art. 4, par. 3	1	RAL 9002
102	IA-204	204	1.1/2	01SS	N	3,68	40S	N/A	1-1/2"-IA-204-01SS-N	123A90-DDL-PR-PID-80027	12,00	63 / 64	63-30 / 64-00	TP-027/TP-029	Water	18.00	Instrument Air	Stainless Steel	INF	Art. 4, par. 3	6A	RAL 9002

5. ISOMETRIC RED MARKED DRAWING & EXTRACT OF ISO LIST

CROSSWIND

ROSETTI MARINO

PROJECT

BASE LOAD POWER HUB (BLPH)

JOB **123A90**

DOCUMENT NR **123A90-FDL-ST-LIS-00001**

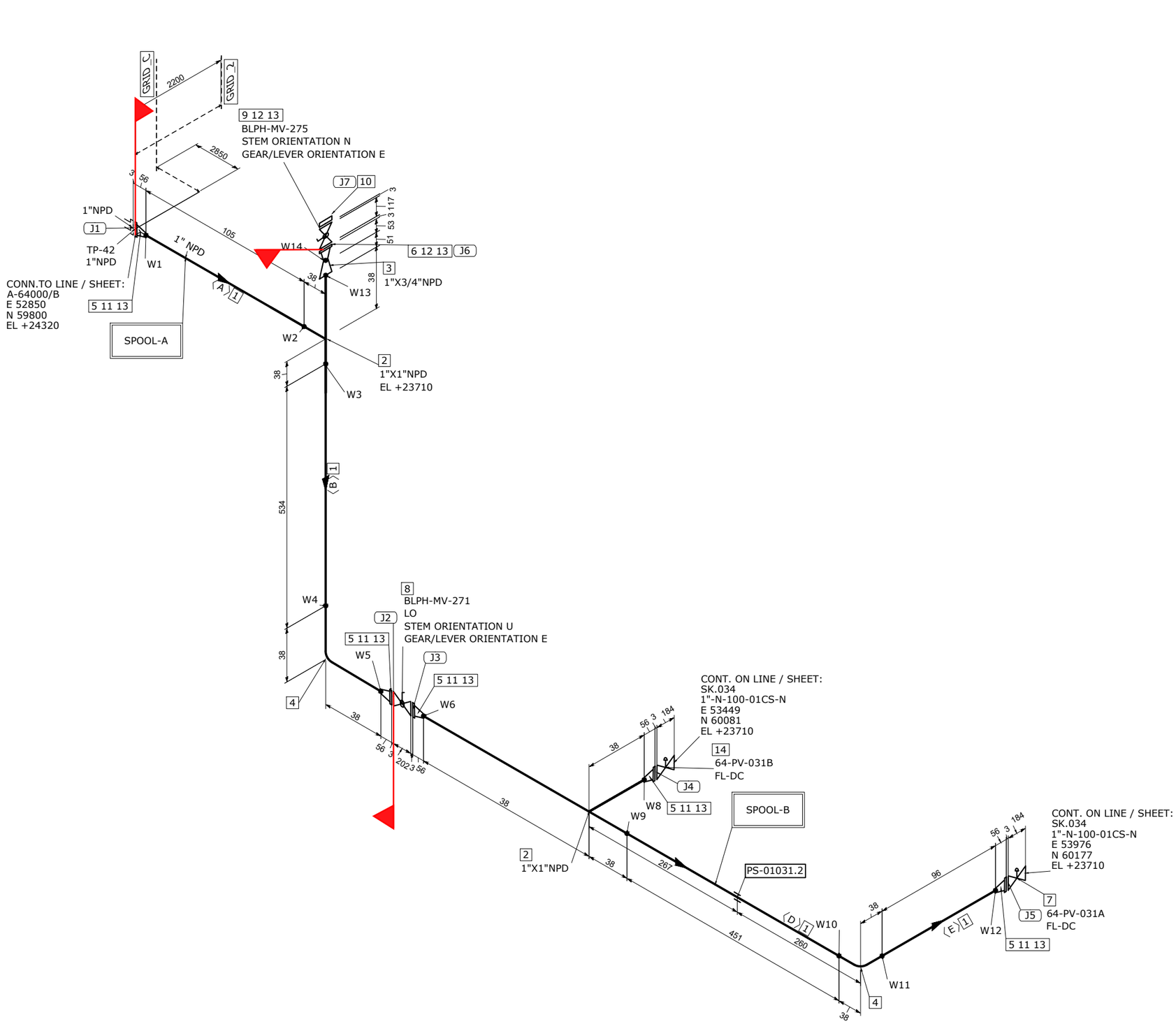
REV. **05**

TITLE

SHOP DRAWING ISOMETRIC LIST

DATE **17/09/2024**

POS.	DOCUMENT NR	ROSETTI SKETCH NR	SHEET	DOCUMENT TITLE	Rev. 00	Rev. 01	Rev. 02	Rev. 03	Rev. 04	Rev. 05	Rev. 06	Rev. 07	Rev. 08	Rev. 09	Rev. 10	Mark-up Rev.	Mark-up Data	LAST REV	LIST REV	NOTES	TEST PACK NR
90	123A90-FDL-PP-DI-00066-01	**066**	01	SHOP DRAWING ISOMETRIC - LINE NR 1"-N-158-01CS-N	20/08/2024													**00**	**02**		**TP-023/TP-029**
133	123A90-FDL-PP-DI-00102-01	**102**	01	SHOP DRAWING ISOMETRIC - LINE NR 1-1/2"-IA-204-01SS-N	20/08/2024													**00**	**02**		**TP-027/TP-029**



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1	PIPECS08300100	Pipe ASME B36.10M PE 4,55 SML ASTM/ASME A/SA333 Gr.6	1.2M	3.8
2	1X1	TEE0CS01110100	Tee ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.9
3	1X3/4	REC0CS2203013Q	Reducer Concentric ASME B16.9 BW 4,55x3,91 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.2
4	1	E90RCS01780100	90 Deg Elbow Long Radius ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.4
5	1	FLW0CS16540100	Flange WN ASME B16.5 150LB RF 4,55 FRG ASTM/ASME A/SA350 Gr.LF2	5	7.0
6	3/4	FLW0CS16523Q00	Flange WN ASME B16.5 150LB RF 3,91 FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
7	1		Control Valve - FLG 150 #RF	1	48.0
8	1	VLBLNN01280100	Block & Bleed Valve API 6D FLG 150LB RF BS01B01RFS	1	12.5
9	3/4	VBC0NN24703Q00	Ball Valve Split Body FB API 6D FLG 150LB RF BS01B01RF	1	5.3
10	3/4	FLB0CS07333Q00	Flange Blind ASME B16.5 150LB RF FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9
11	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	5	0.3
12	3/4	GSW0GK11093Q00	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
13	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	28	3.4
14	1		Control Valve - FLG 150 #RF	1	48.0

FABRICATION WEIGHT [kg]	13.2
ERECTION WEIGHT [kg]	118.5
OVERALL WEIGHT [kg]	131.7

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1	BW
W2	1	BW
W3	1	BW
W4	1	BW
W5	1	BW
W6	1	BW
W8	1	BW
W9	1	BW
W10	1	BW
W11	1	BW
W12	1	BW
W13	1	BW
W14	3/4	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1	105	BEVEL	BEVEL
B	1	534	BEVEL	BEVEL
D	1	451	BEVEL	BEVEL
E	1	96	BEVEL	BEVEL

SUPPORT LIST

PS-01031.2

SPOOL	WELD [inches]	WEIGHT [kg]
A	6.75	6.5
B	6	6.7
MONT	0	118.5

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	20-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

64-00-TP-029

MASTER

LINE DATA

NDT INSPECTION CATEGORY	2		PED CATEGORY	Art. 4, par. 3					
PAINTING	SYSTEM 1	BASE RAL RAL-9002	FLUID PHASE	Gas					
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 12	[barg]	TEMP. -46 / 100	[°C]		
HEAT TRACING	N/A		TEST	PRESS. 18	[barg]	TEMP. AMB	MEDIUM Water		

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

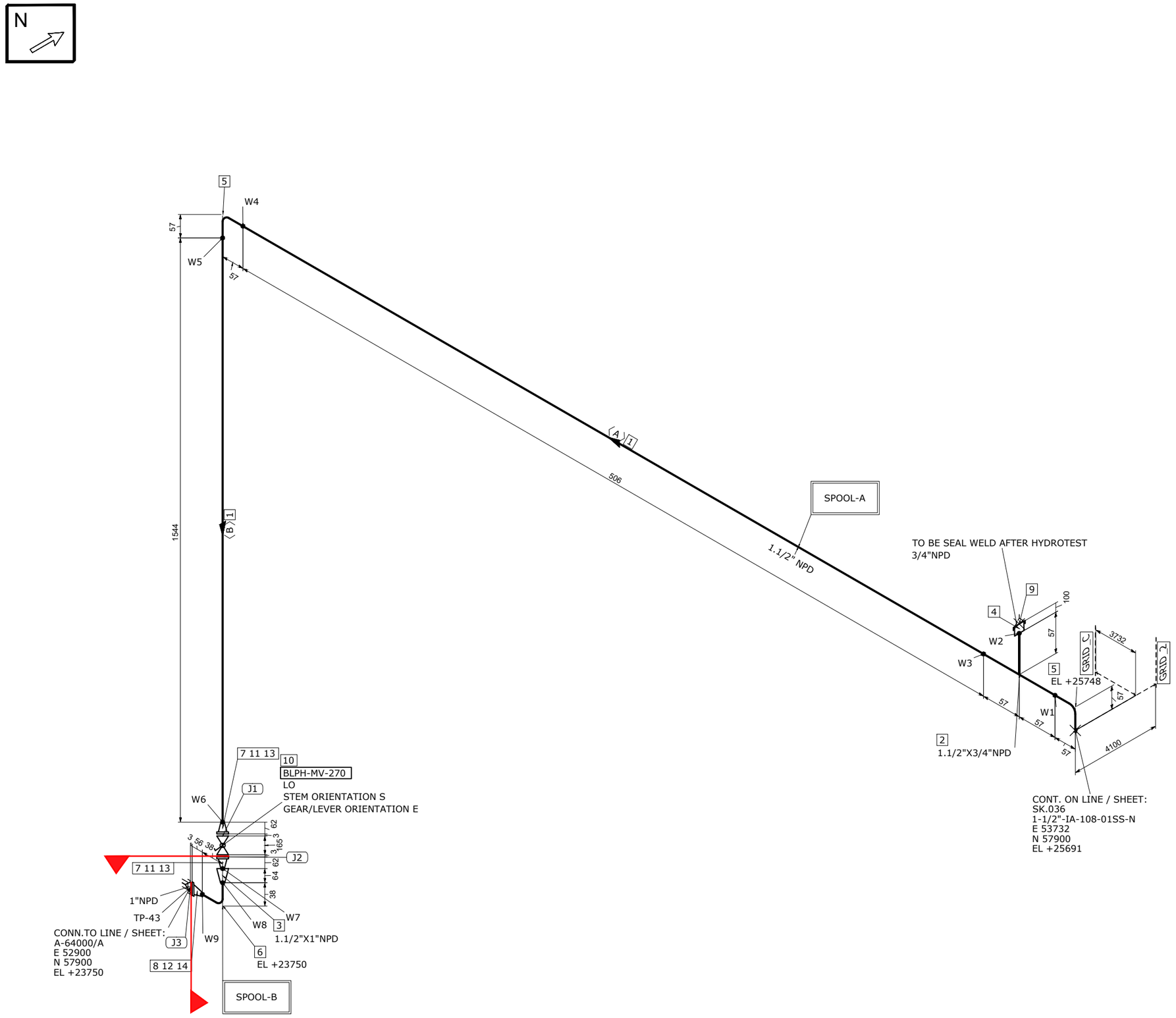
CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1"-N-158-01CS-N

SK.066

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00066	DATE	20-08-2024
				SHEET / OF	1/1
				REV.	00



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1.1/2	PIPESS00531H00	Pipe ASME B36.19M PE 3,68 SML ASTM A312 Gr.TP316/316L	2.1M	8.6
2	1.1/2X3/4	TER0SS03751H3Q	Tee Reducing ASME B16.9 BW 3,68x2,87 WRS ASTM A403 Gr.WP316/316L	1	0.8
3	1.1/2X1	REC0SS03191H01	Reducer Concentric ASME B16.9 BW 3,68x3,38 WRS ASTM A403 Gr.WP316/316L	1	0.3
4	3/4	N100SS02653Q00	Nipple L=100mm ASME B36.19M THRD-M NPT x PE 2,87 SML ASTM A312 Gr.TP316/316L	1	0.2
5	1.1/2	E90RSS00681H00	90 Deg Elbow Long Radius ASME B16.9 BW 3,68 WRS ASTM A403 Gr.WP316/316L	2	0.7
6	1	E90RSS00670100	90 Deg Elbow Long Radius ASME B16.9 BW 3,38 WRS ASTM A403 Gr.WP316/316L	1	0.1
7	1.1/2	FLW0SS00941H00	Flange WN ASME B16.5 150LB RF 3,68 FRG ASTM A182 Gr.F316/316L	2	3.7
8	1	FLW0SS00930100	Flange WN ASME B16.5 150LB RF 3,38 FRG ASTM A182 Gr.F316/316L	1	1.4

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
9	3/4	CAPFSS00023Q00	Cap Forged ASME B16.11 THRD-F NPT 3000# FRG ASTM A182 Gr.F316/316L	1	0.2
10	1.1/2	VBC0NN06961H00	Ball Valve Split Body FB API 6D FLG 150LB RF BS01C01RF	1	12.7
11	1.1/2	GSW0GK11121H00	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
12	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	1	0.1
13	1/2	SB20BO00930200	70 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	8	1.0
14	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	0.5

FABRICATION WEIGHT [kg]	15.8
ERECTION WEIGHT [kg]	14.6
OVERALL WEIGHT [kg]	30.4

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1.1/2	BW
W2	3/4	BW
W3	1.1/2	BW
W4	1.1/2	BW
W5	1.1/2	BW
W6	1.1/2	BW
W7	1.1/2	BW
W8	1	BW
W9	1	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1.1/2	506	BEVEL	BEVEL
B	1.1/2	1544	BEVEL	BEVEL

SUPPORT LIST

SPOOL	WELD [inches]	WEIGHT [kg]
A	8.25	12.1
B	3.5	3.7
MONT	0	14.6

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	20-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

64-00-TP-029

LINE DATA

NDT INSPECTION CATEGORY	2		PED CATEGORY	Art. 4, par. 3					
PAINTING	SYSTEM 6A	BASE RAL RAL-9002	FLUID PHASE	Gas					
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 12	[barg]	TEMP. -29 / 100	[°C]		
HEAT TRACING	N/A		TEST	PRESS. 18	[barg]	TEMP. AMB	MEDIUM Water		

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

MASTER

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1-1/2"-IA-204-01SS-N
SK.102

CONTRACT NO./ TITLE: CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE: N/A
DRAWN: STAFF SRL | CHECKED: RT | APPROVED: LM | DATE: 20-08-2024
FORMAT: A3
DRAWING NO.: 123A90-FDL-PP-DI-00102
SHEET / OF: 1/1
REV.: 00

6. EXTRACT OF SUPPORT LIST & DETAILS

NOT APPLICABLE

7. WELDING REGISTER & MATERIAL TRACEABILITY RECORD

Welding Register

Job	123A90	BASE LOAD POWER HUB (BLPH)			
From Discipline	PP	Piping			
To Discipline	PP	Piping			
Drawings		**From**	66	**To**	66
Sheet		**From**	1	**To**	1
Marks		**From**		**To**	
Location		**From**		**To**	
Material		**From**		**To**	
Welds Execution		**From**		**To**	
Welds Acceptance		**From**		**To**	
Report Date		**From**		**To**	
Prefabrication	All				
Welding Status	All				
ITEM					
ADDITIONAL PARAMETERS	**LINE**	**From**		**To**	
	SPOOL	**From**		**To**	
		From		**To**	

Rosetti Marino S.p.A.

Welding Register

Job 123A90 BASE LOAD POWER HUB (BLPH)
Client CRWIND CROSSWIND
Discipline PP Piping

Order Number CW-I-WP4-2023-05
ITEM

Weld Number / Class	Insp. Category	Rev. / Cont.	Prod. Date / Examination phase	Prod. Sheet	Welders	Work Instructions	Oper.	Item type / Exam. %	Dimension / N. Rep	Thickness / Films n.	Bevel / Result	Weld Length / WPS Rip.	P/M / Techn. Weld.	Material / Defect length	WPS / CND date	Techn. Weld. / NOTE	Type Conn	Accept. Date	Spool
1/66/1/_		**00**	**02-09-2024**	**3**	**AZ52**			**FWN**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**A**
01CS	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
2/66/1/_		**00**	**02-09-2024**	**3**	**AZ52**			**PIPE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
3/66/1/_		**00**	**25-09-2024**	**16**	**AZ53**			**TEE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**26-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					26-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
4/66/1/_		**00**	**02-09-2024**	**3**	**AZ52**			**PIPE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
5/66/1/_		**00**	**02-09-2024**	**3**	**AZ52**			**ELB**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
6/66/1/_		**00**	**31-08-2024**	**2**	**AZ52**			**FWN**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
8/66/1/_		**00**	**31-08-2024**	**2**	**AZ52**			**TEE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
9/66/1/_		**00**	**31-08-2024**	**2**	**AZ52**			**TEE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**11-09-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion		IDL-QCI-RT 0036 00	AA	10 %	000027	4	Acceptable					11-09-2024			
10/66/1/_		**00**	**31-08-2024**	**2**	**AZ52**			**PIPE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								

Rosetti Marino S.p.A.

Welding Register

Job 123A90 BASE LOAD POWER HUB (BLPH)
Client CRWIND CROSSWIND
Discipline PP Piping

Order Number CW-I-WP4-2023-05
ITEM

Weld Number / Class	Insp. Category	Rev. / Cont.	Prod. Date / Examination phase	Prod. Sheet	Welders	Work Instructions	Oper.	Item type / Exam. %	Dimension / N. Rep	Thickness / Films n.	Bevel / Result	Weld Length / WPS Rip.	P/M / Techn. Weld.	Material / Defect length	WPS / CND date	Techn. Weld. / NOTE	Type Cont.	Accept. Date	Spool
10/66/1/_		**00**	**31-08-2024**	**2**	**AZ52**			**PIPE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**B**
11/66/1/_		**00**	**07-09-2024**	**6**	**AZ52**			**ELB**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**18-09-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	RGARDINIT	100 %	OK		Acceptable					11-09-2024			
		RT	FIN	Weld Completion		IDL-QCI-RT 0036 00	AA	10 %	000049	4	Acceptable					18-09-2024			
12/66/1/_		**00**	**31-08-2024**	**2**	**AZ52**			**PIPE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
13/66/1/_		**00**	**02-09-2024**	**3**	**AZ52**			**TEE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
14/66/1/_		**00**	**02-09-2024**	**3**	**AZ52**			**RED**	**0,75 in**	**3,91 mm**	**V**	**0,083 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**03-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					03-09-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								

Totals per DWG	**66**	**Prefabrication**	**1,28 m**	**13 Nr. Welds**	**12,75 inch**
		Erection	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**1,28 m**	**13 Nr. Welds**	**12,75 inch**
		Accepted	**1,28 m**	**13 Nr. Welds**	**12,75 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
Totals by Discipline		**Prefabrication**	**1,28 m**	**13 Nr. Welds**	**12,75 inch**
		Erection	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**1,28 m**	**13 Nr. Welds**	**12,75 inch**
		Accepted	**1,28 m**	**13 Nr. Welds**	**12,75 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
Totals by Project		**Prefabrication**	**1,28 m**	**13 Nr. Welds**	**12,75 inch**
		Erection	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**1,28 m**	**13 Nr. Welds**	**12,75 inch**
		Accepted	**1,28 m**	**13 Nr. Welds**	**12,75 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**

Welding Register

Job	123A90	BASE LOAD POWER HUB (BLPH)			
From Discipline	PP	Piping			
To Discipline	PP	Piping			
Drawings		**From**	102	**To**	102
Sheet		**From**	1	**To**	1
Marks		**From**		**To**	
Location		**From**		**To**	
Material		**From**		**To**	
Welds Execution		**From**		**To**	
Welds Acceptance		**From**		**To**	
Report Date		**From**		**To**	
Prefabrication	All				
Welding Status	All				
ITEM					
ADDITIONAL PARAMETERS	**LINE**	**From**		**To**	
	SPOOL	**From**		**To**	
		From		**To**	

Rosetti Marino S.p.A.

Welding Register

Job 123A90 BASE LOAD POWER HUB (BLPH)
Client CRWIND CROSSWIND
Discipline PP Piping

Order Number CW-I-WP4-2023-05
ITEM

Weld Number / Class	Insp. Category	Rev. / Cont.	Prod. Date / Examination phase	Prod. Sheet	Welders	Work Instructions	Oper.	Item type / Exam. %	N. Rep	Dimension	Thickness / Films n.	Bevel / Result	Weld Length / WPS Rip.	P/M / Techn. Weld.	Material / Defect length	WPS / CND date	Techn. Weld. / NOTE	Type Cons	Accept. Date	Spool
1/102/1/_		**00**	**10-09-2024**	**6**	**AZ39**			**ELB**		**1,50 in**	**3,68 mm**	**V**	**0,151 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**11-09-2024**	**A**
01SS	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	RGARDINIT	100 %	OK			Acceptable					11-09-2024			
		RT	FIN	Weld Completion				10 %				Acceptable								
2/102/1/_		**00**	**10-09-2024**	**6**	**AZ39**			**TEE**		**0,75 in**	**2,87 mm**	**V**	**0,083 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**11-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	RGARDINIT	100 %	OK			Acceptable					11-09-2024			
		RT	FIN	Weld Completion				10 %				Acceptable								
3/102/1/_		**00**	**10-09-2024**	**6**	**AZ39**			**TEE**		**1,50 in**	**3,68 mm**	**V**	**0,151 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**11-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	RGARDINIT	100 %	OK			Acceptable					11-09-2024			
		RT	FIN	Weld Completion				10 %				Acceptable								
4/102/1/_		**00**	**05-09-2024**	**3**	**AZ53**			**PIPE**		**1,50 in**	**3,68 mm**	**V**	**0,151 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**06-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK			Acceptable					06-09-2024			
		RT	FIN	Weld Completion				10 %				Acceptable								
5/102/1/_		**00**	**10-09-2024**	**6**	**AZ39**			**ELB**		**1,50 in**	**3,68 mm**	**V**	**0,151 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**18-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	RGARDINIT	100 %	OK			Acceptable					11-09-2024			
		RT	FIN	Weld Completion		IDL-QCI-RT 0036 00	AA	10 %	000051		3	Acceptable					18-09-2024			
6/102/1/_		**00**	**06-09-2024**	**5**	**AZ53**			**PIPE**		**1,50 in**	**3,68 mm**	**V**	**0,151 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**11-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	RGARDINIT	100 %	OK			Acceptable					11-09-2024			
		RT	FIN	Weld Completion				10 %				Acceptable								
7/102/1/_		**00**	**10-09-2024**	**6**	**AZ39**			**FWN**		**1,50 in**	**3,68 mm**	**V**	**0,151 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**11-09-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	RGARDINIT	100 %	OK			Acceptable					11-09-2024			
		RT	FIN	Weld Completion				10 %				Acceptable								
8/102/1/_		**00**	**10-09-2024**	**6**	**AZ39**			**RED**		**1,00 in**	**3,38 mm**	**V**	**0,104 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**11-09-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	RGARDINIT	100 %	OK			Acceptable					11-09-2024			
		RT	FIN	Weld Completion				10 %				Acceptable								
9/102/1/_		**00**	**10-09-2024**	**6**	**AZ39**			**ELB**		**1,00 in**	**3,38 mm**	**V**	**0,104 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**11-09-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	RGARDINIT	100 %	OK			Acceptable					11-09-2024			
		RT	FIN	Weld Completion				10 %				Acceptable								

Rosetti Marino S.p.A.

Welding Register

Job 123A90 BASE LOAD POWER HUB (BLPH)
Client CRWIND CROSSWIND
Discipline PP Piping

Order Number CW-I-WP4-2023-05
ITEM

Weld Number		Rev.	Prod. Date	Prod. Sheet	Welders		Item type	Dimension	Thickness	Bevel	Weld Length	P/M	Material	WPS	Techn. Weld.	Type Conn	Accept. Date	Spool
Class	Insp. Category	Cont.	Examination phase		Work Instructions	Oper.	Exam. %	N. Rep	Films n.	Result	WPS Rip.	Techn. Weld.	Defect length	CND date	NOTE			
9/102/1/_		**00**	**10-09-2024**	**6**	**AZ39**		**ELB**	**1,00 in**	**3,38 mm**	**V**	**0,104 m**	**P**	**S.S.**	**C1A**	**GTAW**	**BW**	**11-09-2024**	**B**

Totals per DWG	**102**	**Prefabrication**	**1,18 m**	**9 Nr. Welds**	**11,75 inch**
		Erection	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**1,18 m**	**9 Nr. Welds**	**11,75 inch**
		Accepted	**1,18 m**	**9 Nr. Welds**	**11,75 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
Totals by Discipline		**Prefabrication**	**1,18 m**	**9 Nr. Welds**	**11,75 inch**
		Erection	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**1,18 m**	**9 Nr. Welds**	**11,75 inch**
		Accepted	**1,18 m**	**9 Nr. Welds**	**11,75 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
Totals by Project		**Prefabrication**	**1,18 m**	**9 Nr. Welds**	**11,75 inch**
		Erection	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**1,18 m**	**9 Nr. Welds**	**11,75 inch**
		Accepted	**1,18 m**	**9 Nr. Welds**	**11,75 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**

Cliente/Contractor	**CROSSWIND**	Preparato da/Prepared by	Controllato da/Checked by	Approvato da/Approved by	
SubContrattista/SubContractor	**ROSETTIMARINO/GROUPOFCOMPANY**	Nome/Name: Antonio Galesi	Nome/Name:	Nome/Name:	
Progetto/Project	**Hollandse Kust Noord Wind Park Project**				
Commessa/Job	**123A90 - Piping**				
Disciplina/Discipline	**PIPING**				
TitoloDocumento/DocumentTitle	**Material Traceability Report**	StatoDocumento/Document Status:		Data/Date: 02/12/2024	
RosettiDoc.Num.	**123A90MTR001**				

Sketch no.	Rev.	sheet	Spool	Piping Class	pos.	Q.ty (n° - m)	Description	Heat/Serial Number	PurchaseOrder	Pos. Order	Mat. Certificate	Weld Ref.	Note
66	00	1	A	01CS	2	1	Tee BW ›1" Thk.4,55mm ASTM/ASME A/SA420 Gr.WPL6	02-J6L8102	1724000839	00780	4527-P13	W2-W3-W13	
66	00	1	A	01CS	3	1	Reducer Concentric BW ›1"x3/4" Thk.4.55mmx3.91mm ASTM/ASME A/SA420 Gr.WPL6	56-123056	1724000839	00730	4527-P8	W13-W14	
66	00	1	A	01CS	4	1	90 Deg Elbow Long Radius BW ›1" Thk.4,55mm ASTM/ASME A/SA420 Gr.WPL6	402212	1724000839	00690	4527-P4	W4-W5	
66	00	1	A	01CS	5	1	Flange WN ›1" Thk.4.55mm 150LB RF ASTM/ASME A/SA350 Gr.LF2	23/70335	1724000839	01220	2024-C_MFF-01243	W1	
66	00	1	A	01CS	5	1	Flange WN ›1" Thk.4.55mm 150LB RF ASTM/ASME A/SA350 Gr.LF2	23/70335	1724000839	01220	2024-C_MFF-01243	W5	
66	00	1	A	01CS	6	1	Flange WN ›3/4" Thk.3.91mm 150LB RF ASTM/ASME A/SA350 Gr.LF2	23/70335	1724000839	01210	2024-C_MFF-01243	W14	
66	00	1	A	01CS	1A	0,105	Pipe 33,4mm(1") thk.4.55mm ASTM/ASME A/SA333 Gr.6	1234196	1724000838	00050	24A2938		
66	00	1	A	01CS	1B	0,534	Pipe 33,4mm(1") thk.4.55mm ASTM/ASME A/SA333 Gr.6	1234196	1724000838	00050	24A2938		
66	00	1	B	01CS	2	1	Tee BW ›1" Thk.4,55mm ASTM/ASME A/SA420 Gr.WPL6	02-J6L8102	1724000839	00780	4527-P13	W6-W8-W9	
66	00	1	B	01CS	4	1	90 Deg Elbow Long Radius BW ›1" Thk.4,55mm ASTM/ASME A/SA420 Gr.WPL6	402212	1724000839	00690	4527-P4	W10-W11	
66	00	1	B	01CS	5	1	Flange WN ›1" Thk.4.55mm 150LB RF ASTM/ASME A/SA350 Gr.LF2	23/70335	1724000839	01220	2024-C_MFF-01243	W6	
66	00	1	B	01CS	5	1	Flange WN ›1" Thk.4.55mm 150LB RF ASTM/ASME A/SA350 Gr.LF2	23/70335	1724000839	01220	2024-C_MFF-01243	W8	
66	00	1	B	01CS	5	1	Flange WN ›1" Thk.4.55mm 150LB RF ASTM/ASME A/SA350 Gr.LF2	23/70335	1724000839	01220	2024-C_MFF-01243	W12	
66	00	1	B	01CS	1D	0,451	Pipe 33,4mm(1") thk.4.55mm ASTM/ASME A/SA333 Gr.6	1234196	1724000838	00050	24A2938		
66	00	1	B	01CS	1E	0,096	Pipe 33,4mm(1") thk.4.55mm ASTM/ASME A/SA333 Gr.6	1234196	1724000838	00050	24A2938		

Cliente/Contractor	CROSSWIND	Preparato da/Prepared by	Controllato da/Checked by
SubContrattista/SubContractor	ROSETTIMARINO/GROUPOFCOMPANY	Nome/Name: Antonio Galesi	Nome/Name:
Progetto/Project	Hollandse Kust Noord Wind Park Project		
Commessa/Job	123A90 - Piping		
Disciplina/Discipline	PIPING		
TitoloDocumento/DocumentTitle	Material Traceability Report	StatoDocumento/Document Status:	
RosettiDoc.Num.	123A90MTR001		

Approvato da/Approved by
Nome/Name:
Data/Date: 03/12/2024

Sketch no.	Rev.	sheet	Spool	Piping Class	pos.	Q.ty (n° - m)	Description	Heat/Serial Number	PurchaseOrder	Pos. Order	Mat. Certificate	Weld Ref.	Note
102	00	1	A	01SS	2	1	Tee Reducing BW ›1.1/2"x3/4" Thk.3.68mmx2.87mm ASTM A403 Gr.WP316/316L	12B258	1724000839	00610	10303342	W1-W2-W3	
102	00	1	A	01SS	4	1	Nipple L=100mm TOE ›3/4" Thk.2,87mm ASTM A312 Gr.TP316/316L	SZ8	1724001267	00260	002978	W2	
102	00	1	A	01SS	5	1	90 Deg Elbow Long Radius BW ›1.1/2" Thk.3.68mm ASTM A403 Gr.WP316/316L	M230941	1724001267	00080	MCP2404-00012-12	W1	
102	00	1	A	01SS	5	1	90 Deg Elbow Long Radius BW ›1.1/2" Thk.3.68mm ASTM A403 Gr.WP316/316L	M230941	1724001267	00080	MCP2404-00012-12	W4-W5	
102	00	1	A	01SS	7	1	Flange WN ›1.1/2" Thk.3.68mm 150LB RF ASTM A182 Gr.F316/316L	CH-17777	1724000839	00970	EXP/22-23/00790-12	W6	
102	00	1	A	01SS	1A	0,506	Pipe 48.3mm(1.1/2") thk.3.68mm ASTM A312 Gr.TP316/316L	235415	1724000839	00060	WSSL/SP-316L/00757/1023		
102	00	1	A	01SS	1B	1,544	Pipe 48.3mm(1.1/2") thk.3.68mm ASTM A312 Gr.TP316/316L	235415	1724000839	00060	WSSL/SP-316L/00757/1023		
102	00	1	B	01SS	3	1	Reducer Concentric BW ›1.1/2"x1" Thk.3.68mmx3.38mm ASTM A403 Gr.WP316/316L	1163621	1724000839	00390	1163621	W7-W8	
102	00	1	B	01SS	6	1	90 Deg Elbow Long Radius BW ›1" Thk.3.38mm ASTM A403 Gr.WP316/316L	M230689	1724000839	00270	MCP2401-00015-52	W8-W9	
102	00	1	B	01SS	7	1	Flange WN ›1.1/2" Thk.3.68mm 150LB RF ASTM A182 Gr.F316/316L	CH-17777	1724000839	00970	EXP/22-23/00790-12	W7	
102	00	1	B	01SS	8	1	Flange WN ›1" Thk.3.38mm 150LB RF ASTM A182 Gr.F316/316L	CH-19714	1724000839	00960	1779F/23-24-45	W9	
102	00	1	MONT	01SS	9	1	Cap Forged THRD-F NPT ›3/4" 3000# ASTM A182 Gr.F316/316L	0	#N/D	#N/D	#N/D		
102	00	1	MONT	01SS	10	1	Ball Valve Split Body FB 150LB FLG RF ›1.1/2" BS01C01RF	0	#N/D	#N/D	#N/D		
102	00	1	MONT	01SS	11	2	Gasket Spiral Wound Thk. 3.2 mm ›1.1/2" 150LB RF AISI 316 + GRAPHITE c/w INNER RING	0	#N/D	#N/D	#N/D		
102	00	1	MONT	01SS	12	1	Gasket Spiral Wound Thk. 3.2 mm ›1" 150LB RF AISI 316 + GRAPHITE c/w INNER RING	0	#N/D	#N/D	#N/D		
102	00	1	MONT	01SS	13	8	Stud Bolt + 2 Heavy Nuts 1/2" L=70MM ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	0	#N/D	#N/D	#N/D		
102	00	1	MONT	01SS	14	4	Stud Bolt + 2 Heavy Nuts 1/2" L=65MM ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	0	#N/D	#N/D	#N/D		

8. PIPING & VESSEL PRE-COMMISSIONING CONFORMITY CHECKS & TESTS:

8.1 CLX02A - Pipework Before test

8.2 CLX02B - Pipework After Test

8.3 CXX01 - Thermal insulation - NOT APPLICABLE

8.4 CXX02 – Painting Line

8.5 TMX03 – Cleaning

8.6 TMX05 – Pressure test

8.7 TMX25 – Gross Air Leak Test - NOT APPLICABLE

8.8 TMX27 – Bolt Tensioning / Torquing

8.9 TPLX05 - Drying

ITEM	Tag	64-00-TP-029	: Test Pack 64-00-TP-029			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10003456		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity STS	Discipline	Piping	Form	TPLX05 Drying

1	Drying out method :	Drying with dry air.
2	Operation description :	Dry the system using a flow of dry air, ensuring all drains are open to facilitate the removal of moisture. The drying process shall be monitored closely to ensure complete moisture removal. After drying, isolate and close the inlet and outlet points.
3	Temporary means :	Cups to isolate inlet and outlet points.
4	Dew point (obtain after soaking and nitrogen purging):	NA

5	Valve body cavity, branches, etc.. Have been drained form residual water	●
	Attachments	
6	Procedures	
7	Sketches and drawings	
8	Pressure records	
9	Records of failures	

10	SAFETY PRECAUTIONS:	Delimit the test area.
11	REMARKS:	

Page 1/1	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	Rodeo	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2024-12-02	2024-12-03	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2024-12-02T14:05:44.603Z	PROVERLIS Digitaly signed by Massimo Bruschi 2024-12-03T16:07:31.071Z	

ITEM	Tag	64-00-TP-049	: Test Pack 64-00-TP-049		Dwg	123A90-DDL-PR-PID-80027	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD	
TASK	code	C10003600	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity PIP	Discipline Piping	Form	CLX02A	Pipework Before Test

1	Check for each line of the Test Pack the NDT clearance.	OK
2	Confirm that materials conforms to the line specifications (ref. to the last issued revision of the isometric material table)	OK
3	Check the installation of all pipe – supports are in accordance with the specifications and drawings.	PL
4	Check that pipework at pump and vessel nozzles are free from spring.	PL
5	Check that the pipe flanges have been mounted square to each other. Also that the bolting and gaskets are correct (all TMX27 are complete, if necessary).	PL
6	Check bolt tightening and flange management (excluded battery limit joints).	PL
7	Check that the flow direction of the valves and check – valve is in the correct sense / direction (ball valves to be set at half open).	NA
8	Check that the removed equipment is in accordance with the agreed list of fragile devices. Check valve should be removed or flappers locked.	NA
9	Check that spool pieces or other substitution means have been put in place instead of the removed fragile device.	NA
10	Check the Blind list.	NA
11	Check that all the temporary material to perform the task are conforms to the procedure & suitable pressure rating.	NA
12	If required produce Red Line Mark Up for "AS BUILT".	

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	Rodeo	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2024-11-29	2024-11-29	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2024-11-29T09:13:48.911Z	PROVERLIS Digitaly signed by Massimo Bruschi 2024-11-29T16:02:55.100Z	

Base Load Power Hub (BLPH)

TEST PACK

N°64-00-TP-049
SUB-SYSTEM N° 64-00

System	64
Sub-System	64-00
Test Pressure	N/A
Test Fluid	N/A
Test Duration	N/A

Rev.	Date	Prepared by	Checked by
0	27/09/2024	J.Q.	L.M.

List of Contents

1. COLOURED MARKED P&IDs
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   - 8.7 TMX25 – Gross Air Leak Test – NOT APPLICABLE
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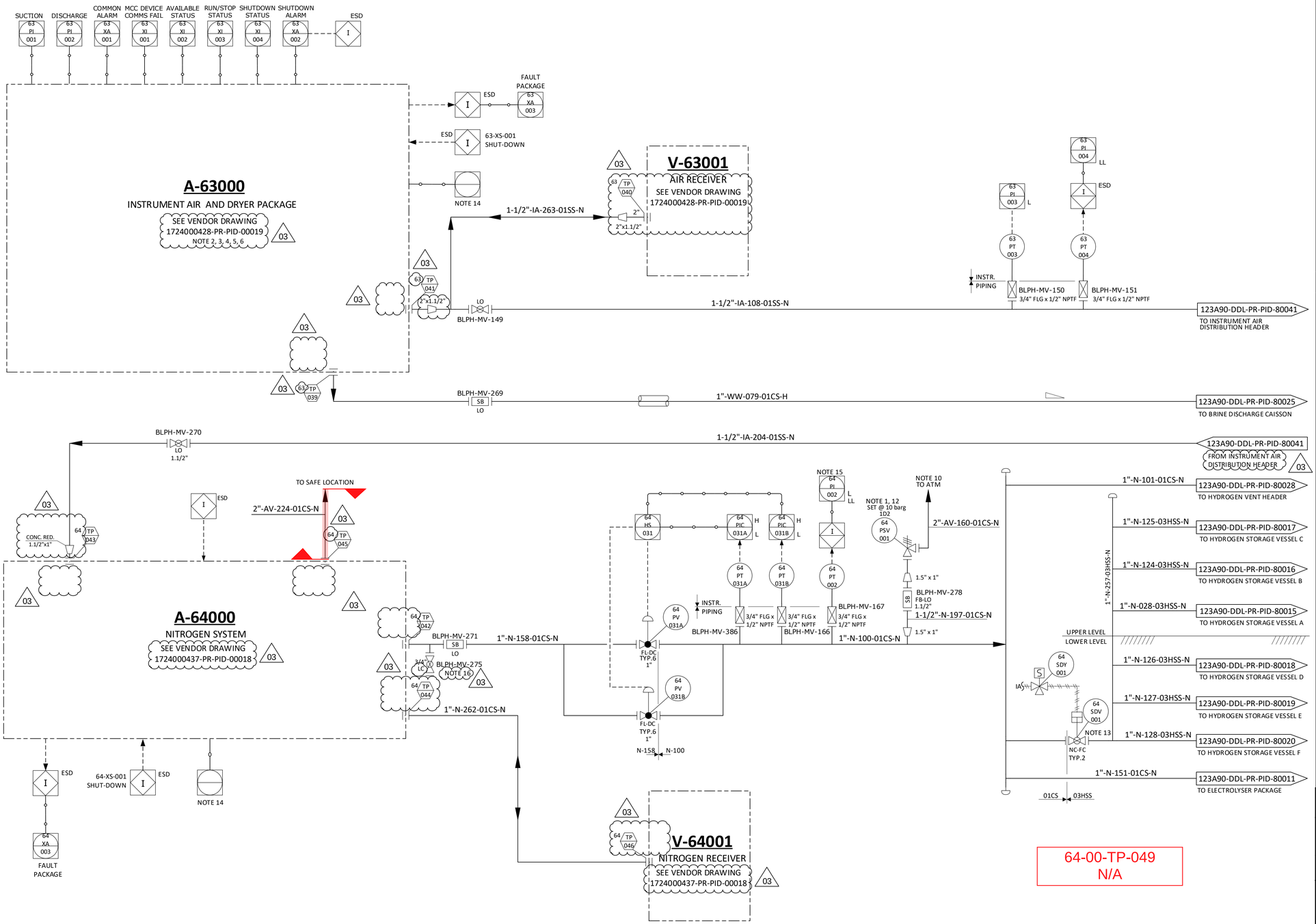
1. COLOURED MARKED P&IDs

DRAWING NO. DRAWING_NO.

REV. REV

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
CAPACITY : 313 Sm³/h (PRODUCTION)

A-64000
NITROGEN GENERATION SYSTEM
CAPACITY : 52.7 Sm³/h (PRODUCTION)



64-00-TP-049
N/A

NOTES

1. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
2. COMPRESSORS AND DRIERS DESIGNED FOR 2 X 100% CONFIGURATION. INSTRUMENT AIR RECEIVER DESIGNED FOR 1 X 100%.
3. VENDOR TO PROVIDE NECESSARY CONTROLS, INSTRUMENTATIONS AND ISOLATIONS IN ORDER TO OPERATE THE PLANT IN SAFE MANNER.
4. COMPRESSORS WILL OPERATE ON THE BASIS OF ONE WORKING AND ONE ON STANDBY.
5. COMPRESSORS TO BE ROTARY SCREW TYPE OIL FREE.
6. AIR COMPRESSOR INLET TO BE LOCATED AWAY FROM ANY VENTS.
7. DELETED.
8. DELETED.
9. DELETED.
10. TO SAFE LOCATION, ROUTED AWAY FROM WALKWAYS.
11. DELETED.
12. 64-PSV-001 SIZED FOR UPSTREAM 64-PV-031 CV FAILURE.
13. 64-SDV-001 IS NORMALLY CLOSED. IF REQUIRED THE OPERATOR CAN REMOTELY OPEN THE VALVE TO ALLOW PURGING OPERATION. VALVE 64-SDV-001 IS ALSO CONNECTED TO THE PCS SYSTEM.
14. SERIAL COMMUNICATION WITH CONTROL SYSTEM.
15. THE ALARM 64-PAL-002 WILL CLOSE 64-SDV-001 THROUGH SAFETY SYSTEM.
16. MANUAL VALVE BLPH-MV-275 TO BE CONNECTED WITH MANUAL VALVE BLPH-MV-466 (INSTALLED ON ELECTROLYSER PACKAGE EXIT LINE) BY MEAN ON A FLEXIBLE HOSE DURING COMMISSIONING PHASE FOR PURGING OPERATION.

03

HOLDS

1. DELETED.
2. DELETED.
3. DELETED.
4. DELETED.

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	09/09/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
02	12/06/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	15/02/2024	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

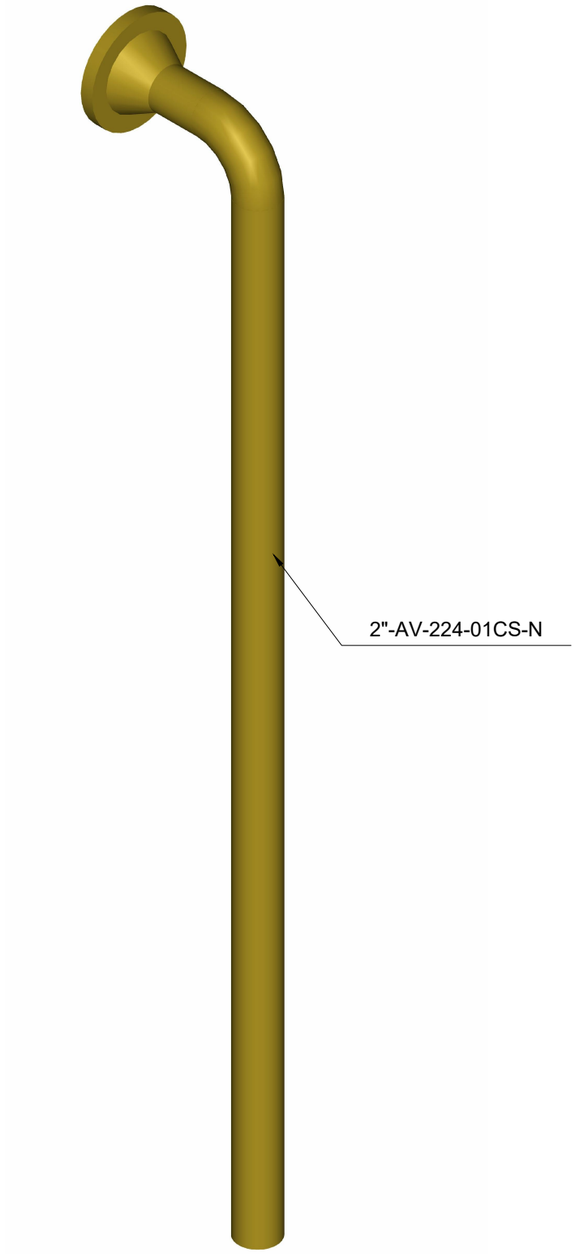
ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
INSTRUMENT AIR PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE
A1	DRAWING NO. 123A90-DDL-PR-PID-80027	SHEET 001	REV. 03

File Name : FILE_NAME

2. HYDROSTATIC TEST 3D CIRCUIT



64-00-TP-049

N/A

NOTES

- MANUAL VALVES MAY BE EXCLUDED FROM THE TEST
- ALL INSTRUMENTS (PG, TT, etc.) SHALL BE EXCLUDED FROM THE TEST
- ALL INSTRUMENT VALVES (SDV, PCV, etc.) SHALL BE EXCLUDED FROM THE TEST
- FILLING POINT, VENTS & DRAINS SHALL BE DEFINED ON SITE AS FOR REAL TEST CIRCUIT CONFIGURATION

REV.	DATE	DESCRIPTION	DRN	CHKD	APPD
00	27-09-24	ISSUED FOR INFORMATION	J.Q.	T.L.	L.M.

CROSSWIND

ROSETTI MARINO

HOLLANDSE KUST NOORD WIND PARK

PIPING TEST 3D CIRCUIT
64-00-TP-049

FORMAT	SCALE	DRAWING N.	REV.	SHEET
A3	NTS	N/A	00	1 OF 1

3. MATERIAL LIST FOR TEST

NOT APPLICABLE

4. EXTRACT OF LINE LIST

Isometric N°	Short Line N°	Sequential Number	Size [in]	Piping Class	Insulation Type	Pipe Wall Thicknes [mm]	Pipe Schedule	Tracing	Line Number	PID Number	Design Pressure [barg]	Commissioning System Code	Commissioning SubSystem Code	Test Pack N°	Test Fluid	Test Pressure [barg]	Fluid Service	Class Base Material	Line INF/SUP/TL	Ped Category	Painting System	Line Base Ral
120	AV-224	224	2	01CS	N	5,54	80	N/A	2"-AV-224-01CS-N	123A90-DDL-PR-PID-80027	3,50	64	64-00	TP-049	N/A	N/A	Atmospheric Vent	Carbon Steel	SUP	Art. 4, par. 3	1	RAL 9002

5. ISOMETRIC RED MARKED DRAWING & EXTRACT OF ISO LIST

CROSSWIND

ROSETTI MARINO

PROJECT

BASE LOAD POWER HUB (BLPH)

JOB **123A90**

DOCUMENT NR **123A90-FDL-ST-LIS-00001**

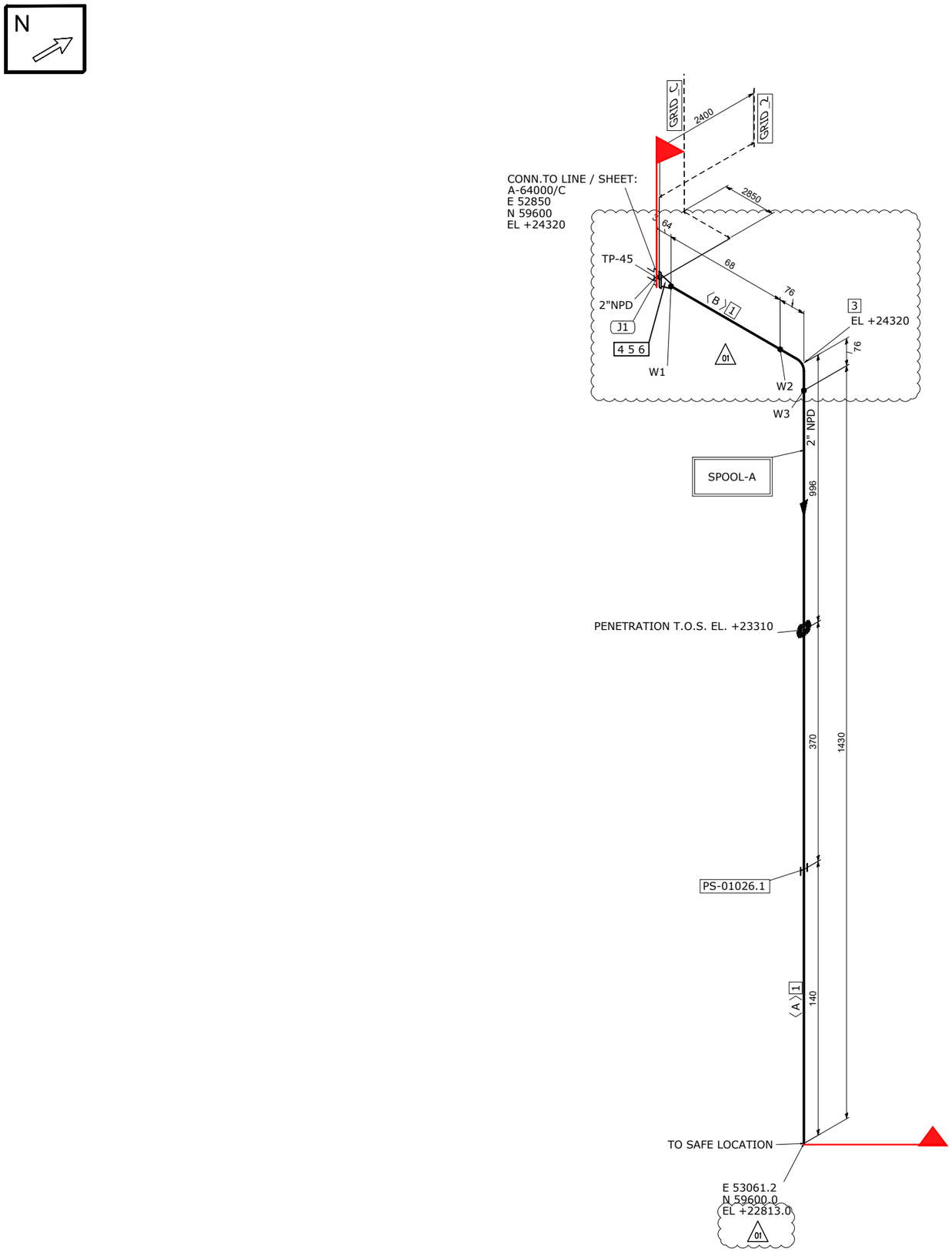
REV. **05**

TITLE

SHOP DRAWING ISOMETRIC LIST

DATE **17/09/2024**

POS.	DOCUMENT NR	ROSETTI SKETCH NR	SHEET	DOCUMENT TITLE	Rev. 00	Rev. 01	Rev. 02	Rev. 03	Rev. 04	Rev. 05	Rev. 06	Rev. 07	Rev. 08	Rev. 09	Rev. 10	Mark-up Rev.	Mark-up Data	LAST REV	LIST REV	NOTES	TEST PACK NR
153	123A90-FDL-PP-DI-00120-01	**120**	01	SHOP DRAWING ISOMETRIC - LINE NR 2"-AV-224-01CS-N	27/08/2024	17/09/2024												**01**	**05**		**TP-049**



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	2	PIPECS02960200	Pipe ASME B36.10M PE 5,54 SML ASTM/ASME A/SA333 Gr.6	1.5M	11.2
3	2	E90RCS01330200	90 Deg Elbow Long Radius ASME B16.9 BW 5,54 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.9
4	2	FLW0CS02210200	Flange WN ASME B16.5 150LB RF 5,54 FRG ASTM/ASME A/SA350 Gr.LF2	1	2.7

01

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
5	2	GSW0GK11130200	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	1	0.1
6	5.8	SB20BO00660300	85 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	1.0

01

FABRICATION WEIGHT [kg]	14.8
ERECTION WEIGHT [kg]	1.1
OVERALL WEIGHT [kg]	15.9

01

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	2	BW
W2	2	BW
W3	2	BW

01

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	2	1431	BEVEL	BEVEL
B	2	68	BEVEL	BEVEL

01

SUPPORT LIST

PS-01026.1

SPOOL	WELD [inches]	WEIGHT [kg]
A	6	14.8
MONT	0	1.1

01

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	17-09-2024	STAFF SRL	RT	LM	REVISED WHERE INDICATED
00	27-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

64-00-TP-049

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 2"-AV-224-01CS-N

SK.120

CONTRACT NO./ TITLE: CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE: N/A

DRAWN: STAFF SRL | CHECKED: RT | APPROVED: LM | DATE: 17-09-2024

FORMAT: A3 | DRAWING NO.: 123A90-FDL-PP-DI-00120 | SHEET / OF: 1/1 | REV.: 01

LINE DATA

NDT INSPECTION CATEGORY	2		PED CATEGORY	Art. 4, par. 3			
PAINTING	SYSTEM 1	BASE RAL RAL-9002	FLUID PHASE	Gas			
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 3.5 [barg]	TEMP. -46 / 100 [°C]		
HEAT TRACING	N/A		TEST	PRESS. N/A [barg]	TEMP. AMB	MEDIUM N/A	

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

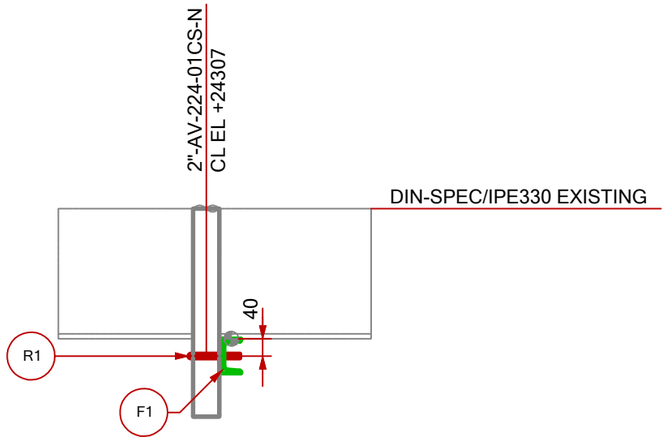
NOTES

MASTER

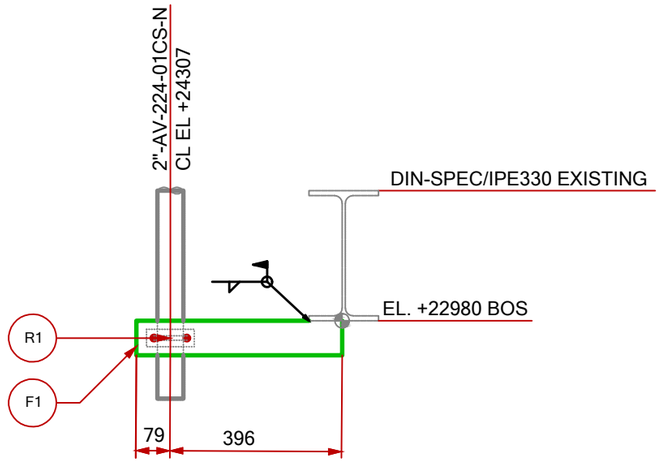
6. EXTRACT OF SUPPORT LIST & DETAILS

SUPPORT LIST

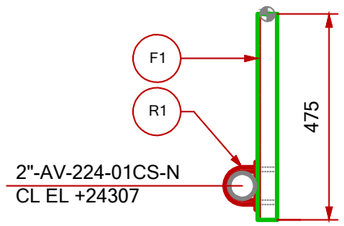
SUPPORT	SUFFIX	SERVICE	DECK IDENTIFICATION	SUB ASSEMBLY	LINE	SUPPORTS STANDARD	NDT CATEGORY	QUANTITY	TOT. WEIGTH (KG)	PAINTING SURFACE (SQM)	REV	DATE	STATUS	NOTES	Test Pack N°
PS-01026	B1	PIP	LOWER DECK		2"-AV-224-01CS-N	S-211 - 2"		1	0,519	0,000	00	19/08/2024	IFR		TP-049



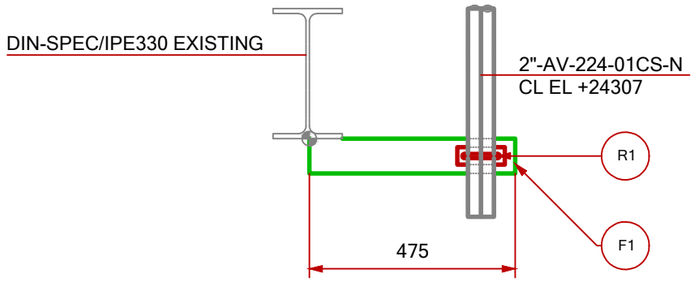
VIEW LOOKING NORTH



VIEW LOOKING WEST



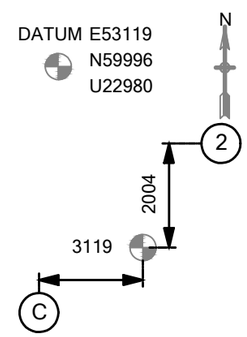
PLAN VIEW

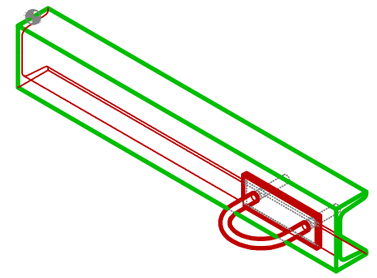


VIEW LOOKING EAST

SUPPORT MATERIAL LIST

POS.	TYPE	DESCRIPTION	MATERIAL	LENGHT (mm)	Q.TY (n°)	UNIT WEIGHT (Kg/mt)	TOTAL WEIGHT (Kg)	PAINT SURF. (m2)
R1	STD	S-211-2"	-	-	1	-	0.52	-
F1	BEAM	UPN80	Carbon Steel	475	1	8.66	4.12	0.151
						TOTAL	4.6	0.15





REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	19/08/24	MMA	SLO	DLO	ISSUE FOR REVIEW

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
Support Drawings

PS-01026

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	1 : 10
DRAWN	CHECKED / APPROVED	DATE	19/08/24
DRAWING NO.	123A90-DDL-PP-DD-72000	SHEET	1 of 1
		REV.	00

File Name :

ROSETTI MARINO

STANDARD SPECIFICATION
PIPE SUPPORT DETAIL STANDARD

Document Number: STD–PP–DD–0001

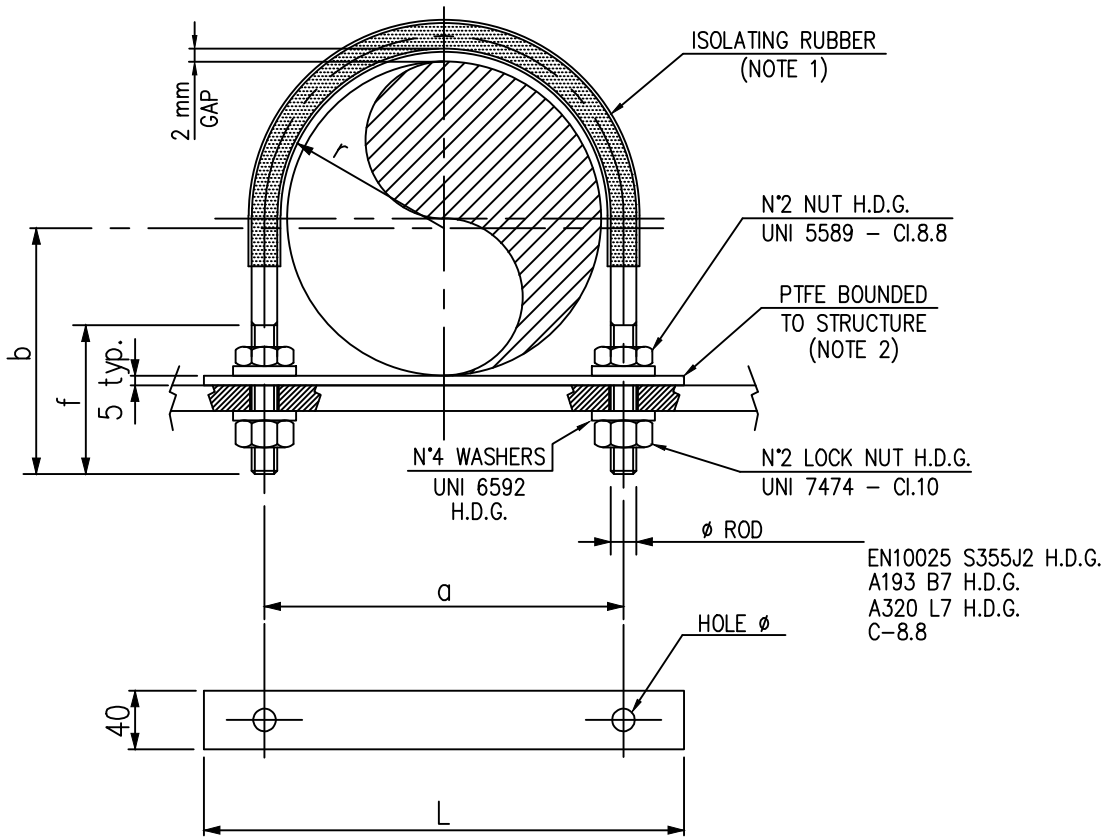
Revision: 0

Date: –

CAVALLOTTI GALVANIZZATI DI GUIDA PER TUBAZIONI IN C.S S.S. E ALLOY
GALVANIZED U–BOLTS GUIDE FOR C.S. S.S. AND ALLOY PIPES (NON GRIP)

S–211

Example of designation : STD – PIPE ND"
(S–211 – 10")



SIZE ND	ROD DIA	r	a	b	f	L	HOLE ø	DEV	DEV. RUBBER	WEIGHT Kg
½"	M8	14	36	55	52	65	10	167	62	0.16
3/4"	M8	17	42	55	52	70	10	176	75	0.16
1"	M8	20	48	60	55	80	10	196	90	0.18
1½"	M10	27	64	70	65	100	12	240	120	0.32
2"	M10	33	76	80	70	110	12	280	150	0.35
3"	M12	48	108	100	80	150	14	370	210	0.60
4"	M12	60	132	110	80	180	14	430	260	0.67
6"	M16	87	190	150	100	250	18	600	380	1.39
8"	M16	113	242	170	100	300	18	720	500	1.60
10"	M16	140	296	200	100	350	18	865	650	1.86
12"	M20	165	350	240	120	420	22	1030	750	3.31
14"	M20	181	382	260	120	450	22	1120	840	3.55
16"	M24	207	438	290	130	520	26	1270	1000	5.76
18"	M24	232	488	320	130	570	26	1410	1100	6.28
20"	M30	257	544	360	160	640	32	1570	1200	11.02
24"	M30	308	646	410	160	750	32	1830	1450	12.52

NOTES:

1) HEAT SHRINK TUBE TYPE FLAME RETARDANT, WITH RATIO 2:1
2) MULTIPLE SHEETS OF PTFE CAN BE ADDED IN ORDER TO ENSURE THE CORRECT ELEVATION AND SLOPE OF THE LINES.

Revision Number	Date	Description	DRAW	CHKD.	APPR.
00	–	ISSUED FOR REVIEW	SLO	GMA	MCO

Documento di proprietà aziendale.La Società tutelerà i propri diritti a termine di legge.This document is Company property. The Company lawfulliy reserves all rights.

7. WELDING REGISTER & MATERIAL TRACEABILITY RECORD

Welding Register

Job	123A90	BASE LOAD POWER HUB (BLPH)			
From Discipline	PP	Piping			
To Discipline	PP	Piping			
Drawings		**From**	120	**To**	120
Sheet		**From**	0	**To**	0
Marks		**From**		**To**	
Location		**From**		**To**	
Material		**From**		**To**	
Welds Execution		**From**		**To**	
Welds Acceptance		**From**		**To**	
Report Date		**From**		**To**	
Prefabrication	All				
Welding Status	All				
ITEM					
ADDITIONAL PARAMETERS	**LINE**	**From**		**To**	
	SPOOL	**From**		**To**	
		From		**To**	

Rosetti Marino S.p.A.

Welding Register

Job 123A90 BASE LOAD POWER HUB (BLPH)
Client CRWIND CROSSWIND
Discipline PP Piping

Order Number CW-I-WP4-2023-05
ITEM

Weld Number / Class	Insp. Category	Rev. / Cont.	Prod. Date / Examination phase	Prod. Sheet	Welders	Work Instructions	Oper.	Item type / Exam. %	Dimension / N. Rep	Thickness / Films n.	Bevel / Result	Weld Length / WPS Rip.	P/M / Techn. Weld.	Material / Defect length	WPS / CND date	Techn. Weld. / NOTE	Type Cons	Accept. Date	Spool
1/120/1/_		**01**	**17-09-2024**	**9**	**AZ53**			**FWN**	**2,00 in**	**5,54 mm**	**V**	**0,189 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**19-09-2024**	**A**
01CS	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable				19-09-2024				
		RT	FIN	Weld Completion				10 %			Acceptable								
2/120/1/_		**01**	**17-09-2024**	**9**	**AZ53**			**RED**	**2,00 in**	**5,54 mm**	**V**	**0,189 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**19-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable				19-09-2024				
		RT	FIN	Weld Completion				10 %			Acceptable								
3/120/1/_		**01**	**28-09-2024**	**20**	**AZ53**			**ELB**	**2,00 in**	**5,54 mm**	**V**	**0,189 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**30-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable				30-09-2024				
		RT	FIN	Weld Completion				10 %			Acceptable								

Totals per DWG	**120**	**Prefabrication**	**0,57 m**	**3 Nr. Welds**	**6,00 inch**
		Erection	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**0,57 m**	**3 Nr. Welds**	**6,00 inch**
		Accepted	**0,57 m**	**3 Nr. Welds**	**6,00 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
Totals by Discipline		**Prefabrication**	**0,57 m**	**3 Nr. Welds**	**6,00 inch**
		Erection	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**0,57 m**	**3 Nr. Welds**	**6,00 inch**
		Accepted	**0,57 m**	**3 Nr. Welds**	**6,00 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
Totals by Project		**Prefabrication**	**0,57 m**	**3 Nr. Welds**	**6,00 inch**
		Erection	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**0,57 m**	**3 Nr. Welds**	**6,00 inch**
		Accepted	**0,57 m**	**3 Nr. Welds**	**6,00 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**

CROSSWIND / ROSETTI MARINO	Cliente/Contractor: **CROSSWIND**	Preparato da/Prepared by	Controllato da/Checked by
	SubContrattista/SubContractor: **ROSETTIMARINO/GROUPOFCOMPANY**	Nome/Name: Antonio Galesi	Nome/Name:
	Progetto/Project: **Hollandse Kust Noord Wind Park Project**		
	Commessa/Job: **123A90 - Piping**		
	Disciplina/Discipline: **PIPING**		
	TitoloDocumento/DocumentTitle: **Material Traceability Report**	StatoDocumento/Document Status:	
	RosettiDoc.Num.: **123A90MTR001**		

Approvato da/Approved by	
Nome/Name:	
Data/Date: 21/11/2024	

Sketch no.	Rev.	sheet	Spool	Piping Class	pos.	Q.ty (n° - m)	Description	Heat/Serial Number	PurchaseOrder	Pos. Order	Mat. Certificate	Weld Ref.	Note
120	01	1	A	01CS	3	1	90 Deg Elbow Long Radius BW ›2" Thk.5.54mm ASTM/ASME A/SA420 Gr.WPL6	774	1724000839	00670	4527-P2	W2-W3	
120	01	1	A	01CS	4	1	Flange WN ›2" Thk.5.54mm 150LB RF ASTM/ASME A/SA350 Gr.LF2	23/70486	1724000839	01190	2024-C_MFF-01243	W1	
120	01	1	A	01CS	1A	1,431	Pipe 60.3mm(2") thk.5.54mm ASTM/ASME A/SA333 Gr.6	R58853	1724000838	00020	E10065		
120	01	1	A	01CS	1B	0,068	Pipe 60.3mm(2") thk.5.54mm ASTM/ASME A/SA333 Gr.6	R58853	1724000838	00020	E10065		

8. PIPING & VESSEL PRE-COMMISSIONING CONFORMITY CHECKS & TESTS:

8.1 CLX02A - Pipework Before test

8.2 CLX02B - Pipework After Test

8.3 CXX01 - Thermal insulation – NOT APPLICABLE

8.4 CXX02 – Painting Line

8.5 TMX03 – Cleaning – NOT APPLICABLE

8.6 TMX05 – Pressure test – NOT APPLICABLE

8.7 TMX25 – Gross Air Leak Test – NOT APPLICABLE

8.8 TMX27 – Bolt Tensioning / Torquing

8.9 TPLX05 – Drying – NOT APPLICABLE

ITEM	Tag	64-00-TP-049	: Test Pack 64-00-TP-049			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10003601		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	CLX02B Pipework After Test

1	Check that the pipework and equipment are drained as per procedure.	OK
2	Check if all temporary equipment (test spades, filters ,spool pieces..etc) have been removed.	OK
3	All plugs installed on vents and drains for test have been removed.	NA
4	Check that all removed devices and valves have been re-installed.	NA
5	Check that the new gaskets have been installed after pipework and equipment reinstallation.	OK
6	All specific blinds and / or spectacle blinds have been correctly installed as per P&ID.	NA
7	Check that the pipework, valves , check valves are undamaged. Also check the ancillaries and any other components.	OK
8	After the (re) installation of a valve check that it operates freely.	NA
9	Check that the flow direction of the valves and check – valve is in correct sense /direction in correct open/closed position as per P&ID.	NA
10	Check all locking device.	NA
11	Check that the valves have been correctly lubricated and that they have the correct spindle packing.	NA
12	Check that all the bolts and fasteners are suitably lubricated inline with the flange management procedure.	OK
13	Check that the bolts have been tightned at opened joints.	OK
14	Check that all golden welds (final tie-ins without hydrotest) have been performed as per procedure.	NA
15	Check for the correct tagging, labeling and colour coding of pipework and equipment (only for bare pipe lines).	NA
16	Check that the pipework and equipment (re) installation conforms to the specifications, drawings and to the P&ID's.	OK
17	If required produce Red Line Mark Up for "AS BUILT".	

Comments: 13. Checked, there were no opened joints.

Page 1/1	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	Rodeo	RM (Rosetti Marino)	
Name	Emanuele Delfino	Kangi Albonetti	
Date	2024-12-05	2025-01-10	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2024-12-05T08:45:36.608Z	PROVERLIS Digitaly signed by Kangi Albonetti 2025-01-10T14:49:22.063Z	

ITEM	Tag	64-00-TP-049	: Test Pack 64-00-TP-049		Dwg	123A90-DDL-PR-PID-80027	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD	
TASK	code	C10003602	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Piping	Form	CXX02	Painting Line

1	Check that the completed painting is in accordance with the specifications covering quality and thickness.	OK
2	Check that the color coding conforms to the specifications.	NA
3	Check that the fluid direction is correct.	NA
4	Check that line marking is correct.	NA
5	Check that the painting of piping systems and of the equipment is "touched-up" and conforms to the specifications.	OK
6	If required produce Red Line Mark Up for "AS BUILT".	

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	IMPRESA DONELLI	RM (ROSETTI MARINO)	
Name	Alex Sanna	Kangi Albonetti	
Date	2025-01-31	2025-02-06	
Signature	PROVERLIS Digitaly signed by Alex Sanna 2025-01-31T13:58:41.349Z	PROVERLIS Digitaly signed by Kangi Albonetti 2025-02-06T14:52:43.844Z	

ITEM	Tag	64-00-TP-063	: Test Pack 64-00-TP-063		Dwg	123A90-DDL-PR-PID-80027	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD	
TASK	code	C10003690	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity PIP	Discipline Piping	Form	CLX02A	Pipework Before Test

1	Check for each line of the Test Pack the NDT clearance.	OK
2	Confirm that materials conforms to the line specifications (ref. to the last issued revision of the isometric material table)	OK
3	Check the installation of all pipe – supports are in accordance with the specifications and drawings.	OK
4	Check that pipework at pump and vessel nozzles are free from spring.	OK
5	Check that the pipe flanges have been mounted square to each other. Also that the bolting and gaskets are correct (all TMX27 are complete, if necessary).	Note
6	Check bolt tightening and flange management (excluded battery limit joints).	NA
7	Check that the flow direction of the valves and check – valve is in the correct sense / direction (ball valves to be set at half open).	NA
8	Check that the removed equipment is in accordance with the agreed list of fragile devices. Check valve should be removed or flappers locked.	NA
9	Check that spool pieces or other substitution means have been put in place instead of the removed fragile device.	NA
10	Check the Blind list.	NA
11	Check that all the temporary material to perform the task are conforms to the procedure & suitable pressure rating.	OK
12	If required produce Red Line Mark Up for "AS BUILT".	

Comments: Inspection point n.5: Flanges at battery limits have been mounted square. No flanged joint in the line. TMX27 to be completed during reinstatement.

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (Rosetti Marino)	
Name	Emanuele Delfino	Kangi Albonetti	
Date	2024-12-11	2024-12-11	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2024-12-11T15:45:39.861Z	PROVERLIS Digitaly signed by Kangi Albonetti 2024-12-11T16:08:57.134Z	

ITEM	Tag	64-00-TP-063	: Test Pack 64-00-TP-063			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10003691		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	CLX02B Pipework After Test

1	Check that the pipework and equipment are drained as per procedure.	OK
2	Check if all temporary equipment (test spades, filters ,spool pieces..etc) have been removed.	OK
3	All plugs installed on vents and drains for test have been removed.	OK
4	Check that all removed devices and valves have been re-installed.	OK
5	Check that the new gaskets have been installed after pipework and equipment reinstallation.	OK
6	All specific blinds and / or spectacle blinds have been correctly installed as per P&ID.	OK
7	Check that the pipework, valves , check valves are undamaged. Also check the ancillaries and any other components.	OK
8	After the (re) installation of a valve check that it operates freely.	OK
9	Check that the flow direction of the valves and check – valve is in correct sense /direction in correct open/closed position as per P&ID.	OK
10	Check all locking device.	OK
11	Check that the valves have been correctly lubricated and that they have the correct spindle packing.	NA
12	Check that all the bolts and fasteners are suitably lubricated inline with the flange management procedure.	OK
13	Check that the bolts have been tightned at opened joints.	OK
14	Check that all golden welds (final tie-ins without hydrotest) have been performed as per procedure.	NA
15	Check for the correct tagging, labeling and colour coding of pipework and equipment (only for bare pipe lines).	NA
16	Check that the pipework and equipment (re) installation conforms to the specifications, drawings and to the P&ID's.	PL
17	If required produce Red Line Mark Up for "AS BUILT".	

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Andrea Mancini	
Date	2025-01-31	2025-02-04	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-31T12:06:24.746Z	PROVERLIS Digitaly signed by Andrea Mancini 2025-02-04T08:14:44.514Z	

ITEM	Tag	64-00-TP-063	: Test Pack 64-00-TP-063			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10003692		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Piping	Form	CXX02 Painting Line

1	Check that the completed painting is in accordance with the specifications covering quality and thickness.	OK
2	Check that the color coding conforms to the specifications.	PL
3	Check that the fluid direction is correct.	PL
4	Check that line marking is correct.	NA
5	Check that the painting of piping systems and of the equipment is "touched-up" and conforms to the specifications.	PL
6	If required produce Red Line Mark Up for "AS BUILT".	

Comments: 1. Checked the painting report made by Vendor and signed by RM coating Dpt.

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	IMPRESA DONELLI	RM (ROSETTI MARINO)	
Name	Alex Sanna	Kangi Albonetti	
Date	2025-02-04	2025-02-05	
Signature	PROVERLIS Digitaly signed by Alex Sanna 2025-02-04T12:35:42.990Z	PROVERLIS Digitaly signed by Kangi Albonetti 2025-02-05T12:44:43.448Z	

ITEM	Tag	64-00-TP-063	: Test Pack 64-00-TP-063		Dwg	123A90-DDL-PR-PID-80027	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD	
TASK	code	C10003693	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity PIP	Discipline Piping	Form	TMX03	Cleaning

CLEANING MEDIUM

Air		Water	●	Steam		Oil		Other		Mechanical	

Component	N/A					
Chemical treatment	No	N/A	Filtration	No	Screen size	N/A

EQUIPMENTS

Equipment **removed**	NA	Agreed list of removed fragile devices to be attached to this Test Sheet	NA
Excepted removed equipments, pipework installation is conform to the specifications & PID's			OK
Equipment **added**	NA	Exhaustive list to be attached (temporary filters, spools…etc)	NA

TEST RESULTS

Test date	11/12/2024	Start time	14:50	End time	15:00
Flow rate	N/A	Duration	10 min	Medium T°	N/A

Operation Description

Connected the water source to the lowest point of the piping system.
Maintained a high flow rate to help dislodging and carry away debrises.
Flushing flow kept until the water exiting the system was clear and free of visible contaminants. Expelled water inspected for any debris to be noted.

Safety Precautions

Restricting access to the area.

Result and comments

Water has been found clear of debris. All contaminants have been expelled.

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2024-12-11	2024-12-13	
Signature	Digitaly signed by Emanuele Delfino 2024-12-11T08:49:42.252Z		Digitaly signed by Massimo Bruschi 2024-12-13T13:06:01.519Z

ROSETTI MARINO

CROSSWIND

ITEM	Tag	64-00-TP-063	: Test Pack 64-00-TP-063		Dwg	123A90-DDL-PR-PID-80027	
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)		Module	LD	
TASK	code	C10003694	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity PIP	Discipline Piping	Form	TMX05	Pressure Test

TEST DATA

Reference procedure: 123A90-PML-QHSE-PRO-00092

Design pressure: 12 barg | Max test pressure: 18 barg | Min hold period: 30 min

TEST PREPARATION

Check all equipments used for the test are safe for use under pressure (valide certificate)	Yes
Pressure relief devices are installed and in line and set to correct pressure (calibration certificate)	Yes

Medium

Test medium: WATER

TEST RESULTS

Test date: See attachment | Start time: See attachment | End time: See attachment

Ambient temperature is recorded	NA			Test medium temperature is recorded	Yes
Pressure recorded during test hold period	Min: See attachment	Max: See attachment		Variation: See attachment	
Line has been depressurised to	NA			At maximum of bar/min: See attachment	
Pressure test completed sucessfully and approved	Yes			Temperature and pressure disc chart attached	NA
Instrument calibration certificates attached	Yes			Dead-weight tester log attached	NA
Record of failures and corrective action attached	No			Battery limits of the test attached	Yes

If required produce Red Line Mark Up for "AS BUILT".

Comments:

Page 1/1	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2024-12-11	2024-12-13	
Signature	Digitaly signed by Emanuele Delfino 2024-12-11T08:49:54.866Z	Digitaly signed by Massimo Bruschi 2024-12-13T13:06:30.710Z	

Logger protocol

Protocollo di acquisizione elenco dati

	Log no. *N. elenco dati*	123A90-64-00-TP063

Instrument

Strumento

Electrical pressure gauge *Misuratore di pressione elettronico*	
Model *Modello*	CPG1500
Serial number *Numero di serie*	1A014ILNH2N
Log temperature *Registrazioni di Temperatura*	Active *Attivo*
Scale range *Campo scala*	(0 ... 1000) bar a
Accuracy *Accuratezza*	0.1 % FS
Tag number *Numero tag*	
Communication *Comunicazione*	Wireless (00:13:43:85:E0:AF)

Measurement conditions

Condizioni di misura

Settings *Impostazioni*	
Mode *Modalità*	Automatic *Automatico*
Interval (ms) *Intervallo (ms)*	60000
Duration (hh:mm:ss) *Durata (hh:mm:ss)*	00:51:05
Start time (hh:mm:ss) *Tempo di avvio (hh:mm:ss)*	03:24:37 pm

Logger protocol

Protocollo di acquisizione elenco dati

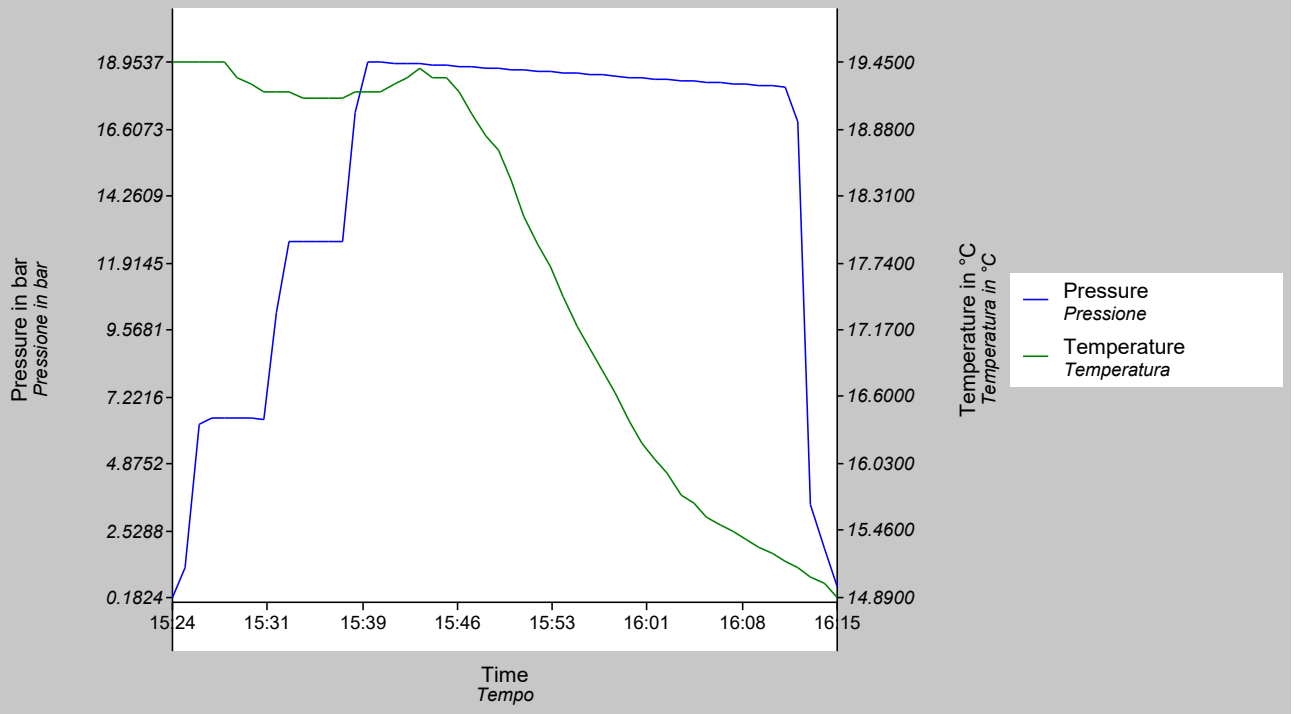
ROSETTI MARINO
Group of Companies

Log no. *N. elenco dati*	123A90-64-00-TP063

Measurement results

Risultati della misura

Graphical representation of progression
Rappresentazione grafica dell'andamento



Timestamp *Data e ora*	Measured value *Valore misurato* bar	Measured value *Valore misurato* °C
12/11/2024 15:24:37.000	0.1824	19.4500
12/11/2024 15:25:37.000	1.2073	19.4500
12/11/2024 15:26:37.000	6.2786	19.4500
12/11/2024 15:27:37.000	6.4719	19.4500
12/11/2024 15:28:37.000	6.4587	19.4500
12/11/2024 15:29:37.000	6.4489	19.3200
12/11/2024 15:30:37.000	6.4511	19.2600
12/11/2024 15:31:37.000	6.4470	19.2000
12/11/2024 15:32:37.000	10.1637	19.2000
12/11/2024 15:33:37.000	12.6856	19.2000
12/11/2024 15:34:37.000	12.6741	19.1400
12/11/2024 15:35:37.000	12.6624	19.1400
12/11/2024 15:36:37.000	12.6450	19.1400
12/11/2024 15:37:37.000	12.6385	19.1400
12/11/2024 15:38:37.000	17.1925	19.2000
12/11/2024 15:39:37.000	18.9537	19.2000
12/11/2024 15:40:37.000	18.9347	19.2000

Logger protocol

Protocollo di acquisizione elenco dati

ROSETTI MARINO
Group of Companies

Log no. *N. elenco dati*	123A90-64-00-TP063

Measurement results

Risultati della misura

Timestamp *Data e ora*	Measured value *Valore misurato* bar	Measured value *Valore misurato* °C
12/11/2024 15:41:37.000	18.9166	19.2600
12/11/2024 15:42:37.000	18.8989	19.3200
12/11/2024 15:43:37.000	18.8797	19.3900
12/11/2024 15:44:37.000	18.8574	19.3200
12/11/2024 15:45:37.000	18.8238	19.3200
12/11/2024 15:46:37.000	18.8028	19.2000
12/11/2024 15:47:37.000	18.7779	19.0100
12/11/2024 15:48:37.000	18.7588	18.8200
12/11/2024 15:49:37.000	18.7272	18.7000
12/11/2024 15:50:37.000	18.7012	18.4500
12/11/2024 15:51:37.000	18.6666	18.1400
12/11/2024 15:52:37.000	18.6410	17.8900
12/11/2024 15:53:37.000	18.6093	17.7000
12/11/2024 15:54:37.000	18.5806	17.4500
12/11/2024 15:55:37.000	18.5552	17.2000
12/11/2024 15:56:37.000	18.5254	17.0100
12/11/2024 15:57:37.000	18.4879	16.8200
12/11/2024 15:58:37.000	18.4534	16.6400
12/11/2024 15:59:37.000	18.4221	16.3900
12/11/2024 16:00:37.000	18.3927	16.2000
12/11/2024 16:01:37.000	18.3589	16.0700
12/11/2024 16:02:37.000	18.3259	15.9500
12/11/2024 16:03:37.000	18.2981	15.7600
12/11/2024 16:04:37.000	18.2716	15.7000
12/11/2024 16:05:37.000	18.2452	15.5700
12/11/2024 16:06:37.000	18.2191	15.5100
12/11/2024 16:07:37.000	18.1935	15.4500
12/11/2024 16:08:37.000	18.1659	15.3900
12/11/2024 16:09:37.000	18.1432	15.3200
12/11/2024 16:10:37.000	18.1211	15.2600
12/11/2024 16:11:37.000	18.0922	15.2000
12/11/2024 16:12:37.000	16.8586	15.1400
12/11/2024 16:13:37.000	3.4299	15.0700
12/11/2024 16:14:37.000	1.9064	15.0100
12/11/2024 16:15:37.000	0.5901	14.8900

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Centro di Taratura LAT N°114
Calibration Centre
Laboratorio Accreditato di Taratura
Accredited Calibration Laboratory

LAT N° 114

CERTIFICATO DI TARATURA LAT 114 0514-SM-24

Certificate of Calibration

- data di emissione date of issue	2024-10-31
- cliente customer	FAST AUTOMATION SRL VIA DELLA PREVIDENZA SOCIALE, 8 IT-42124 REGGIO EMILIA (RE)
- destinatario receiver	ROSETTI MARINO SPA - YARD PIOMBONI VIA DEL MARCHESATO, 37 IT-48122 MARINA DI RAVENNA (RA)

Il presente certificato di taratura è emesso in base all'accreditamento LAT N. 114 rilasciato in accordo ai decreti attuativi della legge n. 273/1991 che ha istituito il Sistema Nazionale di Taratura (SNT). ACCREDIA attesta le capacità di misura e di taratura, le competenze metrologiche del Centro e la riferibilità delle tarature eseguite ai campioni nazionali ed internazionali delle unità del Sistema Internazionale delle Unità (SI).
Questo certificato non può essere riprodotto in modo parziale, salvo espressa autorizzazione scritta da parte del Centro.

Si riferisce a
referring to

- oggetto *item*	Misuratore di pressione elettronico Electrical pressure gauge
- costruttore *manufacturer*	WIKA
- modello *model*	CPG1500
- matricola *serial number*	1A014ILNH2N
- data di ricev. oggetto *date of receipt of item*	2024-10-24
- data delle misure *date of measurements*	2024-10-31
- registro di laboratorio *laboratory reference*	0514-SM-24

This certificate of calibration is issued in compliance with the accreditation LAT No.114 granted according to decrees connected with Italian law No. 273/1991 which has established the National Calibration System. ACCREDIA attests the calibration and measurement capability, metrological competence of the Centre and the traceability of calibration results to the national and International standards of the International System of Units (SI).
This certificate may not be partially reproduced, except with the prior written permission of the issuing Centre.

I risultati di misura riportati nel presente Certificato sono stati ottenuti applicando le procedure di taratura citate alla pagina seguente, dove sono specificati anche i campioni o gli strumenti che garantiscono la catena di riferibilità del Centro e i rispettivi certificati di taratura in corso di validità. Essi si riferiscono esclusivamente all'oggetto in taratura e sono validi nel momento e nelle condizioni di taratura, salvo diversamente specificato.

The measurement results reported in this Certificate were obtained following the calibration procedures given in the following page, where the reference standards or instruments are indicated which guarantee the traceability chain of the laboratory, and the related calibration certificates in the course of validity are indicated as well. They relate only to the calibrated item and they are valid for the time and conditions of calibration, unless otherwise specified.

Le incertezze di misura dichiarate in questo documento sono state determinate conformemente alla Guida ISO/IEC 98 e al documento EA-4/02. Solitamente sono espresse come incertezza estesa ottenuta moltiplicando l'incertezza tipo per il fattore di copertura *k* corrispondente ad un livello di fiducia di circa il 95 %. Normalmente tale fattore *k* vale 2.

The measurement uncertainties stated in this document have been determined according to the ISO/IEC Guide 98 and to EA-4/02. Usually, they have been estimated as expanded uncertainty obtained multiplying the standard uncertainty by the coverage factor k corresponding to a confidence level of about 95%. Normally, this factor k is 2.

Direzione Tecnica
(Approving Officer)

Enrico Reccagni

Enrico Reccagni

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CARATTERISTICHE DELLO STRUMENTO IN TARATURA/ Properties of devices under calibration

Misuratore di pressione elettronico *Electrical pressure gauge*	
Tipo *Model*	Misuratore di pressione elettronico Electrical pressure gauge
Numero di matricola *Serial No.*	1A014ILNH2N
Campo di misura *Scale range*	(0 ... 1000) bar g
Accuratezza dichiarata dal costruttore *Accuracy declared by the manufacturer*	0,1 % FS
Risoluzione *Resolution (scale division)*	0,1 bar
Tag. N. *Tag No.*	--

Procedura di taratura e catena di riferibilità
Calibration procedure and traceability chain

La taratura è stata effettuata in accordo alla linea guida DKD-R 6-1 "Taratura di strumenti di pressione" (versione 03/2014) procedura B, per confronto fra i valori dello strumento in taratura con quelli di riferimento dati dal campione di lavoro.

Calibration was carried out according to DKD-R 6-1 "Kalibrierung von Druckmessgeräten" (Ausgabe 03/2014) procedure B, by comparing the measured values of the calibration item with those of the reference or working standard.

I risultati riportati sono stati ottenuti applicando le procedure n° LMO-PT-01 rev.2

The results have been obtained using the procedures n° LMO-PT-01 rev.2

La catena di riferibilità ha inizio dai campioni di riferimento n° PM1-09

The traceability chain starts from the reference standards n° PM1-09

muniti di certificati validi di taratura, rispettivamente n° D21090

with the relevant valid calibration certificates n° D21090

Luogo di taratura
Place of calibration

Laboratorio WIKA ITALIA - Laboratorio di Modugno (BA)
WIKA ITALY Laboratory - Modugno (BA)

Campione di lavoro
Working Standard

Norma di riferimento (RS) Bilancia di pressione *Reference standard (RS) Dead-weight tester*	
Tipo *Model*	PM1-09
Certificato di taratura *Calibration mark*	D-K-15105/D21090
Campo di misura *Scale range*	(10 ... 2500) bar g
Accuratezza *Accuracy*	0,015 % della lettura + 255 Pa

Operatore
Technichian

Francesco Donatelli

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Condizioni di misura
Measurement conditions

Schema di collegamento *Assembly*	
Fluido utilizzato	Sebacate
Pressure medium	*Sebacate*
Livello di riferimento	Superficie di tenuta DUT
Refence height (for reference value)	*Sealing face DUT*
Posizione di montaggio	verticale
Position during calibration	*vertical*

Note di taratura
Calibration Note

Lo strumento è stato tarato e riconsegnato nelle stesse condizioni in cui è arrivato nel laboratorio, in accordo con il metodo "as found as left" / The device under test (DUT) was calibrated in the same conditions it was arrived in laboratory, according to the method "as found as left".

Condizioni Ambientali
Environmental conditions

Temperatura *Temperature*	(22 ± 1,5)	°C
Pressione atmoferica *Atmospheric pressure*	(1016,6 ± 0,2)	hPa
Umidità relativa *Rel. Humidity*	(50 ± 15)	% UR

I dati meteo sono stati acquisiti tramite stazione meteo WIKA CPU6000-W s/n.1A00VCX6GJ2

Weather data were acquired via the WIKA CPU6000-W weather station s/n.1A00VCX6GJ2

Misure rilevate
Measurement results

Valore di riferimento *Reference value RS* bar	**Letture** *Reading DUT* bar		
	M1	**M2**	**M3**
0,00	0,0	0,0	0,0
99,91	99,9	100,0	99,9
199,82	199,9	199,9	199,9
299,72	299,8	299,9	299,8
399,63	399,7	399,8	399,7
499,53	499,6	499,6	499,6
599,43	599,5	599,5	599,5
699,33	699,3	699,4	699,4
799,24	799,2	799,2	799,2
899,13	899,1	899,1	899,1
999,03	999,0	999,0	999,0

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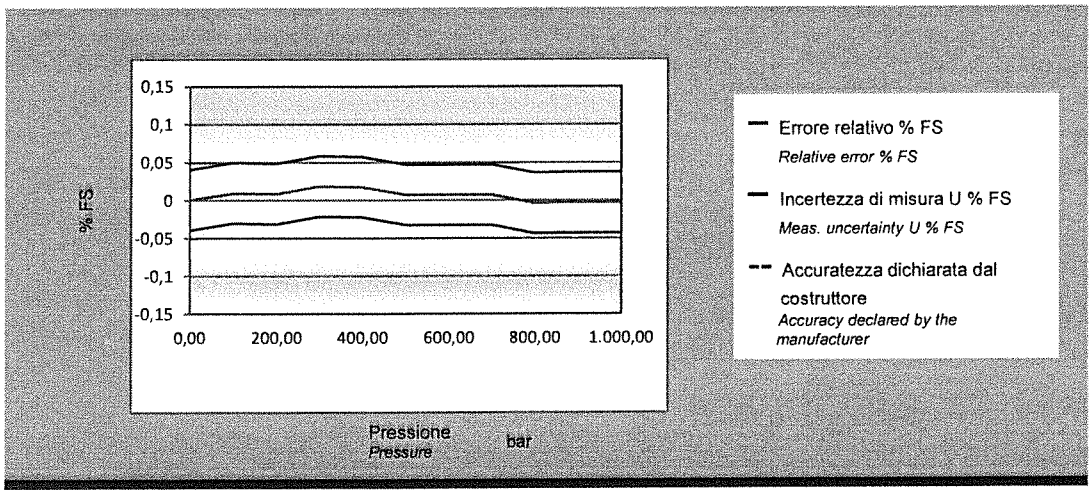
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Incertezza di misura
Uncertainty of measurement

Valori di riferimento *Reference value RS* bar	Media delle misure *Mean value* bar	Errore *Error* bar	Ripetibilità *Repeatability* bar	Isteresi *Hysteresis* bar	Incertezza di misura *Meas. Uncertainty* bar
0,00	0,0	0,0	0,0	0,0	0,40
99,91	100,0	0,1	0,0	0,1	0,40
199,82	199,9	0,1	0,0	0,0	0,40
299,72	299,9	0,2	0,0	0,1	0,40
399,63	399,8	0,2	0,0	0,1	0,40
499,53	499,6	0,1	0,0	0,0	0,40
599,43	599,5	0,1	0,0	0,0	0,40
699,33	699,4	0,1	0,1	0,1	0,40
799,24	799,2	0,0	0,0	0,0	0,40
899,13	899,1	0,0	0,0	0,0	0,40
999,03	999,0	0,0	0,0	0,0	0,40

Grafico degli errori di misura
Graphical representation of measurement uncertainty



L'incertezza estesa senza correzione del DUT è pari a 0,6 bar
The expanded uncertainty of the DUT without correction is equal to

Questo dato è ottenuto come MAX{Incertezza_di_misura$_i$ + |Errore$_i$|} della tabella precedente
This data is obatined as MAX{Meas._uncertainty$_i$ + |Error$_i$|} of the previous table

Il presente certificato non rappresenta una dichiarazione di conformità a specifica
This certificate is not a statement of compliance

Base Load Power Hub (BLPH)

TEST PACK

N°64-00-TP-063
SUB-SYSTEM N° 64-00

System	64
Sub-System	64-00
Test Pressure	18 barg
Test Fluid	WATER
Test Duration	30 min

Rev.	Date	Prepared by	Checked by
0	27/09/2024	J.Q.	L.M.

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1. COLOURED MARKED P&IDs
2. PIPING TEST 3D CIRCUIT
3. MATERIAL LIST FOR TEST
4. EXTRACT OF LINE LIST
5. ISOMETRIC RED-MARKED DRAWINGS & EXTRACT OF ISO LIST
6. EXTRACT OF SUPPORT LIST AND DETAILS
7. WELDING REGISTER & MATERIAL TRACEABILITY RECORD
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   - 8.2 CLX02B - Pipework After Test
   - 8.3 CXX01 - Thermal insulation – NOT APPLICABLE
   - 8.4 CXX02 – Painting Line
   - 8.5 TMX03 – Cleaning
   - 8.6 TMX05 – Pressure test
   - 8.7 TMX25 – Gross Air Leak Test – NOT APPLICABLE
   - 8.8 TMX27 – Bolt Tensioning / Torquing
   - 8.9 TPLX05 - Drying

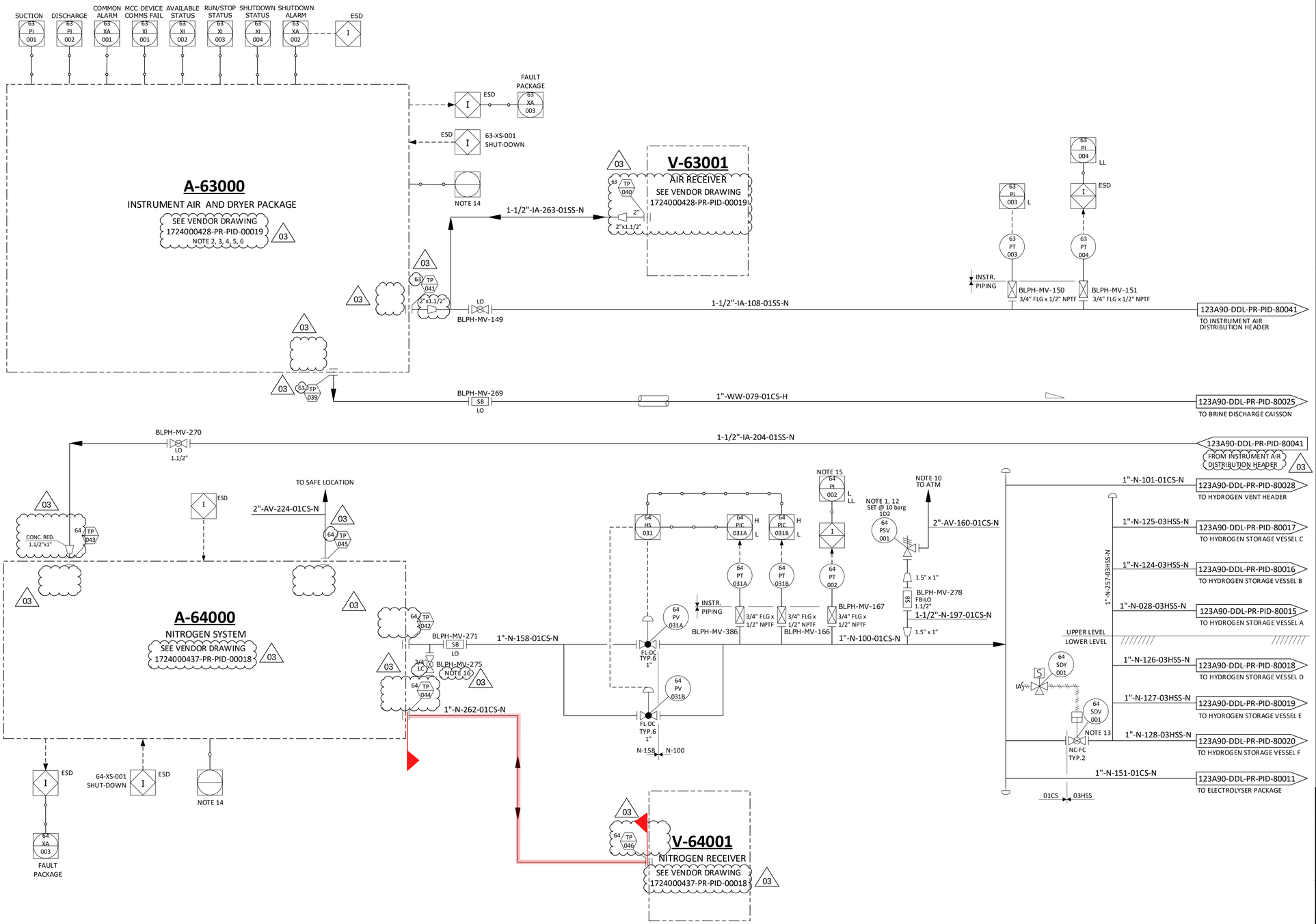
1. COLOURED MARKED P&IDs

DRAWING NO. DRAWING_NO.

REV. REV

A-63000
INSTRUMENT AIR AND DRYER PACKAGE
CAPACITY : 313 Sm³/h (PRODUCTION)

A-64000
NITROGEN GENERATION SYSTEM
CAPACITY : 52.7 Sm³/h (PRODUCTION)



NOTES

1. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
2. COMPRESSORS AND DRIERS DESIGNED FOR 2 X 100% CONFIGURATION. INSTRUMENT AIR RECEIVER DESIGNED FOR 1 X 100%.
3. VENDOR TO PROVIDE NECESSARY CONTROLS, INSTRUMENTATIONS AND ISOLATIONS IN ORDER TO OPERATE THE PLANT IN SAFE MANNER.
4. COMPRESSORS WILL OPERATE ON THE BASIS OF ONE WORKING AND ONE ON STANDBY.
5. COMPRESSORS TO BE ROTARY SCREW TYPE OIL FREE.
6. AIR COMPRESSOR INLET TO BE LOCATED AWAY FROM ANY VENTS.
7. DELETED.
8. DELETED.
9. DELETED.
10. TO SAFE LOCATION, ROUTED AWAY FROM WALKWAYS.
11. DELETED.
12. 64-PSV-001 SIZED FOR UPSTREAM 64-PV-031 CV FAILURE. (03)
13. 64-SDV-001 IS NORMALLY CLOSED. IF REQUIRED THE OPERATOR CAN REMOTELY OPEN THE VALVE TO ALLOW PURGING OPERATION. VALVE 64-SDV-001 IS ALSO CONNECTED TO THE PCS SYSTEM.
14. SERIAL COMMUNICATION WITH CONTROL SYSTEM.
15. THE ALARM 64-PAL-002 WILL CLOSE 64-SDV-001 THROUGH SAFETY SYSTEM.
16. MANUAL VALVE BLPH-MV-275 TO BE CONNECTED WITH MANUAL VALVE BLPH-MV-466 (INSTALLED ON ELECTROLYSER PACKAGE EXIT LINE) BY MEAN ON A FLEXIBLE HOSE DURING COMMISSIONING PHASE FOR PURGING OPERATION. (03)

HOLDS

1. DELETED.
2. DELETED.
3. DELETED.
4. DELETED.

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	09/09/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
02	12/06/2024	CIM	RZI	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	15/02/2024	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

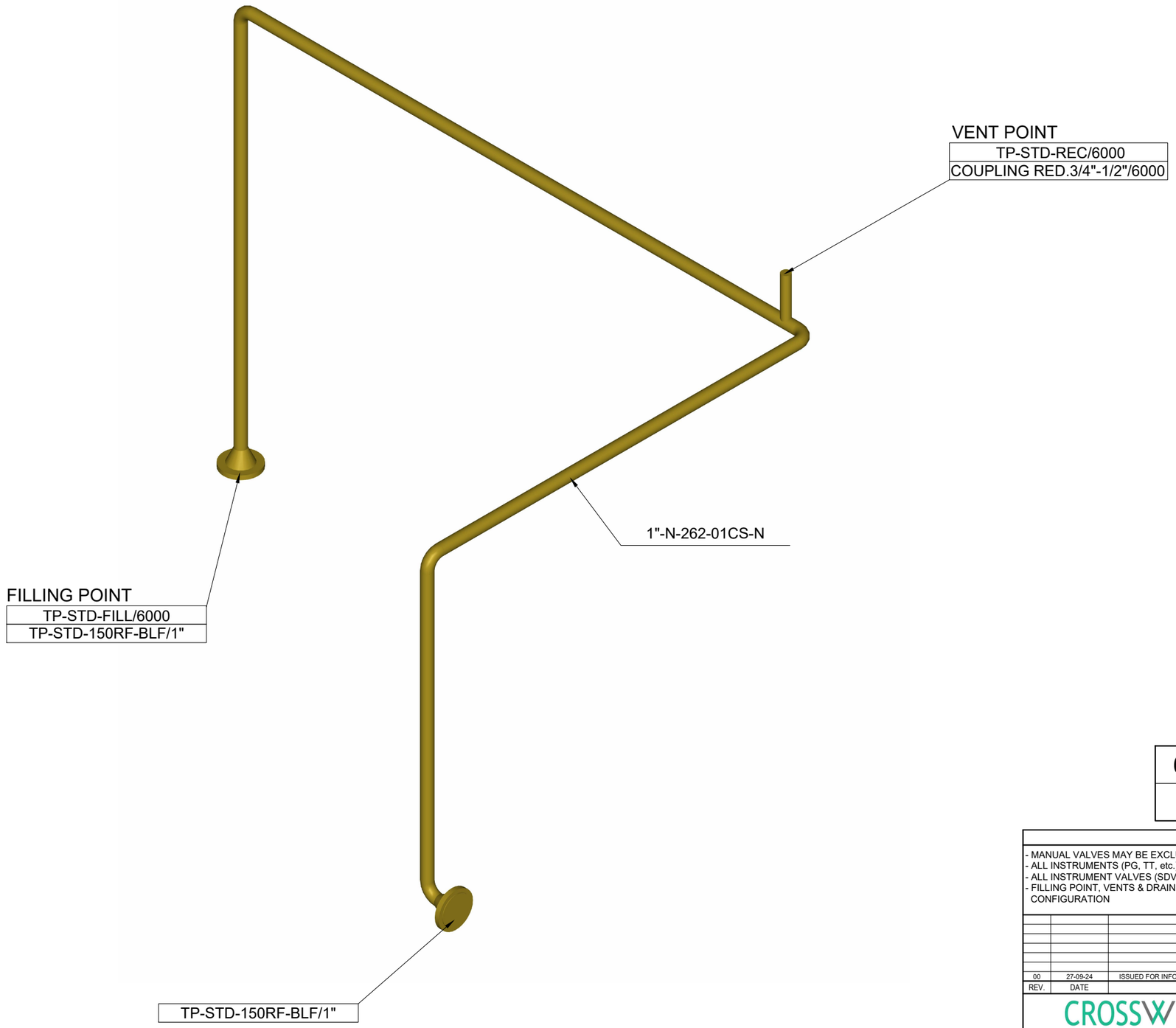
ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
INSTRUMENT AIR PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE	
A1	DRAWING NO. 123A90-DDL-PR-PID-80027		SHEET 001	REV. 03

File Name : FILE_NAME

2. HYDROSTATIC TEST 3D CIRCUIT



64-00-TP-063

18 barg

NOTES

- MANUAL VALVES MAY BE EXCLUDED FROM THE TEST
- ALL INSTRUMENTS (PG, TT, etc.) SHALL BE EXCLUDED FROM THE TEST
- ALL INSTRUMENT VALVES (SDV, PCV, etc.) SHALL BE EXCLUDED FROM THE TEST
- FILLING POINT, VENTS & DRAINS SHALL BE DEFINED ON SITE AS FOR REAL TEST CIRCUIT CONFIGURATION

REV.	DATE	DESCRIPTION	DRN	CHKD	APPD
00	27-09-24	ISSUED FOR INFORMATION	J.Q.	T.L.	L.M.

CROSSWIND

ROSETTI MARINO

HOLLANDSE KUST NOORD WIND PARK

PIPING TEST 3D CIRCUIT
64-00-TP-063

FORMAT	SCALE	DRAWING N.	REV.	SHEET
A3	NTS	N/A	00	1 OF 1

3. MATERIAL LIST FOR TEST

CROSSWIND / ROSETTI MARINO	CONTRACTOR: Rosetti Marino SpA	JOB :	123A90
	PROJECT: Base Load Power Hub (BLPH)	DATE :	20/09/2024
	TITLE: MATERIAL LIST FOR HYDROSTATIC TEST	REV. :	00

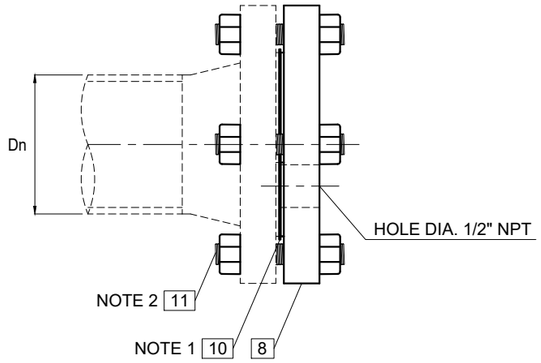
TEST REF.	TYPICAL ITEM CODE	ROSETTI CODE	ROSETTI DESCRIPTION	Q.TY X SINGLE STD	Q.TY STD X TP	Q.ty x TP	NOTES
ALL TEST	TP-STD-FILL/6000	1EQP252	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	5	1	5	
ALL TEST	TP-STD-FILL/6000	N100SS02660H00	Nipple L=100mm TBE ø1/2" Thk.4,78mm ASTM A312 Gr.TP316/316L	7	1	7	
ALL TEST	TP-STD-FILL/6000	TEEFSS00060H00	Tee THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	3	1	3	
ALL TEST	TP-STD-FILL/6000	1MECH069	Adapter THRD-M NPT x BSPP ø1/2" 400 bar ASTM A182 Gr.F316/316L	2	1	2	
ALL TEST	TP-STD-REC/6000	1EQP252	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	4	1	4	
ALL TEST	TP-STD-REC/6000	N100SS02660H00	Nipple L=100mm TBE ø1/2" Thk.4,78mm ASTM A312 Gr.TP316/316L	9	1	9	
ALL TEST	TP-STD-REC/6000	TEEFSS00060H00	Tee THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	2	1	2	
ALL TEST	TP-STD-REC/6000	CAPFSS00200H00	Cap Forged THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1	1	1	
ALL TEST	TP-STD-REC/6000	CPL0SS00240H00	Coupling THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1	1	1	
ALL TEST	TP-STD-REC/6000	E900SS00340H00	90 Deg Elbow THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1	1	1	
ALL TEST	TP-STD-PLGNPT/1/2"	PLGHSS00090H00	Plug Hex. Head THRD-M NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1	1	1	
TP-063	/	CPLRSS00233Q0H	Coupling Reducing ASME B16.11 THRD-F NPT 6000# FRG ASTM A182 Gr.F316/316L	-	-	1	
TP-063	TP-STD-150RF-BLF/1"	FLBHCS0022010H	Flange Blind c/w NPT Hole ø1"x1/2" 150LB RF ASTM/ASME A/SA105	1	2	2	
TP-063	TP-STD-150RF-BLF/1"	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ø1" 150LB RF AISI 316 + GRAPHITE c/w INNER RING	1	2	2	
TP-063	TP-STD-150RF-BLF/1"	SB20BO00980200	Stud Bolt + 2 Heavy Nuts 1/2" L=80MM ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	2	8	

STD NAME	RATING	DESCRIPTION
TP-STD-150RF	150 RF	STANDARD FOR BLIND POINT

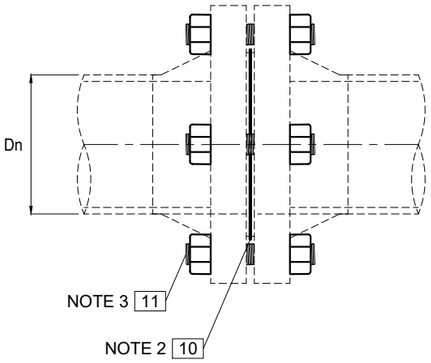
TP-STD-150RF-BLF/Dn
TP-STD-150RF-GSK/Dn

MATERIAL LIST

STD	POS.	DESCRIPTION	Q.TY
TP-STD-150RF-___/1/2"	8	Flange Blind c/w NPT Hole ø1/2"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø1/2" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=60 MM	4
TP-STD-150RF-___/3/4"	8	Flange Blind c/w NPT Hole ø3/4"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø3/4" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=65 MM	4
TP-STD-150RF-___/1"	8	Flange Blind c/w NPT Hole ø1"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø1" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=65 MM	4
TP-STD-150RF-___/1.1/4"	8	Flange Blind c/w NPT Hole ø1.1/4"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø1.1/4" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=70 MM	4
TP-STD-150RF-___/1.1/2"	8	Flange Blind c/w NPT Hole ø1.1/2"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø1.1/2" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1/2" L=70 MM	4
TP-STD-150RF-___/2"	8	Flange Blind c/w NPT Hole ø2"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø2" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 5/8" L=85 MM	4
TP-STD-150RF-___/2.1/2"	8	Flange Blind c/w NPT Hole ø2.1/2"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø2.1/2" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 5/8" L=90 MM	4
TP-STD-150RF-___/3"	8	Flange Blind c/w NPT Hole ø3"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø3" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 5/8" L=90 MM	4
TP-STD-150RF-___/4"	8	Flange Blind c/w NPT Hole ø4"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø4" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 5/8" L=90 MM	8
TP-STD-150RF-___/6"	8	Flange Blind c/w NPT Hole ø6"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø6" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 3/4" L=105 MM	8
TP-STD-150RF-___/8"	8	Flange Blind c/w NPT Hole ø8"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø8" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 3/4" L=110 MM	8
TP-STD-150RF-___/10"	8	Flange Blind c/w NPT Hole ø10"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø10" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 7/8" L=120 MM	12
TP-STD-150RF-___/12"	8	Flange Blind c/w NPT Hole ø12"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø12" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 7/8" L=125 MM	12
TP-STD-150RF-___/14"	8	Flange Blind c/w NPT Hole ø14"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø14" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1" L=135 MM	12
TP-STD-150RF-___/16"	8	Flange Blind c/w NPT Hole ø16"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø16" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1" L=140 MM	16
TP-STD-150RF-___/18"	8	Flange Blind c/w NPT Hole ø18"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø18" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1.1/8" L=150 MM	16
TP-STD-150RF-___/20"	8	Flange Blind c/w NPT Hole ø20"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø20" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1.1/8" L=160 MM	20
TP-STD-150RF-___/24"	8	Flange Blind c/w NPT Hole ø24"x1/2" 150LB RF ASTM/ASME A/SA105	1
	10	Gasket ø24" 150LB RF	1
	11	Stud Bolt + 2 Heavy Nuts 1.1/4" L=175 MM	20



TP-STD-150RF-BLF/Dn
BLIND FLANGE



TP-STD-150RF-GSK/Dn
GASKET ONLY

NOTES

1. GASKET MATERIAL AS PER PIPING CLASS
2. STUD BOLTS AND NUTS MATERIAL AS PER TEST MTO

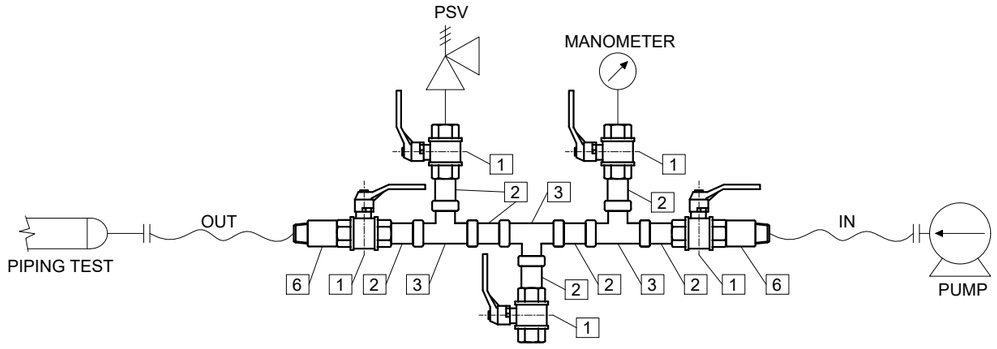
REV.	DATE	DESCRIPTION	DRN	CHKD	APPD
00	06-09-24	ISSUED FOR INFORMATION	J.Q.	T.L.	L.M.

ROSETTI MARINO

PIPING TEST STANDARD DRAWING
TP-STD-150RF
TP-STD-150RF-BLF/Dn
TP-STD-150RF-GSK/Dn

FORMAT	SCALE	DRAWING N.	REV.	SHEET
A3	NTS	TP_STD_150RF	00	1 OF 1

STD NAME	RATING	DESCRIPTION
TP-STD-FILL	3000 / 6000 / 9000	STANDARD FOR FILLING POINT
TP-STD-FILL/RATING		



TP-STD-FILL/RATING

FILLING POINT 3000/6000/9000

MATERIAL LIST

STD	POS.	DESCRIPTION	Q.TY
TP-STD-FILL/3000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	5
	2	Nipple L=100mm TBE ø1/2" Thk.3.73mm ASTM A312 Gr.TP316/316L	7
	3	Tee Forged THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	3
	6	Adapter THRD-M NPT x BSPP ø1/2" 400 bar ASTM A182 Gr.F316/316L	2
TP-STD-FILL/6000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	5
	2	Nipple L=100mm TBE ø1/2" Thk.4,78mm ASTM A312 Gr.TP316/316L	7
	3	Tee THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	3
	6	Adapter THRD-M NPT x BSPP ø1/2" 400 bar ASTM A182 Gr.F316/316L	2
TP-STD-FILL/9000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	5
	2	Nipple L=100mm TBE ø1/2" Thk.7,47mm ASTM A312 Gr.TP316/316L	7
	3	Tee Forged THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	3
	6	Adapter THRD-M NPT x BSPP ø1/2" 523 bar 304SS	2

NOTES

REV.	DATE	DESCRIPTION	DRN	CHKD	APPD
00	06-09-24	ISSUED FOR INFORMATION	J.Q.	T.L.	L.M.

ROSETTI MARINO

PIPING TEST STANDARD DRAWING

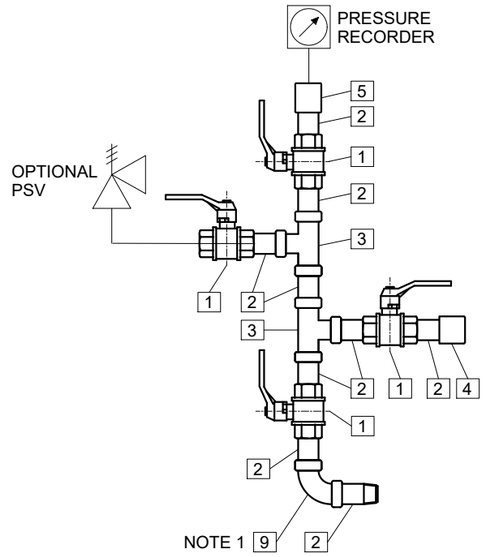
TP-STD-FILL

TP-STD-FILL/RATING

FORMAT	SCALE	DRAWING N.	REV.	SHEET
A3	NTS	TP_STD_FILL	00	1 OF 1

STD NAME	RATING	DESCRIPTION
TP-STD-REC	3000 / 6000 / 9000	STANDARD FOR RECORDING POINT

TP-STD-REC/RATING



TP-STD-REC/RATING
RECORDING POINT 3000/6000/9000

MATERIAL LIST

STD	POS.	DESCRIPTION	Q.TY
TP-STD-REC/3000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	4
	2	Nipple L=100mm TBE ø1/2" Thk.3.73mm ASTM A312 Gr.TP316/316L	9
	3	Tee Forged THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	2
	4	Cap Forged THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	1
	5	Coupling THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	1
	9	90 Deg Elbow THRD-F NPT ø1/2" 3000# ASTM A182 Gr.F316/316L	1
TP-STD-REC/6000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	4
	2	Nipple L=100mm TBE ø1/2" Thk.4,78mm ASTM A312 Gr.TP316/316L	9
	3	Tee THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	2
	4	Cap Forged THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1
	5	Coupling THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1
	9	90 Deg Elbow THRD-F NPT ø1/2" 6000# ASTM A182 Gr.F316/316L	1
TP-STD-REC/9000	1	Ball Valve THRD-F NPT ø1/2" 7250 psi 316L	4
	2	Nipple L=100mm TBE ø1/2" Thk.7,47mm ASTM A312 Gr.TP316/316L	9
	3	Tee Forged THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	2
	4	Cap Forged THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	1
	5	Coupling THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	1
	9	90 Deg Elbow THRD-F NPT ø1/2" 9000# ASTM A182 Gr.F316/316L	1

NOTES

1. 90 DEG ELBOW SHALL BE INSTALLED WHERE APPLICABLE ONLY

REV.	DATE	DESCRIPTION	DRN	CHKD	APPD
00	06-09-24	ISSUED FOR INFORMATION	J.Q.	T.L.	L.M.

ROSETTI MARINO

PIPING TEST STANDARD DRAWING
TP-STD-REC
TP-STD-REC/RATING

FORMAT	SCALE	DRAWING N.	REV.	SHEET
A3	NTS	TP_STD_REC	00	1 OF 1

4. EXTRACT OF LINE LIST

Isometric N°	Short Line N°	Sequential Number	Size [in]	Piping Class	Insulation Type	Pipe Wall Thicknes [mm]	Pipe Schedule	Tracing	Line Number	PID Number	Design Pressure [barg]	Commissioning System Code	Commissioning SubSystem Code	Test Pack N°	Test Fluid	Test Pressure [barg]	Fluid Service	Class Base Material	Line INF/SUP/TL	Ped Category	Painting System	Line Base Ral
126	N-262	262	1	01CS	N	4,55	80	N/A	1"-N-262-01CS-N	123A90-DDL-PR-PID-80027	12,00	64	64-00	TP-063	Water	18.00	Nitrogen Gas	Carbon Steel	INF	Art. 4, par. 3	1	RAL 9002

5. ISOMETRIC RED MARKED DRAWING & EXTRACT OF ISO LIST

CROSSWIND

ROSETTI MARINO

PROJECT

BASE LOAD POWER HUB (BLPH)

JOB **123A90**

DOCUMENT NR **123A90-FDL-ST-LIS-00001**

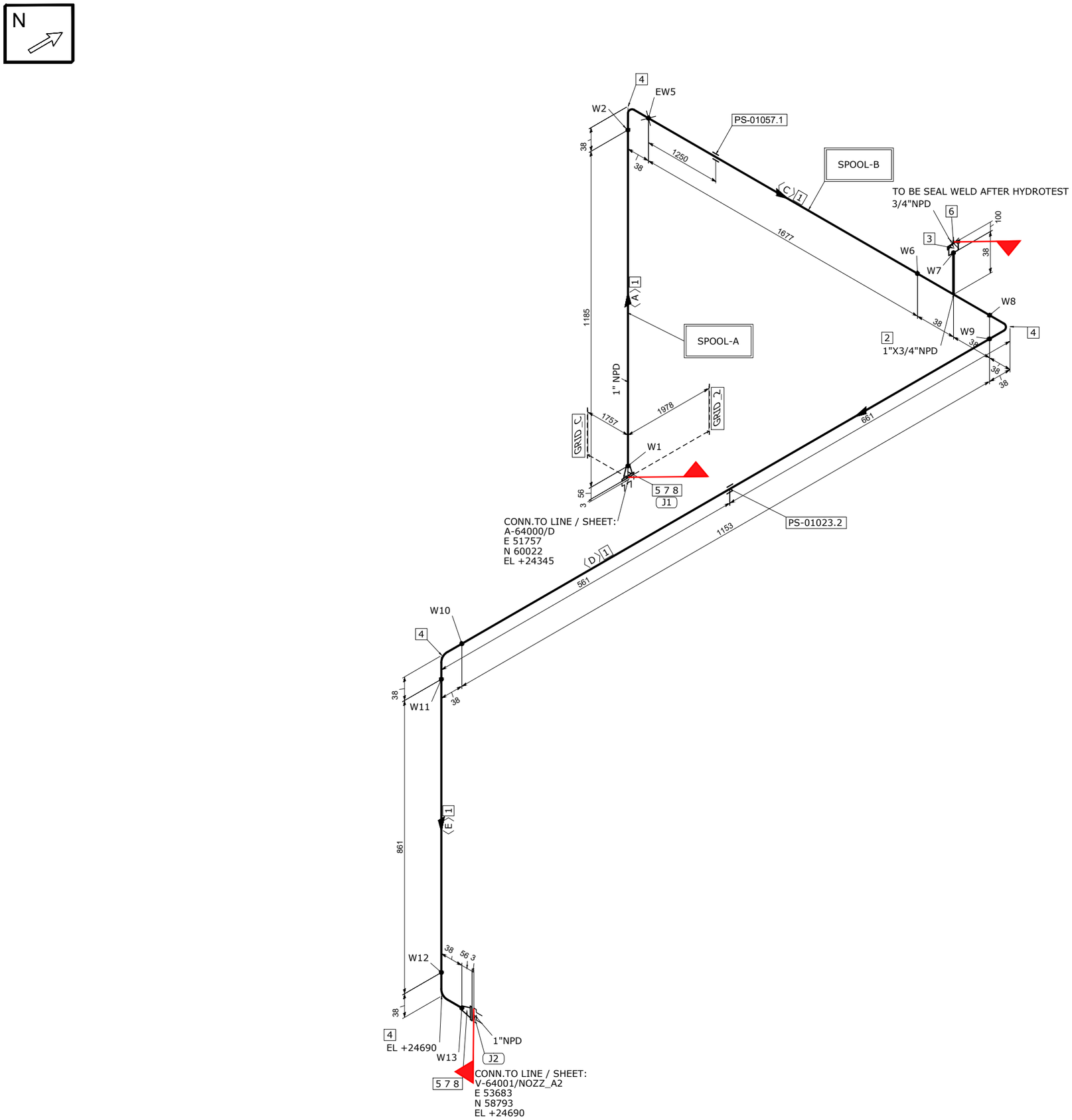
REV. **05**

TITLE

SHOP DRAWING ISOMETRIC LIST

DATE **17/09/2024**

POS.	DOCUMENT NR	ROSETTI SKETCH NR	SHEET	DOCUMENT TITLE	Rev. 00	Rev. 01	Rev. 02	Rev. 03	Rev. 04	Rev. 05	Rev. 06	Rev. 07	Rev. 08	Rev. 09	Rev. 10	Mark-up Rev.	Mark-up Data	LAST REV	LIST REV	NOTES	TEST PACK NR
161	123A90-FDL-PP-DI-00126-01	**126**	01	SHOP DRAWING ISOMETRIC - LINE NR 1"-N-262-01CS-N	27/08/2024													**00**	**03**		**TP-063**



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1	PIPECS08300100	Pipe ASME B36.10M PE 4,55 SML ASTM/ASME A/SA333 Gr.6	4.9M	15.8
2	1X3/4	TER0CS2607013Q	Tee Reducing ASME B16.9 BW 4,55x3,91 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.5
3	3/4	N100CS05453Q00	Nipple L=100mm ASME B36.10M THRD-M NPT x PE 3,91 SML ASTM/ASME A/SA333 Gr.6	1	0.2
4	1	E90RCS01780100	90 Deg Elbow Long Radius ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	4	0.7
5	1	FLW0CS16540100	Flange WN ASME B16.5 150LB RF 4,55 FRG ASTM/ASME A/SA350 Gr.LF2	2	2.8

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
6	3/4	CAPFCS00673Q00	Cap Forged ASME B16.11 THRD-F NPT 3000# FRG ASTM/ASME A/SA350 Gr.LF2	1	0.2
7	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
8	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	8	1.0

FABRICATION WEIGHT [kg]	20.0
ERECTION WEIGHT [kg]	1.3
OVERALL WEIGHT [kg]	21.3

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1	BW
W2	1	BW
EW5	1	BW
W6	1	BW
W7	3/4	BW
W8	1	BW
W9	1	BW
W10	1	BW
W11	1	BW
W12	1	BW
W13	1	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1	1185	BEVEL	BEVEL
C	1	1677	BEVEL	BEVEL
D	1	1153	BEVEL	BEVEL
E	1	861	BEVEL	BEVEL

SUPPORT LIST

PS-01023.2
PS-01057.1

SPOOL	WELD [inches]	WEIGHT [kg]
A	2	5.4
B	7.75	11.0
MONT	1	1.3

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	27-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1"-N-262-01CS-N

SK.126

CONTRACT NO./ TITLE: CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE: N/A

DRAWN: STAFF SRL | CHECKED: RT | APPROVED: LM | DATE: 27-08-2024

FORMAT: A3 | DRAWING NO.: 123A90-FDL-PP-DI-00126 | SHEET / OF: 1/1 | REV.: 00

64-00-TP-063

MASTER

LINE DATA

NDT INSPECTION CATEGORY	2		PED CATEGORY	Art. 4, par. 3					
PAINTING	SYSTEM 1	BASE RAL RAL-9002	FLUID PHASE	Gas					
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 12	[barg]	TEMP. -46 / 100	[°C]		
HEAT TRACING	N/A		TEST	PRESS. 18	[barg]	TEMP. AMB	MEDIUM	Water	

REFERENCE DOCUMENTS

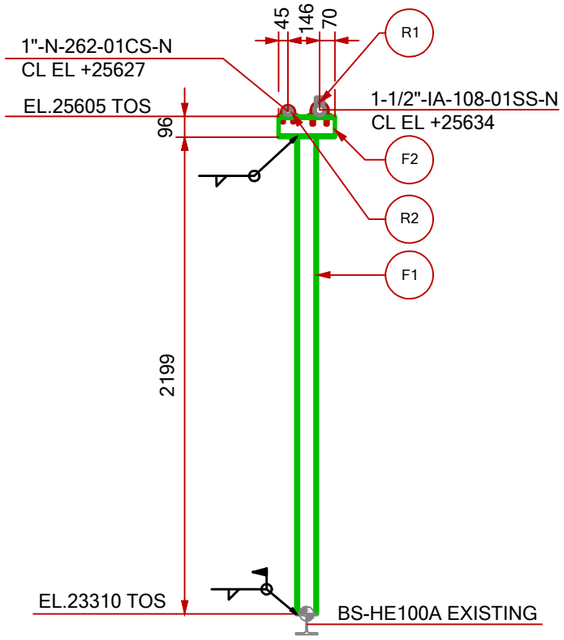
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ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

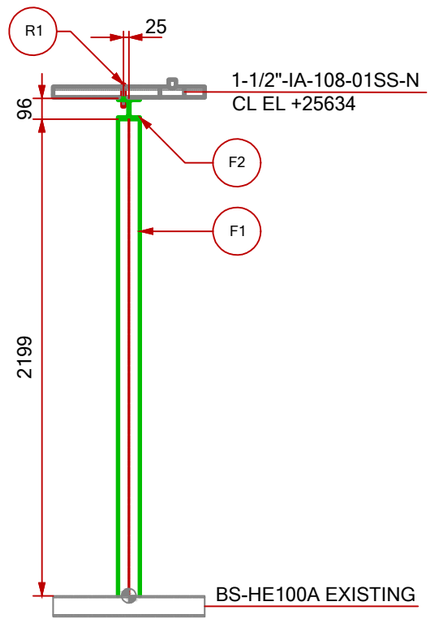
6. EXTRACT OF SUPPORT LIST & DETAILS

SUPPORT LIST

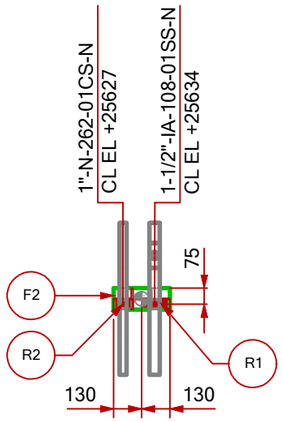
SUPPORT	SUFFIX	SERVICE	DECK IDENTIFICATION	SUB ASSEMBLY	LINE	SUPPORTS STANDARD	NDT CATEGORY	QUANTITY	TOT. WEIGTH (KG)	PAINTING SURFACE (SQM)	REV	DATE	STATUS	NOTES	Test Pack N°
PS-01023	B2	PIP	LOWER DECK		1"-N-262-01CS-N	S-211 - 1"		1	0,286	0,000	00	19/08/2024	IFR		TP-063
PS-01057	B1	PIP	LOWER DECK		1"-N-262-01CS-N	S-211 - 1"		1	0,286	0,000	00	19/08/2024	IFR		TP-063



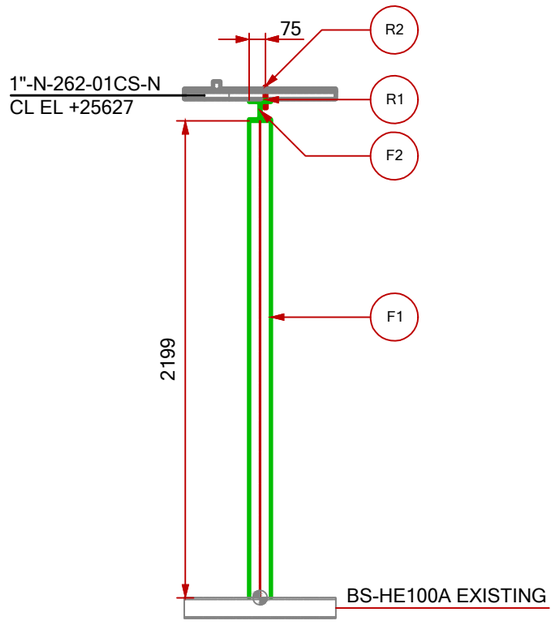
VIEW LOOKING NORTH



VIEW LOOKING WEST



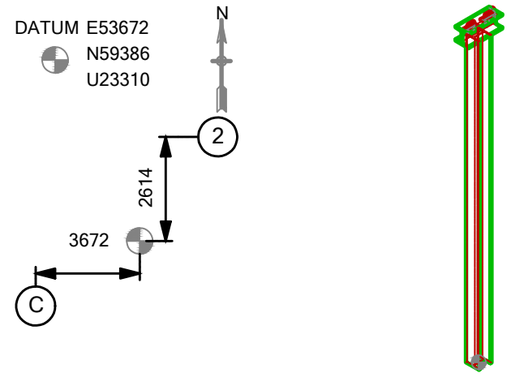
PLAN VIEW



VIEW LOOKING EAST

SUPPORT MATERIAL LIST

POS.	TYPE	DESCRIPTION	MATERIAL	LENGHT (mm)	Q.TY (n°)	UNIT WEIGHT (Kg/mt)	TOTAL WEIGHT (Kg)	PAINT SURF. (m2)
R1	STD	S-211-1 1/2"	-	-	1	-	0.49	-
R2	STD	S-211-1"	-	-	1	-	0.29	-
F1	BEAM	HEA100	Carbon Steel	2199	1	16.76	36.86	1.238
F2	BEAM	HEA100	Carbon Steel	260	1	16.76	4.36	0.150
						TOTAL	42.0	1.39



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	19/08/24	MMA	SLO	DLO	ISSUE FOR REVIEW

CROSSWIND

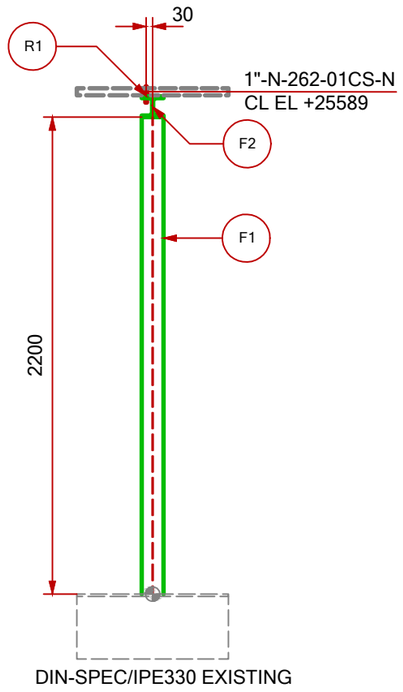
ROSETTI MARINO

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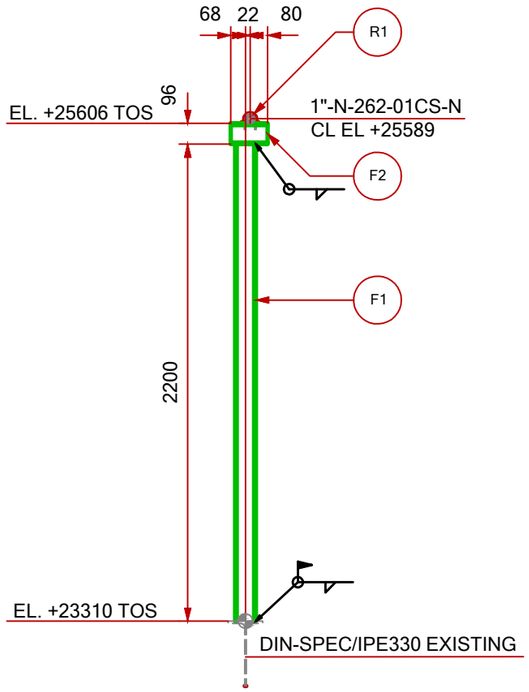
BASE LOAD POWER HUB (BLPH)
Support Drawings
PS-01023

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	1 : 20
DRAWN	CHECKED / APPROVED	DATE	19/08/24
DRAWING NO.	123A90-DDL-PP-DD-72000	SHEET	1 of 1
		REV.	00

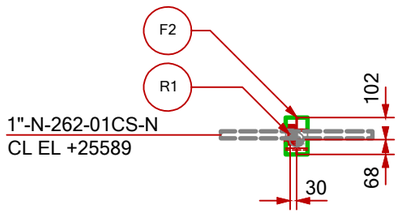
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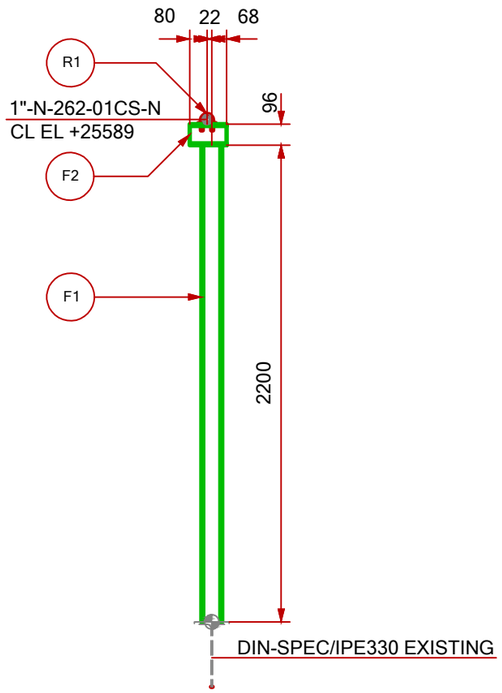
VIEW LOOKING NORTH



VIEW LOOKING WEST



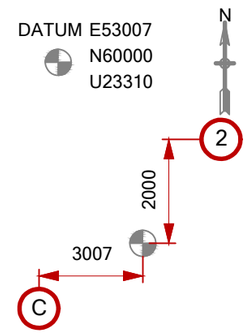
PLAN VIEW



VIEW LOOKING EAST

SUPPORT MATERIAL LIST

POS.	TYPE	DESCRIPTION	MATERIAL	LENGHT (mm)	Q.TY (n°)	UNIT WEIGHT (Kg/mt)	TOTAL WEIGHT (Kg)	PAINT SURF. (m2)
R1	STD	S-211-1"	-	-	1	-	0.29	-
F1	BEAM	HEA100	Carbon Steel	2200	1	16.76	36.87	1.238
F2	BEAM	HEA100	Carbon Steel	170	1	16.76	2.84	0.099
						TOTAL	40.0	1.34





REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	19/08/24	MMA	SLO	DLO	ISSUE FOR REVIEW

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
Support Drawings
PS-01057

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1 : 20
DRAWN	CHECKED	APPROVED	DATE 19/08/24
DRAWING NO. 123A90-DDL-PP-DD-72000			SHEET 1 of 1 / REV. 00

File Name :

ROSETTI MARINO

STANDARD SPECIFICATION
PIPE SUPPORT DETAIL STANDARD

Document Number: STD–PP–DD–0001

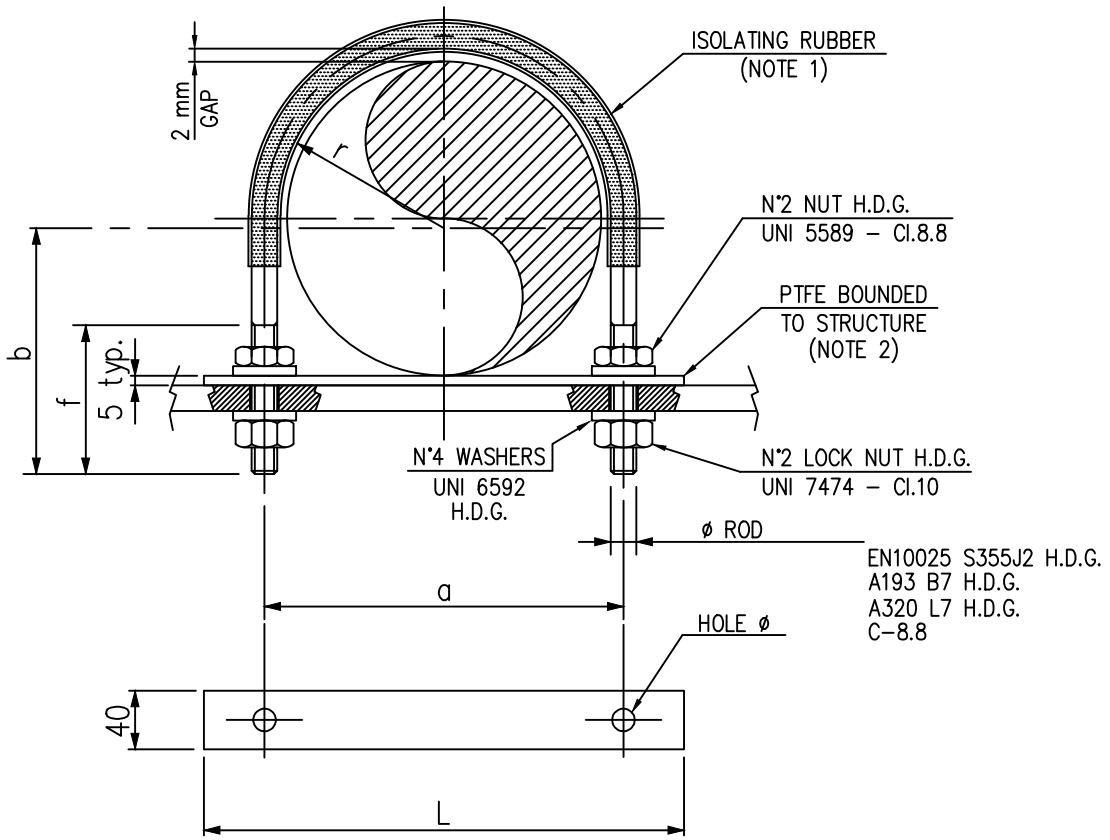
Revision: 0

Date: –

CAVALLOTTI GALVANIZZATI DI GUIDA PER TUBAZIONI IN C.S S.S. E ALLOY
GALVANIZED U–BOLTS GUIDE FOR C.S. S.S. AND ALLOY PIPES (NON GRIP)

S–211

Example of designation : STD – PIPE ND"
(S–211 – 10")



SIZE ND	ROD DIA	r	a	b	f	L	HOLE ø	DEV	DEV. RUBBER	WEIGHT Kg
½"	M8	14	36	55	52	65	10	167	62	0.16
3/4"	M8	17	42	55	52	70	10	176	75	0.16
1"	M8	20	48	60	55	80	10	196	90	0.18
1½"	M10	27	64	70	65	100	12	240	120	0.32
2"	M10	33	76	80	70	110	12	280	150	0.35
3"	M12	48	108	100	80	150	14	370	210	0.60
4"	M12	60	132	110	80	180	14	430	260	0.67
6"	M16	87	190	150	100	250	18	600	380	1.39
8"	M16	113	242	170	100	300	18	720	500	1.60
10"	M16	140	296	200	100	350	18	865	650	1.86
12"	M20	165	350	240	120	420	22	1030	750	3.31
14"	M20	181	382	260	120	450	22	1120	840	3.55
16"	M24	207	438	290	130	520	26	1270	1000	5.76
18"	M24	232	488	320	130	570	26	1410	1100	6.28
20"	M30	257	544	360	160	640	32	1570	1200	11.02
24"	M30	308	646	410	160	750	32	1830	1450	12.52

NOTES:

1) HEAT SHRINK TUBE TYPE FLAME RETARDANT, WITH RATIO 2:1
2) MULTIPLE SHEETS OF PTFE CAN BE ADDED IN ORDER TO ENSURE THE CORRECT ELEVATION AND SLOPE OF THE LINES.

Revision Number	Date	Description	DRAW	CHKD.	APPR.
00	–	ISSUED FOR REVIEW	SLO	GMA	MCO

Documento di proprietà aziendale.La Società tutelerà i propri diritti a termine di legge.This document is Company property. The Company lawfulliy reserves all rights.

7. WELDING REGISTER & MATERIAL TRACEABILITY RECORD

Rosetti Marino S.p.A.

Welding Register

Job	123A90	BASE LOAD POWER HUB (BLPH)			
From Discipline	PP	Piping			
To Discipline	PP	Piping			
Drawings		**From**	126	**To**	126
Sheet		**From**	0	**To**	0
Marks		**From**		**To**	
Location		**From**		**To**	
Material		**From**		**To**	
Welds Execution		**From**		**To**	
Welds Acceptance		**From**		**To**	
Report Date		**From**		**To**	
Prefabrication	All				
Welding Status	All				
ITEM					
ADDITIONAL PARAMETERS	**LINE**	**From**		**To**	
	SPOOL	**From**		**To**	
		From		**To**	

Rosetti Marino S.p.A.

Welding Register

Job 123A90 BASE LOAD POWER HUB (BLPH)
Client CRWIND CROSSWIND
Discipline PP Piping

Order Number CW-I-WP4-2023-05
ITEM

Weld Number / Class	Insp. Category	Rev. / Cont.	Prod. Date / Examination phase	Prod. Sheet	Welders	Work Instructions	Oper.	Item type / Exam. %	N. Rep	Dimension / Films n.	Thickness	Bevel / Result	Weld Length / WPS Rip.	P/M / Techn. Weld.	Material / Defect length	WPS / CND date	Techn. Weld.	Type Conn / NOTE	Accept. Date	Spool
1/126/1/_		**01**	**26-09-2024**	**17**	**AZ53**			**FWN**		**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**28-09-2024**	**A**
01CS	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK			Acceptable				28-09-2024				
		RT	FIN	Weld Completion				10 %				Acceptable								
2/126/1/_		**01**	**26-09-2024**	**17**	**AZ53**			**PIPE**		**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**28-09-2024**	**A**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK			Acceptable				28-09-2024				
		RT	FIN	Weld Completion				10 %				Acceptable								
5/126/1/_		**01**	**09-12-2024**	**72**	**AX416**			**ELB**		**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**M**	**C.S.**	**A1A**	**GTAW**	**BW**	**11-12-2024**	
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	ACRISPINO	100 %	OK			Acceptable				11-12-2024				
		RT	FIN	Weld Completion				10 %				Acceptable								
6/126/1/_		**01**	**14-11-2024**	**28**	**AZ 32**			**PIPE**		**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**15-11-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK			Acceptable				15-11-2024				
		RT	FIN	Weld Completion				10 %				Acceptable								
7/126/1/_		**01**	**14-11-2024**	**28**	**AZ 32**			**TEE**		**0,75 in**	**3,91 mm**	**V**	**0,083 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**15-11-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK			Acceptable				15-11-2024				
		RT	FIN	Weld Completion				10 %				Acceptable								
8/126/1/_		**01**	**15-11-2024**	**29**	**AZ 32**			**TEE**		**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**18-11-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK			Acceptable				18-11-2024				
		RT	FIN	Weld Completion				10 %				Acceptable								
9/126/1/_		**01**	**14-11-2024**	**28**	**AZ 32**			**ELB**		**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**15-11-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK			Acceptable				15-11-2024				
		RT	FIN	Weld Completion				10 %				Acceptable								
10/126/1/_		**01**	**14-11-2024**	**28**	**AZ 32**			**PIPE**		**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**15-11-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK			Acceptable				15-11-2024				
		RT	FIN	Weld Completion				10 %				Acceptable								
11/126/1/_		**01**	**14-11-2024**	**28**	**AZ 32**			**ELB**		**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**15-11-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK			Acceptable				15-11-2024				
		RT	FIN	Weld Completion				10 %				Acceptable								

Rosetti Marino S.p.A.

Welding Register

Job 123A90 BASE LOAD POWER HUB (BLPH)
Client CRWIND CROSSWIND
Discipline PP Piping

Order Number CW-I-WP4-2023-05
ITEM

Weld Number / Class	Insp. Category	Rev. / Cont.	Prod. Date / Examination phase	Prod. Sheet	Welders	Work Instructions	Oper.	Item type / Exam. %	Dimension / N. Rep	Thickness / Films n.	Bevel / Result	Weld Length / WPS Rip.	P/M / Techn. Weld.	Material / Defect length	WPS / CND date	Techn. Weld. / NOTE	Type Conn.	Accept. Date	Spool
11/126/1/_		**01**	**14-11-2024**	**28**	**AZ 32**			**ELB**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**15-11-2024**	**B**
12/126/1/_		**01**	**14-11-2024**	**28**	**AZ 32**			**PIPE**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**15-11-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					15-11-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								
13/126/1/_		**01**	**14-11-2024**	**28**	**AZ 32**			**ELB**	**1,00 in**	**4,55 mm**	**V**	**0,104 m**	**P**	**C.S.**	**A1A**	**GTAW**	**BW**	**15-11-2024**	**B**
	2	VIS	FTP	FIT-UP and on weld		123A90-PML-QHSE-PRO-00103 Rev 00	SSANTUCCI	100 %	OK		Acceptable					15-11-2024			
		RT	FIN	Weld Completion				10 %			Acceptable								

Totals per DWG	**126**	**Prefabrication**	**0,98 m**	**10 Nr. Welds**	**9,75 inch**
		Erection	**0,10 m**	**1 Nr. Welds**	**1,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**1,08 m**	**11 Nr. Welds**	**10,75 inch**
		Accepted	**1,08 m**	**11 Nr. Welds**	**10,75 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
Totals by Discipline		**Prefabrication**	**0,98 m**	**10 Nr. Welds**	**9,75 inch**
		Erection	**0,10 m**	**1 Nr. Welds**	**1,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**1,08 m**	**11 Nr. Welds**	**10,75 inch**
		Accepted	**1,08 m**	**11 Nr. Welds**	**10,75 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
Totals by Project		**Prefabrication**	**0,98 m**	**10 Nr. Welds**	**9,75 inch**
		Erection	**0,10 m**	**1 Nr. Welds**	**1,00 inch**
		Offshore	**0,00 m**	**0 Nr. Welds**	**0,00 inch**
		Performed	**1,08 m**	**11 Nr. Welds**	**10,75 inch**
		Accepted	**1,08 m**	**11 Nr. Welds**	**10,75 inch**
		Repaired	**0,00 m**	**0 Nr. Welds**	**0,00 inch**

Cliente/Contractor	**CROSSWIND**	Preparato da/Prepared by	Controllato da/Checked by	Approvato da/Approved by	
SubContrattista/SubContractor	**ROSETTIMARINO/GROUPOFCOMPANY**	Nome/Name: Antonio Galesi	Nome/Name:	Nome/Name:	
Progetto/Project	**Hollandse Kust Noord Wind Park Project**				
Commessa/Job	**123A90 - Piping**				
Disciplina/Discipline	**PIPING**				
TitoloDocumento/DocumentTitle	**Material Traceability Report**	StatoDocumento/Document Status:		Data/Date: 12/12/2024	
RosettiDoc.Num.	**123A90MTR001**				

Sketch no.	Rev.	sheet	Spool	Piping Class	pos.	Q.ty (n° - m)	Description	Heat/Serial Number	PurchaseOrder	Pos. Order	Mat. Certificate	Weld Ref.	Note
126	00	1	A	01CS	4	1	90 Deg Elbow Long Radius BW ›1" Thk.4,55mm ASTM/ASME A/SA420 Gr.WPL6	402212	1724000839	00690	4527-P4	W2	
126	00	1	A	01CS	5	1	Flange WN ›1" Thk.4.55mm 150LB RF ASTM/ASME A/SA350 Gr.LF2	23/70335	1724000839	01220	2024-C_MFF-01243	W1	
126	00	1	A	01CS	1A	1,185	Pipe 33,4mm(1") thk.4.55mm ASTM/ASME A/SA333 Gr.6	1234196	1724000838	00050	24A2938		
126	00	1	B	01CS	2	1	Tee Reducing BW ›1"x3/4" Thk.4.55mmx3.91mm ASTM/ASME A/SA420 Gr.WPL6	02-J6L8102	1724000839	00800	4527-P15	W6-W7-W8	
126	00	1	B	01CS	3	1	Nipple L=100mm TOE ›3/4" Thk.3,91mm ASTM/ASME A/SA333 Gr.6	SU1	1724001267	00240	003595	W7	
126	00	1	B	01CS	4	1	90 Deg Elbow Long Radius BW ›1" Thk.4,55mm ASTM/ASME A/SA420 Gr.WPL6	402212	1724000839	00690	4527-P4	W8-W9	
126	00	1	B	01CS	4	1	90 Deg Elbow Long Radius BW ›1" Thk.4,55mm ASTM/ASME A/SA420 Gr.WPL6	402212	1724000839	00690	4527-P4	W10-W11	
126	00	1	B	01CS	4	1	90 Deg Elbow Long Radius BW ›1" Thk.4,55mm ASTM/ASME A/SA420 Gr.WPL6	402212	1724000839	00690	4527-P4	W12-W13	
126	00	1	B	01CS	5	1	Flange WN ›1" Thk.4.55mm 150LB RF ASTM/ASME A/SA350 Gr.LF2	23/70335	1724000839	01220	2024-C_MFF-01243	W13	
126	00	1	B	01CS	1C	1,677	Pipe 33,4mm(1") thk.4.55mm ASTM/ASME A/SA333 Gr.6	1234196	1724000838	00050	24A2938		
126	00	1	B	01CS	1D	1,153	Pipe 33,4mm(1") thk.4.55mm ASTM/ASME A/SA333 Gr.6	1234196	1724000838	00050	24A2938		
126	00	1	B	01CS	1E	0,861	Pipe 33,4mm(1") thk.4.55mm ASTM/ASME A/SA333 Gr.6	1234196	1724000838	00050	24A2938		

8. PIPING & VESSEL PRE-COMMISSIONING CONFORMITY CHECKS & TESTS:

8.1 CLX02A - Pipework Before test

8.2 CLX02B - Pipework After Test

8.3 CXX01 - Thermal insulation - NOT APPLICABLE

8.4 CXX02 – Painting Line

8.5 TMX03 – Cleaning

8.6 TMX05 – Pressure test

8.7 TMX25 – Gross Air Leak Test - NOT APPLICABLE

8.8 TMX27 – Bolt Tensioning / Torquing

8.9 TPLX05 - Drying

ITEM	Tag	64-00-TP-063	: Test Pack 64-00-TP-063			Dwg	123A90-DDL-PR-PID-80027
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10003696		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity STS	Discipline	Piping	Form	TPLX05 Drying

1	Drying out method :	Drying with dry air.
2	Operation description :	"Dry the system using a flow of dry air, ensuring all drains are open to facilitate the removal of moisture. The drying process shall be monitored closely to ensure complete moisture removal. After drying, isolate and close the inlet and outlet points."
3	Temporary means :	Cups to isolate inlet and outlet points.
4	Dew point (obtain after soaking and nitrogen purging):	NA

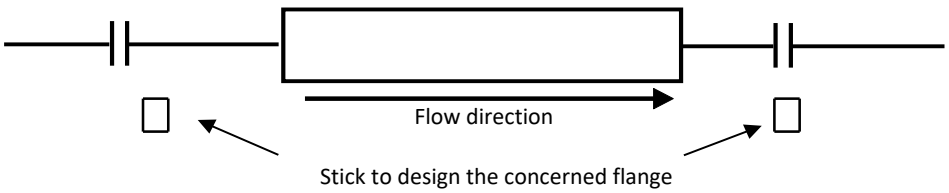
5	Valve body cavity, branches, etc.. Have been drained form residual water	●
	Attachments	
6	Procedures	
7	Sketches and drawings	
8	Pressure records	
9	Records of failures	
10	SAFETY PRECAUTIONS:	Restricting access to the area.
11	REMARKS:	

Page 1/1	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2024-12-11	2024-12-13	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2024-12-11T08:50:14.251Z	PROVERLIS Digitaly signed by Massimo Bruschi 2024-12-13T13:06:48.440Z	

ITEM	Tag	066-1-J1	: Joint 066-1-J1			Dwg	123A90-FDL-PP-DI-00066-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004125		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27		Bolt tensioning / torquing

Test Pack N.: TP-029

EQUIPMENT TAG



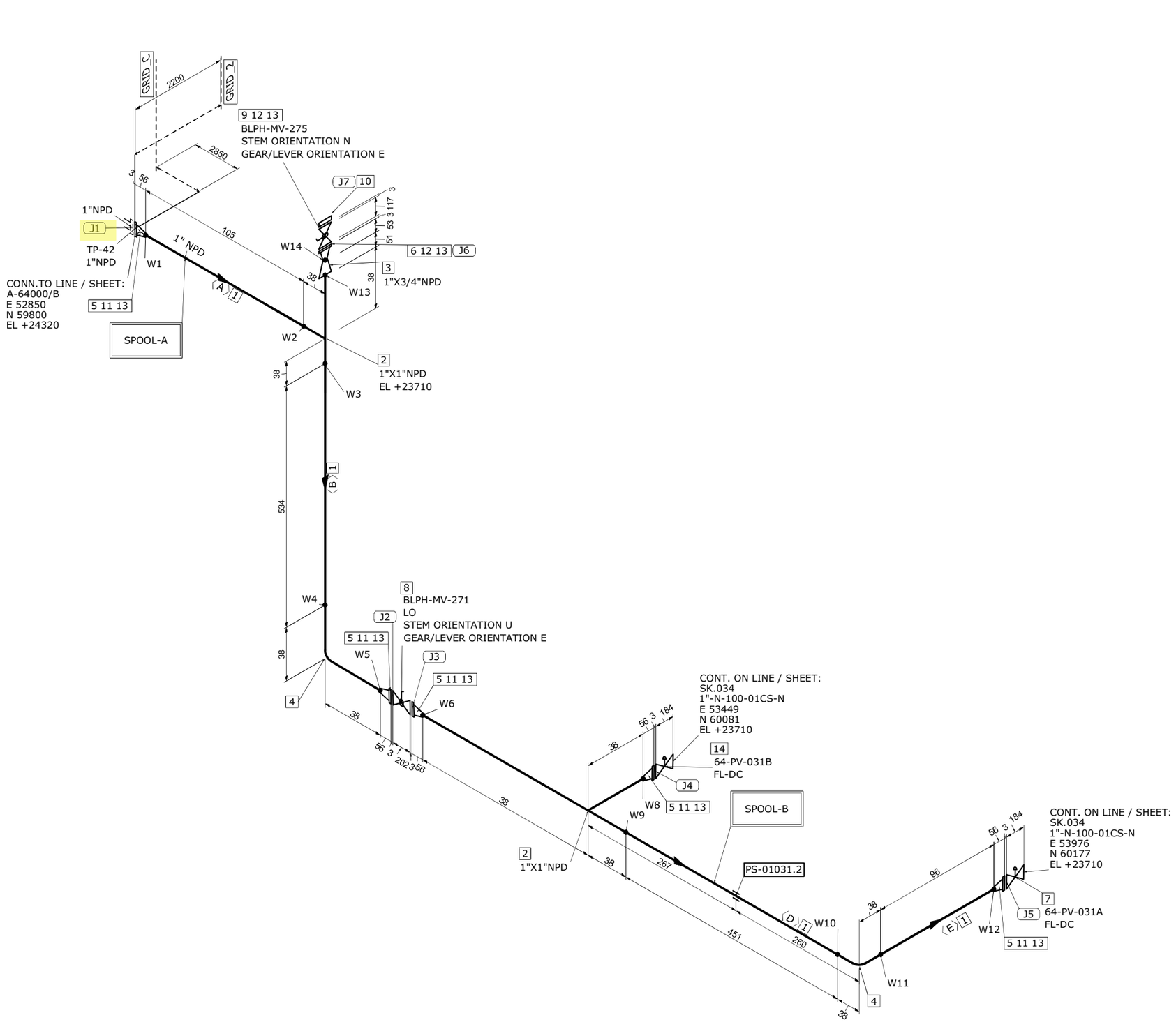
Flange Type	150LB	**Lubricant**	Yes
Flange Size	1"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 (12-68 Nm)
Bolt tensioning/Torquing value	62.5		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	19	63	19	38	62.5
2	19	63	19	38	62.5
3	19	63	19	38	62.5
4	19	63	19	38	62.5
5			19	38	62.5
6			19	38	62.5
7			19	38	62.5
8			19	38	62.5
9			19	38	62.5
10			19	38	62.5
11			19	38	62.5
12			19	38	62.5
13			19	38	62.5
14			19	38	62.5
15			19	38	62.5
16			19	38	62.5
17			19	38	62.5
18			19	38	62.5
19			19	38	62.5
20			19	38	62.5

1	**Clear Bore Inspection:** Pipe and Valve clear of debris/contamination.	Yes
2	**Flange Face Check:** Both flanges clean and free from damage.	Yes
3	**Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique.	Yes
4	**Alignment:** Check alignment according to code.	Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2025-01-10	2025-01-13	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-10T05:53:44.820Z	PROVERLIS Digitaly signed by Massimo Bruschi 2025-01-13T18:27:39.278Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1	PIPECS08300100	Pipe ASME B36.10M PE 4,55 SML ASTM/ASME A/SA333 Gr.6	1.2M	3.8
2	1X1	TEE0CS01110100	Tee ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.9
3	1X3/4	REC0CS2203013Q	Reducer Concentric ASME B16.9 BW 4,55x3,91 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.2
4	1	E90RCS01780100	90 Deg Elbow Long Radius ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.4
5	1	FLW0CS16540100	Flange WN ASME B16.5 150LB RF 4,55 FRG ASTM/ASME A/SA350 Gr.LF2	5	7.0
6	3/4	FLW0CS16523Q00	Flange WN ASME B16.5 150LB RF 3,91 FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
7	1		Control Valve - FLG 150 #RF	1	48.0
8	1	VLBLNN01280100	Block & Bleed Valve API 6D FLG 150LB RF BS01B01RFS	1	12.5
9	3/4	VBC0NN24703Q00	Ball Valve Split Body FB API 6D FLG 150LB RF BS01B01RF	1	5.3
10	3/4	FLB0CS07333Q00	Flange Blind ASME B16.5 150LB RF FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9
11	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	5	0.3
12	3/4	GSW0GK11093Q00	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
13	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	28	3.4
14	1		Control Valve - FLG 150 #RF	1	48.0

FABRICATION WEIGHT [kg]	13.2
ERECTION WEIGHT [kg]	118.5
OVERALL WEIGHT [kg]	131.7

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1	BW
W2	1	BW
W3	1	BW
W4	1	BW
W5	1	BW
W6	1	BW
W8	1	BW
W9	1	BW
W10	1	BW
W11	1	BW
W12	1	BW
W13	1	BW
W14	3/4	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1	105	BEVEL	BEVEL
B	1	534	BEVEL	BEVEL
D	1	451	BEVEL	BEVEL
E	1	96	BEVEL	BEVEL

SUPPORT LIST

PS-01031.2

SPOOL	WELD [inches]	WEIGHT [kg]
A	6.75	6.5
B	6	6.7
MONT	0	118.5

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	20-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1"-N-158-01CS-N

SK.066

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK					SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM	DATE	20-08-2024
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00066			SHEET / OF	1/1
						REV.	00

LINE DATA

NDT INSPECTION CATEGORY	2			PED CATEGORY	Art. 4, par. 3				
PAINTING	SYSTEM 1	BASE RAL RAL-9002		FLUID PHASE	Gas				
INSULATION	TYPE N	THICKNESS [mm]		DESIGN	PRESS. 12 [barg]	TEMP. -46 / 100 [°C]			
HEAT TRACING	N/A			TEST	PRESS. 18 [barg]	TEMP. AMB	MEDIUM Water		

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

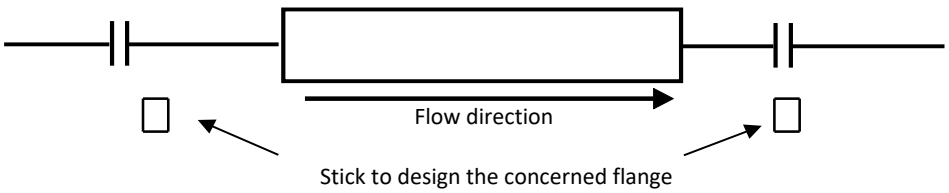
MASTER


TAG
066-1-J1
FLANGE TIGHTENED
ID STAMP RFM9/RFM3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
066-1-J1
FLANGE ASSEMBLED
ID STAMP RFM9/RFM3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
066-1-J1
FLANGE BROKEN
ID STAMP RF
SIGNED
DATE
RETURN TO SUPERVISOR

ITEM	Tag	066-1-J2	: Joint 066-1-J2			Dwg	123A90-FDL-PP-DI-00066-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004126		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27		Bolt tensioning / torquing

Test Pack N.: TP-029

EQUIPMENT TAG



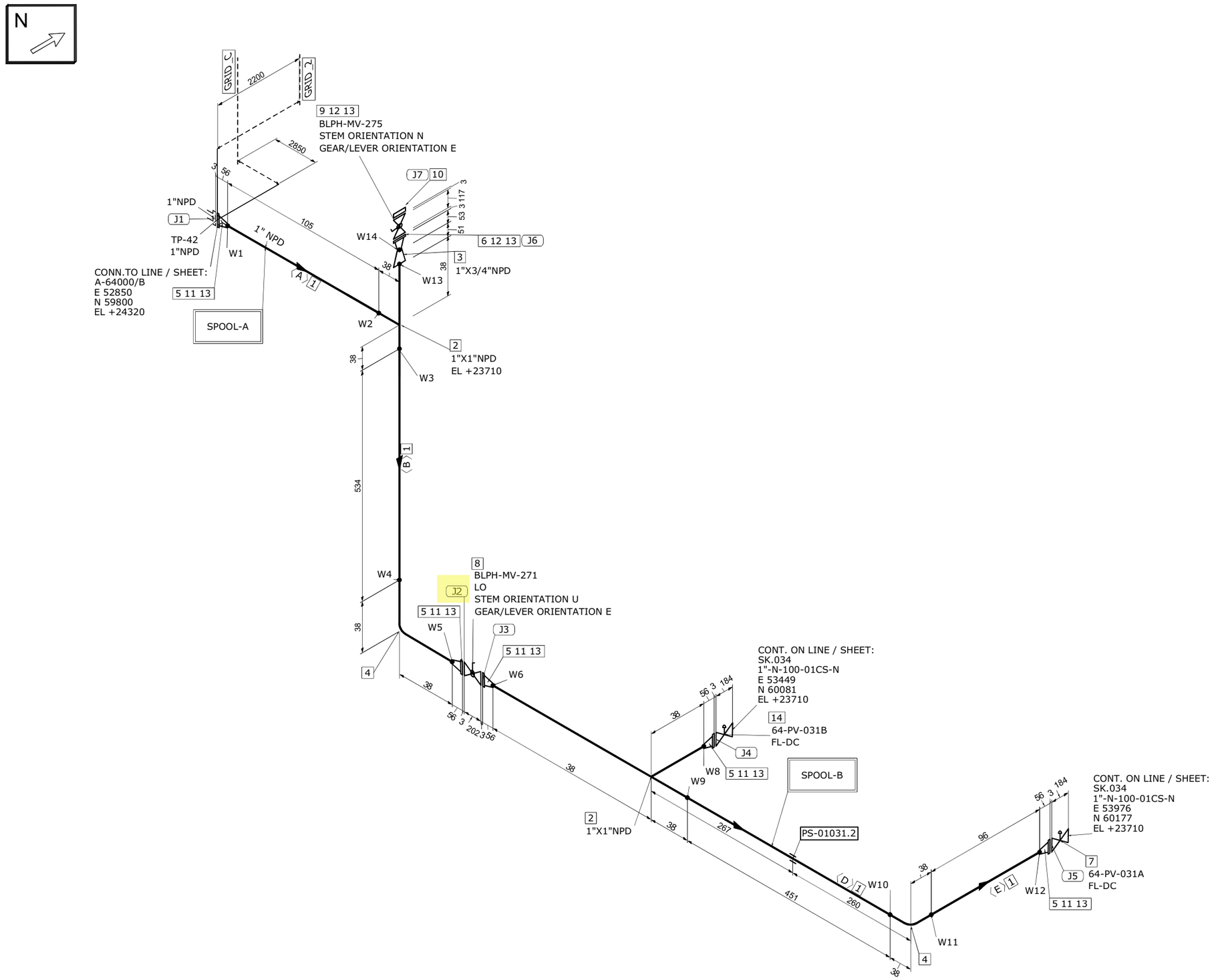
Flange Type	150LB	**Lubricant**	Yes
Flange Size	1"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 (12-68 Nm)
Bolt tensioning/Torquing value	62.5		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	19	63	19	38	62.5
2	19	63	19	38	62.5
3	19	63	19	38	62.5
4	19	63	19	38	62.5
5			19	38	62.5
6			19	38	62.5
7			19	38	62.5
8			19	38	62.5
9			19	38	62.5
10			19	38	62.5
11			19	38	62.5
12			19	38	62.5
13			19	38	62.5
14			19	38	62.5
15			19	38	62.5
16			19	38	62.5
17			19	38	62.5
18			19	38	62.5
19			19	38	62.5
20			19	38	62.5

1	**Clear Bore Inspection:** Pipe and Valve clear of debris/contamination.	Yes
2	**Flange Face Check:** Both flanges clean and free from damage.	Yes
3	**Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique.	Yes
4	**Alignment:** Check alignment according to code.	Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2025-01-10	2025-01-13	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-10T05:53:55.687Z	PROVERLIS Digitaly signed by Massimo Bruschi 2025-01-13T18:28:12.515Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1	PIPECS08300100	Pipe ASME B36.10M PE 4,55 SML ASTM/ASME A/SA333 Gr.6	1.2M	3.8
2	1X1	TEE0CS01110100	Tee ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.9
3	1X3/4	REC0CS2203013Q	Reducer Concentric ASME B16.9 BW 4,55x3,91 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.2
4	1	E90RCS01780100	90 Deg Elbow Long Radius ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.4
5	1	FLW0CS16540100	Flange WN ASME B16.5 150LB RF 4,55 FRG ASTM/ASME A/SA350 Gr.LF2	5	7.0
6	3/4	FLW0CS16523Q00	Flange WN ASME B16.5 150LB RF 3,91 FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
7	1		Control Valve - FLG 150 #RF	1	48.0
8	1	VLBLNN01280100	Block & Bleed Valve API 6D FLG 150LB RF BS01B01RFS	1	12.5
9	3/4	VBC0NN24703Q00	Ball Valve Split Body FB API 6D FLG 150LB RF BS01B01RF	1	5.3
10	3/4	FLB0CS07333Q00	Flange Blind ASME B16.5 150LB RF FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9
11	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	5	0.3
12	3/4	GSW0GK11093Q00	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
13	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	28	3.4
14	1		Control Valve - FLG 150 #RF	1	48.0

FABRICATION WEIGHT [kg]	13.2
ERECTION WEIGHT [kg]	118.5
OVERALL WEIGHT [kg]	131.7

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1	BW
W2	1	BW
W3	1	BW
W4	1	BW
W5	1	BW
W6	1	BW
W8	1	BW
W9	1	BW
W10	1	BW
W11	1	BW
W12	1	BW
W13	1	BW
W14	3/4	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1	105	BEVEL	BEVEL
B	1	534	BEVEL	BEVEL
D	1	451	BEVEL	BEVEL
E	1	96	BEVEL	BEVEL

SUPPORT LIST

PS-01031.2

SPOOL	WELD [inches]	WEIGHT [kg]
A	6.75	6.5
B	6	6.7
MONT	0	118.5

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	20-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1"-N-158-01CS-N

SK.066

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK					SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM	DATE	20-08-2024
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00066			SHEET / OF	1/1
						REV.	00

LINE DATA

NDT INSPECTION CATEGORY	2			PED CATEGORY	Art. 4, par. 3				
PAINTING	SYSTEM 1	BASE RAL RAL-9002		FLUID PHASE	Gas				
INSULATION	TYPE N	THICKNESS [mm]		DESIGN	PRESS. 12 [barg]	TEMP. -46 / 100 [°C]			
HEAT TRACING	N/A			TEST	PRESS. 18 [barg]	TEMP. AMB	MEDIUM Water		

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

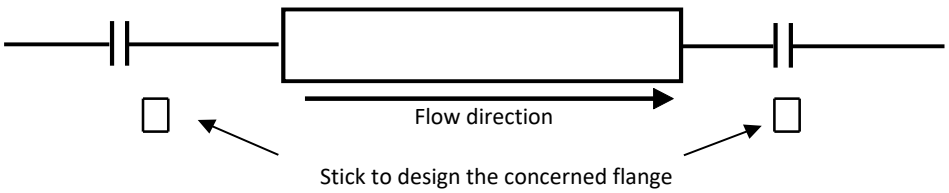
MASTER


TAG
066-1-J2
FLANGE TIGHTENED
ID STAMP RFH9/RFH3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
066-1-J2
FLANGE ASSEMBLED
ID STAMP RFH9/RFH3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
066-1-J2
FLANGE BROKEN
ID STAMP
SIGNED
DATE
RETURN TO SUPERVISOR

ITEM	Tag	066-1-J6	: Joint 066-1-J6			Dwg	123A90-FDL-PP-DI-00066-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004130	Location	Onshore Activities		User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27 Bolt tensioning / torquing

Test Pack N.: TP-029

EQUIPMENT TAG



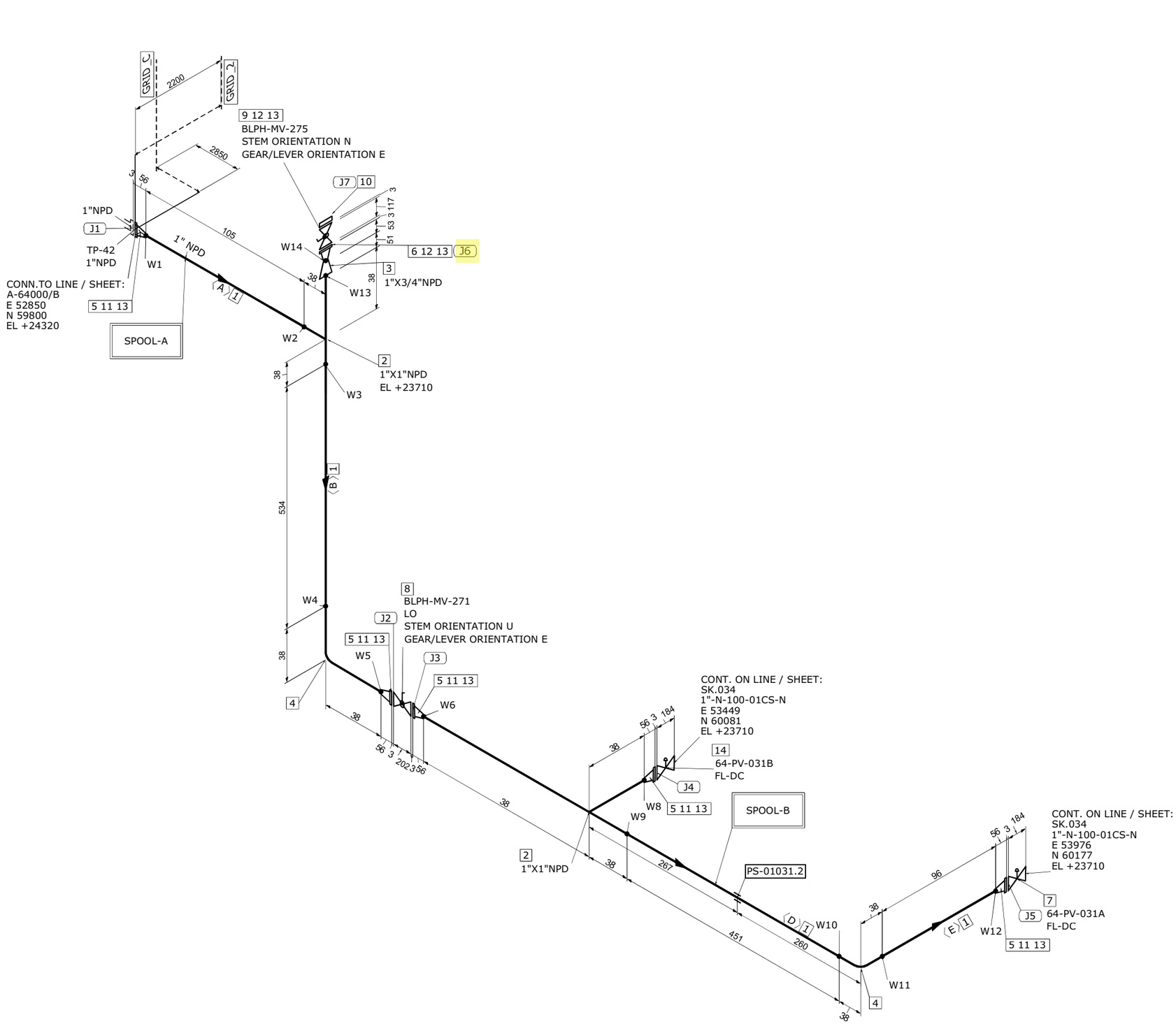
Flange Type	150LB	**Lubricant**	Yes
Flange Size	3/4"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 (12-68 Nm)
Bolt tensioning/Torquing value	62.5		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	19	63	19	38	62.5
2	19	63	19	38	62.5
3	19	63	19	38	62.5
4	19	63	19	38	62.5
5			19	38	62.5
6			19	38	62.5
7			19	38	62.5
8			19	38	62.5
9			19	38	62.5
10			19	38	62.5
11			19	38	62.5
12			19	38	62.5
13			19	38	62.5
14			19	38	62.5
15			19	38	62.5
16			19	38	62.5
17			19	38	62.5
18			19	38	62.5
19			19	38	62.5
20			19	38	62.5

1	**Clear Bore Inspection:** Pipe and Valve clear of debris/contamination.	Yes
2	**Flange Face Check:** Both flanges clean and free from damage.	Yes
3	**Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique.	Yes
4	**Alignment:** Check alignment according to code.	Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2025-01-10	2025-01-13	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-10T05:54:21.638Z	PROVERLIS Digitaly signed by Massimo Bruschi 2025-01-13T18:29:27.265Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1	PIPECS08300100	Pipe ASME B36.10M PE 4,55 SML ASTM/ASME A/SA333 Gr.6	1.2M	3.8
2	1X1	TEE0CS01110100	Tee ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.9
3	1X3/4	REC0CS2203013Q	Reducer Concentric ASME B16.9 BW 4,55x3,91 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.2
4	1	E90RCS01780100	90 Deg Elbow Long Radius ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.4
5	1	FLW0CS16540100	Flange WN ASME B16.5 150LB RF 4,55 FRG ASTM/ASME A/SA350 Gr.LF2	5	7.0
6	3/4	FLW0CS16523Q00	Flange WN ASME B16.5 150LB RF 3,91 FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
7	1		Control Valve - FLG 150 #RF	1	48.0
8	1	VLBLNN01280100	Block & Bleed Valve API 6D FLG 150LB RF BS01B01RFS	1	12.5
9	3/4	VBC0NN24703Q00	Ball Valve Split Body FB API 6D FLG 150LB RF BS01B01RF	1	5.3
10	3/4	FLB0CS07333Q00	Flange Blind ASME B16.5 150LB RF FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9
11	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	5	0.3
12	3/4	GSW0GK11093Q00	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
13	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	28	3.4
14	1		Control Valve - FLG 150 #RF	1	48.0

FABRICATION WEIGHT [kg]	13.2
ERECTION WEIGHT [kg]	118.5
OVERALL WEIGHT [kg]	131.7

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1	BW
W2	1	BW
W3	1	BW
W4	1	BW
W5	1	BW
W6	1	BW
W8	1	BW
W9	1	BW
W10	1	BW
W11	1	BW
W12	1	BW
W13	1	BW
W14	3/4	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1	105	BEVEL	BEVEL
B	1	534	BEVEL	BEVEL
D	1	451	BEVEL	BEVEL
E	1	96	BEVEL	BEVEL

SUPPORT LIST

PS-01031.2

SPOOL	WELD [inches]	WEIGHT [kg]
A	6.75	6.5
B	6	6.7
MONT	0	118.5

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	20-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1"-N-158-01CS-N

SK.066

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK					SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM	DATE	20-08-2024
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00066			SHEET / OF	1/1
						REV.	00

LINE DATA

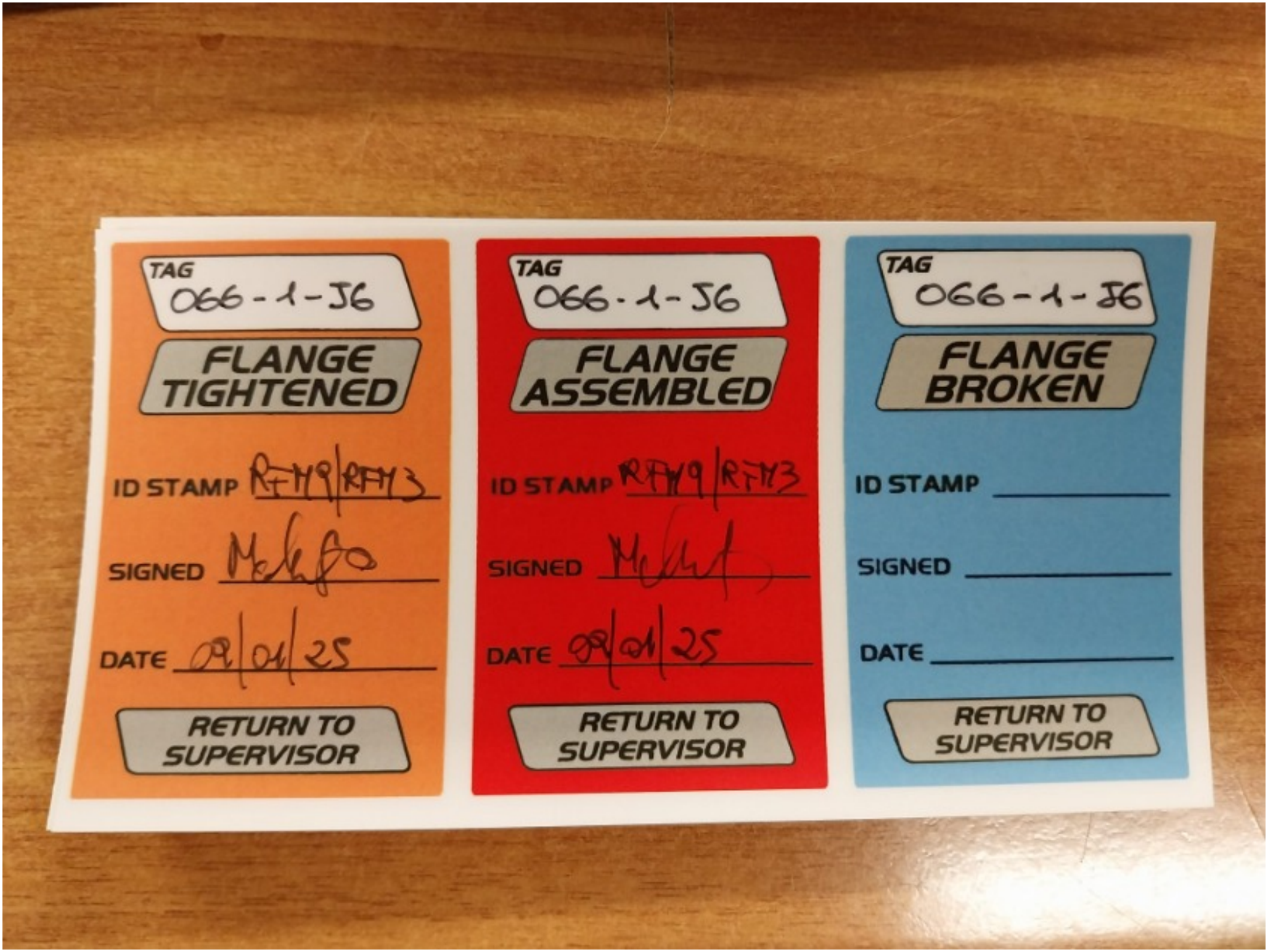
NDT INSPECTION CATEGORY	2			PED CATEGORY	Art. 4, par. 3				
PAINTING	SYSTEM 1	BASE RAL RAL-9002		FLUID PHASE	Gas				
INSULATION	TYPE N	THICKNESS [mm]		DESIGN	PRESS. 12 [barg]	TEMP. -46 / 100 [°C]			
HEAT TRACING	N/A			TEST	PRESS. 18 [barg]	TEMP. AMB	MEDIUM Water		

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

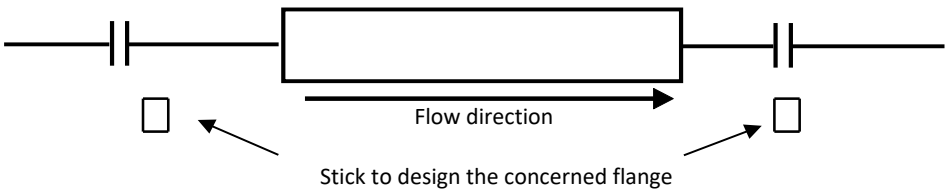
MASTER


TAG
066-1-J6
FLANGE TIGHTENED
ID STAMP RFM9/RFM3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
066-1-J6
FLANGE ASSEMBLED
ID STAMP RFM9/RFM3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
066-1-J6
FLANGE BROKEN
ID STAMP
SIGNED
DATE
RETURN TO SUPERVISOR

ITEM	Tag	066-1-J7	: Joint 066-1-J7			Dwg	123A90-FDL-PP-DI-00066-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004131	Location	Onshore Activities		User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27 Bolt tensioning / torquing

Test Pack N.: TP-029

EQUIPMENT TAG



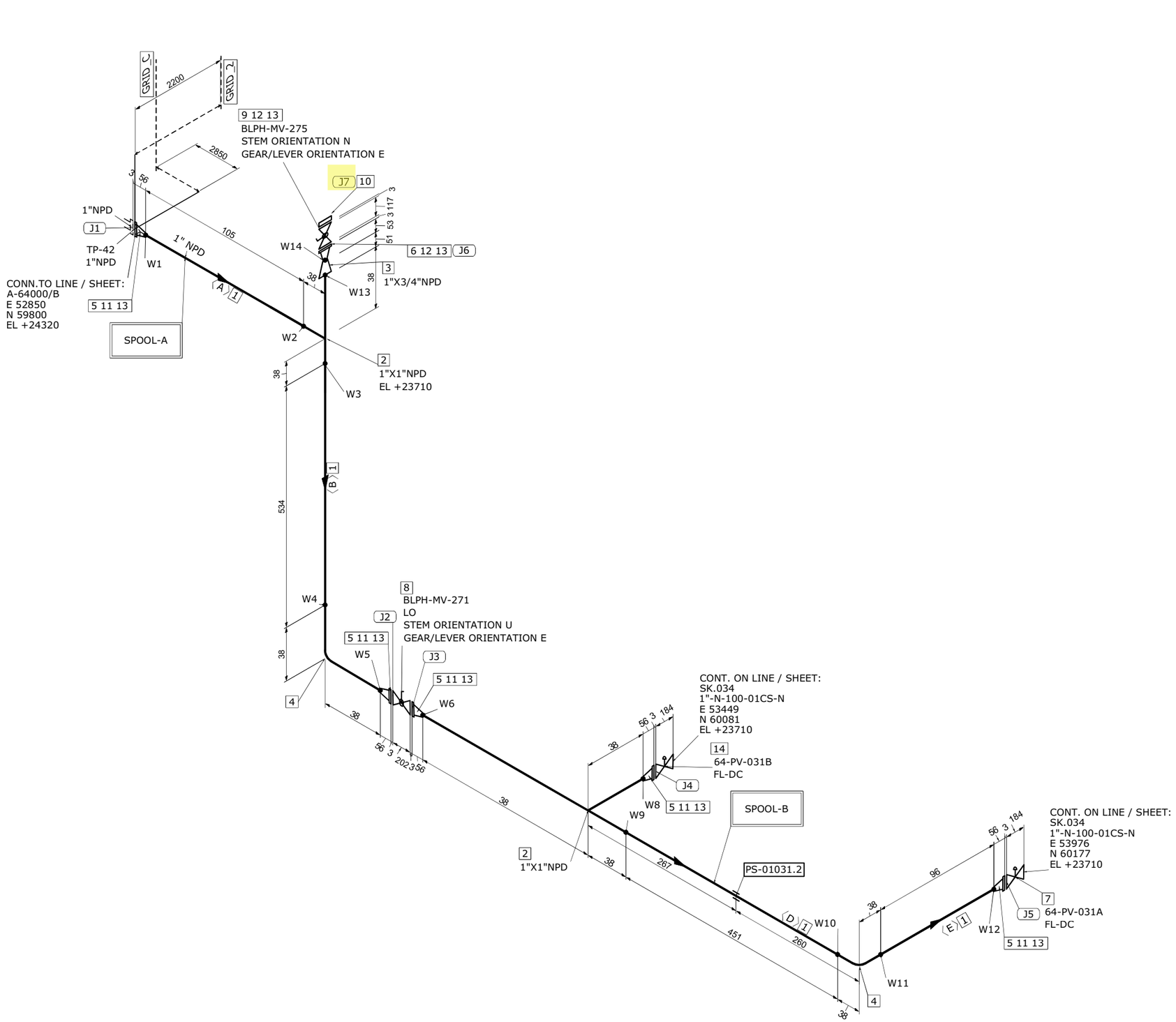
Flange Type	150LB	**Lubricant**	Yes
Flange Size	3/4"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 (12-68 Nm)
Bolt tensioning/Torquing value	62.5		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	19	63	19	38	62.5
2	19	63	19	38	62.5
3	19	63	19	38	62.5
4	19	63	19	38	62.5
5			19	38	62.5
6			19	38	62.5
7			19	38	62.5
8			19	38	62.5
9			19	38	62.5
10			19	38	62.5
11			19	38	62.5
12			19	38	62.5
13			19	38	62.5
14			19	38	62.5
15			19	38	62.5
16			19	38	62.5
17			19	38	62.5
18			19	38	62.5
19			19	38	62.5
20			19	38	62.5

1	**Clear Bore Inspection:** Pipe and Valve clear of debris/contamination.	Yes
2	**Flange Face Check:** Both flanges clean and free from damage.	Yes
3	**Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique.	Yes
4	**Alignment:** Check alignment according to code.	Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2025-01-10	2025-01-13	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-10T05:54:32.806Z	PROVERLIS Digitaly signed by Massimo Bruschi 2025-01-13T18:29:58.645Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1	PIPECS08300100	Pipe ASME B36.10M PE 4,55 SML ASTM/ASME A/SA333 Gr.6	1.2M	3.8
2	1X1	TEE0CS01110100	Tee ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.9
3	1X3/4	REC0CS2203013Q	Reducer Concentric ASME B16.9 BW 4,55x3,91 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.2
4	1	E90RCS01780100	90 Deg Elbow Long Radius ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	2	0.4
5	1	FLW0CS16540100	Flange WN ASME B16.5 150LB RF 4,55 FRG ASTM/ASME A/SA350 Gr.LF2	5	7.0
6	3/4	FLW0CS16523Q00	Flange WN ASME B16.5 150LB RF 3,91 FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
7	1		Control Valve - FLG 150 #RF	1	48.0
8	1	VLBLNN01280100	Block & Bleed Valve API 6D FLG 150LB RF BS01B01RFS	1	12.5
9	3/4	VBC0NN24703Q00	Ball Valve Split Body FB API 6D FLG 150LB RF BS01B01RF	1	5.3
10	3/4	FLB0CS07333Q00	Flange Blind ASME B16.5 150LB RF FRG ASTM/ASME A/SA350 Gr.LF2	1	0.9
11	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	5	0.3
12	3/4	GSW0GK11093Q00	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
13	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	28	3.4
14	1		Control Valve - FLG 150 #RF	1	48.0

FABRICATION WEIGHT [kg]	13.2
ERECTION WEIGHT [kg]	118.5
OVERALL WEIGHT [kg]	131.7

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1	BW
W2	1	BW
W3	1	BW
W4	1	BW
W5	1	BW
W6	1	BW
W8	1	BW
W9	1	BW
W10	1	BW
W11	1	BW
W12	1	BW
W13	1	BW
W14	3/4	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1	105	BEVEL	BEVEL
B	1	534	BEVEL	BEVEL
D	1	451	BEVEL	BEVEL
E	1	96	BEVEL	BEVEL

SUPPORT LIST

PS-01031.2

SPOOL	WELD [inches]	WEIGHT [kg]
A	6.75	6.5
B	6	6.7
MONT	0	118.5

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	20-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1"-N-158-01CS-N

SK.066

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK					SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM	DATE	20-08-2024
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00066			SHEET / OF	1/1
						REV.	00

LINE DATA

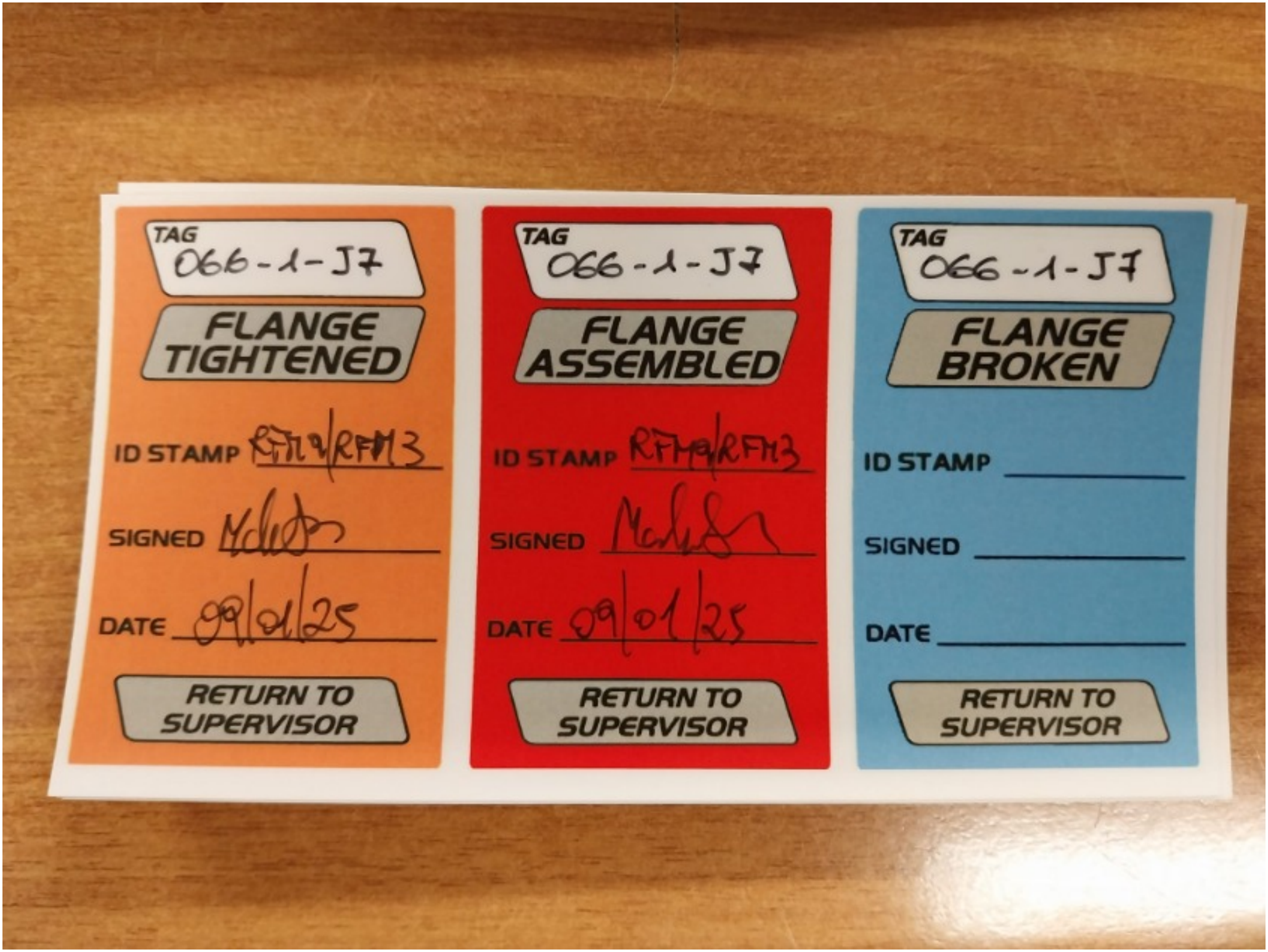
NDT INSPECTION CATEGORY	2			PED CATEGORY	Art. 4, par. 3				
PAINTING	SYSTEM 1	BASE RAL RAL-9002		FLUID PHASE	Gas				
INSULATION	TYPE N	THICKNESS [mm]		DESIGN	PRESS. 12 [barg]	TEMP. -46 / 100 [°C]			
HEAT TRACING	N/A			TEST	PRESS. 18 [barg]	TEMP. AMB	MEDIUM Water		

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

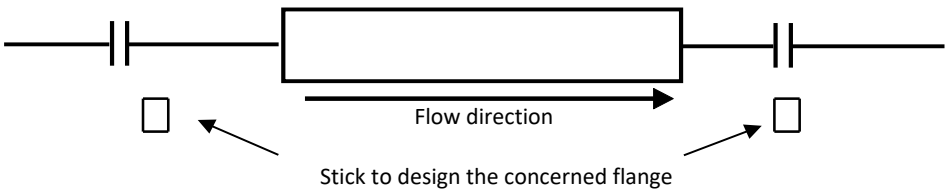
MASTER


TAG
066-1-J7
FLANGE TIGHTENED
ID STAMP RFM9/RFM3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
066-1-J7
FLANGE ASSEMBLED
ID STAMP RFM9/RFM3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
066-1-J7
FLANGE BROKEN
ID STAMP
SIGNED
DATE
RETURN TO SUPERVISOR

ITEM	Tag	102-1-J1	: Joint 102-1-J1			Dwg	123A90-FDL-PP-DI-00102-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004140	Location	Onshore Activities		User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27 Bolt tensioning / torquing

Test Pack N.: TP-029

EQUIPMENT TAG



Flange Type	150LB	**Lubricant**	Yes
Flange Size	1.1/2"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 (12-68 Nm)
Bolt tensioning/Torquing value	62.5		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	20	63	19	38	62.5
2	20	63	19	38	62.5
3	20	63	19	38	62.5
4	20	63	19	38	62.5
5			19	38	62.5
6			19	38	62.5
7			19	38	62.5
8			19	38	62.5
9			19	38	62.5
10			19	38	62.5
11			19	38	62.5
12			19	38	62.5
13			19	38	62.5
14			19	38	62.5
15			19	38	62.5
16			19	38	62.5
17			19	38	62.5
18			19	38	62.5
19			19	38	62.5
20			19	38	62.5

1 **Clear Bore Inspection:** Pipe and Valve clear of debris/contamination. Yes

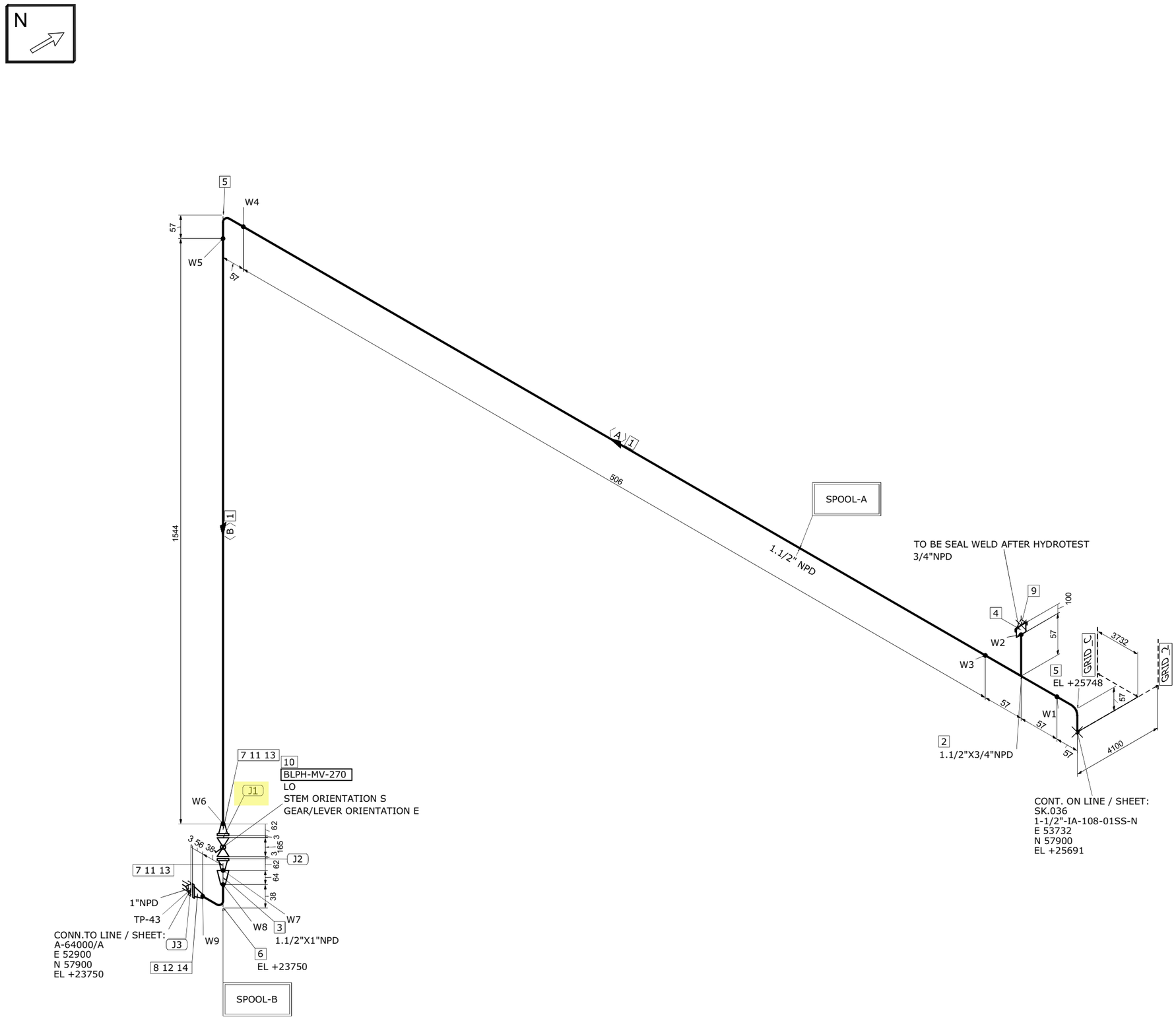
2 **Flange Face Check:** Both flanges clean and free from damage. Yes

3 **Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique. Yes

4 **Alignment:** Check alignment according to code. Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company		RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Lorenzo Novaga	
Date	2025-01-13	2025-01-13	
Signature	Digitaly signed by Emanuele Delfino 2025-01-13T05:46:29.622Z	Digitaly signed by Lorenzo Novaga 2025-01-13T13:17:27.537Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1.1/2	PIPESS00531H00	Pipe ASME B36.19M PE 3,68 SML ASTM A312 Gr.TP316/316L	2.1M	8.6
2	1.1/2X3/4	TER0SS03751H3Q	Tee Reducing ASME B16.9 BW 3,68x2,87 WRS ASTM A403 Gr.WP316/316L	1	0.8
3	1.1/2X1	REC0SS03191H01	Reducer Concentric ASME B16.9 BW 3,68x3,38 WRS ASTM A403 Gr.WP316/316L	1	0.3
4	3/4	N100SS02653Q00	Nipple L=100mm ASME B36.19M THRD-M NPT x PE 2,87 SML ASTM A312 Gr.TP316/316L	1	0.2
5	1.1/2	E90RSS00681H00	90 Deg Elbow Long Radius ASME B16.9 BW 3,68 WRS ASTM A403 Gr.WP316/316L	2	0.7
6	1	E90RSS00670100	90 Deg Elbow Long Radius ASME B16.9 BW 3,38 WRS ASTM A403 Gr.WP316/316L	1	0.1
7	1.1/2	FLW0SS00941H00	Flange WN ASME B16.5 150LB RF 3,68 FRG ASTM A182 Gr.F316/316L	2	3.7
8	1	FLW0SS00930100	Flange WN ASME B16.5 150LB RF 3,38 FRG ASTM A182 Gr.F316/316L	1	1.4

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
9	3/4	CAPFSS00023Q00	Cap Forged ASME B16.11 THRD-F NPT 3000# FRG ASTM A182 Gr.F316/316L	1	0.2
10	1.1/2	VBC0NN06961H00	Ball Valve Split Body FB API 6D FLG 150LB RF BS01C01RF	1	12.7
11	1.1/2	GSW0GK11121H00	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
12	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	1	0.1
13	1/2	SB20BO00930200	70 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	8	1.0
14	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	0.5

FABRICATION WEIGHT [kg]	15.8
ERECTION WEIGHT [kg]	14.6
OVERALL WEIGHT [kg]	30.4

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1.1/2	BW
W2	3/4	BW
W3	1.1/2	BW
W4	1.1/2	BW
W5	1.1/2	BW
W6	1.1/2	BW
W7	1.1/2	BW
W8	1	BW
W9	1	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1.1/2	506	BEVEL	BEVEL
B	1.1/2	1544	BEVEL	BEVEL

SUPPORT LIST

SPOOL	WELD [inches]	WEIGHT [kg]
A	8.25	12.1
B	3.5	3.7
MONT	0	14.6

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	20-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1-1/2"-IA-204-01SS-N
SK.102

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM	DATE	20-08-2024
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00102			SHEET / OF	1/1	REV.	00

LINE DATA

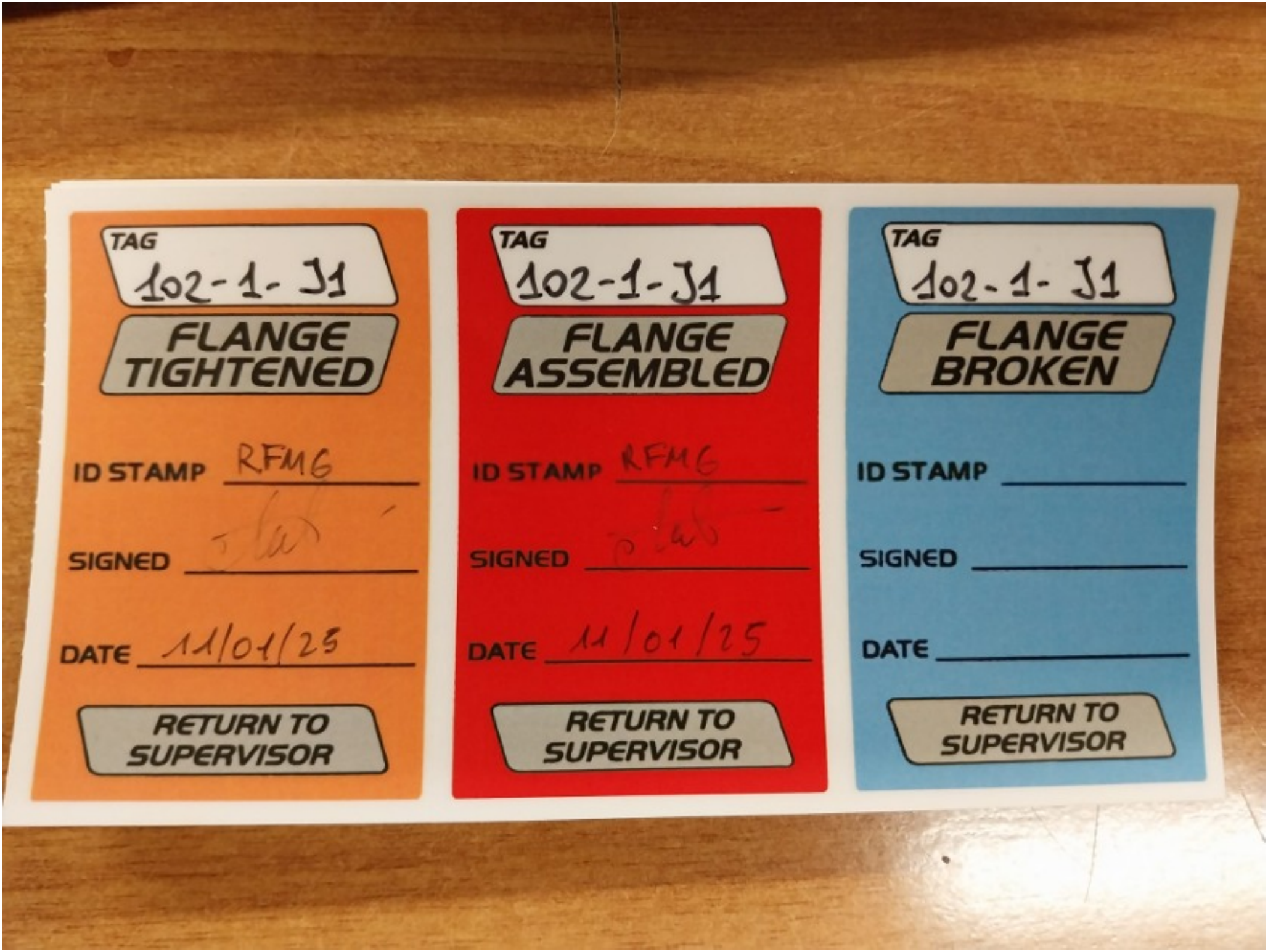
NDT INSPECTION CATEGORY	2		PED CATEGORY	Art. 4, par. 3				
PAINTING	SYSTEM 6A	BASE RAL RAL-9002	FLUID PHASE	Gas				
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 12 [barg]	TEMP. -29 / 100 [°C]			
HEAT TRACING	N/A		TEST	PRESS. 18 [barg]	TEMP. AMB	MEDIUM Water		

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

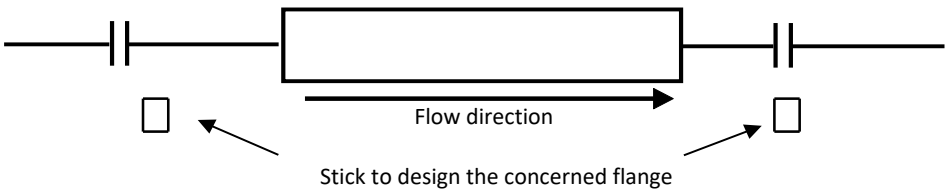
MASTER


TAG
102-1-J1
FLANGE TIGHTENED
ID STAMP RFMG
SIGNED
DATE 11/01/25
RETURN TO SUPERVISOR
TAG
102-1-J1
FLANGE ASSEMBLED
ID STAMP RFMG
SIGNED
DATE 11/01/25
RETURN TO SUPERVISOR
TAG
102-1-J1
FLANGE BROKEN
ID STAMP
SIGNED
DATE
RETURN TO SUPERVISOR

ITEM	Tag	102-1-J2	: Joint 102-1-J2			Dwg	123A90-FDL-PP-DI-00102-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004141	Location	Onshore Activities		User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27 Bolt tensioning / torquing

Test Pack N.: TP-029

EQUIPMENT TAG



Flange Type	150LB	**Lubricant**	Yes
Flange Size	1.1/2"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 (12-68 Nm)
Bolt tensioning/Torquing value	62.5		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	20	63	19	38	62.5
2	20	63	19	38	62.5
3	20	63	19	38	62.5
4	20	63	19	38	62.5
5			19	38	62.5
6			19	38	62.5
7			19	38	62.5
8			19	38	62.5
9			19	38	62.5
10			19	38	62.5
11			19	38	62.5
12			19	38	62.5
13			19	38	62.5
14			19	38	62.5
15			19	38	62.5
16			19	38	62.5
17			19	38	62.5
18			19	38	62.5
19			19	38	62.5
20			19	38	62.5

1 **Clear Bore Inspection:** Pipe and Valve clear of debris/contamination. Yes

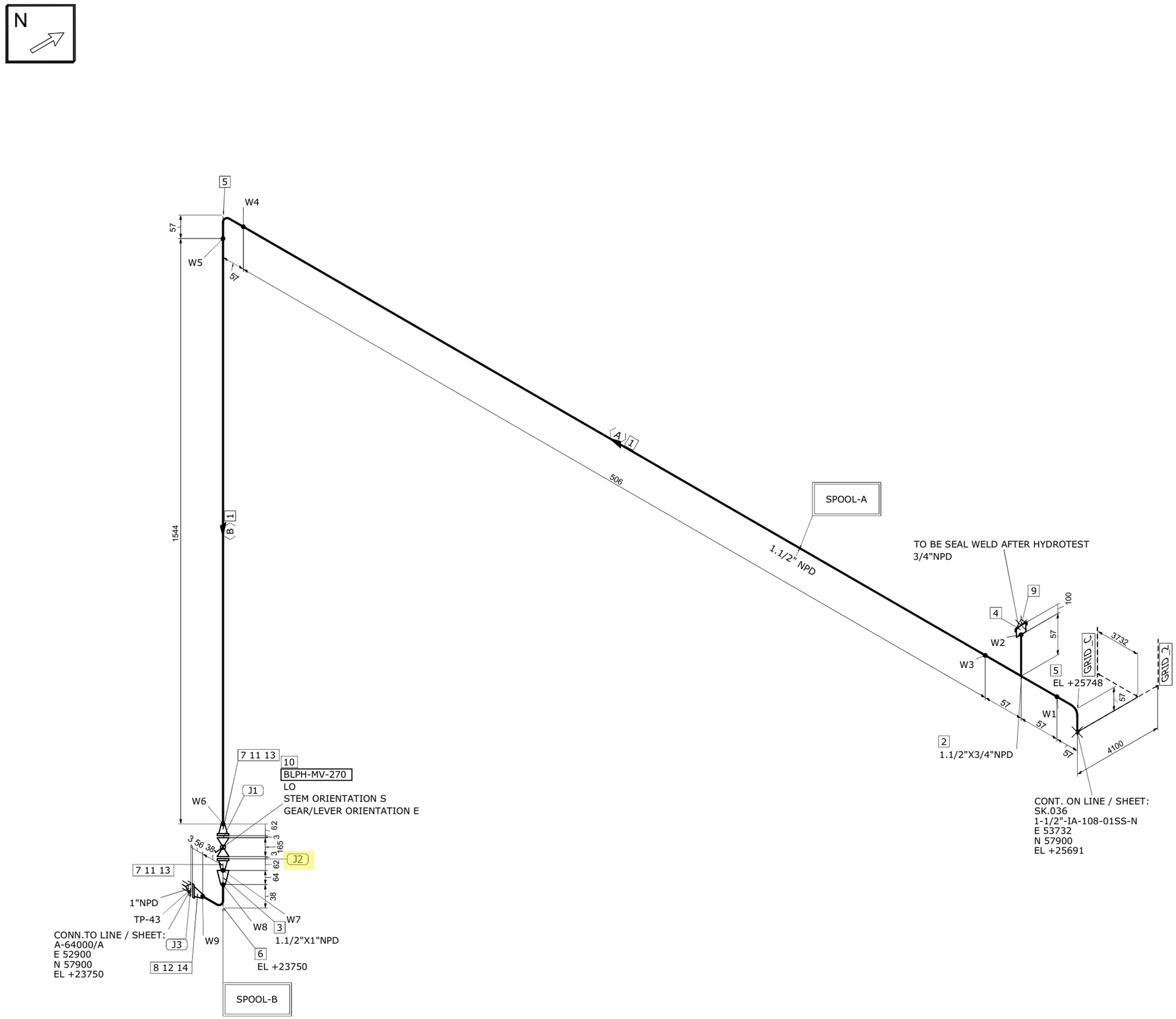
2 **Flange Face Check:** Both flanges clean and free from damage. Yes

3 **Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique. Yes

4 **Alignment:** Check alignment according to code. Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Lorenzo Novaga	
Date	2025-01-13	2025-01-13	
Signature	Digitaly signed by Emanuele Delfino 2025-01-13T05:46:45.866Z	Digitaly signed by Lorenzo Novaga 2025-01-13T13:17:19.406Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1.1/2	PIPESS00531H00	Pipe ASME B36.19M PE 3,68 SML ASTM A312 Gr.TP316/316L	2.1M	8.6
2	1.1/2X3/4	TER0SS03751H3Q	Tee Reducing ASME B16.9 BW 3,68x2,87 WRS ASTM A403 Gr.WP316/316L	1	0.8
3	1.1/2X1	REC0SS03191H01	Reducer Concentric ASME B16.9 BW 3,68x3,38 WRS ASTM A403 Gr.WP316/316L	1	0.3
4	3/4	N100SS02653Q00	Nipple L=100mm ASME B36.19M THRD-M NPT x PE 2,87 SML ASTM A312 Gr.TP316/316L	1	0.2
5	1.1/2	E90RSS00681H00	90 Deg Elbow Long Radius ASME B16.9 BW 3,68 WRS ASTM A403 Gr.WP316/316L	2	0.7
6	1	E90RSS00670100	90 Deg Elbow Long Radius ASME B16.9 BW 3,38 WRS ASTM A403 Gr.WP316/316L	1	0.1
7	1.1/2	FLW0SS00941H00	Flange WN ASME B16.5 150LB RF 3,68 FRG ASTM A182 Gr.F316/316L	2	3.7
8	1	FLW0SS00930100	Flange WN ASME B16.5 150LB RF 3,38 FRG ASTM A182 Gr.F316/316L	1	1.4

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
9	3/4	CAPFSS00023Q00	Cap Forged ASME B16.11 THRD-F NPT 3000# FRG ASTM A182 Gr.F316/316L	1	0.2
10	1.1/2	VBC0NN06961H00	Ball Valve Split Body FB API 6D FLG 150LB RF BS01C01RF	1	12.7
11	1.1/2	GSW0GK11121H00	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
12	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	1	0.1
13	1/2	SB20BO00930200	70 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	8	1.0
14	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	0.5

FABRICATION WEIGHT [kg]	15.8
ERECTION WEIGHT [kg]	14.6
OVERALL WEIGHT [kg]	30.4

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1.1/2	BW
W2	3/4	BW
W3	1.1/2	BW
W4	1.1/2	BW
W5	1.1/2	BW
W6	1.1/2	BW
W7	1.1/2	BW
W8	1	BW
W9	1	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1.1/2	506	BEVEL	BEVEL
B	1.1/2	1544	BEVEL	BEVEL

SUPPORT LIST

SPOOL	WELD [inches]	WEIGHT [kg]
A	8.25	12.1
B	3.5	3.7
MONT	0	14.6

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	20-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1-1/2"-IA-204-01SS-N

SK.102

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM	DATE	20-08-2024
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00102			SHEET / OF	1/1	REV.	00

LINE DATA

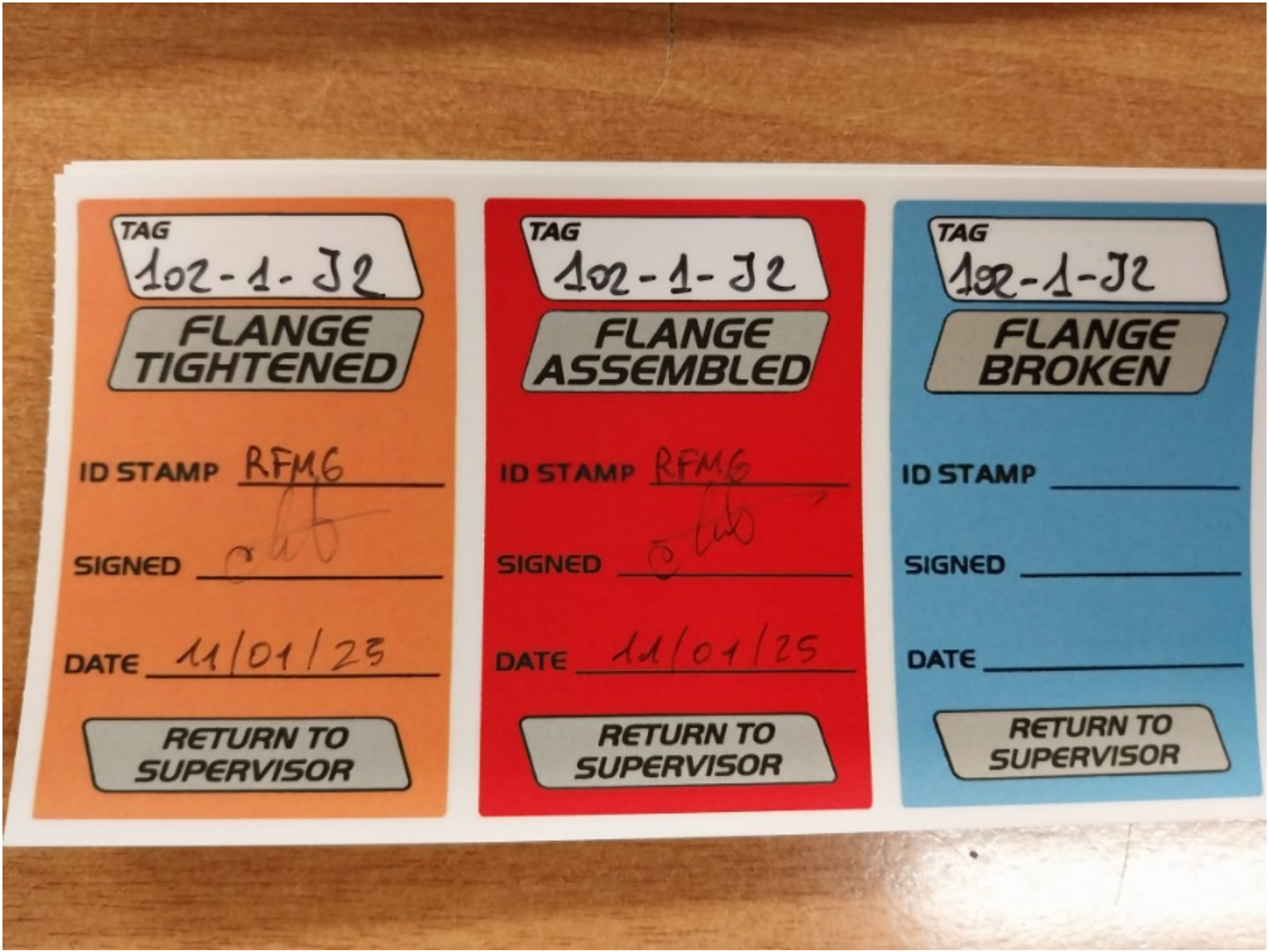
NDT INSPECTION CATEGORY	2		PED CATEGORY	Art. 4, par. 3				
PAINTING	SYSTEM 6A	BASE RAL RAL-9002	FLUID PHASE	Gas				
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 12 [barg]	TEMP. -29 / 100 [°C]			
HEAT TRACING	N/A		TEST	PRESS. 18 [barg]	TEMP. AMB	MEDIUM Water		

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

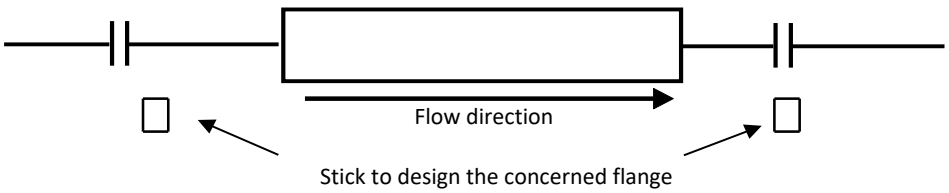
MASTER


TAG
102-1-J2
FLANGE TIGHTENED
ID STAMP RFM6
SIGNED
DATE 11/01/23
RETURN TO SUPERVISOR
TAG
102-1-J2
FLANGE ASSEMBLED
ID STAMP RFM6
SIGNED
DATE 11/01/25
RETURN TO SUPERVISOR
TAG
102-1-J2
FLANGE BROKEN
ID STAMP
SIGNED
DATE
RETURN TO SUPERVISOR

ITEM	Tag	102-1-J3	: Joint 102-1-J3			Dwg	123A90-FDL-PP-DI-00102-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004142		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27		Bolt tensioning / torquing

Test Pack N.: TP-029

EQUIPMENT TAG



Flange Type	150LB	**Lubricant**	Yes
Flange Size	1"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 (12-68 Nm)
Bolt tensioning/Torquing value	62.5		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	20	63	19	38	62.5
2	20	63	19	38	62.5
3	20	63	19	38	62.5
4	20	63	19	38	62.5
5			19	38	62.5
6			19	38	62.5
7			19	38	62.5
8			19	38	62.5
9			19	38	62.5
10			19	38	62.5
11			19	38	62.5
12			19	38	62.5
13			19	38	62.5
14			19	38	62.5
15			19	38	62.5
16			19	38	62.5
17			19	38	62.5
18			19	38	62.5
19			19	38	62.5
20			19	38	62.5

1 **Clear Bore Inspection:** Pipe and Valve clear of debris/contamination. Yes

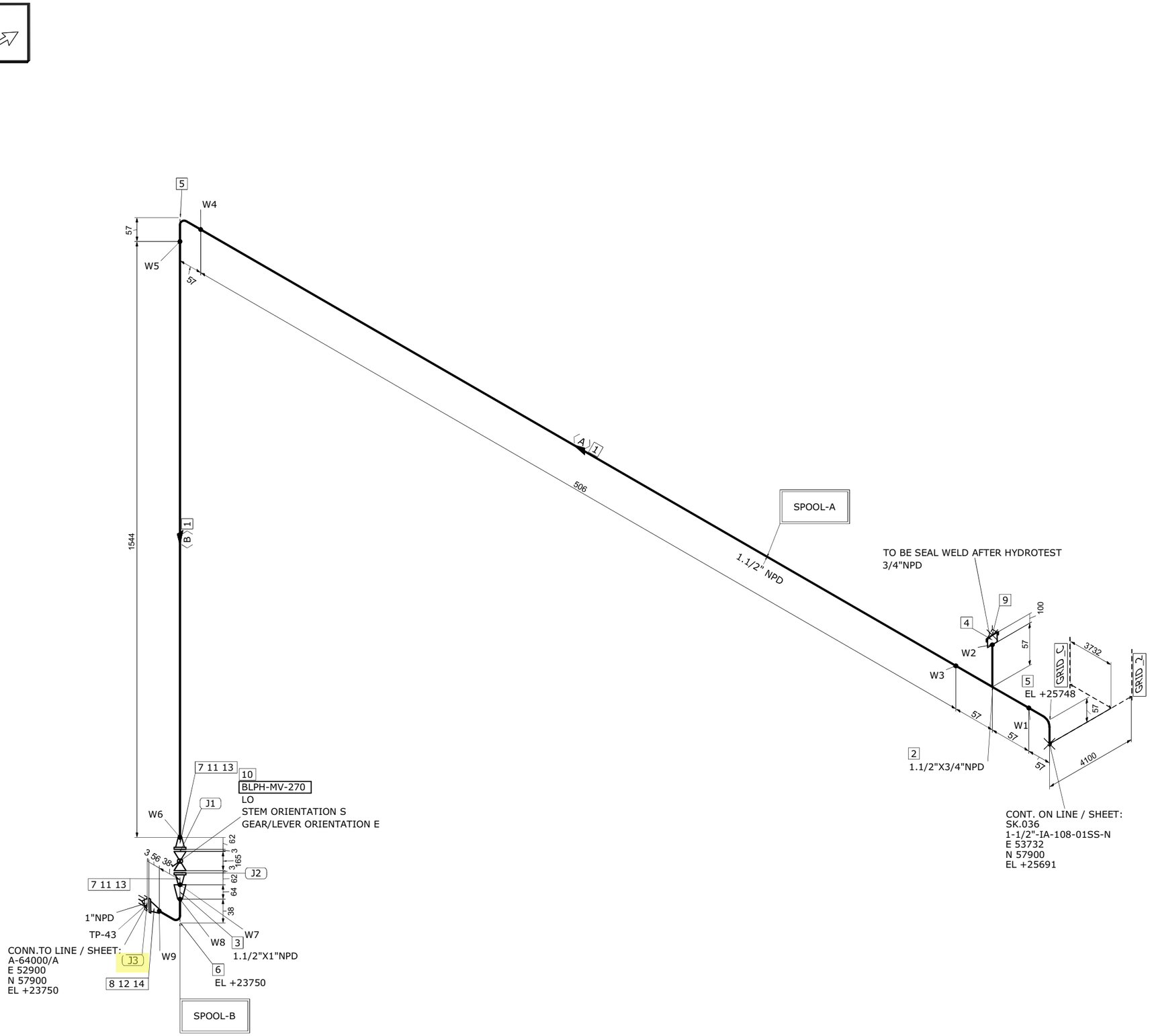
2 **Flange Face Check:** Both flanges clean and free from damage. Yes

3 **Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique. Yes

4 **Alignment:** Check alignment according to code. Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Lorenzo Novaga	
Date	2025-01-13	2025-01-13	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-13T05:46:57.337Z	PROVERLIS Digitaly signed by Lorenzo Novaga 2025-01-13T13:17:13.912Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1.1/2	PIPESS00531H00	Pipe ASME B36.19M PE 3,68 SML ASTM A312 Gr.TP316/316L	2.1M	8.6
2	1.1/2X3/4	TER0SS03751H3Q	Tee Reducing ASME B16.9 BW 3,68x2,87 WRS ASTM A403 Gr.WP316/316L	1	0.8
3	1.1/2X1	REC0SS03191H01	Reducer Concentric ASME B16.9 BW 3,68x3,38 WRS ASTM A403 Gr.WP316/316L	1	0.3
4	3/4	N100SS02653Q00	Nipple L=100mm ASME B36.19M THRD-M NPT x PE 2,87 SML ASTM A312 Gr.TP316/316L	1	0.2
5	1.1/2	E90RSS00681H00	90 Deg Elbow Long Radius ASME B16.9 BW 3,68 WRS ASTM A403 Gr.WP316/316L	2	0.7
6	1	E90RSS00670100	90 Deg Elbow Long Radius ASME B16.9 BW 3,38 WRS ASTM A403 Gr.WP316/316L	1	0.1
7	1.1/2	FLW0SS00941H00	Flange WN ASME B16.5 150LB RF 3,68 FRG ASTM A182 Gr.F316/316L	2	3.7
8	1	FLW0SS00930100	Flange WN ASME B16.5 150LB RF 3,38 FRG ASTM A182 Gr.F316/316L	1	1.4

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
9	3/4	CAPFSS00023Q00	Cap Forged ASME B16.11 THRD-F NPT 3000# FRG ASTM A182 Gr.F316/316L	1	0.2
10	1.1/2	VBC0NN06961H00	Ball Valve Split Body FB API 6D FLG 150LB RF BS01C01RF	1	12.7
11	1.1/2	GSW0GK11121H00	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
12	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	1	0.1
13	1/2	SB20BO00930200	70 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	8	1.0
14	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	0.5

FABRICATION WEIGHT [kg]	15.8
ERECTION WEIGHT [kg]	14.6
OVERALL WEIGHT [kg]	30.4

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1.1/2	BW
W2	3/4	BW
W3	1.1/2	BW
W4	1.1/2	BW
W5	1.1/2	BW
W6	1.1/2	BW
W7	1.1/2	BW
W8	1	BW
W9	1	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1.1/2	506	BEVEL	BEVEL
B	1.1/2	1544	BEVEL	BEVEL

SUPPORT LIST

SPOOL	WELD [inches]	WEIGHT [kg]
A	8.25	12.1
B	3.5	3.7
MONT	0	14.6

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	20-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 1-1/2"-IA-204-01SS-N

SK.102

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00102	SHEET / OF	1/1
				REV.	00

LINE DATA

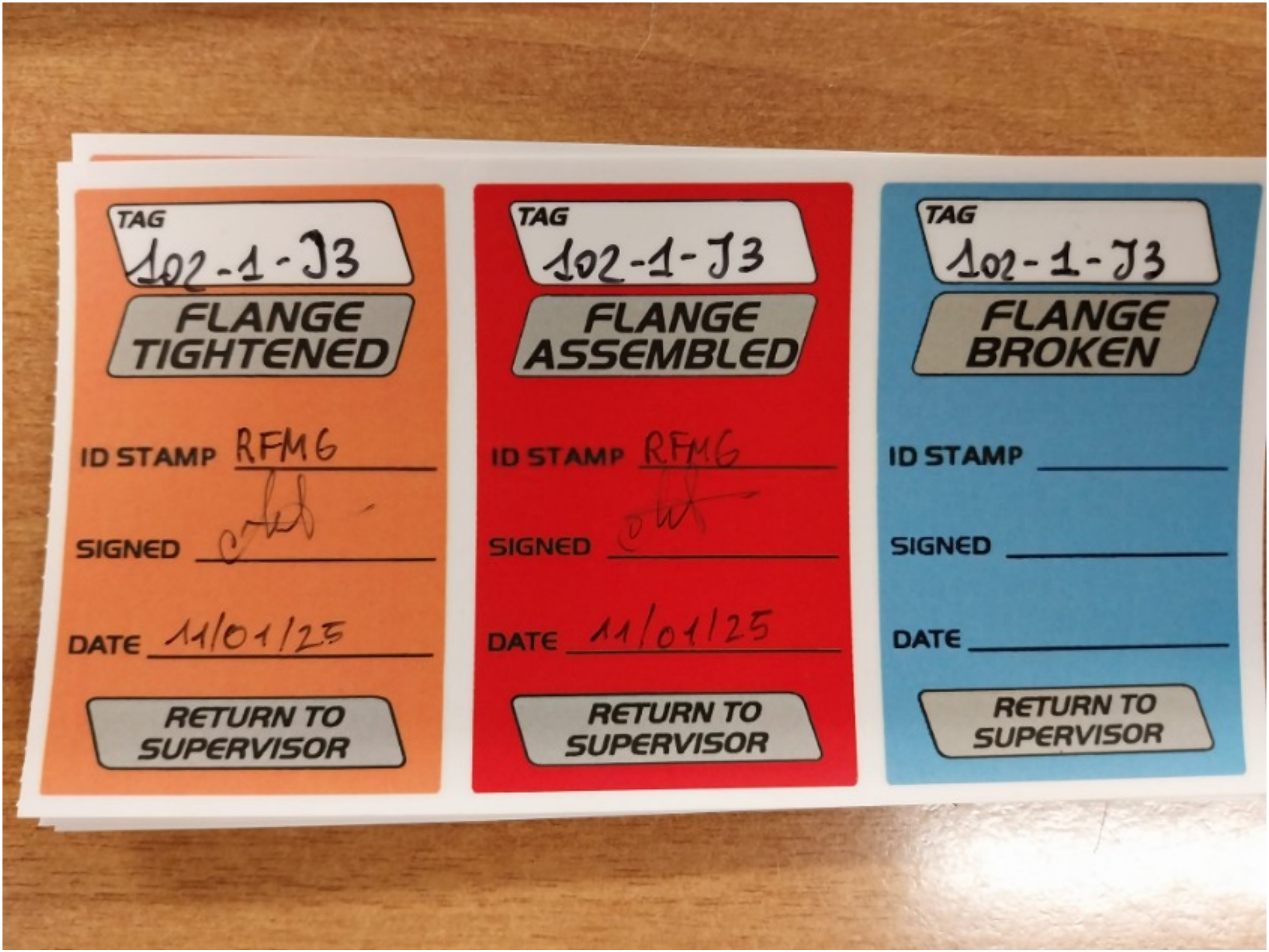
NDT INSPECTION CATEGORY	2		PED CATEGORY	Art. 4, par. 3				
PAINTING	SYSTEM 6A	BASE RAL RAL-9002	FLUID PHASE	Gas				
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 12 [barg]	TEMP. -29 / 100 [°C]			
HEAT TRACING	N/A		TEST	PRESS. 18 [barg]	TEMP. AMB	MEDIUM Water		

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

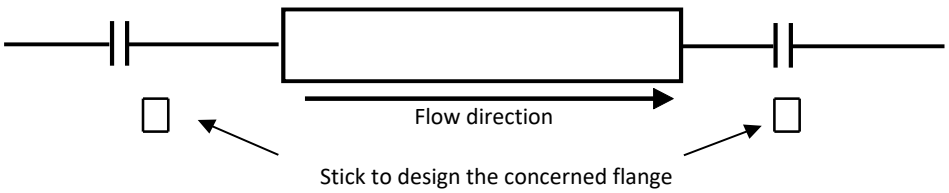
MASTER


TAG
102-1-J3
FLANGE TIGHTENED
ID STAMP RFM6
SIGNED
DATE 11/01/25
RETURN TO SUPERVISOR
TAG
102-1-J3
FLANGE ASSEMBLED
ID STAMP RFM6
SIGNED
DATE 11/01/25
RETURN TO SUPERVISOR
TAG
102-1-J3
FLANGE BROKEN
ID STAMP
SIGNED
DATE
RETURN TO SUPERVISOR

ITEM	Tag	120-1-J1	: Joint 120-1-J1			Dwg	123A90-FDL-PP-DI-00120-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004288	Location	Onshore Activities		User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27 Bolt tensioning / torquing

Test Pack N.: TP-049

EQUIPMENT TAG



Flange Type	150LB	**Lubricant**	Yes
Flange Size	2"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 / RD00261
Bolt tensioning/Torquing value	122.2		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	37	123	37	73	122.2
2	37	123	37	73	122.2
3	37	123	37	73	122.2
4	37	123	37	73	122.2
5			37	73	122.2
6			37	73	122.2
7			37	73	122.2
8			37	73	122.2
9			37	73	122.2
10			37	73	122.2
11			37	73	122.2
12			37	73	122.2
13			37	73	122.2
14			37	73	122.2
15			37	73	122.2
16			37	73	122.2
17			37	73	122.2
18			37	73	122.2
19			37	73	122.2
20			37	73	122.2

1 **Clear Bore Inspection:** Pipe and Valve clear of debris/contamination. Yes

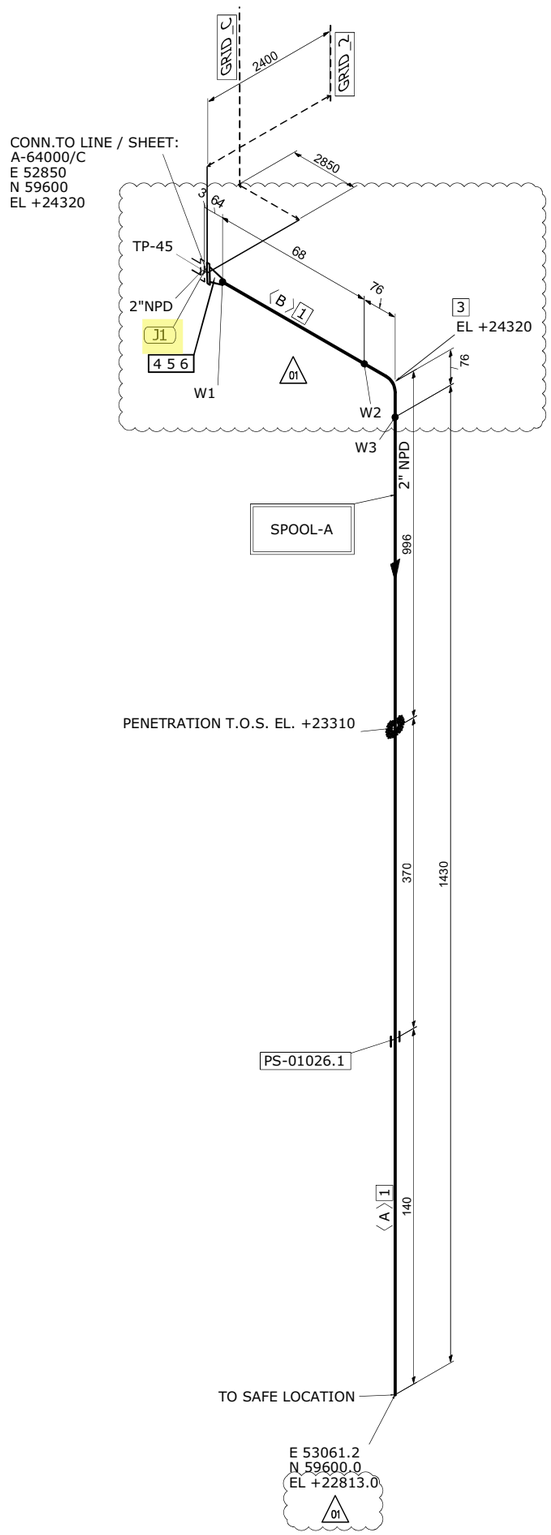
2 **Flange Face Check:** Both flanges clean and free from damage. Yes

3 **Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique. Yes

4 **Alignment:** Check alignment according to code. Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2025-01-10	2025-01-14	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-10T05:54:44.567Z	PROVERLIS Digitaly signed by Massimo Bruschi 2025-01-14T16:36:45.745Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	2	PIPECS02960200	Pipe ASME B36.10M PE 5,54 SML ASTM/ASME A/SA333 Gr.6	1.5M	11.2
3	2	E90RCS01330200	90 Deg Elbow Long Radius ASME B16.9 BW 5,54 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.9
4	2	FLW0CS02210200	Flange WN ASME B16.5 150LB RF 5,54 FRG ASTM/ASME A/SA350 Gr.LF2	1	2.7

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
5	2	GSW0GK11130200	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	1	0.1
6	5.8	SB20BO00660300	85 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	4	1.0

FABRICATION WEIGHT [kg]	14.8
ERECTION WEIGHT [kg]	1.1
OVERALL WEIGHT [kg]	15.9

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	2	BW
W2	2	BW
W3	2	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	2	1431	BEVEL	BEVEL
B	2	68	BEVEL	BEVEL

SUPPORT LIST

PS-01026.1

SPOOL	WELD [inches]	WEIGHT [kg]
A	6	14.8
MONT	0	1.1

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	17-09-2024	STAFF SRL	RT	LM	REVISED WHERE INDICATED
00	27-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC
LINE NR. 2"-AV-224-01CS-N

SK.120

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT	APPROVED	LM
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00120	SHEET / OF	1/1
				REV.	01

LINE DATA

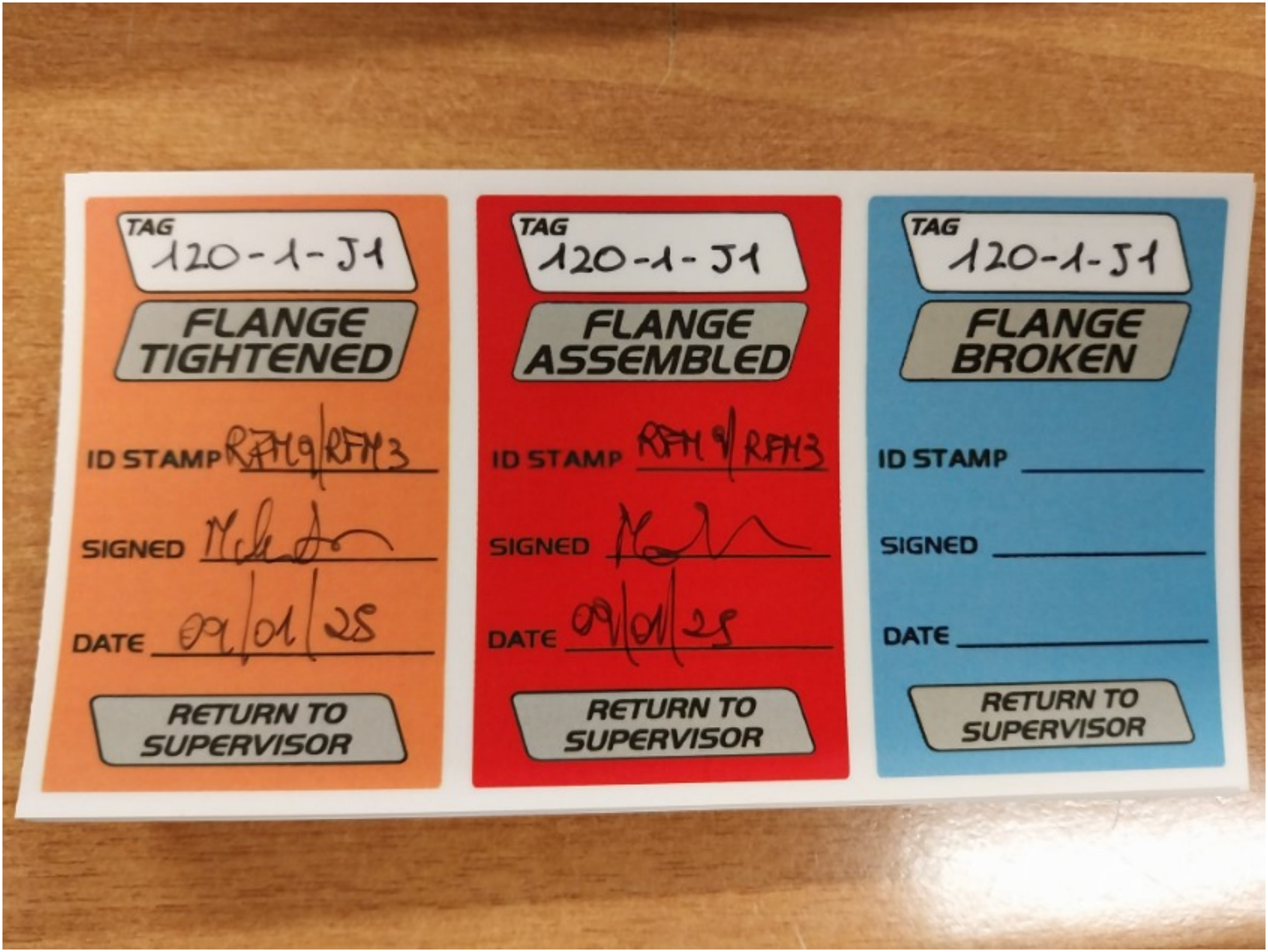
NDT INSPECTION CATEGORY	2			PED CATEGORY	Art. 4, par. 3			
PAINTING	SYSTEM 1	BASE RAL RAL-9002		FLUID PHASE	Gas			
INSULATION	TYPE N	THICKNESS [mm]		DESIGN	PRESS. 3.5 [barg]	TEMP. -46 / 100 [°C]		
HEAT TRACING	N/A			TEST	PRESS. N/A [barg]	TEMP. AMB	MEDIUM N/A	

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

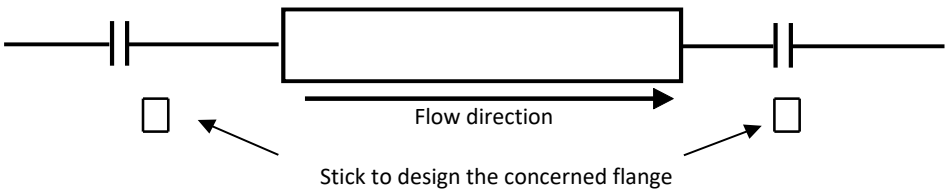
MASTER


TAG
120-1-J1
FLANGE TIGHTENED
ID STAMP RFM9/RFM3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
120-1-J1
FLANGE ASSEMBLED
ID STAMP RFM9/RFM3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
120-1-J1
FLANGE BROKEN
ID STAMP
SIGNED
DATE
RETURN TO SUPERVISOR

ITEM	Tag	126-1-J1	: Joint 126-1-J1			Dwg	123A90-FDL-PP-DI-00126-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004301		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27		Bolt tensioning / torquing

Test Pack N.: TP-063

EQUIPMENT TAG



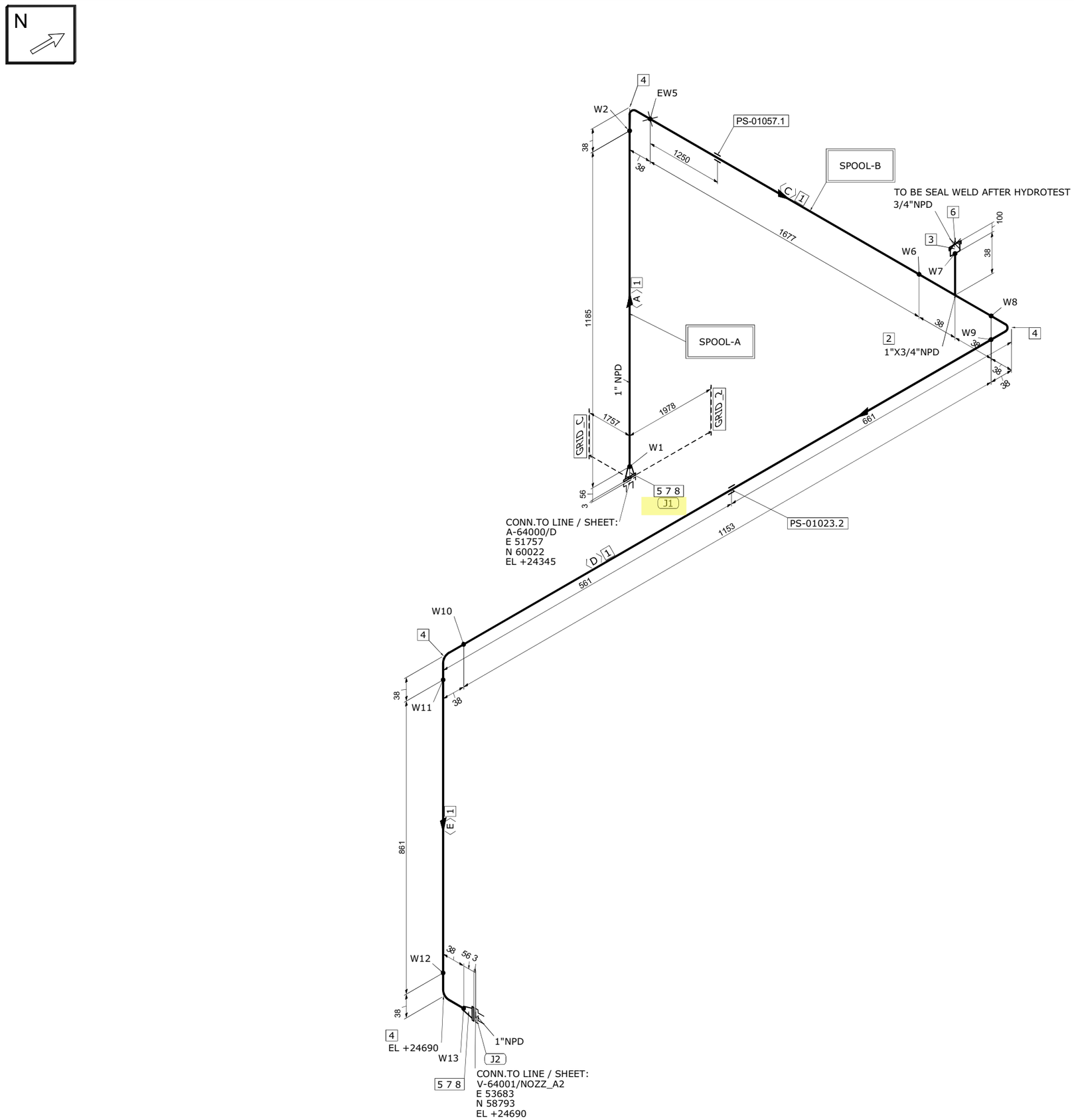
Flange Type	150LB	**Lubricant**	Yes
Flange Size	1"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 (12-68 Nm)
Bolt tensioning/Torquing value	62.5		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	19	63	19	38	62.5
2	19	63	19	38	62.5
3	19	63	19	38	62.5
4	19	63	19	38	62.5
5			19	38	62.5
6			19	38	62.5
7			19	38	62.5
8			19	38	62.5
9			19	38	62.5
10			19	38	62.5
11			19	38	62.5
12			19	38	62.5
13			19	38	62.5
14			19	38	62.5
15			19	38	62.5
16			19	38	62.5
17			19	38	62.5
18			19	38	62.5
19			19	38	62.5
20			19	38	62.5

1	**Clear Bore Inspection:** Pipe and Valve clear of debris/contamination.	Yes
2	**Flange Face Check:** Both flanges clean and free from damage.	Yes
3	**Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique.	Yes
4	**Alignment:** Check alignment according to code.	Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2025-01-10	2025-01-13	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-10T05:54:55.742Z	PROVERLIS Digitaly signed by Massimo Bruschi 2025-01-13T18:34:24.312Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1	PIPECS08300100	Pipe ASME B36.10M PE 4,55 SML ASTM/ASME A/SA333 Gr.6	4.9M	15.8
2	1X3/4	TER0CS2607013Q	Tee Reducing ASME B16.9 BW 4,55x3,91 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.5
3	3/4	N100CS05453Q00	Nipple L=100mm ASME B36.10M THRD-M NPT x PE 3,91 SML ASTM/ASME A/SA333 Gr.6	1	0.2
4	1	E90RCS01780100	90 Deg Elbow Long Radius ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	4	0.7
5	1	FLW0CS16540100	Flange WN ASME B16.5 150LB RF 4,55 FRG ASTM/ASME A/SA350 Gr.LF2	2	2.8

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
6	3/4	CAPFCS00673Q00	Cap Forged ASME B16.11 THRD-F NPT 3000# FRG ASTM/ASME A/SA350 Gr.LF2	1	0.2
7	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
8	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	8	1.0

FABRICATION WEIGHT [kg]	20.0
ERECTION WEIGHT [kg]	1.3
OVERALL WEIGHT [kg]	21.3

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1	BW
W2	1	BW
EW5	1	BW
W6	1	BW
W7	3/4	BW
W8	1	BW
W9	1	BW
W10	1	BW
W11	1	BW
W12	1	BW
W13	1	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1	1185	BEVEL	BEVEL
C	1	1677	BEVEL	BEVEL
D	1	1153	BEVEL	BEVEL
E	1	861	BEVEL	BEVEL

SUPPORT LIST

PS-01023.2
PS-01057.1

SPOOL	WELD [inches]	WEIGHT [kg]
A	2	5.4
B	7.75	11.0
MONT	1	1.3

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	27-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE
SHOP DRAWING ISOMETRIC
LINE NR. 1"-N-262-01CS-N

SK.126

LINE DATA

NDT INSPECTION CATEGORY	2			PED CATEGORY	Art. 4, par. 3				
PAINTING	SYSTEM 1	BASE RAL RAL-9002		FLUID PHASE	Gas				
INSULATION	TYPE N	THICKNESS [mm]		DESIGN	PRESS. 12	[barg]	TEMP. -46 / 100	[°C]	
HEAT TRACING	N/A			TEST	PRESS. 18	[barg]	TEMP. AMB	MEDIUM Water	

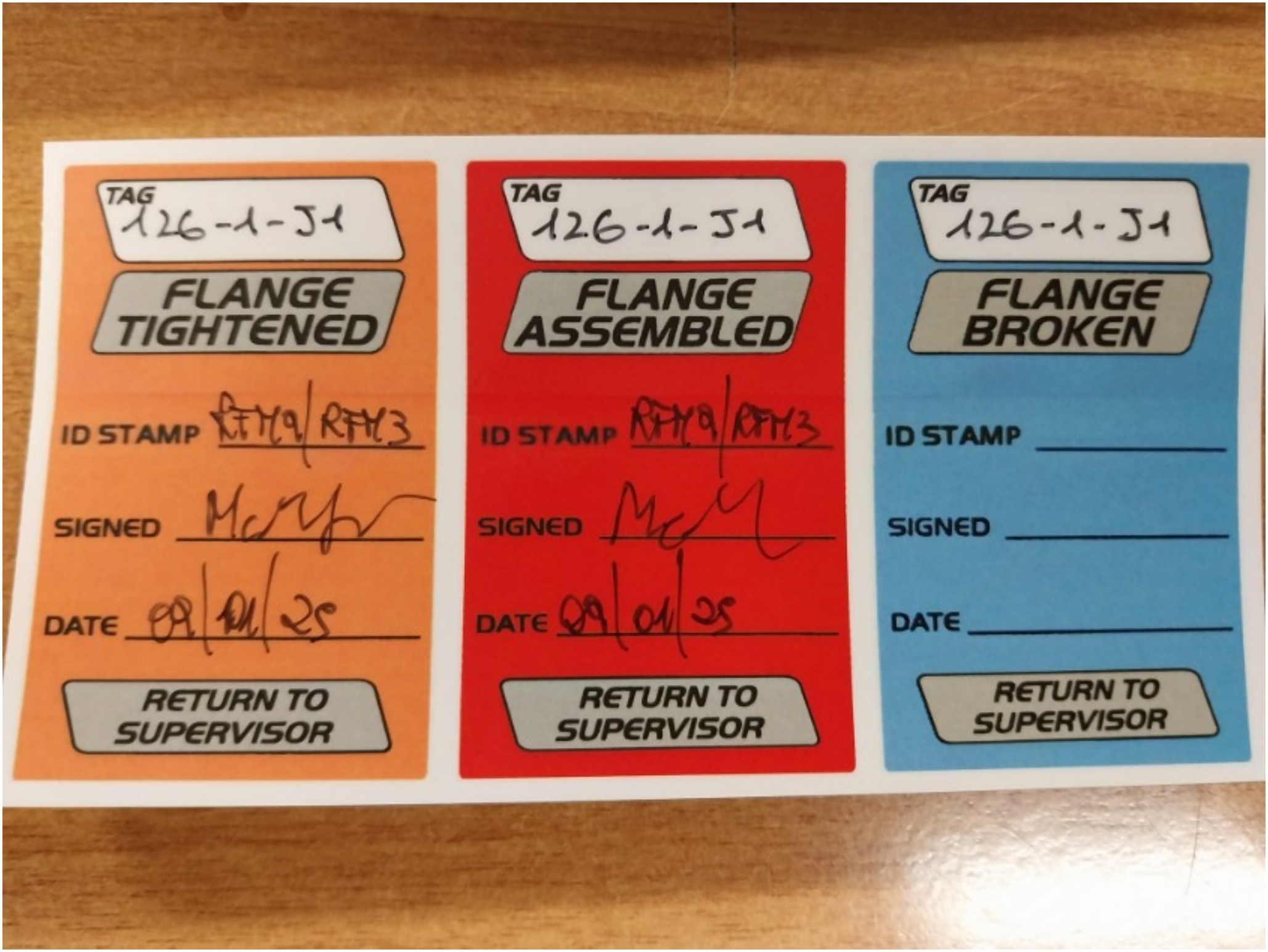
REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

MASTER

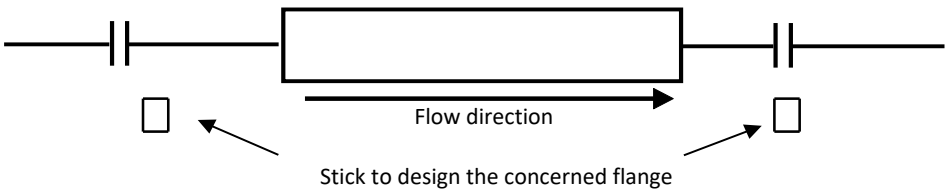
CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	N/A
DRAWN STAFF SRL	CHECKED RT	APPROVED LM	DATE 27-08-2024
FORMAT A3	DRAWING NO. 123A90-FDL-PP-DI-00126	SHEET / OF 1/1	REV. 00


TAG
126-1-J1
FLANGE TIGHTENED
ID STAMP RTH9/RTH3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
126-1-J1
FLANGE ASSEMBLED
ID STAMP RTH9/RTH3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
126-1-J1
FLANGE BROKEN
ID STAMP
SIGNED
DATE
RETURN TO SUPERVISOR

ITEM	Tag	126-1-J2	: Joint 126-1-J2			Dwg	123A90-FDL-PP-DI-00126-01
	S/Sys	64-00	: Nitrogen Generator Package (U-64000)			Module	LD
TASK	code	C10004302	Location	Onshore Activities		User	Rosetti Marino Quality Control
FORM	Process	MC	Activity PIP	Discipline	Piping	Form	TMX27 Bolt tensioning / torquing

Test Pack N.: TP-063

EQUIPMENT TAG



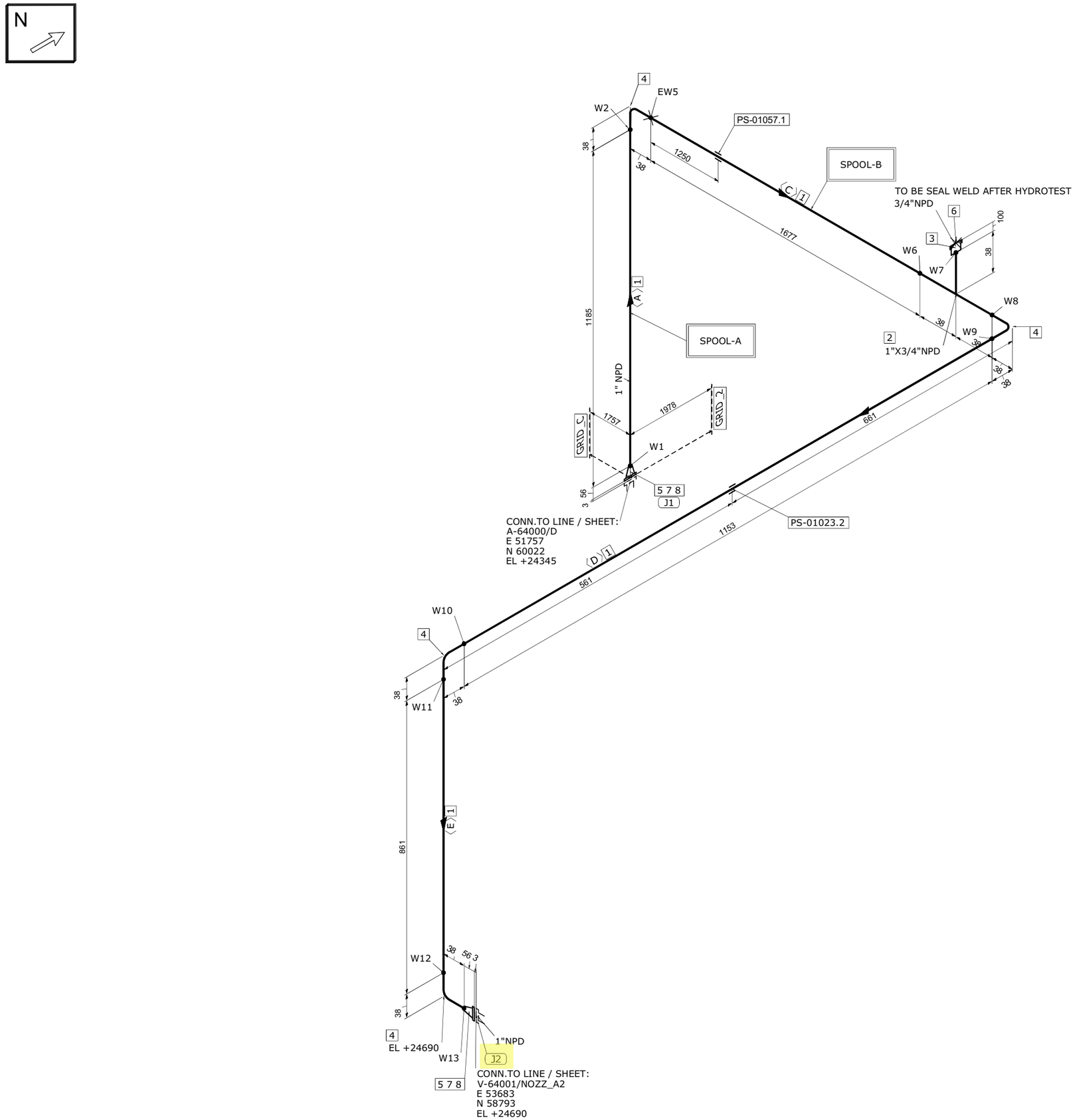
Flange Type	150LB	**Lubricant**	Yes
Flange Size	1"	**Lubricant Type**	MOLYKOTE 1000 PASTE
Gasket Type	Gasket Spiral Wound Thk. 3.2 mm	**Used tools**	Torque wrench V030390 (12-68 Nm)
Bolt tensioning/Torquing value	62.5		

			Torque (Design Value)		
Sequence	Pre tension/torque	Final tension/torque	30%	60%	100%
1	19	63	19	38	62.5
2	19	63	19	38	62.5
3	19	63	19	38	62.5
4	19	63	19	38	62.5
5			19	38	62.5
6			19	38	62.5
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8			19	38	62.5
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16			19	38	62.5
17			19	38	62.5
18			19	38	62.5
19			19	38	62.5
20			19	38	62.5

1	**Clear Bore Inspection:** Pipe and Valve clear of debris/contamination.	Yes
2	**Flange Face Check:** Both flanges clean and free from damage.	Yes
3	**Gaskets and Bolts:** Gaskets and Bolts checked for correctness to specification, any damage and for correct length technique.	Yes
4	**Alignment:** Check alignment according to code.	Yes

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RODEO	RM (ROSETTI MARINO)	
Name	Emanuele Delfino	Massimo Bruschi	
Date	2025-01-10	2025-01-13	
Signature	PROVERLIS Digitaly signed by Emanuele Delfino 2025-01-10T05:55:07.734Z	PROVERLIS Digitaly signed by Massimo Bruschi 2025-01-13T18:35:01.534Z	



MATERIAL LIST

FABRICATION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
1	1	PIPECS08300100	Pipe ASME B36.10M PE 4,55 SML ASTM/ASME A/SA333 Gr.6	4.9M	15.8
2	1X3/4	TER0CS2607013Q	Tee Reducing ASME B16.9 BW 4,55x3,91 WRS ASTM/ASME A/SA420 Gr.WPL6	1	0.5
3	3/4	N100CS05453Q00	Nipple L=100mm ASME B36.10M THRD-M NPT x PE 3,91 SML ASTM/ASME A/SA333 Gr.6	1	0.2
4	1	E90RCS01780100	90 Deg Elbow Long Radius ASME B16.9 BW 4,55 WRS ASTM/ASME A/SA420 Gr.WPL6	4	0.7
5	1	FLW0CS16540100	Flange WN ASME B16.5 150LB RF 4,55 FRG ASTM/ASME A/SA350 Gr.LF2	2	2.8

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]
6	3/4	CAPFCS00673Q00	Cap Forged ASME B16.11 THRD-F NPT 3000# FRG ASTM/ASME A/SA350 Gr.LF2	1	0.2
7	1	GSW0GK11100100	Gasket Spiral Wound Thk. 3.2 mm ASME B16.20 150LB RF GSK AISI 316 + GRAPHITE c/w INNER RING	2	0.1
8	1/2	SB20BO01080200	65 Stud Bolt + 2 Heavy Nuts ASME B1.1 ASTM A193 Gr.B7 - A194 Gr.2H Hot dip galvanized	8	1.0

FABRICATION WEIGHT [kg]	20.0
ERECTION WEIGHT [kg]	1.3
OVERALL WEIGHT [kg]	21.3

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
W1	1	BW
W2	1	BW
EW5	1	BW
W6	1	BW
W7	3/4	BW
W8	1	BW
W9	1	BW
W10	1	BW
W11	1	BW
W12	1	BW
W13	1	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
A	1	1185	BEVEL	BEVEL
C	1	1677	BEVEL	BEVEL
D	1	1153	BEVEL	BEVEL
E	1	861	BEVEL	BEVEL

SUPPORT LIST

PS-01023.2
PS-01057.1

SPOOL	WELD [inches]	WEIGHT [kg]
A	2	5.4
B	7.75	11.0
MONT	1	1.3

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
00	27-08-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE
SHOP DRAWING ISOMETRIC
LINE NR. 1"-N-262-01CS-N

SK.126

LINE DATA

NDT INSPECTION CATEGORY	2			PED CATEGORY	Art. 4, par. 3				
PAINTING	SYSTEM 1	BASE RAL RAL-9002		FLUID PHASE	Gas				
INSULATION	TYPE N	THICKNESS [mm]		DESIGN	PRESS. 12	[barg]	TEMP. -46 / 100	[°C]	
HEAT TRACING	N/A			TEST	PRESS. 18	[barg]	TEMP. AMB.	MEDIUM Water	

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80027
ISOMETRIC SHOP DWG LIST	123A90-FDL-PP-LIS-00001
PIPING SUPPORT BOOK	123A90-DDL-PP-DD-72000
PIPING MATERIAL CLASS	123A90-DDL-PP-SP-70029

NOTES

MASTER

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	N/A
DRAWN STAFF SRL	CHECKED RT	APPROVED LM	DATE 27-08-2024
FORMAT A3	DRAWING NO. 123A90-FDL-PP-DI-00126	SHEET / OF 1/1	REV. 00


TAG
126-1-J2
FLANGE TIGHTENED
ID STAMP RFM9/RFM3
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
126-1-J2
FLANGE ASSEMBLED
ID STAMP RFM3/RFM9
SIGNED
DATE 09/01/25
RETURN TO SUPERVISOR
TAG
126-1-J2
FLANGE BROKEN
ID STAMP
SIGNED
DATE
RETURN TO SUPERVISOR

Section 11 MECHANICAL COMPLETION INDEX - SAFETY DISCIPLINE

NOT APPLICABLE

Section 12 FAT / VENDOR REPORTS

ROSETTI MARINO	**MINUTA DI VISITA DI EXPEDITING** *Expediting Report*	ER No. **123A90-ER-COE-0437-002**	Sheet 1 di 7
		DATA *Date 03/09/2024*	*Rev. 0*
PROGETTO *Project* **HOLLANDSE KUST NOORD WIND PARK**	CLIENTE Client CROSSWIND	PROJECT NO**. 123A90**	
FORNITORE *Supplier* *COES SRL*	*P.O. No. 1724000437*	*FORNITURA Scope of work* *NITROGEN GENERATION PACKAGE*	

A.1 INFORMAZIONI GENERALI / *General information*

VISIT AT:	PO No.	REV.	JOB No.	LOCATION
☒ **SUPPLIER** COES	1724000437	1	167/24	Via Pontida, 265 – Stezzano (BG)
☐ **SUB-SUPPLIER**				

PREVIOUS EXPEDITING VISIT	CURRENT EXPEDITING VISIT	NEXT EXPEDITING VISIT
02/07/2024	03/09/2024	16-20/09/2024, exact date TBC

K.O.M. *(Kick-Off Meeting)*	**P.I.M.** *(Pre Inspection Meeting)*
☒*Yes [Doc. N° 123A90-KOM-RM-0437-001, dated 14/03/2024]* ☐*No*	☐*Yes* ☒*No*

DISTRIBUZIONE / *Distribution*

☒ BUYER PROJECT TEAM - ROSETTI MARINO	☒ COMPANY PROJECT TEAM – CROSSWIND

A.2 PARTECIPANTI / *Attendees*

BUYER: ROSETTI MARINO	SUPPLIER: ALEX SISTEMI	CLIENT: CROSSWIND
Martino Basile (Expeditor)	Luigi Testa (Project Manager)	None
Deborah Guiotto (Expediting Assistant)		

A.3 DESCRIZIONE DEL MATERIALE / *Material Description*

PO Pos.	Qty	TAG	DESCRIZIONE *Description*	Consegna Contrattuale *Contractual delivery*	Consegna Stimata *Estimated delivery*
10	1	U-6400	**NITROGEN GENERATOR PACKAGE**	04/10/2024	15/10/2024
20	1	n/a	**SPARE PARTS FOR COMMISSIONING**, consisting of: - 1 set of piping gaskets; - 1 set of gaskets for valves;	04/10/2024	15/10/2024
30	1	n/a	**SPARE PARTS FOR TWO YEARS OPERATIONS**, consisting of: - 2 sets of gaskets for valves; - 4 sets of filter elements and gaskets for Duplex afterfilter; - 2 sets of gaskets for Nitrogen tank;	04/10/2024	15/10/2024
40	1	n/a	**PACKING AND PRESERVATION** including protection for shipment to WORKSITE and marking	04/10/2024	15/10/2024
50	1	n/a	**DELIVERY OF GOODS DAP WORKSITE**	04/10/2024	15/10/2024

A.4 STATO AVANZAMENTO DELL' ORDINE / *Order Progress*

	INGEGNERIA *Engineering*	EMISSIONE SUBORDINI *Suborders Issuing*	DISPONIBILITA' MATERIALI *Material availabilty*	PRODUZIONE *Manufacturing*
PROGRESS (%)	**65 %**	**100 %**	**65 %**	**05 %**
ON SCHEDULE	☐**SI** / *Yes* ☒**NO** / *No*	☒**SI** / *Yes* ☐**NO** / *No*	☐**SI** / *Yes* ☒**NO** / *No*	☐**SI** / *Yes* ☒**NO** / *No*

A.5 – RIASSUNTO DELLA VISITA E AZIONI / *Visit summary and actions*

As a result of the current visit, the following can be summed-up:

- There are lot of overdue documents, the writer has agreed with Mr. Testa the forecast resubmission date for each of them;
- Procurement stage is basically closed, all sub-orders have been placed;
- About 60% of materials have been received, while balance is supposed to be available within the next week; the only exception is for **actuated valves, which are contractually due on 26/09/2024; the risk is that any delay on the delivery of these valves will impact on the final delivery date of the whole skid;**
- Production in progress on Nitrogen receiver only, expected to be completed within 20/09/2024; activities on baseframe will start on 07/09/2024, just upon balance materials' arrival;

EXPEDITOR INCARICATO *The appointed expeditor by* ROSETTI MARINO	NOME, COGNOME *Name, Surname* *Martino Basile*	
	DATA *Date* *03/09/2024*	FIRMA *Signature*

The present forecast delivery date has been delayed to 15/10/2024, mainly due to delay from sub-suppliers. This delivery date is beyond Rosetti Marino expectations, nevertheless, writer's feeling is that it could be improved to 13/10/2024, not more.

STATO AVANZAMENTO FORNITURA *Supply Progress Status*

B – INGEGNERIA / *Engineering*

Fusion live document No.	Rev	Due Date	Title	Status (3/2Y/1)	**Forecast resubmission date**	Action by (Supplier/ Buyer/CPY)
1724000437-MAC-DD-00008	00	10/05/24	PACKAGE PIPING SCHEMATICS AND BILL OF MATERIALS - NITROGEN GENERATION PACKAGE	n/a	**04/09/2024**	Supplier
1724000437-QC-PRO-00023	01	24/05/24	FAT (FACTORY ACCEPTANCE TEST) PROCEDURE - NITROGEN GENERATION PACKAGE	3	**06/09/2024**	Supplier
1724000437-COM-LIS-00028	00	31/05/24	SPARE PARTS LIST (2 YEARS AND COMMISSIONING AND START-UP) - NITROGEN GENERATION PACKAGE	n/a	**27/09/2024**	Supplier
1724000437-QC-LIS-00025	00	31/05/24	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX - NITROGEN GENERATION PACKAGE	n/a	**13/09/2024**	Supplier
1724000437-EL-LIS-00014	02	10/06/24	ELECTRICAL LOAD LIST - NITROGEN GENERATION PACKAGE	2	**13/09/2024**	Supplier
1724000437-MAC-DS-00011	02	12/06/24	NITROGEN GENERATION PACKAGE - EQUIPMENT DATA SHEETS INCLUDING PSA, ETC.	2	**13/09/2024**	Supplier
1724000437-MAC-LIS-00026	02	29/06/24	ATEX REGISTER - NITROGEN GENERATION PACKAGE	2	**27/09/2024**	Supplier
1724000437-WEL-LIS-00020	01	05/07/24	WELDING BOOK (WPS, PQR, WELDERS QUALIFICATIONS, WELDING MAPS, ETC.) - NITROGEN GENERATION PACKAGE	2	**13/09/2024**	Supplier
1724000437-MAC-LIS-00027	00	19/07/24	ATEX DOCUMENTATION - NITROGEN GENERATION PACKAGE	n/a	**27/09/2024**	Supplier
1724000437-MAC-DG-00009	02	31/07/24	PACKAGE WIRING DIAGRAM INCLUDING LAYOUT OF PACKAGE CONTROL PANEL - NITROGEN GENERATION PACKAGE	2	**17/09/2024**	Supplier
1724000437-MAC-DS-00012	01	31/07/24	PACKAGE EQUIPMENT NOISE DATA SHEETS INCLUDING PSA, ETC. - NITROGEN GENERATION PACKAGE	2	**03/09/2024**	Supplier
1724000437-MAC-DS-00013	02	01/08/24	INSTRUMENT DATA SHEETS - NITROGEN GENERATION PACKAGE	2	**03/09/2024**	Supplier
1724000437-MAC-DD-00006	02	05/08/24	EQUIPMENT SECTIONAL DRAWING WITH BILL OF MATERIAL - NITROGEN GENERATION PACKAGE	2	**17/09/2024**	Supplier
1724000437-MAT-PRO-00021	01	05/08/24	PAINTING PROCEDURE - NITROGEN GENERATION PACKAGE	2	**04/09/2024**	Supplier
1724000437-MAC-CA-00031	02	06/08/24	NITROGEN RECEIVER CALCULATION	2	**17/09/2024**	Supplier
1724000437-IN-LIS-00016	03	06/08/24	INSTRUMENT LIST WITH SET POINTS-CONTROL-ALARM-SHUTDOWN - NITROGEN GENERATION PACKAGE	2	**04/09/2024**	Supplier
1724000437-PR-PID-00018	03	07/08/24	PACKAGE PID - NITROGEN GENERATION PACKAGE	2	**09/09/2024**	Supplier
1724000437-MAC-SP-00003	02	08/08/24	SYSTEM-PACKAGE FUNCTIONAL DESCRIPTION - NITROGEN GENERATION PACKAGE	2	**09/09/2024**	Supplier
1724000437-QC-PRO-00022	03	10/08/24	HYDROSTATIC TEST PROCEDURE - NITROGEN GENERATION PACKAGE	2	**03/09/2024**	Supplier

EXPEDITOR INCARICATO *The appointed expeditor by* ROSETTI MARINO	NOME, COGNOME *Name, Surname* *Martino Basile*	
	DATA *Date* *03/09/2024*	FIRMA *Signature*

1724000437-ST-RE-00010	02	13/08/24	NITROGEN GENERATION PACKAGE U-64000 - PACKAGE STRUCTURAL CALCULATION REPORT INCLUDING FIXING POINTS and LIFTING POINTS	2	**17/09/2024**	Supplier
1724000437-MAC-CE-00004	01	22/08/24	PACKAGE CAUSE EFFECT MATRIX - LOGIC DIAGRAMS -NITROGEN GENERATION PACKAGE	3	**17/09/2024**	Supplier
STATO INGEGNERIA PIANIFICATA / *Engineering progress status* ***PLANNED***					**90 %**	
STATO INGEGNERIA ATTUALE / *Engineering progress status* ***CURRENT***					**65 %**	

NOTE */ Remarks:*

Re-forecast dates agreed during the present visit have been in bold highlighted on the above sketch.

C – EMISSIONE SUB-ORDINI E DISPONIBILITA' MATERIALE/ *Issuing of sub-orders and material availability*

MATERIALE *Material*	**FORNITORE** *Supplier*	**NR. SUB-ORDINE** *S/O No.*	**CONSEGNA** *Delivery Date*			
			PIAZZAMENTO SUB-ORDINE *S/O placement*		**DISPONIBILITÀ MATERIALI** *Material availability*	
			PLANNED	**FORECAST**	**PLANNED**	**FORECAST / RECEIVED**
Local control panel	SCAE	1397/24	17/04/2024	17/04/2024	09/08/2024	16/09/2024 (Note 1)
Instruments and accessories	WIKA (PG, TG)	2153/24	27/06/2024	27/06/2024	30/08/2024	**AVAILABLE**
	EMERSON (PT, PDT, TE, TT, FT)	2055/24	20/06/2024	20/06/2024	09/08/2024	**AVAILABLE**
	BAKER HUGES (O2 analyser and dew point analyser)	2060/24	20/06/2024	20/06/2024	05/09/2024	05/09/2024
Check valves	SARVAL (check)	2078/24	21/06/2024	21/06/2024	26/07/2024	**AVAILABLE**
Actuated valves	VALPRES	2296/24	11/07/2024	11/07/2024	26/09/2024	26/09/2024
Manual valves	VALPRES	2296/24	11/07/2024	11/07/2024	26/09/2024	26/09/2024
Safety valves	NUOVA GENERAL INSTRUMENTS	2069/24	21/06/2024	21/06/2024	10/09/2024	10/09/2024
Raw materials for Nitrogen generation package	Beams (for baseframe)	N/A	11/07/2024	02/08/2024	30/08/2024	Partially available, balance 06/09/2024
	Pipes	N/A	11/07/2024	02/08/2024	30/08/2024	**AVAILABLE**
	Flanges and fittings	N/A	11/07/2024	02/08/2024	30/08/2024	06/09/2024
Raw materials for Nitrogen receiver	SIFEA (heads)	1935/24	07/06/2024	07/06/2024	08/08/2024	**AVAILABLE**
	GUALINI (plates)	1981/24	13/06/2024	13/06/2024	29/07/2024	**AVAILABLE**
	FIL-PEMPTO (flanges for manholes)	2179/24	01/07/2024	01/07/2024	26/07/2024	**AVAILABLE**
STATO EMISSIONI SUBORDINI PIANIFICATO / *suborders placement status* ***PLANNED***					**100 %**	
STATO EMISSIONI SUBORDINI ATTUALE / *suborders placement status* ***CURRENT***					**100 %**	
STATO DISPONIBILITA' MATERIALI PIANIFICATO / *material availabilty* ***PLANNED***					**90%**	
STATO DISPONIBILITA' MATERIALI ATTUALE / *material availabilty* ***CURRENT***					**65 %**	

NOTE */ Remarks:*

1. Delay due to re-alignment on recent changes agreed with Rosetti (actuated valves basically) and formally implemented on PO Rev. 1;

The expeditor has requested Mr. Testa to get confirmation from each sub-supplier for all those materials still to be delivered, on top of all actuated valves.

EXPEDITOR INCARICATO *The appointed expeditor by* ROSETTI MARINO	NOME, COGNOME *Name, Surname* *Martino Basile*	
	DATA *Date* *03/09/2024*	FIRMA *Signature*

D – MATERIALE IN CONTO LAVORAZIONE ALL'ESTERNO/ *Material sent for work externally*

None.

E – PRODUZIONE / *Manufacturing and/or assembling*

DESCRIZIONE *Description*	**PIANIFICATA** *Planned*	**PREVISIONE** *Forecast*
MANUFACTURING AND TESTING		
Manufacturing of baseframe	09-22/08/2024	10-16/09/2024
NDE test on baseframe	23-27/08/2024	12-16/09/2024
Manufacturing of Nitrogen receiver	09/08 to 12/09/2024	In progress, end by 12/09/2024
Manufacturing of Nitrogen package vessels (towers and filters)	09-29/08/2024	10-19/09/2024
NDE test on pressure vessels	30/08 to 03/09/2024	10-19/09/2024
Manufacturing of piping	09-22/08/2024	10-16/09/2024
NDE test on piping	23-27/08/2024	10-16/09/2024
Hydrotest (piping, towers and filters)	04-05/09/2024	20/09/2024
Painting / Pickling & passivation	06-12/09/2024	23-27/09/2024
Assembling of Nitrogen Generation Package	13-17/09/2024	30/09/2024 – 09/10/2024
Pneumatic and electric hook-ups	18-24/09/2024	See note
Final inspection on Instrument Air Package	25/09/2024	10/10/2024
Preparation for shipment	26/09/2024	11/10/2024
Packing	27/09/2024	14/10/2024
Shipment to RM Ravenna yard	30/09/2024	15/10/2024
STATO FABBRICAZIONE E ASSEMBLAGGIO PIANIFICATO / *Manufacturing and assembling status* ***PLANNED***	**15 %**	
STATO FABBRICAZIONE E ASSEMBLAGGIO ATTUALE / *Manufacturing and assembling status* ***CURRENT***	**05 %**	

NOTE */ Remarks:*

The expeditor has discussed with Mr. Testa the production schedule provided at the beginning of the visit, please find it attached to present report.
Even if not specifically shown on the schedule, production of nitrogen receiver is in progress into a plant which is part of COES group. The specific plan for remaining activities is:

- Welding (in progress) and related NDT to be completed within 12/09/2024;
- hydro-test on 13/09/2024;
- painting within 19/09/2024;
- delivery 20/09/2024;

The only aspect which could prevent the success of the above plan is the actual execution of X-rays, which are usually shot in the evening / night or Saturday. Being outsourced to external NDT company, the date is still to be confirmed. This date will lead the air receiver's hydro-test date and consequently the final "readiness" date.
Please see attached pictures provided by Mr. Testa, showing the progress of the nitrogen receiver.

With regards to the skid itself, despite expeditor's efforts to pull-back the delivery date to 04/10/2024, the schedule is really very tight and it seems there is no possibility to recovery the present forecast delivery date of 15/10/2024.

EXPEDITOR INCARICATO *The appointed expeditor by* ROSETTI MARINO	NOME, COGNOME *Name, Surname* *Martino Basile*	
	DATA *Date* *03/09/2024*	FIRMA *Signature*

COES has assigned a dedicated team to work exclusively on this package until the delivery, while another one will work in parallel on the other package (PO 1724000428, Instrument Air Package).
Vendor is overloaded and they have already put in place the main actions usually required for recovery:

- extra hours;
- working on Saturday;
- increasing of priority into the overall schedule;

Writer's feeling is that considering all the aspects involving this job, a very small improvement can be probably achieved around the packing / preparation for shipping days, **therefore the delivery date could be improved to 13/10/2024, not before. Any different promise is not reliable.**

F – COLLAUDI PROGRAMMATI (fare riferimento a ITP) / *Schedule testing (please refer to ITP)*

COLLAUDO *Testing*	**DESCRIZIONE** *Description*	**PIANIFICATA** *Planned*	**PREVISIONE** *Forecast*
☒**INTERMEDIO** *Intermediate*	NDE on baseframe, pressure vessels, piping	23/08 to 03/09/2024	10 - 19/09/2024
☒**IDRAULICO** *Hydraulic*	Hydraulic test	04-05/09/2024	20/09/2024
☒**PNEUMATICO** *Pneumatic*	Pneumatic test	18-24/09/2024	10/10/2024
☒**FAT / FINALE** *FAT/Final*	FAT consisting of checking the package from mechanical, E&I points of view, as well as visual and dimensional check, paint DFT check, tagging, marking, labelling and preparation for shipping	25/09/2024	10/10/2024

NOTE / *Remarks:*
None

G – CONSEGNA E SPEDIZIONE / *Delivery and Shipping*

DATA IMBALLO / *Packing date*	14/10/2024	
DATA SPEDIZIONE / *Shipping date*	15/10/2024	
DATA DI CONSEGNA e RESA / *Delivery date and terms*	15/10/2024	Incoterms: DAP worksite

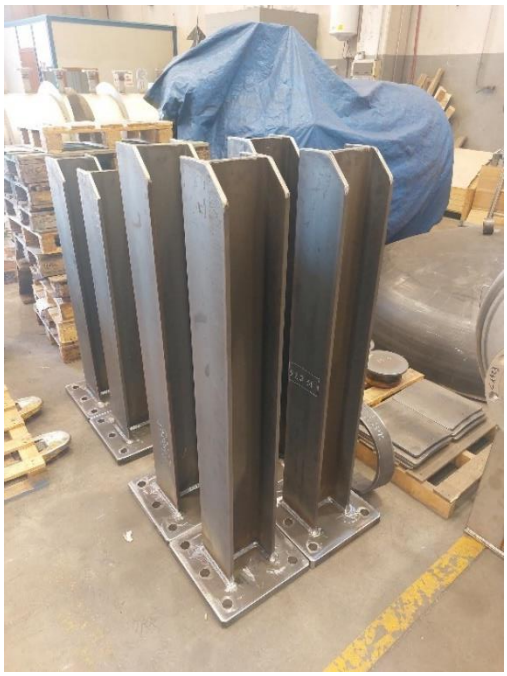
NOTE / *Remarks:*
None.

H – ALLEGATI (SE PRESENTI) / *Attachment (if any)*

#1	**Production schedule**

EXPEDITOR INCARICATO *The appointed expeditor by* ROSETTI MARINO	NOME, COGNOME *Name, Surname* *Martino Basile*	
	DATA *Date* *03/09/2024*	FIRMA *Signature*

I – REPORT FOTOGRAFICO (SE PRESENTE) / *Pictures (if any), with short description*



No. 04 legs



Minor materials / components



Head still to be welded



Nitrogen receiver – fabrication in progress

EXPEDITOR INCARICATO *The appointed expeditor by* ROSETTI MARINO	NOME, COGNOME *Name, Surname* *Martino Basile*	
	DATA *Date* *03/09/2024*	FIRMA *Signature*



Nitrogen receiver – fabrication in progress

A.1 INFORMAZIONI GENERALI / *General information*

VISIT AT:	PO No.	REV.	JOB No.	LOCATION
☒ **SUPPLIER** COES	1724000437	1	167/24	Via Pontida, 265 – Stezzano (BG)
☐ **SUB-SUPPLIER**				

PREVIOUS EXPEDITING VISIT	CURRENT EXPEDITING VISIT	NEXT EXPEDITING VISIT
03/09/2024	01/10/2024	Exact date TBC

K.O.M. *(Kick-Off Meeting)*	P.I.M. *(Pre Inspection Meeting)*
☒*Yes [Doc. N° 123A90-KOM-RM-0437-001, dated 14/03/2024]* ☐*No*	☐*Yes* ☒*No*

DISTRIBUZIONE / *Distribution*

☒ BUYER PROJECT TEAM - ROSETTI MARINO	☒ COMPANY PROJECT TEAM – CROSSWIND

A.2 PARTECIPANTI / *Attendees*

BUYER: ROSETTI MARINO	SUPPLIER: ALEX SISTEMI	CLIENT: CROSSWIND
Martino Basile (Expeditor)	Luigi Testa (Project Manager)	None
	Andrea Bonicelli (Sales Manager)	

A.3 DESCRIZIONE DEL MATERIALE / *Material Description*

PO Pos.	Qty	TAG	DESCRIZIONE *Description*	Consegna Contrattuale *Contractual delivery*	Consegna Stimata *Estimated delivery*
10	1	U-6400	**NITROGEN GENERATOR PACKAGE**	04/10/2024 (*)	29/10/2024
20	1	n/a	**SPARE PARTS FOR COMMISSIONING**, consisting of: - 1 set of piping gaskets; - 1 set of gaskets for valves;	04/10/2024 (*)	29/10/2024
30	1	n/a	**SPARE PARTS FOR TWO YEARS OPERATIONS**, consisting of: - 2 sets of gaskets for valves; - 4 sets of filter elements and gaskets for Duplex afterfilter; - 2 sets of gaskets for Nitrogen tank;	04/10/2024 (*)	29/10/2024
40	1	n/a	**PACKING AND PRESERVATION** including protection for shipment to WORKSITE and marking	04/10/2024 (*)	29/10/2024
50	1	n/a	**DELIVERY OF GOODS DAP WORKSITE**	04/10/2024 (*)	29/10/2024

(*) this contractual delivery date is related to PO Rev. 1. In the next days, PO will be revised again to include the recent agreement between Buyer and Supplier, about package performance test to be included into the scope of supply.

A.4 STATO AVANZAMENTO DELL' ORDINE / *Order Progress*

	INGEGNERIA *Engineering*	EMISSIONE SUBORDINI *Suborders Issuing*	DISPONIBILITA' MATERIALI *Material availabilty*	PRODUZIONE *Manufacturing*
PROGRESS (%)	**75 %**	**100 %**	**100 %**	**65 %**
ON SCHEDULE	☐**SI** / *Yes* ☒**NO** / *No*	☒**SI** / *Yes* ☐**NO** / *No*	☒**SI** / *Yes* ☐**NO** / *No*	☐**SI** / *Yes* ☒**NO** / *No*

A.5 – RIASSUNTO DELLA VISITA E AZIONI / *Visit summary and actions*

As a result of the recent agreement between Rosetti Marino and COES, FAT (Factory Acceptance Test) shall be considered as a performance test for the whole package.
In few words, COES will not carry out just a blank test on the package as originally agreed, but they will execute the FAT / Performance test to accommodate Rosetti Marino requests of having the package fully tested from a performance point of view.

EXPEDITOR INCARICATO *The appointed expeditor by* ROSETTI MARINO	NOME, COGNOME *Name, Surname* *Martino Basile*	
	DATA *Date* *01/10/2024*	FIRMA *Signature*

Considering this new scenario, during the performance test, the following data shall be measured on IA package:

- discharge pressure;
- nitrogen purity;
- design capacity;

From a commercial point of view, the above explained aspect will be formalized between Buyer and Supplier in the next working days (PO will be revised to include performance test).

With regards to production, **COES has prepared the revised schedule, which shows a delivery date of 29/10/2024. This date is not 100% matching with the Rosetti Marino request of 25/10/2024, however, it is the best possible target achievable by Vendor**. To achieve this goal, COES will implement the following:

- Allocate additional resources specific for this job and the other one with Rosetti Marino: two different teams will work in parallel on this package and the other one, PO 1724000428 (Instrument Air package);
- Assign higher priority inside COES overall schedule;
- Assign top priority to Uno Prima (painting shop);
- Extra working hours and working on Saturdays;

And:

- They will rent generator for performance test;
- They will buy flexible hoses for performance test on train IA-N2 packages;
- They will buy additional instruments for flow rate measurement / readings;

Writer's feeling is that the current production program is very tight, but feasible. Nevertheless, there is no buffer for any failed test and the outsourced painting stage could cause delay if not carried out within the planned dates!!!

STATO AVANZAMENTO FORNITURA *Supply Progress Status*

B – INGEGNERIA / *Engineering*

Fusion live document No.	Rev	Due Date	Title	Status (3/2Y/1)	**Forecast resubmission date**	Action by (Supplier/ Buyer/CPY)
1724000437-COM-LIS-00028	00	31/05/24	SPARE PARTS LIST (2 YEARS AND COMMISSIONING AND START-UP) - NITROGEN GENERATION PACKAGE	n/a	**11/10/2024**	Supplier
1724000437-QC-LIS-00025	00	31/05/24	MANUFACTURERS RECORD BOOK (FINAL DOSSIER) - INDEX - NITROGEN GENERATION PACKAGE	n/a	**04/10/2024**	Supplier
1724000437-MAC-DS-00011	02	12/06/24	NITROGEN GENERATION PACKAGE - EQUIPMENT DATA SHEETS INCLUDING PSA, ETC.	2	**11/10/2024**	Supplier
1724000437-MAC-LIS-00026	02	29/06/24	ATEX REGISTER - NITROGEN GENERATION PACKAGE	2	**11/10/2024**	Supplier
1724000437-MAC-LIS-00027	00	19/07/24	ATEX DOCUMENTATION - NITROGEN GENERATION PACKAGE	n/a	**11/10/2024**	Supplier
1724000437-MAC-DG-00009	02	31/07/24	PACKAGE WIRING DIAGRAM INCLUDING LAYOUT OF PACKAGE CONTROL PANEL - NITROGEN GENERATION PACKAGE	2	**11/10/2024**	Supplier
1724000437-MAC-DD-00006	02	05/08/24	EQUIPMENT SECTIONAL DRAWING WITH BILL OF MATERIAL -NITROGEN GENERATION PACKAGE	2	**11/10/2024**	Supplier
1724000437-MAC-CA-00031	02	06/08/24	NITROGEN RECEIVER CALCULATION	1	**01/10/2024**	Supplier
1724000437-ST-RE-00010	02	13/08/24	NITROGEN GENERATION PACKAGE U-64000 - PACKAGE STRUCTURAL CALCULATION REPORT INCLUDING FIXING POINTS and LIFTING POINTS	1	**04/10/2024**	Supplier

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1724000437-MAC-CE-00004	01	22/08/24	PACKAGE CAUSE EFFECT MATRIX - LOGIC DIAGRAMS -NITROGEN GENERATION PACKAGE	2	**11/10/2024**	Supplier
1724000437-QC-PRO-00030	00	05/09/24	HANDLING, PRESERVATION AND PACKAGING PROCEDURE - NITROGEN GENERATION PACKAGE	n/a	**04/10/2024**	Supplier
1724000437-MAC-MAN-00029	00	05/09/24	INSTALLATION, OPERATING AND MAINTENANCE MANUAL (INCLUDING SITE ERECTION INSTRUCTIONS AND PROCEDURES) - NITROGEN GENERATION PACKAGE	n/a	**11/10/2024**	Supplier
1724000437-EL-LIS-00017	01	16/09/24	CABLES LIST - NITROGEN GENERATION PACKAGE	2	**11/10/2024**	Supplier
1724000437-IN-LIS-00015	03	16/09/24	IO LIST - NITROGEN GENERATION PACKAGE U-64000	2	**11/10/2024**	Supplier
1724000437-MAC-DA-00005	03	17/09/24	PACKAGE GENERAL ARRANGEMENT AND DIMENSIONAL OUTLINE DRAWINGS- NITROGEN GENERATION PACKAGE	2	**11/10/2024**	Supplier
1724000437-QC-ITP-00002	03	18/09/24	INSPECTION TEST PLAN (ITP) - NITROGEN GENERATION PACKAGE	1	**01/10/2024**	Supplier
STATO INGEGNERIA PIANIFICATA / *Engineering progress status* ***PLANNED***					**95 %**	
STATO INGEGNERIA ATTUALE / *Engineering progress status* ***CURRENT***					**70 %**	

NOTE */ Remarks:*

Re-forecast dates agreed during the present visit have been in bold highlighted on the above sketch.
Obviously, FAT procedure (not listed above) shall be revised by COES as well, in order to reflect latest agreement related to performance test. The writer has obtained Mr. Testa to prepare a draft to be shared with Rosetti Marino within tomorrow, 02/10/2024.

C – EMISSIONE SUB-ORDINI E DISPONIBILITA' MATERIALE/ *Issuing of sub-orders and material availability*

MATERIALE *Material*	**FORNITORE** *Supplier*	**NR. SUB-ORDINE** *S/O No.*	**CONSEGNA** *Delivery Date*			
			PIAZZAMENTO SUB-ORDINE *S/O placement*		**DISPONIBILITÀ MATERIALI** *Material availability*	
			PLANNED	**FORECAST**	**PLANNED**	**FORECAST / RECEIVED**
Local control panel	SCAE	1397/24	17/04/2024	17/04/2024	09/08/2024	**AVAILABLE**
Instruments and accessories	WIKA (PG, TG)	2153/24	27/06/2024	27/06/2024	30/08/2024	**AVAILABLE**
	EMERSON (PT, PDT, TE, TT, FT)	2055/24	20/06/2024	20/06/2024	09/08/2024	**AVAILABLE**
	BAKER HUGES (O2 analyser and dew point analyser)	2060/24	20/06/2024	20/06/2024	05/09/2024	**AVAILABLE**
Check valves	SARVAL (check)	2078/24	21/06/2024	21/06/2024	26/07/2024	**AVAILABLE**
Actuated valves	VALPRES	2296/24	11/07/2024	11/07/2024	26/09/2024	**AVAILABLE**
Manual valves	VALPRES	2296/24	11/07/2024	11/07/2024	26/09/2024	**AVAILABLE**
Safety valves	NUOVA GENERAL INSTRUMENTS	2069/24	21/06/2024	21/06/2024	10/09/2024	**AVAILABLE**
PCV	EMERSON	2028/24	19/06/2024	19/06/2024	26/08/2024	**AVAILABLE**
Raw materials for Nitrogen generation package	Beams (for baseframe)	N/A	11/07/2024	02/08/2024	30/08/2024	**AVAILABLE**
	Pipes	N/A	11/07/2024	02/08/2024	30/08/2024	**AVAILABLE**
	Flanges and fittings	N/A	11/07/2024	02/08/2024	30/08/2024	**AVAILABLE**

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Raw materials for Nitrogen receiver	SIFEA (heads)	1935/24	07/06/2024	07/06/2024	08/08/2024	**AVAILABLE**
	GUALINI (plates)	1981/24	13/06/2024	13/06/2024	29/07/2024	**AVAILABLE**
	FIL-PEMPTO (flanges for manholes)	2179/24	01/07/2024	01/07/2024	26/07/2024	**AVAILABLE**
STATO EMISSIONI SUBORDINI PIANIFICATO / *suborders placement status* ***PLANNED***					**100 %**	
STATO EMISSIONI SUBORDINI ATTUALE / *suborders placement status* ***CURRENT***					**100 %**	
STATO DISPONIBILITA' MATERIALI PIANIFICATO / *material availabilty* ***PLANNED***					**100%**	
STATO DISPONIBILITA' MATERIALI ATTUALE / *material availabilty* ***CURRENT***					**100 %**	

NOTE */ Remarks:*

As of today, the main materials are all available at COES shops.

The minor ones, such as cables, tubing for pneumatic connections, and anything similar are available at stock.

D – MATERIALE IN CONTO LAVORAZIONE ALL'ESTERNO/ *Material sent for work externally*

None.

E – PRODUZIONE / *Manufacturing and/or assembling*

DESCRIZIONE *Description*	**PIANIFICATA** *Planned*	**PREVISIONE** *Forecast*
MANUFACTURING AND TESTING		
Manufacturing of baseframe	10-16/09/2024	COMPLETED
NDE test on baseframe	16/09/2024	COMPLETED
Manufacturing of Nitrogen receiver	09/08 to 12/09/2024	COMPLETED
Manufacturing of Nitrogen package vessels (towers and filters)	10-19/09/2024	COMPLETED
NDE test on pressure vessels	19/09/2024	COMPLETED
Manufacturing of piping	10-16/09/2024	COMPLETED
NDE test on piping	16/09/2024	COMPLETED
Hydrotest (piping, towers and filters)	01/10/2024	COMPLETED
Painting / Pickling & passivation	07-11/10/2024	07-11/10/2024
Assembling of Nitrogen Generation Package	14-16/10/2024	14-16/10/2024
Pneumatic and electric hook-ups	17-23/09/2024	17-23/09/2024
Final inspection on Instrument Air Package	24-25/10/2024	24-25/10/2024
Preparation for shipment	26/10/2024	26/10/2024
Packing	28/10/2024	28/10/2024
Shipment to RM Ravenna yard	29/10/2024	29/10/2024
STATO FABBRICAZIONE E ASSEMBLAGGIO PIANIFICATO / *Manufacturing and assembling status* ***PLANNED***	**90 %**	
STATO FABBRICAZIONE E ASSEMBLAGGIO ATTUALE / *Manufacturing and assembling status* ***CURRENT***	**65 %**	

NOTE */ Remarks:*

Please refer to attached production schedule for any detail.

EXPEDITOR INCARICATO *The appointed expeditor by* ROSETTI MARINO	NOME, COGNOME *Name, Surname* *Martino Basile*	
	DATA *Date* *01/10/2024*	FIRMA *Signature*

F – COLLAUDI PROGRAMMATI (fare riferimento a ITP) / *Schedule testing (please refer to ITP)*

COLLAUDO *Testing*	**DESCRIZIONE** *Description*	**PIANIFICATA** *Planned*	**PREVISIONE** *Forecast*
☒**IDRAULICO** *Hydraulic*	Hydraulic test in progress today on Air Receiver	01/10/2024	In progress today, 01/10/2024
☒**FAT / PERFORMANCE / FINALE** *FAT/Performance/Final*	FAT consisting of checking the package from mechanical, E&I points of view, as well as visual and dimensional check, paint DFT check, tagging, marking, labelling and preparation for shipping. Also check the performance of the whole package.	24-25/10/2024	24-25/10/2024

NOTE / *Remarks:*
None

G – CONSEGNA E SPEDIZIONE / *Delivery and Shipping*

DATA IMBALLO / *Packing date*	26 and 28/10/2024	
DATA SPEDIZIONE / *Shipping date*	29/10/2024	
DATA DI CONSEGNA e RESA / *Delivery date and terms*	29/10/2024	Incoterms: DAP worksite

NOTE / *Remarks:*
None.

H – ALLEGATI (SE PRESENTI) / *Attachment (if any)*

#1	**Production schedule**

I – REPORT FOTOGRAFICO (SE PRESENTE) / *Pictures (if any), with short description*



Local control panel



Vessels (hydro-test notified for today)_1

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Vessels (hydro-test notified for today)_2



Vessels (hydro-test notified for today)_3



N2 receiver to be moved to painting shop_1



N2 receiver to be moved to painting shop_2



Baseframe construction in progress_1



Baseframe construction in progress_2

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Materials assigned for this specific job



Piping construction in progress_1



Piping construction in progress_2



Valves assigned to this job



Filters



Instruments and other materials assigned to this job_1

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Instruments and other materials assigned to this job_2



Instruments and other materials assigned to this job_3



Instruments and other materials assigned to this job_4



Instruments and other materials assigned to this job_5

EXPEDITOR INCARICATO *The appointed expeditor by* ROSETTI MARINO	NOME, COGNOME *Name, Surname* *Martino Basile*	
	DATA *Date* *01/10/2024*	FIRMA *Signature*

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Sedi operative
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FACTORY ACCEPTANCE TEST CERTIFICATE

CUSTOMER:	ROSETTI MARINO
PURCHASE ORDER:	1724000437
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project
SCOPE OF SUPPLY:	NITROGEN GENERATION PACKAGE
ITEM:	U-64000
INSPECTION AND TEST PLAN:	1724000437-QC-ITP-00002
FAT PROCEDURE:	1724000437-QC-PRO-00023
COES JOB:	167/24

ACTIVITY	RESULT
VISUAL AND DIMENSIONAL CHECK	**CONFORM**
LOCAL PANEL WIRING CHECK	**CONFORM (SEE NOTE 1)**
MARKING AND NAMEPLATES CHECK	**CONFORM (SEE NOTE 1)**
PNEUMATIC LEAKAGE CHECK	**NOT WITNESSED**
FAT PERFORMANCE TEST	**NOT CONFORM (SEE NOTE 1 & 2)**
PAINTING CHECK	**CONFORM**

Notes:
1. See attached punch list
2. Due to continued Solenoid valves failure, the package cycle phases could not properly be recorded. Coes dismounted all solenoid valves before shipment preparation and re-install them on site (Ravenna Yard) after further investigation to identify and resolve the cause of malfunctioning.
Performance test to be repeated on RM site (Ravenna Yard).

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Quality Control Dept.
29/10/24
Comm. MGR.

DOC. N°: CDC54947

CDC54947 - FAT REPORT - Attachment

NITROGEN GENERATOR PACKAGE

- Start sequence in LOCAL MODE.
- Inlet pressure PACKAGE 64-PT051 8.8 barg.
- Start Phase sequence PSA TOWER C-64001A / C-64001B.
    1. TOWER C-64001A GENERATION - TOWER C-64001B DEPRESSURIZATION **50 sec.**
    2. TOWER C-64001A EQUALIZATION - TOWER C-64001B EQUALIZATION **10 sec.**
    3. TOWER C-64001A DEPRESSURIZATION - TOWER C-64001B GENERATION **50 sec.**
    4. TOWER C-64001A EQUALIZATION - TOWER C-64001B EQUALIZATION **10 sec.**

About an hour after the start of the INSTRUMENT AIR PACKAGE and NITROGEN GENERATION PACKAGE we have the following values:

INSTRUMENT AIR PACKAGE

• AIR RECEIVER PRESSURE	63-PT-064	**8.8 barg**
• TEMPERATURE GAUGE AIR RECEIVER	63-TI-053	**20°C**
• DEW POINT ANALYZER	63-AIT-051	**-47.15**
• FLOW TRANSMITTER	63-FT-051	**320 m3/h**

NITROGEN GENERATION PACKAGE

• PSA INLET PRESSURE	64-PT-051	**8.8 barg**
• OXYGEN ANALYZER	64-AT-051	**2.9% / 3.2%**

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29/10/24

For acceptance

Base Load Power Hub (BLPH)

Punch List Entry Form

Sub-system code:	Sub-system description: NITROGEN PACKAGE A-64000	Date: 29/10/2024

Category "A" → Items to be cleared before the issuance of the RFCC (Ready for Commissioning Certificate).

Category "B" → Items to be cleared before the issuance of the RFOC (Ready For Operations Certificate).

Category "C" → Items to be cleared before Sail Away.

Item N.	Check sheet ref.	Disc.	Tag Number	Raised By	Defect Description / Corrective Action	Attachments	Cat.	Action By	Duty Phase	Deadline date
1.	-		A-64000	RM Comm.	PACKAGE to be tested with PLC set to REMOTE MODE		B	COES/RM		02/12/2024
2.	-		A-64000	RM Comm.	THE SOLENOID 64-XV-054 DOES NOT WORK. TO BE INVESTIGATE		A	COES		02/12/2024
3.	-		A-64000	RM Comm.	ALL SOLENOIDS HAVE BEEN DISMANTLED FROM THE PACKAGE. SEND TO THE SUB-VENDOR TO BE CHECK. ALL SOLENOID WILL BE RE INSTALLED		A	COES		02/12/2024
4.	-		A-64000	RM Comm.	**During on-site testing phase, it will be necessary to validate that the PACKAGE does not suffer malfunctions due to the low pressure**		B	COES		02/12/2024
5.	-		A-64000	RM Comm.	HARDWIRED & PROFINET SIGNALS STILL TO BE TESTED		B	COES		02/12/2024
6.			A-64000	RM Comm.	MAX PRESSURE ON VALVE ACTUATORS = 8 BAR - IS NOT CONGRUENT WITH OPERATING PRESSURE = 9 BAR		B	COES		02/12/2024
7.			A-64000	RM Comm.	THE OXYGEN VALUE DURING PRESSURIZATION IS NOT STABLE. IN THIS PHASE IT IS POSSIBLE TO CHECK THE CLOSURE OF VALVE 64-XV-058 AND THE OPENING OF THE VALVE OF VENT 64-XV-059		B	COES		02/12/2024
8.			A-64000	RM Comm.	THE RESET COMMAND TO PACKAGE MUST BE MANAGED BY ESD (CURRENTLY IT'S ON LOCAL PANEL). To be verify with engineering		B	RM		02/12/2024
9.			A-64000	RM Comm.	DUE TO THE RUSH TO CONCLUDE ALL TESTS WITHIN ONE DAY, AN EXTENSIVE AND COMPREHENSIVE ON-SITE TEST WILL BE MANDATORY BEFORE PERFORMING THE FUNCTIONAL AND PERFORMANCE TESTS OF THE PACKAGE. ALL PERFORMANCE MUST BE TESTED AND ACCEPTED AT THE CONSTRUCTION SITE		A	COES		02/12/2024

10.			A-64000	RM Comm.	BALL FLOW METER UPSTREAM OF THE 64-AT-051 OXYGEN TO THE NITROGEN GENERATION TO BE ADDED IN PKG PID		B	COES		02/12/2024
12.			A-64000	RM Comm.	ALL THE ALARMS AND SET POINT OF NITROGEN GENERATION PACKAGE TO BE TESTED			COES/RM		02/12/2024
13.			A-64000	S.Linari	TO BE UPDATED DWG N. 1724000437-MAG-DG-00009 – CORRECT RAL 9002		B	COES		02/12/2024
14.			A-64000	S.Linari	CABLING INSIDE CONTROL PANEL NOT REFLECT THE SPECIFICATIONS AND DWG IN TERM OF COLOUR CODING. SEE NCR **2024-Q-123A90-0009**		A	COES		02/12/2024
15.			A-64000	S.Linari	CONTINUITY AND MEGGER TEST REPORTS ARE MISSING. TO BE PROVIDE		B	COES		02/12/2024
16.			A-64000	S.Linari	MISSING LEAKAGE TEST REPORTS. To be repeated on site up to rated package pressure		B	COES		02/12/2024
17.			A-64000	S.Linari	MISSING TAG PLATE ON PSV 64-053 / PSV -64-054			COES		02/12/2024

Raised by
Contractor / Subcontractor: _____

Checked by
Contractor QA/QC: _____

ROSETTI MARINO SpA
Stefano Linari
Quality Control Dept.
29/10/24

Accepted by
COMPANY: _____

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29/10/24

For acceptance

Section 13 MECHANICAL COMPLETION CHANGES / MARK-UPS

NOT APPLICABLE