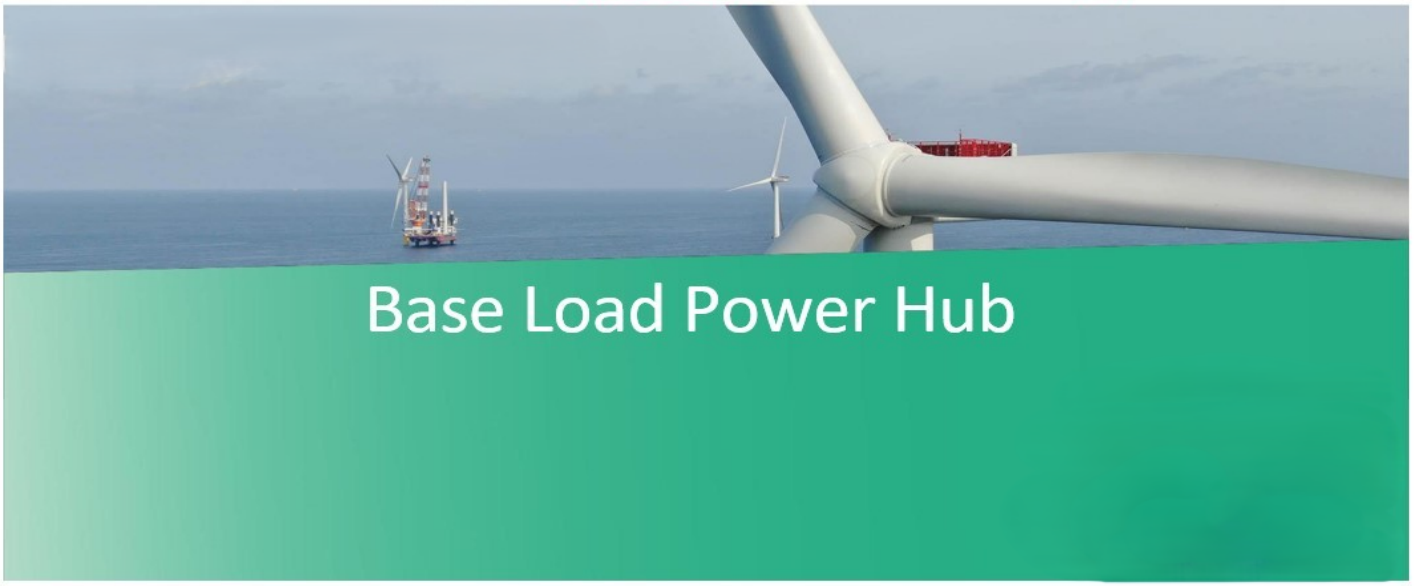
CROSSWIND

ROSETTI MARINO

PROVERUS

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



COMMISSIONING DOSSIER (ONSHORE)

SYSTEM	25 Hydrogen Storage
SUBSYSTEM	25-08 Hydrogen Storage Vessels Header (Outlet)

CROSSWIND

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

COMMISSIONING DOSSIER INDEX

ROSETTI MARINO

Sub System N°:	25-08	**Tick as appropriate**	ONSHORE	OK
Description:	Hydrogen Storage Vessels Header (Outlet)		OFFSHORE	

1. *SUB-SYSTEM DEFINITION*	OK
1.1 Sub-System Description / Boundary Limit Drawings	
2. *READY FOR OPERATION CERTIFICATE*	OK
2.1 Achievement Of Ready for Operation Certificate (RFO)	
2.2 Exception Punch Lists (per discipline)	
2.3 “As-Commissioned” P&ID’s / SLD’s / D&ID’s / C&E’s	
3. *CONSOLIDATED PUNCH LISTS*	OK
3.1 Cleared and Residual Items (sorted by discipline)	
4. *FUNCTIONAL TESTS SHEETS*	OK
4.1 Electrical functional test sheets index	
4.2 Electrical “As-Commissioned” interconnection diagrams	
4.3 Instrumentation Functional Test Sheets Index	
4.4 Instrumentation “As-Commissioned” interconnection diagrams	
4.5 Telecommunication Functional Test Sheets Index	
4.6 Telecommunication “As-Commissioned” I.C.D. / TSLD’s	
5. *SITE / OPERATIONAL:*	NA
5.1 Operational Test Procedure	
5.2 Operational Test Certificates	
6. *PIPING AND VESSEL PREPARATION*	OK
6.1 Final Mechanical / Vessel Inspection Checks Index	
6.2 Leak Test / Drying / Inerting Test Sheets Index	
6.3 Chemical Loading & First Fill records Index	
6.4 Chemical Cleaning Reports and Records Index	
6.5 Lubrication Schedule	
7. *VENDORS*	NA
7.1 Vendor Package Summary Index	
7.2 SAT Procedure with associated punch list and reference (Front Page)	
7.3 Vendor Spares & Special Tools lists references	
7.4 Vendor Data / Operations / Maintenance Manuals References	
8. *LIST OF MODIFICATIONS*	OK
8.1 List of changes initiated during the WORKSITE Commissioning phase pertaining to the relevant Sub-System will be incorporated in this section with relevant references (with location and position of blinds/spades, isolation LO & LC valves, list of electrical isolation status, and remaining inhibits and overrides)	
9. *SUPPORTING DOCUMENTS*	NA
9.1 Other supporting documents (as applicable)	

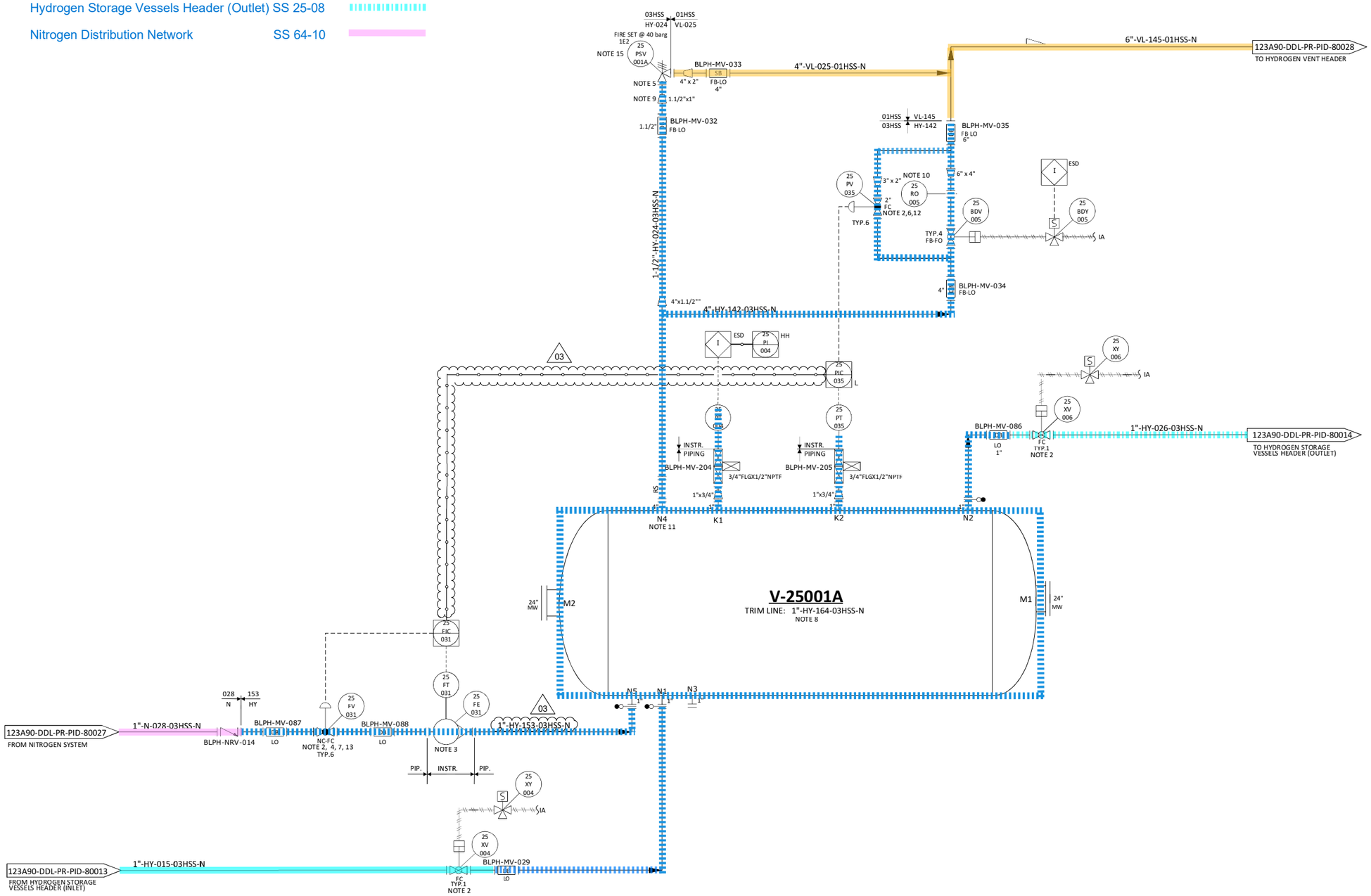
	Contractor Commissioning Site Leader	Company Commissioning Site Leader
Name	Anthony Iveson	Martin Taylor
Date	2025-06-30	2025-07-01
Signature	PROVERLIS Digitaly signed by Anthony Iveson 2025-06-30T06:38:02.730Z	PROVERLIS Digitaly signed by Martin Taylor 2025-07-01T08:00:52.664Z

Section 1 SUB-SYSTEM DEFINITION

DRAWING_NO. DRAWING_NO.

REV. REV

Hydrogen Storage Vessel A (V-25001A)	SS 25-01
Hydrogen Vent Header & Drum System	SS 43-00
Hydrogen Storage Vessels Header (inlet)	SS 25-07
Hydrogen Storage Vessels Header (Outlet)	SS 25-08
Nitrogen Distribution Network	SS 64-10



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS.
4. NITROGEN CONTROL VALVE (25-FV-031) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE. 03
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT "DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-035 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-035 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-031 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-035 HAS FAILED TO CLOSE.
15. 25-PSV-001A SIZED FOR FIRE.

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
HYDROGEN STORAGE VESSEL A

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-80015		SHEET 001 / REV. 03

File Name : FILE_NAME

DRAWING NO. DRAWING_NO.

REV. REV

Hydrogen Storage Vessel B (V-25001B) SS 25-02

Hydrogen Vent Header & Drum System SS 43-00

Hydrogen Storage Vessels Header (inlet) SS 25-07

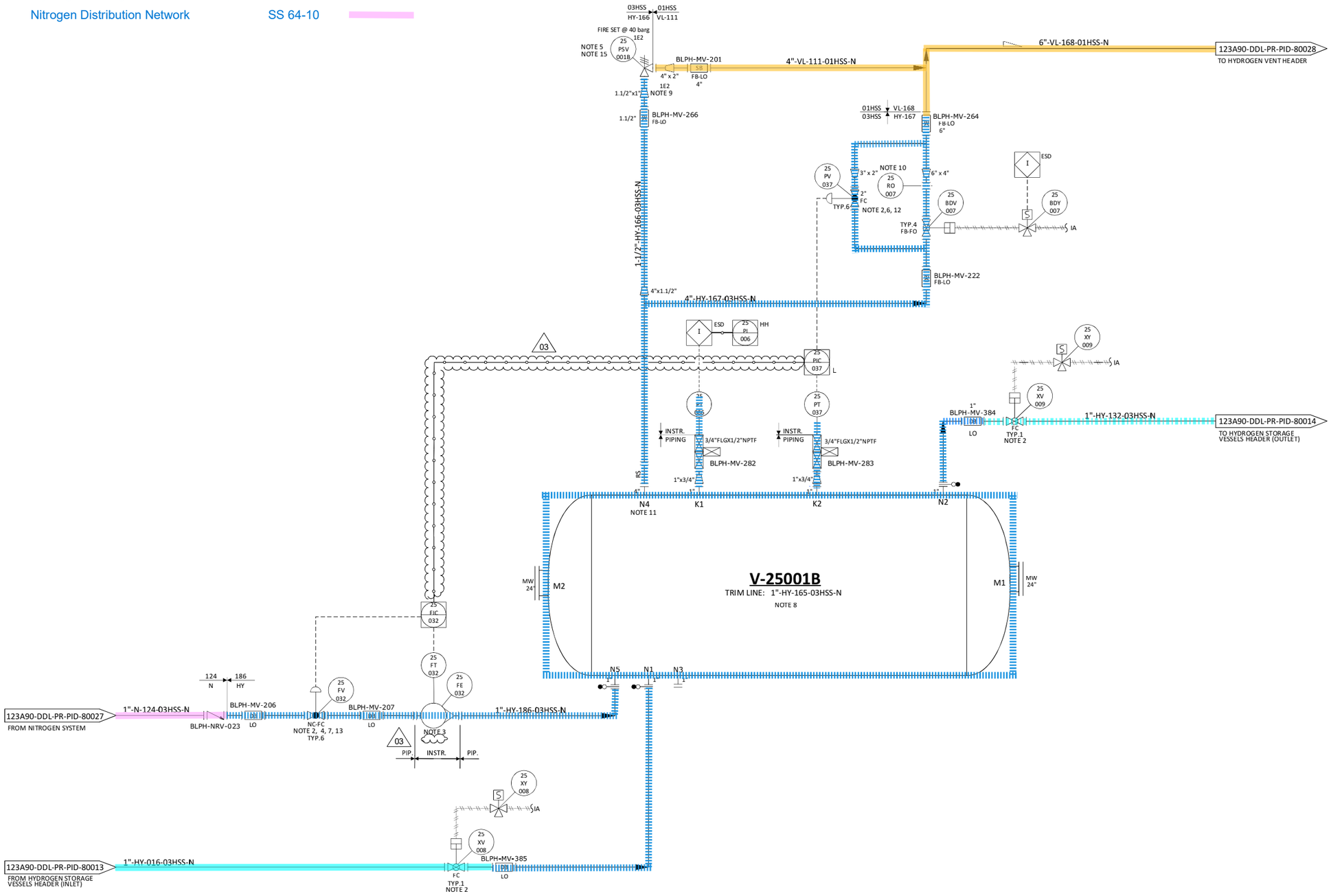
Hydrogen Storage Vessels Header (Outlet) SS 25-08

Nitrogen Distribution Network SS 64-10

V-25001 B

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS.
4. NITROGEN CONTROL VALVE (25-FV-032) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE. 03
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT "DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-037 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC."PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-037 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-032 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-037 HAS FAILED TO CLOSE.
15. 25-PSV-001B SIZED FOR FIRE.

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
HYDROGEN STORAGE VESSEL B

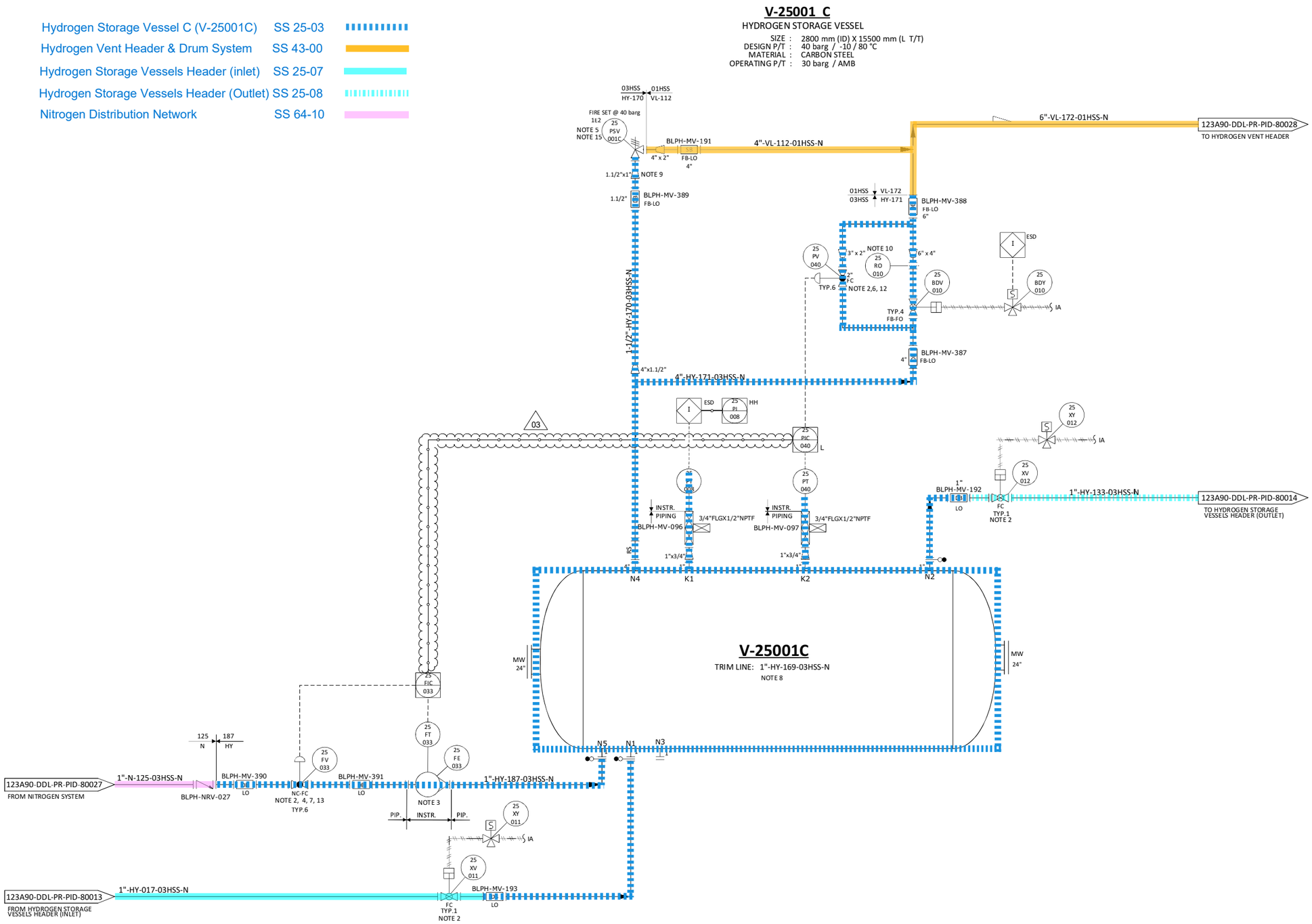
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DRAWN	CHECKED	APPROVED	DATE
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File Name : FILE_NAME

DRAWING NO. DRAWING_NO.

REV. REV

Hydrogen Storage Vessel C (V-25001C)	SS 25-03
Hydrogen Vent Header & Drum System	SS 43-00
Hydrogen Storage Vessels Header (inlet)	SS 25-07
Hydrogen Storage Vessels Header (Outlet)	SS 25-08
Nitrogen Distribution Network	SS 64-10



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS.
4. NITROGEN CONTROL VALVE (25-FV-033) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE. 03
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-040 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-040 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-033 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-040 HAS FAILED TO CLOSE.
15. 25-PS-V001C SIZED FOR FIRE.

HOLDS

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

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
HYDROGEN STORAGE VESSEL C

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE NTS
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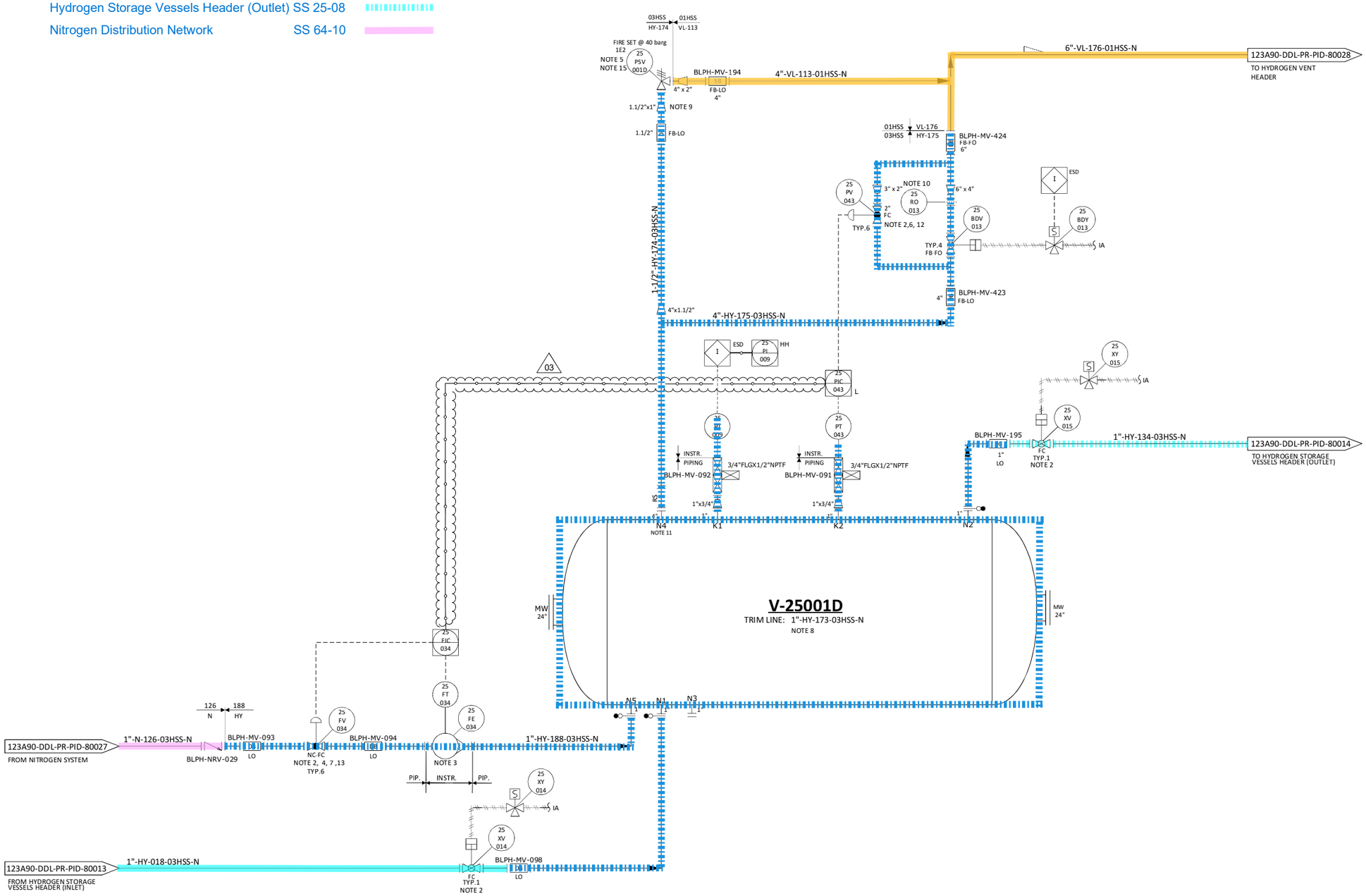
Hydrogen Storage Vessel D (V-25001D) SS 25-04

Hydrogen Vent Header & Drum System SS 43-00

Hydrogen Storage Vessels Header (inlet) SS 25-07

Hydrogen Storage Vessels Header (Outlet) SS 25-08

Nitrogen Distribution Network SS 64-10



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-034) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-043 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-043 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-034 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-043 HAS FAILED TO CLOSE.
15. 25-PSV-001D SIZED FOR FIRE.

HOLDS

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

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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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
HYDROGEN STORAGE VESSEL D

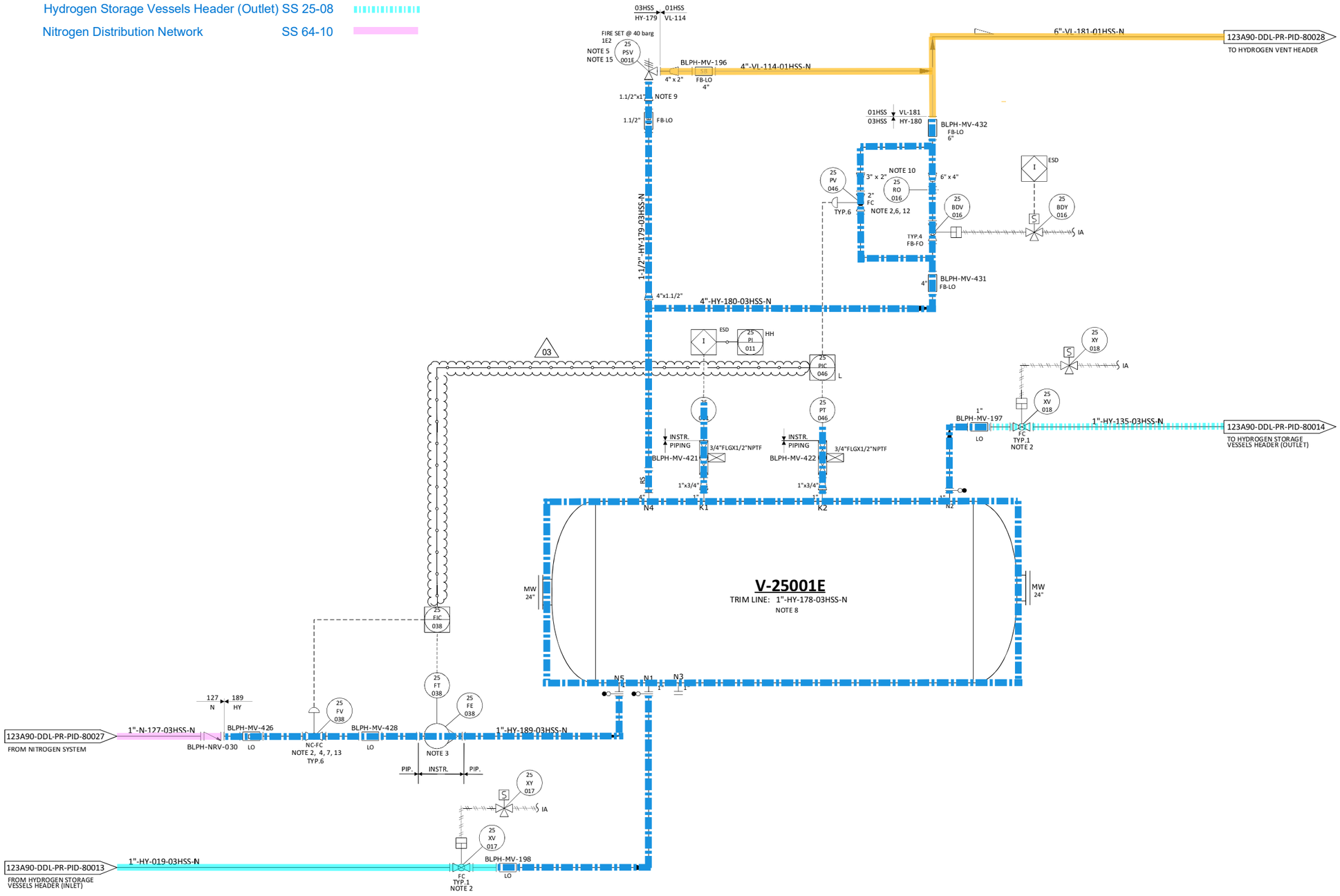
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DRAWN	CHECKED	APPROVED	DATE	
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File Name : FILE_NAME

DRAWING NO. DRAWING_NO.

REV. REV

Hydrogen Storage Vessel E (V-25001E)	SS 25-05
Hydrogen Vent Header & Drum System	SS 43-00
Hydrogen Storage Vessels Header (inlet)	SS 25-07
Hydrogen Storage Vessels Header (Outlet)	SS 25-08
Nitrogen Distribution Network	SS 64-10



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-038) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-046 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-046 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-038 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-046 HAS FAILED TO CLOSE.
15. 25-PSV-001E SIZED FOR FIRE.

HOLDS

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

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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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
HYDROGEN STORAGE VESSEL E

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE NTS
DRAWN	CHECKED	APPROVED	DATE
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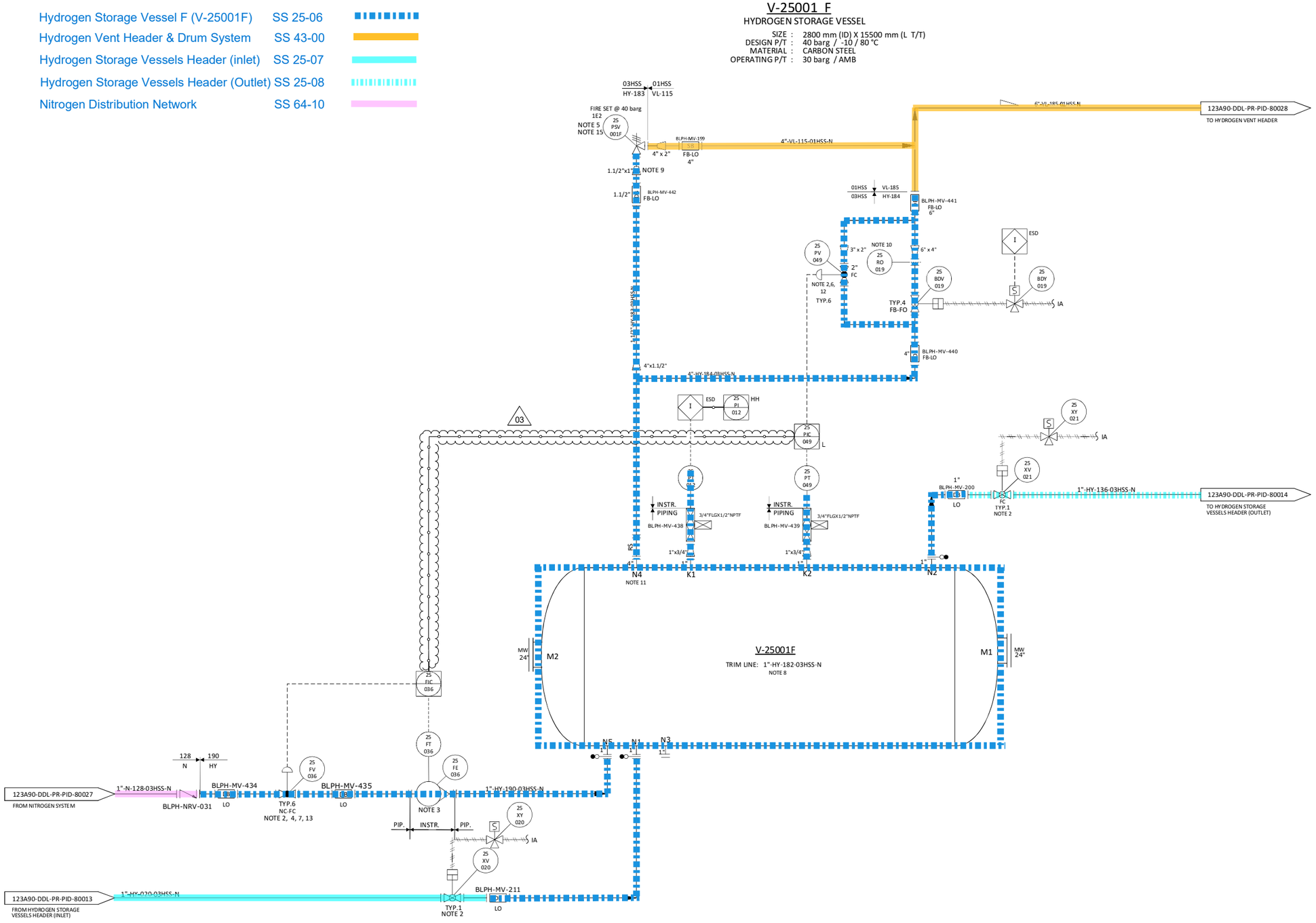
Hydrogen Storage Vessel F (V-25001F) SS 25-06

Hydrogen Vent Header & Drum System SS 43-00

Hydrogen Storage Vessels Header (inlet) SS 25-07

Hydrogen Storage Vessels Header (Outlet) SS 25-08

Nitrogen Distribution Network SS 64-10



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-036) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-049 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-049 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25FV036 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-049 HAS FAILED TO CLOSE.
15. 25-PSV-001F SIZED FOR FIRE.

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 HAZOP (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
HYDROGEN STORAGE VESSEL F

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE	
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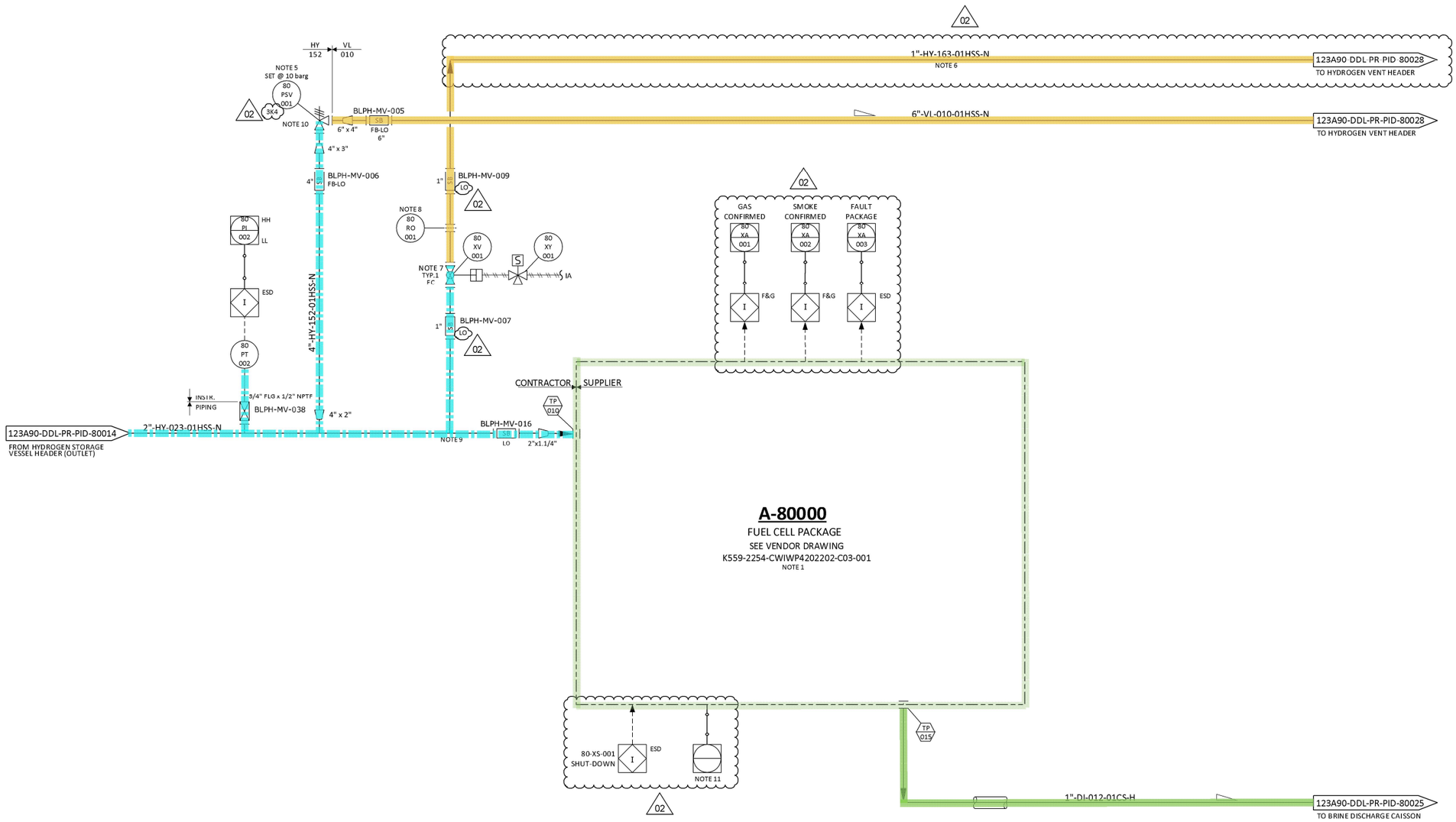
REV. REV

Hydrogen Vent Header & Drum System SS 43-00

Hydrogen Storage Vessels Header (Outlet) SS 25-08

Waste Water Brine Discharge System SS 55-01

Hydrogen Fuel Cell Package SS 80-00



NOTES

1. THE VENDOR PACKAGE WILL CONTAIN AIR INTAKE AND EXHAUST, SUITABLY SAFEGUARDED AND SEPARATED.
2. DELETED.
3. DELETED.
4. DELETED
5. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
6. LINE REQUIRED FOR PURGING OF PIPING WORK.
7. TIGHT SHUT-OFF VALVE.
8. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
9. LINE 1"-HY-163-01HSS-N WILL BE LOCATED AS CLOSE TO THE PACKAGE AS POSSIBLE TO ENSURE COMPLETE PURGING OF THE LINE.
10. 80PSV001 SIZED FOR CV FAILURE OF UPSTREAM CONTROL VAVE 25PV055A/B.
11. SERIAL COMMUNICATION WITH CONTROL SYSTEM. 02

HOLDS

1. DELETED.
2. 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
FUEL CELL 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-80012	SHEET 001	REV. 02

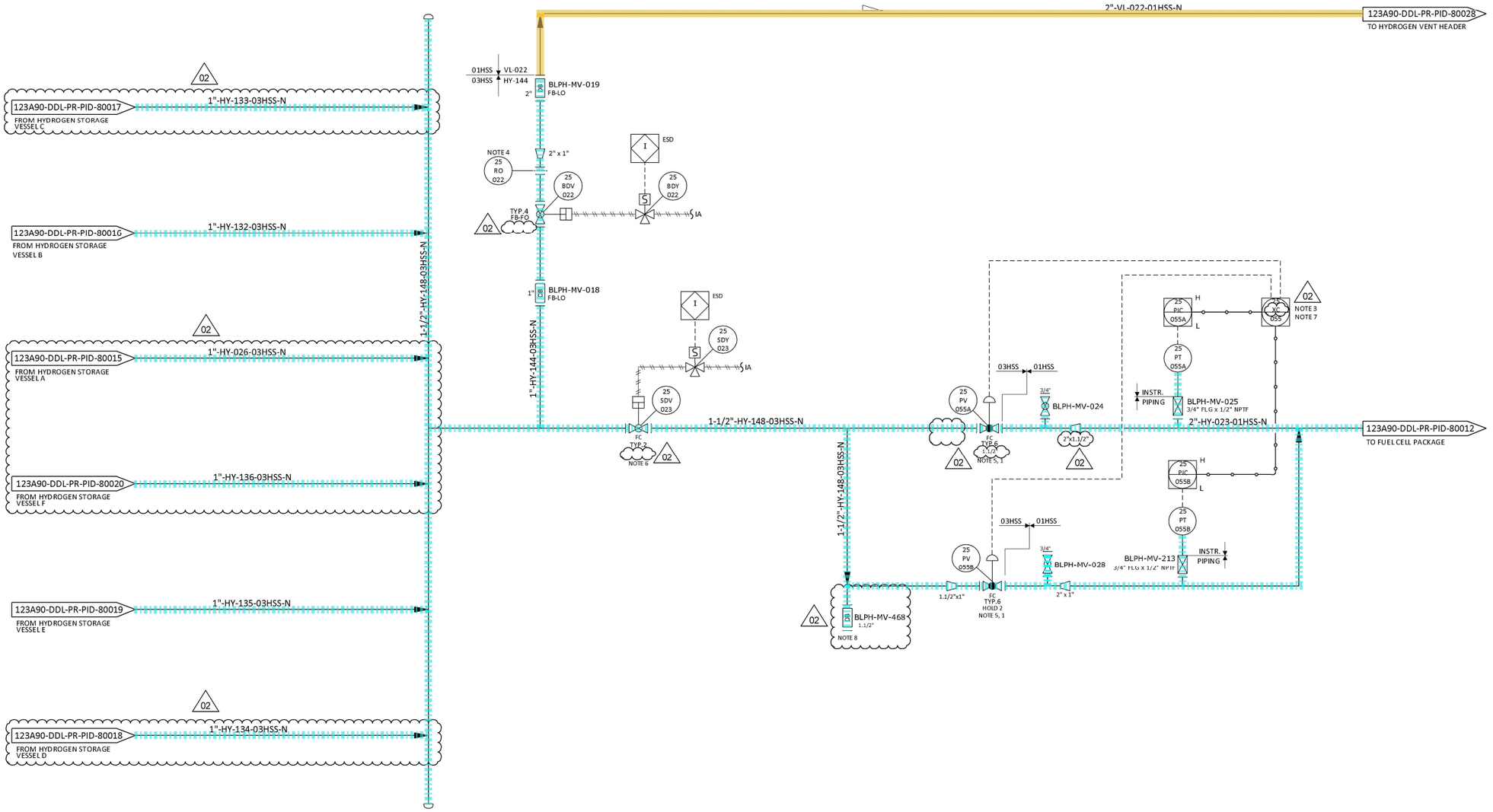
File Name : FILE_NAME

DRAWING NO. DRAWING_NO.

REV. REV

Hydrogen Vent Header & Drum System SS 43-00

Hydrogen Storage Vessels Header (Outlet) SS 25-08



NOTES

1. TIGHT SHUT-OFF VALVE.
2. DELETED.
3. CONTROL VALVES 25-PV-055A/B WORK IN SPLIT RANGE:
   - FOR LOW OPERATING CV (UP TO 0.31) VALVE "B" IS USED
   - FOR HIGH OPERATING CV (FROM 0.31) VALVE "A" IS USED
4. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
5. SOFTWARE INTERLOCK PREVENTS OPENING OF THE CONTROL VALVES 25-PV-055A/B IN CASE FUEL CELL PACKAGE (A-80000) IS NOT RUNNING.
6. SDV VALVE 25-SDV-023 TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE CONTROL VALVES 25-PV-055A/B.
7. HS INCLUDES SOFTWARE INTERLOCK TO PREVENT BOTH VALVES TO BE ONLINE SIMULTANEOUSLY. SOFTWARE INTERLOCK PREVENTS VALVE 25PV055B TO OPEN IF VALVE 25PV055A IS NOT CLOSED.
8. TO BE USED DURING COMMISSIONING PHASE. 02

HOLDS

1. DELETED.
2. CONTROL VALVE SIZE (BY VENDOR).

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
HYDROGEN STORAGE VESSELS HEADER (OUTLET)

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-80014		SHEET 001	REV. 02

File Name : FILE_NAME

Section 2 READY FOR OPERATION

Section 2.1 Achievement Of Ready for Operation Certificate (RFO)

ROSETTI MARINO

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

Ready For Operation (RFO) Certificate

COMPLETE	●	PARTIAL	

Revision:	4		Issued on:	2025-06-27	
System:	25	/	Hydrogen Storage		
SubSystem:	25-08	/	Hydrogen Storage Vessels Header (Outlet)		

We hereby confirm that all Mechanical Completion (MC) and Pre-Commissioning/Commissioning (Pre-Comm./Comm.) activities for the above-mentioned System/Sub-System have been successfully completed in accordance with project specifications, relevant standards and contractual requirements. The System/Sub-System has been tested and verified to ensure readiness for operation. Issuance of this Certificate shall not release CONTRACTOR from any of his obligations, responsibilities or liabilities under the CONTRACT.

	Mechanical Completion: All required MC activities have been completed and approved
	Pre-Commissioning & Commissioning: All required Pre-Comm. and Comm. activities and OTPs have been completed and approved (Status Index attached)
	Punch List: All Punch items categorized as A and B have been cleared (PL report attached)
	Documentation: As-built documentation and Commissioning dossier has been completed, reviewed and approved

PUNCH LIST	PENDING POINTS
Note: All Category "A" and "B" Items must be cleared prior to issuance of the Ready For Operation (RFO) Certificate	B '0

REMARKS:

	CONTRACTOR Commissioning Manager	**COMPANY** Commissioning Lead
Name	Anthony Iveson	Martin Taylor
Date	2025-06-27	2025-06-28
Signature	PROVERLIS Digitaly signed by Anthony Iveson 2025-06-27T12:42:53.553Z	PROVERLIS Digitaly signed by Martin Taylor 2025-06-28T12:58:27.453Z

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 25-08 & process: COMM

Instrumental	25-08 Hydrogen Storage Vessels Header (Outlet)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
25-BDV-022	On/Off Valve - Hyrogen from Vessels Outlet Header Vent System	ONSHORE	C10003208	FJ01V	100	2025-03-26	RFO 4
25-PIC-055A	Hyrogen from vessels outlet header pressure control	ONSHORE	C10003755	FJ01C	100	2025-03-26	RFO 4
25-PIC-055B	Hyrogen from vessels outlet header pressure control	ONSHORE	C10003757	FJ01C	100	2025-03-26	RFO 4
25-PT-055A	Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10003175	FJ01A	100	2025-03-19	RFO 4
25-PT-055B	Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10003176	FJ01A	100	2025-03-19	RFO 4
25-PV-055A	Control Valve - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10004387	FJ04	100	2025-03-17	RFO 4
25-PV-055B	Control Valve - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10004388	FJ04	100	2025-03-17	RFO 4
25-SDV-023	On/Off Valve - Hyrogen from Vessels Outlet Header Shut-Down	ONSHORE	C10003210	FJ01V	100	2025-03-26	RFO 4
25-XV-006	On-Off Actuated Ball Valve - Vessel V-25001A Hydrogen Outlet	ONSHORE	C10003212	FJ01V	100	2025-03-19	RFO 4
25-XV-009	On-Off Actuated Ball Valve - Vessel V-25001B Hydrogen Outlet	ONSHORE	C10003214	FJ01V	100	2025-03-19	RFO 4
25-XV-012	On/Off Valve - Vessel V-25001C Hydrogen Outlet	ONSHORE	C10003216	FJ01V	100	2025-03-19	RFO 4
25-XV-015	On/Off Valve - Vessel V-25001D Hydrogen Outlet	ONSHORE	C10003218	FJ01V	100	2025-03-19	RFO 4
25-XV-018	On/Off Valve - Vessel V-25001E Hydrogen Outlet	ONSHORE	C10003220	FJ01V	100	2025-03-19	RFO 4
25-XV-021	On/Off Valve - Vessel V-25001F Hydrogen Outlet	ONSHORE	C10003222	FJ01V	100	2025-03-19	RFO 4
80-PT-002	Pressure Transmitter - Hyrogen Storage to A-80000 Package	ONSHORE	C10003189	FJ01A	100	2025-04-03	RFO 4
80-XV-001	On-Off Actuated Ball Valve - Hyrogen Storage to A-80000 Package Vent System	ONSHORE	C10003232	FJ01V	100	2025-03-27	RFO 4

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 25-08 & process: COMM

Piping	25-08 Hydrogen Storage Vessels Header (Outlet)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
TP-008	H2 Outlet System HP	ONSHORE	C10004904	4241	100	2025-03-14	RFO 4
TP-009	H2 Outlet System LP	ONSHORE	C10004905	4241	100	2025-03-14	RFO 4

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage

SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30002134	A	25-RO-022 C10001443	There are several tool marks on the downstream face of the restriction orfice plate, also touching the spiral serrated. To be evaluated by the	.		KAlbonetti 2024-12-24	2025-01-14	KAlbonetti 2025-01-14	2025-01-14
C30003757	B	C-25-XV-012/00-JE-12001 C10000063	Wrong cores identification tag. side J.B. 00-JE-12001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-12	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003761	B	C-25-XY-012/00-JE-13001 C10000113	Wrong cores identification tag. side J.B. 00-JE-13001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-12	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003763	B	C-25-XV-009/00-JE-12001 C10000062	Wrong cores identification tag. side J.B. 00-JE-12001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-12	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003765	B	C-25-XY-009/00-JE-13001 C10000112	Wrong cores identification tag. side J.B. 00-JE-13001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-12	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003805	B	C-25-XY-006/00-JE-13001 C10000111	Wrong cores identification tag. side J.B. 00-JE-13001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-13	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003844	B	C-25-SDY-023/00-JE-23002 C10000178	The installed cable is temporary. To be replaced with the project cable	.		Ecarotenuto 2025-02-16	2025-04-02	Gtangianu 2025-04-02	2025-04-02
C30003853	B	C-25-ZSL-055B/00-JE-12003 C10000082	Missing SS cable tag by 00-JE-12003 side	.		Ecarotenuto 2025-02-16	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30003924	B	AV-63004/25-XV-015 C10001956	Missing SS tag both side the tubing. See attached photo.	.		Gtangianu 2025-02-17	2025-02-20	AAndreani 2025-02-20	2025-02-20

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage

SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003928	B	AV-63006/25-BDV-022 C10001959	Missing SS tag both side the tubing. See attached photo.	.		Gtangianu 2025-02-17	2025-02-19	Gtangianu 2025-02-19	2025-02-19
C30003929	B	AV-63006/25-XV-021 C10001960	Missing SS tag both side the tubing. See attached photo.	.		Gtangianu 2025-02-17	2025-02-19	Gtangianu 2025-02-19	2025-02-19
C30003932	B	AV-63011/80-XV-001 C10001963	Tubing is not fixed all the routing. And the tubing as clashing on the structure. See attached photo.	.		Gtangianu 2025-02-17	2025-02-25	JKrizanic 2025-02-25	2025-02-25
C30003933	B	AV-63011/80-XV-001 C10001963	Missing SS tag both side the tubing. See attached photo.	.		Gtangianu 2025-02-17	2025-02-26	Gtangianu 2025-02-26	2025-02-26
C30003936	B	AV-63012/25-XV-018 C10001981	the bolt is short on the stauff clamps.See attached photo.	.		Gtangianu 2025-02-17	2025-02-25	JKrizanic 2025-02-25	2025-02-25
C30003937	B	AV-63012/25-XV-018 C10001981	Missing SS tag both side the tubing.	.		Gtangianu 2025-02-17	2025-02-20	AAndreani 2025-02-20	2025-02-20
C30003947	B	C-25-BDY-022/00-JE-23002 C10000177	the cable installed is temporary. To be replaced	.		AAndreani 2025-02-17	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30003971	B	AV-63003/25-XV-009 C10001953	Missing the SS spacer on the stauff .See attached photo.	.		Gtangianu 2025-02-18	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30004007	B	C-80-XV-001/00-JE-12003 C10000079	missing SS cable tag on both instrument and JB side	.		AAndreani 2025-02-19	2025-03-03	JKrizanic 2025-03-03	2025-03-03

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	25	Hydrogen Storage
SUBSYSTEM	25-08	Hydrogen Storage Vessels Header (Outlet)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004009	B	C-80-XY-001/00 -JE-13001 C10000117	missing SS cable tag on both instrument and JB side	.		AAndreani 2025-02-19	2025-02-28	AAndreani 2025-02-28	2025-02-28

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003825	A	25-08-TP-030 C10003458	Spool F (SK 016 2/2) is not installed and flange management activity on joints 016-2-J10 and 016-2-J9 is not done.	.	Flange torquing has been performed. Refer to tasks C10004066 and C10004064.	LNovaga 2025-02-15	RDegliEsposti 2025-06-17	RDegliEsposti 2025-06-17	2025-06-17
C30003231	B	25-08-TP-030 C10003457	All piping supports type "S-211" have double nuts intead of one. In addition gap, PTFE and thermoshrink shall be checked during	.		KAlbonetti 2025-01-27	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003275	B	25-08-TP-030 C10003457	SK.016 (SH.2/2): horizontal section for 200 mm between W37 and W38 out of alignment with structure.	.		KAlbonetti 2025-01-29	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003276	B	25-08-TP-030 C10003457	SK.068 (SH.1/2): Vertical section (2297 mm) out of alignment. To be checked after reinstatement.	.		KAlbonetti 2025-01-29	2025-02-12	KAlbonetti 2025-02-12	2025-02-12
C30003289	B	25-08-TP-031 C10003465	Point n.4 and n.7 of the ITR have not been checked due the fact that all valves have not been installed before test. Consequently also the	.		KAlbonetti 2025-01-29	2025-02-14	LNovaga 2025-02-14	2025-02-14
C30003290	B	25-08-TP-031 C10003465	All piping supports type "S-211" to be checked during reinstatement. Now they have not been assembled correctly.	.		KAlbonetti 2025-01-29	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003291	B	25-08-TP-031 C10003465	Support PS-03517 was only electrical. Rodeo installed a bolt as for Standard S-211. Please see as-built.	.	Changes have been recorded on RLMUs	KAlbonetti 2025-01-29	RDegliEsposti 2025-06-25	RDegliEsposti 2025-06-25	2025-06-25
C30003292	B	25-08-TP-031 C10003465	Sk.061: EW38 connects to Sk.019 and not 013.	.		KAlbonetti 2025-01-29	2025-04-02	LNovaga 2025-04-02	2025-04-02
C30003786	B	25-08-TP-031 C10003466	For the support PS-03082.1 (SK 53) S-211 standards haS not yet been installed.	.		LNovaga 2025-02-13	2025-02-19	LNovaga 2025-02-19	2025-02-19

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003787	B	25-08-TP-031 C10003466	For the support PS-02004.1 (SK 061 2/3) S-211 standards has not yet been installed.	.		LNovaga 2025-02-13	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003788	B	25-08-TP-031 C10003466	For the support PS-2065.1 (SK 061 2/3) S-211 standards has not yet been installed.	.		LNovaga 2025-02-13	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003789	B	25-08-TP-031 C10003466	Isolation rubber on Support PS-02117.1 (SK 061 2/3) S-211 is damaged	.		LNovaga 2025-02-13	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003790	B	25-08-TP-031 C10003466	Isolation rubber on Support PS-03105.4 (SK 061 1/3) S-211 is damaged	.		LNovaga 2025-02-13	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003826	B	25-08-TP-030 C10003458	Isolation rubber on Support PS-02076.1 (SK 016 2/2) is damaged	.		LNovaga 2025-02-15	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003827	B	25-08-TP-030 C10003458	Missing lateral gap on the support PS-03045.1 (SK 063)	.		LNovaga 2025-02-15	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003828	B	25-08-TP-030 C10003458	The hole on the ptfe of PS-02101.2 (SK 068 1/2) is larger than the diameter of the washer.	.		LNovaga 2025-02-15	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003968	B	25-08-TP-031 C10003466	There is a clash between Spool C (SK. 051) and grating.	.		LNovaga 2025-02-18	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30004089	B	25-08-TP-031 C10003466	BLPH-MV-019 has stem direction north and gear west. the valve was rotated because there was a clash with the structure.	.		LNovaga 2025-02-22	2025-02-22	LNovaga 2025-02-22	2025-02-22

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004167	B	25-08-TP-030 C10003458	BLPH-MV-016 has stem direction up and gear sud. The valve was rotated for safety reason.	.		LNovaga 2025-02-27	2025-02-27	LNovaga 2025-02-27	2025-02-27
C30004184	B	25-08-TP-030 C10003459	Color coding and fluid direction are missing.	.		LNovaga 2025-02-28	2025-03-20	LNovaga 2025-03-20	2025-03-20
C30004190	B	25-08-TP-031 C10003467	Color coding and fluid direction are missing.	.		LNovaga 2025-03-04	2025-03-20	LNovaga 2025-03-20	2025-03-20

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003424	B	64-PCV-001 C10002043	On ATEX register Model, SN, Atex date are missing.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-01-31	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003425	B	64-PCV-001 C10002043	ATEX D.o.C. by Manufacturer is missing	.		Lmussi 2025-01-31	2025-02-05	Lmussi 2025-02-05	2025-02-05
C30003426	B	64-PCV-001 C10002043	Equipment tag plate is missing	.		Lmussi 2025-01-31	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003654	B	25-XV-006 C10001591	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-11	2025-04-10	LNovaga 2025-04-10	2025-04-10
C30003655	B	25-XV-006 C10001591	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003656	B	25-XV-009 C10001593	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-11	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003657	B	25-XV-009 C10001593	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003658	B	25-XV-012 C10001595	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-11	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003659	B	25-XV-012 C10001595	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage

SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003660	B	25-PCV-006 C10001756	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003661	B	25-PCV-006 C10001756	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003662	B	25-PCV-009 C10001758	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003663	B	25-PCV-009 C10001758	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003664	B	25-PSV-006 C10004834	Equipment ATEX identification label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003665	B	25-PSV-006 C10004834	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003666	B	25-PSV-006 C10004834	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003667	B	25-PSV-006 C10004834	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003668	B	25-PSV-009 C10004836	Equipment ATEX identification label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24

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SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003669	B	25-PSV-009 C10004836	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003670	B	25-PSV-009 C10004836	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003671	B	25-PSV-009 C10004836	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003673	B	25-PSV-012 C10004838	Equipment ATEX identification label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003674	B	25-PSV-012 C10004838	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003675	B	25-PSV-012 C10004838	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003676	B	25-PSV-012 C10004838	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003679	B	25-PCV-012 C10001760	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003680	B	25-PCV-012 C10001760	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10

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SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003682	B	25-PG -006 C10004820	Equipment ATEX label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003683	B	25-PG -006 C10004820	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003684	B	25-PG -006 C10004820	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003685	B	25-PG -006 C10004820	Equipment is only half filled with glycerine	.		Lmussi 2025-02-11	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30003686	B	25-PG -009 C10004822	Equipment ATEX label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003687	B	25-PG -009 C10004822	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003688	B	25-PG -009 C10004822	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003689	B	25-PG -012 C10004824	Equipment ATEX label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003690	B	25-PG -012 C10004824	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14

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SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003691	B	25-PG -012 C10004824	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003692	B	25-PG -012 C10004824	Equipment is not fully filled with glycerine	.		Lmussi 2025-02-11	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30003759	B	25-ZSHL-012 C10001732	Doc: document 123A90-DDL-EL-LIS-20094 does not report what was installed in the field (see picture)	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	APolo 2025-02-12	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003762	B	25-XY-012 C10001719	Missing tag SS , on Solenoid Valve.	.		APolo 2025-02-12	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003766	B	25-XY-009 C10001717	Missing tag SS , on Solenoid Valve.	.		APolo 2025-02-12	2025-02-20	AAndreani 2025-02-20	2025-02-20
C30003804	B	25-ZSHL-006 C10001728	Doc: document 123A90-DDL-EL-LIS-20094 does not report what was installed in the field (see picture)	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	APolo 2025-02-13	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003806	B	25-XY-006 C10001715	Missing tag SS , on Solenoid Valve.	.		APolo 2025-02-13	2025-02-20	AAndreani 2025-02-20	2025-02-20
C30003807	B	25-XY-006 C10001715	Doc: document 123A90-DDL-EL-LIS-20094 does not report what was installed in the field (see picture)	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	APolo 2025-02-13	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003811	B	80-PSV-001 C10001196	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-13	2025-03-20	LNovaga 2025-03-20	2025-03-20

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SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003812	B	80-PSV-001 C10001196	Tag on tagplate is 80-PSV-01 but it should be 80-PSV-001 instead	.		Lmussi 2025-02-13	2025-02-26	Lmussi 2025-02-26	2025-02-26
C30003834	B	25-PSV-023 C10004850	Equipment ATEX identification label is missing	.		Lmussi 2025-02-16	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003835	B	25-PSV-023 C10004850	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-16	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003836	B	25-PSV-023 C10004850	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-16	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003837	B	25-PSV-021 C10004844	Equipment ATEX identification label is missing	.		Lmussi 2025-02-16	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003838	B	25-PSV-021 C10004844	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-16	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003839	B	25-PSV-021 C10004844	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-16	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003840	B	25-PG -021 C10004830	Equipment ATEX label is missing	.		Lmussi 2025-02-16	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003841	B	25-PG -021 C10004830	Equipment tag plate is missing	.		Lmussi 2025-02-16	2025-02-18	Lmussi 2025-02-18	2025-02-18

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ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003842	B	25-PG -021 C10004830	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-16	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003843	B	25-PSV-021 C10004844	Equipment tag plate is missing	.		Lmussi 2025-02-16	2025-02-18	Lmussi 2025-02-18	2025-02-18
C30003845	B	25-PSV-055A C10004762	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 6) equipment SN is 24-03802 but actual is 24-03798	.		Lmussi 2025-02-16	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30003846	B	25-PSV-055B C10004763	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 6) equipment SN is 24-03803 but actual is 24-03801	.		Lmussi 2025-02-16	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30003863	B	25-PG-022 C10004811	Equipment ATEX label is missing	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003864	B	25-PG-022 C10004811	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003865	B	25-PG-022 C10004811	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003866	B	25-PSV-022 C10004818	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003867	B	25-PSV-022 C10004818	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24

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SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003868	B	25-PSV-022 C10004818	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003869	B	25-PSV-022 C10004818	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003870	B	25-PG -015 C10004826	Equipment ATEX label is missing	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003871	B	25-PG -015 C10004826	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003872	B	25-PG -018 C10004828	Equipment ATEX label is missing	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003873	B	25-PG -018 C10004828	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003874	B	25-PSV-015 C10004840	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003875	B	25-PSV-015 C10004840	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003876	B	25-PSV-015 C10004840	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10

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CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003877	B	25-PSV-018 C10004842	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003878	B	25-PSV-018 C10004842	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003879	B	25-PSV-018 C10004842	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003887	B	80-PG -001 C10004832	Equipment ATEX label is missing	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003888	B	80-PG -001 C10004832	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-02-18	Lmussi 2025-02-18	2025-02-18
C30003889	B	80-PG -001 C10004832	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003890	B	80-PSV-001_1 C10004851	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003891	B	80-PSV-001_1 C10004851	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003892	B	80-PSV-001_1 C10004851	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-02-18	Lmussi 2025-02-18	2025-02-18

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ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003893	B	80-PSV-001_1 C10004851	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003899	B	25-PCV-022 C10001616	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003900	B	25-PCV-022 C10001616	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003901	B	25-PCV-015 C10001762	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003904	B	25-PCV-018 C10001764	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003905	B	25-PCV-021 C10001766	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003906	B	25-PCV-021 C10001766	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003907	B	25-PCV-023 C10001767	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003908	B	25-PCV-023 C10001767	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-05-16	Gtangianu 2025-05-16	2025-05-16

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SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003909	B	80-PCV-001 C10001798	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003910	B	80-PCV-001 C10001798	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003913	B	25-SV-055B C10004735	Breathing plug is missing	.		Lmussi 2025-02-17	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30003934	B	25-BDV-022 C10001566	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003935	B	25-BDV-022 C10001566	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003939	B	25-SDV-023 C10001589	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-03-20	LNovaga 2025-03-20	2025-03-20
C30003941	B	25-SDV-023 C10001589	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003943	B	25-XV-015 C10001597	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003944	B	25-XV-015 C10001597	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12

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ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003945	B	25-XV-018 C10001599	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003946	B	25-XV-018 C10001599	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003949	B	25-XV-021 C10001601	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-10	LNovaga 2025-04-10	2025-04-10
C30003950	B	25-XV-021 C10001601	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003953	B	80-XV-001 C10001618	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-10	LNovaga 2025-04-10	2025-04-10
C30003954	B	80-XV-001 C10001618	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003956	B	80-PT-002 C10001498	Missing SS and Traffolyte tag	.		Ecarotenuto 2025-02-17	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003957	B	25-PY-055A C10001710	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 10) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The verified information related to the item has been recorded in the AVEVA	Ecarotenuto 2025-02-17	RDegliEsposti 2025-05-28	RDegliEsposti 2025-05-28	2025-05-28
C30003958	B	25-PY-055A C10001710	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-03-03	JKrizanic 2025-03-03	2025-03-03

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage

SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003959	B	25-ZSHL-055A C10001752	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-03-03	JKrizanic 2025-03-03	2025-03-03
C30003960	B	25-PY-055B C10001711	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-03-03	JKrizanic 2025-03-03	2025-03-03
C30003961	B	25-ZSHL-055B C10001753	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-03-03	JKrizanic 2025-03-03	2025-03-03
C30003962	B	25-PY-055B C10001711	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 7) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The verified information related to the item has been recorded in the AVEVA	Ecarotenuto 2025-02-17	RDegliEsposti 2025-05-28	RDegliEsposti 2025-05-28	2025-05-28
C30003963	B	25-SDY-023 C10001713	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 7) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Ecarotenuto 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003964	B	25-SDY-023 C10001713	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003965	B	25-PT-055A C10001496	Missing SS and Traffolyte tag	.		Ecarotenuto 2025-02-17	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003966	B	25-PT-055B C10001497	Missing SS and Traffolyte tag	.		Ecarotenuto 2025-02-17	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003973	B	25-PV-055A C10001586	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-18	2025-03-20	LNovaga 2025-03-20	2025-03-20

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage

SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003985	B	25-XY-015 C10001721	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-18	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003995	B	25-XY-018 C10001723	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-18	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004004	B	25-BDY-022 C10001573	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-18	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004005	B	25-BDY-022 C10001573	missing SS tag	.		AAndreani 2025-02-18	2025-02-20	AAndreani 2025-02-20	2025-02-20
C30004006	B	25-XY-021 C10001725	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-19	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004010	B	80-XY-001 C10001796	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-19	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004011	B	80-ZSHL-001 C10001797	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-19	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004018	B	25-PV-055B C10001587	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-19	2025-03-20	LNovaga 2025-03-20	2025-03-20

Section 2.2 Exception Punch Lists (per discipline)

Project CROSSWIND

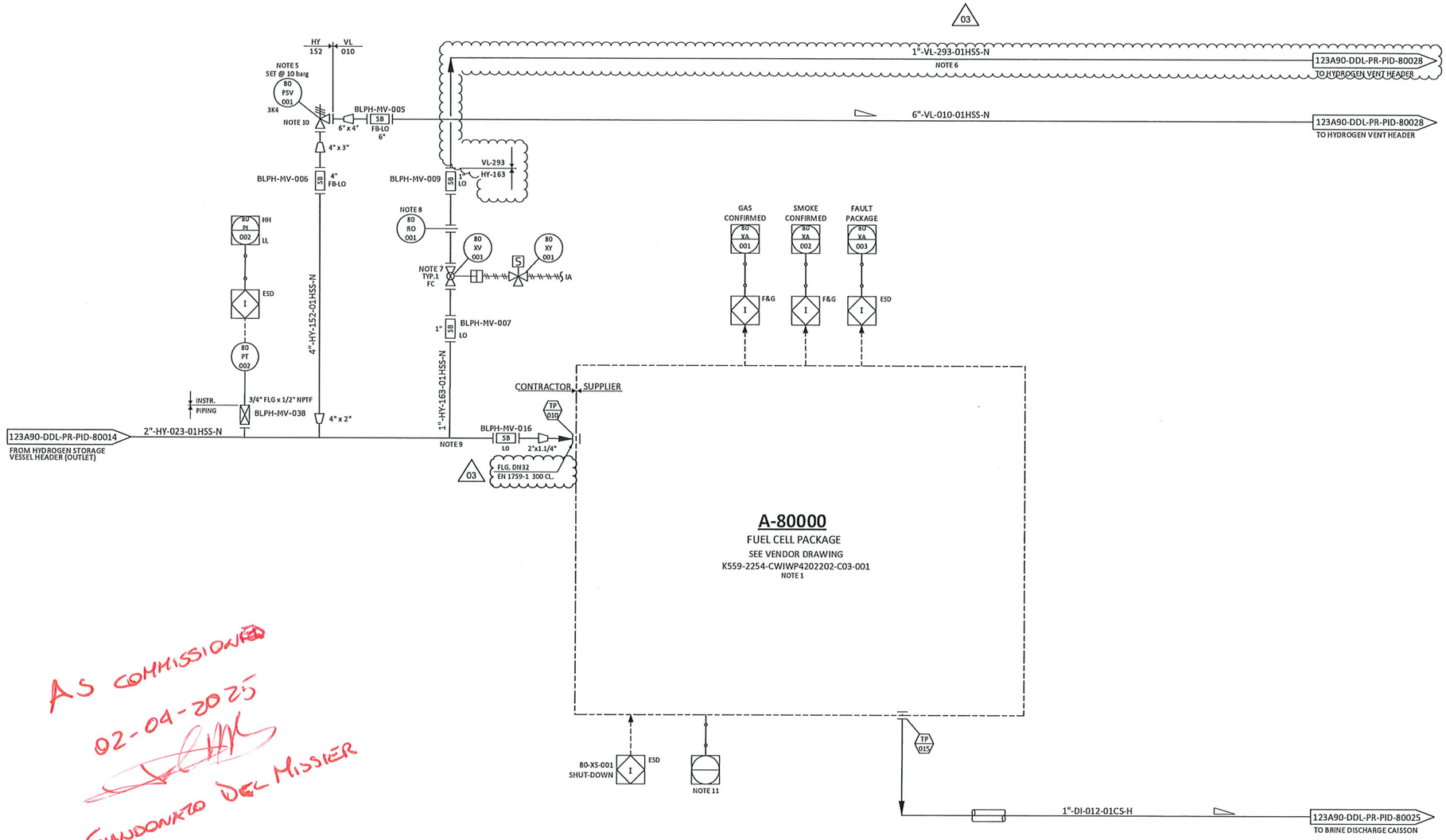
PUNCH LIST REPORT

NO DATA AVAILABLE

Section 2.3 “As-Commissioned” P&ID's / SLD's / D&ID's / C&E's

DRAWING NO. DRAWING_NO.

REV. REV



AS COMMISSIONED
02-04-2025
GIANDONATO DEL MISSIER

NOTES

1. THE VENDOR PACKAGE WILL CONTAIN AIR INTAKE AND EXHAUST, SUITABLY SAFEGUARDED AND SEPARATED.
2. DELETED.
3. DELETED.
4. DELETED
5. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
6. LINE REQUIRED FOR PURGING OF PIPING WORK.
7. TIGHT SHUT-OFF VALVE.
8. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
9. LINE 1"-HY-163-01HSS-N WILL BE LOCATED AS CLOSE TO THE PACKAGE AS POSSIBLE TO ENSURE COMPLETE PURGING OF THE LINE.
10. 80-PSV-001 SIZED FOR CV FAILURE OF UPSTREAM CONTROL VALVE 25-PV-055A/B.
11. SERIAL COMMUNICATION WITH CONTROL SYSTEM.

HOLDS

1. DELETED.
2. 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
FUEL CELL 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-80012	SHEET 001	REV. 03

File Name : FILE_NAME

DRAWING NO. DRAWING_NO.

REV. REV

123A90-DDL-PR-PID-80017 — FROM HYDROGEN STORAGE VESSEL C — 1"-HY-133-03HSS-N

123A90-DDL-PR-PID-80016 — FROM HYDROGEN STORAGE VESSEL B — 1"-HY-132-03HSS-N

123A90-DDL-PR-PID-80015 — FROM HYDROGEN STORAGE VESSEL A — 1"-HY-026-03HSS-N

123A90-DDL-PR-PID-80020 — FROM HYDROGEN STORAGE VESSEL F — 1"-HY-136-03HSS-N

123A90-DDL-PR-PID-80019 — FROM HYDROGEN STORAGE VESSEL E — 1"-HY-135-03HSS-N

123A90-DDL-PR-PID-80018 — FROM HYDROGEN STORAGE VESSEL D — 1"-HY-134-03HSS-N

1-1/2"-HY-148-03HSS-N

2"-VL-022-01HSS-N → 123A90-DDL-PR-PID-80028 TO HYDROGEN VENT HEADER

01HSS / 03HSS — VL-022 / HY-144 — 2" — BLPH-MV-019 FB-LO

NOTE 4 — 25 RO 022 — 2" x 1"

25 BDY 022 — TYP.4 FB-FO — ESD — 25 BDY 022 — IA

1" — BLPH-MV-018 FB-LO

1"-HY-144-03HSS-N

ESD — 25 SDY 023 — IA — 25 SDV 023 — FC TYP.2 NOTE 6

1-1/2"-HY-148-03HSS-N

03HSS — 01HSS — 3/4" — BLPH-MV-024 — 2"x1.1/2"

25 PV 055A — FC TYP.6 1.1/2" NOTE 5, 1

25 PIC 055A (H/L) — 25 XC 055 — NOTE 3 — 03

25 PT 055A — INSTR. PIPING — BLPH-MV-025 3/4" FLG x 1/2" NPTF

2"-HY-023-01HSS-N → 123A90-DDL-PR-PID-80012 TO FUEL CELL PACKAGE

25 PIC 055B (H/L) — 25 PT 055B

03HSS — 01HSS — 3/4" — BLPH-MV-028

25 PV 055B — FC TYP.6 NOTE 5, 1 — 03

BLPH-MV-213 3/4" FLG x 1/2" NPTF — INSTR. PIPING

1-1/2"-HY-148-03HSS-N

PB — BLPH-MV-468 1.1/2" NOTE 8

NOTES

1. TIGHT SHUT-OFF VALVE.
2. DELETED.
3. CONTROL VALVES 25-PV-055A/B WORK IN SPLIT RANGE:
   - FOR LOW OPERATING CV (UP TO 0.31) VALVE "B" IS USED
   - FOR HIGH OPERATING CV (FROM 0.31) VALVE "A" IS USED
4. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
5. SOFTWARE INTERLOCK PREVENTS OPENING OF THE CONTROL VALVES 25-PV-055A/B IN CASE FUEL CELL PACKAGE (A-80000) IS NOT READY TO START.
6. SDV VALVE 25-SDV-023 TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE CONTROL VALVES 25-PV-055A/B. 03
7. DELETED 03
8. TO BE USED DURING COMMISSIONING PHASE.

HOLDS

1. DELETED.
2. DELETED. 03

AS COMMISSIONED
02-09-2025
GIANDONATO DEL MISSIER

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
HYDROGEN STORAGE VESSELS HEADER (OUTLET)

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-80014	SHEET 001	REV. 03

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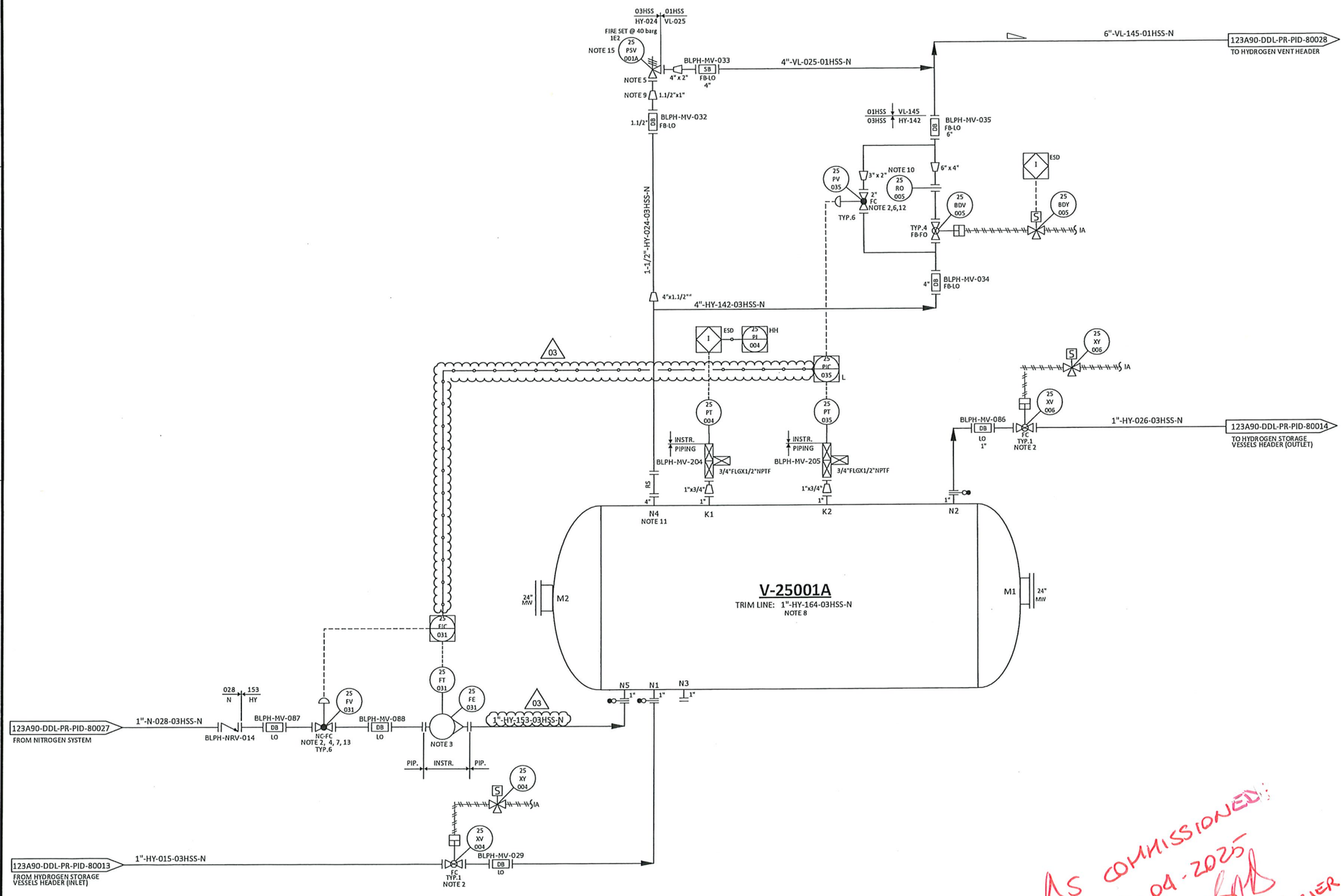
DRAWING NO. DRAWING_NO.

REV. REV

V-25001 A

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg /AMB



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-031) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT "DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-035 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-035 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-031 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-035 HAS FAILED TO CLOSE.
15. 25-PSV-001A SIZED FOR FIRE.

HOLDS

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

AS COMMISSIONED
02-04-2025
GIANDONATO DEL MISSIER

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
HYDROGEN STORAGE VESSEL A

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE NTS
DRAWN	CHECKED	APPROVED	DATE
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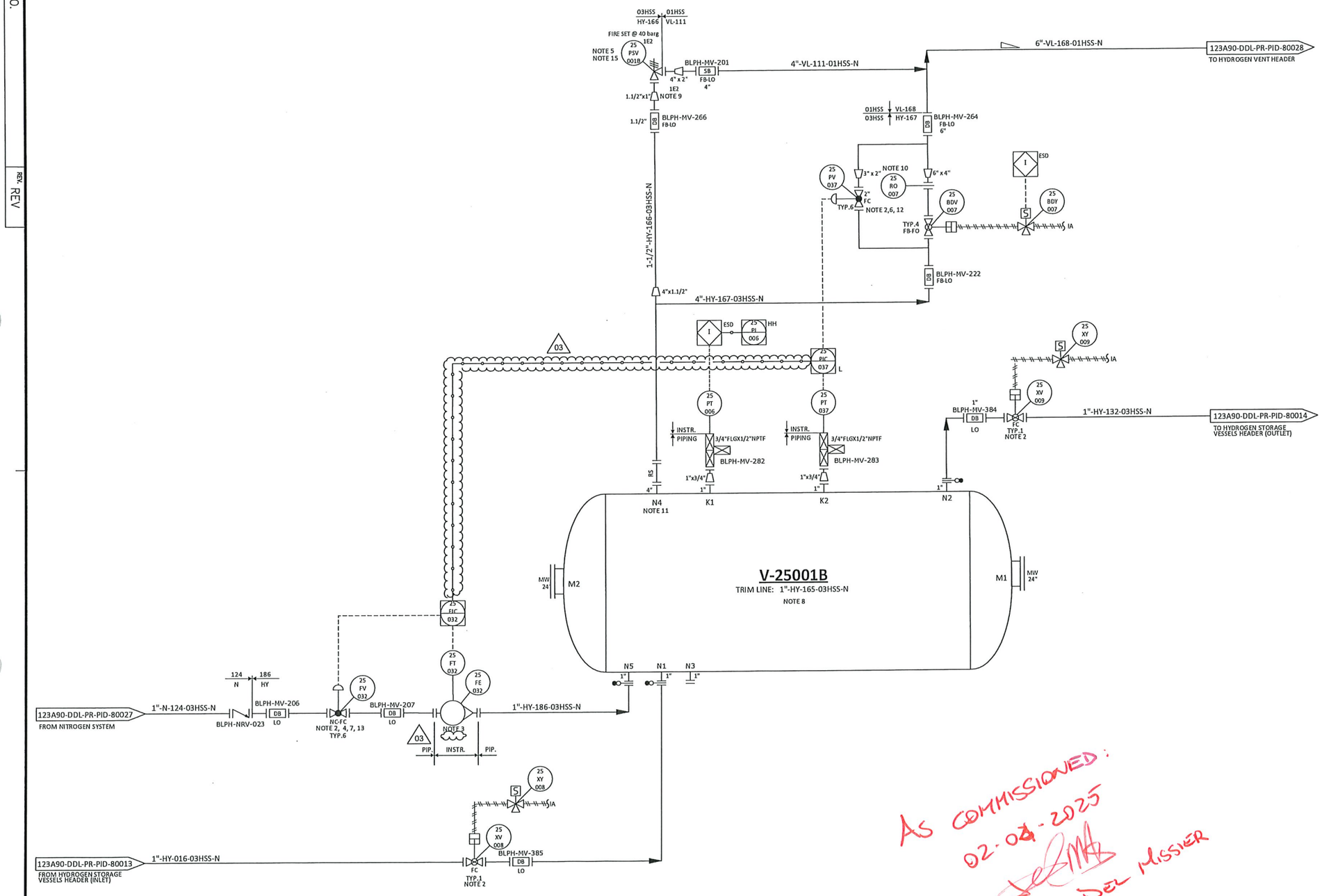
DRAWING NO. DRAWING_NO.

REV. REV

V-25001 B

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-032) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT "DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-037 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC."PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-037 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-032 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-037 HAS FAILED TO CLOSE.
15. 25-PSV-001B SIZED FOR FIRE.

HOLDS

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

AS COMMISSIONED:
02-04-2025
GIANDONATO DEL MISSIER

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
HYDROGEN STORAGE VESSEL B

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-80016		SHEET 001 / REV. 03

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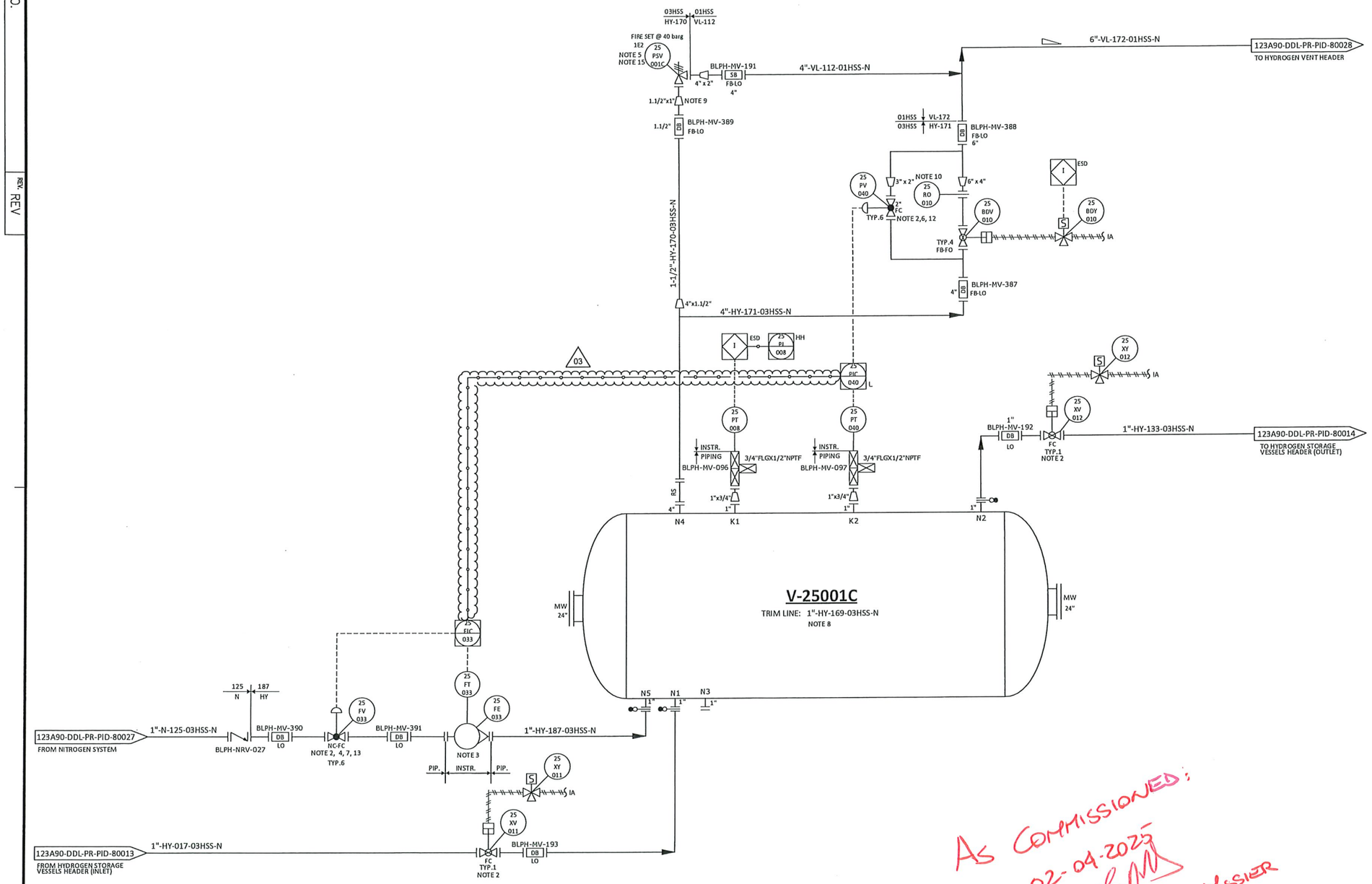
DRAWING NO. DRAWING_NO.

REV. REV

V-25001 C

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS.
4. NITROGEN CONTROL VALVE (25-FV-033) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE. 03
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-040 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-040 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-033 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-040 HAS FAILED TO CLOSE.
15. 25-PS-V001C SIZED FOR FIRE.

HOLDS

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

As Commissioned:
02-09-2025
Gianfranco De Missier

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
HYDROGEN STORAGE VESSEL C

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-80017		SHEET 001	REV. 03

File Name : FILE_NAME

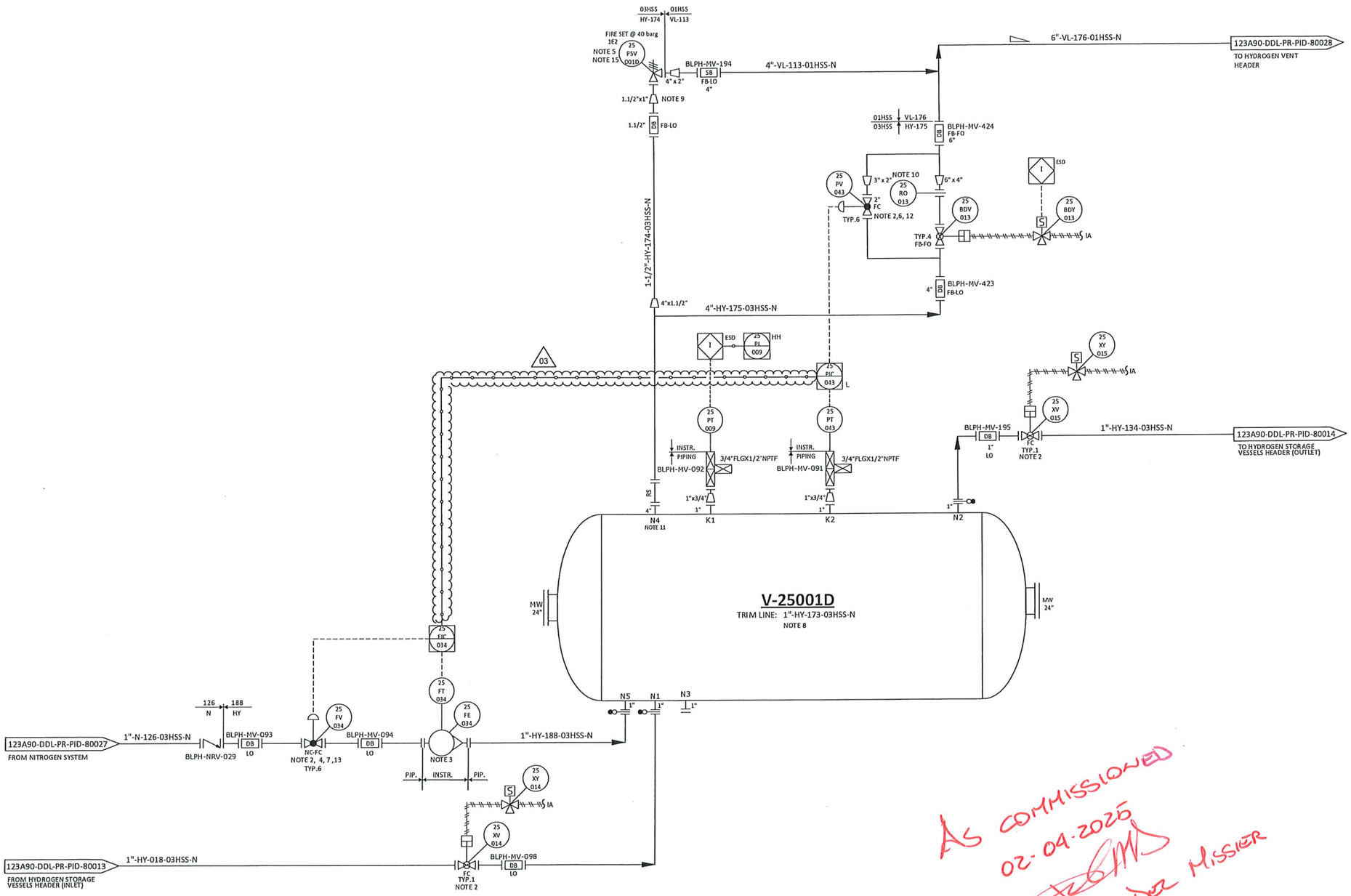
DRAWING NO. DRAWING_NO.

REV. REV

V-25001 D

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-034) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-043 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-043 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-034 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-043 HAS FAILED TO CLOSE.
15. 25-PSV-001D SIZED FOR FIRE.

HOLDS

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

AS COMMISSIONED
02-09-2025
GIANDONATO DEL MISSIER

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
HYDROGEN STORAGE VESSEL D

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-80018			SHEET 001	REV. 03

File Name : FILE_NAME

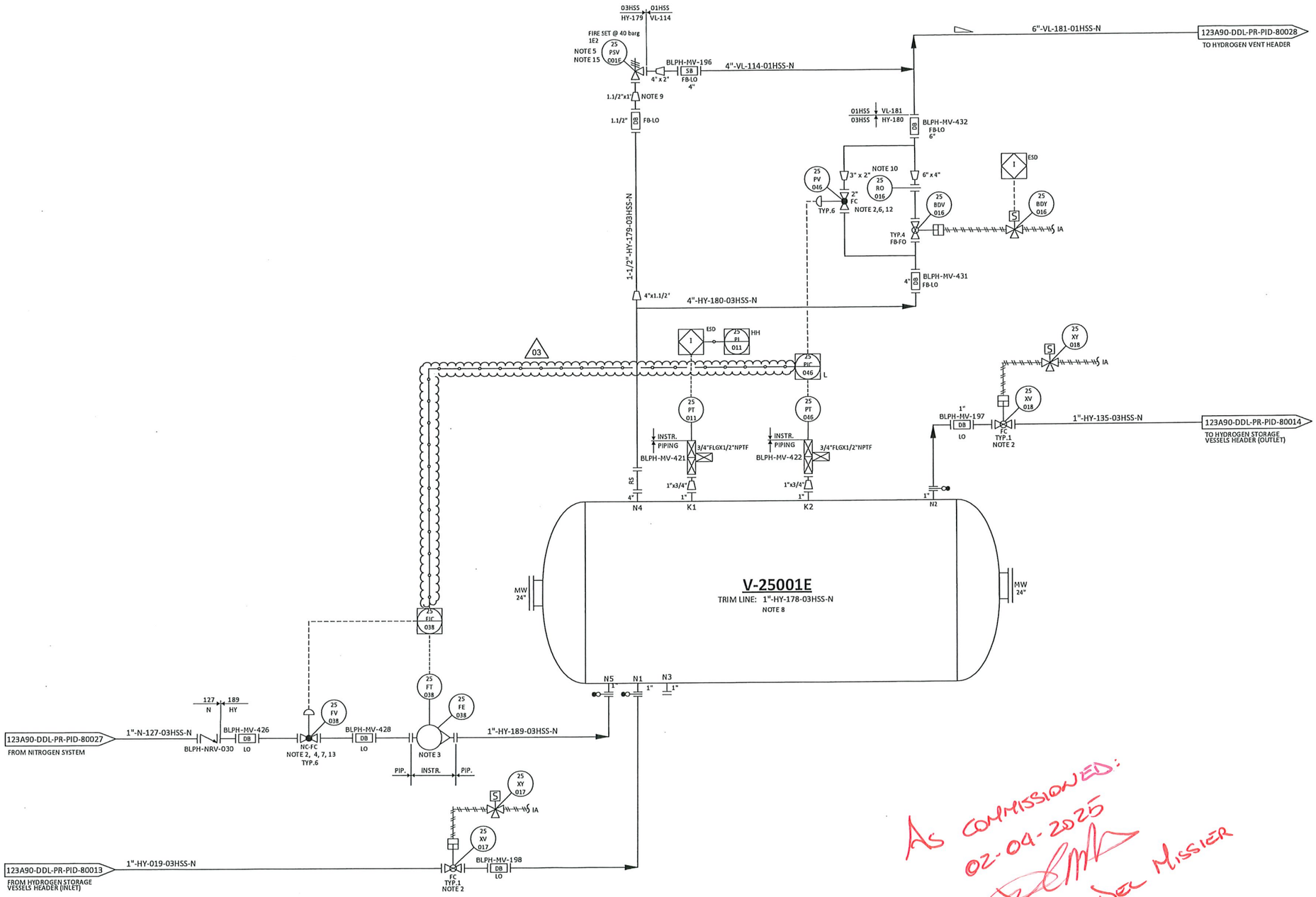
DRAWING NO. DRAWING_NO.

REV. REV

V-25001 E

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS.
4. NITROGEN CONTROL VALVE (25-FV-038) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE. 03
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-046 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-046 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-038 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-046 HAS FAILED TO CLOSE.
15. 25-PSV-001E SIZED FOR FIRE.

HOLDS

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

As commissioned:
02-09-2025
Giandonato Del Missier

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
HYDROGEN STORAGE VESSEL E

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-80019 | SHEET 001 | REV. 03

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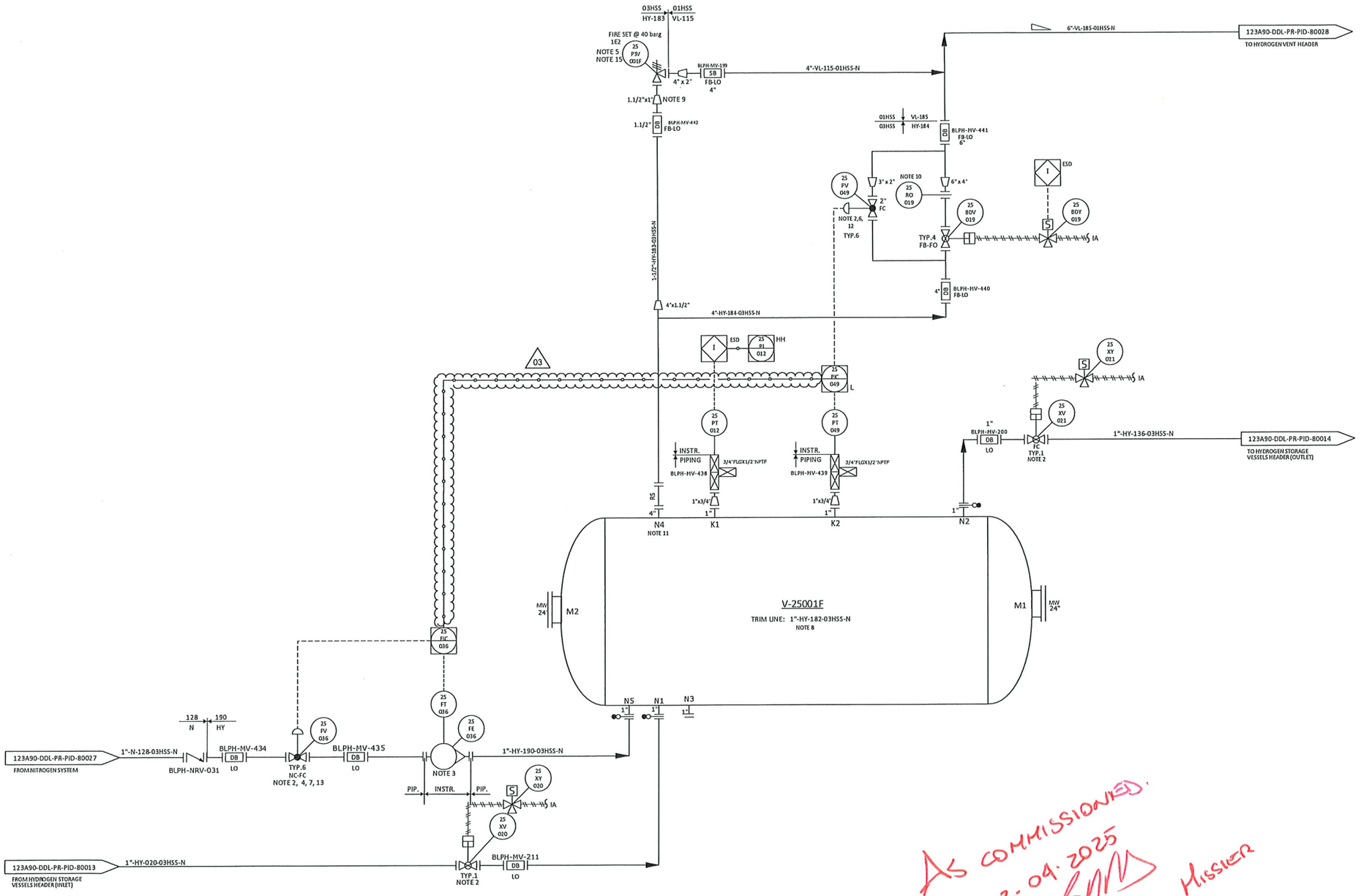
DRAWING NO. DRAWING_NO.

REV. REV

V-25001 F

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB



NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-036) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-049 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-049 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25FV036 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-049 HAS FAILED TO CLOSE.
15. 25-PSV-001F SIZED FOR FIRE.

HOLDS

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

AS COMMISSIONED.
02.09.2025
GIANDONATO DE MISSIER

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 HAZOP (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
HYDROGEN STORAGE VESSEL F

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-80020		SHEET 001 / REV. 03

File Name : FILE_NAME

Section 3 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage

SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30002134	A	25-RO-022 C10001443	There are several tool marks on the downstream face of the restriction orfice plate, also touching the spiral serrated. To be evaluated by the	.		KAlbonetti 2024-12-24	2025-01-14	KAlbonetti 2025-01-14	2025-01-14
C30003757	B	C-25-XV-012/00-JE-12001 C10000063	Wrong cores identification tag. side J.B. 00-JE-12001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-12	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003761	B	C-25-XY-012/00-JE-13001 C10000113	Wrong cores identification tag. side J.B. 00-JE-13001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-12	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003763	B	C-25-XV-009/00-JE-12001 C10000062	Wrong cores identification tag. side J.B. 00-JE-12001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-12	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003765	B	C-25-XY-009/00-JE-13001 C10000112	Wrong cores identification tag. side J.B. 00-JE-13001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-12	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003805	B	C-25-XY-006/00-JE-13001 C10000111	Wrong cores identification tag. side J.B. 00-JE-13001 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2025-02-13	2025-02-19	Ecarotenuto 2025-02-19	2025-02-19
C30003844	B	C-25-SDY-023/00-JE-23002 C10000178	The installed cable is temporary. To be replaced with the project cable	.		Ecarotenuto 2025-02-16	2025-04-02	Gtangianu 2025-04-02	2025-04-02
C30003853	B	C-25-ZSL-055B/00-JE-12003 C10000082	Missing SS cable tag by 00-JE-12003 side	.		Ecarotenuto 2025-02-16	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30003924	B	AV-63004/25-XV-015 C10001956	Missing SS tag both side the tubing. See attached photo.	.		Gtangianu 2025-02-17	2025-02-20	AAndreani 2025-02-20	2025-02-20

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003928	B	AV-63006/25-BDV-022 C10001959	Missing SS tag both side the tubing. See attached photo.	.		Gtangianu 2025-02-17	2025-02-19	Gtangianu 2025-02-19	2025-02-19
C30003929	B	AV-63006/25-XV-021 C10001960	Missing SS tag both side the tubing. See attached photo.	.		Gtangianu 2025-02-17	2025-02-19	Gtangianu 2025-02-19	2025-02-19
C30003932	B	AV-63011/80-XV-001 C10001963	Tubing is not fixed all the routing. And the tubing as clashing on the structure. See attached photo.	.		Gtangianu 2025-02-17	2025-02-25	JKrizanic 2025-02-25	2025-02-25
C30003933	B	AV-63011/80-XV-001 C10001963	Missing SS tag both side the tubing. See attached photo.	.		Gtangianu 2025-02-17	2025-02-26	Gtangianu 2025-02-26	2025-02-26
C30003936	B	AV-63012/25-XV-018 C10001981	the bolt is short on the stauff clamps.See attached photo.	.		Gtangianu 2025-02-17	2025-02-25	JKrizanic 2025-02-25	2025-02-25
C30003937	B	AV-63012/25-XV-018 C10001981	Missing SS tag both side the tubing.	.		Gtangianu 2025-02-17	2025-02-20	AAndreani 2025-02-20	2025-02-20
C30003947	B	C-25-BDY-022/00-JE-23002 C10000177	the cable installed is temporary. To be replaced	.		AAndreani 2025-02-17	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30003971	B	AV-63003/25-XV-009 C10001953	Missing the SS spacer on the stauff .See attached photo.	.		Gtangianu 2025-02-18	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30004007	B	C-80-XV-001/00-JE-12003 C10000079	missing SS cable tag on both instrument and JB side	.		AAndreani 2025-02-19	2025-03-03	JKrizanic 2025-03-03	2025-03-03

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004009	B	C-80-XY-001/00 -JE-13001 C10000117	missing SS cable tag on both instrument and JB side	.		AAndreani 2025-02-19	2025-02-28	AAndreani 2025-02-28	2025-02-28

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003825	A	25-08-TP-030 C10003458	Spool F (SK 016 2/2) is not installed and flange management activity on joints 016-2-J10 and 016-2-J9 is not done.	.	Flange torquing has been performed. Refer to tasks C10004066 and C10004064.	LNovaga 2025-02-15	RDegliEsposti 2025-06-17	RDegliEsposti 2025-06-17	2025-06-17
C30003231	B	25-08-TP-030 C10003457	All piping supports type "S-211" have double nuts intead of one. In addition gap, PTFE and thermoshrink shall be checked during	.		KAlbonetti 2025-01-27	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003275	B	25-08-TP-030 C10003457	SK.016 (SH.2/2): horizontal section for 200 mm between W37 and W38 out of alignment with structure.	.		KAlbonetti 2025-01-29	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003276	B	25-08-TP-030 C10003457	SK.068 (SH.1/2): Vertical section (2297 mm) out of alignment. To be checked after reinstatement.	.		KAlbonetti 2025-01-29	2025-02-12	KAlbonetti 2025-02-12	2025-02-12
C30003289	B	25-08-TP-031 C10003465	Point n.4 and n.7 of the ITR have not been checked due the fact that all valves have not been installed before test. Consequently also the	.		KAlbonetti 2025-01-29	2025-02-14	LNovaga 2025-02-14	2025-02-14
C30003290	B	25-08-TP-031 C10003465	All piping supports type "S-211" to be checked during reinstatement. Now they have not been assembled correctly.	.		KAlbonetti 2025-01-29	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003291	B	25-08-TP-031 C10003465	Support PS-03517 was only electrical. Rodeo installed a bolt as for Standard S-211. Please see as-built.	.	Changes have been recorded on RLMUs	KAlbonetti 2025-01-29	RDegliEsposti 2025-06-25	RDegliEsposti 2025-06-25	2025-06-25
C30003292	B	25-08-TP-031 C10003465	Sk.061: EW38 connects to Sk.019 and not 013.	.		KAlbonetti 2025-01-29	2025-04-02	LNovaga 2025-04-02	2025-04-02
C30003786	B	25-08-TP-031 C10003466	For the support PS-03082.1 (SK 53) S-211 standards haS not yet been installed.	.		LNovaga 2025-02-13	2025-02-19	LNovaga 2025-02-19	2025-02-19

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003787	B	25-08-TP-031 C10003466	For the support PS-02004.1 (SK 061 2/3) S-211 standards has not yet been installed.	.		LNovaga 2025-02-13	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003788	B	25-08-TP-031 C10003466	For the support PS-2065.1 (SK 061 2/3) S-211 standards has not yet been installed.	.		LNovaga 2025-02-13	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003789	B	25-08-TP-031 C10003466	Isolation rubber on Support PS-02117.1 (SK 061 2/3) S-211 is damaged	.		LNovaga 2025-02-13	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003790	B	25-08-TP-031 C10003466	Isolation rubber on Support PS-03105.4 (SK 061 1/3) S-211 is damaged	.		LNovaga 2025-02-13	2025-02-15	LNovaga 2025-02-15	2025-02-15
C30003826	B	25-08-TP-030 C10003458	Isolation rubber on Support PS-02076.1 (SK 016 2/2) is damaged	.		LNovaga 2025-02-15	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003827	B	25-08-TP-030 C10003458	Missing lateral gap on the support PS-03045.1 (SK 063)	.		LNovaga 2025-02-15	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003828	B	25-08-TP-030 C10003458	The hole on the ptfe of PS-02101.2 (SK 068 1/2) is larger than the diameter of the washer.	.		LNovaga 2025-02-15	2025-02-19	LNovaga 2025-02-19	2025-02-19
C30003968	B	25-08-TP-031 C10003466	There is a clash between Spool C (SK. 051) and grating.	.		LNovaga 2025-02-18	2025-02-26	LNovaga 2025-02-26	2025-02-26
C30004089	B	25-08-TP-031 C10003466	BLPH-MV-019 has stem direction north and gear west. the valve was rotated because there was a clash with the structure.	.		LNovaga 2025-02-22	2025-02-22	LNovaga 2025-02-22	2025-02-22

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

Piping

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004167	B	25-08-TP-030 C10003458	BLPH-MV-016 has stem direction up and gear sud. The valve was rotated for safety reason.	.		LNovaga 2025-02-27	2025-02-27	LNovaga 2025-02-27	2025-02-27
C30004184	B	25-08-TP-030 C10003459	Color coding and fluid direction are missing.	.		LNovaga 2025-02-28	2025-03-20	LNovaga 2025-03-20	2025-03-20
C30004190	B	25-08-TP-031 C10003467	Color coding and fluid direction are missing.	.		LNovaga 2025-03-04	2025-03-20	LNovaga 2025-03-20	2025-03-20

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003424	B	64-PCV-001 C10002043	On ATEX register Model, SN, Atex date are missing.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-01-31	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003425	B	64-PCV-001 C10002043	ATEX D.o.C. by Manufacturer is missing	.		Lmussi 2025-01-31	2025-02-05	Lmussi 2025-02-05	2025-02-05
C30003426	B	64-PCV-001 C10002043	Equipment tag plate is missing	.		Lmussi 2025-01-31	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003654	B	25-XV-006 C10001591	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-11	2025-04-10	LNovaga 2025-04-10	2025-04-10
C30003655	B	25-XV-006 C10001591	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003656	B	25-XV-009 C10001593	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-11	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003657	B	25-XV-009 C10001593	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003658	B	25-XV-012 C10001595	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-11	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003659	B	25-XV-012 C10001595	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10

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SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003660	B	25-PCV-006 C10001756	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003661	B	25-PCV-006 C10001756	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003662	B	25-PCV-009 C10001758	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003663	B	25-PCV-009 C10001758	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003664	B	25-PSV-006 C10004834	Equipment ATEX identification label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003665	B	25-PSV-006 C10004834	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003666	B	25-PSV-006 C10004834	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003667	B	25-PSV-006 C10004834	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003668	B	25-PSV-009 C10004836	Equipment ATEX identification label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24

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SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003669	B	25-PSV-009 C10004836	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003670	B	25-PSV-009 C10004836	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003671	B	25-PSV-009 C10004836	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003673	B	25-PSV-012 C10004838	Equipment ATEX identification label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003674	B	25-PSV-012 C10004838	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003675	B	25-PSV-012 C10004838	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003676	B	25-PSV-012 C10004838	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003679	B	25-PCV-012 C10001760	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003680	B	25-PCV-012 C10001760	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10

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SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003682	B	25-PG -006 C10004820	Equipment ATEX label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003683	B	25-PG -006 C10004820	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003684	B	25-PG -006 C10004820	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003685	B	25-PG -006 C10004820	Equipment is only half filled with glycerine	.		Lmussi 2025-02-11	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30003686	B	25-PG -009 C10004822	Equipment ATEX label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003687	B	25-PG -009 C10004822	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14
C30003688	B	25-PG -009 C10004822	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003689	B	25-PG -012 C10004824	Equipment ATEX label is missing	.		Lmussi 2025-02-11	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003690	B	25-PG -012 C10004824	Equipment tag plate is missing	.		Lmussi 2025-02-11	2025-02-14	Lmussi 2025-02-14	2025-02-14

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SYSTEM 25 Hydrogen Storage

SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003691	B	25-PG -012 C10004824	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-11	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003692	B	25-PG -012 C10004824	Equipment is not fully filled with glycerine	.		Lmussi 2025-02-11	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30003759	B	25-ZSHL-012 C10001732	Doc: document 123A90-DDL-EL-LIS-20094 does not report what was installed in the field (see picture)	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	APolo 2025-02-12	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003762	B	25-XY-012 C10001719	Missing tag SS , on Solenoid Valve.	.		APolo 2025-02-12	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003766	B	25-XY-009 C10001717	Missing tag SS , on Solenoid Valve.	.		APolo 2025-02-12	2025-02-20	AAndreani 2025-02-20	2025-02-20
C30003804	B	25-ZSHL-006 C10001728	Doc: document 123A90-DDL-EL-LIS-20094 does not report what was installed in the field (see picture)	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	APolo 2025-02-13	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003806	B	25-XY-006 C10001715	Missing tag SS , on Solenoid Valve.	.		APolo 2025-02-13	2025-02-20	AAndreani 2025-02-20	2025-02-20
C30003807	B	25-XY-006 C10001715	Doc: document 123A90-DDL-EL-LIS-20094 does not report what was installed in the field (see picture)	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	APolo 2025-02-13	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003811	B	80-PSV-001 C10001196	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-13	2025-03-20	LNovaga 2025-03-20	2025-03-20

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SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003812	B	80-PSV-001 C10001196	Tag on tagplate is 80-PSV-01 but it should be 80-PSV-001 instead	.		Lmussi 2025-02-13	2025-02-26	Lmussi 2025-02-26	2025-02-26
C30003834	B	25-PSV-023 C10004850	Equipment ATEX identification label is missing	.		Lmussi 2025-02-16	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003835	B	25-PSV-023 C10004850	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-16	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003836	B	25-PSV-023 C10004850	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-16	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003837	B	25-PSV-021 C10004844	Equipment ATEX identification label is missing	.		Lmussi 2025-02-16	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003838	B	25-PSV-021 C10004844	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-16	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003839	B	25-PSV-021 C10004844	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-16	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003840	B	25-PG -021 C10004830	Equipment ATEX label is missing	.		Lmussi 2025-02-16	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003841	B	25-PG -021 C10004830	Equipment tag plate is missing	.		Lmussi 2025-02-16	2025-02-18	Lmussi 2025-02-18	2025-02-18

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SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003842	B	25-PG -021 C10004830	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-16	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003843	B	25-PSV-021 C10004844	Equipment tag plate is missing	.		Lmussi 2025-02-16	2025-02-18	Lmussi 2025-02-18	2025-02-18
C30003845	B	25-PSV-055A C10004762	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 6) equipment SN is 24-03802 but actual is 24-03798	.		Lmussi 2025-02-16	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30003846	B	25-PSV-055B C10004763	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 6) equipment SN is 24-03803 but actual is 24-03801	.		Lmussi 2025-02-16	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30003863	B	25-PG-022 C10004811	Equipment ATEX label is missing	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003864	B	25-PG-022 C10004811	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003865	B	25-PG-022 C10004811	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003866	B	25-PSV-022 C10004818	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003867	B	25-PSV-022 C10004818	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24

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SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003868	B	25-PSV-022 C10004818	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003869	B	25-PSV-022 C10004818	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003870	B	25-PG -015 C10004826	Equipment ATEX label is missing	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003871	B	25-PG -015 C10004826	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003872	B	25-PG -018 C10004828	Equipment ATEX label is missing	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003873	B	25-PG -018 C10004828	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003874	B	25-PSV-015 C10004840	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003875	B	25-PSV-015 C10004840	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003876	B	25-PSV-015 C10004840	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10

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SYSTEM 25 Hydrogen Storage

SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003877	B	25-PSV-018 C10004842	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003878	B	25-PSV-018 C10004842	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003879	B	25-PSV-018 C10004842	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003887	B	80-PG -001 C10004832	Equipment ATEX label is missing	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003888	B	80-PG -001 C10004832	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-02-18	Lmussi 2025-02-18	2025-02-18
C30003889	B	80-PG -001 C10004832	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003890	B	80-PSV-001_1 C10004851	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003891	B	80-PSV-001_1 C10004851	ATEX Declaration of Conformity by Manufacturer is missing	.		Lmussi 2025-02-17	2025-04-24	Gtangianu 2025-04-24	2025-04-24
C30003892	B	80-PSV-001_1 C10004851	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-02-18	Lmussi 2025-02-18	2025-02-18

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SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003893	B	80-PSV-001_1 C10004851	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003899	B	25-PCV-022 C10001616	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003900	B	25-PCV-022 C10001616	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003901	B	25-PCV-015 C10001762	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003904	B	25-PCV-018 C10001764	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003905	B	25-PCV-021 C10001766	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003906	B	25-PCV-021 C10001766	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003907	B	25-PCV-023 C10001767	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003908	B	25-PCV-023 C10001767	Equipment ATEX identification label is missing	.		Lmussi 2025-02-17	2025-05-16	Gtangianu 2025-05-16	2025-05-16

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SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003909	B	80-PCV-001 C10001798	Equipment tag plate is missing	.		Lmussi 2025-02-17	2025-03-01	Lmussi 2025-03-01	2025-03-01
C30003910	B	80-PCV-001 C10001798	On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-10	RDegliEsposti 2025-06-10	2025-06-10
C30003913	B	25-SV-055B C10004735	Breathing plug is missing	.		Lmussi 2025-02-17	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30003934	B	25-BDV-022 C10001566	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003935	B	25-BDV-022 C10001566	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003939	B	25-SDV-023 C10001589	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-03-20	LNovaga 2025-03-20	2025-03-20
C30003941	B	25-SDV-023 C10001589	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003943	B	25-XV-015 C10001597	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003944	B	25-XV-015 C10001597	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage

SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003945	B	25-XV-018 C10001599	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-09	LNovaga 2025-04-09	2025-04-09
C30003946	B	25-XV-018 C10001599	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003949	B	25-XV-021 C10001601	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-10	LNovaga 2025-04-10	2025-04-10
C30003950	B	25-XV-021 C10001601	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003953	B	80-XV-001 C10001618	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-17	2025-04-10	LNovaga 2025-04-10	2025-04-10
C30003954	B	80-XV-001 C10001618	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Lmussi 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003956	B	80-PT-002 C10001498	Missing SS and Traffolyte tag	.		Ecarotenuto 2025-02-17	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003957	B	25-PY-055A C10001710	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 10) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The verified information related to the item has been recorded in the AVEVA	Ecarotenuto 2025-02-17	RDegliEsposti 2025-05-28	RDegliEsposti 2025-05-28	2025-05-28
C30003958	B	25-PY-055A C10001710	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-03-03	JKrizanic 2025-03-03	2025-03-03

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003959	B	25-ZSHL-055A C10001752	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-03-03	JKrizanic 2025-03-03	2025-03-03
C30003960	B	25-PY-055B C10001711	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-03-03	JKrizanic 2025-03-03	2025-03-03
C30003961	B	25-ZSHL-055B C10001753	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-03-03	JKrizanic 2025-03-03	2025-03-03
C30003962	B	25-PY-055B C10001711	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 7) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The verified information related to the item has been recorded in the AVEVA	Ecarotenuto 2025-02-17	RDegliEsposti 2025-05-28	RDegliEsposti 2025-05-28	2025-05-28
C30003963	B	25-SDY-023 C10001713	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 7) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	Ecarotenuto 2025-02-17	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003964	B	25-SDY-023 C10001713	Missing SS tag	.		Ecarotenuto 2025-02-17	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003965	B	25-PT-055A C10001496	Missing SS and Traffolyte tag	.		Ecarotenuto 2025-02-17	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003966	B	25-PT-055B C10001497	Missing SS and Traffolyte tag	.		Ecarotenuto 2025-02-17	2025-02-24	AAndreani 2025-02-24	2025-02-24
C30003973	B	25-PV-055A C10001586	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-18	2025-03-20	LNovaga 2025-03-20	2025-03-20

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 25 Hydrogen Storage
SUBSYSTEM 25-08 Hydrogen Storage Vessels Header (Outlet)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003985	B	25-XY-015 C10001721	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-18	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30003995	B	25-XY-018 C10001723	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-18	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004004	B	25-BDY-022 C10001573	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-18	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004005	B	25-BDY-022 C10001573	missing SS tag	.		AAndreani 2025-02-18	2025-02-20	AAndreani 2025-02-20	2025-02-20
C30004006	B	25-XY-021 C10001725	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-19	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004010	B	80-XY-001 C10001796	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-19	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004011	B	80-ZSHL-001 C10001797	On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.	.	The ATEX Register issued by FLUITEK has been updated and now reflects the	AAndreani 2025-02-19	RDegliEsposti 2025-06-12	RDegliEsposti 2025-06-12	2025-06-12
C30004018	B	25-PV-055B C10001587	Scratches on painting, general touch-up to be performed	.		Lmussi 2025-02-19	2025-03-20	LNovaga 2025-03-20	2025-03-20

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003965

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001496	1.4 Discipline	ATEX
1.2 Item	25-PT-055A		Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing SS and Traffolyte tag

Name: Eleonora Carotenuto

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003966

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001497	1.4 Discipline	ATEX
1.2 Item	25-PT-055B		Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing SS and Traffolyte tag

Name: Eleonora Carotenuto

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003968

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003466	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

There is a clash between Spool C (SK. 051) and grating.

Name: Lorenzo Novaga

Date: 2025-02-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

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

C30003971

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001953	1.4 Discipline	Instrumental
1.2 Item	AV-63003/25-XV-009	Pneumatic Connection Air Supply - 25-XV-009	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Missing the SS spacer on the stauff .See attached photo.

Name: Giovanni Tangianu
Date: 2025-02-18
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-02-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani
Date: 2025-02-24
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


25-BDV-010

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003973

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001586	1.4 Discipline	ATEX
1.2 Item	25-PV-055A		Control Valve - Hyrogen from Vessels Outlet Header Pressure Control
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-03-20

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-03-20

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003985

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001721	1.4 Discipline	ATEX
1.2 Item	25-XY-015	Solenoid Valve - Vessel V-25001D Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Andrea Andreani
Date: 2025-02-18
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-18
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003995

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001723	1.4 Discipline	ATEX
1.2 Item	25-XY-018		Solenoid Valve - Vessel V-25001E Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Andrea Andreani
Date: 2025-02-18
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-18
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004004

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001573	1.4 Discipline	ATEX
1.2 Item	25-BDY-022	Solenoid Valve - Hyrogen from Vessels Outlet Header Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Andrea Andreani
Date: 2025-02-18
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-18
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004005

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001573	1.4 Discipline	ATEX
1.2 Item	25-BDY-022	Solenoid Valve - Hyrogen from Vessels Outlet Header Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

missing SS tag

Name: Andrea Andreani

Date: 2025-02-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004006

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001725	1.4 Discipline	ATEX
1.2 Item	25-XY-021	Solenoid Valve - Vessel V-25001F Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Andrea Andreani
Date: 2025-02-19
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-19
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004007

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000079	1.4 Discipline	Instrumental
1.2 Item	C-80-XV-001/00-JE-12003	PROXIMITY SWITCH / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

missing SS cable tag on both instrument and JB side

Name: Andrea Andreani

Date: 2025-02-19

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-19
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004009

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000117	1.4 Discipline	Instrumental
1.2 Item	C-80-XY-001/00-JE-13001	SOLENOID VALVE / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

missing SS cable tag on both instrument and JB side

Name: Andrea Andreani

Date: 2025-02-19

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-19
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-28

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004010

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001796	1.4 Discipline	ATEX
1.2 Item	80-XY-001	Solenoid Valve - Hyrogen Storage to A-80000 Package Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Andrea Andreani
Date: 2025-02-19
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-19
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004011

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001797	1.4 Discipline	ATEX
1.2 Item	80-ZSHL-001	Limit Switch box - Hyrogen Storage to A-80000 Package Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Andrea Andreani
Date: 2025-02-19
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-19
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004018

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001587	1.4 Discipline	ATEX
1.2 Item	25-PV-055B		Control Valve - Hyrogen from Vessels Outlet Header Pressure Control
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-19

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-19
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-03-20

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-03-20

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004089

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003466	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

BLPH-MV-019 has stem direction north and gear west. the valve was rotated because there was a clash with the structure.

Name: Lorenzo Novaga
Date: 2025-02-22
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-22
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

In accordance with ENG dpt is accetable.

Name: Lorenzo Novaga
Date: 2025-02-22
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004167

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003458	1.4 Discipline	Piping
1.2 Item	25-08-TP-030	Test Pack 25-08-TP-030	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

BLPH-MV-016 has stem direction up and gear sud. The valve was rotated for safety reason.

Name: Lorenzo Novaga

Date: 2025-02-27

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-27
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Acceptable.

Name: Lorenzo Novaga

Date: 2025-02-27

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
Cleaning of Components

SYSTEM 25-08

LINE Nº 24"-HH-023-SLH32-N

JOINT Nº 18

TORQUED X

TENSIONED

DATE 21/02/25

FLANGE TAG

CLF-2-28

FLANGE TESTED

CLF-2-74

ID STAMP

SIGNED

DATE

RETURN TO SUPERVISOR

4726-398
723490
in 250

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004184

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003459	1.4 Discipline	Piping
1.2 Item	25-08-TP-030	Test Pack 25-08-TP-030	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Color coding and fluid direction are missing.

Name: Lorenzo Novaga

Date: 2025-02-28

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-03-20

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-03-20

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004190

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003467	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Color coding and fluid direction are missing.

Name: Lorenzo Novaga

Date: 2025-03-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-03-04
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003900

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001616	1.4 Discipline	ATEX
1.2 Item	25-PCV-022		Air Set Filter - Hyrogen from Vessels Outlet Header Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003901

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001762	1.4 Discipline	ATEX
1.2 Item	25-PCV-015	Air Set Filter - Vessel V-25001D Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003904

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001764	1.4 Discipline	ATEX
1.2 Item	25-PCV-018	Air Set Filter - Vessel V-25001E Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003905

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001766	1.4 Discipline	ATEX
1.2 Item	25-PCV-021		Air Set Filter - Vessel V-25001F Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003906

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001766	1.4 Discipline	ATEX
1.2 Item	25-PCV-021	Air Set Filter - Vessel V-25001F Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003907

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001767	1.4 Discipline	ATEX
1.2 Item	25-PCV-023		Air Set Filter - Hyrogen from Vessels Outlet Header Shut-Down
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003908

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001767	1.4 Discipline	ATEX
1.2 Item	25-PCV-023		Air Set Filter - Hyrogen from Vessels Outlet Header Shut-Down
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Label provided.

Name: Giovanni Tangianu

Date: 2025-05-16

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003909

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001798	1.4 Discipline	ATEX
1.2 Item	80-PCV-001	Air Set Filter - Hyrogen to Vessels Inlet Header Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003910

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001798	1.4 Discipline	ATEX
1.2 Item	80-PCV-001	Air Set Filter - Hyrogen to Vessels Inlet Header Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003913

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004735	1.4 Discipline	ATEX
1.2 Item	25-SV-055B	Air Set Filter	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Breathing plug is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu
Date: 2025-03-26
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003924

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001956	1.4 Discipline	Instrumental
1.2 Item	AV-63004/25-XV-015	Pneumatic Connection Air Supply - 25-XV-015	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Missing SS tag both side the tubing. See attached photo.

Name: Giovanni Tangianu

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

AF System

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003928

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001959	1.4 Discipline	Instrumental
1.2 Item	AV-63006/25-BDV-022		Pneumatic Connection Air Supply - 25-BDV-022
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing SS tag both side the tubing. See attached photo.

Name: Giovanni Tangianu
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu
Date: 2025-02-19
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003929

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001960	1.4 Discipline	Instrumental
1.2 Item	AV-63006/25-XV-021	Pneumatic Connection Air Supply - 25-XV-021	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Missing SS tag both side the tubing. See attached photo.

Name: Giovanni Tangianu

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-02-19

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003932

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001963	1.4 Discipline	Instrumental
1.2 Item	AV-63011/80-XV-001	Pneumatic Connection Air Supply - 80-XV-001	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Tubing is not fixed all the routing. And the tubing as clashing on the structure. See attached photo.

Name: Giovanni Tangianu

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-25

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:





ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003933

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001963	1.4 Discipline	Instrumental
1.2 Item	AV-63011/80-XV-001	Pneumatic Connection Air Supply - 80-XV-001	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Missing SS tag both side the tubing. See attached photo.

Name: Giovanni Tangianu

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003934

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001566	1.4 Discipline	ATEX
1.2 Item	25-BDV-022		On/Off Valve - Hyrogen from Vessels Outlet Header Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-04-09

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-09

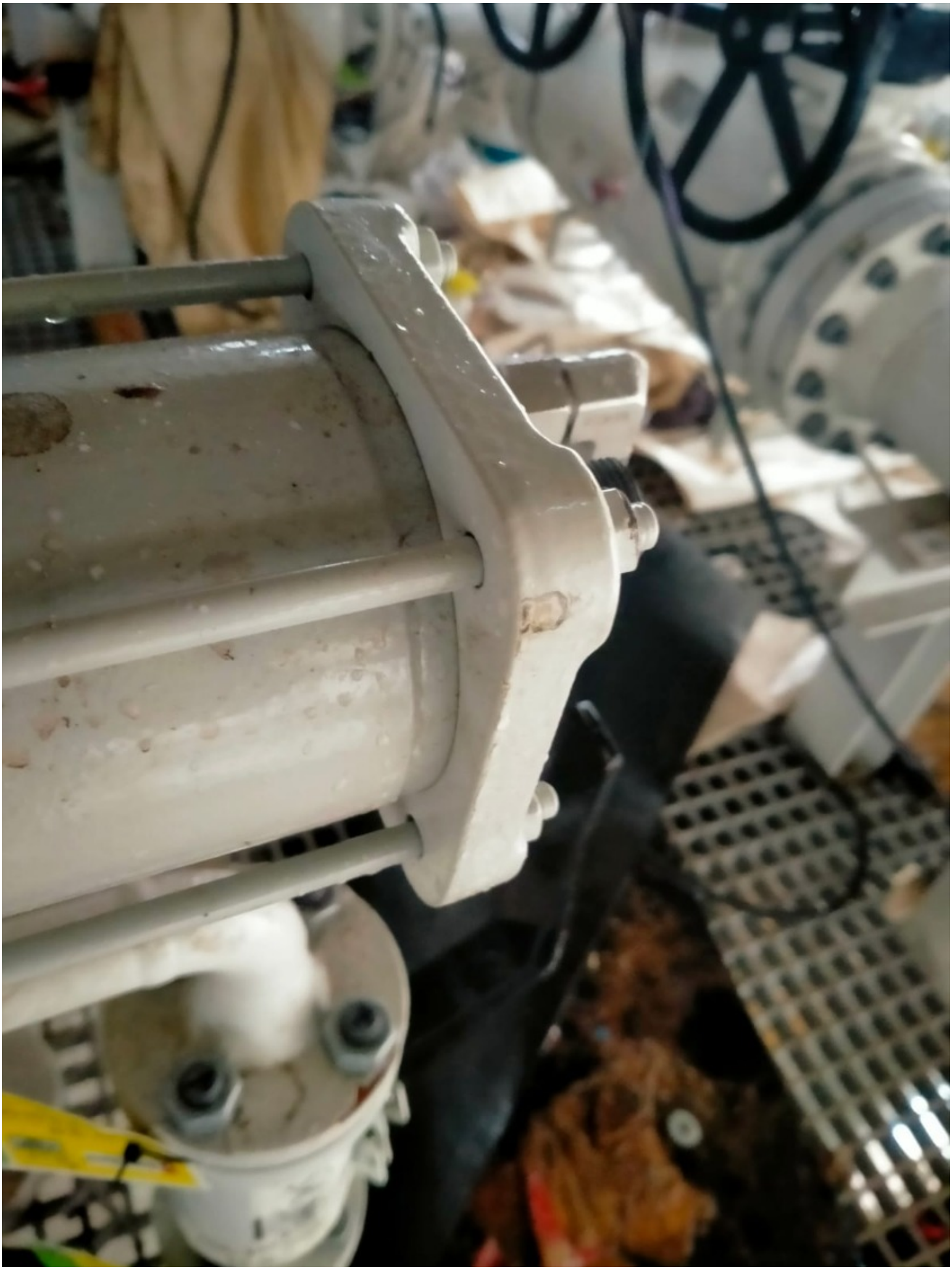
Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-09

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003935

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001566	1.4 Discipline	ATEX
1.2 Item	25-BDV-022		On/Off Valve - Hyrogen from Vessels Outlet Header Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003936

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001981	1.4 Discipline	Instrumental
1.2 Item	AV-63012/25-XV-018	Pneumatic Connection Air Supply - 25-XV-018	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

the bolt is short on the stauff clamps.See attached photo.

Name: Giovanni Tangianu
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

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

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003937

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001981	1.4 Discipline	Instrumental
1.2 Item	AV-63012/25-XV-018	Pneumatic Connection Air Supply - 25-XV-018	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Missing SS tag both side the tubing.

Name: Giovanni Tangianu

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003939

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001589	1.4 Discipline	ATEX
1.2 Item	25-SDV-023		On/Off Valve - Hyrogen from Vessels Outlet Header Shut-Down
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-03-20

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-03-20

Signature:


Fluitek
Omnigo
Valves
CE
Tmin: -41 °C Tmax: 200 °C
Pmax: 41,40 Barg Pmax: 29,20 Barg
SIZE
1-1/2"
CLASS
300
TYPE
BALL
DATE OF MANUF.
08/2024
BODY
A182 F316L
BALL
A182 F316L
STEM
APTBA CRA UNS N07718
SEAT
RPTFE
TAG No.
25-SDV-023
SERIAL NUMBER
24008200900001
P.O. No. / ITEM
1724000204 123A90A / 0090

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003941

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001589	1.4 Discipline	ATEX
1.2 Item	25-SDV-023		On/Off Valve - Hyrogen from Vessels Outlet Header Shut-Down
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003943

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001597	1.4 Discipline	ATEX
1.2 Item	25-XV-015		On/Off Valve - Vessel V-25001D Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-04-09

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-09

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-09

Signature:



ZSH-015
rotork
fluid systems
LUCCA - ITALY
SERIAL No
TAG No 25-XV-015
MODEL CP/S-035-080A/
P.O. 240145
MIN/MAX O.P. 4/4 BarG

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003944

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001597	1.4 Discipline	ATEX
1.2 Item	25-XV-015		On/Off Valve - Vessel V-25001D Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003945

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001599	1.4 Discipline	ATEX
1.2 Item	25-XV-018		On/Off Valve - Vessel V-25001E Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-04-09

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-09

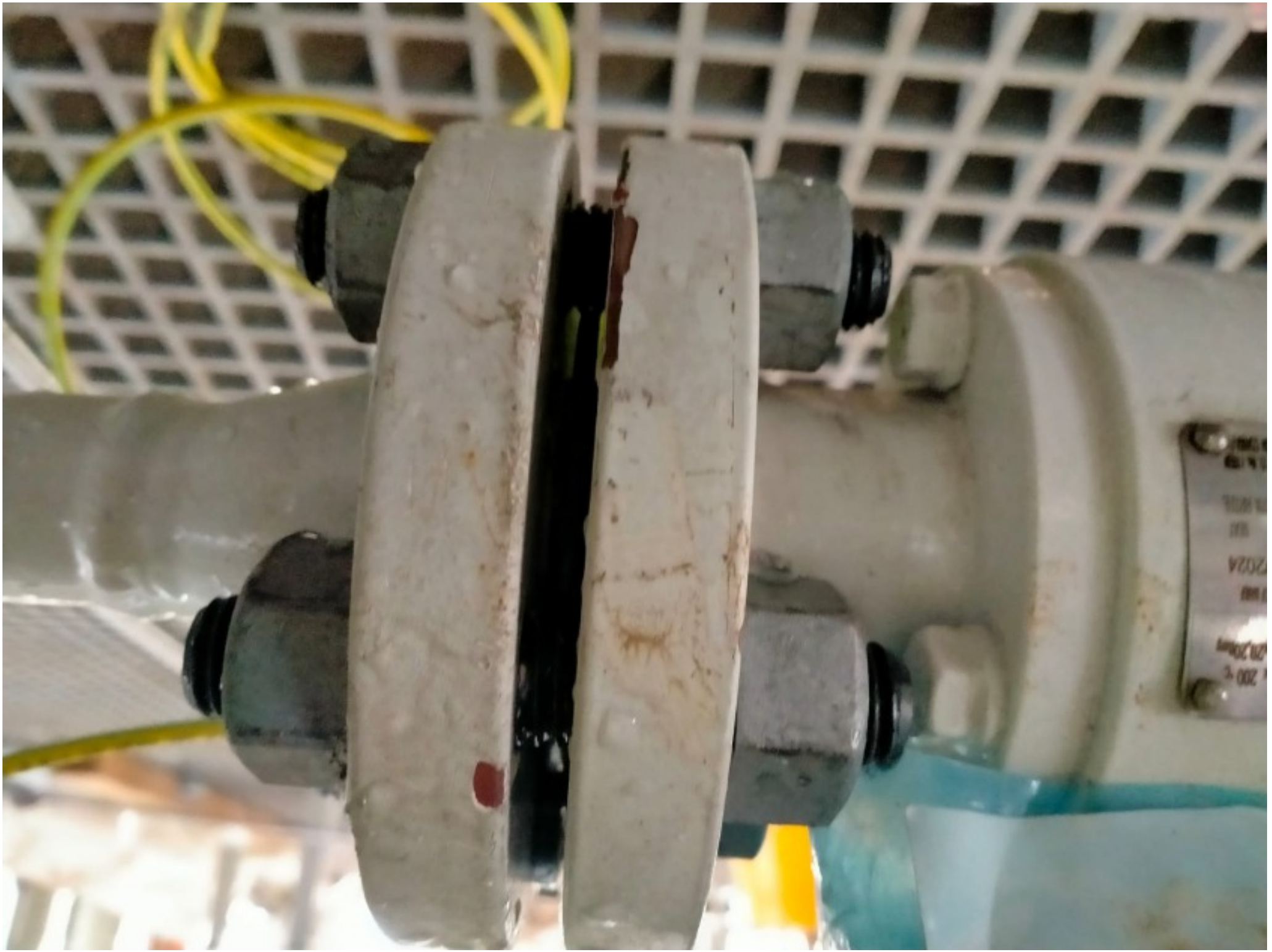
Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-09

Signature:




rotork
SERIAL No AF7703032001
TAG No 25-XV-018
MODEL CP/S-/125-080A/AA
P.D. 24V/1.5
MINIMUM O.P. 4/4 BarG

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003946

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001599	1.4 Discipline	ATEX
1.2 Item	25-XV-018		On/Off Valve - Vessel V-25001E Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003947

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000177	1.4 Discipline	Instrumental
1.2 Item	C-25-BDY-022/00-JE-23002	SOLENOID VALVE / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

the cable installed is temporary. To be replaced

Name: Andrea Andreani

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-04-08

Signature:

5 - CLEARANCE CHECK

THE CABLE HAS BEEN REPLACED.

Name: Giovanni Tangianu

Date: 2025-04-07

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-08

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003949

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001601	1.4 Discipline	ATEX
1.2 Item	25-XV-021		On/Off Valve - Vessel V-25001F Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-04-10

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-10

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-10

Signature:


Fluitek Valves

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003950

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001601	1.4 Discipline	ATEX
1.2 Item	25-XV-021		On/Off Valve - Vessel V-25001F Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003953

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001618	1.4 Discipline	ATEX
1.2 Item	80-XV-001	On-Off Actuated Ball Valve - Hyrogen Storage to A-80000 Package Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-04-10

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-10

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-10

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003954

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001618	1.4 Discipline	ATEX
1.2 Item	80-XV-001	On-Off Actuated Ball Valve - Hyrogen Storage to A-80000 Package Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003956

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001498	1.4 Discipline	ATEX
1.2 Item	80-PT-002	Pressure Transmitter - Hyrogen Storage to A-80000 Package	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Missing SS and Traffolyte tag

Name: Eleonora Carotenuto

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003957

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001710	1.4 Discipline	ATEX
1.2 Item	25-PY-055A		Electropositioner - Hyrogen from Vessels Outlet Header Pressure Control
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094 sheet 10) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Eleonora Carotenuto
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The verified information related to the item has been recorded in the AVEVA database, following field verification.

Please note that AVEVA is the continuously updated project database, from which the ATEX register is derived.

The relevant extract from AVEVA corresponding to the concerned tag is attached for reference.

Name: Raffaele Degli Esposti
Date: 2025-05-28
Signature:

5 - CLEARANCE CHECK

Refer to above

Name: Raffaele Degli Esposti
Date: 2025-05-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

25-PY-043	Positioner Control Valve (Vessel V-25001D pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 24050894	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument
25-PY-046	Positioner Control Valve (Vessel V-25001E pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 24050885	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument
25-PY-049	Positioner Control Valve (Vessel V-25001F pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 24050882	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument
25-PY-055A	Positioner Control Valve (Hydrogen from vessels outlet header pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 240508883	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument
25-PY-055B	Positioner Control Valve (Hydrogen from vessels outlet header pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 24050886	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003958

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001710	1.4 Discipline	ATEX
1.2 Item	25-PY-055A		Electropositioner - Hyrogen from Vessels Outlet Header Pressure Control
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing SS tag

Name: Eleonora Carotenuto

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003959

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001752	1.4 Discipline	ATEX
1.2 Item	25-ZSHL-055A		Open/closed Limit Switches - Hyrogen from Vessels Outlet Header Pressure Control
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing SS tag

Name: Eleonora Carotenuto

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003960

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001711	1.4 Discipline	ATEX
1.2 Item	25-PY-055B		Electropositioner - Hyrogen from Vessels Outlet Header Pressure Control
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing SS tag

Name: Eleonora Carotenuto

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003961

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001753	1.4 Discipline	ATEX
1.2 Item	25-ZSHL-055B	Open/closed Limit Switches - Hyrogen from Vessels Outlet Header Pressure Control	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Missing SS tag

Name: Eleonora Carotenuto

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003962

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001711	1.4 Discipline	ATEX
1.2 Item	25-PY-055B		Electropositioner - Hyrogen from Vessels Outlet Header Pressure Control
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094 sheet 7) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Eleonora Carotenuto
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The verified information related to the item has been recorded in the AVEVA database, following field verification.

Please note that AVEVA is the continuously updated project database, from which the ATEX register is derived.

The relevant extract from AVEVA corresponding to the concerned tag is attached for reference.

Name: Raffaele Degli Esposti
Date: 2025-05-28
Signature:

5 - CLEARANCE CHECK

Refer to above

Name: Raffaele Degli Esposti
Date: 2025-05-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

25-PY-043	Positioner Control Valve (Vessel V-25001D pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 24050894	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument
25-PY-046	Positioner Control Valve (Vessel V-25001E pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 24050885	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument
25-PY-049	Positioner Control Valve (Vessel V-25001F pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 24050882	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument
25-PY-055A	Positioner Control Valve (Hydrogen from vessels outlet header pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 240508883	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument
25-PY-055B	Positioner Control Valve (Hydrogen from vessels outlet header pressure control)	LOWER DECK	1724000740	AST SpA	TISSIN	TI-TS905LC41S30 - 24050886	TS 900 Series	ATEX ZONE 2	EPS 19 ATEX 1 112 X	1724000740-IN-DS-00007	CE Ex - II 2G Ex db IIC T5 / T6	N/A	N/A	True	N/A	True			Instrument

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003963

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001713	1.4 Discipline	ATEX
1.2 Item	25-SDY-023		Solenoid Valve - Hyrogen from Vessels Outlet Header Shut-Down
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094 sheet 7) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Eleonora Carotenuto
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-12
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-12
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003964

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001713	1.4 Discipline	ATEX
1.2 Item	25-SDY-023		Solenoid Valve - Hyrogen from Vessels Outlet Header Shut-Down
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing SS tag

Name: Eleonora Carotenuto

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003826

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003458	1.4 Discipline	Piping
1.2 Item	25-08-TP-030	Test Pack 25-08-TP-030	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Isolation rubber on Support PS-02076.1 (SK 016 2/2) is damaged

Name: Lorenzo Novaga

Date: 2025-02-15

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-15
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity done.

Name: Lorenzo Novaga

Date: 2025-02-18

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003827

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003458	1.4 Discipline	Piping
1.2 Item	25-08-TP-030	Test Pack 25-08-TP-030	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Missing lateral gap on the support PS-03045.1 (SK 063)

Name: Lorenzo Novaga

Date: 2025-02-15

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-15
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity done.

Name: Lorenzo Novaga

Date: 2025-02-18

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003828

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003458	1.4 Discipline	Piping
1.2 Item	25-08-TP-030	Test Pack 25-08-TP-030	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

The hole on the ptfe of PS-02101.2 (SK 068 1/2) is larger than the diameter of the washer.

Name: Lorenzo Novaga
Date: 2025-02-15
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-15
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Activity done.

Name: Lorenzo Novaga
Date: 2025-02-18
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003834

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004850	1.4 Discipline	ATEX
1.2 Item	25-PSV-023		Safety Valve - Hyrogen from Vessels Outlet Header Shut-Down
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-16

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003835

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004850	1.4 Discipline	ATEX
1.2 Item	25-PSV-023		Safety Valve - Hyrogen from Vessels Outlet Header Shut-Down
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

ATEX Declaration of Conformity by Manufacturer is missing

Name: Luca Mussi

Date: 2025-02-16

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003836

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004850	1.4 Discipline	ATEX
1.2 Item	25-PSV-023		Safety Valve - Hyrogen from Vessels Outlet Header Shut-Down
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-16
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003837

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004844	1.4 Discipline	ATEX
1.2 Item	25-PSV-021	Safety Valve - Vessel V-25001F Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-16

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003838

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004844	1.4 Discipline	ATEX
1.2 Item	25-PSV-021		Safety Valve - Vessel V-25001F Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

ATEX Declaration of Conformity by Manufacturer is missing

Name: Luca Mussi

Date: 2025-02-16

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003839

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004844	1.4 Discipline	ATEX
1.2 Item	25-PSV-021	Safety Valve - Vessel V-25001F Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-16
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003840

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004830	1.4 Discipline	ATEX
1.2 Item	25-PG -021	Air Set Pressure Gauge Filter - Vessel V-25001F Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment ATEX label is missing

Name: Luca Mussi
Date: 2025-02-16
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installed.

Name: Lorenzo Novaga
Date: 2025-04-09
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003841

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004830	1.4 Discipline	ATEX
1.2 Item	25-PG -021	Air Set Pressure Gauge Filter - Vessel V-25001F Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-16
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-18
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003842

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004830	1.4 Discipline	ATEX
1.2 Item	25-PG -021	Air Set Pressure Gauge Filter - Vessel V-25001F Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-16
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003843

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004844	1.4 Discipline	ATEX
1.2 Item	25-PSV-021		Safety Valve - Vessel V-25001F Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi

Date: 2025-02-16

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi

Date: 2025-02-18

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003844

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000178	1.4 Discipline	Instrumental
1.2 Item	C-25-SDY-023/00-JE-23002	SOLENOID VALVE / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

The installed cable is temporary. To be replaced with the project cable

Name: Eleonora Carotenuto

Date: 2025-02-16

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

The cable has been replaced.

Name: Giovanni Tangianu

Date: 2025-04-02

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003845

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004762	1.4 Discipline	ATEX
1.2 Item	25-PSV-055A	Safety Valve	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094 sheet 6) equipment SN is 24-03802 but actual is 24-03798

Name: Luca Mussi

Date: 2025-02-16

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

ATEX register updated.

Name: Giovanni Tangianu

Date: 2025-04-17

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003846

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004763	1.4 Discipline	ATEX
1.2 Item	25-PSV-055B	Safety Valve	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094 sheet 6) equipment SN is 24-03803 but actual is 24-03801

Name: Luca Mussi

Date: 2025-02-16

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

ATEX register updated.

Name: Giovanni Tangianu

Date: 2025-04-17

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003853

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000082	1.4 Discipline	Instrumental
1.2 Item	C-25-ZSL-055B/00-JE-12003	PROXIMITY SWITCH / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Missing SS cable tag by 00-JE-12003 side

Name: Eleonora Carotenuto

Date: 2025-02-16

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-02-16
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003863

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004811	1.4 Discipline	ATEX
1.2 Item	25-PG-022		Air Set Pressure Gauge Filter - Hyrogen from Vessels Outlet Header Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX label is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Lorenzo Novaga

Date: 2025-04-09

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003864

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004811	1.4 Discipline	ATEX
1.2 Item	25-PG-022	Air Set Pressure Gauge Filter - Hyrogen from Vessels Outlet Header Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti

Date: 2025-06-10

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti

Date: 2025-06-10

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003865

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004811	1.4 Discipline	ATEX
1.2 Item	25-PG-022		Air Set Pressure Gauge Filter - Hyrogen from Vessels Outlet Header Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi

Date: 2025-02-28

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003866

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004818	1.4 Discipline	ATEX
1.2 Item	25-PSV-022	Safety Valve - Hyrogen from Vessels Outlet Header Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003867

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004818	1.4 Discipline	ATEX
1.2 Item	25-PSV-022	Safety Valve - Hyrogen from Vessels Outlet Header Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

ATEX Declaration of Conformity by Manufacturer is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003868

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004818	1.4 Discipline	ATEX
1.2 Item	25-PSV-022	Safety Valve - Hyrogen from Vessels Outlet Header Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti

Date: 2025-06-10

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti

Date: 2025-06-10

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003869

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004818	1.4 Discipline	ATEX
1.2 Item	25-PSV-022	Safety Valve - Hyrogen from Vessels Outlet Header Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003870

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004826	1.4 Discipline	ATEX
1.2 Item	25-PG -015		Air Set Pressure Gauge Filter - Vessel V-25001D Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX label is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installed.

Name: Lorenzo Novaga
Date: 2025-04-09
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003871

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004826	1.4 Discipline	ATEX
1.2 Item	25-PG -015	Air Set Pressure Gauge Filter - Vessel V-25001D Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003872

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004828	1.4 Discipline	ATEX
1.2 Item	25-PG -018	Air Set Pressure Gauge Filter - Vessel V-25001E Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment ATEX label is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installed.

Name: Lorenzo Novaga
Date: 2025-04-09
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003873

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004828	1.4 Discipline	ATEX
1.2 Item	25-PG -018	Air Set Pressure Gauge Filter - Vessel V-25001E Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003874

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004840	1.4 Discipline	ATEX
1.2 Item	25-PSV-015		Safety Valve - Vessel V-25001D Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003875

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004840	1.4 Discipline	ATEX
1.2 Item	25-PSV-015		Safety Valve - Vessel V-25001D Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

ATEX Declaration of Conformity by Manufacturer is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003876

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004840	1.4 Discipline	ATEX
1.2 Item	25-PSV-015	Safety Valve - Vessel V-25001D Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003877

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004842	1.4 Discipline	ATEX
1.2 Item	25-PSV-018	Safety Valve - Vessel V-25001E Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003878

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004842	1.4 Discipline	ATEX
1.2 Item	25-PSV-018		Safety Valve - Vessel V-25001E Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

ATEX Declaration of Conformity by Manufacturer is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Giovanni Tangianu
Date: 2025-04-24
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003879

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004842	1.4 Discipline	ATEX
1.2 Item	25-PSV-018	Safety Valve - Vessel V-25001E Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003887

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004832	1.4 Discipline	ATEX
1.2 Item	80-PG -001	Air Set Pressure Gauge Filter - Hyrogen Storage to A-80000 Package Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment ATEX label is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Lorenzo Novaga

Date: 2025-04-09

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003888

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004832	1.4 Discipline	ATEX
1.2 Item	80-PG -001	Air Set Pressure Gauge Filter - Hyrogen Storage to A-80000 Package Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-18
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003889

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004832	1.4 Discipline	ATEX
1.2 Item	80-PG -001	Air Set Pressure Gauge Filter - Hyrogen Storage to A-80000 Package Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti

Date: 2025-06-10

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti

Date: 2025-06-10

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003890

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004851	1.4 Discipline	ATEX
1.2 Item	80-PSV-001_1		Safety Valve - Hyrogen Storage to A-80000 Package Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003891

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004851	1.4 Discipline	ATEX
1.2 Item	80-PSV-001_1		Safety Valve - Hyrogen Storage to A-80000 Package Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

ATEX Declaration of Conformity by Manufacturer is missing

Name: Luca Mussi

Date: 2025-02-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003892

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004851	1.4 Discipline	ATEX
1.2 Item	80-PSV-001_1		Safety Valve - Hyrogen Storage to A-80000 Package Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-18
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003893

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004851	1.4 Discipline	ATEX
1.2 Item	80-PSV-001_1	Safety Valve - Hyrogen Storage to A-80000 Package Vent System	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003899

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001616	1.4 Discipline	ATEX
1.2 Item	25-PCV-022		Air Set Filter - Hyrogen from Vessels Outlet Header Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-17
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-17
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003670

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004836	1.4 Discipline	ATEX
1.2 Item	25-PSV-009		Safety Valve - Vessel V-25001B Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi

Date: 2025-02-14

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


S/N: 024323313
Bifold
25-PSV-009
25-XV-009

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003671

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004836	1.4 Discipline	ATEX
1.2 Item	25-PSV-009	Safety Valve - Vessel V-25001B Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003673

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004838	1.4 Discipline	ATEX
1.2 Item	25-PSV-012	Safety Valve - Vessel V-25001C Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003674

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004838	1.4 Discipline	ATEX
1.2 Item	25-PSV-012		Safety Valve - Vessel V-25001C Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

ATEX Declaration of Conformity by Manufacturer is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003675

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004838	1.4 Discipline	ATEX
1.2 Item	25-PSV-012	Safety Valve - Vessel V-25001C Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi

Date: 2025-02-14

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


25-PCV-012
25-PSV-012

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003676

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004838	1.4 Discipline	ATEX
1.2 Item	25-PSV-012	Safety Valve - Vessel V-25001C Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003679

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001760	1.4 Discipline	ATEX
1.2 Item	25-PCV-012		Air Set Filter - Vessel V-25001C Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003680

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001760	1.4 Discipline	ATEX
1.2 Item	25-PCV-012	Air Set Filter - Vessel V-25001C Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003682

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004820	1.4 Discipline	ATEX
1.2 Item	25-PG -006		Air Set Pressure Gauge Filter - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX label is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu
Date: 2025-04-24
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003683

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004820	1.4 Discipline	ATEX
1.2 Item	25-PG -006	Air Set Pressure Gauge Filter - Vessel V-25001A Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi

Date: 2025-02-14

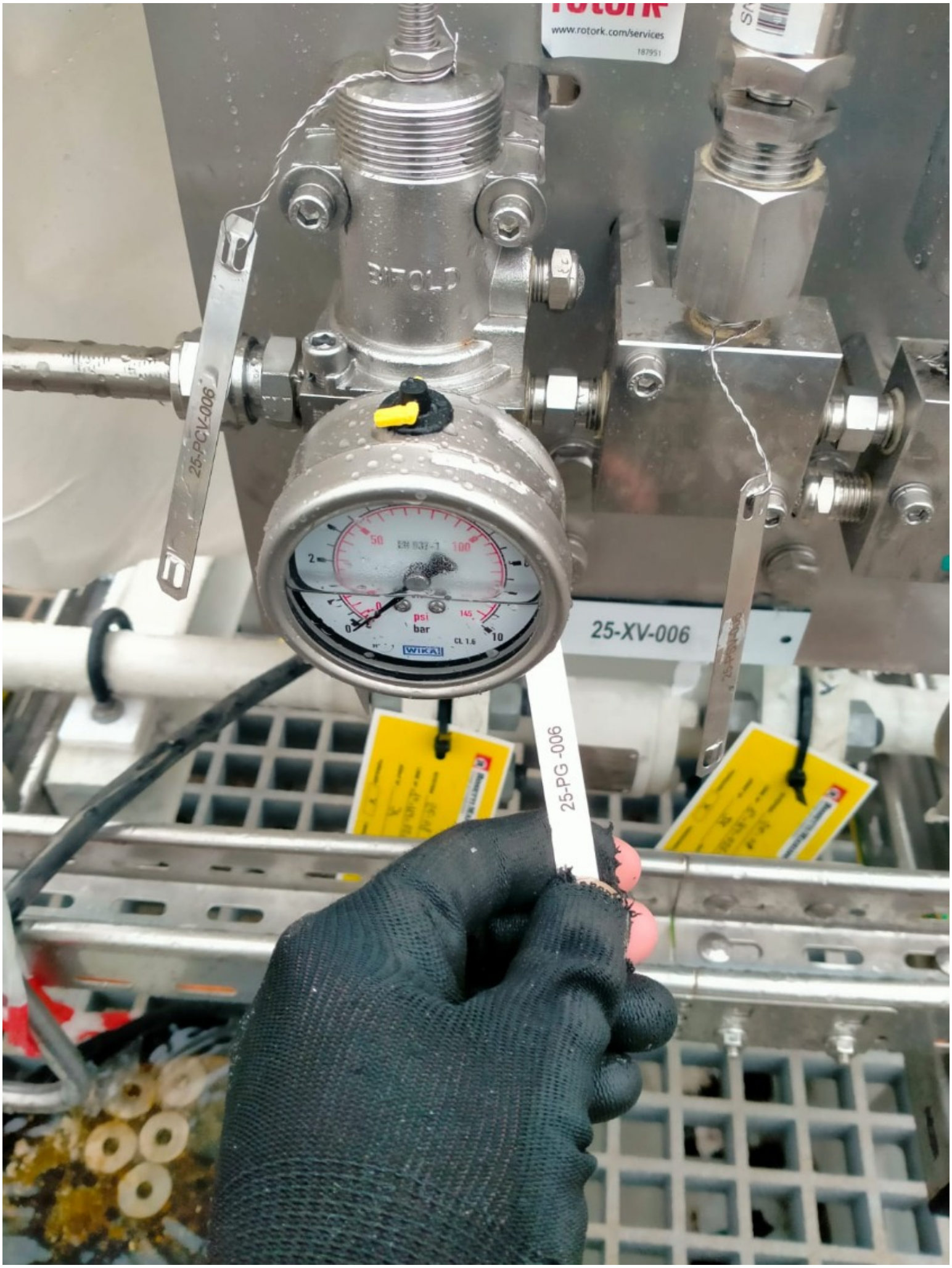
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


www.rotork.com/services
187951
BIFOLD
25-PCV-006
25-XV-006
25-PG -006
psi
bar
WIKA

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003684

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004820	1.4 Discipline	ATEX
1.2 Item	25-PG -006		Air Set Pressure Gauge Filter - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003685

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004820	1.4 Discipline	ATEX
1.2 Item	25-PG -006		Air Set Pressure Gauge Filter - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment is only half filled with glycerine

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Refilled.

Name: Giovanni Tangianu

Date: 2025-03-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


BIFOLD
4
6
50
100
2
8
316L
0
145
psi
bar
0
10
CL 1.6
WIKA

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003686

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004822	1.4 Discipline	ATEX
1.2 Item	25-PG -009		Air Set Pressure Gauge Filter - Vessel V-25001B Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX label is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003687

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004822	1.4 Discipline	ATEX
1.2 Item	25-PG -009	Air Set Pressure Gauge Filter - Vessel V-25001B Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-14
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


www.rotork.com/services
BIFOLD
X1
25-XV-009
25-PG -009

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003688

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004822	1.4 Discipline	ATEX
1.2 Item	25-PG -009	Air Set Pressure Gauge Filter - Vessel V-25001B Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003689

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004824	1.4 Discipline	ATEX
1.2 Item	25-PG -012		Air Set Pressure Gauge Filter - Vessel V-25001C Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX label is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu
Date: 2025-04-24
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003690

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004824	1.4 Discipline	ATEX
1.2 Item	25-PG -012	Air Set Pressure Gauge Filter - Vessel V-25001C Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-14
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


25-PCV-012
25-XV-01
25-PG -012
25-PSV-012

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003691

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004824	1.4 Discipline	ATEX
1.2 Item	25-PG -012		Air Set Pressure Gauge Filter - Vessel V-25001C Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003692

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004824	1.4 Discipline	ATEX
1.2 Item	25-PG -012		Air Set Pressure Gauge Filter - Vessel V-25001C Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment is not fully filled with glycerine

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Refilled.

Name: Giovanni Tangianu

Date: 2025-03-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003757

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000063	1.4 Discipline	Instrumental
1.2 Item	C-25-XV-012/00-JE-12001	PROXIMITY SWITCH / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Wrong cores identification tag. side J.B. 00-JE-12001 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2025-02-12
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	2025-02-12
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

INSTALLED

Name: Eleonora Carotenuto
Date: 2025-02-19
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003759

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001732	1.4 Discipline	ATEX
1.2 Item	25-ZSHL-012	Limit Switch Box - Vessel V-25001C Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Doc: document 123A90-DDL-EL-LIS-20094 does not report what was installed in the field (see picture)

Name: Alessio Polo
Date: 2025-02-12
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	2025-02-12
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

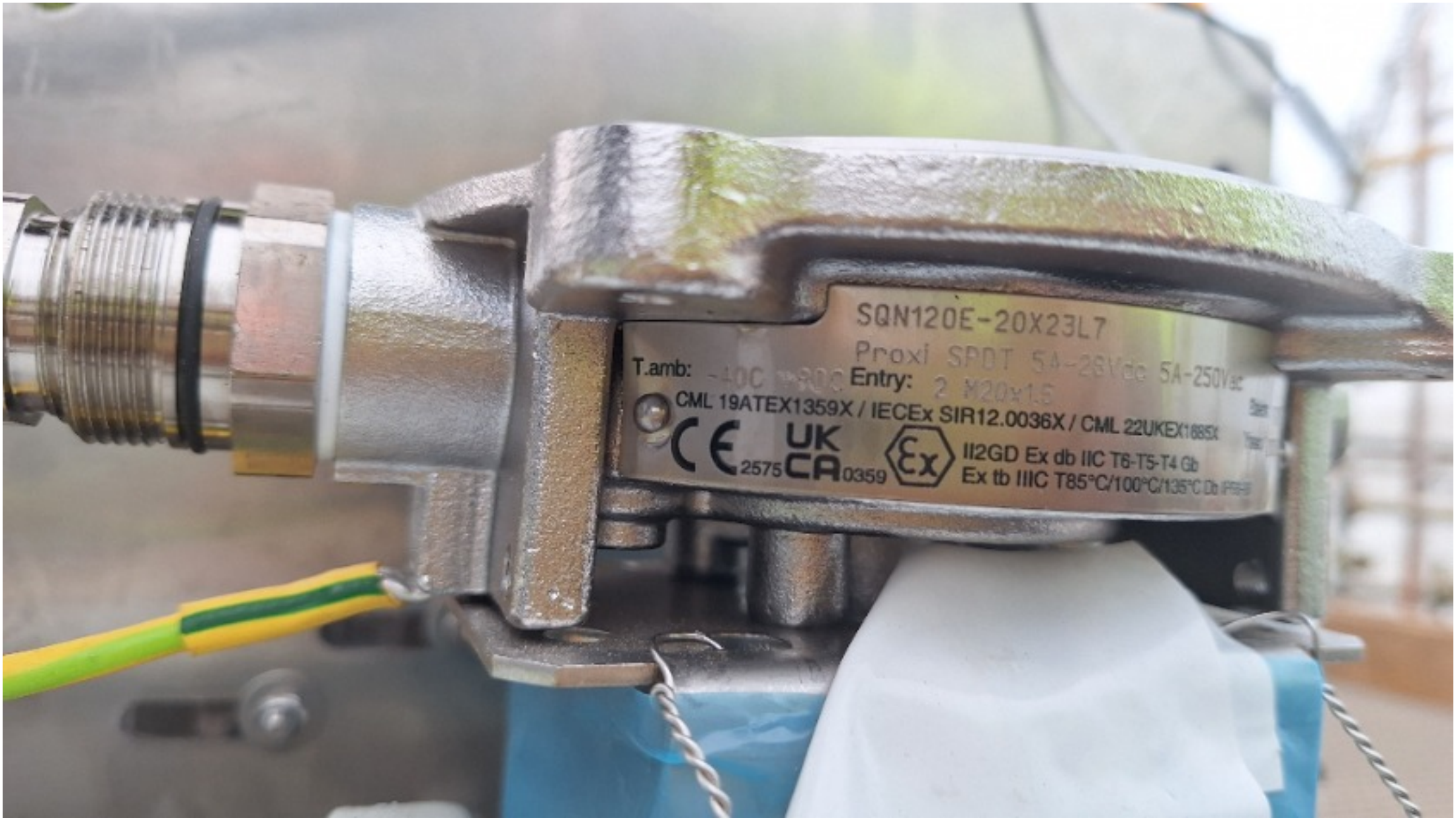
Declaration of conformity has been provide by vendor.

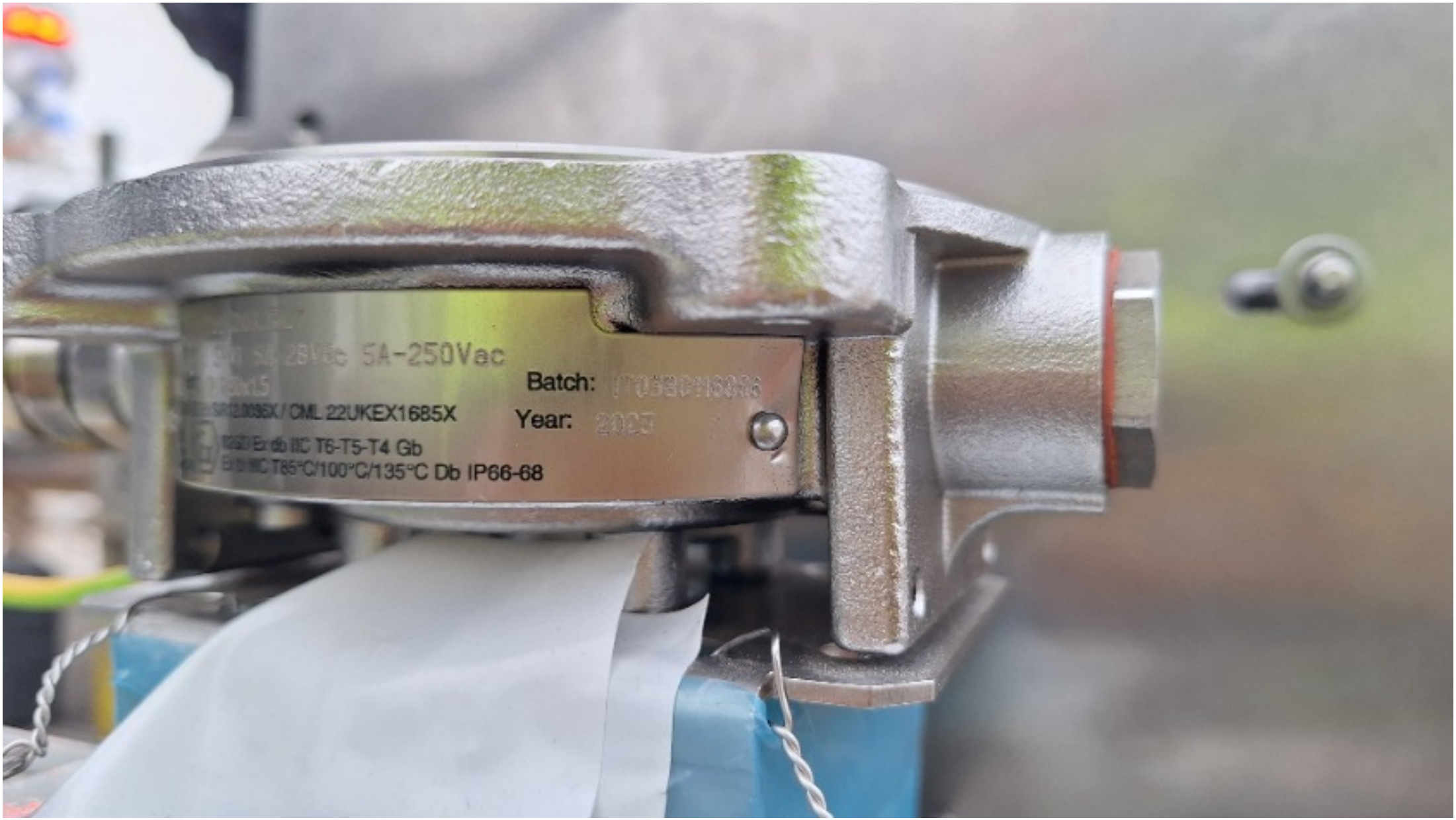
Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


25-ZSL-012
Y1
25-ZSH-012


SQN120E-20X23L7
Proxi SPDT 5A-28Vdc 5A-250Vac
T.amb:
Entry:
2 M20x1.5
CML 19ATEX1359X / IECEx SIR12.0036X / CML 22UKEX1885X
2575
0359
II2GD Ex db IIC T6-T5-T4 Gb
Ex tb IIIC T85°C/100°C/135°C Db IP66/IP


5A-250Vac
Batch:
CML 22UKEX1685X
Year:
Ex db IIC T6-T5-T4 Gb
Ex tb IIIC T85°C/100°C/135°C Db IP66-68

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003761

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000113	1.4 Discipline	Instrumental
1.2 Item	C-25-XY-012/00-JE-13001	SOLENOID VALVE / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Wrong cores identification tag. side J.B. 00-JE-13001 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2025-02-12
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	2025-02-12
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

INSTALLED

Name: Eleonora Carotenuto
Date: 2025-02-19
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003762

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001719	1.4 Discipline	ATEX
1.2 Item	25-XY-012		Solenoid Valve - Vessel V-25001C Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing tag SS , on Solenoid Valve.

Name: Alessio Polo

Date: 2025-02-12

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	2025-02-12
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003763

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000062	1.4 Discipline	Instrumental
1.2 Item	C-25-XV-009/00-JE-12001	PROXIMITY SWITCH / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Wrong cores identification tag. side J.B. 00-JE-12001 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2025-02-12
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	2025-02-12
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

INSTALLED

Name: Eleonora Carotenuto
Date: 2025-02-19
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003765

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000112	1.4 Discipline	Instrumental
1.2 Item	C-25-XY-009/00-JE-13001	SOLENOID VALVE / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Wrong cores identification tag. side J.B. 00-JE-13001 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2025-02-12
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	2025-02-12
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

INSTALLED

Name: Eleonora Carotenuto
Date: 2025-02-19
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003766

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001717	1.4 Discipline	ATEX
1.2 Item	25-XY-009		Solenoid Valve - Vessel V-25001B Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing tag SS , on Solenoid Valve.

Name: Alessio Polo

Date: 2025-02-12

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	2025-02-12
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003786

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003466	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

For the support PS-03082.1 (SK 53) S-211 standards haS not yet been installed.

Name: Lorenzo Novaga

Date: 2025-02-13

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-13
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity done.

Name: Lorenzo Novaga

Date: 2025-02-18

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003787

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003466	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

For the support PS-02004.1 (SK 061 2/3) S-211 standards has not yet been installed.

Name: Lorenzo Novaga
Date: 2025-02-13
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-13
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Activity complete.

Name: Lorenzo Novaga
Date: 2025-02-15
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003788

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003466	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

For the support PS-2065.1 (SK 061 2/3) S-211 standards has not yet been installed.

Name: Lorenzo Novaga
Date: 2025-02-13
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-13
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Activity complete.

Name: Lorenzo Novaga
Date: 2025-02-15
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003789

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003466	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Isolation rubber on Support PS-02117.1 (SK 061 2/3) S-211 is damaged

Name: Lorenzo Novaga

Date: 2025-02-13

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-13
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity complete.

Name: Lorenzo Novaga

Date: 2025-02-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003790

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003466	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Isolation rubber on Support PS-03105.4 (SK 061 1/3) S-211 is damaged

Name: Lorenzo Novaga

Date: 2025-02-13

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-13
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity complete.

Name: Lorenzo Novaga

Date: 2025-02-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003804

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001728	1.4 Discipline	ATEX
1.2 Item	25-ZSHL-006	Limit Switch Box - Vessel V-25001A Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Doc: document 123A90-DDL-EL-LIS-20094 does not report what was installed in the field (see picture)

Name: Alessio Polo
Date: 2025-02-13
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	2025-02-13
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

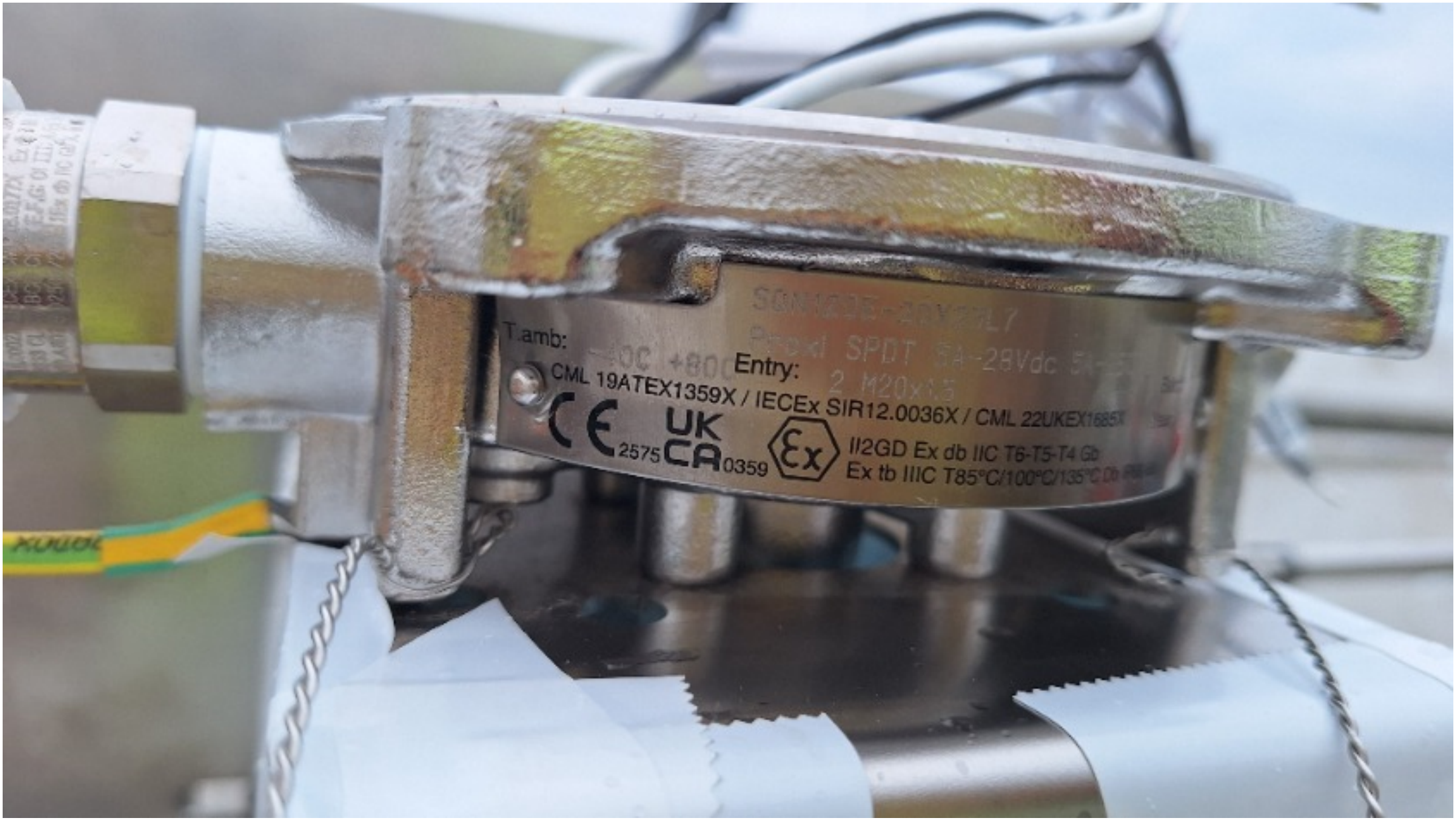
5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


T.amb:
Entry:
CML 19ATEX1359X / IECEx SIR12.0036X / CML 22UKEX1685X
2575
0359
II2GD Ex db IIC T6-T5-T4 Gb
Ex tb IIIC T85°C/100°C/135°C Db

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003805

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000111	1.4 Discipline	Instrumental
1.2 Item	C-25-XY-006/00-JE-13001	SOLENOID VALVE / MARSHALLING PCS	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Wrong cores identification tag. side J.B. 00-JE-13001 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2025-02-13
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	2025-02-13
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

INSTALLED

Name: Eleonora Carotenuto
Date: 2025-02-19
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003806

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001715	1.4 Discipline	ATEX
1.2 Item	25-XY-006		Solenoid Valve - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Missing tag SS , on Solenoid Valve.

Name: Alessio Polo

Date: 2025-02-13

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	2025-02-13
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003807

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001715	1.4 Discipline	ATEX
1.2 Item	25-XY-006	Solenoid Valve - Vessel V-25001A Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Doc: document 123A90-DDL-EL-LIS-20094 does not report what was installed in the field (see picture)

Name: Alessio Polo
Date: 2025-02-13
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	2025-02-13
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


USE SUPPLY WIRE SUITABLE FOR AT LEAST 90°C@T6/105°C@T5/150°C@T4
CE
0598
DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT
爆炸性环境严禁开盖
COVER SCREW A4-70 MINIMUM
Ex db IIC Gb T4 T135°C
Ex tb IIIC Db T5 T100°C
T6 T85°C
GYJ19.1148X
IECEx BAS10.0008
KTL-12-KB4BO-0213
Baseefa10ATEX0026
BAS21UKEX0642
-60°C≤ Tamb ≤ +90°C
-60°C≤ Tamb ≤ +55°C
-60°C≤ Tamb ≤ +40°C
NEMA
IP67
UKCA
1180
II 2 GD
IEC Ex
BAS 003
VOLTAGE./ 额定电压：
SERIAL No./ 序列号：
MODEL No./ 型号：
Bifold
OL9 9XA ENGLAND
英国制造

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003811

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001196	1.4 Discipline	ATEX
1.2 Item	80-PSV-001		Pressure Safety Valve - Hyrogen Storage to A-80000 Package Discharge
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-13

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-13
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-03-20

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-03-20

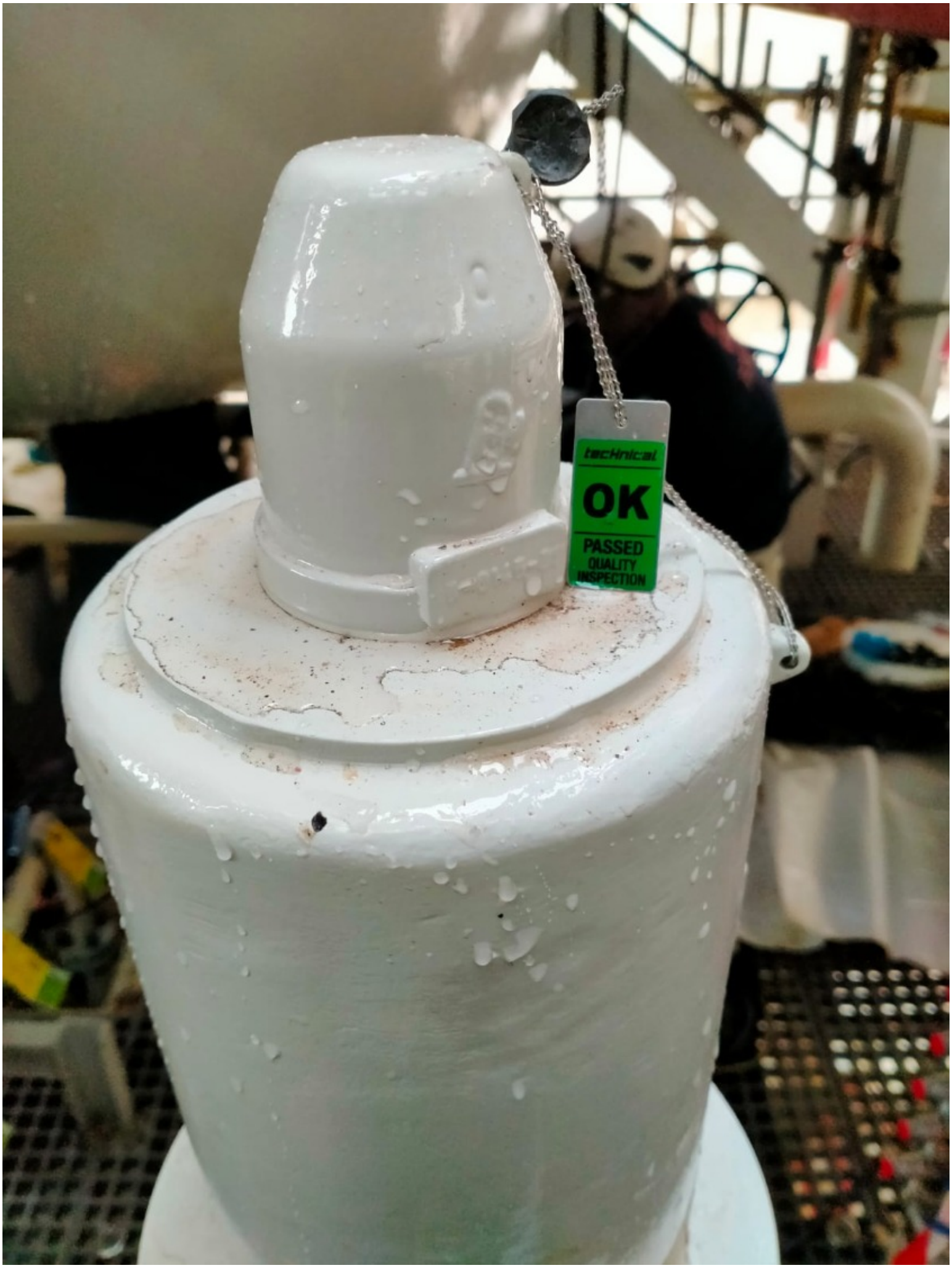
Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-03-20

Signature:


technical
OK
PASSED
QUALITY
INSPECTION

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003812

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001196	1.4 Discipline	ATEX
1.2 Item	80-PSV-001		Pressure Safety Valve - Hyrogen Storage to A-80000 Package Discharge
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Tag on tagplate is 80-PSV-01 but it should be 80-PSV-001 instead

Name: Luca Mussi

Date: 2025-02-13

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-13
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Correct tagplate provided

Name: Luca Mussi

Date: 2025-02-26

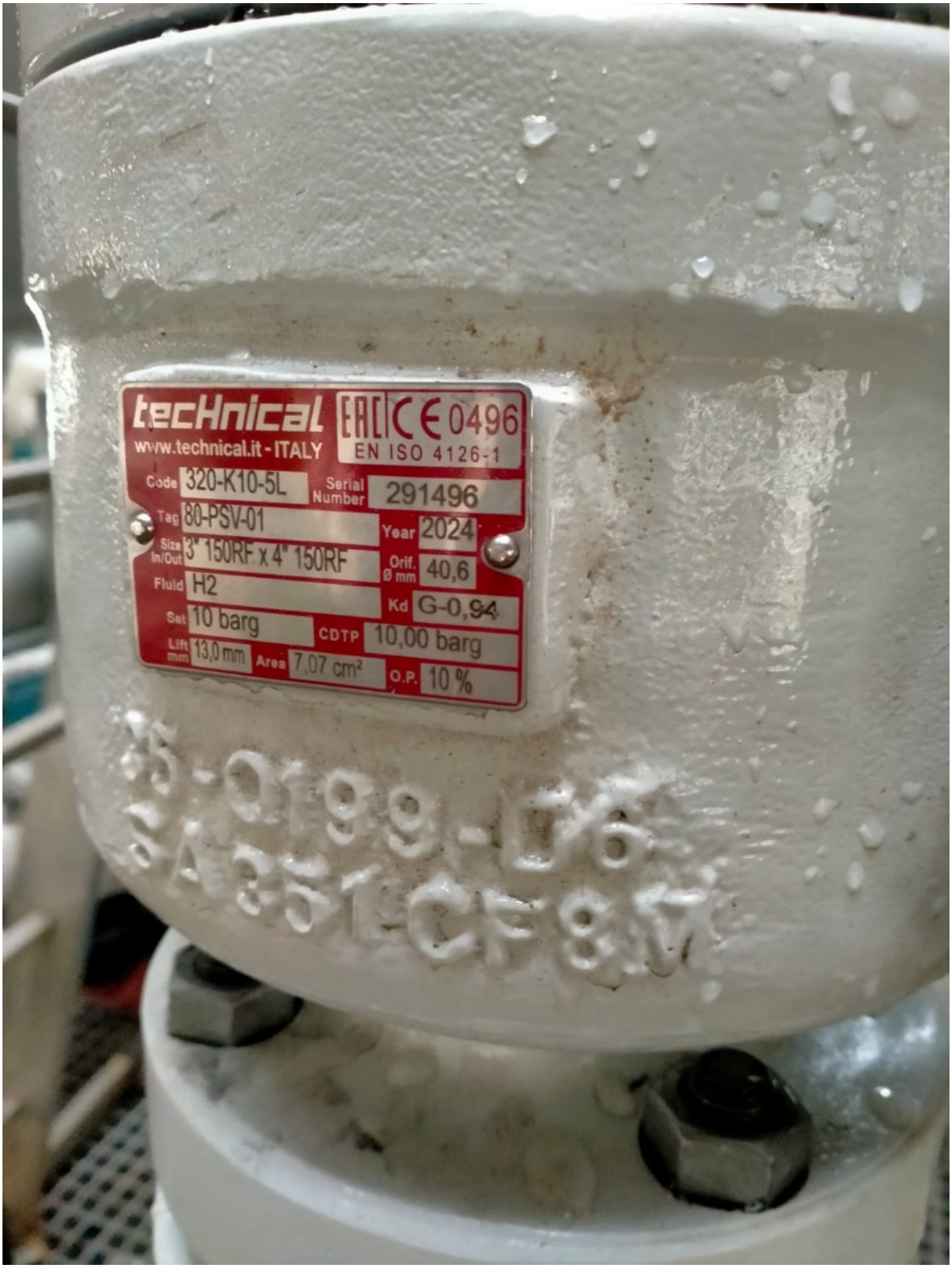
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


technical
www.technical.it - ITALY
EAC CE 0496
EN ISO 4126-1
Code 320-K10-5L
Serial Number 291496
Tag 80-PSV-01
Year 2024
Size In/Out 3" 150RF x 4" 150RF
Orif. Ø mm 40,6
Fluid H2
Kd G-0,94
Set 10 barg
CDTP 10,00 barg
Lift mm 13,0 mm
Area 7,07 cm²
O.P. 10 %
5-0199-T6
A351-CF8M


technical
www.technical.it - ITALY
EAC CE 0496
EN ISO 4126-1
Code 320-K10-5L
Serial Number 291496
Tag 80-PSV-001
Year 2024
Size In/Out 3" 150RF x 4" 150RF
Orif. ø mm 40,6
Fluid H2
Kd G-0,94
Set 10 barg
CDTP 10,00 barg
Lift mm 13,0 mm
Area 12,94 cm²
O.P. 10 %

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003825

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003458	1.4 Discipline	Piping
1.2 Item	25-08-TP-030	Test Pack 25-08-TP-030	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Spool F (SK 016 2/2) is not installed and flange management activity on joints 016-2-J10 and 016-2-J9 is not done.

Name: Lorenzo Novaga
Date: 2025-02-15
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Lorenzo Novaga
3.4 Activity code	MC Mechanical Completion	Date	2025-02-15
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

Flange torquing has been performed. Refer to tasks C10004066 and C10004064.

Name: Raffaele Degli Esposti
Date: 2025-06-17
Signature:

5 - CLEARANCE CHECK

Tasks and ITRs have been checked.

Name: Raffaele Degli Esposti
Date: 2025-06-17
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002134

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001443	1.4 Discipline	Instrumental
1.2 Item	25-RO-022		Restriction Orifice - Hyrogen from vessels outlet header vent system
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

There are several tool marks on the downstream face of the restriction orfice plate, also touching the spiral serrated. To be evaluated by the Vendor before installation.

Name: Kangi Albonetti
Date: 2024-12-24
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	2024-12-24
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Rosetti Marino contacted via e-mail the Vendor (Terranova) that has assured in its reply that the orifice plate's use has not been compromised and that the element is still fit for purpose.

Name: Kangi Albonetti
Date: 2025-01-14
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


TAG: 25-RO-022
DN 1" 300 RF
Ød: 5.19 mm
ØI.D.: 26.64 mm
H.N.: 50218
RESTRICTION
AISI 316/L
INLET
PMI AV
TECNOMATIC



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003231

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003457	1.4 Discipline	Piping
1.2 Item	25-08-TP-030	Test Pack 25-08-TP-030	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

All piping supports type "S-211" have double nuts intead of one. In addition gap, PTFE and thermoshrink shall be checked during reinstatement.

Name: Mattia Biaggioni

Date: 2025-01-25

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	2025-01-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity done.

Name: Lorenzo Novaga

Date: 2025-02-18

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003275

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003457	1.4 Discipline	Piping
1.2 Item	25-08-TP-030	Test Pack 25-08-TP-030	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

SK.016 (SH.2/2): horizontal section for 200 mm between W36 and W38 out of alignment with structure.

Name: Kangi Albonetti

Date: 2025-01-29

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	2025-01-29
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity done.

Name: Lorenzo Novaga

Date: 2025-02-18

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003276

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003457	1.4 Discipline	Piping
1.2 Item	25-08-TP-030	Test Pack 25-08-TP-030	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

SK.068 (SH.1/2): Vertical section (2297 mm) out of alignment. To be checked after reinstatement.

Name: Kangi Albonetti

Date: 2025-01-29

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	2025-01-29
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Cut and rewelded.

Name: Kangi Albonetti

Date: 2025-02-12

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003289

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003465	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Point n.4 and n.7 of the ITR have not been checked due the fact that all valves have not been installed before test. Consequently also the terminal points are different from isometrci.

Name: Kangi Albonetti

Date: 2025-01-29

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	2025-01-29
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Activity done.

Name: Lorenzo Novaga

Date: 2025-02-14

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003290

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003465	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

All piping supports type "S-211" to be checked during reinstatement. Now they have not been assembled correctly.

Name: Kangi Albonetti

Date: 2025-01-29

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	2025-01-29
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Refer to punch C30003786

Name: Lorenzo Novaga

Date: 2025-02-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003291

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003465	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Support PS-03517 was only electrical. Rodeo installed a bolt as for Standard S-211. Please see as-built.

Name: Kangi Albonetti
Date: 2025-01-29
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	2025-01-29
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Changes have been recorded on RLMUs

Name: Raffaele Degli Esposti
Date: 2025-06-25
Signature:

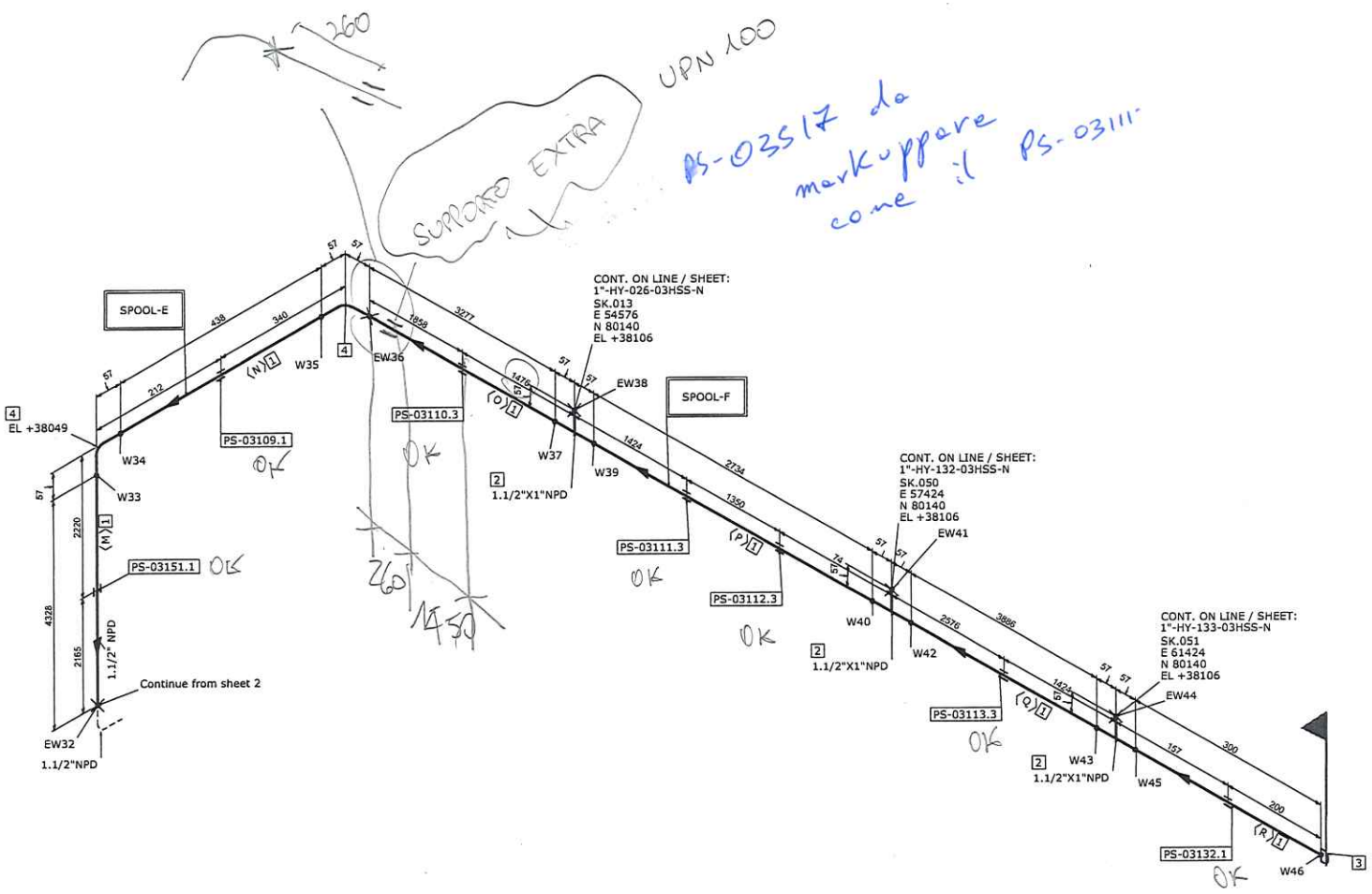
5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-25
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-06-25
Signature:



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	15.0M	61.5
2	1.1/2X1	TER0SS01741H01	Tee Reducing ASME B16.9 BW 3,68x3,38 WRS ASTM A403 Gr.WP316/316L	3	2.3
3	1.1/2	CAP0SS01041H00	Cap ASME B16.9 BW 3,68 WRS ASTM A403 Gr.WP316/316L	1	0.2
4	1.1/2	E90RSS00681H00	90 Deg Elbow Long Radius ASME B16.9 BW 3,68 WRS ASTM A403 Gr.WP316/316L	2	0.7

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]

FABRICATION WEIGHT [kg]	64.7
ERECTION WEIGHT [kg]	0.0
OVERALL WEIGHT [kg]	64.7

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
EW32	1.1/2	BW
W33	1.1/2	BW
W34	1.1/2	BW
W35	1.1/2	BW
EW36	1.1/2	BW
W37	1.1/2	BW
EW38	1	BW
W39	1.1/2	BW
W40	1.1/2	BW
EW41	1	BW
W42	1.1/2	BW
W43	1.1/2	BW
EW44	1	BW
W45	1.1/2	BW
W46	1.1/2	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
M	1.1/2	4328	BEVEL	BEVEL
N	1.1/2	438	BEVEL	BEVEL
O	1.1/2	3277	BEVEL	BEVEL
P	1.1/2	2734	BEVEL	BEVEL
Q	1.1/2	3886	BEVEL	BEVEL
R	1.1/2	300	BEVEL	BEVEL

SUPPORT LIST

PS-03151.1
PS-03109.1
PS-03110.3
PS-03111.3
PS-03112.3
PS-03113.3
PS-03132.1

SPOOL	WELD [inches]	WEIGHT [kg]
E	6	20.3
F	10.5	44.4
MONT	4.5	0.0

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	03-09-2024	STAFF SRL	RT	LM	REVISED WHERE INDICATED
00	30-07-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE: SHOP DRAWING ISOMETRIC OK SK.061
LINE NR. 1-1/2"-HY-148-03HSS-N

CONTRACT NO./ TITLE: CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE: N/A
DRAWN: STAFF SRL | CHECKED: RT | APPROVED: LM | DATE: 03-09-2024
FORMAT: A3
DRAWING NO: 123A90-FDL-PP-DI-00061
SHEET / OF: 3/3
REV: 01

25-08-TP-031

MASTER

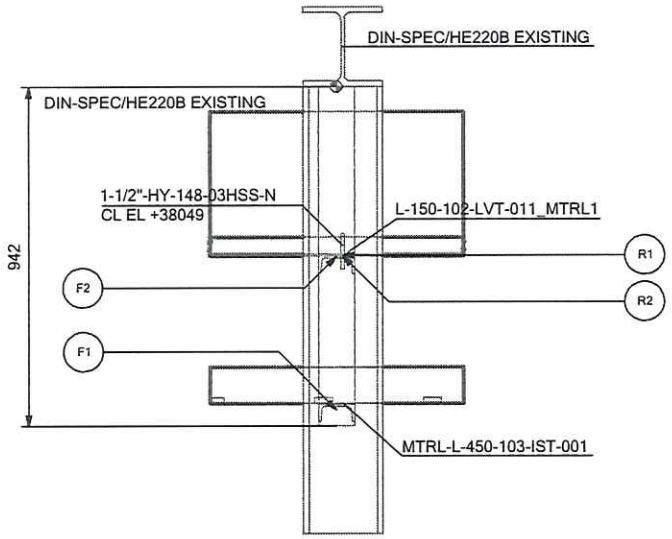
LINE DATA

NDT INSPECTION CATEGORY	1		PED CATEGORY	II	
PAINTING	SYSTEM 6A	BASE RAL RAL 9002	FLUID PHASE	GAS	
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 40 [barg]	TEMP. -29 / 80 [°C]
HEAT TRACING	--		TEST	PRESS. 60 [barg]	TEMP. AMB. MEDIUM Water

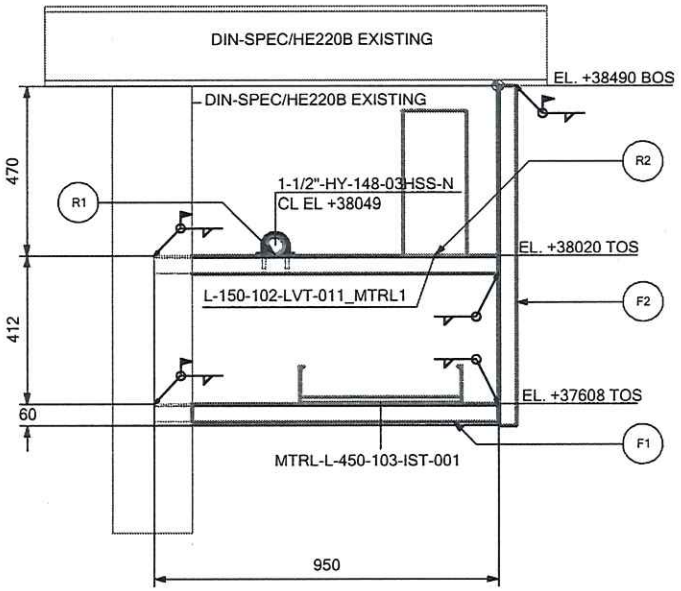
REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80014
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

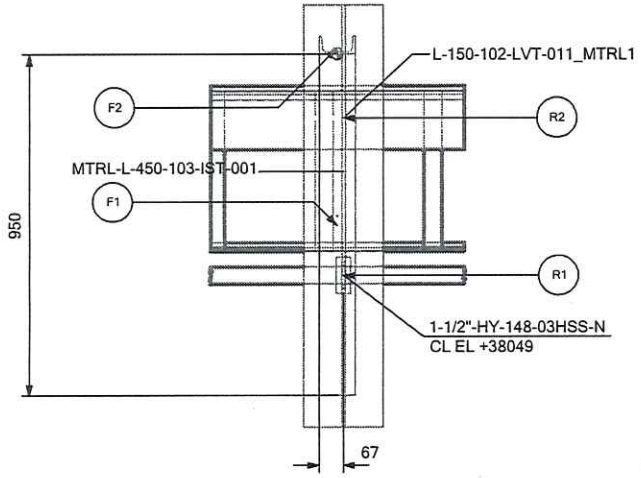
NOTES



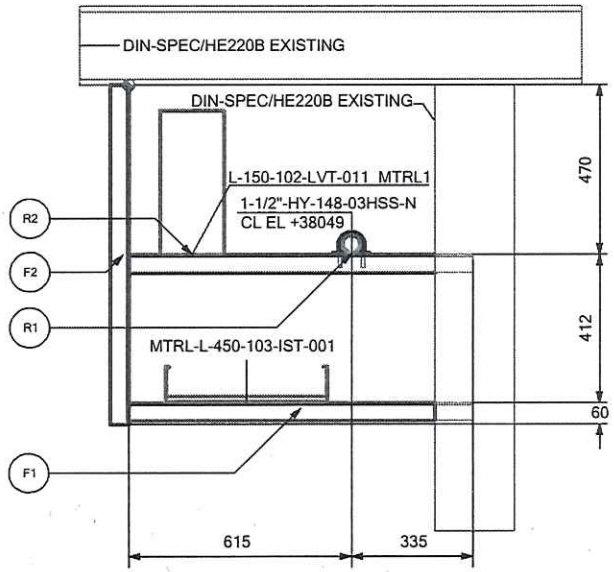
VIEW LOOKING NORTH



VIEW LOOKING WEST



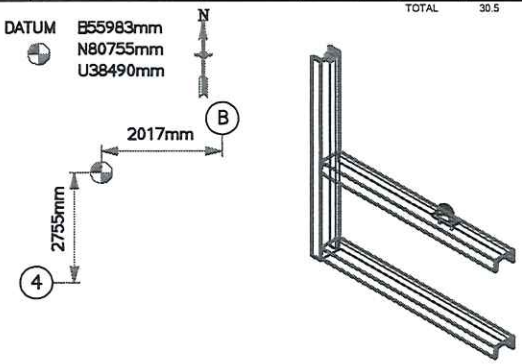
PLAN VIEW



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	RACK SUPPORT	-	-	2	-	0.00	-
F1	BEAM	UPN100	Carbon Steel	950	2	10.57	20.10	0.712
F2	BEAM	UPN100	Carbon Steel	942	1	10.57	9.96	0.353
						TOTAL	30.5	1.06



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-03111

OK

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
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003292

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003465	1.4 Discipline	Piping
1.2 Item	25-08-TP-031	Test Pack 25-08-TP-031	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

Sk.061: EW38 connects to Sk.019 and not 013.

Name: Kangi Albonetti

Date: 2025-01-29

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	2025-01-29
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Document marked-up.

Name: Lorenzo Novaga

Date: 2025-04-02

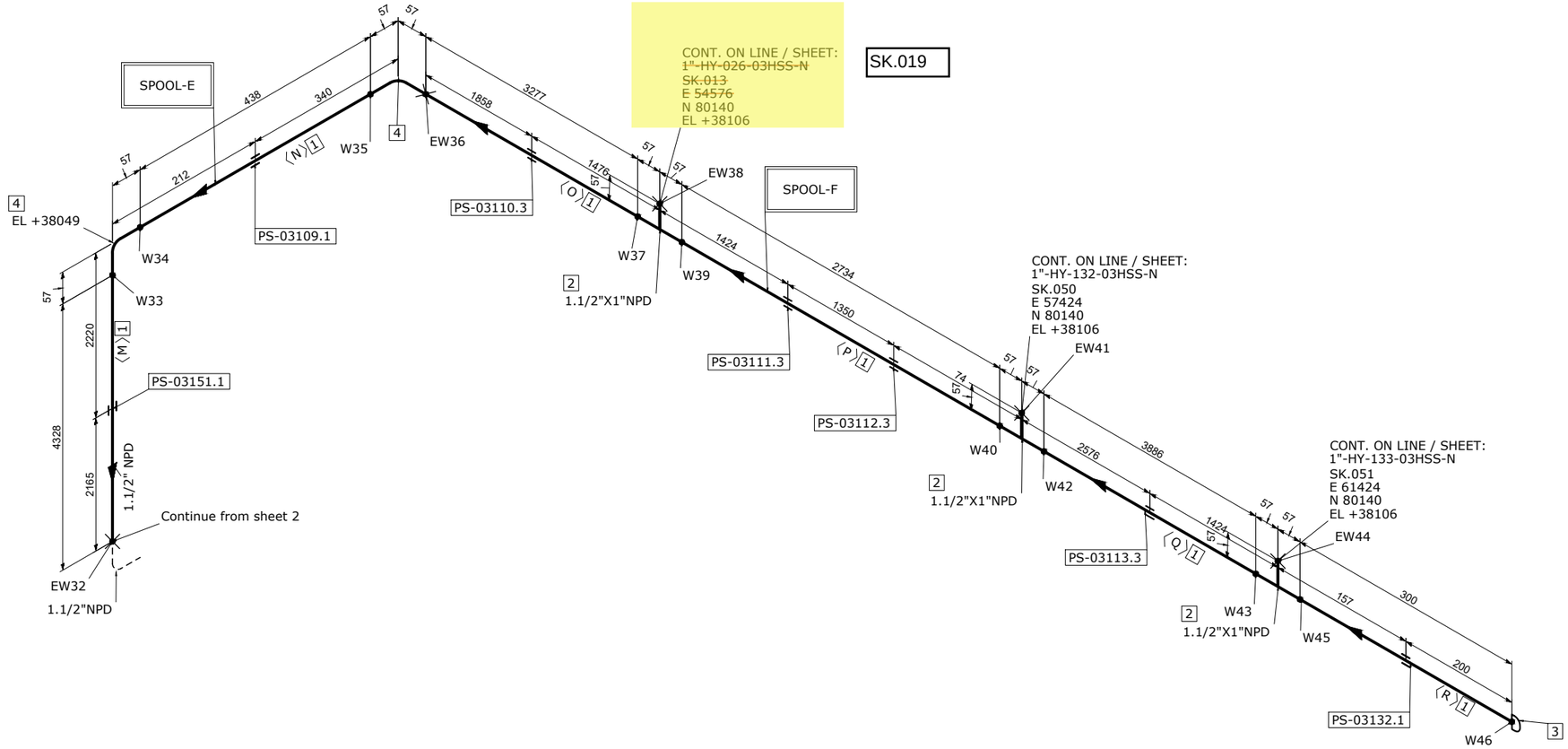
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



SK.019

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	15.0M	61.5
2	1.1/2X1	TER0SS01741H01	Tee Reducing ASME B16.9 BW 3,68x3,38 WRS ASTM A403 Gr.WP316/316L	3	2.3
3	1.1/2	CAP0SS01041H00	Cap ASME B16.9 BW 3,68 WRS ASTM A403 Gr.WP316/316L	1	0.2
4	1.1/2	E90RSS00681H00	90 Deg Elbow Long Radius ASME B16.9 BW 3,68 WRS ASTM A403 Gr.WP316/316L	2	0.7

ERECTION

POS.	SIZE	SAP CODE	DESCRIPTION	Q.TY	WEIGHT [kg]

FABRICATION WEIGHT [kg]	64.7
ERECTION WEIGHT [kg]	0.0
OVERALL WEIGHT [kg]	64.7

WELD SUMMARY

WELD No.	SIZE [inches]	TYPE
EW32	1.1/2	BW
W33	1.1/2	BW
W34	1.1/2	BW
W35	1.1/2	BW
EW36	1.1/2	BW
W37	1.1/2	BW
EW38	1	BW
W39	1.1/2	BW
W40	1.1/2	BW
EW41	1	BW
W42	1.1/2	BW
W43	1.1/2	BW
EW44	1	BW
W45	1.1/2	BW
W46	1.1/2	BW

CUTTING LIST

PIECE No.	SIZE [inches]	LENGTH [mm]	END PREP.1	END PREP.2
M	1.1/2	4328	BEVEL	BEVEL
N	1.1/2	438	BEVEL	BEVEL
O	1.1/2	3277	BEVEL	BEVEL
P	1.1/2	2734	BEVEL	BEVEL
Q	1.1/2	3886	BEVEL	BEVEL
R	1.1/2	300	BEVEL	BEVEL

SUPPORT LIST

PS-03151.1
PS-03109.1
PS-03110.3
PS-03111.3
PS-03112.3
PS-03113.3
PS-03132.1

SPOOL	WELD [inches]	WEIGHT [kg]
E	6	20.3
F	10.5	44.4
MONT	4.5	0.0

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	03-09-2024	STAFF SRL	RT	LM	REVISED WHERE INDICATED
00	30-07-2024	STAFF SRL	RT	LM	ISSUED FOR CONSTRUCTION

CROSSWIND

ROSETTI MARINO

TITLE
SHOP DRAWING ISOMETRIC
LINE NR. 1-1/2"-HY-148-03HSS-N

SK.061

CONTRACT NO./ TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	N/A
DRAWN	STAFF SRL	CHECKED	RT
APPROVED	LM	DATE	03-09-2024
FORMAT	A3	DRAWING NO.	123A90-FDL-PP-DI-00061
SHEET / OF	3/3	REV.	01

LINE DATA

NDT INSPECTION CATEGORY	1		PED CATEGORY	II	
PAINTING	SYSTEM 6A	BASE RAL RAL 9002	FLUID PHASE	GAS	
INSULATION	TYPE N	THICKNESS [mm]	DESIGN	PRESS. 40 [barg]	TEMP. -29 / 80 [°C]
HEAT TRACING	--		TEST	PRESS. 60 [barg]	TEMP. AMB MEDIUM Water

REFERENCE DOCUMENTS

P&ID	123A90-DDL-PR-PID-80014
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

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003424

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002043	1.4 Discipline	ATEX
1.2 Item	64-PCV-001		Air Set Filter - Hyrogen Storage to A-80000 Package Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register Model, SN, Atex date are missing.

Name: Luca Mussi

Date: 2025-01-31

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-01-31
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti

Date: 2025-06-10

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti

Date: 2025-06-10

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003425

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002043	1.4 Discipline	ATEX
1.2 Item	64-PCV-001		Air Set Filter - Hyrogen Storage to A-80000 Package Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

ATEX D.o.C. by Manufacturer is missing

Name: Luca Mussi

Date: 2025-01-31

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-01-31
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

D.o.C. provided and attached to ITR

Name: Luca Mussi

Date: 2025-02-05

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

Document Reference: - D of C Baseefa14ATEX0223DR_01

EU Declaration of Conformity

Manufacturer: Bifold Fluidpower Ltd
Address: Broadgate, Oldham Broadway Business Park,
Chadderton, Oldham
Greater Manchester
OL9 9XA
UK

Tel: +44 (0)161-345-4777
E-mail: sales@bifold.co.uk

Product Type (Object of the Declaration):

Type SH, ASH & SC Filter Regulator

Declaration statement:

On behalf of the above company, I declare that, the *Object of the Declaration* described above is in conformity with the relevant Union harmonisation legislation: Directive 2014/34/EU, with the following limitation;

Limitation on the validity of the Declaration of Conformity:

None

Provisions of the Directive fulfilled by the Equipment:

Group II Category 2 Gb Db Ex c IIC T6

Bifold Technical File Reference:

DF-FP_SH_20140627114952

Technical File lodged with Notified Body:

SGS Fimko Oy 0598 Helsinki, Finland

SGS Baseefa Technical File Reference:

Baseefa14ATEX0223DR

Technical basis for compliance with the Essential Health and Safety Requirements of Directive 2014/34/EU: -

BS EN 13463-1: 2009 – Non-electrical equipment for use in potentially explosive atmospheres. Basic method and requirements
BS EN 13463-5: 2011 – Non-electrical equipment for use in potentially explosive atmospheres. Protection by constructional safety 'c'

(A review against the following harmonised standards, shows no significant changes relevant to this equipment): -

BS EN ISO 80079-36: 2016 – Explosive atmospheres. Non-electrical equipment for explosive atmospheres. Basic method and requirements
BS EN ISO 80079-37: 2016 – Explosive atmospheres. Non-electrical equipment for explosive atmospheres. Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k"

Paul Barrow
Quality Manager

4th November 2020

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003426

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002043	1.4 Discipline	ATEX
1.2 Item	64-PCV-001		Air Set Filter - Hyrogen Storage to A-80000 Package Vent System
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-01-31
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-01-31
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003654

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001591	1.4 Discipline	ATEX
1.2 Item	25-XV-006		On-Off Actuated Ball Valve - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date: 2025-04-10

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-10

Signature:

6- CLEARANCE APPROVAL

Name:

Date: 2025-04-10

Signature:


Valves


TEST PACK Number :
TP-031 / Priority 6
LINE Number:
1"-HY-026-03HSS-N
Subsystem :
25-08

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003655

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001591	1.4 Discipline	ATEX
1.2 Item	25-XV-006		On-Off Actuated Ball Valve - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003656

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001593	1.4 Discipline	ATEX
1.2 Item	25-XV-009		On-Off Actuated Ball Valve - Vessel V-25001B Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-09

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


ROSETTI MARINO
Group of Companies
TAG
050-A-05
FLANGE
TAG

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003657

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001593	1.4 Discipline	ATEX
1.2 Item	25-XV-009		On-Off Actuated Ball Valve - Vessel V-25001B Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003658

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001595	1.4 Discipline	ATEX
1.2 Item	25-XV-012		On/Off Valve - Vessel V-25001C Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Scratches on painting, general touch-up to be performed

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Lorenzo Novaga

Date: 2025-04-09

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:




SG2

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003659

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001595	1.4 Discipline	ATEX
1.2 Item	25-XV-012		On/Off Valve - Vessel V-25001C Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-LIS-20094 sheet 8) Manufacturer, Atex certificate, SN, Atex marking etc. are missing or wrong.

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003660

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001756	1.4 Discipline	ATEX
1.2 Item	25-PCV-006		Air Set Filter - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003661

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001756	1.4 Discipline	ATEX
1.2 Item	25-PCV-006		Air Set Filter - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003662

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001758	1.4 Discipline	ATEX
1.2 Item	25-PCV-009	Air Set Filter - Vessel V-25001B Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003663

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001758	1.4 Discipline	ATEX
1.2 Item	25-PCV-009		Air Set Filter - Vessel V-25001B Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi
Date: 2025-02-28
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003664

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004834	1.4 Discipline	ATEX
1.2 Item	25-PSV-006		Safety Valve - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003665

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004834	1.4 Discipline	ATEX
1.2 Item	25-PSV-006		Safety Valve - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

ATEX Declaration of Conformity by Manufacturer is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003666

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004834	1.4 Discipline	ATEX
1.2 Item	25-PSV-006		Safety Valve - Vessel V-25001A Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment tag plate is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Luca Mussi

Date: 2025-02-14

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


To register your product visit
register.rotork.com
rotork
www.rotork.com/services
25-PSV-006
25-XV-006

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003667

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004834	1.4 Discipline	ATEX
1.2 Item	25-PSV-006	Safety Valve - Vessel V-25001A Hydrogen Outlet	
1.3 Subsystem	25-08	Hydrogen Storage Vessels Header (Outlet)	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094) equipment is missing

Name: Luca Mussi
Date: 2025-02-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

The ATEX Register issued by FLUITEK has been updated and now reflects the equipment actually installed on BLPH. Document 123A90-DDL-EL-LIS-20094 will endorse and confirm the information contained in the updated ATEX Register.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Raffaele Degli Esposti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003668

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004836	1.4 Discipline	ATEX
1.2 Item	25-PSV-009		Safety Valve - Vessel V-25001B Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

Equipment ATEX identification label is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Equipment ATEX label was installed by vendor on site.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003669

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10004836	1.4 Discipline	ATEX
1.2 Item	25-PSV-009		Safety Valve - Vessel V-25001B Hydrogen Outlet
1.3 Subsystem	25-08		Hydrogen Storage Vessels Header (Outlet)

2 - OBSERVATION

ATEX Declaration of Conformity by Manufacturer is missing

Name: Luca Mussi

Date: 2025-02-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Luca Mussi
3.4 Activity code	MC Mechanical Completion	Date	2025-02-11
3.5 Action by	VND Vendor	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Declaration of conformity has been provide by vendor.

Name: Giovanni Tangianu

Date: 2025-04-24

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

Section 4 FUNCTIONAL TESTS SHEETS

Section 4.1 Electrical functional test sheets index

NOT APPLICABLE

Section 4.2 Electrical
“As-Commissioned” interconnection diagrams

NOT APPLICABLE

Section 4.3 Instrumentation functional test sheets index

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 25-08 & discipline : I

Instrumental	25-08 Hydrogen Storage Vessels Header (Outlet)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
25-BDV-022	On/Off Valve - Hyrogen from Vessels Outlet Header Vent System	ONSHORE	C10003208	FJ01V	100	2025-03-26	RFO 4
25-PIC-055A	Hyrogen from vessels outlet header pressure control	ONSHORE	C10003755	FJ01C	100	2025-03-26	RFO 4
25-PIC-055B	Hyrogen from vessels outlet header pressure control	ONSHORE	C10003757	FJ01C	100	2025-03-26	RFO 4
25-PT-055A	Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10003175	FJ01A	100	2025-03-19	RFO 4
25-PT-055B	Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10003176	FJ01A	100	2025-03-19	RFO 4
25-PV-055A	Control Valve - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10004387	FJ04	100	2025-03-17	RFO 4
25-PV-055B	Control Valve - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10004388	FJ04	100	2025-03-17	RFO 4
25-SDV-023	On/Off Valve - Hyrogen from Vessels Outlet Header Shut-Down	ONSHORE	C10003210	FJ01V	100	2025-03-26	RFO 4
25-XV-006	On-Off Actuated Ball Valve - Vessel V-25001A Hydrogen Outlet	ONSHORE	C10003212	FJ01V	100	2025-03-19	RFO 4
25-XV-009	On-Off Actuated Ball Valve - Vessel V-25001B Hydrogen Outlet	ONSHORE	C10003214	FJ01V	100	2025-03-19	RFO 4
25-XV-012	On/Off Valve - Vessel V-25001C Hydrogen Outlet	ONSHORE	C10003216	FJ01V	100	2025-03-19	RFO 4
25-XV-015	On/Off Valve - Vessel V-25001D Hydrogen Outlet	ONSHORE	C10003218	FJ01V	100	2025-03-19	RFO 4
25-XV-018	On/Off Valve - Vessel V-25001E Hydrogen Outlet	ONSHORE	C10003220	FJ01V	100	2025-03-19	RFO 4
25-XV-021	On/Off Valve - Vessel V-25001F Hydrogen Outlet	ONSHORE	C10003222	FJ01V	100	2025-03-19	RFO 4
80-PT-002	Pressure Transmitter - Hyrogen Storage to A-80000 Package	ONSHORE	C10003189	FJ01A	100	2025-04-03	RFO 4
80-XV-001	On-Off Actuated Ball Valve - Hyrogen Storage to A-80000 Package Vent System	ONSHORE	C10003232	FJ01V	100	2025-03-27	RFO 4

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	25-PT-055A	: Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control	Dwg	123A90-DDL-IN-DS-40039
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD
TASK	code	C10003175	Location: Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	PRE-COMM	Activity: FTS	Discipline: Instrumental	Form: FJ01A — Analog Loop

LOOP DATA

Loop TAG	25-PT-055A			TSLD	123A90-FDL-IN-DG-40014 rev.1A				
IO Type	Input	Yes	Output	No	Energy by transmitter	No	Energy by system	Yes	
Marshalling	B400-PCS-001	Terminal	01A/01B	Slot	01	Rack	02	Chanel	01

LOOP TEST

1	Check earth isolation of the loop						OK
2	Connect loop to terminal						OK
3	Confirm Process Scale	Unit	barg	Min	0	Max	10	OK

LOOP RANGE

			0%	25%	50%	75%	100%
4	Physical value applied for test	Unit barg	0	2,5	5	7,5	10
5	Control System Display	Unit barg	0	2,51	4,98	7,47	9,98

LOOP SERVICE

		Value	Trip	Gen Alarm	DCS Alarm	SOE	DCS display	
6	Threshold 1	3 barg	No		Yes	NA	OK	OK
7	Threshold 2	8,5 barg	No		Yes	NA	OK	OK
8	Threshold 3		NA	NA	NA	NA	NA	NA
9	Threshold 4		NA	NA	NA	NA	NA	NA
10	Checking of line monitoring		NA	NA	NA	NA	NA	NA
11	Checking of Maintenance Inhibition		NA	NA	NA	NA	NA	NA
12	Associated safety Level / bar							NA
13	Associated outputs							NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
HYDRAULIC PUMP	06/190151		
PRESSURE SENSOR	930547		

LOOP DOCUMENTATION

14	Loop diagram is marked up and attached to this test sheet	OK
15	Cause and effect chart is highlighted accordingly	NA
16	Any defect is recorded for punch list issuance	OK

Comments:

Page 1/1	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW
Name	Laurentiu Grozavu	Giandonato Delmissier	John Mackillop
Date	2025-03-17	2025-03-18	2025-03-19
Signature	PROVERLIS Digitaly signed by Laurentiu Grozavu 2025-03-17T14:30:23.911Z	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-18T06:53:34.037Z	PROVERLIS Digitaly signed by John Mackillop 2025-03-19T12:14:18.962Z

ABR SERVICE S.r.l.
Via Manlio Monti, 40 – 48123 RAVENNA
Tel. +39 0544 685411 info@abrservice.net
C.F. Part. IVA 02764420390

Plant	CROSSWIND	Description	HYDROGEN FROM STORAGE VESSEL HEADER TO FUEL CELL(A-80000)		
Area	N.P.	Loop Tag	25-PI-055A	Instrument Tag	25-PT-055A
Type of verification	periodic	Calibration range	0,00 ÷ 10,00 bar	Report N°	015
Type of Instrument	Pressure meter	Max uncertainty required	± 0,070 % s.r.	Reference procedure data sheet	123A90-PML-QHSE-PRO-00122 Page N°8

UNDER EXAMINATION INSTRUMENT 'S DATA

Tag	Manufacture	Model	S/N
25-PT-55A	SPRIANO	SST76	SE240648

USED REFERENCE SAMPLE 'S DATA

Manufacture	Model	S/N	n° of certification and calibration center	uncertainty (u.m.)	Date of issue
BEAMEX	MC5-IS	20177766	0640/MP/2024_LAT 150	± 0,001 c.s.	24/04/2024
Digital pressure gauge				± 0,001 c.s.	24/04/2024

environment temperature at the time of check 25 °C

Value indicated before starting the check 0 bar

CHECK RESULT: *as found*

Verification functionality loop check

Generated value	Expected value	Read value	Error	Error % on s.r.
bar	mA	mA	mA	
0,00	4,00	4,000	+0,000	+0,000
2,50	8,00	8,003	+0,003	+0,019
5,00	12,00	11,995	-0,005	-0,031
7,50	16,00	15,994	-0,006	-0,038
10,00	20,00	19,996	-0,004	-0,025
7,50	16,00	15,995	-0,005	-0,031
5,00	12,00	11,996	-0,004	-0,025
2,50	8,00	8,004	+0,004	+0,025
0,00	4,00	3,999	-0,001	-0,006
		max error detected %		0,038

Check: PASSED

Verification activation of blocks/threshold alarms

Alarm signalling	Type of activation	Alarm intervention	Block description	Action type	Block intervention
bar					

Blocks/alarms check:

Corrective action

CHECK RESULT: *as left*

Verification functionality loop check

Generated value	Expected value	Read value	Error	Error % on s.r.
bar	mA	mA	mA	
		errore massimo rilevato %		0,00

Check:

Verification activation of blocks/threshold alarms

Alarm signalling	Type of activation	Alarm intervention	Block description	Action type	Block intervention
bar	DESCENT				

Blocks/alarms check:

Value indicated after the check 0 bar

Note:

FINAL OUTCOME OF THE VERIFICATION: *The Instrument Is SUITABLE*

Verification Date	Verification Expiration	Technical Executor	Viewed	Approved by
20/09/2024	09/2025	PENSO SILVIO		
		signature	*signature*	*signature*

ABR SERVICE srl
Via M. Monti, 40 - 48123 RAVENNA
Tel. 0544 685411
C.F. e P.IVA 02764420390

GENERAL	1	Tag Number			25-PT-055A	
	2	Service			HYDROGEN FROM STORAGE VESSEL HEADER TO FUEL CELL (A-80000)	
	3	P&ID Number	Location		123A90-DDL-PR-PID-80014	2"-HY-023-01HSS-N
	4	Function			PRESSURE MEASUREMENT	
	5	Mounting			DIRECT ON-LINE	
	6	Area Classification			ATEX Zone2 - IIC (IIB+H2) T1	
	7	Ambient Temperature			Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C.	
PROCESS CONDITIONS	8	Fluid			HYDROGEN	
	9	Pressure Des.	Oper.	[barg]	10	4(Min.) / 6.5(Max)
	10	Temperature Des.	Oper.	[°C]	100	AMB
	11	Oper. Spec. Gravity	Oper. Viscosity		-	-
	12	Flow Rate	Allowable Temp.		-	-
TRANSMITTER	13	Instrument Range Min.	Max.	[barg]	0	30
	14	Calibration Range Min.	Max.	[barg]	0	10
	15	Elevation	Suppression		-	-
	16	Element Type			Diaphragm	
	17	Element Material			SS AISI 316/316L GOLD PLATED	
	18	Body Material	Body Rating		AISI 316 SS	150 bar
	19	Process Connection			1/2" NPT-M	
	20	Wetted O-Rings Material			-	
	21	Fill Fluid			-	
	22	Bolts	Housing		Manifold/Instrument assembly	SS AISI 316/316L
	23	Paint			N/A	
	24	ATEX Certification	Ingress Protection		ATEX Ex II 2G Ex db IIC T5	IP66
	25	Process Connection	Electrical Connection		1/2" NPT-M	2 X M20X1.5
	26	Accuracy			0.07% of Nominal Range	
	27	SIL Certification	PED Certification		-	Required
DIAPHRAGM SEAL	28	Process Connection & Rating			-	
	29	Diaphragm Material	Housing Material		-	-
	30	Fill Fluid	Capillary Material		-	-
	31	Capillary Type	Capillary Length		-	-
	32	Flushing Connection			-	
OPTIONS	33	Integral Meter	Scale		Required	-
	34	Hydrostatic Testing	Cleaning		Required	-
	35	Mounting Brackets	Manifold Model No		Required	MAN2-R6
	36	Lightning Protection	Barrier Manuf./Model		-	-
COMMUNICATION AND SOFTWARE	37	Communication Type	Signal Type		HART 6	4-20mA Loop Powered 24 Vdc
	38	D D Revision	CFF Revision		-	-
	39	Device Tag	Hart Tag		-	-
	40	Internal Diagnostics	Capacitance		-	-
	41	Segment	Device Address		-	-
	42	Device Class	Simulate		-	-
	43	Nominal Current	Operating Voltage		-	-
PURCHASE	44	Manufacturer			TERRANOVA SRL	
	45	Model			SST76-H-7-K-2-9-2-1-4 + MAN2-R6	
	46	Purchase Order Number			4718_OS	

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE

TAG: 25-PT-055A

+ / - (WH/BK) — C-25-PT-055A/00-JE-11002, 1x2x0.75 mm2 — 00-JE-11002 TB-01: 01, 02, S, OS — 00-JE-11002/B400-PCS-002, 12x2x0.75 mm2 — TB-00-JE-11002: 01, 02

FTA CAB. : B400-PCS-002 | LOCATION : B-400 | FTA NAME : TB-02-01 | FTA TYPE : A1BA4D-06

TERM. N°	DESCR.	IN
01A	24V	01
01B	COM	

TAG : 25-PT-055A | PCS CAB. : B400-PCS-001 | I/O MODULARITY : 16 | RACK : 02 | SLOT : 01 | CHANNEL : 01 | AI | IOM TYPE : AAI143

25 PIC 055A — 25 HS 055

TAG: 25-PV-055A

IN + / IN - (WH/BK) — C-25-PY-055A/00-JE-11002, 1x2x0.75 mm2 — 00-JE-11002 TB-01: 05, 06, S, OS — 00-JE-11002/B400-PCS-002, 12x2x0.75 mm2 — TB-00-JE-11002: 05, 06

FTA CAB. : B400-PCS-002 | LOCATION : B-400 | FTA NAME : TB-02-03 | FTA TYPE : A1BA4D-06

TERM. N°	DESCR.	IN
01A	+	01
01B	–	

TAG : 25-PY-055A | PCS CAB. : B400-PCS-001 | I/O MODULARITY : 16 | RACK : 02 | SLOT : 03 | CHANNEL : 01 | AO | IOM TYPE : AAI543

TAG: 25-ZT-055A

OUT + / OUT - (WH/BK) — C-25-ZT-055A/00-JE-11002, 1x2x0.75 mm2 — 00-JE-11002 TB-01: 09, 10, SH, OS — 00-JE-11002/B400-PCS-002, 12x2x0.75 mm2 — TB-00-JE-11002: 09, 10

FTA CAB. : B400-PCS-002 | LOCATION : B-400 | FTA NAME : TB-02-01 | FTA TYPE : A1BA4D-06

TERM. N°	DESCR.	IN
02A	24V	02
02B	COM	

TAG : 25-ZI-055A | PCS CAB. : B400-PCS-001 | I/O MODULARITY : 16 | RACK : 02 | SLOT : 01 | CHANNEL : 02 | AI | IOM TYPE : AAI143

25 ZI 055A

TAG: 25-ZSL-055A

02 / 03 (1WH/1BK) — C-25-ZSL-055A/00-JE-12001, 1x2x0.75 mm2 — 00-JE-12003 TB-01: 05, 06, SH, OS — 00-JE-12003/B400-PCS-002, 6x2x0.75 mm2 — TB-00-JE-12003: 05, 06

FTA CAB. : B400-PCS-002 | LOCATION : B-400 | FTA NAME : TB-02-05 | FTA TYPE : A1BD5D-06

TERM. N°	DESCR.	IN
01A	+	01
01B	–	

TAG : 25-ZLL-055A | PCS CAB. : B400-PCS-001 | I/O MODULARITY : 32 | RACK : 02 | SLOT : 05 | CHANNEL : 01 | DI | IOM TYPE : ADV151

25 ZLL 055A

TAG: 25-ZSH-055A

05 / 06 (2WH/2BK) — C-25-ZSH-055A/00-JE-12001, 1x2x0.75 mm2 — 00-JE-12003 TB-01: 07, 08, SH, OS — 00-JE-12003/B400-PCS-002, 6x2x0.75 mm2 — TB-00-JE-12003: 07, 08

FTA CAB. : B400-PCS-002 | LOCATION : B-400 | FTA NAME : TB-02-05 | FTA TYPE : A1BD5D-06

TERM. N°	DESCR.	IN
02A	+	02
02B	–	

TAG : 25-ZLH-055A | PCS CAB. : B400-PCS-001 | I/O MODULARITY : 32 | RACK : 02 | SLOT : 05 | CHANNEL : 02 | DI | IOM TYPE : ADV151

25 ZLH 055A

NO MARK UP
08/03/25

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV.: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-PIC-055A
HYDROGEN FROM VESSELS OUTLET HEADER PRESSURE CONTROL

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1
DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024
A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 035 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO | CROSSWIND

ITEM	Tag	25-PT-055B	: Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control	Dwg	123A90-DDL-IN-DS-40039
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD
TASK	code	C10003176	Location: Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	PRE-COMM	Activity: FTS	Discipline: Instrumental	Form: FJ01A		Analog Loop

LOOP DATA

Loop TAG	25-PT-055B			TSLD	123A90-FDL-IN-DG-40014 rev.1A		
IO Type	Input: Yes	Output: No		Energy by transmitter: No	Energy by system: Yes		
Marshalling	B400-PCS-001	Terminal: 01A/01B		Slot: 01	Rack: 03	Chanel: 01	

LOOP TEST

1	Check earth isolation of the loop						OK
2	Connect loop to terminal						OK
3	Confirm Process Scale	Unit: barg	Min: 0	Max: 10			OK

LOOP RANGE

			0%	25%	50%	75%	100%
4	Physical value applied for test	Unit: barg	0	2,5	5	7,5	10
5	Control System Display	Unit: barg	-0,1	2,5	5	7,48	9,99

LOOP SERVICE

		Value	Trip	Gen Alarm	DCS Alarm	SOE	DCS display	
6	Threshold 1	3 barg	No		Yes	NA	OK	OK
7	Threshold 2	8,5 barg	No		Yes	NA	OK	OK
8	Threshold 3		NA	NA	NA	NA	NA	NA
9	Threshold 4		NA	NA	NA	NA	NA	NA
10	Checking of line monitoring		NA	NA	NA	NA	NA	NA
11	Checking of Maintenance Inhibition		NA	NA	NA	NA	NA	NA
12	Associated safety Level / bar							NA
13	Associated outputs							NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
HYDRAULIC PUMP	06/190151		
PRESSURE SENSOR	930547		

LOOP DOCUMENTATION

14	Loop diagram is marked up and attached to this test sheet	OK
15	Cause and effect chart is highlighted accordingly	NA
16	Any defect is recorded for punch list issuance	OK

Comments:

Page 1/1	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW
Name	Laurentiu Grozavu	Giandonato Delmissier	John Mackillop
Date	2025-03-17	2025-03-18	2025-03-19
Signature	Digitaly signed by Laurentiu Grozavu 2025-03-17T14:29:55.082Z	Digitaly signed by Giandonato Delmissier 2025-03-18T06:54:00.495Z	Digitaly signed by John Mackillop 2025-03-19T12:14:30.693Z

ABR SERVICE S.r.l.
Via Manlio Monti, 40 – 48123 RAVENNA
Tel. +39 0544 685411 info@abrservice.net
C.F. Part. IVA 02764420390

Plant	CROSSWIND	Description	HYDROGEN FROM STORAGE VESSEL HEADER TO FUEL CELL(A-80000)	Instrument Tag	25-PT-055B
Area	N.P.	Loop Tag	25-PI-055B	Report N°	016
Type of verification	periodic	Calibration range	0,00 ÷ 10,00 bar	Reference procedure data sheet	123A90-PML-QHSE-PRO-00122 Page N°8
Type of instrument	Pressure meter	Max uncertainty required	± 0,070 % s.r.		

UNDER EXAMINATION INSTRUMENT 'S DATA

Tag	Manufacture	Model	S/N
25-PT-055B	SPRIANO	SST76	SE240649

USED REFERENCE SAMPLE 'S DATA

Manufacture	Model	S/N	n° of certification and calibration center	uncertainty (u.m.)	Date of issue
BEAMEX	MC5-IS	20177766	0640/MP/2024_LAT 150	± 0,001 c.s.	24/04/2024
Digital pressure gauge				± 0,001 c.s.	24/04/2024

environment temperature at the time of check 25 °C

Value indicated before starting the check 0 bar

CHECK RESULT: *as found*

Verification functionality loop check

Generated value	Expected value	Read value	Error	Error % on s.r.
bar	mA	mA	mA	
0,00	4,00	3,998	-0,002	-0,012
2,50	8,00	8,000	+0,000	+0,000
5,00	12,00	12,000	+0,000	+0,000
7,50	16,00	15,996	-0,004	-0,025
10,00	20,00	19,998	-0,002	-0,012
7,50	16,00	15,997	-0,003	-0,019
5,00	12,00	12,001	+0,001	+0,006
2,50	8,00	7,999	-0,001	-0,006
0,00	4,00	3,999	-0,001	-0,006

max error detected % 0,025

Check: PASSED

Verification activation of blocks/threshold alarms

Alarm signalling	Type of activation	Alarm intervention	Block description	Action type	Block intervention
bar					

Blocks/alarms check:

Corrective action

CHECK RESULT: *as left*

Verification functionality loop check

Generated value	Expected value	Read value	Error	Error % on s.r.
bar	mA	mA	mA	

errore massimo rilevato % 0,00

Check:

Verification activation of blocks/threshold alarms

Alarm signalling	Type of activation	Alarm intervention	Block description	Action type	Block intervention
bar	DESCENT				

Blocks/alarms check:

Value indicated after the check 0 bar

Note:

FINAL OUTCOME OF THE VERIFICATION: *The Instrument is SUITABLE*

Verification Date	Verification Expiration	Technical Executor	Viewed	Approved by
20/09/2024	09/2025	PENSO SILVIO		
		signature	signature	signature

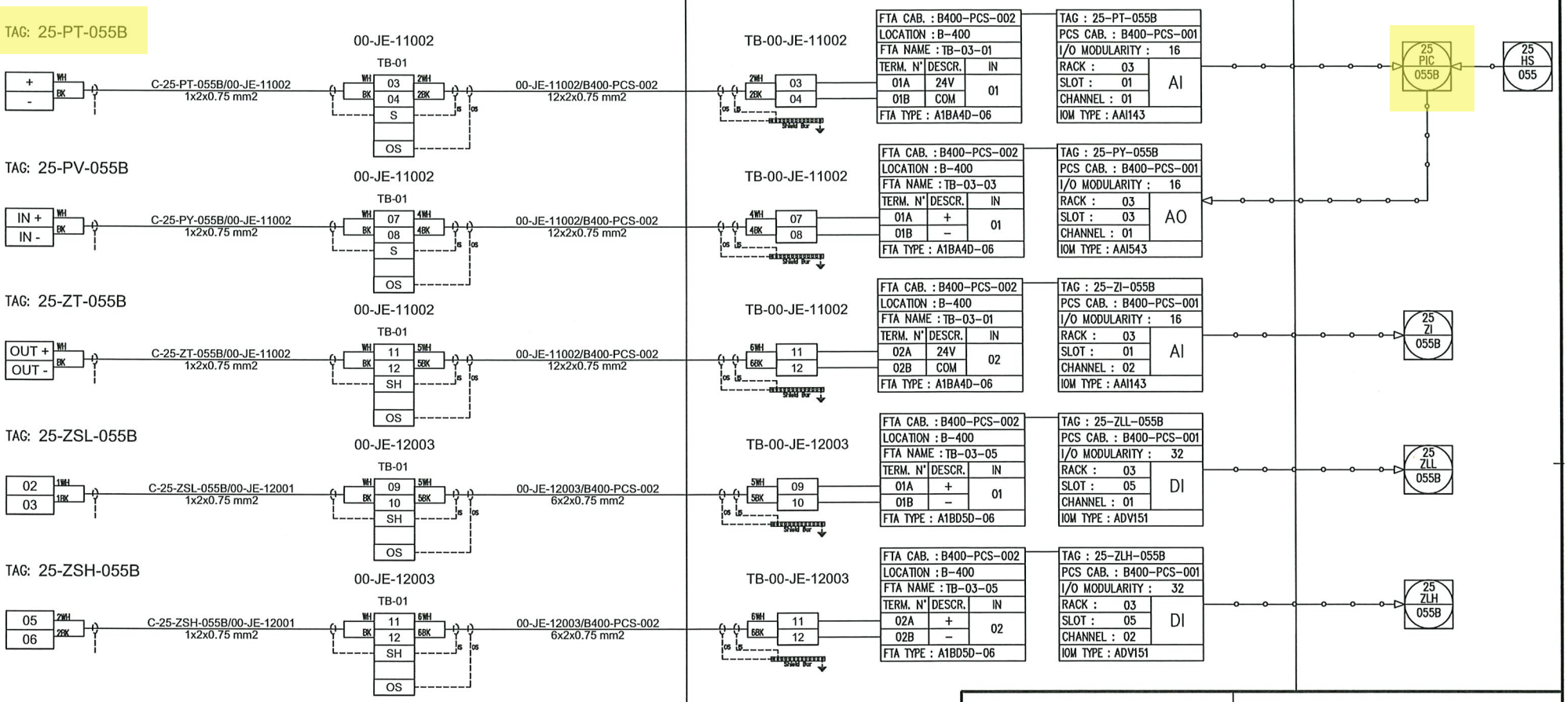
ABR SERVICE srl
Via M. Monti, 40 - 48123 RAVENNA
Tel. 0544 685411
C.F. e P.IVA 02764420390

GENERAL	1	Tag Number		25-PT-055B	
	2	Service		HYDROGEN FROM STORAGE VESSEL HEADER TO FUEL CELL (A-80000)	
	3	P&ID Number	Location	123A90-DDL-PR-PID-80014	2"-HY-023-01HSS-N
	4	Function		PRESSURE MEASUREMENT	
	5	Mounting		DIRECT ON-LINE	
	6	Area Classification		ATEX Zone2 - IIC (IIB+H2) T1	
	7	Ambient Temperature		Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C.	
PROCESS CONDITIONS	8	Fluid		HYDROGEN	
	9	Pressure Des.	Oper. [barg]	10	4(Min.) / 6.5(Max)
	10	Temperature Des.	Oper. [°C]	100	AMB
	11	Oper. Spec. Gravity	Oper. Viscosity	-	-
	12	Flow Rate	Allowable Temp.	-	-
TRANSMITTER	13	Instrument Range Min.	Max. [barg]	0	30
	14	Calibration Range Min.	Max. [barg]	0	10
	15	Elevation	Suppression	-	-
	16	Element Type		Diaphragm	
	17	Element Material		SS AISI 316/316L GOLD PLATED	
	18	Body Material	Body Rating	AISI 316 SS	150 bar
	19	Process Connection		1/2" NPT-M	
	20	Wetted O-Rings Material		-	
	21	Fill Fluid		-	
	22	Bolts	Housing	Manifold/Instrument assembly	SS AISI 316/316L
	23	Paint		N/A	
	24	ATEX Certification	Ingress Protection	ATEX Ex II 2G Ex db IIC T5	IP66
	25	Process Connection	Electrical Connection	1/2" NPT-M	2 X M20X1.5
	26	Accuracy		0.07% of Nominal Range	
	27	SIL Certification	PED Certification	-	Required
DIAPHRAGM SEAL	28	Process Connection & Rating		-	
	29	Diaphragm Material	Housing Material	-	-
	30	Fill Fluid	Capillary Material	-	-
	31	Capillary Type	Capillary Length	-	-
	32	Flushing Connection		-	
OPTIONS	33	Integral Meter	Scale	Required	-
	34	Hydrostatic Testing	Cleaning	Required	-
	35	Mounting Brackets	Manifold Model No	Required	MAN2-R6
	36	Lightning Protection	Barrier Manuf./Model	-	-
COMMUNICATION AND SOFTWARE	37	Communication Type	Signal Type	HART 6	4-20mA Loop Powered 24 Vdc
	38	D D Revision	CFF Revision	-	-
	39	Device Tag	Hart Tag	-	-
	40	Internal Diagnostics	Capacitance	-	-
	41	Segment	Device Address	-	-
	42	Device Class	Simulate	-	-
	43	Nominal Current	Operating Voltage	-	-
PURCHASE	44	Manufacturer		TERRANOVA SRL	
	45	Model		SST76-H-7-K-2-9-2-1-4 + MAN2-R6	
	46	Purchase Order Number		4718_OS	

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD	ITER – B400	CENTRAL CONTROL ROOM
	PROCESS CONTROL SYSTEM	OPERATOR CONSOLE



NO MARK UP
08/03/25

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :
INSTRUMENT LOOP DIAGRAM
25-PIC-055B
HYDROGEN FROM VESSELS OUTLET HEADER PRESSURE CONTROL

CONTRACT NO./TITLE CONTRACT_NO.			SCALE 1:1
DRAWN: VBA	CHECKED: LCA	APPROVED: DLO	DATE 23/10/2024
A3	DRAWING NO. 123A90-DDL-IN-DG-40014	SHEET 036	REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	80-PT-002	: Pressure Transmitter - Hyrogen Storage to A-80000 Package	Dwg	123A90-DDL-IN-DS-40039		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10003189	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01A		Analog Loop

LOOP DATA

Loop TAG	80-PT-002			TSLD	123A90-FDL-IN-DG-40014 rev.1A				
IO Type	Input	Yes	Output	No	Energy by transmitter	No	Energy by system	Yes	
Marshalling	B400-SIS-001	Terminal	08A/08B	Slot	01	Rack	01	Chanel	08

LOOP TEST

1	Check earth isolation of the loop						OK
2	Connect loop to terminal						OK
3	Confirm Process Scale	Unit	barg	Min	0	Max	10	OK

LOOP RANGE

			0%	25%	50%	75%	100%
4	Physical value applied for test	Unit barg	0	2,5	5	7,5	10
5	Control System Display	Unit barg	0	2,5	4,99	7,49	10

LOOP SERVICE

		Value	Trip	Gen Alarm	DCS Alarm	SOE	DCS display	
6	Threshold 1	2 barg	Yes	Yes	Yes	Yes	OK	OK
7	Threshold 2	9 barg	Yes	Yes	Yes	Yes	OK	OK
8	Threshold 3		NA	NA	NA	NA	NA	NA
9	Threshold 4		NA	NA	NA	NA	NA	NA
10	Checking of line monitoring		NA	NA	NA	NA	NA	NA
11	Checking of Maintenance Inhibition		NA	NA	NA	NA	NA	NA
12	Associated safety Level / bar		PSD					OK
13	Associated outputs							NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
PRESSURE GAUGE WIKA MOD. CPG1500	1A014ILJJIM	LAT 114 0435-SM-24	20-09-2025

LOOP DOCUMENTATION

14	Loop diagram is marked up and attached to this test sheet	OK
15	Cause and effect chart is highlighted accordingly	OK
16	Any defect is recorded for punch list issuance	OK

Comments:

Page 1/1	Performed by	☉ WITNESS ☐ REVIEW	☉ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW
Name	Laurentiu Grozavu	Giandonato Delmissier	John Mackillop
Date	2025-03-20	2025-03-20	2025-04-03
Signature	PROVERLIS Digitaly signed by Laurentiu Grozavu 2025-03-20T07:00:07.261Z	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-20T13:05:06.201Z	PROVERLIS Digitaly signed by John Mackillop 2025-04-03T12:33:03.888Z

ABR SERVICE S.r.l.
Via Manlio Monti, 40 – 48123 RAVENNA
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C.F. Part. IVA 02764420390

Plant	CROSSWIND	Description	H2 FROM STORAGE VESSEL TO FUEL CELL A-80000		
Area	N.P.	Loop Tag	80-PI-002	Instrument Tag	80-PT-002
Type of verification	periodic	Calibration range	0,00 ÷ 10,00 bar	Report N°	026
Type of instrument	Pressure meter	Max uncertainty required	± 0,070 % s.r.	Reference procedure data sheet	123A90-PML-QHSE-PRO-00122 Page N°8

UNDER EXAMINATION INSTRUMENT 'S DATA

Tag	Manufacture	Model	S/N
80-PT002	SPRIANO	SST76	SE240657

USED REFERENCE SAMPLE 'S DATA

Manufacture	Model	S/N	n° of certification and calibration center	uncertainty (u.m.)	Date of issue
BEAMEX	MC5-IS	20177766	0640/MP/2024 _LAT 150	± 0,001 c.s.	24/04/2024
Digital pressure gauge				± 0,001 c.s.	24/04/2024

environment temperature at the time of check 25 °C

Value indicated before starting the check 0 bar

CHECK RESULT: *as found*

Verification functionality loop check

Generated value	Expected value	Read value	Error	Error % on s.r.
bar	mA	mA	mA	
0,00	4,000	4,000	+0,000	+0,000
2,50	8,000	7,999	-0,002	-0,009
5,00	12,000	11,997	-0,003	-0,019
7,50	16,000	15,984	-0,016	-0,100
10,00	20,000	19,980	-0,020	-0,125
7,50	16,000	15,982	-0,018	-0,113
5,00	12,000	11,995	-0,005	-0,031
2,50	8,000	8,002	+0,002	+0,013
0,00	4,000	3,998	-0,002	-0,012
		max error detected %		0,125

Check: FAILED

Verification activation of blocks/threshold alarms

Alarm signalling	Type of activation	Alarm intervention	Block description	Action type	Block intervention
bar					

Blocks/alarms check:

Corrective action Instruments scores less than the set range. Recalibrated

CHECK RESULT: *as left*

Verification functionality loop check

Generated value	Expected value	Read value	Error	Error % on s.r.
bar	mA	mA	mA	
0	4,000	4,000	0,000	0,000
2,5	8,000	8,003	0,003	0,019
5	12,000	11,996	-0,004	-0,025
7,5	16,000	15,993	-0,007	-0,044
10	20,000	19,998	-0,002	-0,012
7,5	16,000	15,995	-0,005	-0,031
5	12,000	11,998	-0,002	-0,013
2,5	8,000	8,003	0,003	0,019
0	4,000	4,001	0,001	0,006
		errore massimo rilevato %		0,044

Check: PASSED

Verification activation of blocks/threshold alarms

Alarm signalling	Type of activation	Alarm intervention	Block description	Action type	Block intervention
bar					

Blocks/alarms check:

Value indicated after the check 0 bar

Note:

FINAL OUTCOME OF THE VERIFICATION: *The Instrument is SUITABLE*

Verification Date	Verification Expiration	Technical Executor	Viewed	Approved by
18/09/2024	09/2025	PENSO SILVIO		
		signature	*signature*	*signature*

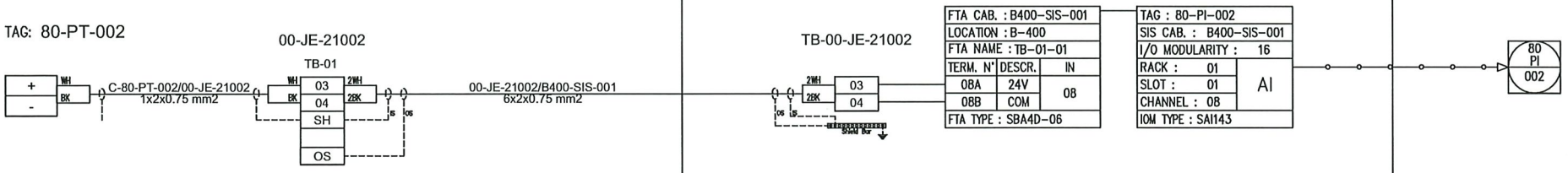
ABR SERVICE srl
Via M. Monti, 40 - 48123 RAVENNA
Tel. 0544 685411
C.F. e P.IVA 02764420390

GENERAL	1	Tag Number			80-PT-002	
	2	Service			H2 FROM STORAGE VESSEL TO FUEL CELL (A-80000)	
	3	P&ID Number	Location		123A90-DDL-PR-PID-80012	2"-HY-023-01HSS-N
	4	Function			PRESSURE MEASUREMENT	
	5	Mounting			DIRECT ON-LINE	
	6	Area Classification			ATEX Zone2 - IIC (IIB+H2) T1	
	7	Ambient Temperature			Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C.	
PROCESS CONDITIONS	8	Fluid			HYDROGEN	
	9	Pressure Des.	Oper.	[barg]	10	4(Min.)/6.5(Max.)
	10	Temperature Des.	Oper.	[°C]	100	AMB
	11	Oper. Spec. Gravity	Oper. Viscosity		-	-
	12	Flow Rate	Allowable Temp.		-	-
TRANSMITTER	13	Instrument Range Min.	Max.	[barg]	0	30
	14	Calibration Range Min.	Max.	[barg]	0	10
	15	Elevation	Suppression		-	-
	16	Element Type			Diaphragm	
	17	Element Material			SS AISI 316/316L GOLD PLATED	
	18	Body Material	Body Rating		AISI 316 SS	150 bar
	19	Process Connection			1/2" NPT-M	
	20	Wetted O-Rings Material			-	
	21	Fill Fluid			-	
	22	Bolts	Housing		Manifold/Instrument assembly	SS AISI 316/316L
	23	Paint			N/A	
	24	ATEX Certification	Ingress Protection		ATEX Ex II 2G Ex db IIC T5	IP66
	25	Process Connection	Electrical Connection		1/2" NPT-M	2 X M20X1.5
	26	Accuracy			0.07% of Nominal Range	
	27	SIL Certification	PED Certification		SIL2	Required
DIAPHRAGM SEAL	28	Process Connection & Rating			-	
	29	Diaphragm Material	Housing Material		-	-
	30	Fill Fluid	Capillary Material		-	-
	31	Capillary Type	Capillary Length		-	-
	32	Flushing Connection			-	
OPTIONS	33	Integral Meter	Scale		Required	-
	34	Hydrostatic Testing	Cleaning		Required	-
	35	Mounting Brackets	Manifold Model No		Required	MAN2-R6
	36	Lightning Protection	Barrier Manuf./Model		-	-
COMMUNICATION AND SOFTWARE	37	Communication Type	Signal Type		HART 6	4-20mA Loop Powered 24 Vdc
	38	D D Revision	CFF Revision		-	-
	39	Device Tag	Hart Tag		-	-
	40	Internal Diagnostics	Capacitance		-	-
	41	Segment	Device Address		-	-
	42	Device Class	Simulate		-	-
	43	Nominal Current	Operating Voltage		-	-
PURCHASE	44	Manufacturer			TERRANOVA SRL	
	45	Model			SST76-H-7-K-2-0-2-1-4 + MAN2-R6	
	46	Purchase Order Number			4718_OS	

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD	ITER – B400	CENTRAL CONTROL ROOM
	SAFETY INSTRUMENTED SYSTEM	OPERATOR CONSOLE



NO MARK UP
16/03/25

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
80-PI-002
HYDROGEN STORAGE TO A-80000 PACKAGE

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1
DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024
A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 088 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	25-BDV-022	: On/Off Valve - Hyrogen from Vessels Outlet Header Vent System		Dwg	123A90-DDL-IN-LIS-40088	
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)		Module	UD	
TASK	code	C10003208	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form FJ01V	ON/OFF Valve

Data

Loop TAG: 25-BDV-022 — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type: ON/OFF VALVE

Functional Test				Associated Tag	Comment	Result
Local reset						NA
Remote command : Solenoid valve 1 energized				25-BDY-022		OK
Remote command : Solenoid valve 2 energized						NA
Local indication of the valve position						OK
Open limit switch				25-ZSH-022		OK
Closed limit switch				25-ZSL-022		OK
Pressure transmitter on control line						NA
Local closing command						NA
Local opening command						NA
Opening time	1 sec	Restriction adjusted	No			OK
Closing time	1 sec	Restriction adjusted	No			OK
Interlock function						NA
Fail safe position on loss of electrical signal				OPEN		OK
Fail safe position on loss of power fluid				OPEN		OK
Timer checking					4 SEC.	OK
Number of operations on accumulator						NA
ESD signal and solenoid valve test facility						OK
Solenoid valve override indication on ICS						OK
Local indication of the solenoid valve deenergization						NA
Partial stroke cheching						NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE 175	AW1/018 17140769	7715/24	10/07/2025

Comments:

	Performed by	☑ WITNESS ☐ REVIEW	☑ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CROSSWIND
Name	Laurentiu Grozavu	Giandonato Delmissier	Gerry McCann
Date	2025-03-20	2025-03-20	2025-03-26
Signature	PROVERLIS Digitaly signed by Laurentiu Grozavu 2025-03-20T08:31:15.350Z	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-20T13:07:10.293Z	PROVERLIS Digitaly signed by Gerry McCann 2025-03-26T09:47:28.413Z

GENERAL	1	Tag Number	Location			25-BDV-022		25
	2	Service				HYDROGEN TO FUEL CELL PACKAGE DEPRESS.		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80014		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-144-03HSS-N		
	5	Line Size and Schedule	Inlet		Outlet	1" / 3.38 mm		1" / 3.38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7.5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	-29		80
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : 0.3 minimum		Open : -
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		Inside the valve (*) (38)
	25	Packing	Lubrication & Isolation			A479 Tp. 316'(33)		(*)
	26	Bolting				A193 B8M / A194 Gr. 8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316 / 316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1)		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork		Spring Return
	31	Model No.	Size			CP/S		035-100A/BA
	32	Actuator Orientation	Actuator Form			Horizontal		Cylinder
	33	Ingress Protection	Certification			IP-66		II 2 G Ex h IIC T5 Gb
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			OPEN		OPEN
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				25-BDY-022 (9, 14, 15, 16) - Bifold FP06P		
	38	Limit Switch Closed	Limit Switch Open			25-ZSL-022 (9, 17) - Soldo SS		25-ZSH-022 (9, 17) - Soldo SS
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			(*)		NOT REQUIRED
	41	Mounting Position				HORIZONTAL		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No. (*) / M20		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK		
	50	Model				FB3		
	51	Purchase Order Number				1724000204		

NOTE
(1) N.1 PSV INSTALLED DOWNSTREAM THE AIR FILTER REGULATOR, SIZE 1/4", SS, set 4.7 barg.

No.	Date	By	Chkd	Appr	Description
03	06/12/24	VBA	LCA	DLO	Accepted for Construction (AFC)
02	28/08/24	VBA	LCA	DLO	Accepted for Construction (AFC)
01	20/12/23	VBA	LCA	DLO	Issued for Review (IFR)
00	06/11/23	VBA	LCA	DLO	Issued for Review (IFR)

INSTRUMENT DATASHEET

SDV/BDV and Tight Shut-Off XV Valves

CROSSWIND

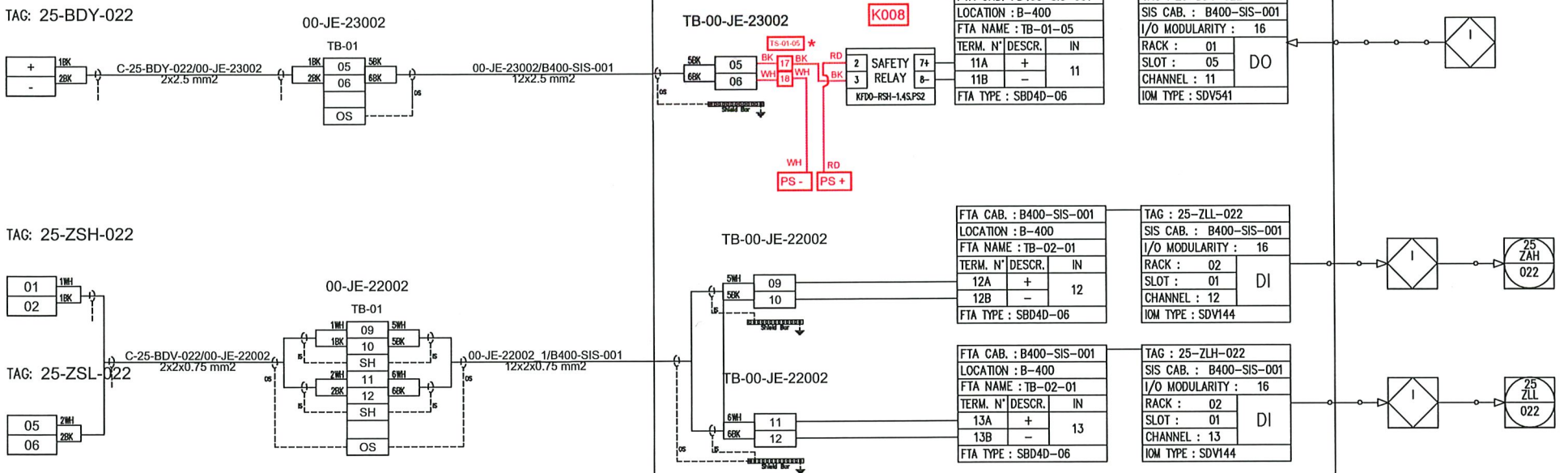
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Code : Dwg. No.: 123A90-DDL-IN-DS-40030 Rev.03

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD	ITER – B400	CENTRAL CONTROL ROOM
	SAFETY INSTRUMENTED SYSTEM	OPERATOR CONSOLE



AS BUILT
25/02/25

* ALL NEGATIVE TERMINALS ON TB-01-05 ARE FUSABLE TERMINAL

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV: 1_A DATE: 20/12/24 SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-BDV-022
HYDROGEN FROM VESSELS OUTLET HEADER VENT SYSTEM

CONTRACT NO./TITLE CONTRACT_NO.			SCALE 1:1
DRAWN: VBA	CHECKED: LCA	APPROVED: DLO	DATE 23/10/2024
A3	DRAWING NO. 123A90-DDL-IN-DG-40014	SHEET 099	REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	25-SDV-023	: On/Off Valve - Hyrogen from Vessels Outlet Header Shut-Down	Dwg	123A90-DDL-IN-LIS-40088		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10003210	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity FTS	Discipline	Instrumental	Form FJ01V	ON/OFF Valve

Data

Loop TAG: 25-SDV-023 — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type: ON/OFF VALVE

Functional Test				Associated Tag	Comment	Result
Local reset						NA
Remote command : Solenoid valve 1 energized				25-SDY-023		OK
Remote command : Solenoid valve 2 energized						NA
Local indication of the valve position						OK
Open limit switch				25-ZSH-023		OK
Closed limit switch				25-ZSL-023		OK
Pressure transmitter on control line						NA
Local closing command						NA
Local opening command						NA
Opening time	1 sec	Restriction adjusted	No			OK
Closing time	1 sec	Restriction adjusted	No			OK
Interlock function						NA
Fail safe position on loss of electrical signal				CLOSE		OK
Fail safe position on loss of power fluid				CLOSE		OK
Timer checking					4 SEC.	OK
Number of operations on accumulator						NA
ESD signal and solenoid valve test facility						OK
Solenoid valve override indication on ICS						OK
Local indication of the solenoid valve deenergization						NA
Partial stroke cheching						NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE 175	AW1/018 17140769	7715/24	10/07/2025

Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☉ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CROSSWIND
Name	Laurentiu Grozavu	Giandonato Delmissier	Gerry McCann
Date	2025-03-20	2025-03-20	2025-03-26
Signature	PROVERLIS Digitaly signed by Laurentiu Grozavu 2025-03-20T08:31:55.423Z	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-20T13:07:42.282Z	PROVERLIS Digitaly signed by Gerry McCann 2025-03-26T09:48:11.533Z

GENERAL	1	Tag Number	Location			25-SDV-023		25
	2	Service				HYDROGEN TO FUEL CELL PACKAGE		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80014		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1-1/2"-HY-148-03HSS-N		
	5	Line Size and Schedule	Inlet		Outlet	1-1/2" / 3.68 mm		1-1/2" / 3.68 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7.5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	-29		80
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : 0.3 minimum		Open : -
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1-1/2"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		Inside the valve (*) (38)
	25	Packing	Lubrication & Isolation			A479 Tp. 316'(33)		(*)
	26	Bolting				A193 B8M / A194 Gr. 8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316 / 316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork		Spring Return
	31	Model No.	Size			CP/S		035-130A/CA
	32	Actuator Orientation	Actuator Form			Horizontal		Cylinder
	33	Ingress Protection	Certification			IP-66		II 2 G Ex h IIC T5 Gb
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				25-SDY-004 (9, 14, 15, 16) - Bifold FP06P		
	38	Limit Switch Closed	Limit Switch Open			25-ZSL-023 (9, 17) - Soldo SS		25-ZSH-023 (9, 17) - Soldo SS
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			(*)		NOT REQUIRED
	41	Mounting Position				HORIZONTAL		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No. (*) / M20		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK		
	50	Model				FB3		
	51	Purchase Order Number				1724000204		

NOTE
(1) N.1 PSV INSTALLED DOWNSTREAM THE AIR FILTER REGULATOR, SIZE 1/4", SS, set 4.7 barg.

No.	Date	By	Chkd	Appr	Description
03	06/12/24	VBA	LCA	DLO	Accepted for Construction (AFC)
02	28/08/24	VBA	LCA	DLO	Accepted for Construction (AFC)
01	20/12/23	VBA	LCA	DLO	Issued for Review (IFR)
00	06/11/23	VBA	LCA	DLO	Issued for Review (IFR)

INSTRUMENT DATASHEET

SDV/BDV and Tight Shut-Off XV Valves

CROSSWIND

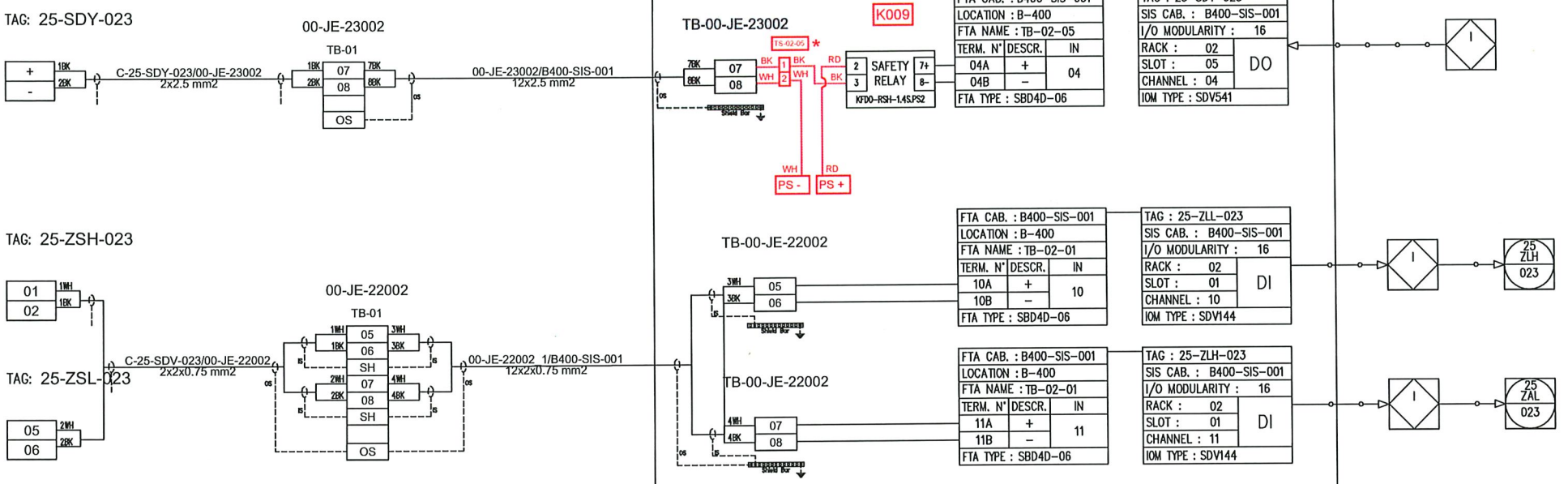
ROSETTI MARINO

Code : Dwg. No.: 123A90-DDL-IN-DS-40030 Rev.03

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD	ITER – B400	CENTRAL CONTROL ROOM
	SAFETY INSTRUMENTED SYSTEM	OPERATOR CONSOLE



AS BUILT
25/02/25

* ALL NEGATIVE TERMINALS ON TB-02-05 ARE FUSABLE TERMINAL

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV.: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-SDV-023
HYDROGEN FROM VESSELS OUTLETS HEADER SHUT-DOWN

CONTRACT NO./TITLE CONTRACT_NO.			SCALE 1:1
DRAWN: VBA	CHECKED: LCA	APPROVED: DLO	DATE 23/10/2024
A3	DRAWING NO. 123A90-DDL-IN-DG-40014	SHEET 101	REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO — CROSSWIND

ITEM	Tag	25-XV-006	: On/Off Valve - Vessel V-25001A Hydrogen Outlet	Dwg	123A90-DDL-IN-LIS-40088		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10003212	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01V	ON/OFF Valve

Data

Loop TAG: 25-XV-006 — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type: ON/OFF VALVE

Functional Test				Associated Tag	Comment	Result
Local reset						NA
Remote command : Solenoid valve 1 energized				25-XY-006		OK
Remote command : Solenoid valve 2 energized						NA
Local indication of the valve position						OK
Open limit switch				25-ZSH-006		OK
Closed limit switch				25-ZSL-006		OK
Pressure transmitter on control line						NA
Local closing command						NA
Local opening command						NA
Opening time	1 sec	Restriction adjusted	No			OK
Closing time	1 sec	Restriction adjusted	No			OK
Interlock function						NA
Fail safe position on loss of electrical signal				CLOSE		OK
Fail safe position on loss of power fluid				CLOSE		OK
Timer checking					4 SEC.	OK
Number of operations on accumulator						NA
ESD signal and solenoid valve test facility						NA
Solenoid valve override indication on ICS						OK
Local indication of the solenoid valve deenergization						NA
Partial stroke cheching						NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE 175	AW1/018 (17140769)	7715/24	10/07/2025

Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☉ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW
Name	Laurentiu Grozavu	Giandonato Delmissier	John Mackillop
Date	2025-03-18	2025-03-18	2025-03-19
Signature	Digitaly signed by Laurentiu Grozavu 2025-03-18T16:17:21.945Z	Digitaly signed by Giandonato Delmissier 2025-03-18T17:07:29.321Z	Digitaly signed by John Mackillop 2025-03-19T12:16:40.372Z

GENERAL	1	Tag Number	Location			25-XV-006		25
	2	Service				HYDROGEN STORAGE TANK V-25001A OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80015		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-026-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3.38 mm		1" / 3.38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7.5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	-29		80
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : 0.3 minimum		Open : -
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		Inside the valve (*) (38)
	25	Packing	Lubrication & Isolation			A479 Tp. 316'(33)		(*)
	26	Bolting				A193 B8M / A194 Gr. 8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316 / 316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork		Spring Return
	31	Model No.	Size			CP/S		035-100A/BA
	32	Actuator Orientation	Actuator Form			Horizontal		Cylinder
	33	Ingress Protection	Certification			IP-66		II 2 G Ex h IIC T5 Gb
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				25-XY-006 (9, 14, 15, 16) - Bifold FP06P		
	38	Limit Switch Closed	Limit Switch Open			25-ZSL-006 (9, 17) - Soldo SS		25-ZSH-006 (9, 17) - Soldo SS
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			(*)		NOT REQUIRED
	41	Mounting Position				HORIZONTAL		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No. (*) / M20		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK		
	50	Model				FB3		
	51	Purchase Order Number				1724000204		

NOTE
(1) N.1 PSV INSTALLED DOWNSTREAM THE AIR FILTER REGULATOR, SIZE 1/4", SS, set 4.7 barg.

No.	Date	By	Chkd	Appr	Description
03	06/12/24	VBA	LCA	DLO	Accepted for Construction (AFC)
02	28/08/24	VBA	LCA	DLO	Accepted for Construction (AFC)
01	20/12/23	VBA	LCA	DLO	Issued for Review (IFR)
00	06/11/23	VBA	LCA	DLO	Issued for Review (IFR)

INSTRUMENT DATASHEET

SDV/BDV and Tight Shut-Off XV Valves

CROSSWIND

ROSETTI MARINO

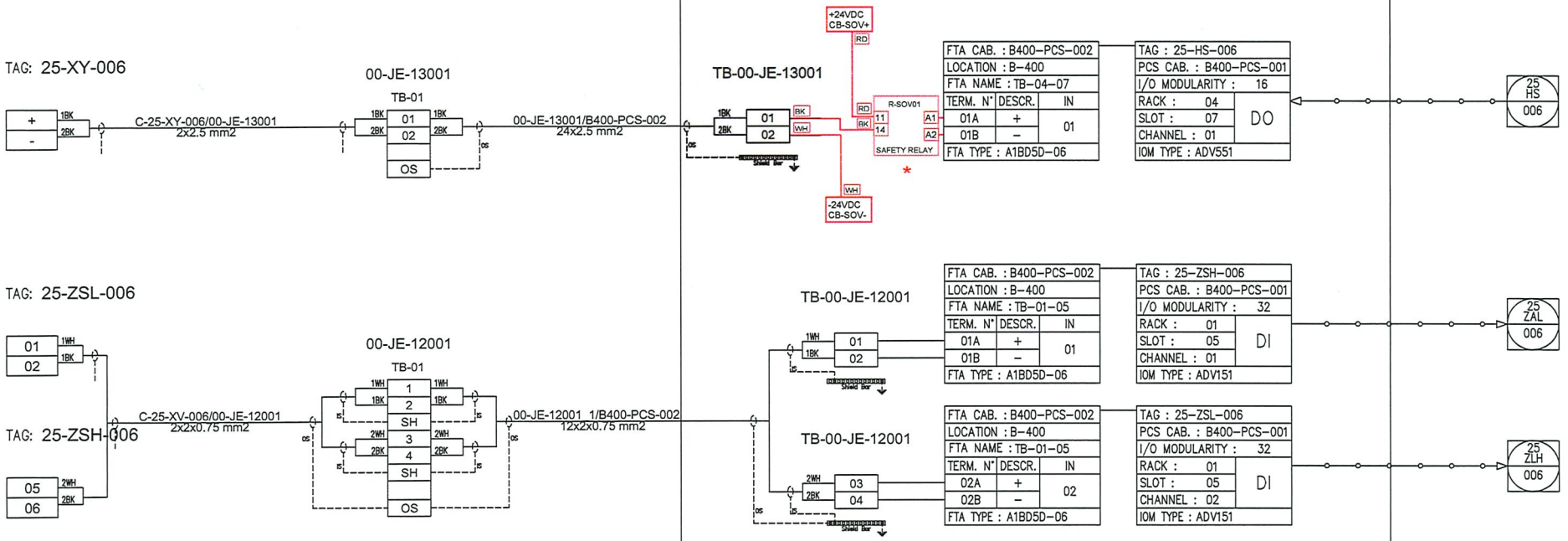
Code : Dwg. No.: 123A90-DDL-IN-DS-40030 Rev.03

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE



AS BUILT
15/03/2025

* RELAY SOVxx
PLC-RSC-24DC/21

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV. 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-XV-006
VESSEL V-25001A HYDROGEN INLET

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1

DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024

A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 043 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO — CROSSWIND

ITEM	Tag	25-XV-009	: On/Off Valve - Vessel V-25001B Hydrogen Outlet	Dwg	123A90-DDL-IN-LIS-40088		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10003214	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01V	ON/OFF Valve

Data

Loop TAG: 25-XV-009 — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type: ON/OFF VALVE

Functional Test				Associated Tag	Comment	Result
Local reset						NA
Remote command : Solenoid valve 1 energized				25-XY-009		OK
Remote command : Solenoid valve 2 energized						NA
Local indication of the valve position						OK
Open limit switch				25-ZSH-009		OK
Closed limit switch				25-ZSL-009		OK
Pressure transmitter on control line						NA
Local closing command						NA
Local opening command						NA
Opening time	1 sec	Restriction adjusted	No			OK
Closing time	1 sec	Restriction adjusted	No			OK
Interlock function						NA
Fail safe position on loss of electrical signal				CLOSE		OK
Fail safe position on loss of power fluid				CLOSE		OK
Timer checking					4 SEC.	OK
Number of operations on accumulator						NA
ESD signal and solenoid valve test facility						NA
Solenoid valve override indication on ICS						OK
Local indication of the solenoid valve deenergization						NA
Partial stroke cheching						NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE 175	AW1/018 (17140769)	7715/24	10/07/2025

Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☉ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW
Name	Laurentiu Grozavu	Giandonato Delmissier	John Mackillop
Date	2025-03-18	2025-03-18	2025-03-19
Signature	PROVERLIS Digitaly signed by Laurentiu Grozavu 2025-03-18T15:52:25.120Z	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-18T17:08:17.118Z	PROVERLIS Digitaly signed by John Mackillop 2025-03-19T12:16:55.097Z

GENERAL	1	Tag Number	Location			25-XV-009		25
	2	Service				HYDROGEN STORAGE TANK V-25001B OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80016		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-132-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3.38 mm		1" / 3.38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7.5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	-29		80
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : 0.3 minimum		Open : -
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		Inside the valve (*) (38)
	25	Packing	Lubrication & Isolation			A479 Tp. 316'(33)		(*)
	26	Bolting				A193 B8M / A194 Gr. 8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316 / 316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork		Spring Return
	31	Model No.	Size			CP/S		035-100A/BA
	32	Actuator Orientation	Actuator Form			Horizontal		Cylinder
	33	Ingress Protection	Certification			IP-66		II 2 G Ex h IIC T5 Gb
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				25-XY-009 (9, 14, 15, 16) - Bifold FP06P		
	38	Limit Switch Closed	Limit Switch Open			25-ZSL-009 (9, 17) - Soldo SS		25-ZSH-009 (9, 17) - Soldo SS
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			(*)		NOT REQUIRED
	41	Mounting Position				HORIZONTAL		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No. (*) / M20		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK		
	50	Model				FB3		
	51	Purchase Order Number				1724000204		

NOTE
(1) N.1 PSV INSTALLED DOWNSTREAM THE AIR FILTER REGULATOR, SIZE 1/4", SS, set 4.7 barg.

No.	Date	By	Chkd	Appr	Description
03	06/12/24	VBA	LCA	DLO	Accepted for Construction (AFC)
02	28/08/24	VBA	LCA	DLO	Accepted for Construction (AFC)
01	20/12/23	VBA	LCA	DLO	Issued for Review (IFR)
00	06/11/23	VBA	LCA	DLO	Issued for Review (IFR)

INSTRUMENT DATASHEET

SDV/BDV and Tight Shut-Off XV Valves

CROSSWIND

ROSETTI MARINO

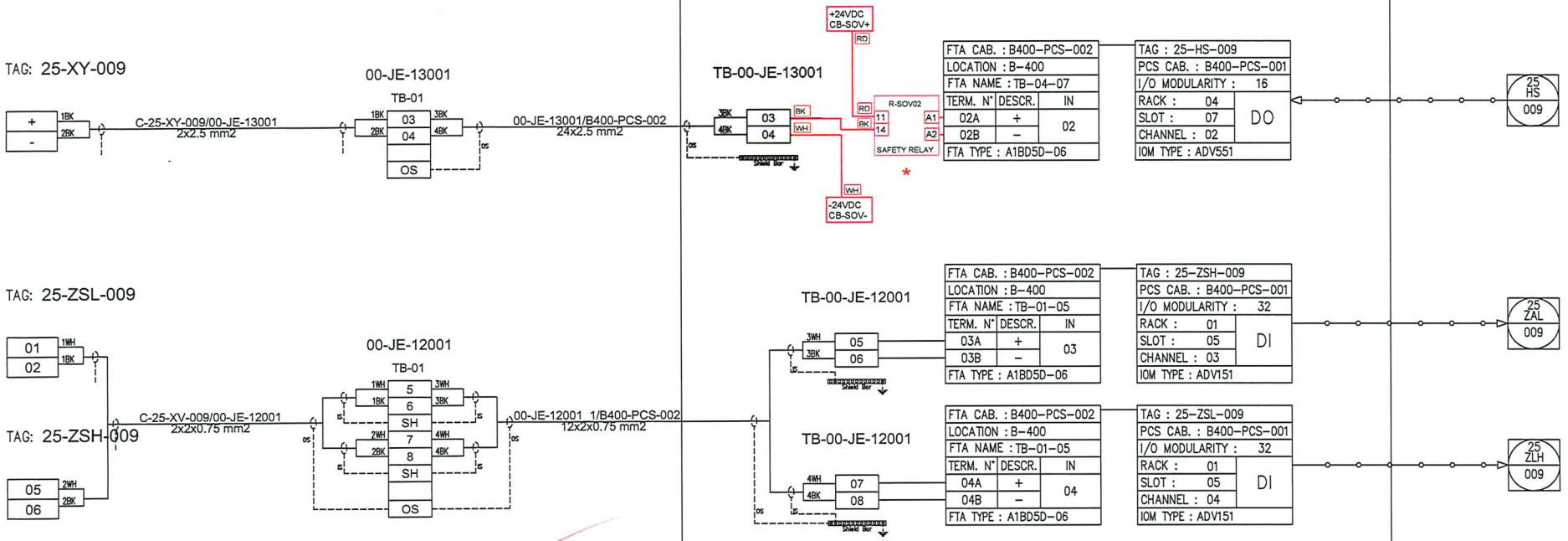
Code : Dwg. No.: 123A90-DDL-IN-DS-40030 Rev.03

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE



AS BUILT
15/03/2025

* RELAY SOVxx
PLC-RSC-24DC/21

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV.: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-XV-009
VESSEL V-25001B HYDROGEN INLET

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1

DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024

A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 045 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	25-XV-012	: On/Off Valve - Vessel V-25001C Hydrogen Outlet	Dwg	123A90-DDL-IN-LIS-40088		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10003216	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01V	ON/OFF Valve

Data

Loop TAG: 25-XV-012 — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type: ON/OFF VALVE

Functional Test				Associated Tag	Comment	Result
Local reset						NA
Remote command : Solenoid valve 1 energized				25-XY-012		OK
Remote command : Solenoid valve 2 energized						NA
Local indication of the valve position						OK
Open limit switch				25-ZSH-012		OK
Closed limit switch				25-ZSL-012		OK
Pressure transmitter on control line						NA
Local closing command						NA
Local opening command						NA
Opening time	1	sec	Restriction adjusted	No		OK
Closing time	1	sec	Restriction adjusted	No		OK
Interlock function						NA
Fail safe position on loss of electrical signal				CLOSE		OK
Fail safe position on loss of power fluid				CLOSE		OK
Timer checking					4 SEC.	OK
Number of operations on accumulator						NA
ESD signal and solenoid valve test facility						NA
Solenoid valve override indication on ICS						OK
Local indication of the solenoid valve deenergization						NA
Partial stroke cheching						NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE 175	AW1/018 (17140769)	7715/24	10/07/2025

Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☉ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW
Name	Laurentiu Grozavu	Giandonato Delmissier	John Mackillop
Date	2025-03-18	2025-03-18	2025-03-19
Signature	PROVERLIS Digitaly signed by Laurentiu Grozavu 2025-03-18T16:16:01.865Z	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-18T17:08:38.094Z	PROVERLIS Digitaly signed by John Mackillop 2025-03-19T12:17:05.332Z

GENERAL	1	Tag Number	Location			25-XV-012		25
	2	Service				HYDROGEN STORAGE TANK V-25001C OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80017		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-133-03HSS-N		
	5	Line Size and Schedule	Inlet		Outlet	1" / 3.38 mm		1" / 3.38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7.5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	-29		80
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : 0.3 minimum		Open : -
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		Inside the valve (*) (38)
	25	Packing	Lubrication & Isolation			A479 Tp. 316'(33)		(*)
	26	Bolting				A193 B8M / A194 Gr. 8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316 / 316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork		Spring Return
	31	Model No.	Size			CP/S		035-100A/BA
	32	Actuator Orientation	Actuator Form			Horizontal		Cylinder
	33	Ingress Protection	Certification			IP-66		II 2 G Ex h IIC T5 Gb
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				25-XY-012 (9, 14, 15, 16) - Bifold FP06P		
	38	Limit Switch Closed	Limit Switch Open			25-ZSL-012 (9, 17) - Soldo SS		25-ZSH-012 (9, 17) - Soldo SS
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			(*)		NOT REQUIRED
	41	Mounting Position				HORIZONTAL		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No. (*) / M20		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK		
	50	Model				FB3		
	51	Purchase Order Number				1724000204		

NOTE
(1) N.1 PSV INSTALLED DOWNSTREAM THE AIR FILTER REGULATOR, SIZE 1/4", SS, set 4.7 barg.

No.	Date	By	Chkd	Appr	Description
03	06/12/24	VBA	LCA	DLO	Accepted for Construction (AFC)
02	28/08/24	VBA	LCA	DLO	Accepted for Construction (AFC)
01	20/12/23	VBA	LCA	DLO	Issued for Review (IFR)
00	06/11/23	VBA	LCA	DLO	Issued for Review (IFR)

INSTRUMENT DATASHEET

SDV/BDV and Tight Shut-Off XV Valves

CROSSWIND

ROSETTI MARINO

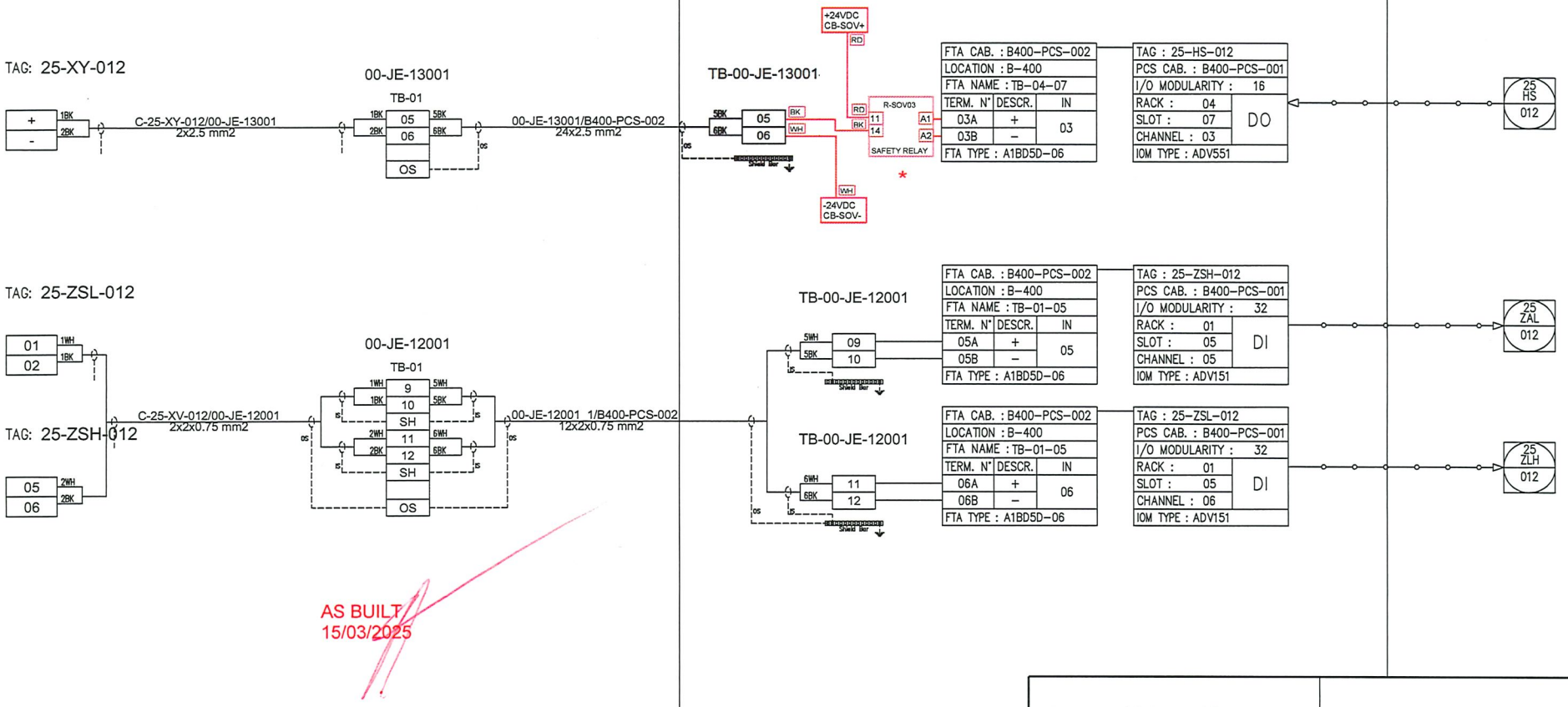
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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE



AS BUILT
15/03/2025

* RELAY SOVxx
PLC-RSC-24DC/21

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV. 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-XV-012
VESSEL V-25001C HYDROGEN INLET

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1

DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024

A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 047 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV01

ROSETTI MARINO — PROVERLIS — CROSSWIND

ITEM	Tag	25-XV-015	: On/Off Valve - Vessel V-25001D Hydrogen Outlet	Dwg	123A90-DDL-IN-LIS-40088		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10003218	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01V	ON/OFF Valve

Data

Loop TAG: 25-XV-015 — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type: ON/OFF VALVE

Functional Test				Associated Tag	Comment	Result
Local reset						NA
Remote command : Solenoid valve 1 energized				25-XY-015		OK
Remote command : Solenoid valve 2 energized						NA
Local indication of the valve position						OK
Open limit switch				25-ZSH-015		OK
Closed limit switch				25-ZSL-015		OK
Pressure transmitter on control line						NA
Local closing command						NA
Local opening command						NA
Opening time	1 sec	Restriction adjusted	No			OK
Closing time	1 sec	Restriction adjusted	No			OK
Interlock function						NA
Fail safe position on loss of electrical signal				CLOSE		OK
Fail safe position on loss of power fluid				CLOSE		OK
Timer checking					4 SEC.	OK
Number of operations on accumulator						NA
ESD signal and solenoid valve test facility						NA
Solenoid valve override indication on ICS						OK
Local indication of the solenoid valve deenergization						NA
Partial stroke cheching						NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE 175	AW1/018 (17140769)	7715/24	10/07/2025

Comments:

	Performed by	☑ WITNESS ☐ REVIEW	☑ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW
Name	Laurentiu Grozavu	Giandonato Delmissier	John Mackillop
Date	2025-03-18	2025-03-18	2025-03-19
Signature	PROVERLIS Digitaly signed by Laurentiu Grozavu 2025-03-18T16:24:05.080Z	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-18T17:09:21.095Z	PROVERLIS Digitaly signed by John Mackillop 2025-03-19T12:17:15.215Z

GENERAL	1	Tag Number	Location			25-XV-015		25
	2	Service				HYDROGEN STORAGE TANK V-25001D OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80018		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-134-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3.38 mm		1" / 3.38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7.5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	-29		80
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : 0.3 minimum		Open : -
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		Inside the valve (*) (38)
	25	Packing	Lubrication & Isolation			A479 Tp. 316'(33)		(*)
	26	Bolting				A193 B8M / A194 Gr. 8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316 / 316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork		Spring Return
	31	Model No.	Size			CP/S		035-100A/BA
	32	Actuator Orientation	Actuator Form			Horizontal		Cylinder
	33	Ingress Protection	Certification			IP-66		II 2 G Ex h IIC T5 Gb
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				25-XY-015 (9, 14, 15, 16) - Bifold FP06P		
	38	Limit Switch Closed	Limit Switch Open			25-ZSL-015 (9, 17) - Soldo SS		25-ZSH-015 (9, 17) - Soldo SS
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			(*)		NOT REQUIRED
	41	Mounting Position				HORIZONTAL		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No. (*) / M20		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK		
	50	Model				FB3		
	51	Purchase Order Number				1724000204		

NOTE
(1) N.1 PSV INSTALLED DOWNSTREAM THE AIR FILTER REGULATOR, SIZE 1/4", SS, set 4.7 barg.

No.	Date	By	Chkd	Appr	Description
03	06/12/24	VBA	LCA	DLO	Accepted for Construction (AFC)
02	28/08/24	VBA	LCA	DLO	Accepted for Construction (AFC)
01	20/12/23	VBA	LCA	DLO	Issued for Review (IFR)
00	06/11/23	VBA	LCA	DLO	Issued for Review (IFR)

INSTRUMENT DATASHEET

SDV/BDV and Tight Shut-Off XV Valves

CROSSWIND

ROSETTI MARINO

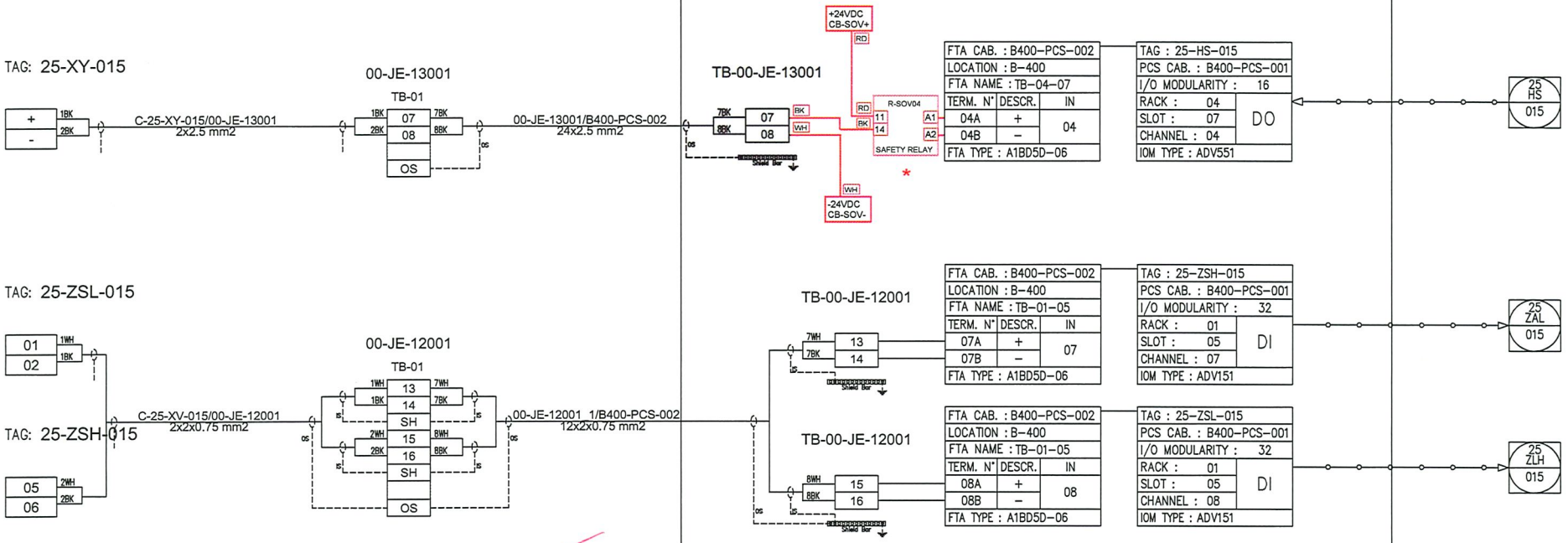
Code : Dwg. No.: 123A90-DDL-IN-DS-40030 Rev.03

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE



AS BUILT
15/03/2025

* RELAY SOVxx
PLC-RSC-24DC/21

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV.: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-XV-015
VESSEL V-25001D HYDROGEN INLET

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1

DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024

A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 049 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV01

ROSETTI MARINO | CROSSWIND

ITEM	Tag	25-XV-018	: On/Off Valve - Vessel V-25001E Hydrogen Outlet	Dwg	123A90-DDL-IN-LIS-40088		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10003220	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01V	ON/OFF Valve

Data

Loop TAG: 25-XV-018 — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type: ON/OFF VALVE

Functional Test				Associated Tag	Comment	Result
Local reset						NA
Remote command : Solenoid valve 1 energized				25-XY-018		OK
Remote command : Solenoid valve 2 energized						NA
Local indication of the valve position						OK
Open limit switch				25-ZSH-018		OK
Closed limit switch				25-ZSL-018		OK
Pressure transmitter on control line						NA
Local closing command						NA
Local opening command						NA
Opening time	1 sec	Restriction adjusted	No			OK
Closing time	1 sec	Restriction adjusted	No			OK
Interlock function						NA
Fail safe position on loss of electrical signal				CLOSE		OK
Fail safe position on loss of power fluid				CLOSE		OK
Timer checking					4 SEC.	OK
Number of operations on accumulator						NA
ESD signal and solenoid valve test facility						NA
Solenoid valve override indication on ICS						OK
Local indication of the solenoid valve deenergization						NA
Partial stroke cheching						NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE 175	AW1/018 (17140769)	7715/24	10/07/2025

Comments:

	Performed by	☑ WITNESS ☐ REVIEW	☑ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW
Name	Laurentiu Grozavu	Giandonato Delmissier	John Mackillop
Date	2025-03-18	2025-03-18	2025-03-19
Signature	Digitaly signed by Laurentiu Grozavu 2025-03-18T16:40:26.026Z	Digitaly signed by Giandonato Delmissier 2025-03-18T17:09:52.751Z	Digitaly signed by John Mackillop 2025-03-19T12:17:26.729Z

GENERAL	1	Tag Number	Location			25-XV-018		25
	2	Service				HYDROGEN STORAGE TANK V-25001E OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80019		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-135-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3.38 mm		1" / 3.38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7.5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	-29		80
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : 0.3 minimum		Open : -
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		Inside the valve (*) (38)
	25	Packing	Lubrication & Isolation			A479 Tp. 316'(33)		(*)
	26	Bolting				A193 B8M / A194 Gr. 8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316 / 316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork		Spring Return
	31	Model No.	Size			CP/S		035-100A/BA
	32	Actuator Orientation	Actuator Form			Horizontal		Cylinder
	33	Ingress Protection	Certification			IP-66		II 2 G Ex h IIC T5 Gb
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				25-XY-018 (9, 14, 15, 16) - Bifold FP06P		
	38	Limit Switch Closed	Limit Switch Open			25-ZSL-018 (9, 17) - Soldo SS		25-ZSH-018 (9, 17) - Soldo SS
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			(*)		NOT REQUIRED
	41	Mounting Position				HORIZONTAL		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No. (*) / M20		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK		
	50	Model				FB3		
	51	Purchase Order Number				1724000204		

NOTE
(1) N.1 PSV INSTALLED DOWNSTREAM THE AIR FILTER REGULATOR, SIZE 1/4", SS, set 4.7 barg.

No.	Date	By	Chkd	Appr	Description
03	06/12/24	VBA	LCA	DLO	Accepted for Construction (AFC)
02	28/08/24	VBA	LCA	DLO	Accepted for Construction (AFC)
01	20/12/23	VBA	LCA	DLO	Issued for Review (IFR)
00	06/11/23	VBA	LCA	DLO	Issued for Review (IFR)

INSTRUMENT DATASHEET

SDV/BDV and Tight Shut-Off XV Valves

CROSSWIND

ROSETTI MARINO

Sheet 25 of 33

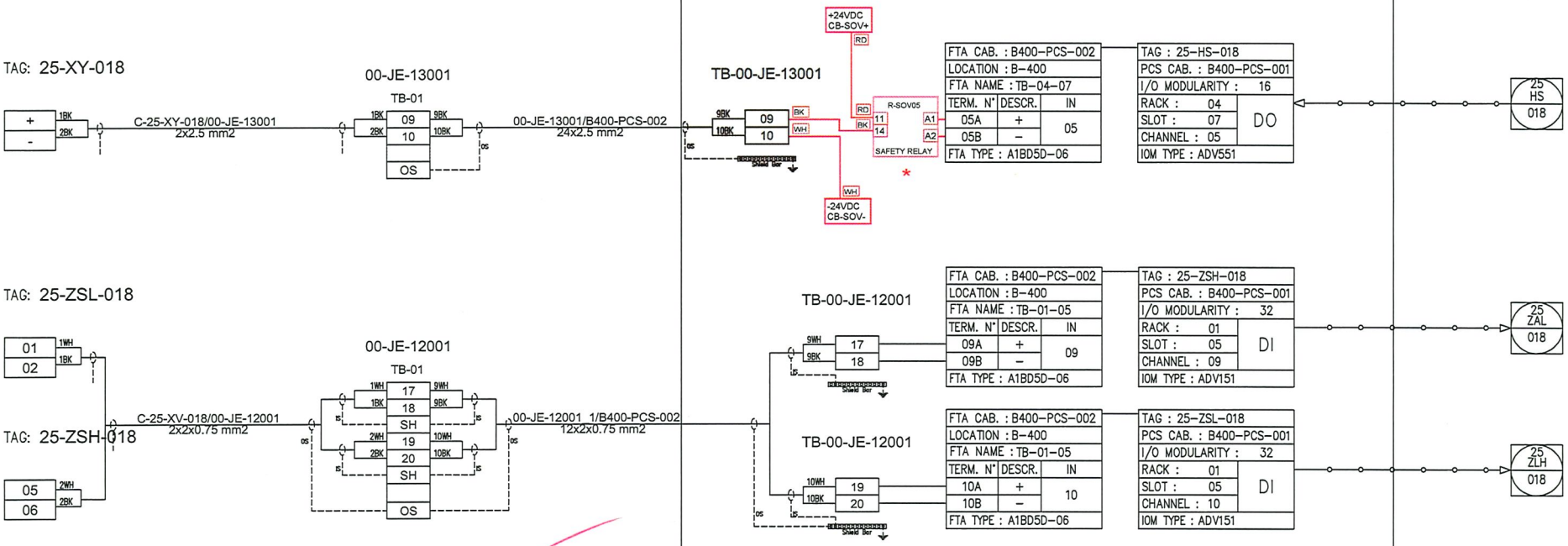
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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE



AS BUILT
15/03/2025

* RELAY SOVxx
PLC-RSC-24DC/21

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV.: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-XV-018
VESSEL V-25001E HYDROGEN INLET

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1

DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024

A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 051 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV01

ROSETTI MARINO — CROSSWIND

ITEM	Tag	25-XV-021	: On/Off Valve - Vessel V-25001F Hydrogen Outlet	Dwg	123A90-DDL-IN-LIS-40088		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10003222	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01V	ON/OFF Valve

Data

Loop TAG: 25-XV-021 — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type: ON/OFF VALVE

Functional Test				Associated Tag	Comment	Result
Local reset						NA
Remote command : Solenoid valve 1 energized				25-XY-021		OK
Remote command : Solenoid valve 2 energized						NA
Local indication of the valve position						OK
Open limit switch				25-ZSH-021		OK
Closed limit switch				25-ZSL-021		OK
Pressure transmitter on control line						NA
Local closing command						NA
Local opening command						NA
Opening time	1 sec	Restriction adjusted	No			OK
Closing time	1 sec	Restriction adjusted	No			OK
Interlock function						NA
Fail safe position on loss of electrical signal				CLOSE		OK
Fail safe position on loss of power fluid				CLOSE		OK
Timer checking					4 SEC.	OK
Number of operations on accumulator						NA
ESD signal and solenoid valve test facility						NA
Solenoid valve override indication on ICS						OK
Local indication of the solenoid valve deenergization						NA
Partial stroke cheching						NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE 175	AW1/018 (17140769)	7715/24	10/07/2025

Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☉ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	CW
Name	Laurentiu Grozavu	Giandonato Delmissier	John Mackillop
Date	2025-03-18	2025-03-18	2025-03-19
Signature	PROVERLIS Digitaly signed by Laurentiu Grozavu 2025-03-18T16:30:07.359Z	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-18T17:10:12.683Z	PROVERLIS Digitaly signed by John Mackillop 2025-03-19T12:18:03.147Z

GENERAL	1	Tag Number	Location			25-XV-021		25
	2	Service				HYDROGEN STORAGE TANK V-25001F OUTLET		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80020		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-136-03HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3.38 mm		1" / 3.38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	7.5	30
	10	Design Pressure	Full Vacuum		[barg]	40		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	-29		80
	13	Max. Diff. Pressure for Actuator Size			[bar]	40		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : 0.3 minimum		Open : -
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS03C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		Inside the valve (*) (38)
	25	Packing	Lubrication & Isolation			A479 Tp. 316'(33)		(*)
	26	Bolting				A193 B8M / A194 Gr. 8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316 / 316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork		Spring Return
	31	Model No.	Size			CP/S		035-100A/BA
	32	Actuator Orientation	Actuator Form			Horizontal		Cylinder
	33	Ingress Protection	Certification			IP-66		II 2 G Ex h IIC T5 Gb
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				25-XY-021 (9, 14, 15, 16) - Bifold FP06P		
	38	Limit Switch Closed	Limit Switch Open			25-ZSL-021 (9, 17) - Soldo SS		25-ZSH-021 (9, 17) - Soldo SS
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			(*)		NOT REQUIRED
	41	Mounting Position				HORIZONTAL		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No. (*) / M20		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-		-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK		
	50	Model				FB3		
	51	Purchase Order Number				1724000204		

NOTE
(1) N.1 PSV INSTALLED DOWNSTREAM THE AIR FILTER REGULATOR, SIZE 1/4", SS, set 4.7 barg.

No.	Date	By	Chkd	Appr	Description
03	06/12/24	VBA	LCA	DLO	Accepted for Construction (AFC)
02	28/08/24	VBA	LCA	DLO	Accepted for Construction (AFC)
01	20/12/23	VBA	LCA	DLO	Issued for Review (IFR)
00	06/11/23	VBA	LCA	DLO	Issued for Review (IFR)

INSTRUMENT DATASHEET

SDV/BDV and Tight Shut-Off XV Valves

CROSSWIND

ROSETTI MARINO

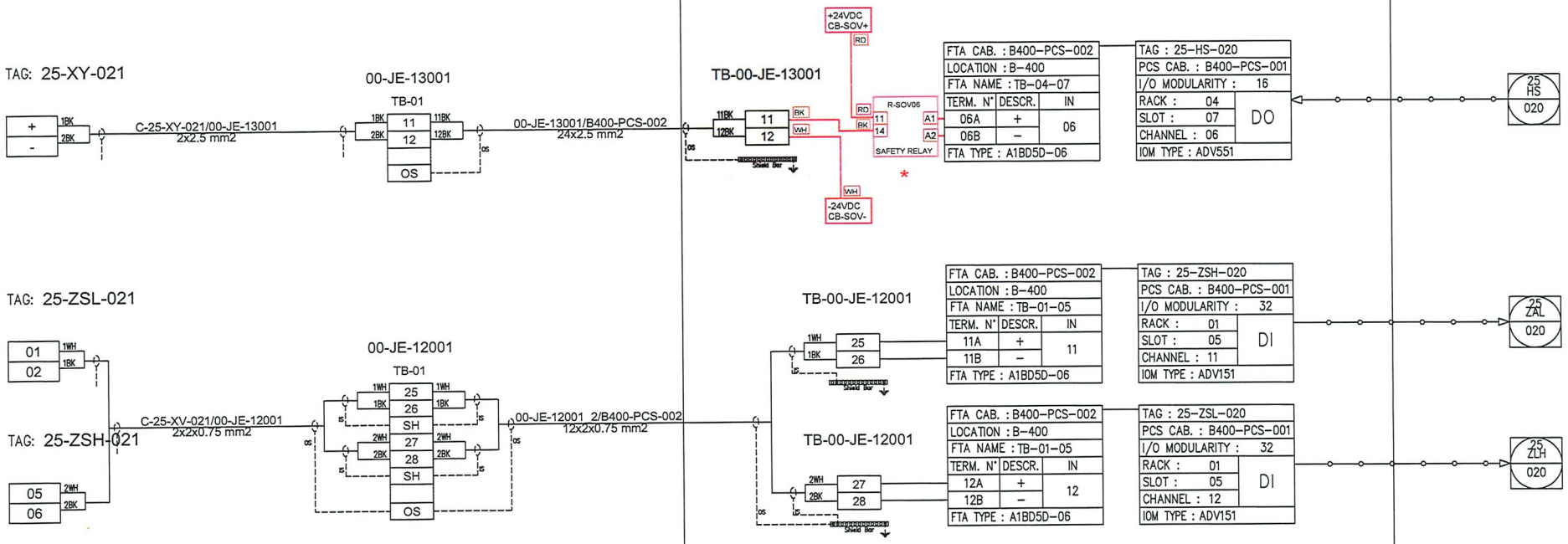
Code : Dwg. No.: 123A90-DDL-IN-DS-40030 Rev.03

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE



AS BUILT
15/03/2025

* RELAY SOVxx
PLC-RSC-24DC/21

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-XV-021
VESSEL V-25001F HYDROGEN INLET

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1

DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024

A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 053 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV01

ROSETTI MARINO — CROSSWIND

ITEM	Tag	80-XV-001	: On/Off Valve - Hyrogen Storage to A-80000 Package Vent System	Dwg	123A90-DDL-IN-LIS-40088		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10003232	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity	FTS	Discipline	Instrumental	Form	FJ01V	ON/OFF Valve

Data

Loop TAG: 80-XV-001 — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type: ON/OFF VALVE

Functional Test				Associated Tag	Comment	Result
Local reset						NA
Remote command : Solenoid valve 1 energized				80-XY-001		OK
Remote command : Solenoid valve 2 energized						NA
Local indication of the valve position						OK
Open limit switch				80-ZSH-001		OK
Closed limit switch				80-ZSL-001		OK
Pressure transmitter on control line						NA
Local closing command						NA
Local opening command						NA
Opening time	1 sec	Restriction adjusted	No			OK
Closing time	1 sec	Restriction adjusted	No			OK
Interlock function						NA
Fail safe position on loss of electrical signal				CLOSE		OK
Fail safe position on loss of power fluid				CLOSE		OK
Timer checking					4 SEC.	OK
Number of operations on accumulator						NA
ESD signal and solenoid valve test facility						NA
Solenoid valve override indication on ICS						OK
Local indication of the solenoid valve deenergization						NA
Partial stroke cheching						NA

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity
MULTIMETER FLUKE 175	AW1/018 17140769	7715/24	10/07/2025

Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☉ WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	
Name	Laurentiu Grozavu	Giandonato Delmissier	David Musgrove
Date	2025-03-24	2025-03-25	2025-03-27
Signature	Digitaly signed by Laurentiu Grozavu 2025-03-24T13:53:13.842Z	Digitaly signed by Giandonato Delmissier 2025-03-25T07:53:43.340Z	Digitaly signed by David Musgrove 2025-03-27T14:06:23.311Z

GENERAL	1	Tag Number	Location			80-XV-001		80
	2	Service				HYDROGEN TO FUEL CELL PACKAGE VENTED		
	3	P&ID Number	Area Classification			123A90-DDL-PR-PID-80012		Zone 2, Gas Group IIC (or IIB+H2), Class T1
PIPELINE	4	Line Number				1"-HY-163-01HSS-N		
	5	Line Size and Schedule	Inlet	Outlet		1" / 3.38 mm		1" / 3.38 mm
	6	Line Material	Line Insulation			ASTM A312/TP316/316L		NOT INSUL. (PAINTED) (35)
PROCESS DATA	7	Fluid				HYDROGEN		
	8	Fluid State	Phase			GAS		GAS
	9	Operating Pressure Norm/Min/Max			[barg]	-	3.5	6.5
	10	Design Pressure	Full Vacuum		[barg]	10		
	11	Operating Temperature Norm/Min/Max			[°C]	AMB	-	-
	12	Design Temperature	Minimum	Maxi	[°C]	-29		100
	13	Max. Diff. Pressure for Actuator Size			[bar]	10		
	14							
	15							
	16	Speed of	Design			Close : (12)		Open : (12)
	17	Operation (seconds)	Actual			Close : 0.3 minimum		Open : -
	18							
	19							
VALVE BODY (34)	20	Body Type				BALL VALVE (FLOATING BALL) - SPLIT BODY (BS01C01RFH)		
	21	Body Size	Body Form			1"		FULL BORE
	22	Body Material	Bonnet Type			ASTM A182 F316/316L		(*)
	23	Connections	Rating			FLANGED ASME B16.5		#300
	24	Flange Finish	Gasket Material			RF		Inside the valve (*) (38)
	25	Packing	Lubrication & Isolation			A479 Tp. 316'(33)		(*)
	26	Bolting				A193 B8M / A194 Gr. 8M		
	27	Trim Material	Ball	Stem	Seat	A182 F316 / 316L	API 6A CRA UNS N07718	RPTFE
	28	Leakage Class				(1, 3) TSO		
	29	Fire Safe				(2)		
ACTUATOR	30	Manufacturer	Type			Rotork		Spring Return
	31	Model No.	Size			CP/S		035-080A/AA
	32	Actuator Orientation	Actuator Form			Horizontal		Cylinder
	33	Ingress Protection	Certification			IP-66		II 2 G Ex h IIC T5 Gb
	34	Air Supply	Min	Max	Design	4 barg	10 barg	11 barg
	35	Action on Air Failure	Action on Power Failure			CLOSE		CLOSE
	36	Fireproofing				NOT APPLICABLE		
	37	Solenoid Valve				80-XY-021 (9, 14, 15, 16) - Bifold FP06P		
	38	Limit Switch Closed	Limit Switch Open			80-ZSL-021 (9, 17) - Soldo SS		80-ZSH-021 (9, 17) - Soldo SS
	39	Elect. Reset Pushbutton (Actuator mounted)				NOT REQUIRED		
	40	Air Set	Handwheel			(*)		NOT REQUIRED
	41	Mounting Position				HORIZONTAL		
	42	Partial Stroke Test Facility				NOT REQUIRED		
	43	Control Type				-		
	44	Electrical Connection	Electrical Class			No. (*) / M20		H
EMERGENCY A/S VESSEL	45	Capacity	Fabrication Code			-	-	-
	46	No of Strokes Per Capacity				-		
	47	Safety Valve	Model			-		-
	48	Check Valve	Mounting			-		-
PURCHASE	49	Manufacturer				FLUITEK		
	50	Model				FB3		
	51	Purchase Order Number				1724000204		

NOTE
(1) N.1 PSV INSTALLED DOWNSTREAM THE AIR FILTER REGULATOR, SIZE 1/4", SS, set 4.7 barg.

No.	Date	By	Chkd	Appr	Description
03	06/12/24	VBA	LCA	DLO	Accepted for Construction (AFC)
02	28/08/24	VBA	LCA	DLO	Accepted for Construction (AFC)
01	20/12/23	VBA	LCA	DLO	Issued for Review (IFR)
00	06/11/23	VBA	LCA	DLO	Issued for Review (IFR)

INSTRUMENT DATASHEET

SDV/BDV and Tight Shut-Off XV Valves

CROSSWIND

ROSETTI MARINO

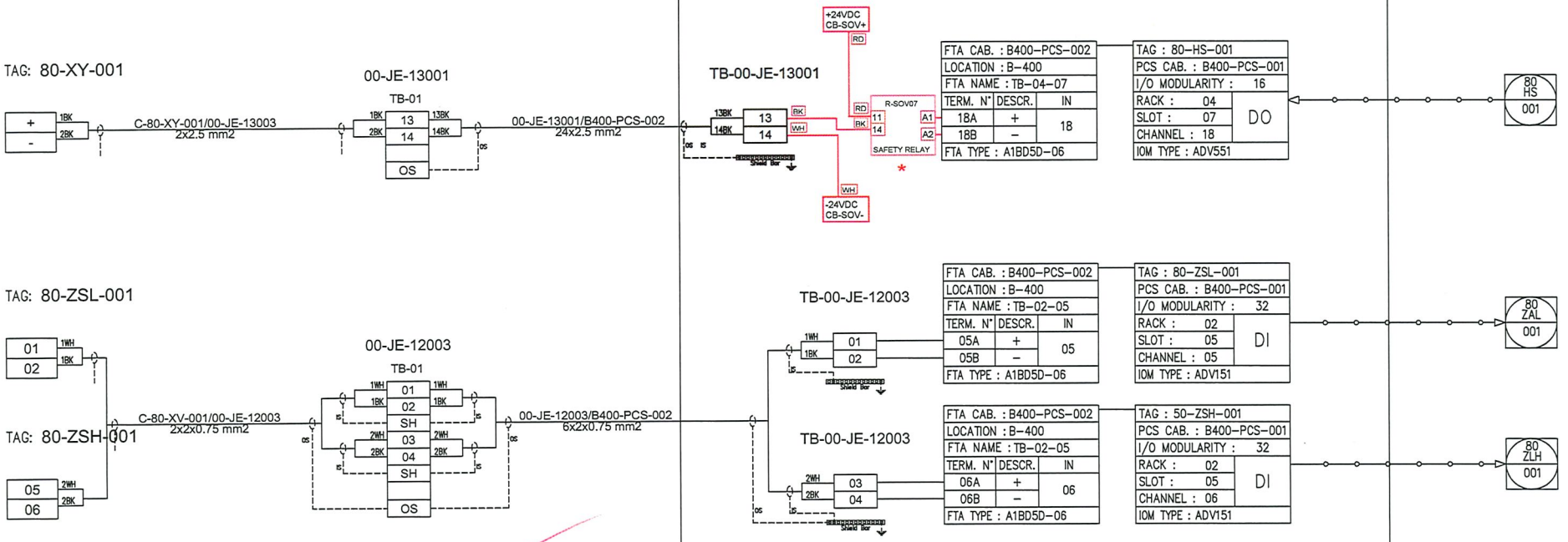
Code : Dwg. No.: 123A90-DDL-IN-DS-40030 Rev.03

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DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE



AS BUILT
15/03/2025

* RELAY SOVxx
PLC-RSC-24DC/21

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
80-XV-001
HYDROGEN STORAGE TO A-80000 PACKAGE VENT SYSTEM

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1

DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024

A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 060 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV01

<01>

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	25-PIC-055A	: Hyrogen from vessels outlet header pressure control		Dwg	123A90-DDL-PR-PID-80014	
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)		Module		
TASK	code	C10003755	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity FTS	Discipline Instrumental	Form	FJ01C	Control Loop

Data

Loop TAG 25-PIC-055A TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A Valve type : CONTROL VALVE

Loop Type Direct Yes Reverse No Cascade Yes Redundant valve NA Split Range NA

Transmitter A	25-PT-055A		**Transmitter B**	NA
Scale	0-10	OK	Scale	NA
Unit	barg	OK	Unit	NA
Threshold 1 Value	3 barg	OK	Threshold 1 Value	NA
Threshold 2 Value	8,5 barg	OK	Threshold 2 Value	NA
Threshold 3 Value		NA	Threshold 3 Value	NA
Threshold 4 Value		NA	Threshold 4 Value	NA

Normal state versus faulty process conditions	NA
Associated outputs (e.g. start motor)	NA

Valve 1	25-PV-055A	**Valve 2**	NA
Cabinet / Rack / slot / channel	B400-PCS-001/02/01/01	Cabinet / Rack / slot / channel	
Failure position (FC/ FO/FL)	FC	Failure position (FC/ FO/FL)	
Air Supply Pressure (bar)	4 barg	Air Supply Pressure (bar)	
Stroke limitation (mech. stop)	NO	Stroke limitation (mech. stop)	

Controler in Manual Mode

Controler in manual mode	0%	25%	50%	75%	100%
Control Valve 1 position	0,1	24,7	50,1	75,1	99,5
Control Valve 2 position					

Controller in Auto Mode

Checking of Controller D/R Mode (Slave if cascade)	OK
Checking of Master D/R (Mode cascade only)	OK

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity

Comments:

	Performed by	WITNESS ☐ REVIEW ☐	WITNESS ☐ REVIEW ☐
Company	RM COMM	RM COMM	CW Com
Name	Laurentiu Grozavu	Giandonato Delmissier	Jamie McAllister
Date	2025-03-22	2025-03-24	2025-03-26

Digitaly signed by Laurentiu Grozavu 2025-03-22T13:46:42.912Z

Digitaly signed by Giandonato Delmissier 2025-03-24T07:48:14.336Z

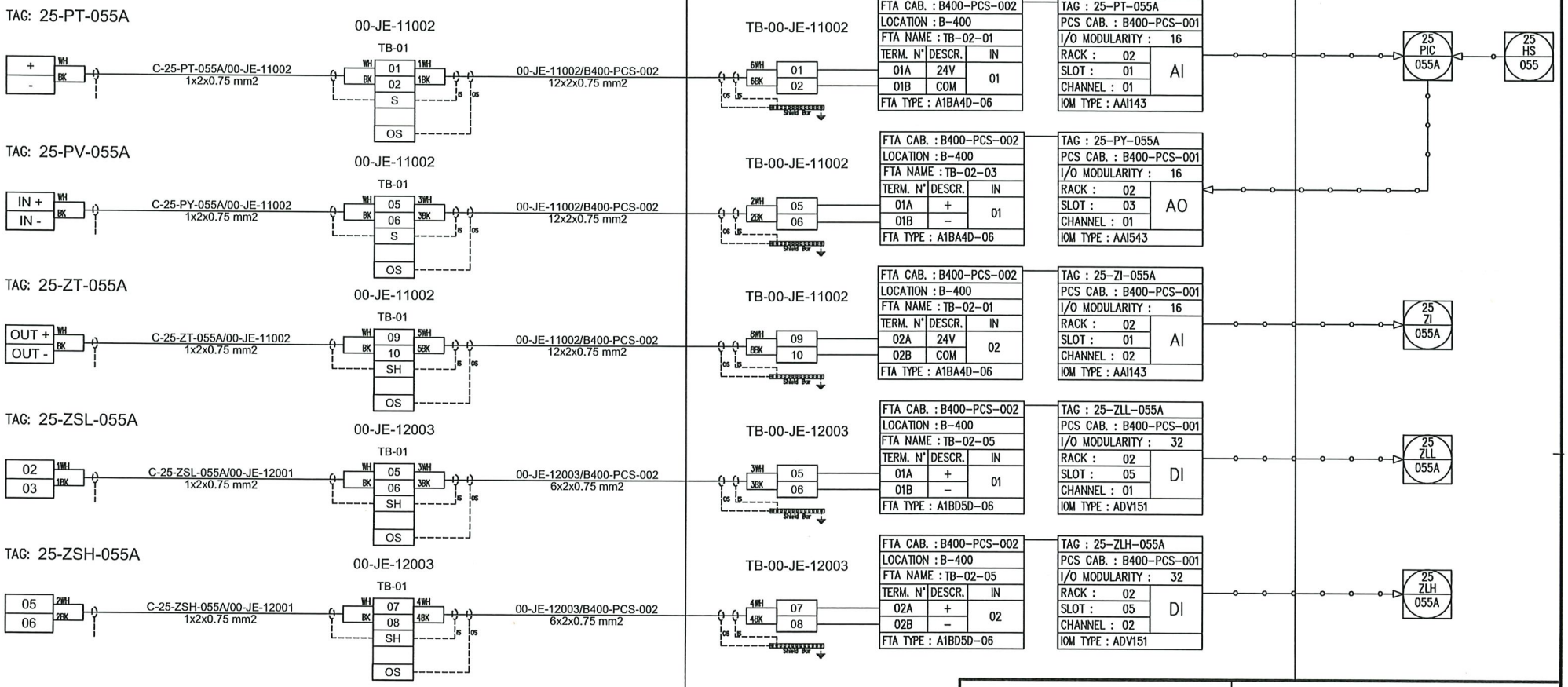
Digitaly signed by Jamie McAllister 2025-03-26T09:31:33.783Z

Signature			

DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE



NO MARK UP
08/03/25

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV.: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-PIC-055A
HYDROGEN FROM VESSELS OUTLET HEADER PRESSURE CONTROL

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1

DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024

A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 035 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO — PROVERLIS — CROSSWIND

ITEM	Tag	25-PIC-055B	: Hyrogen from vessels outlet header pressure control		Dwg	123A90-DDL-PR-PID-80014	
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)		Module		
TASK	code	C10003757	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity FTS	Discipline Instrumental	Form	FJ01C	Control Loop

Data

Loop TAG 25-PIC-055B — TDSL Rev: 123A90-FDL-IN-DG-40014 rev.1A — Valve type : CONTROL VALVE

Loop Type — Direct Yes — Reverse — Cascade Yes — Redundant valve NA — Split Range NA

Transmitter A	25-PT-055A		**Transmitter B**	NA
Scale	0-10	OK	Scale	NA
Unit	barg	OK	Unit	NA
Threshold 1 Value	3 barg	OK	Threshold 1 Value	NA
Threshold 2 Value	8,5 barg	OK	Threshold 2 Value	NA
Threshold 3 Value		NA	Threshold 3 Value	NA
Threshold 4 Value		NA	Threshold 4 Value	NA

Normal state versus faulty process conditions	NA
Associated outputs (e.g. start motor)	NA

Valve 1	25-PV-055B	**Valve 2**
Cabinet / Rack / slot / channel	B400-PCS-001/03/01/01	Cabinet / Rack / slot / channel
Failure position (FC/ FO/FL)	FC	Failure position (FC/ FO/FL)
Air Supply Pressure (bar)	4 barg	Air Supply Pressure (bar)
Stroke limitation (mech. stop)	NO	Stroke limitation (mech. stop)

Controler in Manual Mode

Controler in manual mode	0%	25%	50%	75%	100%
Control Valve 1 position	0,1	24,9	49,9	74,8	99,9
Control Valve 2 position					

Controller in Auto Mode

Checking of Controller D/R Mode (Slave if cascade)	OK
Checking of Master D/R (Mode cascade only)	OK

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity

Comments:

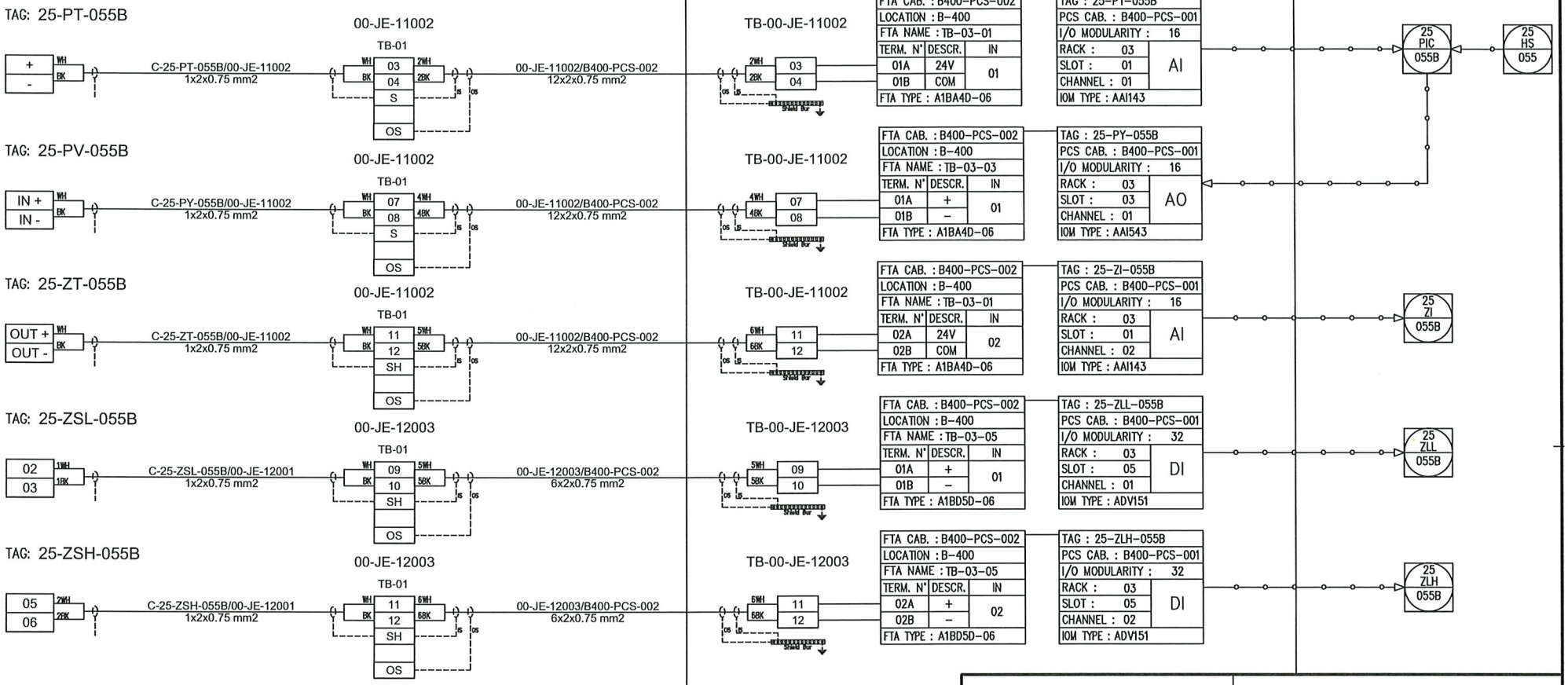
Page 1/1

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	~~RM COMM~~	~~RM COMM~~	~~CW Com~~
Name	~~Laurentiu Grozavu~~	~~Giandonato Delmissier~~	~~Jamie McAllister~~
Date	~~2025-03-22~~	~~2025-03-24~~	~~2025-03-26~~
	Digitaly signed by Laurentiu Grozavu 2025-03-22T13:48:59.595Z	Digitaly signed by Giandonato Delmissier 2025-03-24T07:48:33.126Z	Digitaly signed by Jamie McAllister 2025-03-26T09:32:36.012Z

Signature			

DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD	ITER – B400	CENTRAL CONTROL ROOM
	PROCESS CONTROL SYSTEM	OPERATOR CONSOLE



NO MARK UP
08/03/25

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-PIC-055B
HYDROGEN FROM VESSELS OUTLET HEADER PRESSURE CONTROL

CONTRACT NO./TITLE CONTRACT_NO.			SCALE 1:1
DRAWN: VBA	CHECKED: LCA	APPROVED: DLO	DATE 23/10/2024
A3	DRAWING NO. 123A90-DDL-IN-DG-40014	SHEET 036	REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	25-PV-055A	: Control Valve - Hyrogen from Vessels Outlet Header Pressure Control	Dwg	123A90-DDL-IN-LIS-40088		
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)	Module	UD		
TASK	code	C10004387	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity FTS	Discipline	Instrumental	Form FJ04	Control Valve

PRE-TEST CHECKS

Confirm all preservation measures have been removed	OK
Confirm all MC ITRs for the tags in the loop are completed	OK
Check all referent drawings/ documents are at latest revision	OK
Check that relevant loop component(s) on the loop diagram is/ are calibrated	OK
Verify device(s) configuration against data sheet to ensure all settings are aligned	OK
Confirm all necessary power/ hydraulic/ instrument air supply is available (de-isolated)	OK

FUNCTIONAL TESTS

Remote/ Stop/ Local selector test **Remote:** (*) **Stop:** (*) **Local:** (

CONTROLLER LOOP TEST

	Rising					Falling			
	0%	25%	50%	75%	100%	75%	50%	25%	0%
ICSS Output (mA)	4	8	12	16	20	16	12	8	4
Position on control valve	-0,1	24,7	50,1	75,1	99,5	75,1	50	24,8	-0,1
Control valve position on field display (if applicable)	-0,1	24,7	50,1	75,1	99,5	75,1	50	24,8	-0,1
Control valve position on ICSS (if applicable)	0	25	50	75	100	75	50	25	0

	Full Opening Time	sec.	Full Closing Time	sec.
Stroke Limitation Test	Opening	%	Closing	%
Output limitation	Opening	%	Closing	%

Communication fault alarm (ONLY for valve with redundant communication)

Communication lost position	☐	**OPENED**	●	**CLOSED**	☐ **STAY PUT**	**%**
Power lost position	☐	**OPENED**	●	**CLOSED**	☐ **STAY PUT**	**%**
Actuator fault alarm	☐	**Hard wired**	●	**Soft signal**		

ICSS/HMI CHECKS

Checking for fault mode on ICSS (short and open circuit)	OK
Verify HMI graphic and faceplate indicate all animations (i.e. Alarm, Inhibit/ Block, Fault, etc.) correctly	OK
Verify all alarms and events (i.e. Alarm, Inhibit/ Block, Fault, etc.) shows correctly on alarm list	OK

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity

Comments:

Page 1/1	Performed by	● WITNESS ☐ REVIEW	● WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	
Name	Laurentiu Grozavu	Giandonato Delmissier	David Musgrove
Date	2025-03-10	2025-03-10	2025-03-17
Signature	PROVERLIS Digitaly signed by Laurentiu Grozavu 2025-03-10T10:56:57.983Z	PROVERLIS Digitaly signed by Giandonato Delmissier 2025-03-10T12:24:44.537Z	PROVERLIS Digitaly signed by David Musgrove 2025-03-17T15:07:49.122Z

AST S.p.A.
CONTROL VALVES DIVISION

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20010 Cornaredo MI
ITALY

P +39 02 934848.1
W www.astspa.it
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Customer: ROSETTI MARINO

Plant / Site: HOLLANDSE KUST NOORD WIND PARK Prj.

Quotation Ref./Job Ref.: OV2301646/CV2400221

DSH REV. 2 - 04/06/2024 - 0

Final Installation: NL

1	Item	**30**	49	Q.ty	1
2	Valve tag / S.No	**25-PV-055A / 2400595**	50	Valve Service	HYDROGEN FROM STORAGE VESSEL TO FUEL CELL PACKAGE

PIPING AND DESIGN CONDITIONS

PIPING

3	Piping Size / Ext.Diam	1 1/2"	
4	Schedule / Thickness	40	
5	Pipe Insulation	No	
6	Installation Location	Outdoor	

AMBIENCE AND DESIGN CONDITIONS

51	Inlet / Outlet Design Pressure	40	bar g
52	Inlet / Outlet Design Temperature	100	°C
53	Tmin / Tmax	-8.4 / +25	°C
54	Certification / Classific.Area	PED+ATEX / Zone 2	

VALVE CONSTRUCTION

VALVE CHARACTERISTICS

7	Valve Model	CV-8407	
8	Valve Type	Globe	
9	Valve Layout	Straight	
10	Bonnet type	Bolted	
11	Guiding Type	Top Guided	
12	No.Ports	1	
13	Flow direction	to Open	
14	Trim Type	Contoured Plug	
15	Port Size	1"	Inch
16	CV / Characteristics	13 / Equal%	
17	Body Size	1 1/2"	
18	Rating Standard	ASME B16.34	
19	Pressure Class	300#	
20	End Connection Standard	ASME B16.5	
21	End Connection Type	RF	
22	End Connection Finishing	-	
23	Stroke	20	mm
24	Shut-off Direction	Direct	
25	Leakage Class	VI - IEC 60534-4	
26	Shut-off pressure	40	bar g

MATERIALS

55	Body Material	A351 CF3M
56	Bonnet Material	A479 316L
57	Boltings	A193 B8M Cl. 2 / A194 8M
58	Bellows Material	-
59	Plug / Vane Material	A479 316L+PTFE
60	Seat Material	A479 316L
61	Cage Material	-
62	Guide Material	-
63	Stem Material	A 479 316L
64	VE-CO LT Material	-
65	Seating Type	Metallic
66	Balancing Material	-

PACKING

67	Packing Material	GRAPHITE - VF1
68	Live Loading	-
69	Stem Flushing	-

DEVICES

70	Inlet Device	-
71	Inlet Device Size	-
72	Outlet Device	-
73	Outlet Device Size	-
74	Body Heating	-

ACTUATOR AND ACCESSORIES

ACTUATOR

27	Fail Position	Closed	
28	Actuation Type / Model	Pneumatic Diaphragm	
29	Actuator Action	Reverse	
30	Actuator Size	SD11R	
31	Spring Range	20-44 psi	
32	Supply	50- psi	
33	Design Supply	11 barg	
34	Handwheel	-	
35	Mechanical Stop	-	
36	Throttling Time	<10	s
37	Quick Stroking Time	-	s
38	Yoke Material	CS	
39	Pneumatic Tubing Material	AISI 316	
40	Pneumatic Fittings	AISI 316 Double Ferrule	
41	Pneumatic Connection Size	1/4" NPT-F	

POSITIONER

42	Positioner Model	TISSIN TS900
43	Type	Smart Digital
44	Input Signal / Protocol	4-20 mA HART
45	Fail Safety	Fail safe
46	Output Signal	4-20 mA
47	Prot. Class / Encl. Material / El. Classif.	IP66 / AISI 316 / Eexd \ C T4-T6
48	El.Conn. / Pn.Conn.	M20x1.5 \ 1/4" NPT-F

FILTER REGULATOR

75	Fr. Model	FR04411S00SSNB2
76	Pn.Conn. / Body Material	1/4" NPT-F / S.Steel

BOOSTER

77	Booster Model	-
78	Pn.Conn. / Body Material	-

SOLENOID VALVE

79	SOV Model	-
80	Body Material	-
81	Prot. Class / El. Classif.	-
82	El.Conn. / Pn.Conn.	-
83	Supply	-
84	Power Consumption	-

PNEUMATIC VALVE

85	Pneumatic Discharge Model	-
86	Pn.Conn. / Body Material	-

LOCK UP VALVE

87	Lock Up Model	-
88	Pn.Conn. / Body Material	-

LIMIT SWITCH

89	Limit Switch Model	1 x GDSN0LIS2MS290 EISENBAU
90	Type	SPDT
91	Contact Type	-
92	Encl.Material	316SS
93	El.Connection	M20x1,5
94	Prot. Class / El. Classif.	IP66 / MIN. Ex-d IIC (or IIB+H2) T1

NOTES

N.1	n°1 PSV installed downstream the air filter regulator, size 1/4", st.ast., set 6 barg (CE)	N.4	
N.2	HYDROGEN SERVICE - PACKING ISO 15848-1	N.5	
N.3		N.6	
		N.7	

DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD | ITER – B400 | CENTRAL CONTROL ROOM

PROCESS CONTROL SYSTEM | OPERATOR CONSOLE

TAG: 25-PT-055A

+ / - (WH/BK) — C-25-PT-055A/00-JE-11002 1x2x0.75 mm2 — 00-JE-11002 TB-01: 01 (WH), 02 (BK), S, OS — 00-JE-11002/B400-PCS-002 12x2x0.75 mm2 — TB-00-JE-11002: 01 (6WH), 02 (6BK)

FTA CAB. : B400-PCS-002		
LOCATION : B-400		
FTA NAME : TB-02-01		
TERM. N°	DESCR.	IN
01A	24V	01
01B	COM	
FTA TYPE : A1BA4D-06		

TAG : 25-PT-055A		
PCS CAB. : B400-PCS-001		
I/O MODULARITY :	16	
RACK :	02	AI
SLOT :	01	
CHANNEL :	01	
IOM TYPE : AAI143		

25 PIC 055A — 25 HS 055

TAG: 25-PV-055A

IN + / IN - (WH/BK) — C-25-PY-055A/00-JE-11002 1x2x0.75 mm2 — 00-JE-11002 TB-01: 05 (WH), 06 (BK), S, OS — 00-JE-11002/B400-PCS-002 12x2x0.75 mm2 — TB-00-JE-11002: 05 (2WH), 06 (2BK)

FTA CAB. : B400-PCS-002		
LOCATION : B-400		
FTA NAME : TB-02-03		
TERM. N°	DESCR.	IN
01A	+	01
01B	–	
FTA TYPE : A1BA4D-06		

TAG : 25-PY-055A		
PCS CAB. : B400-PCS-001		
I/O MODULARITY :	16	
RACK :	02	AO
SLOT :	03	
CHANNEL :	01	
IOM TYPE : AAI543		

TAG: 25-ZT-055A

OUT + / OUT - (WH/BK) — C-25-ZT-055A/00-JE-11002 1x2x0.75 mm2 — 00-JE-11002 TB-01: 09 (WH), 10 (BK), SH, OS — 00-JE-11002/B400-PCS-002 12x2x0.75 mm2 — TB-00-JE-11002: 09 (8WH), 10 (8BK)

FTA CAB. : B400-PCS-002		
LOCATION : B-400		
FTA NAME : TB-02-01		
TERM. N°	DESCR.	IN
02A	24V	02
02B	COM	
FTA TYPE : A1BA4D-06		

TAG : 25-ZI-055A		
PCS CAB. : B400-PCS-001		
I/O MODULARITY :	16	
RACK :	02	AI
SLOT :	01	
CHANNEL :	02	
IOM TYPE : AAI143		

25 ZI 055A

TAG: 25-ZSL-055A

02 / 03 (1WH/1BK) — C-25-ZSL-055A/00-JE-12001 1x2x0.75 mm2 — 00-JE-12003 TB-01: 05 (WH), 06 (BK), SH, OS — 00-JE-12003/B400-PCS-002 6x2x0.75 mm2 — TB-00-JE-12003: 05 (3WH), 06 (3BK)

FTA CAB. : B400-PCS-002		
LOCATION : B-400		
FTA NAME : TB-02-05		
TERM. N°	DESCR.	IN
01A	+	01
01B	–	
FTA TYPE : A1BD5D-06		

TAG : 25-ZLL-055A		
PCS CAB. : B400-PCS-001		
I/O MODULARITY :	32	
RACK :	02	DI
SLOT :	05	
CHANNEL :	01	
IOM TYPE : ADV151		

25 ZLL 055A

TAG: 25-ZSH-055A

05 / 06 (2WH/2BK) — C-25-ZSH-055A/00-JE-12001 1x2x0.75 mm2 — 00-JE-12003 TB-01: 07 (WH), 08 (BK), SH, OS — 00-JE-12003/B400-PCS-002 6x2x0.75 mm2 — TB-00-JE-12003: 07 (4WH), 08 (4BK)

FTA CAB. : B400-PCS-002		
LOCATION : B-400		
FTA NAME : TB-02-05		
TERM. N°	DESCR.	IN
02A	+	02
02B	–	
FTA TYPE : A1BD5D-06		

TAG : 25-ZLH-055A		
PCS CAB. : B400-PCS-001		
I/O MODULARITY :	32	
RACK :	02	DI
SLOT :	05	
CHANNEL :	02	
IOM TYPE : ADV151		

25 ZLH 055A

NO MARK UP
08/03/25

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV.: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-PIC-055A
HYDROGEN FROM VESSELS OUTLET HEADER PRESSURE CONTROL

CONTRACT NO./TITLE CONTRACT_NO. | SCALE 1:1
DRAWN: VBA | CHECKED: LCA | APPROVED: DLO | DATE 23/10/2024
A3 | DRAWING NO. 123A90-DDL-IN-DG-40014 | SHEET 035 | REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

ROSETTI MARINO — CROSSWIND

ITEM	Tag	25-PV-055B	: Control Valve - Hyrogen from Vessels Outlet Header Pressure Control		Dwg	123A90-DDL-IN-LIS-40088	
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)		Module	UD	
TASK	code	C10004388	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	PRE-COMM	Activity FTS	Discipline Instrumental	Form FJ04		Control Valve

PRE-TEST CHECKS

Confirm all preservation measures have been removed	OK
Confirm all MC ITRs for the tags in the loop are completed	OK
Check all referent drawings/ documents are at latest revision	OK
Check that relevant loop component(s) on the loop diagram is/ are calibrated	OK
Verify device(s) configuration against data sheet to ensure all settings are aligned	OK
Confirm all necessary power/ hydraulic/ instrument air supply is available (de-isolated)	OK

FUNCTIONAL TESTS

Remote/ Stop/ Local selector test **Remote:** (*) **Stop:** (*) **Local:** (

CONTROLLER LOOP TEST

	Rising					Falling			
	0%	25%	50%	75%	100%	75%	50%	25%	0%
ICSS Output (mA)	4	8	12	16	20	16	12	8	4
Position on control valve	0,1	24,9	49,9	74,8	99,9	74,8	50	24,9	0,1
Control valve position on field display (if applicable)	0,1	24,9	49,9	74,8	99,9	74,8	50	24,9	0,1
Control valve position on ICSS (if applicable)	0	25	50	75	100	75	50	25	0

	Full Opening Time	sec.	Full Closing Time	sec.
Stroke Limitation Test	Opening	%	Closing	%
Output limitation	Opening	%	Closing	%

Communication fault alarm (ONLY for valve with redundant communication)

Communication lost position	☐	**OPENED**	●	**CLOSED**	☐ **STAY PUT**	**%**
Power lost position	☐	**OPENED**	●	**CLOSED**	☐ **STAY PUT**	**%**
Actuator fault alarm	☐	**Hard wired**	●	**Soft signal**		

ICSS/HMI CHECKS

Checking for fault mode on ICSS (short and open circuit)	OK
Verify HMI graphic and faceplate indicate all animations (i.e. Alarm, Inhibit/ Block, Fault, etc.) correctly	OK
Verify all alarms and events (i.e. Alarm, Inhibit/ Block, Fault, etc.) shows correctly on alarm list	OK

TESTING & MEASUREMENT INSTRUMENT USED

Type	Serial N.	Calibration Certificate	Validity

Comments:

Page 1/1	Performed by	● WITNESS ☐ REVIEW	● WITNESS ☐ REVIEW
Company	RM COMM	RM COMM	
Name	Laurentiu Grozavu	Giandonato Delmissier	David Musgrove
Date	2025-03-10	2025-03-10	2025-03-17
Signature	Digitaly signed by Laurentiu Grozavu 2025-03-10T10:57:51.670Z	Digitaly signed by Giandonato Delmissier 2025-03-10T12:25:17.093Z	Digitaly signed by David Musgrove 2025-03-17T15:10:09.490Z

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Quotation Ref./Job Ref.: OV2301646/CV2400221

Customer: ROSETTI MARINO

Plant / Site: HOLLANDSE KUST NOORD WIND PARK Prj.

DSH REV. 3 - 04/06/2024 - 0

Final Installation: NL

1	Item	**50**	49	Q.ty	1
2	Valve tag / S.No	**25-PV-055B / 2400596**	50	Valve Service	HYDROGEN FROM STORAGE VESSEL TO FUEL CELL PACKAGE

PIPING AND DESIGN CONDITIONS

PIPING

3	Piping Size / Ext.Diam	1 1/2"	
4	Schedule / Thickness	40	
5	Pipe Insulation	No	
6	Installation Location	Outdoor	

AMBIENCE AND DESIGN CONDITIONS

51	Inlet / Outlet Design Pressure	40	bar g
52	Inlet / Outlet Design Temperature	100	°C
53	Tmin / Tmax	-8.4 / +25	°C
54	Certification / Classific.Area	PED+ATEX / Zone 2	

VALVE CONSTRUCTION

VALVE CHARACTERISTICS

7	Valve Model	CV-8407	
8	Valve Type	Globe	
9	Valve Layout	Straight	
10	Bonnet type	Bolted	
11	Guiding Type	Top Guided	
12	No.Ports	1	
13	Flow direction	to Open	
14	Trim Type	Contoured Plug	
15	Port Size	5/32"	Inch
16	CV / Characteristics	0.45 / Equal%	
17	Body Size	1 1/2"	
18	Rating Standard	ASME B16.34	
19	Pressure Class	300#	
20	End Connection Standard	ASME B16.5	
21	End Connection Type	RF	
22	End Connection Finishing	-	
23	Stroke	13	mm
24	Shut-off Direction	Direct	
25	Leakage Class	VI - IEC 60534-4	
26	Shut-off pressure	40	bar g

MATERIALS

55	Body Material	A351 CF3M
56	Bonnet Material	A479 316L
57	Boltings	A193 B8M Cl. 2 / A194 8M
58	Bellows Material	-
59	Plug / Vane Material	A479 316L+PTFE
60	Seat Material	A479 316L
61	Cage Material	-
62	Guide Material	-
63	Stem Material	A 479 316L
64	VE-CO LT Material	-
65	Seating Type	Metallic
66	Balancing Material	-

PACKING

67	Packing Material	GRAPHITE - VF1
68	Live Loading	-
69	Stem Flushing	-

DEVICES

70	Inlet Device	-
71	Inlet Device Size	-
72	Outlet Device	-
73	Outlet Device Size	-
74	Body Heating	-

ACTUATOR AND ACCESSORIES

ACTUATOR

27	Fail Position	Closed	
28	Actuation Type / Model	Pneumatic Diaphragm	
29	Actuator Action	Reverse	
30	Actuator Size	SD11R	
31	Spring Range	20-44 psi	
32	Supply	50- psi	
33	Design Supply	11 barg	
34	Handwheel	-	
35	Mechanical Stop	-	
36	Throttling Time	<10	s
37	Quick Stroking Time	-	s
38	Yoke Material	CS	
39	Pneumatic Tubing Material	AISI 316	
40	Pneumatic Fittings	AISI 316 Double Ferrule	
41	Pneumatic Connection Size	1/4" NPT-F	

POSITIONER

42	Positioner Model	TISSIN TS900
43	Type	Smart Digital
44	Input Signal / Protocol	4-20 mA HART
45	Fail Safety	Fail safe
46	Output Signal	4-20 mA
47	Prot. Class / Encl. Material / El. Classif.	IP66 / AISI 316 / Eexd \ C T4-T6
48	El.Conn. / Pn.Conn.	M20x1.5 \ 1/4" NPT-F

FILTER REGULATOR

75	Fr. Model	FR04411S00SSNB2
76	Pn.Conn. / Body Material	1/4" NPT-F / S.Steel

BOOSTER

77	Booster Model	-
78	Pn.Conn. / Body Material	-

SOLENOID VALVE

79	SOV Model	-
80	Body Material	-
81	Prot. Class / El. Classif.	-
82	El.Conn. / Pn.Conn.	-
83	Supply	-
84	Power Consumption	-

PNEUMATIC VALVE

85	Pneumatic Discharge Model	-
86	Pn.Conn. / Body Material	-

LOCK UP VALVE

87	Lock Up Model	-
88	Pn.Conn. / Body Material	-

LIMIT SWITCH

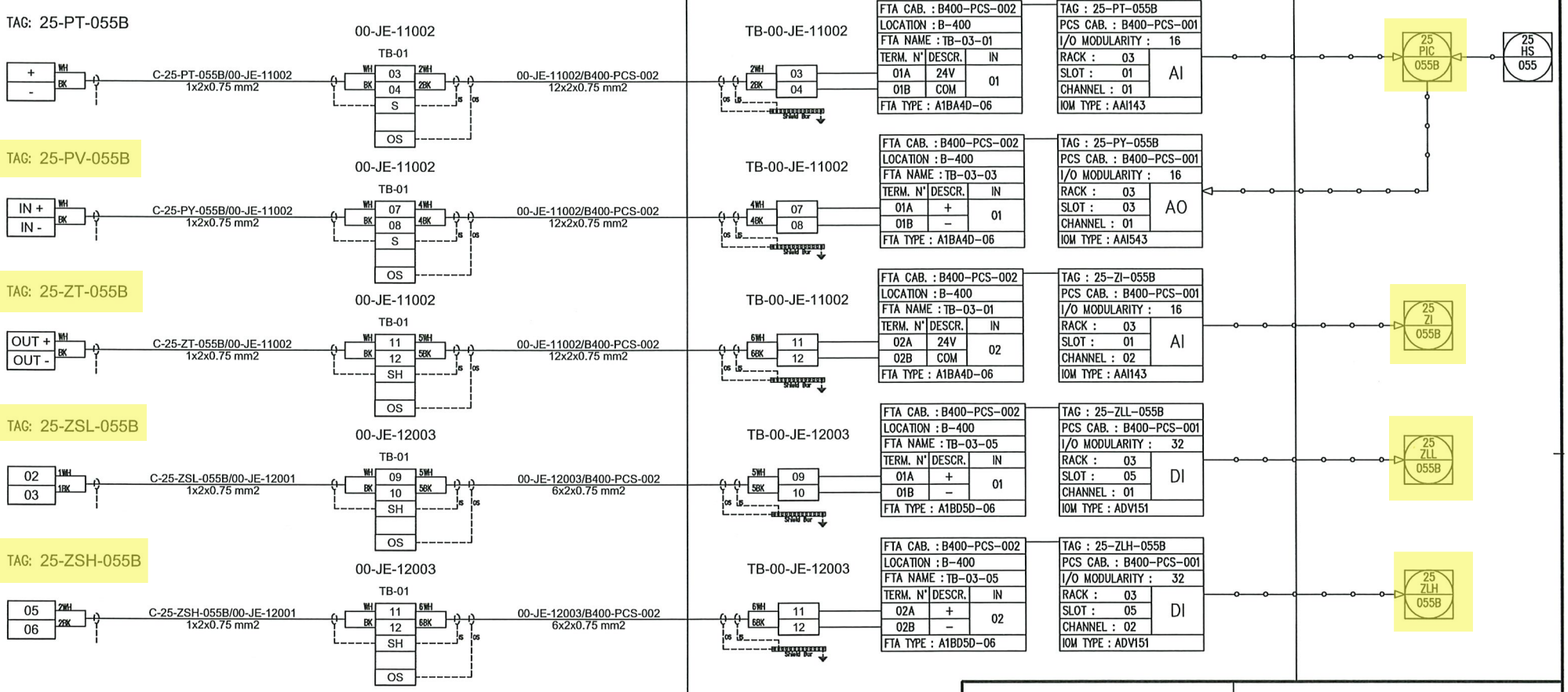
89	Limit Switch Model	1 x GDSN0LIS2MS290 EISENBAU
90	Type	SPDT
91	Contact Type	-
92	Encl.Material	316SS
93	El.Connection	M20x1,5
94	Prot. Class / El. Classif.	IP66 / MIN. Ex-d IIC (or IIB+H2) T1

NOTES

N.1	n°1 PSV installed downstream the air filter regulator, size 1/4", st.ast., set 6 barg (CE)
N.2	HYDROGEN SERVICE - PACKING ISO 15848-1
N.3	
N.4	
N.5	
N.6	
N.7	

DRAWING NO. 123A90-DDL-IN-DG-40014 REV. 01

FIELD	ITER – B400	CENTRAL CONTROL ROOM
	PROCESS CONTROL SYSTEM	OPERATOR CONSOLE



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	06/12/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/10/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40014
REV: 1_A | DATE: 20/12/24 | SIGNATURE: C.Pilato
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : INSTRUMENT LOOP DIAGRAM
25-PIC-055B
HYDROGEN FROM VESSELS OUTLET HEADER PRESSURE CONTROL

CONTRACT NO./TITLE CONTRACT_NO.			SCALE 1:1
DRAWN: VBA	CHECKED: LCA	APPROVED: DLO	DATE 23/10/2024
A3	DRAWING NO. 123A90-DDL-IN-DG-40014	SHEET 036	REV. 01

File Name : 123A90-DDL-IN-DG-40014_REV.01

Section 4.4 Instrumentation “As-Commissioned” interconnection diagrams

NOT APPLICABLE

Section 4.5 Telecommunication functional test sheets index

NOT APPLICABLE

Section 4.6 Telecommunication
“As-Commissioned” I.C.D. / TSLD's

NOT APPLICABLE

Section 5 SITE / OPERATIONAL

Section 5.1 Operational Test Procedure

Section 5.2 Operational Test Certificates

CROSSWIND	**123A90 - HOLLANDSE KUST NOORD WIND PARK BLPH Project** **COMMISSIONING DOSSIER INDEX**	ROSETTI MARINO

Reference Procedure **123A90-PML-COM-PRO-03041 _ OTP - Hydrogen Storage and Venting Systems** has been uploaded in the Subsystem 25-07 Commissioning Dossier Sect. 5.1

Section 6 PIPING AND VESSEL PREPARATION

Section 6.1 Final Mechanical / Vessel Inspection Checks Index

NOT APPLICABLE

Section 6.2 Leak Test / Drying / Inerting Test Sheets Index

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 25-08 & process: COMM

Instrumental	25-08 Hydrogen Storage Vessels Header (Outlet)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
25-BDV-022	On/Off Valve - Hyrogen from Vessels Outlet Header Vent System	ONSHORE	C10003208	FJ01V	100	2025-03-26	RFO 4
25-PIC-055A	Hyrogen from vessels outlet header pressure control	ONSHORE	C10003755	FJ01C	100	2025-03-26	RFO 4
25-PIC-055B	Hyrogen from vessels outlet header pressure control	ONSHORE	C10003757	FJ01C	100	2025-03-26	RFO 4
25-PT-055A	Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10003175	FJ01A	100	2025-03-19	RFO 4
25-PT-055B	Pressure Transmitter - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10003176	FJ01A	100	2025-03-19	RFO 4
25-PV-055A	Control Valve - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10004387	FJ04	100	2025-03-17	RFO 4
25-PV-055B	Control Valve - Hyrogen from Vessels Outlet Header Pressure Control	ONSHORE	C10004388	FJ04	100	2025-03-17	RFO 4
25-SDV-023	On/Off Valve - Hyrogen from Vessels Outlet Header Shut-Down	ONSHORE	C10003210	FJ01V	100	2025-03-26	RFO 4
25-XV-006	On-Off Actuated Ball Valve - Vessel V-25001A Hydrogen Outlet	ONSHORE	C10003212	FJ01V	100	2025-03-19	RFO 4
25-XV-009	On-Off Actuated Ball Valve - Vessel V-25001B Hydrogen Outlet	ONSHORE	C10003214	FJ01V	100	2025-03-19	RFO 4
25-XV-012	On/Off Valve - Vessel V-25001C Hydrogen Outlet	ONSHORE	C10003216	FJ01V	100	2025-03-19	RFO 4
25-XV-015	On/Off Valve - Vessel V-25001D Hydrogen Outlet	ONSHORE	C10003218	FJ01V	100	2025-03-19	RFO 4
25-XV-018	On/Off Valve - Vessel V-25001E Hydrogen Outlet	ONSHORE	C10003220	FJ01V	100	2025-03-19	RFO 4
25-XV-021	On/Off Valve - Vessel V-25001F Hydrogen Outlet	ONSHORE	C10003222	FJ01V	100	2025-03-19	RFO 4
80-PT-002	Pressure Transmitter - Hyrogen Storage to A-80000 Package	ONSHORE	C10003189	FJ01A	100	2025-04-03	RFO 4
80-XV-001	On-Off Actuated Ball Valve - Hyrogen Storage to A-80000 Package Vent System	ONSHORE	C10003232	FJ01V	100	2025-03-27	RFO 4

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 25-08 & process: COMM

Piping	25-08 Hydrogen Storage Vessels Header (Outlet)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
TP-008	H2 Outlet System HP	ONSHORE	C10004904	4241	100	2025-03-14	RFO 4
TP-009	H2 Outlet System LP	ONSHORE	C10004905	4241	100	2025-03-14	RFO 4

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	TP-008	: H2 Outlet System HP			Dwg	
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)			Module	
TASK	code	C10004904		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	COMM	Activity PVP	Discipline	Piping	Form	4241 Leak Testing

CONDITIONS

Operating pressure: 40 bar g

Test Pressure 36 bar g

Test Fluid — Air ☐ — Nitrogen ☐

Water ☐ — Other ☐

TIGHTNESS CRITERION

Pressure variation tolerance: 10%

Test Duration: 30 MIN

Pressure Recording Means: ATTACHED

Adhesive Tape: Yes

Soap Solution: No

He Tracing: No

Rotating equipment isolated

ATTACHMENTS

Procedure: Yes

Sketches & Drawings: Yes

Pressure Records: Yes

Comments: TEST PERFORMED WITH NITROGEN 99%+1%HELIUM
ATTACHED DOCUMENTATION AND CERTIFICATES

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	BAKER HUGHES	ROSETTI MARINO SPA	CPY NOT PRESENT
Name	MARIUS BEJINARU	Ignacio Vago	Witness waived
Date	02/03/2025	2025-03-12	2025-03-14
Signature		PROVERLIS Digitaly signed by Ignacio Vago 2025-03-12T12:17:33.432Z	PROVERLIS Digitaly signed by Witness waived 2025-03-14T13:56:51.177Z

Baker Hughes

Document Title	Helium Leak Detection Test Pack
Test Pack Name	H2 Outlet System HP
Test Pack Number	TP 008
PPS Reference Number	PMCE453947M1 / HLD / TP 008
Customer Reference Number	
Revision Number	02
Customer	Rosetti Marino
Project	Leak Testing Services for Base Load Power Hub Project
Location / Facility	Piomboni Yard - Marina di Ravenna
PPS Job Number	PMCE453947M1
Customer Contract Number	123A90
Customer Work Order Number	1724002632

Signatories for Current Revision Document

Signatories	Company	Name	Job Title	Signature	Date
Originator	Baker Hughes	M.Ye Yin	Field Engineer	Mariana Ye Yin	
Checked by	Baker Hughes	M.Bejinaru	Engineer	Marius Bejinaru	
Approved by	Baker Hughes	A.Hsin	CE Operations Manager	Hsin Amara	
Approved by	Customer Rep. #1	A. IVESON	Comm. Mgr		26-Feb-2025
Approved by	Customer Rep. #2				

Revision History

Rev.	Revision Date	Description	Baker Hughes			Customer
			Originator	Checked by	Approved by	Approved by
02	24-Feb-2025	Re-Issued for Use	MB	MYY	AH	
01	8-Feb-2025	Issued for Use	MB	MYY	AH	
00	30-Jan-2025	Issued for Customer Review	MB	MI	AH	

Distribution: Original PPS Office
Copy #1 PPS Job Site
Copy #2 Customer

Rosetti Marino
Leak Testing Services for Base Load Power Hub Project
H2 Outlet System HP
HLD Test Pack No.: TP 008

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Document Amendment Record #1

Item	Revision Number	Section Number	Page Number	Description of Change	Amended By	Date

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Contents

A1	Test Pack Information
B	Drawing Number List
C1	Customer Preparatory Work
C3	Mechanical Works
C5	Test Limit Isolations Checklist
C6	Safety Components Checklist
C7	Actuated Valve Checklist
C8	System Depressurization Checklist
D	Task Plan
E1	Leak Description Report
E2	Leak Detection Completion Certificate
E3	Witness Joint Register
E6	Critical Valve Test Report - Ultrasonic
App. A	Test Pack Calculations
App. B	PPS Test Equipment
App. C	Test Pack Marked Drawings
App. D	Restricted Access Zone

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A1. Test Pack Information #1

System Details			
Test Pack Number	TP 008	**System Design Pressure (P_D)**	40.0 barg
Test Pack Name	H2 Outlet System HP	**System PSV Set Pressure**	N/A barg
Customer Ref. No.		**Normal Operating Pressure**	30.0 barg
Rotating Equipment	No	**System Free Volume**	0.04 m^3
		Number of Leak Test Joints	All joints

Incremental Pressures and Final Test Pressure						
	Pressure	**% Test Press.**	**% Normal Op.**	**% Design Press.**	**% System PSV**	**Hold Period**
Increment #1	2.0 barg	5.6 %	6.7 %	5.0 %	N/A	15.0 mins
Increment #2	7.2 barg	20.0 %	24.0 %	18.0 %	N/A	15.0 mins
Increment #3	14.4 barg	40.0 %	48.0 %	36.0 %	N/A	15.0 mins
Increment #4	21.6 barg	60.0 %	72.0 %	54.0 %	N/A	15.0 mins
Increment #5	28.8 barg	80.0 %	96.0 %	72.0 %	N/A	5.0 mins
TEST PRESSURE (P_T)	**36.0 barg**	**100.0 %**	**120.0 %**	**90.0 %**		**30.0 mins**

Residual Pressure	**0.0 barg**	*Pressure left in the system upon completion of depressurisation.*

System Pressurization and Depressurization		Test Gas			
Max. Pressurization Rate	2.0 bar/min	**Test Gas Type**	Nitrogen Gas		
	0.08 sm^3/min	**Test Gas Quantity**	1.4 sm^3		
Max. Depressurization Rate	2.0 bar/min	**LN2 Equivalent**	N/A litres		
	0.1 sm^3/min	**Helium Gas Qty**	0.014 sm3	**Conc'n:**	1.0%
Vent System Max. Pressure	3.0 barg				

Verify depressurization rate using "Test Pressure Monitoring Points". Verify vent system pressure using "Vent Path Pressure Monitoring Points".

Over Pressure Protection					
Safety Equipment	**Set Pressure**	**% Design Press.**	**% System PSV**	**PRV Relief Rate (fully open)**	**PRV Inlet Connection**
OPPS	N/A	N/A	N/A		
Temporary PRV #1	38.2 barg	95.4%		103.0 sm^3/min	1" NPT M
Temporary PRV #2					
Temporary PRV #3					

Use the PRV Calculator in PPS Toolbox to quantify PRV relief rate. Enter data above and place calculation results in Appendix A along with PRV data sheet.

Pump	Gas Rack	**Pump Max. Flow Rate**	1.8 sm^3/min	**Pump Max. Pressure**	200.0 barg
Hose MAWP	700.0 barg	**Hose Field Test Press.**	36.0 barg	**Test Hold Period**	5.0 mins

Leak Test and Acceptance Criteria	
Leak Test	Pressurize the system with 1% helium / 99% nitrogen test gas mixture to the nominated test pressure (P_T). Check all potential leak sources for leakage using a calibrated helium leak detector.
Acceptance	Pressure to be maintained within 10% of the test pressure for the duration of the test ('top up' if necessary). Maximum allowable leak rate threshold from any single leak source not to exceed: **All potential leak sources** **20 scf/yr or 0.566 sm^3/yr** Leak rates **BELOW** the threshold are a **PASS**. Leak rates **ABOVE** the threshold are a **FAIL**. All identified leak sources to be repaired and re-tested until **one** of the following conditions is met: i. Leak free (no helium detected) ii. Quantified leak rate is below the maximum allowable leak rate threshold (see above). iii. The leak is accepted as a "Witness Joint" by the Customer Representative, only after a suitable Concession Request has been raised and signed off to support such agreement.

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A1. Test Pack Information #2

Adjacent Systems				
No.	System Name	Adjacent System Design Press. P_{DA}	Design Press. Ratio (%) P_D / P_{DA}	HP / LP Interface Drawing Number
#1	Vent System	3.5 barg	1142.9%	123A90-DDL-PR-PID-80014 sh.001
#2	H2 Outlet System LP	10.0 barg	400.0%	123A90-DDL-PR-PID-80014 sh.001
#3				
#4				
#5				
#6				
#7				
#8				
#9				
#10				

System Connection and Monitoring Points			
Test Component Type	PPS Tag	Location	Drawing Number
Injection Point #1	T19	1" Test Blind Flange RF 300# tapped to 1" NPT	123A90-DDL-PR-PID-80014 sh.001
Temporary PRV Point #1	T19	1" Test Blind Flange RF 300# tapped to 1" NPT	123A90-DDL-PR-PID-80014 sh.001
Pressure Monitoring Point #1	T19	1" Test Blind Flange RF 300# tapped to 1" NPT	123A90-DDL-PR-PID-80014 sh.001
Depressurization Point #1	T3	BLPH-MV-019	123A90-DDL-PR-PID-80014 sh.001
Vent Path Press. Monitoring Point #1	d/s S8	80-PT-002	123A90-DDL-PR-PID-80012 sh.001

Test Pack Notes

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B. Drawing Number List #1

Test Pack Drawing Numbers							
No.	**Type**	**Drawing Number**	**Revision**	**No.**	**Type**	**Drawing Number**	**Revision**
1	P&ID	123A90-DDL-PR-PID-80014 sh.001	03	46			
2	P&ID	123A90-DDL-PR-PID-80015 sh.001	03	47			
3	P&ID	123A90-DDL-PR-PID-80016 sh.001	03	48			
4	P&ID	123A90-DDL-PR-PID-80017 sh.001	03	49			
5	P&ID	123A90-DDL-PR-PID-80018 sh.001	03	50			
6	P&ID	123A90-DDL-PR-PID-80019 sh.001	03	51			
7	P&ID	123A90-DDL-PR-PID-80020 sh.001	03	52			
8	P&ID	123A90-DDL-PR-PID-80012 sh.001	03	53			
9	P&ID	123A90-DDL-PR-PID-80028 sh.001	03	54			
10	P&ID	123A90-DDL-PR-PID-80029 sh.001	03	55			
11				56			
12				57			
13				58			
14				59			
15				60			
16				61			
17				62			
18				63			
19				64			
20				65			
21				66			
22				67			
23				68			
24				69			
25				70			
26				71			
27				72			
28				73			
29				74			
30				75			
31				76			
32				77			
33				78			
34				79			
35				80			
36				81			
37				82			
38				83			
39				84			
40				85			
41				86			
42				87			
43				88			
44				89			
45				90			

Note: **Drawing 'Type' data entries listed as 'Plot Plan' or 'Deck Plan' represent Restricted Access Zone / Exclusion Zone boundary drawings, and / or equipment lay down area plans.**

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C1. Customer Preparatory Work

Customer	Rosetti Marino	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Test Pack Number**	TP 008
Location	Piomboni Yard - Marina di Ravenna	**Issue Date**	

Before the PPS crew prepare the system for testing
the Customer Representative shall confirm the following work activities are complete

Item	Customer Preparatory Work	Status
1	The system is mechanically complete, visually checked, all punch list items closed out, and released for testing.	
2	All welds have successfully passed NDE / NDT in compliance with the applicable design code.	
3	Post weld heat treatment is complete in compliance with the relevant design code.	
4	All pipe supports, structural supports, anchors, and associated weld attachments are complete.	
5	All gaskets, nuts, and bolts are correctly specified, and joints are correctly assembled.	
6	All bolted flange joints, hub clamps, and other mechanical joint types are correctly tightened using torque or tension techniques specified by the applicable design code.	
7	All threaded connections, compression fittings, and instrumentation that will be exposed to pressure have been checked to verify joints are correctly made up and tightened (compatible thread types, sufficient threads engaged, correctly tightened).	
8	All system components nominated for leak testing have successfully passed a hydrostatic strength test in accordance with the applicable design code. Alternatively, water sensitive systems have successfully passed a design code compliant pneumatic strength test.	
9	Calibrated, certified system PSVs and / or bursting discs are installed in accordance with plant design requirements. Set pressure has been confirmed by visual check of tags and certification review.	
10	System internal cleanliness has been verified, and no residual water or moisture is present.	
11	Bolted flange joints, threaded connections, and other nominated or potential leak sources within test limit boundaries are exposed and accessible to allow leak test examination. Cladding and insulation has been removed where necessary.	
12	Ambient / pipe wall temperature is above the system minimum design temperature and expected to remain there for the entire test duration. Test to be stopped if weather conditions cause the temperature to fall below this level.	
13	Certified scaffolding and ladders have been erected for safe access to system high points.	
14	Adequate lighting has been provided for night time working.	
15	Actuated valves detailed on the PPS Actuated Valve Checklist have been isolated in the positions required and their motive energy sources disconnected.	
16	Action items detailed on the following PPS forms are completed (where applicable): - **PPS Punch List** - **PPS Mechanical Works**	

Notes

	Name	Job Title	Signature	Time / Date
PPS Representative	M. Bejimana	Field Engineer		
Customer Rep. #1		COMM-BWL		
Customer Rep. #2				

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C3. Mechanical Works #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack No.**	TP 008
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Checklist No.**	1 of 1

Component Details				Mechanical Preparation			Mechanical Reinstatement		
Item No.	Drawing Number	Customer / PPS Tag No.	Description	Work Required	PPS Rep. Time / Date	Customer Rep. Time / Date	Work Required	PPS Rep. Time / Date	Customer Rep. Time / Date
1	123A90-DDL-PR-PID-80017 sh.001	BLPH-MV-192/W1	1/2" Plug	REMOVE			INSTALL		
2	123A90-DDL-PR-PID-80016 sh.001	BLPH-MV-384/W2	1/2" Plug	REMOVE			INSTALL		
3	123A90-DDL-PR-PID-80015 sh.001	BLPH-MV-086/W3	1/2" Plug	REMOVE			INSTALL		
4	123A90-DDL-PR-PID-80018 sh.001	BLPH-MV-195/W4	1/2" Plug	REMOVE			INSTALL		
5	123A90-DDL-PR-PID-80019 sh.001	BLPH-MV-197/W5	1/2" Plug	REMOVE			INSTALL		
6	123A90-DDL-PR-PID-80014 sh.001	N/A/W6	1 1/2" Blind Flange RF 300#	REMOVE			REINSTATE		
7	123A90-DDL-PR-PID-80020 sh.001	BLPH-MV-200/W7	1/2" Plug	REMOVE			INSTALL		
8	123A90-DDL-PR-PID-80014 sh.001	T19	1 1/2" Test Blind Flange RF 300# tapped to 1" NPT	INSTALL			REMOVE		

RT CLOSED = ROTATE CLOSED RT OPEN = ROTATE OPEN

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C5. Test Limit Isolations Checklist #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack Number**	TP 008
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Checklist Number**	1 of 1

All listed Test Limit Isolations (T#) must be in the CLOSED position.

Test Limit Isolations								Test #1		Test #2		Test #3	
PPS Tag No.	Drawing Number	Customer Tag No.	Description	HP / LP Interface	Actuated Valve	LOTO	Critical Valve	Date PPS Rep.	Date Customer	Date PPS Rep.	Date Customer	Date PPS Rep.	Date Customer
T1	123A90-DDL-PR-PID-80014 sh.001	25-PV-055A	1 1/2" Actuated Valve RF 300#	Yes	Yes		Yes						
T2	123A90-DDL-PR-PID-80014 sh.001	25-PV-055B	1 1/2" Actuated Valve RF 300#	Yes	Yes		Yes						
T3	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-019	2" DBB RF 300#	Yes									
T4	123A90-DDL-PR-PID-80015 sh.001	25-XV-006	1" Actuated Valve RF 300#		Yes								
T5	123A90-DDL-PR-PID-80015 sh.001	BLPH-MV-086	1" DBB RF 300#										
T6	123A90-DDL-PR-PID-80016 sh.001	25-XV-009	1" Actuated Valve RF 300#		Yes								
T7	123A90-DDL-PR-PID-80016 sh.001	BLPH-MV-384	1" DBB RF 300#										
T8	123A90-DDL-PR-PID-80017 sh.001	25-XV-012	1" Actuated Valve RF 300#		Yes								
T9	123A90-DDL-PR-PID-80017 sh.001	BLPH-MV-192	1" DBB RF 300#										
T10	123A90-DDL-PR-PID-80012 sh.001	80-PSV-001	Pressure Safety Valve @10 barg										
T11	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-016	2" Ball Valve RF 150#										
T12	123A90-DDL-PR-PID-80028 sh.001	BLPH-MV-172	1" Ball Valve RF 150#										
T13	123A90-DDL-PR-PID-80018 sh.001	25-XV-015	1" Actuated Valve RF 300#		Yes								
T14	123A90-DDL-PR-PID-80018 sh.001	BLPH-MV-195	1" DBB RF 300#										
T15	123A90-DDL-PR-PID-80019 sh.001	25-XV-018	1" Actuated Valve RF 300#		Yes								
T16	123A90-DDL-PR-PID-80019 sh.001	BLPH-MV-197	1" DBB RF 300#										
T17	123A90-DDL-PR-PID-80020 sh.001	25-XV-021	1" Actuated Valve RF 300#		Yes								
T18	123A90-DDL-PR-PID-80020 sh.001	BLPH-MV-200	1" DBB RF 300#										
T19	123A90-DDL-PR-PID-80014 sh.001	N/A	1 1/2" Test Blind Flange RF 300# tapped to 1" NPT										
Tick each row under Test # column to confirm correctly isolated and sign / initial this row as verification.					**Signature / Initials**								

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C6. Safety Components Checklist #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack Number**	TP 008
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Checklist Number**	1 of 1

All listed Safety Components (S#) must be in the OPEN position or be CORRECTLY ORIENTATED.
All other manual valves within test limit boundaries must be in the OPEN position.

Safety Components							Test #1		Test #2		Test #3	
PPS Tag No.	Drawing Number	Customer Tag No.	Description	Actuated Valve	LOTO	Critical Valve	Time / Date PPS Rep.	Time / Date Customer	Time / Date PPS Rep.	Time / Date Customer	Time / Date PPS Rep.	Time / Date Customer
S1	123A90-DDL-PR-PID-80014 sh.001	25-BDV-022	1" Actuated Valve RF 300#	Yes								
S2	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-018	1" DBB RF 300#									
S3	123A90-DDL-PR-PID-80014 sh.001	25-SDV-023	1 1/2" Actuated Valve RF 300#	Yes								
S4	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-468	1 1/2" DBB RF 300#		Yes							
S5	123A90-DDL-PR-PID-80015 sh.001	BLPH-MV-086	1/2" Bleed on DBB RF 300#									
S6	123A90-DDL-PR-PID-80016 sh.001	BLPH-MV-384	1/2" Bleed on DBB RF 300#									
S7	123A90-DDL-PR-PID-80017 sh.001	BLPH-MV-192	1/2" Bleed on DBB RF 300#									
S8	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-038	3/4" Flange RF 150# x 1/2" NPT Instrumentation Valve		Yes							
S9	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-006	4" Ball Valve RF 150#									
S10	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-007	1" Ball Valve RF 150#									
S11	123A90-DDL-PR-PID-80012 sh.001	80-XV-001	1" Actuated Valve RF 150#									
S12	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-009	1" Ball Valve RF 150#									
S13	123A90-DDL-PR-PID-80029 sh.001	BLPH-MV-407	3/4" Flange RF 150# x 1/2" NPT Instrumentation Valve		Yes							
S14	123A90-DDL-PR-PID-80018 sh.001	BLPH-MV-195	1/2" Bleed on DBB RF 300#									
S15	123A90-DDL-PR-PID-80019 sh.001	BLPH-MV-197	1/2" Bleed on DBB RF 300#									
S16	123A90-DDL-PR-PID-80020 sh.001	BLPH-MV-200	1/2" Bleed on DBB RF 300#									
S17	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-024	3/4" Ball Valve RF 150#									
S18	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-028	3/4" Ball Valve RF 150#									
S19	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-213	3/4" Flange RF 150# x 1/2" NPT Instrumentation Valve									
S20	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-025	3/4" Flange RF 150# x 1/2" NPT Instrumentation Valve									
			Signature / Initials									

Tick each row under Test # column to confirm correctly isolated and sign / initial this row as verification.

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C7. Actuated Valve Checklist #1

Customer	Rosetti Marino	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Test Pack Number**	TP 008
Location	Piomboni Yard - Marina di Ravenna	**Checklist Number**	1 of 1
		Test Number	1

The Customer Instrument Technician is responsible for isolating the actuated valves listed in this checklist in accordance with the instructions below. All valves tagged T# must be CLOSED. All valves tagged S# must be OPEN.

Actuated Valves					Isolations Completed	
PPS Tag No.	Drawing Number	Customer Tag No.	Description	Required Position	Customer Instrument Technician	Time / Date
T1	123A90-DDL-PR-PID-80014 sh.001	25-PV-055A	1 1/2" Actuated Valve RF 300#	Closed		
T2	123A90-DDL-PR-PID-80014 sh.001	25-PV-055B	1 1/2" Actuated Valve RF 300#	Closed		
T4	123A90-DDL-PR-PID-80015 sh.001	25-XV-006	1" Actuated Valve RF 300#	Closed		
T6	123A90-DDL-PR-PID-80016 sh.001	25-XV-009	1" Actuated Valve RF 300#	Closed		
T8	123A90-DDL-PR-PID-80017 sh.001	25-XV-012	1" Actuated Valve RF 300#	Closed		
T13	123A90-DDL-PR-PID-80018 sh.001	25-XV-015	1" Actuated Valve RF 300#	Closed		
T15	123A90-DDL-PR-PID-80019 sh.001	25-XV-018	1" Actuated Valve RF 300#	Closed		
T17	123A90-DDL-PR-PID-80020 sh.001	25-XV-021	1" Actuated Valve RF 300#	Closed		
S1	123A90-DDL-PR-PID-80014 sh.001	25-BDV-022	1" Actuated Valve RF 300#	Open		
S3	123A90-DDL-PR-PID-80014 sh.001	25-SDV-023	1 1/2" Actuated Valve RF 300#	Open		

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C8. System Depressurization Checklist #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack No.**	TP 008
Location	C8. System Depressurization Checklist #1	**Customer Work Order No.**	1724002632	**Checklist Number**	1 of 2

Complete the following instructions sequentially to safely depressurize the entire test system.
Ensure the 'Maximum Allowable Depressurization Rate' and the 'Vent System Maximum Allowable Pressure' are not exceeded.
Ensure the Customer Representative is informed of any unavoidable 'Trapped Pressure' areas, or residual pressure, left in the system.

System Depressurization Instructions			Test #1		Test #2		Test #3	
Step No.	Description	Verification	Date	Date	Date	Date	Date	Date
			PPS	Customer	PPS	Customer	PPS	Customer
1	**Preparation for Depressurization**							
1-1	Confirm the test system is correctly aligned for depressurization in accordance with system alignment checklists and marked drawings. - Verify all actuated valves within test limit boundaries are in the correct position (open). - Follow Management of Change instructions if the system alignment was modififed in any way during the pressurization or leak testing phases.	System Alignment Checklists Marked Drawings Management of Change documents (if applicable)						
1-2	Confirm the vent path is correctly prepared for routing test gas through to atmosphere and Vent Path Pressure Monitoring instruments are set up for monitoring and recording.	System Alignment Checklists Marked Drawings.						
1-3	Confirm barricades and warning signs are in place around the Restricted Access Zone.	Visual Confirmation						
2	**Critical Valve Testing (at Initial Test Limits)**							
2-1	Carry out Critical Valve Testing on the following valves, on initial system limits. T1, T2	E6 Ultrasonic Crit. Valve Report *for details of testing method and to record results*						
3	**System Depressurization**							
3-1	Open Primary Depressurization Points and commence system depressurization. **Depressurization Points #1** (T3) - Ensure initial stage of depressurization is regulated at low flow rate (partially open valve) - Monitor the vent path pressure instruments and confirm the Maximum Allowable Vent Path Pressure (3 barg) is not exceeded at any time (priority over all other control parameters). - Adjust the depressurization point valve(s) position to maintain the depressurization rate at, or below, the Maximum Allowable Depressurization Rate: 2 bar/min - Monitor the system piping adjacent to the Depressurization Point(s) for signs of excessive chilling due to the Joule-Thompson expansion effect. Adjust rate if required.	Pressure Instruments Vent Path Pressure Instruments						
3-2	Confirm system is fully depressurized to atmospheric pressure (0 barg). - Pay particular attention to pressure instruments upstream & downstream of check valves.	Pressure Instruments						

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C8. System Depressurization Checklist #2

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack No.**	TP 008
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Checklist Number**	2 of 2

System Depressurization Instructions			Test #1		Test #2		Test #3	
Step No.	**Description**	**Verification**	**PPS**	**Customer**	**PPS**	**Customer**	**PPS**	**Customer**
4	**Isolate System**							
4-1	Close all Depressurization Points: (T3)	Marked Drawings						
4-2	Verify all actuated valves within test limit boundaries remain in the correct position (open).	Visual Confirmation						
5	**System Handover**							
5-1	Disconnect and remove all PPS test equipment from the system.	Visual Confirmation						
5-2	Inform Customer system ready for reinstatement. Once no longer required, remove PPS barricade tape and warning signs from the Restricted Access Zone perimeter.	Permit to Work C3. Mechanical Works						
5-3	Sign off the permit and inform the permit office of the system status. - Entire system fully depressurized to atmospheric pressure (0 barg). - Valves were not cycled and trapped pressure may remain the cavity space. - Refer to completed Depressurization Checklist and MOCs for any Potential Trapped Pressure	Test Pressure Data Visual Confirmation Marked Drawings						

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D. Helium Leak Test - Task Plan

Task No.	Task Description	PPS	Customer	Third Party
	Pressurization and Leak Test			
25	Confirm ambient / pipe wall temperature is above the system minimum design temperature and expected to remain there for the entire test duration.	A	-	-
26	Pressurize the system, in the following increments, to the **FINAL LEAK TEST PRESSURE**. **DO NOT** exceed the **Max. Allowable Pressurization Rate**: **2.0 bar/min** Sample gas and measure helium conc'n (each increment). Adjust helium injection rate if needed. Apply hold periods at each pressure increment. Monitor for pressure drop and check for leaks. - If audible leaks or passing valves are identified assess the problem (if safe to do so). - Inform the Customer Representative of the issue, and agree a plan of action.	A	W	-
27	Confirm the hold period was successfully applied at **FINAL LEAK TEST PRESSURE** and inform the Customer Representative that the system leak test is due to commence.	H	H	-
28	Confirm all components have been checked for leaks (cross-checked against marked drawings). Tag leaking components and record details on **E1. Leak Description Report**.	A	-	-
29	Obtain permission from the Customer Representative to depressurize the test system.	H	H	-
30	Depressurize the test system in accordance with the sequential steps in **C8. System Depressurization Checklist** and co-sign the form as verification: - If valve positions changed under MoC, follow new system depressurization instructions. - **DO NOT** exceed **Maximum Depressurization Rate** **2.0 bar/min** - **DO NOT** exceed **Max. Allowable Vent Path Pressure** **3.0 barg** - Critical valves tested and results recorded on Critical Valve Test Reports E6 - Residual Pressure left in the system: No	A	A	-
31	Complete **E2. PPS Leak Detection Completion Certificate** and obtain the Customer Representative's signature confirming the test has been successfully completed.	A	A	-
	PPS Equipment Rig Down			
32	Verify all PPS equipment is correctly isolated and depressurized to atmospheric pressure.	A	-	-
33	Remove all PPS equipment from the test system. Confirm all leak detection tape is removed.	A	-	-
34	Remove barricades and warning signs. Visually check the work area to verify clean & tidy.	A	-	-
	Customer System Reinstatement			
35	Issue the following forms to the Customer Representative defining mechanical reinstatement work required: C3. PPS Mechanical Works	A	A	-
36	Complete **E3. PPS Witness Joint Register** and co-sign the form.	A	A	-
37	Confirm all required testing, equipment rig down, and system reinstatement tasks are complete. PPS Rep: M. Byrnam Time / Date: Customer: Time / Date:	H	H	-

Increment	Pressure barg	% Design Pressure	Hold Period mins
#1	2.0	5.0%	15.0
#2	7.2	18.0%	15.0
#3	14.4	36.0%	15.0
#4	21.6	54.0%	15.0
#5	28.8	72.0%	5.0
FINAL TEST PRESSURE	**36.0**	**90.0%**	**30.0**

A = Action, H = Hold, M = Monitor, W = Witness, Dash (-) = Does Not Apply to Party, N/A = Not Applicable to Test Scope

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D. Helium Leak Test - Task Plan

Customer	Rosetti Marino	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Test Pack Number**	TP 008
Location	Piomboni Yard - Marina di Ravenna	**Test Number**	1

This task plan summarizes the main work activities that shall be correctly completed and verified by the PPS Supervisor and Customer Representative for safe execution of leak testing operations.
Refer to the detailed method statements in the PPS Safe Work Plan (SWP) for step-by-step instructions.

Task No.	Task Description	PPS	Customer	Third Party
	Pre-Test Work Activities			
1	Obtain confirmation from the Customer Representative that the preparatory work activities described in form C1. Customer Preparatory Work are complete.	A	A	-
2	Obtain a valid Permit to Work for all tasks associated with the leak test.	A	A	-
3	Visually inspect the test system then issue the Customer Representative with the following system preparation forms describing work that needs to be completed and party responsible: **C3. PPS Mechanical Works**	A	-	-
4	Carry out a site review to identify any additional hazards or risks not covered by the PPS standard risk assessment. Record the findings on **PPS Safe to Perform (STP)** form.	A	-	-
	PPS Equipment Rig Up and Function Test			
5	Inspect, rig up and function test the pressurization equipment: Gas Rack	A	-	-
6	No OPPS in use **N/A barg**	-	-	-
7	No OPPS in use	-	-	-
8	Confirm correct PRV(s) is selected (see App. A). Set pressure: **38.2 barg**	A	-	-
9	Confirm PRV(s) is correctly installed (non-isolatable) at approved point (A1. Test Pack Info.)	A	-	-
10	Confirm test instruments correctly specified, certified, and installed at approved point(s). Minimum: 1 x pressure gauge, 1 x pressure recorder / DAU. (**A1. Test Pack Info.**)	A	-	-
11	Rig up the test gas hose / iron / pipe. Confirm safely routed and secure using restraint devices.	A	-	-
12	Install the test gas injection manifold(s) at the approved point (**A1. Test Pack Info.**).	A	-	-
13	Rig up, function test, and calibrate the helium leak detection equipment. Confirm working OK.	A	-	-
14	Visually inspect the equipment rig up and verify components correctly specified and certified.	A	-	-
15	Confirm equipment correctly aligned for pressure test. Sign Stage 1: Hose Test drawing (**App. B**).	H	H	
16	Pressure test the hose / iron / pipe to prove integrity. Record test data. **36.0 barg**	A	-	-
	Customer System Preparation			
17	Confirm test system mechanical preparatory work is complete and forms are co-signed: **C3. PPS Mechanical Works**	A	A	-
18	Verify test system alignment against test pack checklists and marked drawings (**Appendix C**): - **C5. PPS Test Limit Isolations Checklist** co-signed (correct test limits applied). - **C6. PPS Safety Components Checklist** co-signed (correctly aligned within test limits).	A	A	-
19	Confirm all potential leak sources are exposed, taped up, and safely accessible for testing.	A	A	-
20	Erect barricades and warning signs around the perimeter of the test area (Restricted Access Zone), in compliance with the test pack marked plot plan / deck plan (Appendix D).	A	-	-
21	Confirm the work area is cleared of unauthorized personnel.	A	-	-
22	Make final system connections. Confirm all PPS test equipment is correctly aligned for leak testing as per Stage 2: Operations equipment rig up drawing (**Appendix B**). Sign as confirmation.	A	-	-
23	Perform a Toolbox Talk meeting with the PPS crew, Customer Representatives and Third Party personnel affected by the test. Ensure all attendees sign the **PPS STP** form. - Discuss the hazards, risks and control measures implemented for safe test execution. - Review **A: Test Pack Information** in detail and confirm all test parameters. - Confirm **Emergency Response Plan** and **Spill Response Plan** protocol (PPS SWP).	A	-	-
24	Confirm all preparatory tasks above are complete prior to commencing system pressurization. PPS Rep: M. Zeltmann Time / Date: _____ Customer: _____ Time / Date: _____	H	H	-

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E1. Leak Description Report #1

Customer	Rosetti Marino	Test Pack Name	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	Test Pack No.	TP 008
Location	Piomboni Yard - Marina di Ravenna	Checklist No.	1 of 1

Leak No.	Drawing Number	Customer Tag No.	Leak Description	Cause of Leak	Leak Rate ()		
					Test #1	Test #2	Test #3
			No leaks				

	Name	Job Title	Signature	Time / Date
PPS Representative	M. Pompilio	Field Engineer	[signature]	
Customer Rep. #1	G. B[illegible]	Coord. Ing.	[signature]	
Customer Rep. #2				

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E2. Leak Detection Completion Certificate

Project Information			
Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632

Test Pack Information			
Test Pack Name	H2 Outlet System HP	**Test Method**	Helium Leak Detection
Test Pack Number	TP 008	**Test Gas**	1% Helium / 99% Nitrogen

Leak Test and Acceptance Criteria	
Leak Test	The system was pressurised, in increments, to 36 barg using 1 % helium / 99 % nitrogen test gas. Pressure remained within **10%** of the test pressure for the duration of the test. All potential leak sources nominated for testing were checked for leakage using a calibrated helium leak detector. All identified leaks (> maximum allowable leak rate threshold) were recorded on the PPS Leak Description Report. The system was repaired and re-tested a total of **times** before the acceptance criteria were met. Refer to the PPS Witness Joint Register for a list of components that could not be tested.
Acceptance	Maximum allowable leak rate threshold from any single leak source did not exceed: **All potential leak sources** **20** **scf/yr**

Leak Test Results					
Test Number	**Test Date**	**Test Pressure barg**	**Total Number of**		**Comments**
			Joints Tested	**Leaks Found**	
1	2-Mar-2025	36.0	All	0	Test done from 12 bar together with TP-005 and
					TP-006

Instrumentation			
Description	**Serial Number**	**Calibration Certificate No.**	**Calibration Date**
Pressure Chart Recorder	PR 40-2		24-Jan-2025
Pressure Gauge (Analog)	PTG 40-4		24-Jan-2025
Data Logger	PTG1632	1402706	26-Jul-2024

	Name	**Job Title**	**Signature**	**Date**
PPS Rep.	M.Bejinaru	Field Engineer General		
Customer Rep. #1	I.Vago	Construction Superintendent		
Customer Rep. #2				

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Job number: PRCE/5324/24
Test Pack name: BLPH Leak Testing Services
Date: 02.03.2025
Time on: 15:00
Date off: 03.03.2025
Time off: 01:00

Pressure chart recorder 0-40 bar
S.N.: PR-40-2
Range: 0-40 bar
Pressure Gauge Pressure Test

Inlet System and Outlet System and Storage Vessels V-2500A and V-2500B
TP05 and TP06, TP08

Date: 02.03.2025
Time on: 15:00
Time off: 02:00
Date off: 03.03.2025

No. 1320
KAART

Depressurised
Pressure Test
Test pressure
Test duration
Date Tested

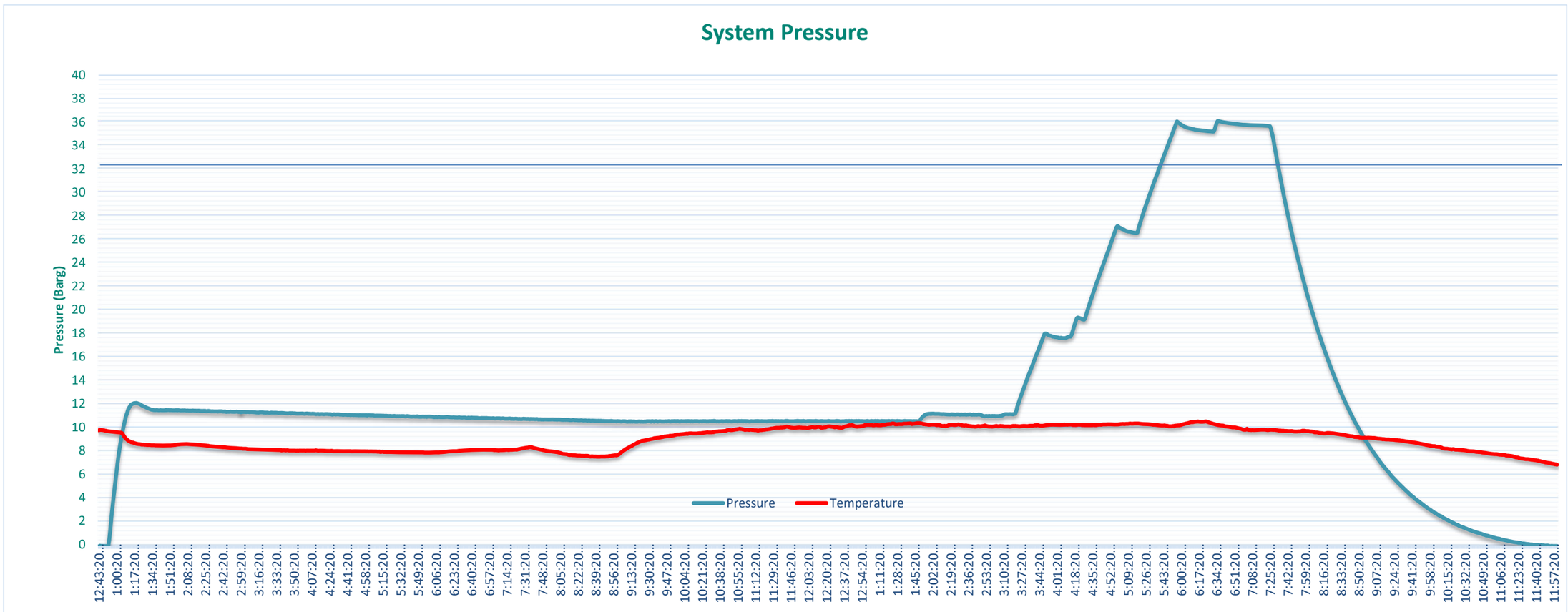
Data Collection Report

Client :	Rosetti Marino SpA
Project:	Leak Testing Services for Base Load Power Hub Project
Location:	Piombini Site
Test Type:	90% Design Pressure Leak Test
Test Pack No.:	TP-005, TP-006 and TP-008
Test Pack Name:	H2 Inlet System and Storage Vessel V-25001D, V25001E and H2 Outlet System
BHI Gauge No:	PTG
Pressure Range:	0-700 bar
Test Medium:	1%He99%N2
Test Pressure:	36.0 barg

Test Lead Print	M.Bejinaru
Test Lead Sign	
Test Approved Print	I.Vago
Test Approver Sign	

Gauge Information	
Serial Number	PTG2095
Model	Crystal Gauge
Units	#REF!

Run Info	
Start Time	01.03.2025 - 00:43
Stop Time	01.03.2025 - 23:50
Logging Interval	1 min



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www.ifgdewit.nl
E-mail sales@ifgdewit.nl

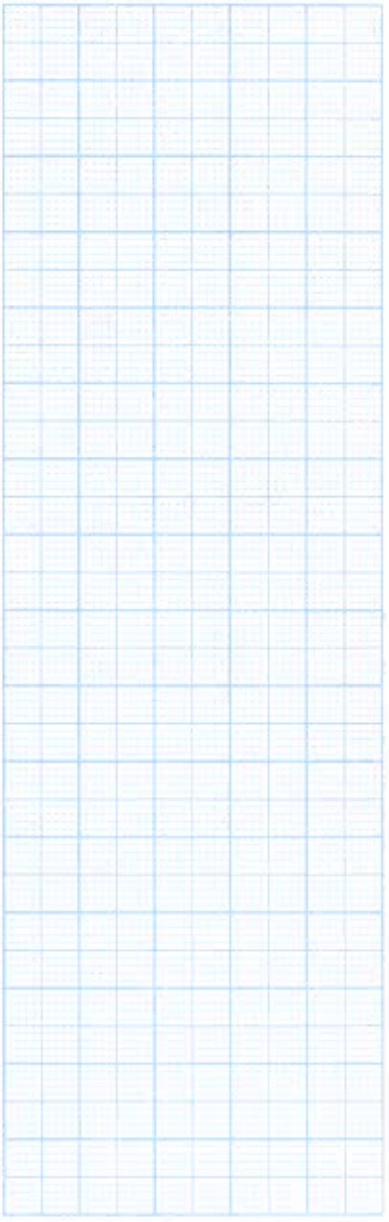
Tel +31 50 5017676
VAT NL800108802B01
IBAN NL48 RABO 0355 8042 12
BIC RABONL2U

calibration certificate

Instrument	:	*Pressure recorder*	Customer	:	*P&M Netherlands B.V.*
Type	:	*4888SST*	Calibration Instrument	:	*dead weight tester*
Serial Number	:	*07.02461.1-02 (PR 40-2)*	Serial Number	:	*9480*
Range	:	*0-40 bar*	Calibration carried out	:	
Accuracy	:	*cl 1.0*	by	:	*RS*
Cal. Temperature	:	*20°C*	Date	:	*24-Jan-2025*

Applied value measuring unit *bar*	Instrument readings measuring unit *bar*	
	rising	falling
0	*0,0*	*0,0*
10	*10,0*	*10,2*
20	*19,8*	*20,0*
30	*29,7*	*29,9*
40	*40,2*	*40,2*

CORRECTION GRAPH



Remarks:

- Uncertainty of measurement: *0,03* %
- According to EN 837-1 / EN 837-3
- The accuracy of the Calibration Instrument is traceable to national standards via RvA certification

Approved by: *G.R. de Jonge [Head of Calibration]*

IFG DE WIT BV
Transportweg 1
9301 ZX Roden
Tel. 050 - 5017676
Fax 050 - 5013650

Minerva METROLOGY AND CALIBRATION

Ensuring carefree traceability

www.minerva-calibration.com

ilac-MRA RvA CALIBRATION RvA K 048

certificate number : 4201630a
this replaces 4201630

applicant	IFG de WIT B.V. Transportweg 1 9301 ZX Roden, The Netherlands
instrument manufacturer type serial number(s) asset number	piston cylinder IFG de Wit piston 9480
environmental conditions	Measurements are done in a climatised laboratory with an average room temperature of 20 °C.
period of calibration	14-10-2020
results	In the range mentioned on page 2 of this certificate the mass to pressure conversion Kn and starting pressure p_0 are determined as :

Kn	= 1,22333	± 0,00012	[bar/kg]
p_0	= 0,33864	± 0,00073	[bar g]

To calculate the gauge pressure at reference level and 20 oC, the following formula is used :

$$p_e = (p_0 + m_c \cdot Kn) \cdot (g_l / g_n) \quad \text{[bar g]}$$

where

p_e	gauge pressure at reference level	[bar g]
m_c	total conventional mass load (see page 2 of this cert.)	[kg]
g_l	local gravity	[N/kg]
g_n	normal gravity (9,80665)	[N/kg]

Using the above formula, the calculated Kn, p_0 and the total conventional mass load the estimated overall uncertainty in pressure (in corrections as during the calibration) becomes :

$$u_{pe} = 1,2 \cdot 10^{-4} \cdot p_e + 0,00073 \text{ bar} \quad (k = 2)$$

remark: To calculate the gauge pressure in psi at reference level and 20 oC, the following formula is used :

$$p_e = 14,50377018 \cdot (p_0 + m_c \cdot Kn) \cdot (g_l / g_n) \quad \text{[bar g]}$$

remark: certificate released because the serial number was incorrect

uncertainty: The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k = 2$, which provides a confidence level of approximately 95%. The standard uncertainty has been determined in accordance with EA-04/02.

traceability: The measurements have been executed using standards for which the traceability to (inter)national standards has been demonstrated towards the RvA.

Amersfoort, 22/10/20

P.J. van Werkhoven,
laboratory teamleader

type: digital certificate / paper certificate
status: original, digitally signed / signed copy

RvA is member of the European Co-operation for Accreditation (EA) and is one of the signatories to the EA Multilateral Agreement and to the ILAC Mutual Recognition Arrangements (MRA) for the mutual recognition of calibration certificates. Reproduction of the complete certificate is allowed. Parts of the certificate may only be produced with written approval of the calibration laboratory.

This certificate is issued provided that neither the Raad voor Accreditatie nor Minerva Kalibratiedienst B.V. assumes any liability.

certificate number : 4201630a
this replaces 4201630

device under test	piston cylinder
manufacturer	IFG de Wit
type	piston
serial number(s)	9480
calibration method	During the measurements the device under test was directly connected to the above mentioned pressure standard.
reference level	upper surface pressure connection

>>*verification of metrological characteristics*<<

Description of the used pressure standard(s)

instrument	piston gauge
manufacturer	DH Instruments
type	PG7302
platform s.n.	1167
piston cylinder s.n. / range	(105) used in Sebacate
measuring range	0,5 ... 50 MPa g
combined uncertainty	3,1 10-6 pe + 30 Pa

reference pressure (105) [bar g]	calibration and measurement capabilities [bar]	reading DUT [bar g]	disagreement absolute [bar]	disagreement relative [%FS]	measurement uncertainty [bar]
7,34238	0,00063	7,3424	0,0000	0,0000	0,0016
14,34585	0,00074	14,3482	0,0003	0,0018	0,0025
28,3560	0,0012	28,355	-0,0055	-0,0017	0,0041
42,3678	0,0018	42,3668	-0,0010	-0,0023	0,0058
56,3787	0,0020	56,3778	0,0009	0,0018	0,0075
70,3890	0,0025	70,3888	-0,0003	-0,0004	0,0092

legenda

column 1, 2	reference pressure and corresponding CMC
column 3	calculated pressure readout DUT
column 4	absolute difference between column 3 and column 1
column 5	relative difference between column 3 and column 1
column 6	measurement uncertainty, including additional uncertainties due to calibration line-up and DUT limitations (k = 2)

calibration technician: G. Ruiter

Minerva METROLOGY AND CALIBRATION

Ensuring carefree traceability

www.minerva-calibration.com

ilac-MRA RvA CALIBRATION RvA K 048

certificate number : 4201631

applicant	IFG de WIT B.V. Transportweg 1 9301 ZX Roden, The Netherlands
instrument manufacturer type serial number(s) asset number	mass set IFG de Wit 35300 Mass set bar 9480
environmental conditions	Measurements are done in a climatised laboratory with an average room temperature of 20 °C.
period of calibration	13-10-2020
results	see page 2 (and further if applicable) of this certificate

uncertainty: The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k = 2$, which provides a confidence level of approximately 95%. The standard uncertainty has been determined in accordance with EA-04/02.

traceability: The measurements have been executed using standards for which the traceability to (inter)national standards has been demonstrated towards the RvA.

Amersfoort, 14/10/20

C.G.M. Adolfse,
technical director

type: digital certificate / paper certificate
status: original, digitally signed / signed copy

RvA is member of the European Co-operation for Accreditation (EA) and is one of the signatories to the EA Multilateral Agreement and to the ILAC Mutual Recognition Arrangements (MRA) for the mutual recognition of calibration certificates. Reproduction of the complete certificate is allowed. Parts of the certificate may only be produced with written approval of the calibration laboratory.

This certificate is issued provided that neither the Raad voor Accreditatie nor Minerva Kalibratiedienst B.V. assumes any liability.

certificate number : 4201631

device under test	mass set
manufacturer	IFG de Wit
type	35300 Mass set bar
serial number(s)	9480
calibration method	The conventional mass is determined by comparison against masses, which are directly traceable to international standards
density reference	8000 kg/m³

description	number	conventional mass [g]	measurement uncertainty [k=2] [mg]
5 bar	N 1	4090,05	41,0
5 bar	O 2	4089,85	40,9
5 bar	P 3	4089,84	40,9
5 bar	Q 4	4089,52	40,9
5 bar	R 5	4089,98	40,9
5 bar	S 6	4089,80	40,9
5 bar	T 7	4090,52	41,0
5 bar	U 8	4090,69	41,0
5 bar	V 9	4090,27	41,0
5 bar	W 10	4090,34	41,0
5 bar	X 11	4090,09	41,0
5 bar	Y 12	4090,28	41,0
5 bar	Z1 13	4090,46	41,0
5 bar	Z2 14	4090,11	41,0
2,5 bar	M 1	2044,079	20,5
0,5 bar	I 1	408,807	4,1
0,5 bar	J 2	408,769	4,1
0,5 bar	K 3	408,802	4,1
0,5 bar	L 4	408,725	4,1
0,25 bar	H 1	204,3656	2,1
0,1 bar	F 1	81,81301	0,9
0,1 bar	G 2	81,84572	0,9
0,05 bar	E 1	40,91149	0,5
0,025 bar	D 1	20,43052	0,3
0,01 bar	B 1	8,19343	0,1
0,01 bar	C 2	8,17353	0,1
0,005 bar	A 1	4,10589	0,1
0,5 bar corr		126,8537	1,3

reference mass set	KERN F1 nr G001449
metrologist	M. Patel

IFG DE WIT BV
Transportweg 1
9301 ZX Roden, The Netherlands
www.ifgdewit.nl
E-mail soles@ifgdewit.nl
Tel +31 50 5017676
VAT NL800108802B01
IBAN NL48 RABO 0355 8042 12
BIC RABONL2U

calibration certificate

Instrument	:	*Precision gauge*	Customer	:	*P&M Netherlands B.V.*
Type	:	*181RR/160*	Calibration Instrument	:	*dead weight tester*
Serial Number	:	*05.00810.10-04 (PTG 40-4)*	Serial Number	:	*9480*
Range	:	*0-40 bar*	Calibration carried out	:	
Accuracy	:	*cl 0.6*	by	:	*RS*
Cal. Temperature	:	*20°C*	Date	:	*24-Jan-2025*

Applied value measuring unit *bar*	Instrument readings measuring unit *bar*	
	rising	falling
0	*0,00*	*0,00*
5	*5,00*	*5,05*
10	*10,00*	*10,10*
15	*14,95*	*15,10*
20	*19,95*	*20,10*
25	*24,95*	*25,05*
30	*29,90*	*30,00*
35	*34,90*	*34,95*
40	*39,85*	*39,85*

CORRECTION GRAPH

Remarks:

- Uncertainty of measurement: *0,03* %
- According to EN 837-1 / EN 837-3
- The accuracy of the Calibration Instrument is traceable to national standards via RvA certification

Approved by: *G.R. de Jonge [Head of Calibration]*

IFG DE WIT BV

Minerva METROLOGY AND CALIBRATION

Ensuring carefree traceability

www.minerva-calibration.com

ilac-MRA RvA CALIBRATION RvA K 048

certificate number : 4201630a
this replaces 4201630

applicant	IFG de Wit B.V. Transportweg 1 9301 ZX Roden, The Netherlands
instrument manufacturer type serial number(s) asset number	piston cylinder IFG de Wit piston 9480
environmental conditions	Measurements are done in a climatised laboratory with an average room temperature of 20 °C
period of calibration	14-10-2020

results

In the range mentioned on page 2 of this certificate the mass to pressure conversion Kn and starting pressure p_0 are determined as :

Kn	= 1,22333	± 0,00012	[bar/kg]
p_0	= 0,33864	± 0,00073	[bar g]

To calculate the gauge pressure at reference level and 20 oC, the following formula is used :

$$p_e = (p_0 + m_c \cdot Kn) \cdot (g / g_n) \quad \text{[bar g]}$$

where

p_e	gauge pressure at reference level	[bar g]
m_c	total conventional mass load (see page 2 of this cert.)	[kg]
g	local gravity	[N/kg]
g_n	normal gravity (9,80665)	[N/kg]

Using the above formula, the calculated Kn, p_0 and the total conventional mass load the estimated overall uncertainty in pressure (in constone as during the calibration) becomes :

$$u_{pe} = 1,2 \cdot 10^{-4} \cdot p_e + 0,00073 \text{ bar} \quad (k = 2)$$

remark To calculate the gauge pressure in psi at reference level and 20 oC, the following formula is used :

$$p_e = 14,50377018 \cdot (p_0 + m_c \cdot Kn) \cdot (g / g_n) \quad \text{[bar g]}$$

remark certificate released because the serial number was incorrect

uncertainty The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k = 2$, which provides a confidence level of approximately 95%. The standard uncertainty has been determined in accordance with EA-04/02.

traceability The measurements have been executed using standards for which the traceability to (inter)national standards has been demonstrated towards the RvA.

Amersfoort, 22/10/20

P.J. van Werkhoven,
laboratory teamleader

type: digital certificate / paper certificate — status: original, digitally signed / signed copy

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certificate number : 4201630a
this replaces 4201630

device under test	piston cylinder
manufacturer	IFG de Wit
type	piston
serial number(s)	9480
calibration method	During the measurements the device under test was directly connected to the above mentioned pressure standard
reference level	upper surface pressure connection

>>verification of metrological characteristics<<

Description of the used pressure standard(s)

instrument	piston gauge
manufacturer	DH Instruments
type	PG7302
platform s.n.	1167
piston cylinder s.n. / range	(105) used in Sebacate
measuring range	0,5 50 MPa g
combined uncertainty	3,1 10-5.pe + 30 Pa

reference pressure (105) [bar g]	calibration and measurement capabilities [bar]	reading DUT [bar g]	disagreement absolute [bar]	disagreement relative [%R]	measurement uncertainty [bar]
7,34239	0,00053	7,3424	0,0000	0,0000	0,0016
14,34595	0,00074	14,3462	0,0003	0,0018	0,0025
28,3560	0,0012	28,3555	-0,0005	-0,0017	0,0041
42,3678	0,0016	42,3668	-0,0010	-0,0023	0,0058
56,3787	0,0020	56,3778	0,0008	0,0018	0,0075
70,3893	0,0025	70,3888	-0,0003	-0,0004	0,0092

legends

column 1, 2	reference pressure and corresponding CMC
column 3	calculated pressure readout DUT
column 4	absolute difference between column 3 and column 1
column 5	relative difference between column 3 and column 1
column 6	measurement uncertainty, including additional uncertainties due to calibration line-up and DUT limitations (k = 2)

calibration technician G. Ruiter

Minerva METROLOGY AND CALIBRATION

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ilac-MRA RvA CALIBRATION RvA K 048

certificate number : 4201631

applicant	IFG de WIT B.V. Transportweg 1 9301 ZX Roden, The Netherlands
instrument manufacturer type serial number(s) asset number	mass set IFG de Wit 35300 Mass set bar 9480
environmental conditions	Measurements are done in a climatised laboratory with an average room temperature of 20 °C
period of calibration	13-10-2020
results	see page 2 (and further if applicable) of this certificate

uncertainty The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k = 2$, which provides a confidence level of approximately 95%. The standard uncertainty has been determined in accordance with EA-04/02.

traceability The measurements have been executed using standards for which the traceability to (inter)national standards has been demonstrated towards the RvA.

Amersfoort, 14/10/20

C.G.M. Adolfse,
technical director

type: digital certificate / paper certificate — status: original, digitally sig ned / signed copy

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ilac-MRA RvA CALIBRATION RvA K 048

certificate number : 4201631

device under test	mass set
manufacturer	IFG de Wit
type	35300 Mass set bar
serial number(s)	9480
calibration method	The conventional mass is determined by comparison against masses, which are directly traceable to international standards
density reference	8000 kg/m³

description	number		conventional mass [g]	measurement uncertainty [k=2] [mg]
5 bar	N	1	4090,05	41,0
5 bar	O	2	4089,85	40,9
5 bar	P	3	4089,84	40,9
5 bar	Q	4	4089,52	40,9
5 bar	R	5	4089,96	40,9
5 bar	S	6	4089,80	40,9
5 bar	T	7	4090,52	41,0
5 bar	U	8	4090,68	41,0
5 bar	V	9	4090,27	41,0
5 bar	W	10	4090,34	41,0
5 bar	X	11	4090,09	41,0
5 bar	Y	12	4090,28	41,0
5 bar	Z1	13	4090,46	41,0
5 bar	Z2	14	4090,11	41,0
2,5 bar	M	1	2044,079	20,5
0,5 bar	I	1	408,807	4,1
0,5 bar	J	2	408,769	4,1
0,5 bar	K	3	408,802	4,1
0,5 bar	L	4	408,725	4,1
0,25 bar	H	1	204,3656	2,1
0,1 bar	F	1	81,81301	0,9
0,1 bar	G	2	81,84572	0,9
0,05 bar	E	1	40,91149	0,5
0,025 bar	D	1	20,43052	0,3
0,01 bar	B	1	8,19343	0,1
0,01 bar	C	2	8,17353	0,1
0,005 bar	A	1	4,10589	0,1
0,5 bar corr			126,8537	1,3

reference mass set	KERN F1 nr G001448
metrologist	M. Pate

Scotia Instrumentation Ltd - Campus 1 - Aberdeen Science and Technology Park - Balgownie Road - Aberdeen AB22 8GT
Tel 01224-222888 eMail calibration@scotia-instrumentation.com

SCOTIA INSTRUMENTATION

Certificate No 1402706

Date of Issue 26 July 2024

CALIBRATION CERTIFICATE

Customer's Name P&M NETHERLANDS BV
Customer's Reference 320006459
Serial Number 2665 / PNo: PTG1632
Description Keller LEO Rec Ei Digital Gauge
Range 700bar
Our Reference 386446/R/2
Temperature of Test 21.6 °C
Calibration Uncertainty ±0.1% of fs +1 lsd
Standard Used Budenberg PCU (D111)
Traceable Ref UKAS Lab 0208 Cert 038145/ UKAS Lab 0822 Cert 51263

Applied Value	Reading	Correction
bar		
100.00	99.9	0.1
200.00	199.8	0.2
300.00	299.9	0.1
400.00	399.8	0.2
500.00	499.8	0.2
600.00	599.8	0.2
700.00	699.8	0.2

The Standard Used is traceable to National Standards. Positive corrections are to be added to the reading and negative subtracted.
Calibration is done in accordance with ISO IEC 17025:2017

Notes on Calibration:

Equipment certified has passed our check for safety compliance in accordance with our internal procedures.
This device could not be certified without repair.

Signed:

Job Title: Technician

RJD1

1982 - 2024 42 YEARS in calibration

Date of calibration for this device is 26 July 2024
Recommended maximum recalibration date: 26 January 2025

RJD1 P&MN1

Certificate of Calibration

Date of issue: 09 January 2025

Certificate Number: 1003936.

Approved Signatory

Name [✓] R Dutton [ ] P Clark [ ] C Railton

Signature

vaseco
LEAK DETECTION TECHNOLOGY
Bromley House,
Barlow Drive,
Woodford Park Industrial Estate,
Winsford,
Cheshire,
CW7 2JZ.

Tel: +44 (0)1606 590000
Web: www.vaseco.com

CUSTOMER DETAILS

Name: P&M Netherlands B.V.

Address: Ekkersrijt 3131,
Gate 4,
5692 CD,
Son en Breugel,
Netherlands.

Purchase order No.: 320007526

Vaseco SOP No.: 106199

UNIT UNDER CALIBRATION DETAILS

Manufacturer: Vaseco Ltd

Model: Vaseco HD1

Serial No: 1301

Calibration Gas: Helium 1%

Serial No: 24/030790

Equipment condition: Functioning

CALIBRATION DETAILS

Laboratory conditions: 23 °C +/- 1 °C 50%RH +/- 15%RH

Calibration date: 09 January 2025

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of of approximately 95%, the uncertainty evaluation has been carried out in accordance with UKAS requirements.
This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service, and is subject to our standard terms and conditions. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes.
This calibration certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory - Vaseco Ltd.

Electrical Certificate

Test Conducted By: Vaseco Limited, , Bromley House, Barlow Drive, Woodford Park Industrial Estate, Winsford, Cheshire, CW7 2JZ

Site: Vaseco Limited

Customer: P_M Netherlands

Asset & Test details

Serial No.: 232171 **Description:** Vaseco HD1 AC Adapter

Make: Adapter Tech **Model:** AST065T-P240

Test	Result	Unit	Status
Plug			Pass
Flex			Pass
Enclosure			Pass
Environment			Pass
Socket			Pass
Voltage	230	V	Information
Power Rating	1.4	A	Information
Insulation Voltage	500	V	Information
Insulation	> 19.99	MOhm	Pass
Substitute Leakage	0.28	mA	Pass

Comments:

Overall Status: Pass

Date Of Test: 09/01/2025

Next Full Test: 09/01/2026

Test Instrument: Seaward Apollo 600 Plus 31J-0854

Tested By: Paul Taylor

Signed By:



Electrical Certificate

Test Conducted By: Vaseco Limited, , Bromley House, Barlow Drive, Woodford Park Industrial Estate, Winsford, Cheshire, CW7 2JZ

Site: Vaseco Limited
Customer: P_M Netherlands

Asset & Test details

Serial No.: 232171US **Description:** Power lead - US
Make: n/a **Model:** n/a

Test	Result	Unit	Status
Plug			Pass
Flex			Pass
Environment			Pass
Voltage	110	V	Information
Power Rating	10	A	Information
IEC Lead Continuity	0.1	ohm	Pass
Insulation Voltage	500	V	Information
Insulation	> 19.99	MOhm	Pass
IEC Lead Polarity			Pass

Comments:

Overall Status: Pass

Date Of Test: 09/01/2025
Next Full Test: 09/01/2026

Test Instrument: Seaward Apollo 600 Plus 31J-0854

Tested By: Paul Taylor

Signed By:



E6. Critical Valve Test Report - Ultrasonic #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack No.**	TP 008
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Test Date**	28-Jan-2025

Valve Closure Leak Test - Ultrasonic			**Test Instrumentation**			
Test Pressure (δP)	36.0 bar	δP = differential pressure across valve	**Description**	**Serial Number**	**Calibration Cert.**	**Calibration Date**
1	Follow System Depressurization Checklist instructions and apply differential pressure across each valve (sequentially). Upstream = Final Test Pressure Downstream = Atmospheric Pressure		Ultrasonic Leak Detector	960445-16	1003856	18-Nov-2024
2	Place the ultrasonic probe on the pipe 6 to 12 inches upstream of the valve. Record the deibel (dB) reading.					
3	Place the ultrasonic probe on the valve body. Record the decibel (dB) reading.					
4	Place the probe on the pipe 6 to 12 inches downstream of the valve. Record the decibel (dB) reading.					
LEAK	A valve "closure leak" is indicated by higher value readings on the valve body and / or downstream.					

Critical Valves Tested				**Ultrasonic Meter Reading**				**Test Result**
PPS Tag No.	**Customer Tag No.**	**Description (valve type, size, class)**	**Drawing Number**	**Frequency Range kHz**	**Upstream dB**	**Valve Body dB**	**Downstream dB**	**Pass / Fail**
T1	25-PV-055A	1 1/2" Actuated Valve RF 300#	123A90-DDL-PR-PID-80014 sh.001	0-100 kz	0.0	0.0	0.0	Pass
T2	25-PV-055B	1 1/2" Actuated Valve RF 300#	123A90-DDL-PR-PID-80014 sh.001	0-100 kz	0.0	0.0	0.0	Pass

Note: kHz value represents the range the dB reading was measured in.

	Name	**Job Title**	**Signature**	**Time / Date**
PPS Representative		Field Engineer General		
Customer Representative #1	I.Vago	Commissioning Superintendent		
Customer Representative #2				

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Certificate of Sensitivity Validation

Date of issue: 03 July 2023

Certificate Number: 1002858.

Page 1 of 2 pages

Approved Signatory

Name [✓] R Dutton [ ] P Clark [ ] C Railton

Signature

vaseco
LEAK DETECTION TECHNOLOGY

Bromley House,
Barlow Drive,
Woodford Park Industrial Estate,
Winsford,
Cheshire,
CW7 2JZ.

Tel: +44 (0)1606 590000
Web: www.vaseco.com

CUSTOMER DETAILS

Name: Vaseco Limited.

Address: Bromley House,
Barlow Drive,
Woodford Park Industrial Estate,
Winsford,
Cheshire,
CW7 2JZ.

Purchase order No.: Internal

Vaseco SOP No.: Internal

UNIT UNDER CALIBRATION DETAILS

Manufacturer: UE Systems Inc.

Model: Ultraprobe 9000

Equipment condition: Good external condition

Serial No: 960445-16

CALIBRATION DETAILS

Laboratory conditions: 23 °C +/- 1 °C 50%RH +/- 15%RH

Validation date: 03 July 2023

Certificate of Sensitivity Validation

Certificate Number: 1002858.

RESULTS

Sensitivity validation chart							
Scanning module	**Date**	**Serial No.**	**Rod used**	**WTG setting**	**Frequency**	**Mode (R,P,S,RO,PO,SO)**	**dB**
	03/07/2023	960445-16	Long	Low	40kHz	R	86
Contact module	**Date**	**Serial No.**		**WTG setting**	**Frequency**	**Mode (R,P,S,RO,PO,SO)**	**dB**
	03/07/2023	960445-16		Low	40kHz	R	34

Validated by: 

Appendix A

Test Pack Calculations

PRV Calculation, PRV Data Sheet, and other supporting calculation results

Customer Name:	Rosetti Marino
Project Name:	Leak Testing Services for Base Load Power Hub Project
Test Pack Number:	TP 008
Test Pack Name:	H2 Outlet System HP

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Test Pack Summary - Helium Leak Test

SYSTEM DETAILS					
Test Pack Name	Test pack 8		**System Design Pressure**	40.0	barg
Test Pack Number	TP-008		**System PSV Set Pressure**	-	barg
Customer Reference No.			**Normal Operating Pressure**	30.0	barg
No. Leak Test Components	21	Disturbed Components	**System Free Volume**	0.0	m^3

INCREMENTAL AND FINAL TEST PRESSURE						
	Hold Period	**Pressure**	**% Test Pressure**	**% Normal Operating**	**% Design Pressure**	**% System PSV**
	min	**barg**		**Pressure**		
Increment #1	15.0	2.0	5.4%	6.5%	4.9%	N/A
Increment #2	15.0	7.2	20.0%	24.0%	18.0%	N/A
Increment #3	15.0	14.4	40.0%	48.0%	36.0%	N/A
Increment #4	15.0	21.6	60.0%	72.0%	54.0%	N/A
Increment #5	15.0	28.8	80.0%	96.0%	72.0%	N/A
TEST PRESSURE	**30.0**	**36.0**	**100.0%**	**120.0%**	**90.0%**	**N/A**

Residual Pressure	0.0 barg	*Pressure left in the system upon completion of depressurization.*

PRESSURIZATION AND DEPRESSURIZATION RATES		
Pressurization Rate	2.0	bar/min
Volumetric Pump Rate	0.3	Sm^3/min
Pump Maximum Flow Rate	0.1	Sm^3/min
Depressurization Rate	2.0	bar/min
Volumetric Vent Rate	0.1	Sm^3/min
Vent Rate Restriction		

TEST GAS			
Test Gas Type	Nitrogen Gas		
Test Gas Required	1.4 Sm^3		
LN2 Equivalent	L		
Helium Gas	0.0 Sm^3	**Conc'n:**	1.0%

Standard temperature and pressure (STP) conditions are +15C (+59F) and 1 atmosphere

SAFETY EQUIPMENT								
	Set Pressure	**% Design Pressure**	**% Test Pressure**	**Discharge**	**PRV**	**PRV**	**PRV**	**PRV**
OPPS	N/A	0.0%	0.0%	**Orifice**	**Discharge Area**	**Quantity**	**Individual Relief Rate**	**Total Relief Rate**
PRV	38.2 barg	95.5%	106.1%	1.0	0.310 in^2	1	36.0 Sm^3/min	36.0 Sm^3/min

PRESSURIZATION, TESTING, AND DEPRESSURIZATION

Test Time per Component	1.0 min
Pressurization Time	01:20 hr : min
Leak Testing Time	00:51 hr : min
Depressurization Time	00:05 hr : min
TOTAL TEST TIME	**02:16 hr : min**

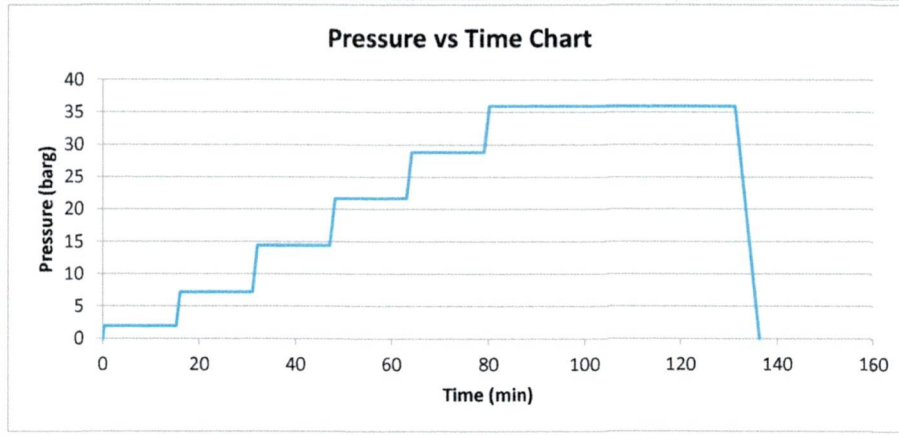
Pressurization Time includes incremental hold periods.

Testing Time includes hold period at final test pressure plus time to check all potential leak sources.

Depressurization Time is time taken to reduce system press. to atmospheric / residual pressure after testing.

Total Test Time = Pressurization Time + Leak Testing Time + Depressurization Time.

Time taken to rig up / rig down equipment and prepare the system for test is excluded.



NOTES

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Gas PRV Calculation - Verification

Calculation Summary	
Calculation Title	New record
Calculation Purpose	PRV Verification
Standard Used	ASME BPVC XIII / ISO-4126-7
Date	6-Feb-2025

Fluid Properties	
Phase	Gas
Fluid Type	Nitrogen
Relieving Temperature	15.0 C
Molecular Weight	28.0
Specific Heat Ratio (γ)	1.40
Compressibility Factor	0.99

Pressures	
Set Pressure	38.2 barg
Set Pressure Tolerance (+/- %)	3.0 %
Minimum Opening Pressure	37.1 barg
Maximum Opening Pressure	39.4 barg
Overpressure Allowance (%)	10.0 %
Relieving Pressure (fully open)	42.0 barg
Back Pressure	0.0 barg

PRV Parameters			
Make	Niezgodka	**Certified Discharge Coefficient**	1.000
Model	1.100	**Actual Orifice Area**	0.310 in^2
		Calculated Flow Capacity	103.00 Sm^3/min

Notes

PRV Terminology	Definition
Set Pressure	The value of increasing inlet static pressure at which a pressure relief valve has opening pressure characteristics.
Set Pressure Tolerance	The variation (range) against the set pressure, certified by the valve manufacturer (usually expressed as plus / minus percenta
Opening Pressure	The value of increasing static pressure at which there is a measurable lift, or at which the fluid discharge becomes continuous
Overpressure Allowance	A pressure increase over the set pressure (usually expressed as a percentage) at which the PRV is fully open.
Relieving Pressure (fully open)	Set pressure plus overpressure, representing the value at which a valve is fully open.
Back Pressure	The static pressure existing at the outlet of a pressure relief device due to pressure in the discharge system.
Certified Discharge Coefficient	The ratio of the measured flow (relieving) capacity to the certified flow (relieving) capacity.
Actual Discharge Area	A certified area of flow used with the certified discharge coefficient to calculate minimum flow (relieving) capacity.
Calculated Flow Capacity	The calculated relieving capacity at the fully open condition, using Certified Discharge Coefficient and Actual Discharge Area.

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Appendix B

PPS Test Equipment

Customer Name:	Rosetti Marino
Project Name:	Leak Testing Services for Base Load Power Hub Project
Test Pack Number:	TP 008
Test Pack Name:	H2 Outlet System HP

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KEY

- Ball valve
- Needle valve
- Globe valve
- Check valve
- Pressure relief valve

INSTRUMENTATION

		X	Y
XY #	P	Pressure	-
	F	Flow	-
	T	Temperature	Transmitter
XT #	G	-	Gauge
	R	-	Recorder

Minimum Pressure Rating

Hoses, Valves, Fittings

HP 700 barg

Instrumentation

DL 1 Gas Cylinder Rack
DL 2 Gas Cylinder Rack
PG 2 Instrument Manifold
PR 1 Instrument Manifold

OVER PRESSURE PROTECTION

Node 2 – Function Test.

As per minimum test pressure

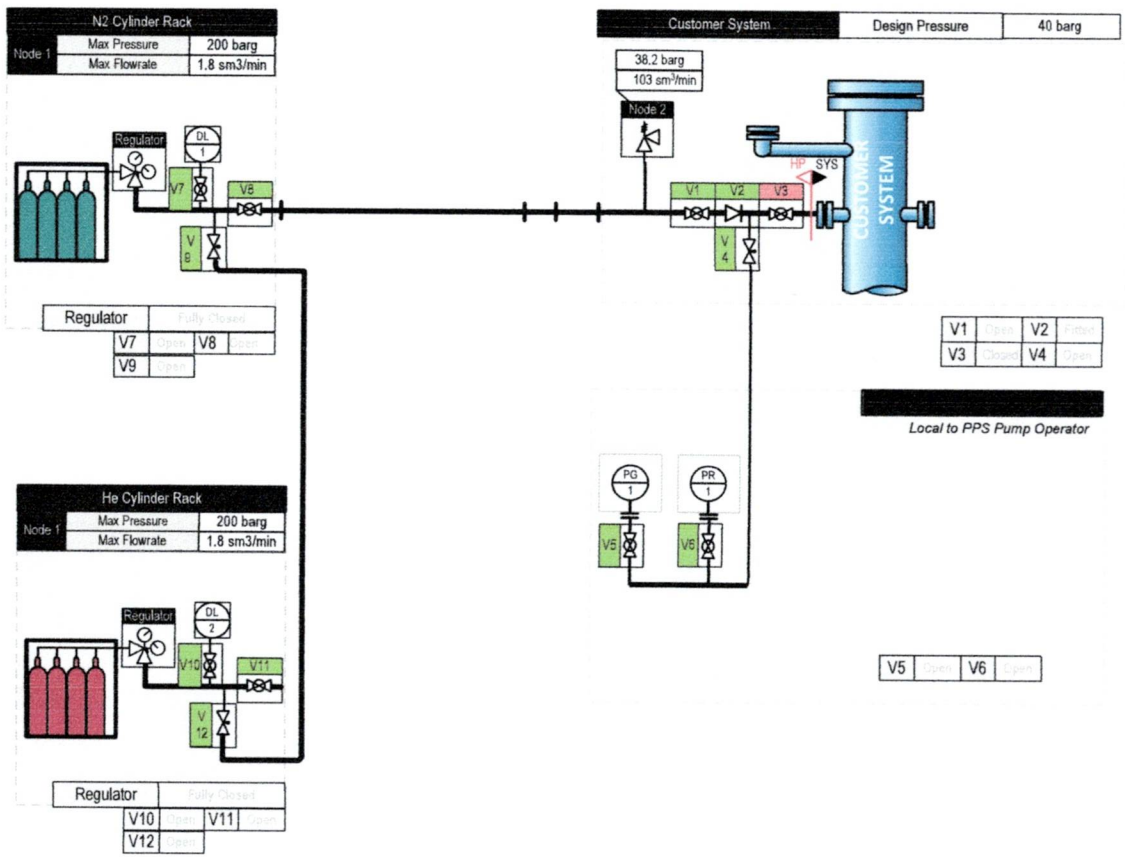
Node 3 – Customer System

PRV Customer System

.

Test Pressure: 36 barg
Hold Period: 5 mins

Stage 1: Hose Test		PPS		Customer	
Initial Alignment Verified		Rep.		Rep.	



Revision	Rev. Date	Description	Drawn	Checked	Approved
A	27-01-2025	Initial release	M.Bejinaru	M.Ienco	H.Amara

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Leak Test TP-08 – Hose Test Drawing

Scale	Drawn by	Date	Checked by	Date
NTS	M.Bejinaru	27-01-2025	M.Ienco	27-01-2025

Third Angle Projection

Drawing No.: PMCE453947M1 TP08-DWG-001

Page No. 1 of 2

Rev: **A**

Test Pressure: 3.15 barg	Stage 2: Operation		PPS		Customer	
Hold Period: 30 mins	Initial Alignment Verified		Rep.		Rep.	

KEY

- Ball valve
- Needle valve
- Globe valve
- Check valve
- Pressure relief valve

INSTRUMENTATION

		X	Y
XY #	P	Pressure	-
	F	Flow	-
	T	Temperature	Transmitter
XT #	G	-	Gauge
	R	-	Recorder

Minimum Pressure Rating

Hoses, Valves, Fittings

HP 700 barg

Instrumentation

DL 1 Gas Cylinder Rack
DL 2 Gas Cylinder Rack
PG 1 Instrument Manifold
PR 1 Instrument Manifold

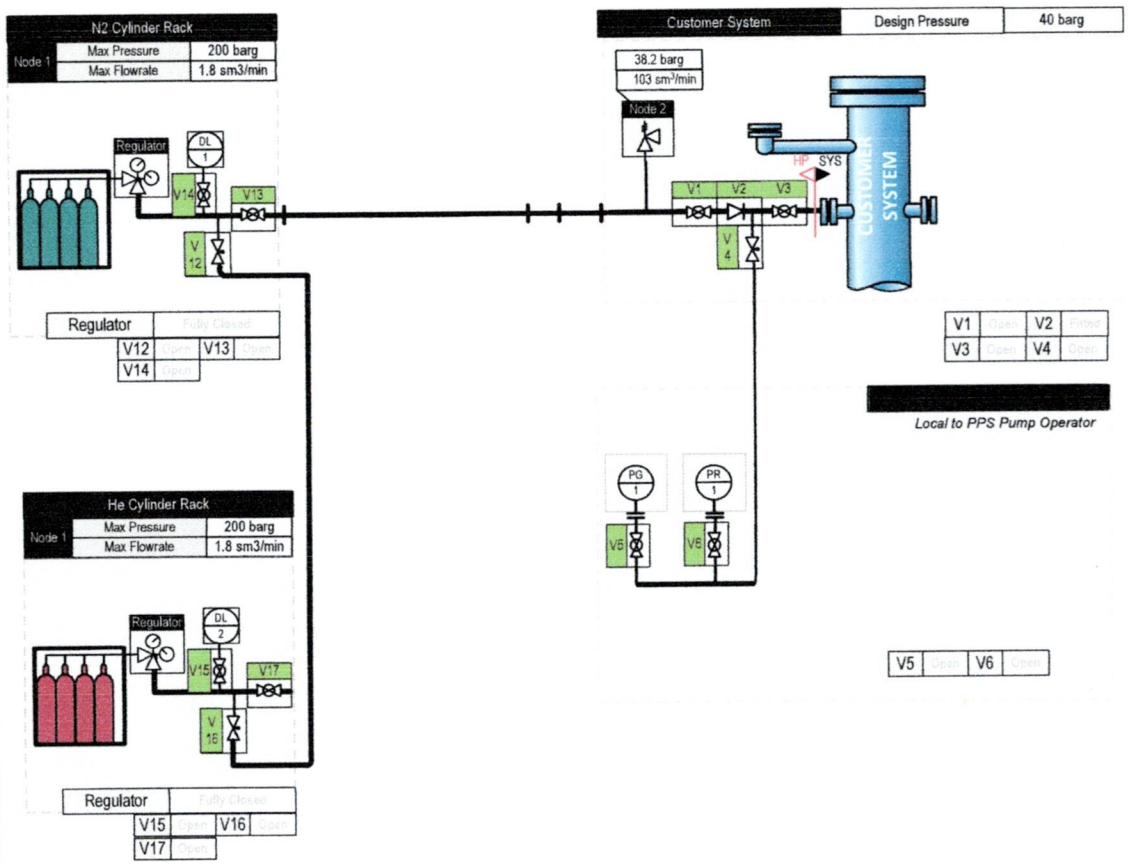
OVER PRESSURE PROTECTION

Node 2 – Function Test.

As per minimum test pressure

Node 3 – Customer System

PRV Customer System



Revision	Rev. Date	Description	Drawn	Checked	Approved
A	27-01-2025	Initial release	M.Bejinaru	M.Ienco	H.Amara

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Leak Test TP-01 – Operation Drawing

Scale	Drawn by	Date	Checked by	Date
NTS	M.Bejinaru	27-01-2025	M.Ienco	27-01-2025

Third Angle Projection

Drawing No.:	Page No.	Rev:
PMAF453947M1 TP01-DWG-001	2 of 2	A

Appendix C

Test System Marked Drawings

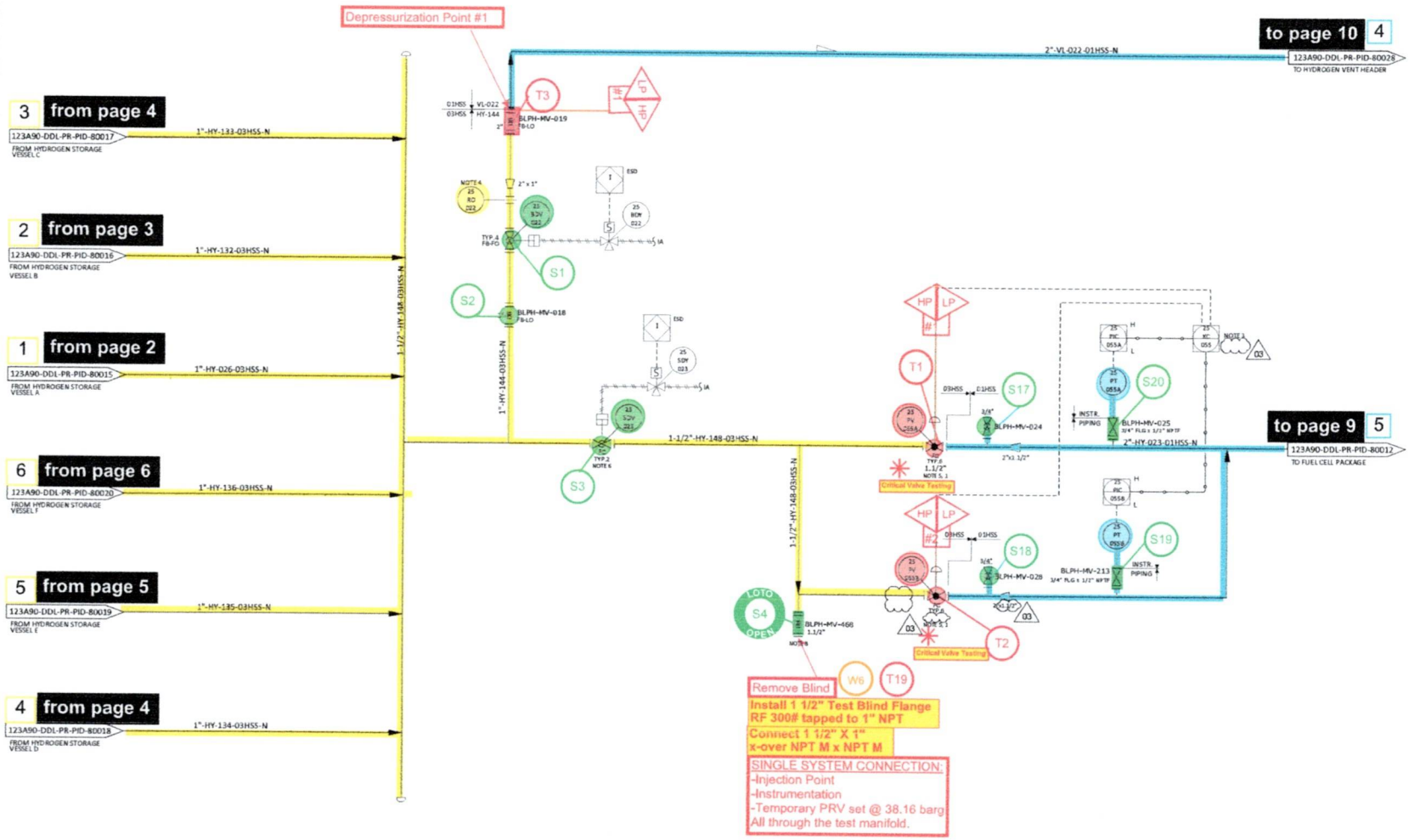
Customer Name:	Rosetti Marino
Project Name:	Leak Testing Services for Base Load Power Hub Project
Test Pack Number:	TP 008
Test Pack Name:	H2 Outlet System HP

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DRAWING NO.

REV.



Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

NOTES

1. TIGHT SHUT-OFF VALVE.
2. DELETED.
3. CONTROL VALVES 25-PV-055A/B WORK IN SPLIT RANGE:
   - FOR LOW OPERATING CV (UP TO 0.31) VALVE "B" IS USED
   - FOR HIGH OPERATING CV (FROM 0.31) VALVE "A" IS USED
4. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-8003D".
5. SOFTWARE INTERLOCK PREVENTS OPENING OF THE CONTROL VALVES 25-PV-055A/B IN CASE FUEL CELL PACKAGE (A-80000) IS NOT READY TO START.
6. SDV VALVE 25-SDV-023 TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE CONTROL VALVES 25-PV-055A/B. 03
7. DELETED. 03
8. TO BE USED DURING COMMISSIONING PHASE.

HOLDS

1. DELETED.
2. DELETED. 03

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
HYDROGEN STORAGE VESSELS HEADER (OUTLET)

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE	
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File Name - FILE_NAME

DRAWING_NO.

REV.

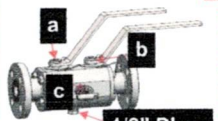
V-25001 A

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg /AMB

*** Valid only for Test Limit in DBB

Example:
Txa - Open
Txb - Close
Sx - Open
1/2" Plug removed on bleed



Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-031) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. *REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.*
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT "DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-035 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-035 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-031 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-035 HAS FAILED TO CLOSE.
15. 25-PSV-001A SIZED FOR FIRE.

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
HYDROGEN STORAGE VESSEL A

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE	
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REV. REV.

✱✱✱ Valid only for Test Limit in DBB

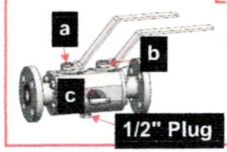
Example:

Txa - Open

Txb - Close

Sx - Open

1/2" Plug removed on bleed



V-25001 B

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB

Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-PV-032) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT "DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-037 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC."PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-037 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-032 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-037 HAS FAILED TO CLOSE.
15. 25-PSV-001B SIZED FOR FIRE.

HOLDS

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

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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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
HYDROGEN STORAGE VESSEL B

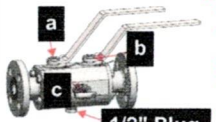
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DRAWN	CHECKED	APPROVED	DATE

A1	DRAWING NO. 123A90-DDL-PR-PID-80016	SHEET 001	REV. 03

File Name : FILE_NAME

Rev.02

*** Valid only for Test Limit in DBB



Example:
Txa - Open
Txb - Close
Sx - Open
1/2" Plug removed on bleed

V-25001 C

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB

6"-VL-172-01HSS-N
123A90-DDL-PR-PID-80028
TO HYDROGEN VENT HEADER

4"-VL-112-01HSS-N

4"-HY-171-03HSS-N

1-1/2"-HY-170-03HSS-N

3 to page 1

1"-HY-133-03HSS-N
123A90-DDL-PR-PID-80014
TO HYDROGEN STORAGE VESSELS HEADER (OUTLET)

Remove Plug
Open to Atmosphere

V-25001C

TRIM LINE: 1"-HY-169-03HSS-N
NOTE 8

1"-N-125-03HSS-N
123A90-DDL-PR-PID-80027
FROM NITROGEN SYSTEM

1"-HY-187-03HSS-N

1"-HY-017-03HSS-N
123A90-DDL-PR-PID-80013
FROM HYDROGEN STORAGE VESSELS HEADER (INLET)

Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-033) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. *REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.*
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-040 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-040 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-033 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-040 HAS FAILED TO CLOSE.
15. 25-PS-V001C SIZED FOR FIRE.

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
HYDROGEN STORAGE VESSEL C

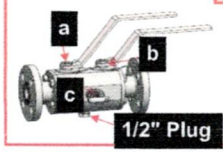
CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE
A1	DRAWING NO. 123A90-DDL-PR-PID-80017	SHEET 001	REV. 03

DRAWING NO. DRAWING_NO.
REV. REV.
File Name : FILE_NAME

DRAWING NO.

REV.

*** Valid only for Test Limit in DBB



Example:
Txa - Open
Txb - Close
Sx - Open
1/2" Plug removed on bleed

V-25001_D

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB

Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-FV-034) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-043 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-80095). CONTROL VALVE 25-PV-043 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-FV-034 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-043 HAS FAILED TO CLOSE.
15. 25-PSV-001D SIZED FOR FIRE.

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
HYDROGEN STORAGE VESSEL D

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

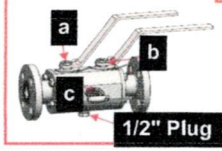
DRAWN | CHECKED | APPROVED | DATE

A1 | DRAWING NO. 123A90-DDL-PR-PID-80018 | SHEET 001 | REV. 03

File Name : FILE_NAME

*** Valid only for Test Limit in DBB

Example:
Txa - Open
Txb - Close
Sx - Open
1/2" Plug removed on bleed



V-25001 E

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB

NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS. 03
4. NITROGEN CONTROL VALVE (25-PV-038) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-046 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC. "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-046 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25-PV-038 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-046 HAS FAILED TO CLOSE.
15. 25-PSV-001E SIZED FOR FIRE.

HOLDS

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

Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

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
HYDROGEN STORAGE VESSEL E

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE NTS
DRAWN | CHECKED | APPROVED | DATE

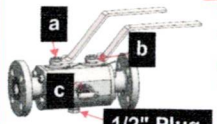
A1 | DRAWING NO. 123A90-DDL-PR-PID-80019 | SHEET 001 | REV. 03

DRAWING NO. | REV. | FILE_NAME

Rev.02

*** Valid only for Test Limit in DBB

Example:
Txa - Open
Txb - Close
Sx - Open
1/2" Plug removed on bleed



V-25001 F

HYDROGEN STORAGE VESSEL

SIZE : 2800 mm (ID) X 15500 mm (L T/T)
DESIGN P/T : 40 barg / -10 / 80 °C
MATERIAL : CARBON STEEL
OPERATING P/T : 30 barg / AMB

NOTES

1. DELETED.
2. TIGHT SHUT OFF VALVE.
3. VARIABLE AREA FLOWMETER TO BE INSTALLED VERTICALLY WITH DIRECTION OF FLOW UPWARDS.
4. NITROGEN CONTROL VALVE (25-PV-036) CAN NOT OPEN UNTIL THE PRESSURE WITHIN THE VESSEL IS BELOW THE NITROGEN SUPPLY PRESSURE.
5. ONE COMMON UNINSTALLED SPARE PSV FOR ALL VESSELS.
6. FOR PULSE PRESSURE PURGING OF VESSEL WITH HYDROGEN.
7. FOR FLOW PURGING OF VESSEL WITH NITROGEN.
8. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 STORAGE, DOC. N. "123A90-DDL-MAC-DS-50027".
9. REDUCERS TO BE INSTALLED AS CLOSE TO PSV AS POSSIBLE.
10. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
11. NOZZLE N4 TO BE INSTALLED AT MINIMUM DISTANCE FROM TANGENT LINE OF THE VESSEL (ON THE OPPOSITE SIDE OF N5 NOZZLE).
12. SOFTWARE INTERLOCK TO PREVENT 25-PV-049 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION AND PROCESS START-UP CHARGING MODE (SEE DOC "PROCESS CONTROL LOGICS DESCRIPTION" N. 123A90-DDL-IN-RE-40095). CONTROL VALVE 25-PV-049 IS USED ONLY IN CASE OF VESSEL PURGING OR PROCESS START-UP CHARGING MODES. 03
13. SOFTWARE INTERLOCK TO PREVENT 25FV036 BEING OPENED OUTSIDE OF A PURGE CYCLE OPERATION.
14. A TIMER ALARM ON THE H2 PRESSURIZATION SECTION OF THE PURGE CYCLE IN THE CONTROL LOGIC IS PROVIDED TO DETERMINE IF THE PURGE VALVE 25-PV-049 HAS FAILED TO CLOSE.
15. 25-PSV-001F SIZED FOR FIRE.

HOLDS

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

Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

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 HAZOP (IFA)
00	20/10/2023	CIM	RZI	DLO	ISSUE FOR ACCEPTANCE (IFA)

CROSSWIND

ROSETTI MARINO

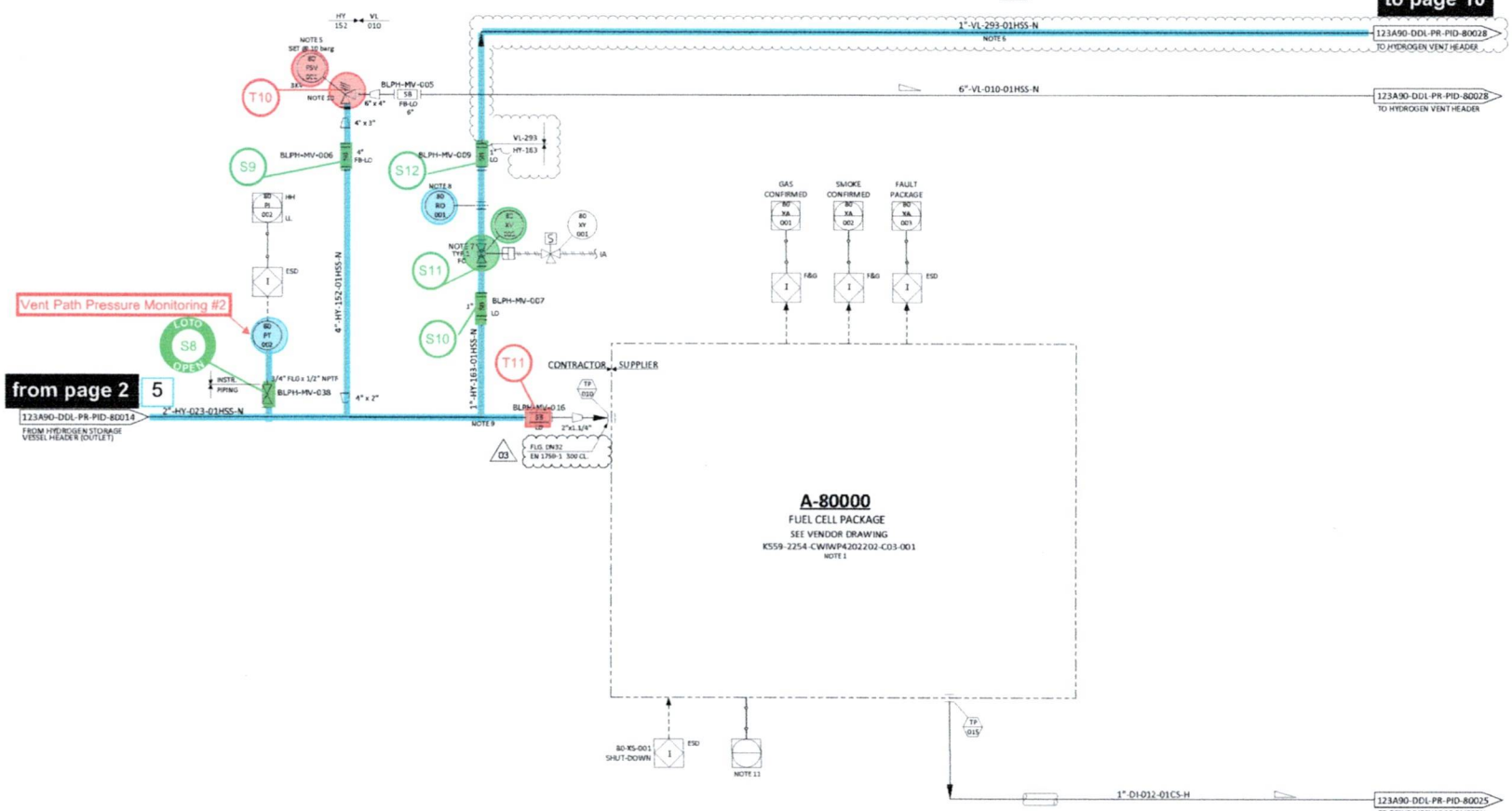
TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
HYDROGEN STORAGE VESSEL F

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-80020	SHEET 001	REV. 03

DRAWING_NO.
REV.
FILE_NAME
File Name - FILE_NAME

DRAWING NO. DRAWING_NO.

REV. REV



NOTES

1. THE VENDOR PACKAGE WILL CONTAIN AIR INTAKE AND EXHAUST, SUITABLY SAFEGUARDED AND SEPARATED.
2. DELETED.
3. DELETED.
4. DELETED
5. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
6. LINE REQUIRED FOR PURGING OF PIPING WORK.
7. TIGHT SHUT-OFF VALVE.
8. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
9. LINE 1"-HY-163-01HSS-N WILL BE LOCATED AS CLOSE TO THE PACKAGE AS POSSIBLE TO ENSURE COMPLETE PURGING OF THE LINE.
10. 80-PSV-001 SIZED FOR CV FAILURE OF UPSTREAM CONTROL VALVE 25-PV-055A/B.
11. SERIAL COMMUNICATION WITH CONTROL SYSTEM.

HOLDS

1. DELETED.
2. DELETED.

Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

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)

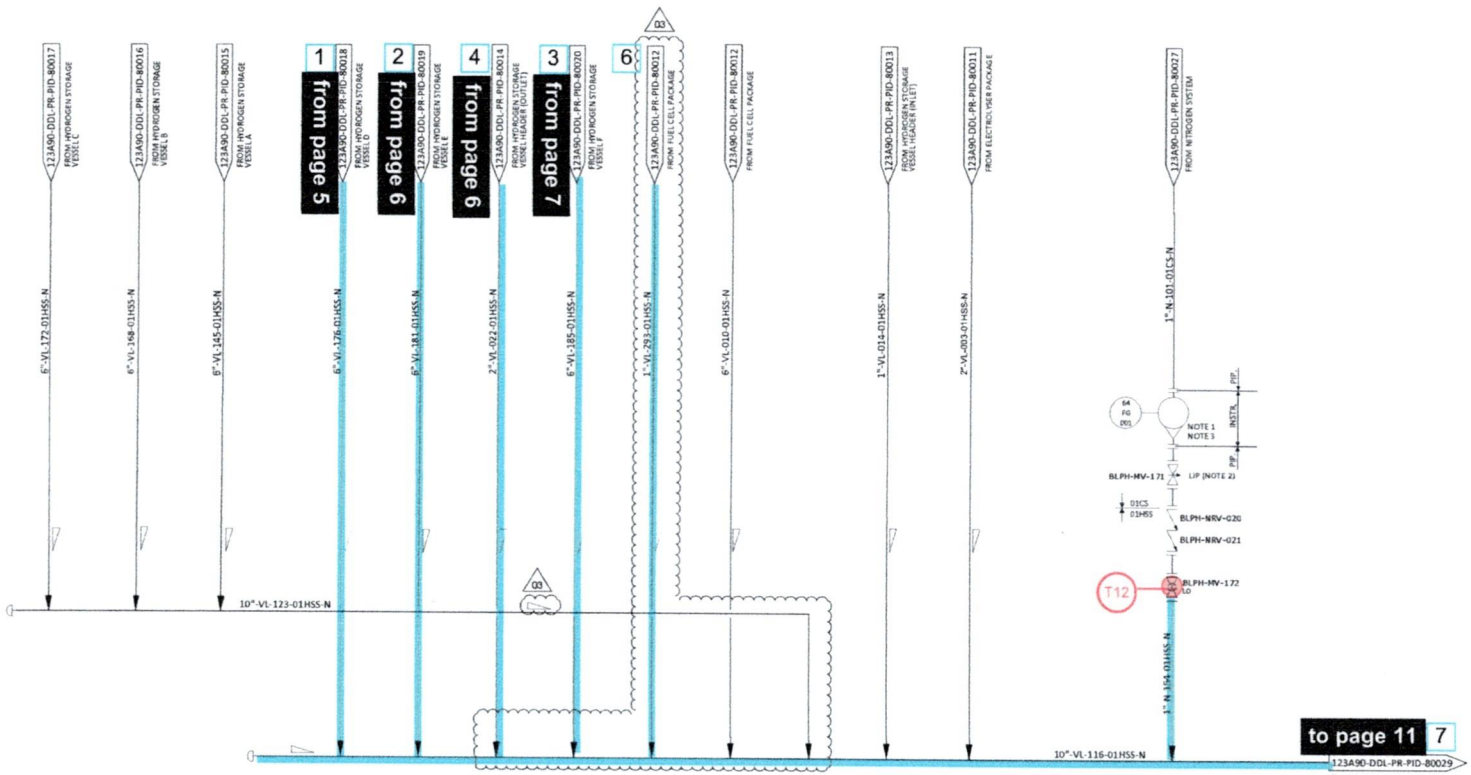
CROSSWIND

ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
FUEL CELL 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-80012	SHEET 001	REV. 03

File Name : FILE_NAME



NOTES

1. FLOW METER 64-FG-001 SHALL BE READABLE FROM MANUAL VALVE MV-171.
2. VALVE BLPH-MV-171 TO BE LOCKED IN PLACE.
3. VERTICAL INSTALLATION.

HOLDS

1. DELETED.
2. DELETED.

Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

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
HYDROGEN VENT HEADER

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-80028	SHEET 001	REV. 03

DRAWING NO. DRAWING_NO.
REV REV
File Name : FILE_NAME

Rev.02

DRAWING NO. DRAWING_NO.

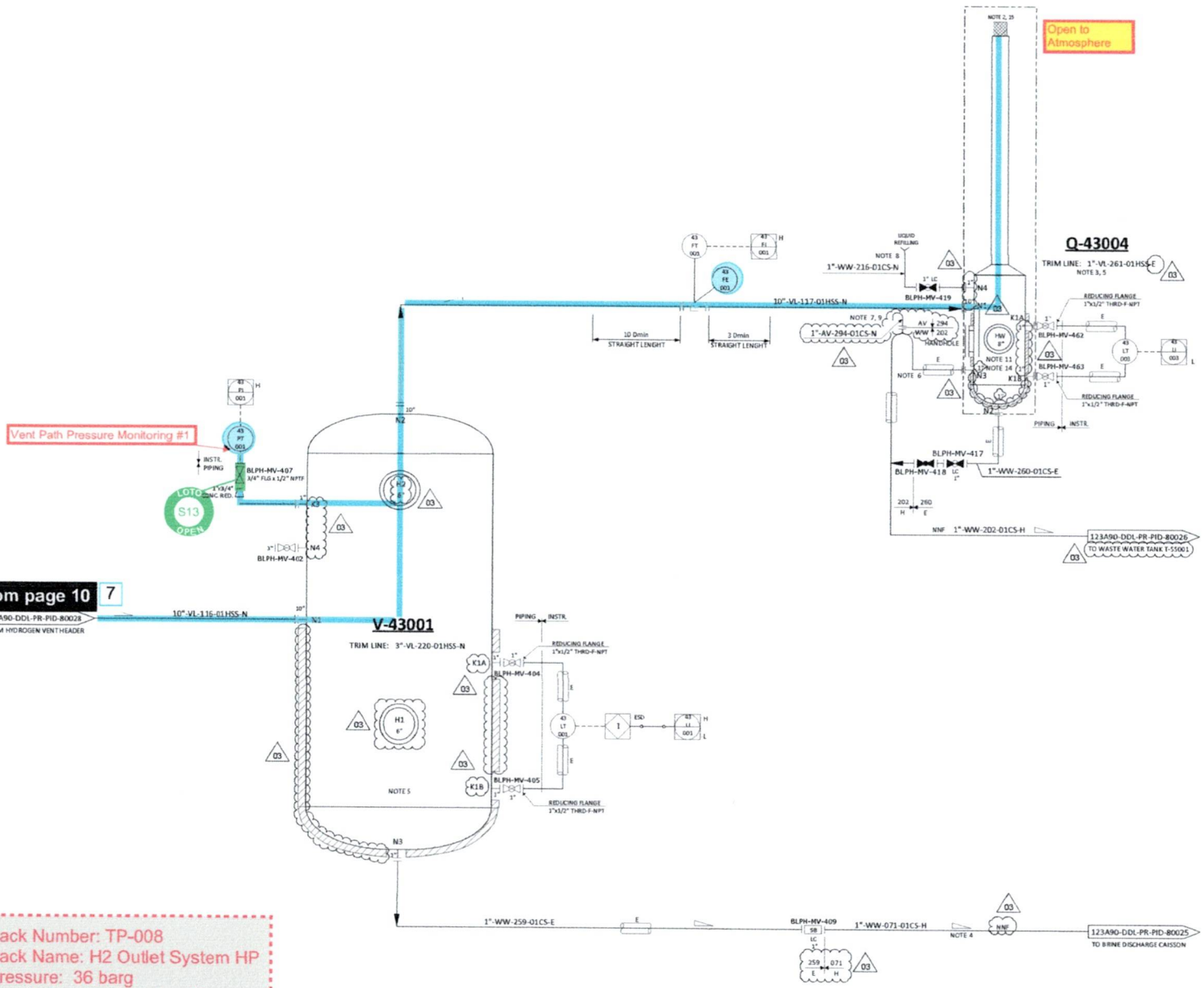
REV. REV

V-43001

HYDROGEN VENT KO DRUM
SIZE : 600 mm (ID) x 2350 mm (H)
DESIGN P/T : 3.5 barg / -10 / 80°C
MATERIAL : LTCS + 1 mm CA

Q-43004

HYDROGEN VENT NOTE 1
SIZE : 254 mm (ID)
DESIGN P/T : 3.5 barg / -10 / 80°C
MATERIAL : LTCS + 3 mm CA



Test Pack Number: TP-008
Test Pack Name: H2 Outlet System HP
Test Pressure: 36 barg
Test Type: N2He 90% Design Pressure

NOTES

1. VENT TO SAFE LOCATION SEGREGATED FROM OTHER VENTS.
2. VENT TO BE EQUIPPED WITH BIRD SCREEN.
3. LIQUID SEAL DRUM IS PART OF THE VENT SYSTEM.
4. LIQUID DRAIN LINES TO BE ROUTED TO ENSURE GRAVITY DRAIN.
5. HYDROGEN VENT KO DRUM AND LIQUID SEAL DRUM TO BE HEAT TRACING.
   - V-43001 HEAT TRACED FROM B.T.L. UP TO 600 mm, BOTTOM HEAD ALSO TO BE HEAT TRACED.
6. SEAL LEG WILL BE DETERMINATED ON THE MAXIMUM BACK PRESSURE IN THE VENT.
7. SEAL VENT TO BE PLACED INTO A SAFE POSITION.
8. FILLING LINE TO BE PLACED IN AN ACCESSIBLE POSITION.
9. TRACED FROM NOZZLE N3 UP TO SWAN NECK.
10. DELETED.
11. INLET DIP LEG SUBMERSION HEIGHT OF 0.6 m.
12. DELETED.
13. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 VENT KOD.
14. LIQUID INSIDE SEAL DRUM IS A WATER - GLYCOL MIXTURE WITH 50% VOLUME OF GLYCOL. 03
15. TOP OF TIP OF H2 VENT SHALL BE AT AS MINIMUM 6.2 m FROM HIGHEST REACHABLE PLATFORM.

HOLDS

1. DELETED.
2. DELETED.
3. 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
HYDROGEN VENT DRUM

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-80029		SHEET 001	REV. 03

File Name : FILE_NAME

Appendix D

Restricted Access Zone

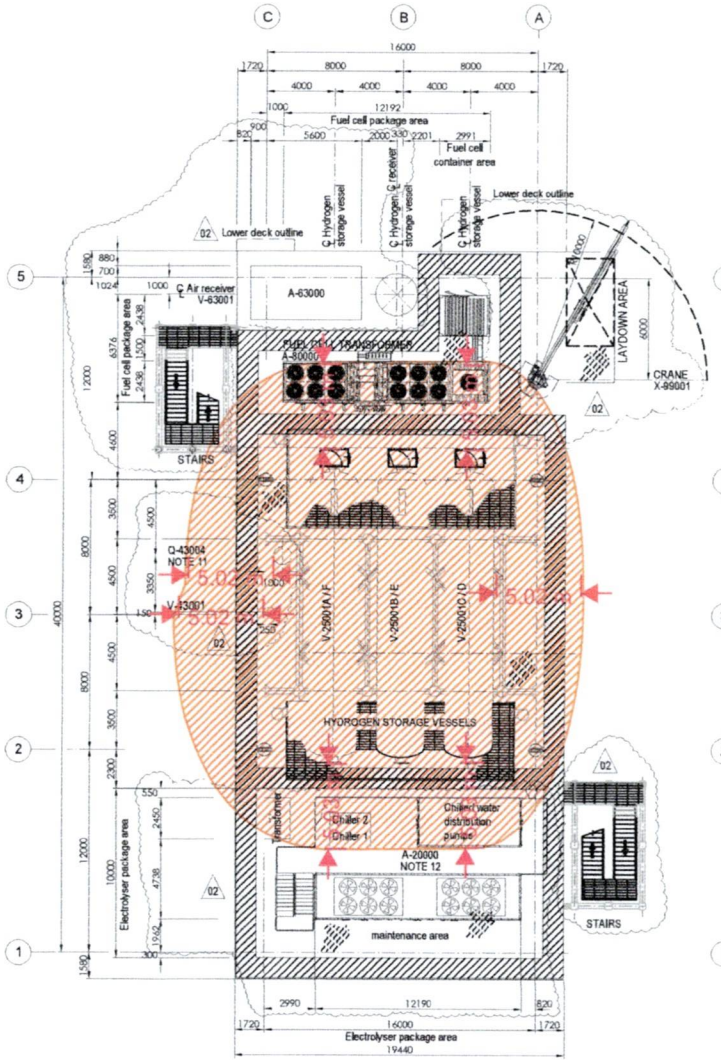
Marked Plot Plan / Deck Plan

Customer Name:	Rosetti Marino
Project Name:	Leak Testing Services for Base Load Power Hub Project
Test Pack Number:	TP 008
Test Pack Name:	H2 Outlet System HP

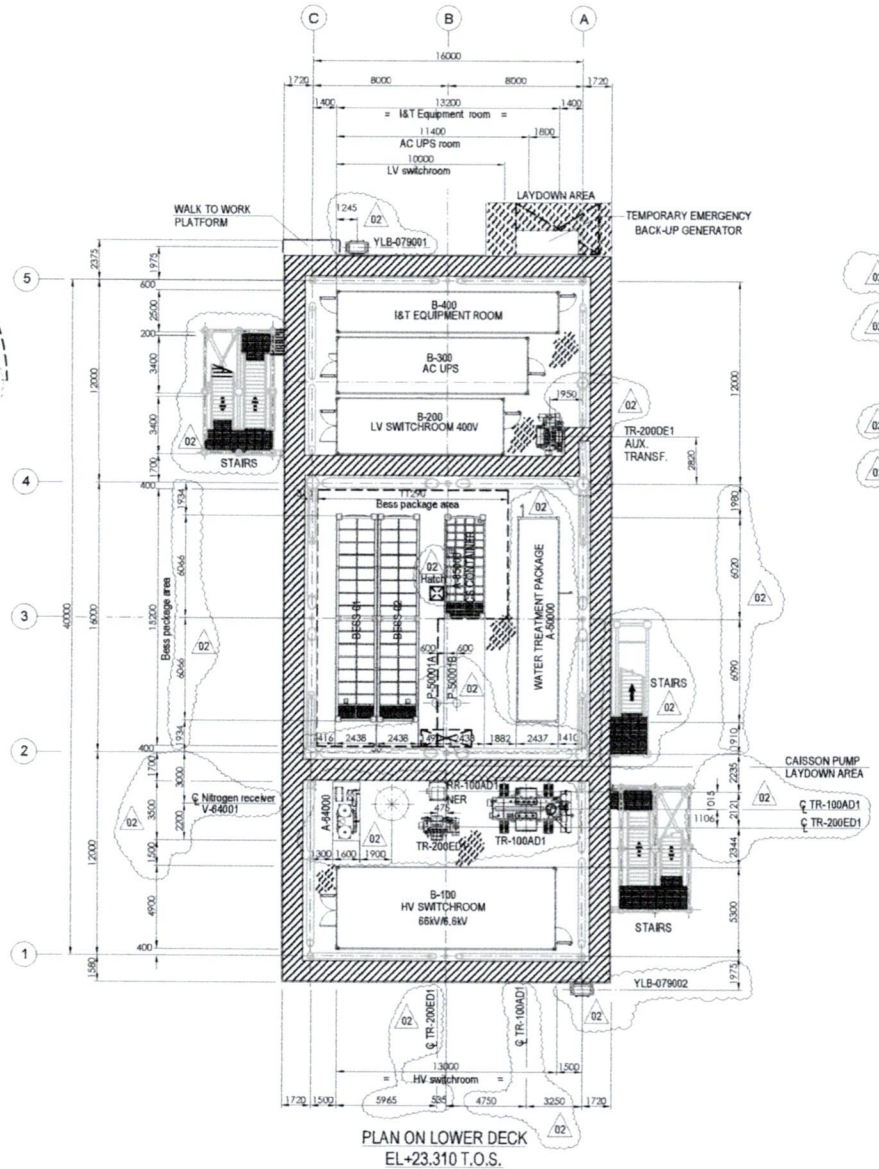
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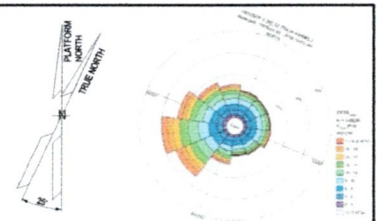
TP-001 (Restricted Zone) @ 3.15 barg



PLAN ON UPPER DECK
EL+30.310 T.O.S.



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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. EQUIPMENT SIZES ARE BASED ON MASTER EQUIPMENT LIST 123A90-DDL-MAC-LIS-50000 AND VENDOR DWG. RECEIVED.
4. ALL ELEVATIONS RELATE TO LOWEST ASTRONOMICAL TIDE (LAT) = 0.000.
5. PLAN SHOWS PRIMARY ESCAPE/MATERIAL HANDLING ROUTES ONLY.
6. DELETED
7. MISCELLANEOUS SAFETY EQUIPMENT ARE SHOWN IN DOC. 123A90-DDL-SAF-DL-3002516_Escape Routes, Fire Fighting, Life Saving Equipment and Safety Equipment Layouts Drawings.
8. PREVAILING WIND DIRECTION INFLUENCING EQUIPMENT/VENT LAYOUT FROM THE SOUTH WEST.
9. PLATFORM NORTH DIRECTION IS N 25°W.
10. DELETED
11. LIQUID SEAL IS PART OF THE HYDROGEN VENT.
12. FOR ELECTROLYSER PACKAGE DETAILS SEE VENDOR DWG. C83-GAD-001
13. DELETED

LEGEND

- DENOTES PLATED DECK
- ESCAPE/MATERIAL HANDLING ROUTE
- DENOTES OPEN GRATING

HOLDS

1. DELETED
2. DELETED
3. DELETED
4. DELETED
5. DELETED
6. DELETED
7. DELETED
8. DELETED
9. DELETED

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	V-25001A-F	HYDROGEN STORAGE VESSELS
		V-43001	HYDROGEN VENT KO DRUM
		YLB-079001/2	LIFE RAFTS
		B-100	HV/MV SWITCHROOM 66kV/6.6kV
		B-200	LV SWITCHROOM 400V
A-63000	INSTRUMENT AIR PACKAGE	B-300	AC UPS EQUIPMENT ROOM
A-60000	FUEL CELL	B-400	I&T EQUIPMENT ROOM
A-85000	BESS	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-50000	WATER TREATMENT PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
P-50001A/B	SEAWATER LIFT PUMPS	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
		RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
Q-43004	HYDROGEN VENT NOTE 11	V-63001	AIR RECEIVER
		V-64001	NITROGEN RECEIVER
		X-99001	CRANE
A-64000	NITROGEN SYSTEM		

Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	24/05/24	MMA	CBO	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	07/02/24	MMA	CBO	DLO	ISSUE FOR REVIEW (IFR)
00	31/10/23	MMA	CBO	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE: BASE LOAD POWER HUB (BLPH)
PLOT PLAN
LOWER & UPPER DECK

CONTRACT NO./TITLE: CW-H-WF4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE: 1:150
DRAWN: M. MAGNI | CHECKED: C. BORTOLIN | APPROVED: D. LO STERZO | DATE: 24/05/24
A1 | DRAWING NO.: 123A90-DDL-PP-DL-70070 | SHEET: 001 | REV: 02

File Name: 123A90-DDL-PP-DL-70070 Rev 02

E3. Witness Joint Register #1

Customer	Rosetti Marino	**Test Pack Name**	H2 Outlet System HP
Project	Leak Testing Services for Base Load Power Hub Project	**Test Pack Number**	TP 008
Location	Piomboni Yard - Marina di Ravenna	**Register Number**	1 of 1

The system components listed below were NOT tested as part of this test pack and are 'Witness Joints'.
The customer is responsible for checking these components for leakage in accordance with their company protocol.

Witness Joints			
Witness Joint No.	**Drawing Number**	**Customer Tag Number**	**Description**
W1	123A90-DDL-PR-PID-80017 sh.001	BLPH-MV-192	1/2" Plug removed for vent adjacent system
W2	123A90-DDL-PR-PID-80016 sh.001	BLPH-MV-384	1/2" Plug removed for vent adjacent system
W3	123A90-DDL-PR-PID-80015 sh.001	BLPH-MV-086	1/2" Plug removed for vent adjacent system
W4	123A90-DDL-PR-PID-80018 sh.001	BLPH-MV-195	1/2" Plug removed for vent adjacent system
W5	123A90-DDL-PR-PID-80019 sh.001	BLPH-MV-197	1/2" Plug removed for vent adjacent system
W6	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-468	u/s 1 1/2" Blind removed for PPS Single Injection Manifold
W7	123A90-DDL-PR-PID-80020 sh.001	BLPH-MV-200	1/2" Plug removed for vent adjacent system

	Name	Job Title	Signature	Time / Date
PPS Representative	M. Bettuzzi	Field Engineer		
Customer Rep. #1		COMMERCIAL		
Customer Rep. #2				

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ROSETTI MARINO | CROSSWIND

ITEM	Tag	TP-009	: H2 Outlet System LP			Dwg	
	S/Sys	25-08	: Hydrogen Storage Vessels Header (Outlet)			Module	
TASK	code	C10004905	Location	Onshore Activities		User	Rosetti Marino Quality Control
FORM	Process	COMM	Activity PVP	Discipline	Piping	Form 4241	Leak Testing

CONDITIONS

Operating pressure: 10 bar g

Test Pressure 9 bar g

Test Fluid — Air ☐ — Nitrogen ☐

Water ☐ — Other ☐

TIGHTNESS CRITERION

Pressure variation tolerance: 10%

Test Duration: 30 MIN

Pressure Recording Means: ATTACHED

Adhesive Tape: Yes

Soap Solution: No

He Tracing: No

Rotating equipment isolated

ATTACHMENTS

Procedure: Yes

Sketches & Drawings: Yes

Pressure Records: Yes

Comments: TEST PERFORMED WITH NITROGEN 99%+1%HELIUM
ATTACHED BH DOCUMENTATION AND CERTIFICATES

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	BAKER HUGHES	ROSETTI MARINO SPA	CPY NOT PRESENT
Name	MARIUS BEJINARU	Ignacio Vago	Witness waived
Date	04/03/2025	2025-03-12	2025-03-14
Signature		PROVERLIS Digitaly signed by Ignacio Vago 2025-03-12T12:11:30.670Z	PROVERLIS Digitaly signed by Witness waived 2025-03-14T13:57:13.631Z

Baker Hughes

Document Title	Helium Leak Detection Test Pack
Test Pack Name	H2 Outlet System LP
Test Pack Number	TP 009
PPS Reference Number	PMCE453947M1 / HLD / TP 009
Customer Reference Number	
Revision Number	02
Customer	Rosetti Marino
Project	Leak Testing Services for Base Load Power Hub Project
Location / Facility	Piomboni Yard - Marina di Ravenna
PPS Job Number	PMCE453947M1
Customer Contract Number	123A90
Customer Work Order Number	1724002632

Signatories for Current Revision Document

Signatories	Company	Name	Job Title	Signature	Date
Originator	Baker Hughes	M.Ye Yin	Field Engineer	Mariana Ye Yin	
Checked by	Baker Hughes	M.Bejinaru	Field Engineer General	Marius Bejinaru	
Approved by	Baker Hughes	A.Hsin	CE Operations Manager	Hsin Amara	
Approved by	Customer Rep. #1	A. IVESON	Comm. MGR.		26-Feb-2025
Approved by	Customer Rep. #2				

Revision History

Rev.	Revision Date	Description	Baker Hughes			Customer
			Originator	Checked by	Approved by	Approved by
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Distribution: Original PPS Office
Copy #1 PPS Job Site
Copy #2 Customer

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Document Amendment Record #1

Item	Revision Number	Section Number	Page Number	Description of Change	Amended By	Date

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A1. Test Pack Information #1

System Details			
Test Pack Number	TP 009	**System Design Pressure (P_D)**	10.0 barg
Test Pack Name	H2 Outlet System LP	**System PSV Set Pressure**	10.0 barg
Customer Ref. No.		**Normal Operating Pressure**	3.5 barg
Rotating Equipment	No	**System Free Volume**	0.1 m^3
		Number of Leak Test Joints	All joints

Incremental Pressures and Final Test Pressure						
	Pressure	**% Test Press.**	**% Normal Op.**	**% Design Press.**	**% System PSV**	**Hold Period**
Increment #1	2.3 barg	25.0 %	64.3 %	22.5 %	22.5 %	30.0 mins
Increment #2	4.5 barg	50.0 %	128.6 %	45.0 %	45.0 %	30.0 mins
Increment #3	6.8 barg	75.0 %	192.9 %	67.5 %	67.5 %	30.0 mins
TEST PRESSURE (P_T)	**9.0 barg**	**100.0 %**	**257.1 %**	**90.0 %**	**90.0 %**	**10.0 mins**

Residual Pressure	**0.0 barg**

Pressure left in the system upon completion of depressurisation.

System Pressurization and Depressurization	
Max. Pressurization Rate	0.2 bar/min
	0.0 sm^3/min
Max. Depressurization Rate	2.0 bar/min
	0.2 sm^3/min
Vent System Max. Pressure	3.0 barg

Verify depressurization rate using "Test Pressure Monitoring Points".

Test Gas			
Test Gas Type	1% Helium / 99% Nitrogen		
Test Gas Quantity	0.8 sm^3		
LN2 Equivalent	N/A litres		
Helium Gas Qty	0.008 sm^3	**Conc'n:**	1.0%

Verify vent system pressure using "Vent Path Pressure Monitoring Points".

Over Pressure Protection					
Safety Equipment	**Set Pressure**	**% Design Press.**	**% System PSV**	**PRV Relief Rate (fully open)**	**PRV Inlet Connection**
OPPS	N/A	N/A	N/A		
Temporary PRV #1	9.5 barg	95.4%	95.4%	6.0 sm3/min	1" NPT M
Temporary PRV #2					
Temporary PRV #3					

Use the PRV Calculator in PPS Toolbox to quantify PRV relief rate. Enter data above and place calculation results in Appendix A along with PRV data sheet.

Pump	Gas Rack	**Pump Max. Flow Rate**	1.8 sm^3/min	**Pump Max. Pressure**	200.0 barg
Hose MAWP	700.0 barg	**Hose Field Test Press.**	10.0 barg	**Test Hold Period**	5.0 mins

Leak Test and Acceptance Criteria	
Leak Test	Pressurize the system with 1% helium / 99% nitrogen test gas mixture to the nominated test pressure (P_T). Check all potential leak sources for leakage using a calibrated helium leak detector.
Acceptance	Pressure to be maintained within 10% of the test pressure for the duration of the test ('top up' if necessary). Maximum allowable leak rate threshold from any single leak source not to exceed: **All potential leak sources** **20 scf/yr or 0.566 sm^3/yr** Leak rates **BELOW** the threshold are a **PASS**. Leak rates **ABOVE** the threshold are a **FAIL**. All identified leak sources to be repaired and re-tested until **one** of the following conditions is met: i. Leak free (no helium detected) ii. Quantified leak rate is below the maximum allowable leak rate threshold (see above). iii. The leak is accepted as a "Witness Joint" by the Customer Representative, only after a suitable Concession Request has been raised and signed off to support such agreement.

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A1. Test Pack Information #2

Adjacent Systems				
No.	System Name	Adjacent System Design Press. P_{DA}	Design Press. Ratio (%) P_D / P_{DA}	HP / LP Interface Drawing Number
#1	Vent System	3.5 barg	285.7%	123A90-DDL-PR-PID-80012 sh.001
#2				
#3				
#4				
#5				
#6				
#7				
#8				
#9				
#10				

System Connection and Monitoring Points			
Test Component Type	PPS Tag	Location	Drawing Number
Injection Point #1	T14	1/2" x 1/4" Injection Manifold	123A90-DDL-PR-PID-80014 sh.001
Temporary PRV Point #1	T13	3/4" Test Blind Flange 150# RF tapped to 3/4" NPT	123A90-DDL-PR-PID-80014 sh.001
Pressure Monitoring Point #1	T13	3/4" Test Blind Flange 150# RF tapped to 3/4" NPT	123A90-DDL-PR-PID-80014 sh.001
Depressurization Point #1	T3	1" Ball Valve RF 150# (BLPH-MV-009)	123A90-DDL-PR-PID-80012 sh.001
Vent Path Press. Monitoring Point #1	d/s S4	43-PT-001	123A90-DDL-PR-PID-80029 sh.001
Pressure Monitoring Point #2	d/s S7	25-PT-055B	123A90-DDL-PR-PID-80014 sh.001
Cycle Valve #1	T5	1 1/4" Ball Valve	601456B sh.4 of 16
Depressurization Point #2	S2	80-XV-001	123A90-DDL-PR-PID-80012 sh.001

Test Pack Notes

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B. Drawing Number List #1

Test Pack Drawing Numbers							
No.	**Type**	**Drawing Number**	**Revision**	**No.**	**Type**	**Drawing Number**	**Revision**
1	P&ID	123A90-DDL-PR-PID-80014 sh.001	03	46			
2	P&ID	123A90-DDL-PR-PID-80012 sh.001	03	47			
3	P&ID	601456B sh.4 of 16	03	48			
4	P&ID	123A90-DDL-PR-PID-80028 sh.001	03	49			
5	P&ID	123A90-DDL-PR-PID-80029 sh.001	03	50			
6				51			
7				52			
8				53			
9				54			
10				55			
11				56			
12				57			
13				58			
14				59			
15				60			
16				61			
17				62			
18				63			
19				64			
20				65			
21				66			
22				67			
23				68			
24				69			
25				70			
26				71			
27				72			
28				73			
29				74			
30				75			
31				76			
32				77			
33				78			
34				79			
35				80			
36				81			
37				82			
38				83			
39				84			
40				85			
41				86			
42				87			
43				88			
44				89			
45				90			

Note: **Drawing 'Type' data entries listed as 'Plot Plan' or 'Deck Plan' represent Restricted Access Zone / Exclusion Zone boundary drawings, and / or equipment lay down area plans.**

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C1. Customer Preparatory Work

Customer	Rosetti Marino	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Test Pack Number**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Issue Date**	

Before the PPS crew prepare the system for testing
the Customer Representative shall confirm the following work activities are complete

Item	Customer Preparatory Work	Status
1	The system is mechanically complete, visually checked, all punch list items closed out, and released for testing.	
2	All welds have successfully passed NDE / NDT in compliance with the applicable design code.	
3	Post weld heat treatment is complete in compliance with the relevant design code.	
4	All pipe supports, structural supports, anchors, and associated weld attachments are complete.	
5	All gaskets, nuts, and bolts are correctly specified, and joints are correctly assembled.	
6	All bolted flange joints, hub clamps, and other mechanical joint types are correctly tightened using torque or tension techniques specified by the applicable design code.	
7	All threaded connections, compression fittings, and instrumentation that will be exposed to pressure have been checked to verify joints are correctly made up and tightened (compatible thread types, sufficient threads engaged, correctly tightened).	
8	All system components nominated for leak testing have successfully passed a hydrostatic strength test in accordance with the applicable design code. Alternatively, water sensitive systems have successfully passed a design code compliant pneumatic strength test.	
9	Calibrated, certified system PSVs and / or bursting discs are installed in accordance with plant design requirements. Set pressure has been confirmed by visual check of tags and certification review.	
10	System internal cleanliness has been verified, and no residual water or moisture is present.	
11	Bolted flange joints, threaded connections, and other nominated or potential leak sources within test limit boundaries are exposed and accessible to allow leak test examination. Cladding and insulation has been removed where necessary.	
12	Ambient / pipe wall temperature is above the system minimum design temperature and expected to remain there for the entire test duration. Test to be stopped if weather conditions cause the temperature to fall below this level.	
13	Certified scaffolding and ladders have been erected for safe access to system high points.	
14	Adequate lighting has been provided for night time working.	
15	Actuated valves detailed on the PPS Actuated Valve Checklist have been isolated in the positions required and their motive energy sources disconnected.	
16	Action items detailed on the following PPS forms are completed (where applicable): - **PPS Punch List** - **PPS Mechanical Works**	

Notes

	Name	Job Title	Signature	Time / Date
PPS Representative	M. Bejmame	Field Engineer	BV	
Customer Rep. #1				
Customer Rep. #2				

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C3. Mechanical Works #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack No.**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Checklist No.**	1 of 1

Component Details				Mechanical Preparation			Mechanical Reinstatement		
Item No.	**Drawing Number**	**Customer / PPS Tag No.**	**Description**	**Work Required**	**PPS Rep.** Time / Date	**Customer Rep.** Time / Date	**Work Required**	**PPS Rep.** Time / Date	**Customer Rep.** Time / Date
1	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-468/W1	1/2" Plug	REMOVE			INSTALL		
2	123A90-DDL-PR-PID-80014 sh.001	W2	3/4" Blind Flange	REMOVE			INSTALL		
3	123A90-DDL-PR-PID-80014 sh.001	T13	3/4" Test Blind Flange 150# RF tapped to 3/4" NPT	INSTALL			REMOVE		
4	123A90-DDL-PR-PID-80014 sh.001	25-PT-055A/W3	1/2" Instrumentation	REMOVE			INSTALL		
5									
6									
7									
8									
9									
10									

RT CLOSED = ROTATE CLOSED RT OPEN = ROTATE OPEN

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C5. Test Limit Isolations Checklist #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack Number**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Checklist Number**	1 of 1

All listed Test Limit Isolations (T#) must be in the CLOSED position.

Test Limit Isolations								Test #1		Test #2		Test #3	
PPS Tag No.	Drawing Number	Customer Tag No.	Description	HP / LP Interface	Actuated Valve	LOTO	Critical Valve	PPS Rep.	Customer	PPS Rep.	Customer	PPS Rep.	Customer
T1	123A90-DDL-PR-PID-80014 sh.001	25-SDV-023	1 1/2" Actuated Ball Valve RF 300#		Yes								
T2	123A90-DDL-PR-PID-80012 sh.001	80-PSV-001	Pressure Safety Valve@ 10barg										
T3	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-009	1" Ball Valve RF 150#	Yes									
T4	123A90-DDL-PR-PID-80028 sh.001	BLPH-MV-172	1" Ball Valve RF 150#										
T5	601456B sh.4 of 16		1 1/4" Ball Valve										
T6	601456B sh.4 of 16		1' Ball Valve										
T7	601456B sh.4 of 16		1' Ball Valve										
T8	601456B sh.4 of 16		1' Ball Valve										
T9	601456B sh.4 of 16		1' Ball Valve										
T10	601456B sh.4 of 16		1' Ball Valve										
T11	601456B sh.4 of 16		1' Ball Valve										
T12	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-468	1 1/2" DBB RF 300#										
T13	123A90-DDL-PR-PID-80014 sh.001		3/4" Test Blind Flange RF 150# tapped to 3/4" NPT for BH Injection Manifold										
T14	123A90-DDL-PR-PID-80014 sh.001		1/2" x 1" NPT x-over for BH instrument manifold and PRV										
T15	123A90-DDL-PR-PID-80014 sh.001	25-PV-055A	1 1/2" Actuated Globe Valve RF 300#		Yes								
T16	123A90-DDL-PR-PID-80014 sh.001	25-PV-055B	1 1/2" Actuated Globe Valve RF 300#		Yes								
							Signature / Initials						

Tick each row under Test # column to confirm correctly isolated and sign / initial this row as verification.

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C6. Safety Components Checklist #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack Number**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Checklist Number**	1 of 1

All listed Safety Components (S#) must be in the OPEN position or be CORRECTLY ORIENTATED.
All other manual valves within test limit boundaries must be in the OPEN position.

Safety Components							Test #1		Test #2		Test #3	
PPS Tag No.	Drawing Number	Customer Tag No.	Description	Actuated Valve	LOTO	Critical Valve	PPS Rep.	Customer	PPS Rep.	Customer	PPS Rep.	Customer
S1	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-025	3/4"" RF 150# x 1/2" NPTF DBB		Yes							
S2	123A90-DDL-PR-PID-80012 sh.001	80-XV-001	1" Actuated Ball Valve RF 150#	Yes		Yes						
S3	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-005	6" Ball Valve RF 150#									
S4	123A90-DDL-PR-PID-80029 sh.001	BLPH-MV-407	3/4"" RF 150# x 1/2" NPTF DBB		Yes							
S5	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-468	1/2" Bleed open on 1 1/2" DBB RF 300#									
S6	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-024	3/4" Ball Valve RF 150#		Yes							
S7	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-213	3/4"" RF 150# x 1/2" NPTF DBB		Yes							
S8	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-006	4" Ball Valve RF 150#									
S9	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-038	3/4"" RF 150# x 1/2" NPTF DBB									
S10	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-007	1" Ball Valve RF 150#									
S11	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-016	2" Ball Valve RF 150#									
S12	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-028	3/4" Ball Valve RF 150#									
Tick each row under Test # column to confirm correctly isolated and sign / initial this row as verification.					**Signature / Initials**							

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C7. Actuated Valve Checklist #1

Customer	Rosetti Marino	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Test Pack Number**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Checklist Number**	1 of 1
		Test Number	1

The Customer Instrument Technician is responsible for isolating the actuated valves listed in this checklist in accordance with the instructions below. All valves tagged T# must be CLOSED. All valves tagged S# must be OPEN.

Actuated Valves					Isolations Completed	
PPS Tag No.	**Drawing Number**	**Customer Tag No.**	**Description**	**Required Position**	**Customer Instrument Technician**	**Time / Date**
T1	123A90-DDL-PR-PID-80014 sh.001	25-SDV-023	1 1/2" Actuated Ball Valve RF 300#	Closed		
T15	123A90-DDL-PR-PID-80014 sh.001	25-PV-055A	1 1/2" Actuated Globe Valve RF 300#	Closed		
T16	123A90-DDL-PR-PID-80014 sh.001	25-PV-055B	1 1/2" Actuated Globe Valve RF 300#	Closed		
S2	123A90-DDL-PR-PID-80012 sh.001	80-XV-001	1" Actuated Ball Valve RF 150#	Open		

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C8. System Depressurization Checklist #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack No.**	TP 009
Location	C8. System Depressurization Checklist #1	**Customer Work Order No.**	1724002632	**Checklist Number**	1 of 2

Complete the following instructions sequentially to safely depressurize the entire test system.
Ensure the 'Maximum Allowable Depressurization Rate' and the 'Vent System Maximum Allowable Pressure' are not exceeded.
Ensure the Customer Representative is informed of any unavoidable 'Trapped Pressure' areas, or residual pressure, left in the system.

System Depressurization Instructions			Test #1		Test #2		Test #3	
Step No.	Description	Verification	PPS	Customer	PPS	Customer	PPS	Customer
1	**Preparation for Depressurization**							
1-1	Confirm the test system is correctly aligned for depressurization in accordance with system alignment checklists and marked drawings. - Verify all actuated valves within test limit boundaries are in the correct position (open). - Follow Management of Change instructions if the system alignment was modififed in any way during the pressurization or leak testing phases.	System Alignment Checklists Marked Drawings Management of Change documents (if applicable)						
1-2	Confirm the vent path is correctly prepared for routing test gas through to atmosphere and Vent Path Pressure Monitoring instruments are set up for monitoring and recording.	System Alignment Checklists Marked Drawings.						
1-3	Confirm barricades and warning signs are in place around the Restricted Access Zone.	Visual Confirmation						
2	**Critical Valve Testing (Stage 1)**							
2-1	Close the following valves to prepare for the next stage of Critical Valve Testing: S2	Marked Drawings						
2-2	Open the following valves to prepare for the next stage of Critical Valve Testing: T3	Marked Drawings						
2-3	Carry out Critical Valve Testing on the following valves S2	E6 Ultrasonic Crit. Valve Report *for details of testing method and to record results*						
3	**System Depressurization**							
3-1	Open Primary Depressurization Points and commence system depressurization. **Depressurization Points #2** (S2) - Ensure initial stage of depressurization is regulated at low flow rate (partially open valve) - Monitor the vent path pressure instruments and confirm the Maximum Allowable Vent Path Pressure (3 barg) is not exceeded at any time (priority over all other control parameters).	Pressure Instruments Vent Path Pressure Instruments						

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C8. System Depressurization Checklist #2

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack No.**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Checklist Number**	2 of 2

System Depressurization Instructions			Test #1		Test #2		Test #3	
Step No.	**Description**	**Verification**	**PPS**	**Customer**	**PPS**	**Customer**	**PPS**	**Customer**
	- Adjust the depressurization point valve(s) position to maintain the depressurization rate at, or below, the Maximum Allowable Depressurization Rate: 2 bar/min - Monitor the system piping adjacent to the Depressurization Point(s) for signs of excessive chilling due to the Joule-Thompson expansion effect. Adjust rate if required.							
3-2	Confirm system is fully depressurized to atmospheric pressure (0 barg). - Pay particular attention to pressure instruments upstream & downstream of check valves.	Pressure Instruments						
4	**Cycle Double Block Valves**							
4-1	Cycle valve to remove Potential Trapped Pressure: T5 (0) *(if valve could not be cycled, note "NOT CYCLED" in right hand column)*	Marked Drawings						
5	**Isolate System**							
5-1	Close all Depressurization Points: (T3)	Marked Drawings						
5-2	Verify all actuated valves within test limit boundaries remain in the correct position (open).	Visual Confirmation						
6	**System Handover**							
6-1	Disconnect and remove all PPS test equipment from the system.	Visual Confirmation						
6-2	Inform Customer system ready for reinstatement. Once no longer required, remove PPS barricade tape and warning signs from the Restricted Access Zone perimeter.	Permit to Work C3. Mechanical Works						
6-3	Sign off the permit and inform the permit office of the system status. - Entire system fully depressurized to atmospheric pressure (0 barg). - Valves were not cycled and trapped pressure may remain the cavity space. - Refer to completed Depressurization Checklist and MOCs for any Potential Trapped Pressure	Test Pressure Data Visual Confirmation Marked Drawings						

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D. Helium Leak Test - Task Plan

Pressurization and Leak Test

Task No.	Task Description	PPS	Customer	Third Party
25	Confirm ambient / pipe wall temperature is above the system minimum design temperature and expected to remain there for the entire test duration.	A	-	-
26	Pressurize the system, in the following increments, to the **FINAL LEAK TEST PRESSURE**. **DO NOT** exceed the **Max. Allowable Pressurization Rate**: **0.2 bar/min** Sample gas and measure helium conc'n (each increment). Adjust helium injection rate if needed. Apply hold periods at each pressure increment. Monitor for pressure drop and check for leaks. - If audible leaks or passing valves are identified assess the problem (if safe to do so). - Inform the Customer Representative of the issue, and agree a plan of action.	A	W	-
27	Confirm the hold period was successfully applied at **FINAL LEAK TEST PRESSURE** and inform the Customer Representative that the system leak test is due to commence.	H	H	-
28	Confirm all components have been checked for leaks (cross-checked against marked drawings). Tag leaking components and record details on **E1. Leak Description Report**.	A	-	-
29	Obtain permission from the Customer Representative to depressurize the test system.	H	H	-
30	Depressurize the test system in accordance with the sequential steps in **C8. System Depressurization Checklist** and co-sign the form as verification: - If valve positions changed under MoC, follow new system depressurization instructions. - **DO NOT** exceed **Maximum Depressurization Rate** **2.0 bar/min** - **DO NOT** exceed **Max. Allowable Vent Path Pressure** **3.0 barg** - Critical valves tested and results recorded on Critical Valve Test Reports E6 - Residual Pressure left in the system: No	A	A	-
31	Complete **E2. PPS Leak Detection Completion Certificate** and obtain the Customer Representative's signature confirming the test has been successfully completed.	A	A	-

Increment	Pressure barg	% Design Pressure	Hold Period mins
#1	2.3	22.5%	30.0
#2	4.5	45.0%	30.0
#3	6.8	67.5%	30.0
			0.0
FINAL TEST PRESSURE	**9.0**	**90.0%**	**10.0**

PPS Equipment Rig Down

32	Verify all PPS equipment is correctly isolated and depressurized to atmospheric pressure.	A	-	-
33	Remove all PPS equipment from the test system. Confirm all leak detection tape is removed.	A	-	-
34	Remove barricades and warning signs. Visually check the work area to verify clean & tidy.	A	-	-

Customer System Reinstatement

35	Issue the following forms to the Customer Representative defining mechanical reinstatement work required: C3. PPS Mechanical Works	A	A	-
36	Complete **E3. PPS Witness Joint Register** and co-sign the form.	A	A	-
37	Confirm all required testing, equipment rig down, and system reinstatement tasks are complete. PPS Rep: M. Bejimary Time / Date: _____ Customer: G. B Time / Date: _____	H	H	-

A = Action, H = Hold, M = Monitor, W = Witness, Dash (-) = Does Not Apply to Party, N/A = Not Applicable to Test Scope

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D. Helium Leak Test - Task Plan

Customer	Rosetti Marino	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Test Pack Number**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Test Number**	1

This task plan summarizes the main work activities that shall be correctly completed and verified by the PPS Supervisor and Customer Representative for safe execution of leak testing operations.
Refer to the detailed method statements in the PPS Safe Work Plan (SWP) for step-by-step instructions.

Task No.	Task Description	PPS	Customer	Third Party
	Pre-Test Work Activities			
1	Obtain confirmation from the Customer Representative that the preparatory work activities described in form C1. Customer Preparatory Work are complete.	A	A	-
2	Obtain a valid Permit to Work for all tasks associated with the leak test.	A	A	-
3	Visually inspect the test system then issue the Customer Representative with the following system preparation forms describing work that needs to be completed and party responsible: **C3. PPS Mechanical Works**	A	-	-
4	Carry out a site review to identify any additional hazards or risks not covered by the PPS standard risk assessment. Record the findings on **PPS Safe to Perform (STP)** form.	A	-	-
	PPS Equipment Rig Up and Function Test			
5	Inspect, rig up and function test the pressurization equipment: Gas Rack	A	-	-
6	No OPPS in use **N/A barg**	-	-	-
7	No OPPS in use	-	-	-
8	Confirm correct PRV(s) is selected (see App. A). Set pressure: **9.5 barg**	A	-	-
9	Confirm PRV(s) is correctly installed (non-isolatable) at approved point (A1. Test Pack Info.)	A	-	-
10	Confirm test instruments correctly specified, certified, and installed at approved point(s). Minimum: 1 x pressure gauge, 1 x pressure recorder / DAU. (**A1. Test Pack Info.**)	A	-	-
11	Rig up the test gas hose / iron / pipe. Confirm safely routed and secure using restraint devices.	A	-	-
12	Install the test gas injection manifold(s) at the approved point (**A1. Test Pack Info.**).	A	-	-
13	Rig up, function test, and calibrate the helium leak detection equipment. Confirm working OK.	A	-	-
14	Visually inspect the equipment rig up and verify components correctly specified and certified.	A	-	-
15	Confirm equipment correctly aligned for pressure test. Sign Stage 1: Hose Test drawing (**App. B**).	H	H	
16	Pressure test the hose / iron / pipe to prove integrity. Record test data. **10.0 barg**	A	-	-
	Customer System Preparation			
17	Confirm test system mechanical preparatory work is complete and forms are co-signed: **C3. PPS Mechanical Works**	A	A	-
18	Verify test system alignment against test pack checklists and marked drawings (**Appendix C**): - **C5. PPS Test Limit Isolations Checklist** co-signed (correct test limits applied). - **C6. PPS Safety Components Checklist** co-signed (correctly aligned within test limits).	A	A	-
19	Confirm all potential leak sources are exposed, taped up, and safely accessible for testing.	A	A	-
20	Erect barricades and warning signs around the perimeter of the test area (Restricted Access Zone), in compliance with the test pack marked plot plan / deck plan (Appendix D).	A	-	-
21	Confirm the work area is cleared of unauthorized personnel.	A	-	-
22	Make final system connections. Confirm all PPS test equipment is correctly aligned for leak testing as per Stage 2: Operations equipment rig up drawing (**Appendix B**). Sign as confirmation.	A	-	-
23	Perform a Toolbox Talk meeting with the PPS crew, Customer Representatives and Third Party personnel affected by the test. Ensure all attendees sign the **PPS STP** form. - Discuss the hazards, risks and control measures implemented for safe test execution. - Review **A: Test Pack Information** in detail and confirm all test parameters. - Confirm **Emergency Response Plan** and **Spill Response Plan** protocol (PPS SWP).	A	-	-
24	Confirm all preparatory tasks above are complete prior to commencing system pressurization. PPS Rep: M. Zylmaru Time / Date: _____ Customer: Time / Date:	H	H	-

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E1. Leak Description Report #1

Customer	Rosetti Marino	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Test Pack No.**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Checklist No.**	1 of 1

Leak No.	Drawing Number	Customer Tag No.	Leak Description	Cause of Leak	Leak Rate ()		
					02-03-25	03-03-25	04-03-25
					Test #1	Test #2	Test #3
L1	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-213	flange u/s valve	No information	gross	gross	0
L2	123A90-DDL-PR-PID-80012 sh.001	BLPH-MV-007	flange u/s valve	No information	120	120	0

	Name	Job Title	Signature	Time / Date
PPS Representative	M.Bejinaru	Field Engineer General		
Customer Rep. #1	O.BRUNO	COMM. EWG		
Customer Rep. #2				

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E2. Leak Detection Completion Certificate

Project Information			
Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632

Test Pack Information			
Test Pack Name	H2 Outlet System LP	**Test Method**	Helium Leak Detection
Test Pack Number	TP 009	**Test Gas**	1% Helium / 99% Nitrogen

Leak Test and Acceptance Criteria	
Leak Test	The system was pressurised, in increments, to 9 barg using 1 % helium / 99 % nitrogen test gas. Pressure remained within **10%** of the test pressure for the duration of the test. All potential leak sources nominated for testing were checked for leakage using a calibrated helium leak detector. All identified leaks (> maximum allowable leak rate threshold) were recorded on the PPS Leak Description Report. The system was repaired and re-tested a total of **times** before the acceptance criteria were met. Refer to the PPS Witness Joint Register for a list of components that could not be tested.
Acceptance	Maximum allowable leak rate threshold from any single leak source did not exceed: **All potential leak sources** **20** **scf/yr**

Leak Test Results					
Test Number	**Test Date**	**Test Pressure barg**	**Total Number of**		**Comments**
			Joints Tested	**Leaks Found**	
1	02-03-25	9.0	All	2	
2	3-Mar-2025	9.0	2	2	
3	4-Mar-2025	9.0	2	0	See leak description report

Instrumentation			
Description	**Serial Number**	**Calibration Certificate No.**	**Calibration Date**
Data Logger	PTG2095	1395944	21-Jun-2024

	Name	**Job Title**	**Signature**	**Date**
PPS Rep.	M.Bejinaru	Field Engineer General		
Customer Rep. #1	G. Bruno	Coordinator		
Customer Rep. #2				

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Data Collection Report

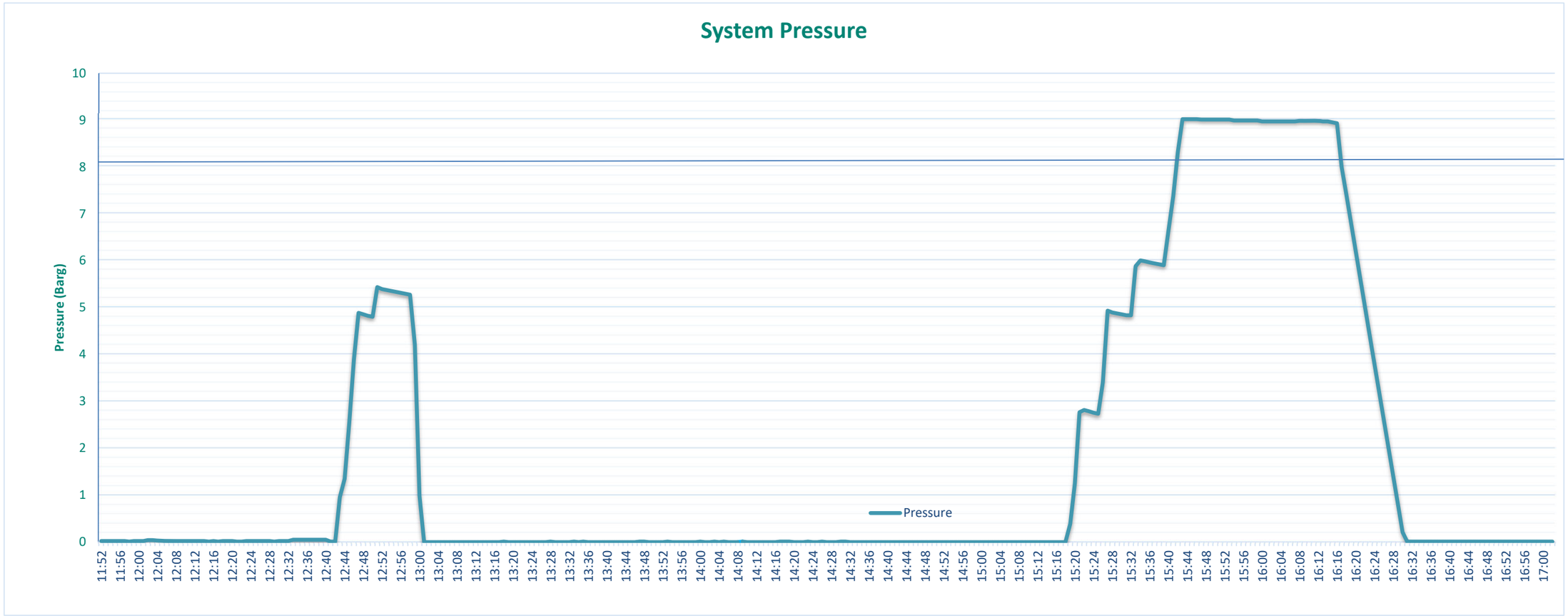
Client :	Rosetti Marino SpA
Project:	Leak Testing Services for Base Load Power Hub Project
Location:	Piombini Site
Test Type:	90% Design Pressure Leak Test
Test Pack No.:	TP-009
Test Pack Name:	H2 LP Outlet System
BHI Gauge No:	PTG
Pressure Range:	0-700 bar
Test Medium:	1%He99%N2
Test Pressure:	3.2 barg

Test Lead Print	M.Bejinaru
Test Lead Sign	

Test Approved Print	I.Vago
Test Approver Sign	

Gauge Information	
Serial Number	PTG2095
Model	Crystal Gauge
Units	Barg

Run Info	
Start Time	04.03.2025 - 11:52
Stop Time	04.03.2025 - 17:02
Logging Interval	1 min



Scotia Instrumentation Ltd - Campus 1 - Aberdeen Science and Technology Park - Balgownie Road - Aberdeen AB22 8GT
Tel 01224-222888 eMail calibration@scotia-instrumentation.com

SCOTIA INSTRUMENTATION

Certificate No 1395944

Date of Issue 21 June 2024

CALIBRATION CERTIFICATE

Customer's Name P&M NETHERLANDS BV
Customer's Reference 320006459
Serial Number 467729 / PNo: PTG2095
Description Ametek XP2i Digital Test Gauge
Range 10000psi
Our Reference 386446/R/6
Temperature of Test 21.0 °C
Calibration Uncertainty ±0.1% of rdg +1 lsd (20-100% of fs)
Standard Used Budenberg PCU (E027)
Traceable Ref UKAS Lab 0208 Cert 039921

Applied Value	Reading	Correction
psi		
2000	1999	1
4000	3999	1
6000	5998	2
8000	7997	3
10000	9996	4

The Standard Used is traceable to National Standards. Positive corrections are to be added to the reading and negative subtracted.
Calibration is done in accordance with ISO IEC 17025:2017

Notes on Calibration:

Equipment certified has passed our check for safety compliance in accordance with our internal procedures.
No adjustments were made before calibration.

Signed:

Job Title: Technician

BMC/SJC

Date of calibration for this device is 21 June 2024
Recommended maximum recalibration date: 21 December 2024

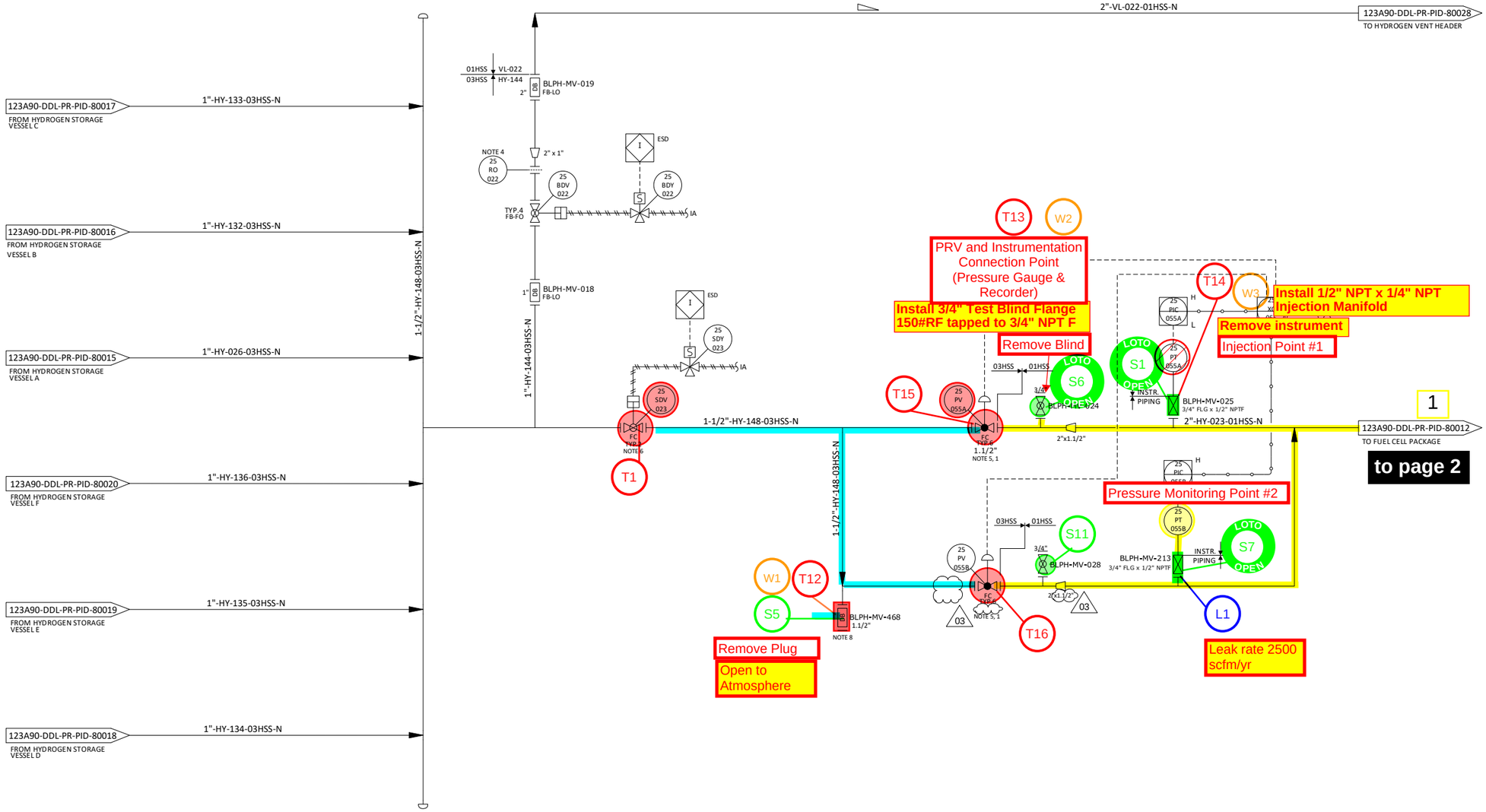
BMC P&MN1

1982 - 2024 42 YEARS In calibration

Rev.02 **As found**

DRAWING NO. DRAWING_NO.

REV. REV



NOTES

1. TIGHT SHUT-OFF VALVE.
2. DELETED.
3. CONTROL VALVES 25-PV-055A/B WORK IN SPLIT RANGE:
   - FOR LOW OPERATING CV (UP TO 0.31) VALVE "B" IS USED
   - FOR HIGH OPERATING CV (FROM 0.31) VALVE "A" IS USED
4. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
5. SOFTWARE INTERLOCK PREVENTS OPENING OF THE CONTROL VALVES 25-PV-055A/B IN CASE FUEL CELL PACKAGE (A-80000) IS NOT READY TO START. 03
6. SDV VALVE 25-SDV-023 TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE CONTROL VALVES 25-PV-055A/B. 03
7. DELETED. 03
8. TO BE USED DURING COMMISSIONING PHASE.

HOLDS

1. DELETED.
2. DELETED. 03

Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

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
HYDROGEN STORAGE VESSELS HEADER (OUTLET)

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-80014	SHEET 001	REV. 03

File Name : FILE_NAME

Rev.02

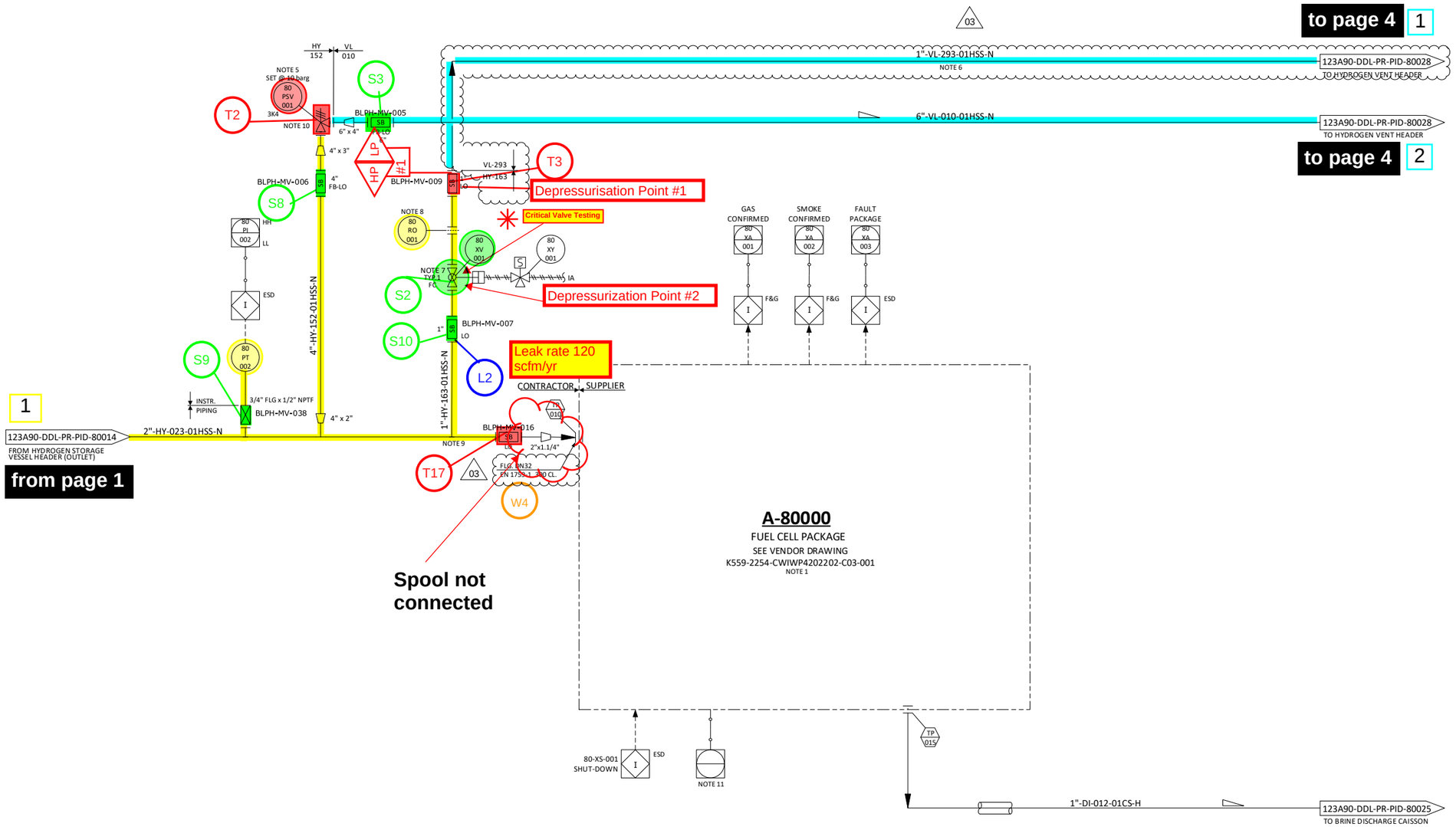
As found

Page 2 of 5

DRAWING NO. DRAWING_NO.

REV. REV

A-80000
FUEL CELL PACKAGE
DUTY : 1 MW



Spool not connected

NOTES

1. THE VENDOR PACKAGE WILL CONTAIN AIR INTAKE AND EXHAUST, SUITABLY SAFEGUARDED AND SEPARATED.
2. DELETED.
3. DELETED.
4. DELETED
5. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
6. LINE REQUIRED FOR PURGING OF PIPING WORK.
7. TIGHT SHUT-OFF VALVE.
8. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
9. LINE 1"-HY-163-01HSS-N WILL BE LOCATED AS CLOSE TO THE PACKAGE AS POSSIBLE TO ENSURE COMPLETE PURGING OF THE LINE.
10. 80-PSV-001 SIZED FOR CV FAILURE OF UPSTREAM CONTROL VALVE 25-PV-055A/B.
11. SERIAL COMMUNICATION WITH CONTROL SYSTEM.

HOLDS

1. DELETED.
2. DELETED.

Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

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

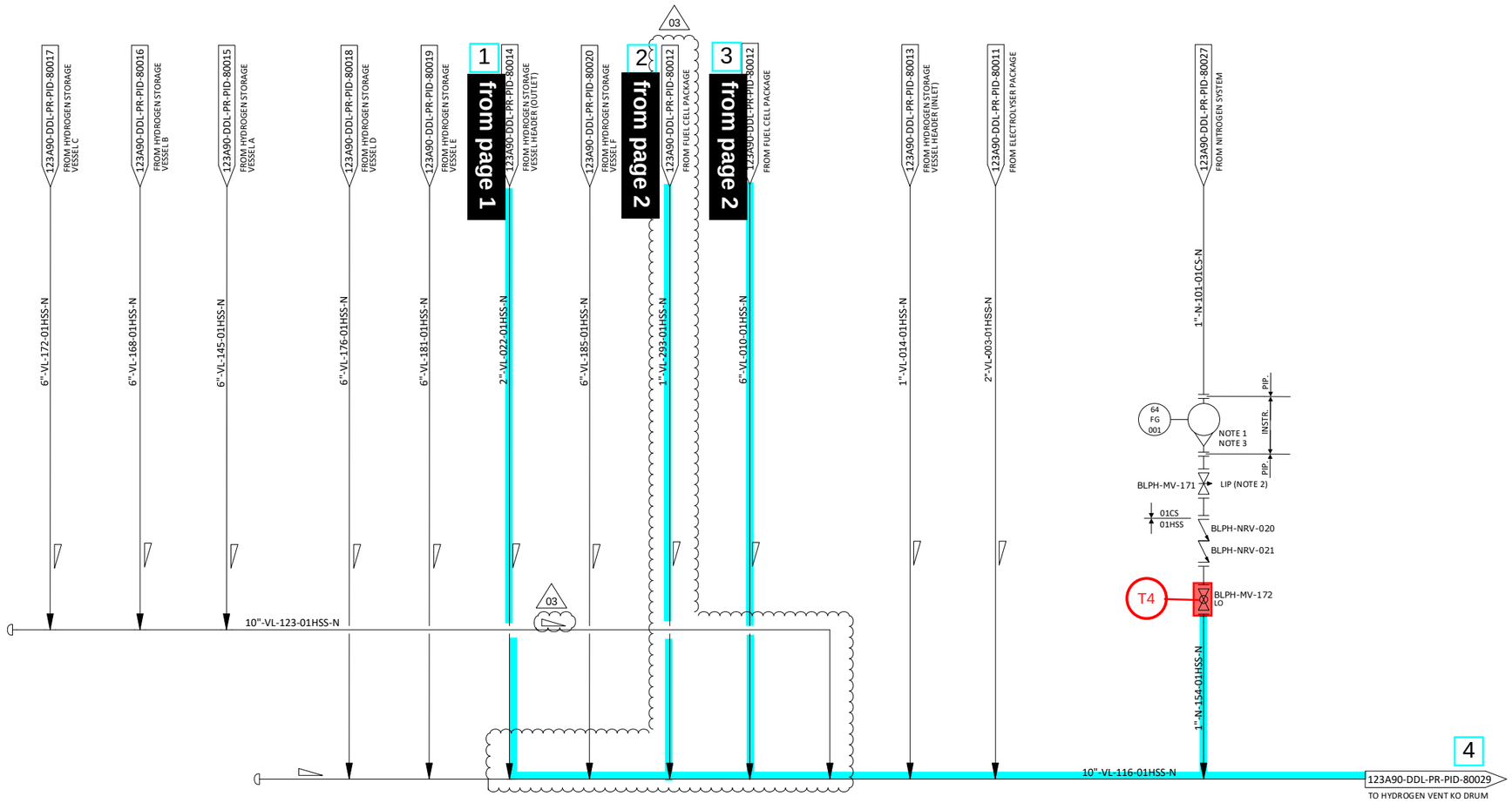
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BLPH PIPING AND INSTRUMENTATION DIAGRAM
FUEL CELL PACKAGE

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-80012	SHEET 001	REV. 03

File Name : FILE_NAME

Rev.02

As found



to page 4

NOTES

1. FLOW METER 64-FG-001 SHALL BE READABLE FROM MANUAL VALVE MV-171.
2. VALVE BLPH-MV-171 TO BE LOCKED IN PLACE.
3. VERTICAL INSTALLATION.

HOLDS

1. DELETED.
2. DELETED.

Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

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
HYDROGEN VENT HEADER

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-80028	SHEET 001	REV. 03

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REV. REV
File Name : FILE_NAME

Rev.02

As found

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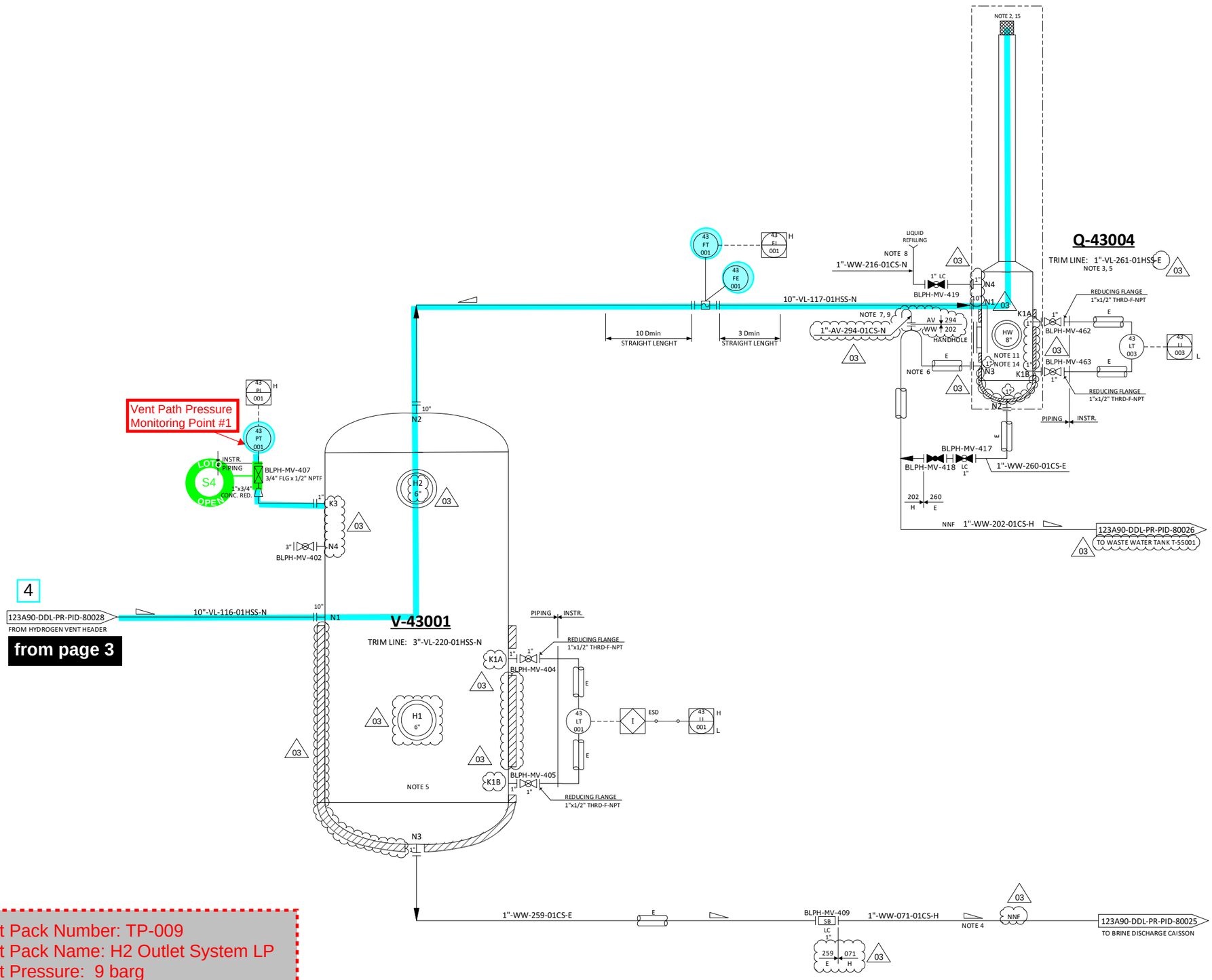
REV. REV

V-43001

HYDROGEN VENT KO DRUM
SIZE : 600 mm (ID) x 2350 mm (H)
DESIGN P/T : 3.5 barg / -10 / 80°C
MATERIAL : LTCS + 1 mm CA

Q-43004

HYDROGEN VENT NOTE 1
SIZE : 254 mm (ID)
DESIGN P/T : 3.5 barg / -10 / 80°C
MATERIAL : LTCS + 3 mm CA



Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

NOTES

1. VENT TO SAFE LOCATION SEGREGATED FROM OTHER VENTS.
2. VENT TO BE EQUIPPED WITH BIRD SCREEN.
3. LIQUID SEAL DRUM IS PART OF THE VENT SYSTEM.
4. LIQUID DRAIN LINES TO BE ROUTED TO ENSURE GRAVITY DRAIN.
5. HYDROGEN VENT KO DRUM AND LIQUID SEAL DRUM TO BE HEAT TRACING.
   - V-43001 HEAT TRACED FROM B.T.L. UP TO 600 mm, BOTTOM HEAD ALSO TO BE HEAT TRACED.
6. SEAL LEG WILL BE DETERMINATED ON THE MAXIMUM BACK PRESSURE IN THE VENT.
7. SEAL VENT TO BE PLACED INTO A SAFE POSITION.
8. FILLING LINE TO BE PLACED IN AN ACCESSIBLE POSITION.
9. TRACED FROM NOZZLE N3 UP TO SWAN NECK.
10. DELETED.
11. INLET DIP LEG SUBMERSION HEIGHT OF 0.6 m.
12. DELETED.
13. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 VENT KOD.
14. LIQUID INSIDE SEAL DRUM IS A WATER - GLYCOL MIXTURE WITH 50% VOLUME OF GLYCOL. (03)
15. TOP OF TIP OF H2 VENT SHALL BE AT AS MINIMUM 6.2 m FROM HIGHEST REACHABLE PLATFORM.

HOLDS

1. DELETED.
2. DELETED.
3. 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
HYDROGEN VENT DRUM

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-80029		SHEET 001	REV. 03

File Name : FILE_NAME

E3. Witness Joint Register #1

Customer	Rosetti Marino	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Test Pack Number**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Register Number**	1 of 1

The system components listed below were NOT tested as part of this test pack and are 'Witness Joints'.
The customer is responsible for checking these components for leakage in accordance with their company protocol.

Witness Joints			
Witness Joint No.	**Drawing Number**	**Customer Tag Number**	**Description**
W1	123A90-DDL-PR-PID-80014 sh.001	BLPH-MV-468	1/2" Plug removed for vent adjacent system
W2	123A90-DDL-PR-PID-80014 sh.001		3/4" Blind Flange removed for BH Instrumentation manifold
W3	123A90-DDL-PR-PID-80014 sh.001	25-PT-055A	1/2" Instrument removed for PPS Injection Manifold

	Name	Job Title	Signature	Time / Date
PPS Representative	M. Bejinariu	Field Engineer		
Customer Rep. #1		Control Eng.		
Customer Rep. #2				

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E6. Critical Valve Test Report - Ultrasonic #1

Customer	Rosetti Marino	**PPS Job Number**	PMCE453947M1	**Test Pack Name**	H2 Outlet System LP
Project	Leak Testing Services for Base Load Power Hub Project	**Customer Contract No.**	123A90	**Test Pack No.**	TP 009
Location	Piomboni Yard - Marina di Ravenna	**Customer Work Order No.**	1724002632	**Test Date**	28-Jan-2025

Valve Closure Leak Test - Ultrasonic			**Test Instrumentation**			
Test Pressure (δP)	9.0 bar	δP = differential pressure across valve	**Description**	**Serial Number**	**Calibration Cert.**	**Calibration Date**
1	Follow System Depressurization Checklist instructions and apply differential pressure across each valve (sequentially). Upstream = Final Test Pressure Downstream = Atmospheric Pressure		Ultrasonic Leak Detector	960445-16	1003856	18-Nov-2024
2	Place the ultrasonic probe on the pipe 6 to 12 inches upstream of the valve. Record the deibel (dB) reading.					
3	Place the ultrasonic probe on the valve body. Record the decibel (dB) reading.					
4	Place the probe on the pipe 6 to 12 inches downstream of the valve. Record the decibel (dB) reading.					
LEAK	A valve "closure leak" is indicated by higher value readings on the valve body and / or downstream.					

Critical Valves Tested				**Ultrasonic Meter Reading**				**Test Result**
PPS Tag No.	**Customer Tag No.**	**Description (valve type, size, class)**	**Drawing Number**	**Frequency Range kHz**	**Upstream dB**	**Valve Body dB**	**Downstream dB**	**Pass / Fail**
S2	80-XV-001	1" Actuated Ball Valve RF 150#	123A90-DDL-PR-PID-80012 sh.001	0-100 kHz	0.0	0.0	0.0	Pass

Note: kHz value represents the range the dB reading was measured in.

	Name	**Job Title**	**Signature**	**Time / Date**
PPS Representative	M.Bejinaru	Field Engineer General		
Customer Representative #1	G.BRUNI	COMM. MNG.		
Customer Representative #2				

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Certificate of Sensitivity Validation

Date of issue: 03 July 2023

Certificate Number: 1002858.

Page 1 of 2 pages

Approved Signatory

Name [✓] R Dutton [ ] P Clark [ ] C Railton

Signature

vaseco
LEAK DETECTION TECHNOLOGY

Bromley House,
Barlow Drive,
Woodford Park Industrial Estate,
Winsford,
Cheshire,
CW7 2JZ.

Tel: +44 (0)1606 590000
Web: www.vaseco.com

CUSTOMER DETAILS

Name: Vaseco Limited.

Address: Bromley House,
Barlow Drive,
Woodford Park Industrial Estate,
Winsford,
Cheshire,
CW7 2JZ.

Purchase order No.: Internal

Vaseco SOP No.: Internal

UNIT UNDER CALIBRATION DETAILS

Manufacturer: UE Systems Inc.

Model: Ultraprobe 9000

Equipment condition: Good external condition

Serial No: 960445-16

CALIBRATION DETAILS

Laboratory conditions: 23 °C +/- 1 °C 50%RH +/- 15%RH

Validation date: 03 July 2023

Certificate of Sensitivity Validation

Certificate Number: 1002858.

RESULTS

Sensitivity validation chart							
Scanning module	**Date**	**Serial No.**	**Rod used**	**WTG setting**	**Frequency**	**Mode (R,P,S,RO,PO,SO)**	**dB**
	03/07/2023	960445-16	Long	Low	40kHz	R	86
Contact module	**Date**	**Serial No.**		**WTG setting**	**Frequency**	**Mode (R,P,S,RO,PO,SO)**	**dB**
	03/07/2023	960445-16		Low	40kHz	R	34

Validated by: 

Appendix A

Test Pack Calculations

PRV Calculation, PRV Data Sheet, and other supporting calculation results

Customer Name:	Rosetti Marino
Project Name:	Leak Testing Services for Base Load Power Hub Project
Test Pack Number:	TP 009
Test Pack Name:	H2 Outlet System LP

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Test Pack Summary - Helium Leak Test

SYSTEM DETAILS					
Test Pack Name	Test pack 4		**System Design Pressure**	10.0	barg
Test Pack Number	TP-004		**System PSV Set Pressure**	-	barg
Customer Reference No.	0		**Normal Operating Pressure**	-	barg
No. Leak Test Components	25	Disturbed Components	**System Free Volume**	0.1	m^3

INCREMENTAL AND FINAL TEST PRESSURE						
	Hold Period min	**Pressure** barg	**% Test Pressure**	**% Normal Operating Pressure**	**% Design Pressure**	**% System PSV**
Increment #1	30.0	2.2	25.0%	N/A	22.5%	N/A
Increment #2	30.0	4.5	50.0%	N/A	45.0%	N/A
Increment #3	30.0	6.7	75.0%	N/A	67.5%	N/A
TEST PRESSURE	**30.0**	**9.0**	**100.0%**	**N/A**	**90.0%**	**N/A**

Residual Pressure	0.0 barg	*Pressure left in the system upon completion of depressurization.*

PRESSURIZATION AND DEPRESSURIZATION RATES		
Pressurization Rate	0.2 bar/min	
Volumetric Pump Rate	- Sm^3/min	
Pump Maximum Flow Rate	1.8 Sm^3/min	
Depressurization Rate	2.0 bar/min	
Volumetric Vent Rate	0.2 Sm^3/min	
Vent Rate Restriction	- Sm^3/min	Not specified

TEST GAS			
Test Gas Type	Nitrogen Gas		
Test Gas Required	1.0 Sm^3		
LN2 Equivalent	1.0 L		
Helium Gas	0.0 Sm^3	**Conc'n:**	1.0%

Standard temperature and pressure (STP) conditions are +15C (+59F) and 1 atmosphere

SAFETY EQUIPMENT								
	Set Pressure	**% Design Pressure**	**% Test Pressure**	**Discharge Orifice**	**PRV Discharge Area**	**PRV Quantity**	**PRV Individual Relief Rate**	**PRV Total Relief Rate**
OPPS	N/A	0.0%	0.0%					
PRV	9.5 barg	95.0%	105.6%	0.390	201.000 mm^2	1	11.0 Sm^3/min	11.0 Sm^3/min

PRESSURIZATION, TESTING, AND DEPRESSURIZATION

Test Time per Component	1.0 min
Pressurization Time	02:15 hr : min
Leak Testing Time	00:55 hr : min
Depressurization Time	00:04 hr : min
TOTAL TEST TIME	**03:14 hr : min**

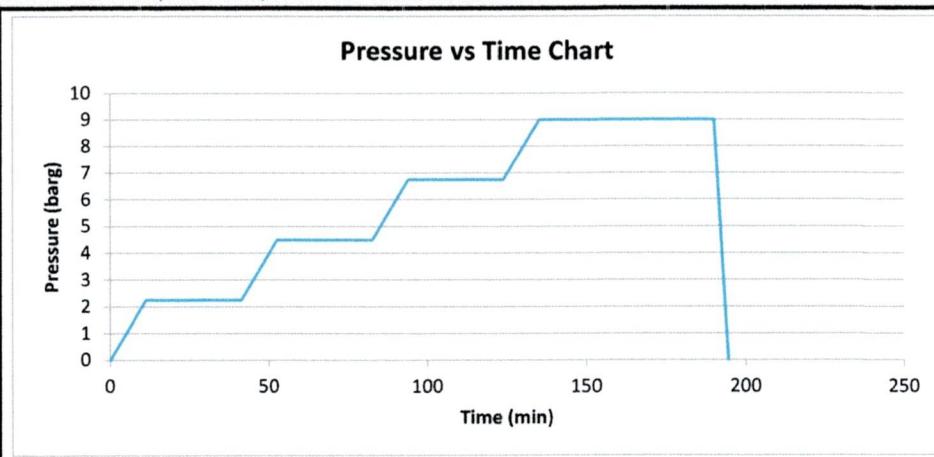
Pressurization Time includes incremental hold periods.

Testing Time includes hold period at final test pressure plus time to check all potential leak sources.

Depressurization Time is time taken to reduce system press. to atmospheric / residual pressure after testing.

Total Test Time = Pressurization Time + Leak Testing Time + Depressurization Time.

Time taken to rig up / rig down equipment and prepare the system for test is excluded.



NOTES

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Gas PRV Calculation - Verification

Calculation Summary	
Calculation Title	PRV-1
Calculation Purpose	PRV Verification
Standard Used	ASME BPVC XIII / ISO-4126-7
Date	30-Jan-2025

Fluid Properties	
Phase	Gas
Fluid Type	Nitrogen
Relieving Temperature	15.0 C
Molecular Weight	28.0
Specific Heat Ratio (γ)	1.40
Compressibility Factor	1.00

Pressures	
Set Pressure	9.5 barg
Set Pressure Tolerance (+/- %)	3.0 %
Minimum Opening Pressure	9.3 barg
Maximum Opening Pressure	9.8 barg
Overpressure Allowance (%)	10.0 %
Relieving Pressure (fully open)	10.5 barg
Back Pressure	0.0 barg

PRV Parameters			
Make	Niedzgodka	**Certified Discharge Coefficient**	0.390
Model	Type 10	**Actual Orifice Area**	201.000 mm^2
		Calculated Flow Capacity	11.00 Sm^3/min

Notes

PRV Terminology	Definition
Set Pressure	The value of increasing inlet static pressure at which a pressure relief valve has opening pressure characteristics.
Set Pressure Tolerance	The variation (range) against the set pressure, certified by the valve manufacturer (usually expressed as plus / minus percenta
Opening Pressure	The value of increasing static pressure at which there is a measurable lift, or at which the fluid discharge becomes continuous
Overpressure Allowance	A pressure increase over the set pressure (usually expressed as a percentage) at which the PRV is fully open.
Relieving Pressure (fully open)	Set pressure plus overpressure, representing the value at which a valve is fully open.
Back Pressure	The static pressure existing at the outlet of a pressure relief device due to pressure in the discharge system.
Certified Discharge Coefficient	The ratio of the measured flow (relieving) capacity to the certified flow (relieving) capacity.
Actual Discharge Area	A certified area of flow used with the certified discharge coefficient to calculate minimum flow (relieving) capacity.
Calculated Flow Capacity	The calculated relieving capacity at the fully open condition, using Certified Discharge Coefficient and Actual Discharge Area.

Version 2022.12.06

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Appendix B

PPS Test Equipment

Customer Name:	Rosetti Marino
Project Name:	Leak Testing Services for Base Load Power Hub Project
Test Pack Number:	TP 009
Test Pack Name:	H2 Outlet System LP

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KEY

- Ball valve
- Needle valve
- Globe valve
- Check valve
- Pressure relief valve

INSTRUMENTATION

		X	Y
XY #	P	Pressure	-
	F	Flow	-
	T	Temperature	Transmitter
XT #	G	-	Gauge
	R	-	Recorder

Minimum Pressure Rating

Hoses, Valves, Fittings

HP 700 barg

Instrumentation

DL 1 Gas Cylinder Rack
DL 2 Gas Cylinder Rack
PG 2 Instrument Manifold
PR 1 Instrument Manifold

OVER PRESSURE PROTECTION

Node 2 – Function Test.

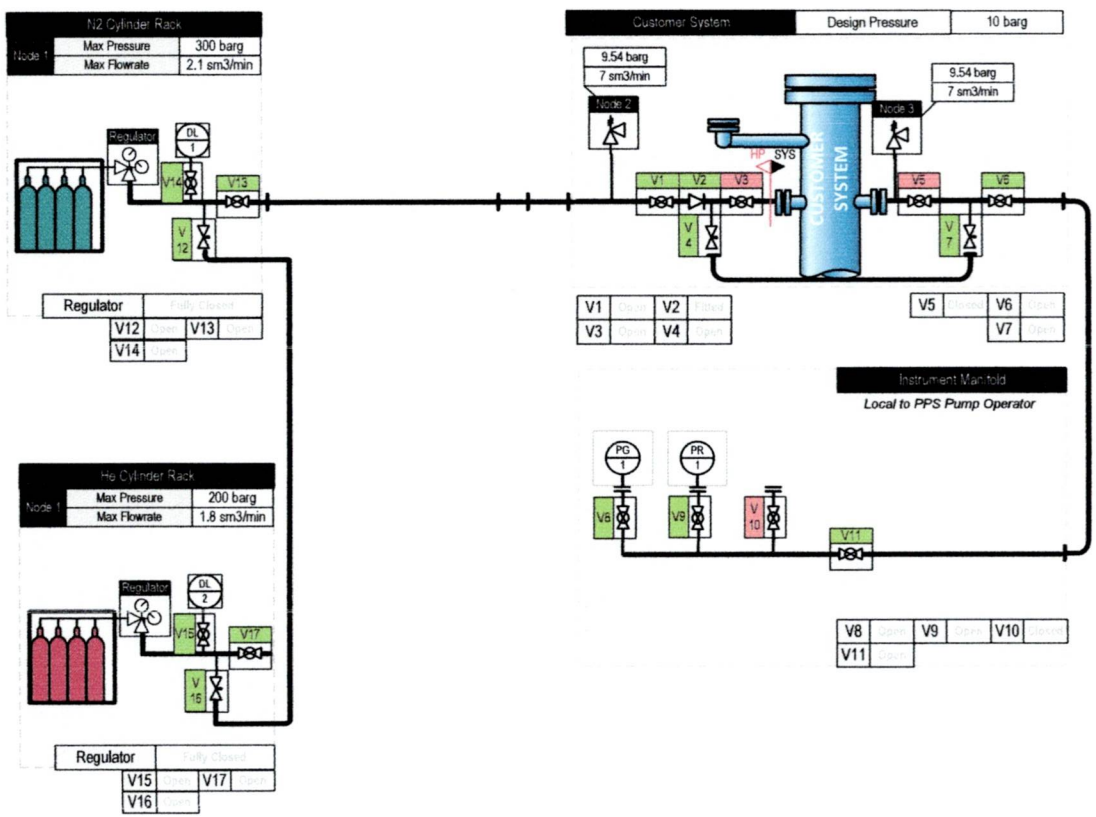
As per minimum test pressure

Node 3 – Customer System

PRV Customer System

.

Test Pressure: 9 barg	Stage 1: Hose Test		PPS		Customer	
Hold Period: 5 mins	Initial Alignment Verified		Rep.		Rep.	



Revision	Rev. Date	Description	Drawn	Checked	Approved
A	27-01-2025	Initial release	M.Bejinaru	M.Ienco	H.Amara

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Leak Test TP-009 – Hose Test Drawing

Scale	Drawn by	Date	Checked by	Date
NTS	M.Bejinaru	08-02-2025	M.Ienco	08-02-2025

Third Angle Projection

Drawing No.: PMCE453947M1 TP09-DWG-001

Page No. 1 of 2

Rev: **A**

KEY

- Ball valve
- Needle valve
- Globe valve
- Check valve
- Pressure relief valve

INSTRUMENTATION

		X	Y
XY #	P	Pressure	-
	F	Flow	-
	T	Temperature	Transmitter
XT #	G	-	Gauge
	R	-	Recorder

Minimum Pressure Rating
Hoses, Valves, Fittings
HP 700 barg

Instrumentation
DL 1 Gas Cylinder Rack
DL 2 Gas Cylinder Rack
PG 1 Instrument Manifold
PR 1 Instrument Manifold

OVER PRESSURE PROTECTION
Node 2 – Function Test.
As per minimum test pressure

Node 3 – Customer System
PRV Customer System

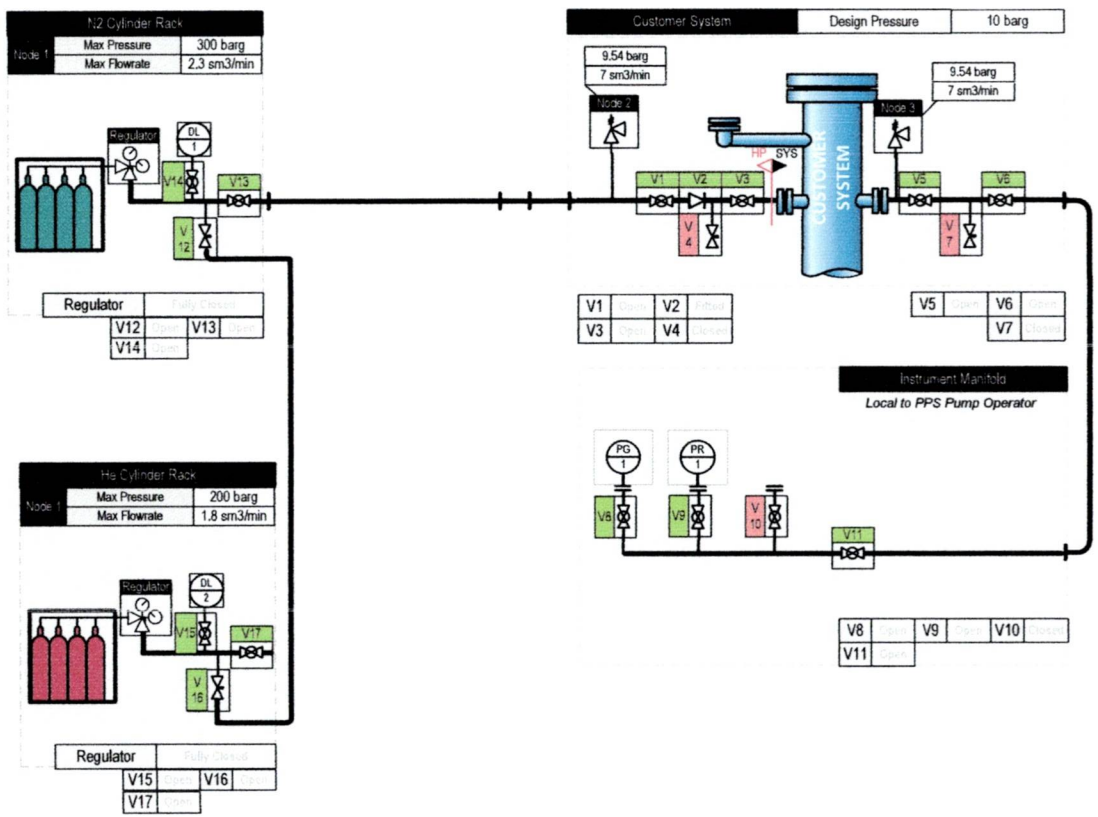
.

Test Pressure: 9 barg
Hold Period: 30 mins

Stage 2: Operation
Initial Alignment Verified

PPS Rep.

Customer Rep.



Revision	Rev. Date	Description	Drawn	Checked	Approved
A	27-01-2025	Initial release	M.Bejinaru	M.Ienco	H.Amara

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Leak Test TP-09 – Operation Drawing

Scale	Drawn by	Date	Checked by	Date
NTS	M.Bejinaru	08-02-2025	M.Ienco	08-02-2025

Third Angle Projection

Drawing No.: PMAF453947M1 TP09-DWG-001

Page No. 2 of 2

Rev: **A**

Appendix C

Test System Marked Drawings

Customer Name:	Rosetti Marino
Project Name:	Leak Testing Services for Base Load Power Hub Project
Test Pack Number:	TP 009
Test Pack Name:	H2 Outlet System LP

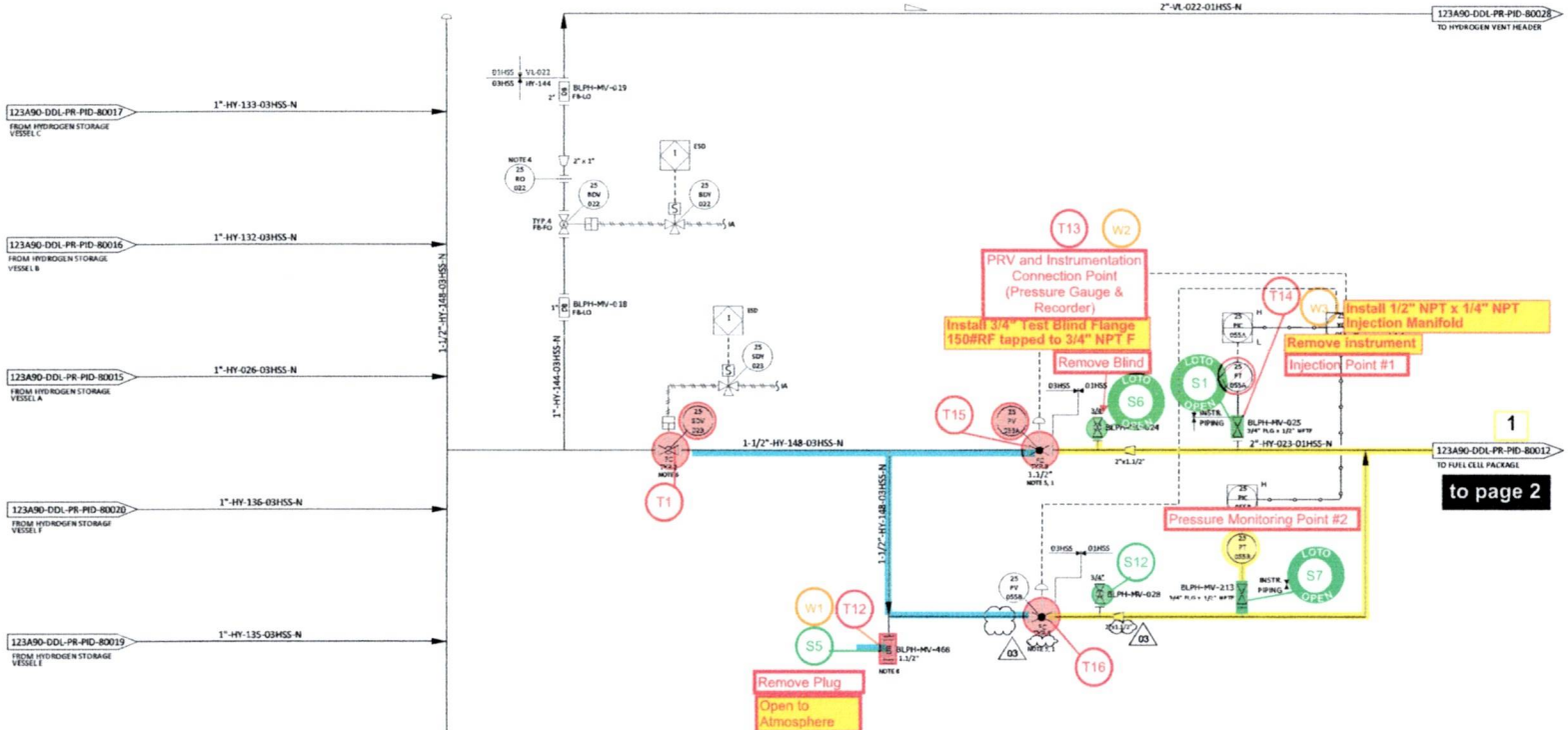
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Rev.02

DRAWING_NO.

REV.



NOTES

1. TIGHT SHUT-OFF VALVE.
2. DELETED.
3. CONTROL VALVES 25-PV-055A/B WORK IN SPLIT RANGE:
   - FOR LOW OPERATING CV (UP TO 0.31) VALVE "B" IS USED
   - FOR HIGH OPERATING CV (FROM 0.31) VALVE "A" IS USED
4. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
5. SOFTWARE INTERLOCK PREVENTS OPENING OF THE CONTROL VALVES 25-PV-055A/B IN CASE FUEL CELL PACKAGE (A-80000) IS NOT READY TO START.
6. SDV VALVE 25-SDV-023 TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE CONTROL VALVES 25-PV-055A/B. 03
7. DELETED 03
8. TO BE USED DURING COMMISSIONING PHASE.

HOLDS

1. DELETED.
2. DELETED. 03

Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

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
HYDROGEN STORAGE VESSELS HEADER (OUTLET)

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE

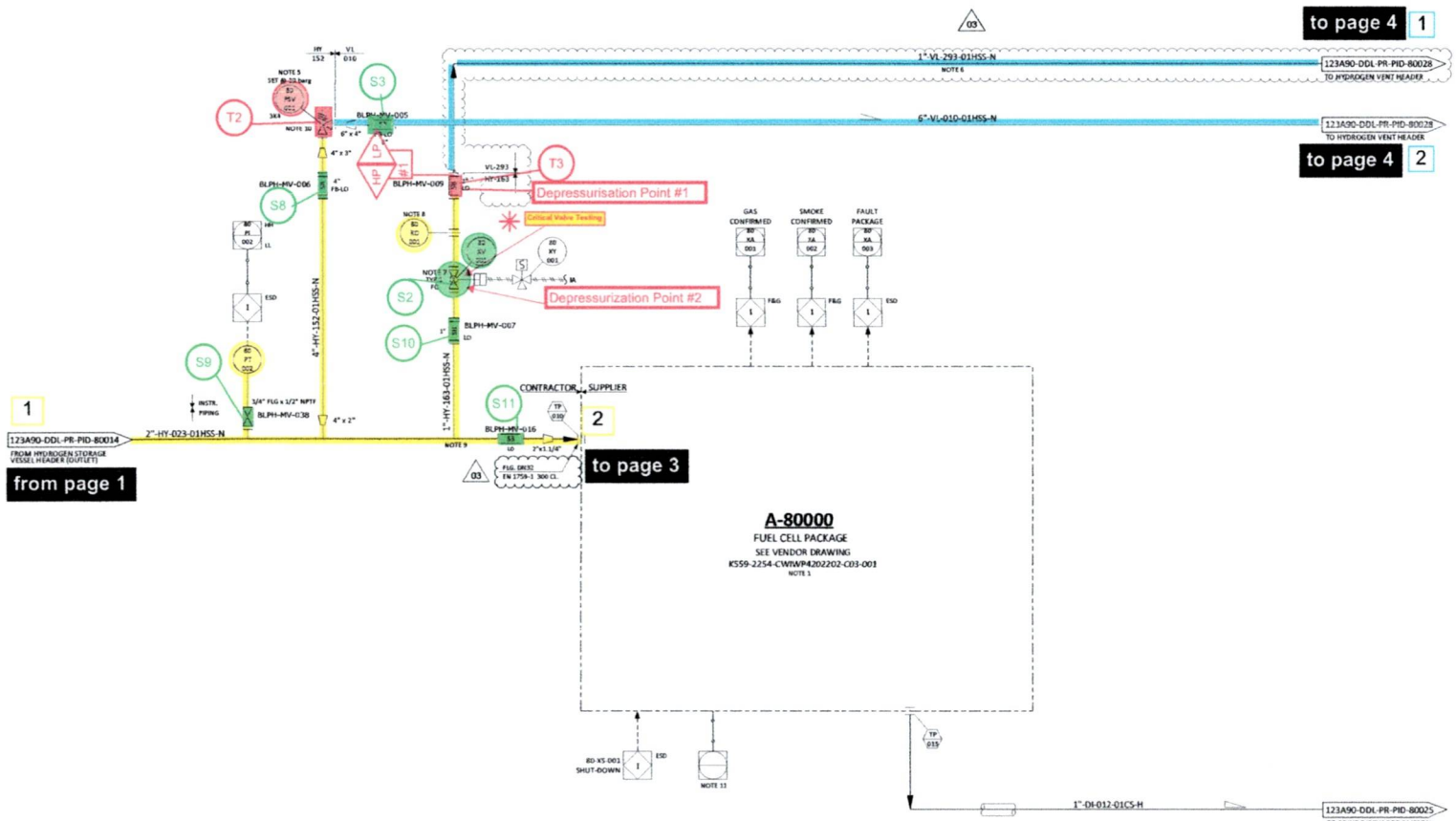
A1	DRAWING NO. 123A90-DDL-PR-PID-80014	SHEET 001	REV. 03

File Name : FILE_NAME

Rev.02

DRAWING NO. DRAWING_NO.

REV. REV



NOTES

1. THE VENDOR PACKAGE WILL CONTAIN AIR INTAKE AND EXHAUST, SUITABLY SAFEGUARDED AND SEPARATED.
2. DELETED.
3. DELETED.
4. DELETED
5. ONE UNINSTALLED SPARE PSV SHALL BE AVAILABLE.
6. LINE REQUIRED FOR PURGING OF PIPING WORK.
7. TIGHT SHUT-OFF VALVE.
8. FOR ORIFICE DIAMETER REFERENCE SHALL BE MADE TO "RELIEF, VENT AND BLOWDOWN REPORT" DOC. N. "123A90-DDL-PR-RE-80030".
9. LINE 1"-HY-163-01HSS-N WILL BE LOCATED AS CLOSE TO THE PACKAGE AS POSSIBLE TO ENSURE COMPLETE PURGING OF THE LINE.
10. 80-PSV-001 SIZED FOR CV FAILURE OF UPSTREAM CONTROL VALVE 25-PV-055A/B.
11. SERIAL COMMUNICATION WITH CONTROL SYSTEM.

HOLDS

1. DELETED.
2. DELETED.

Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

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
FUEL CELL PACKAGE

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	SCALE	NTS
DRAWN	CHECKED	APPROVED	DATE

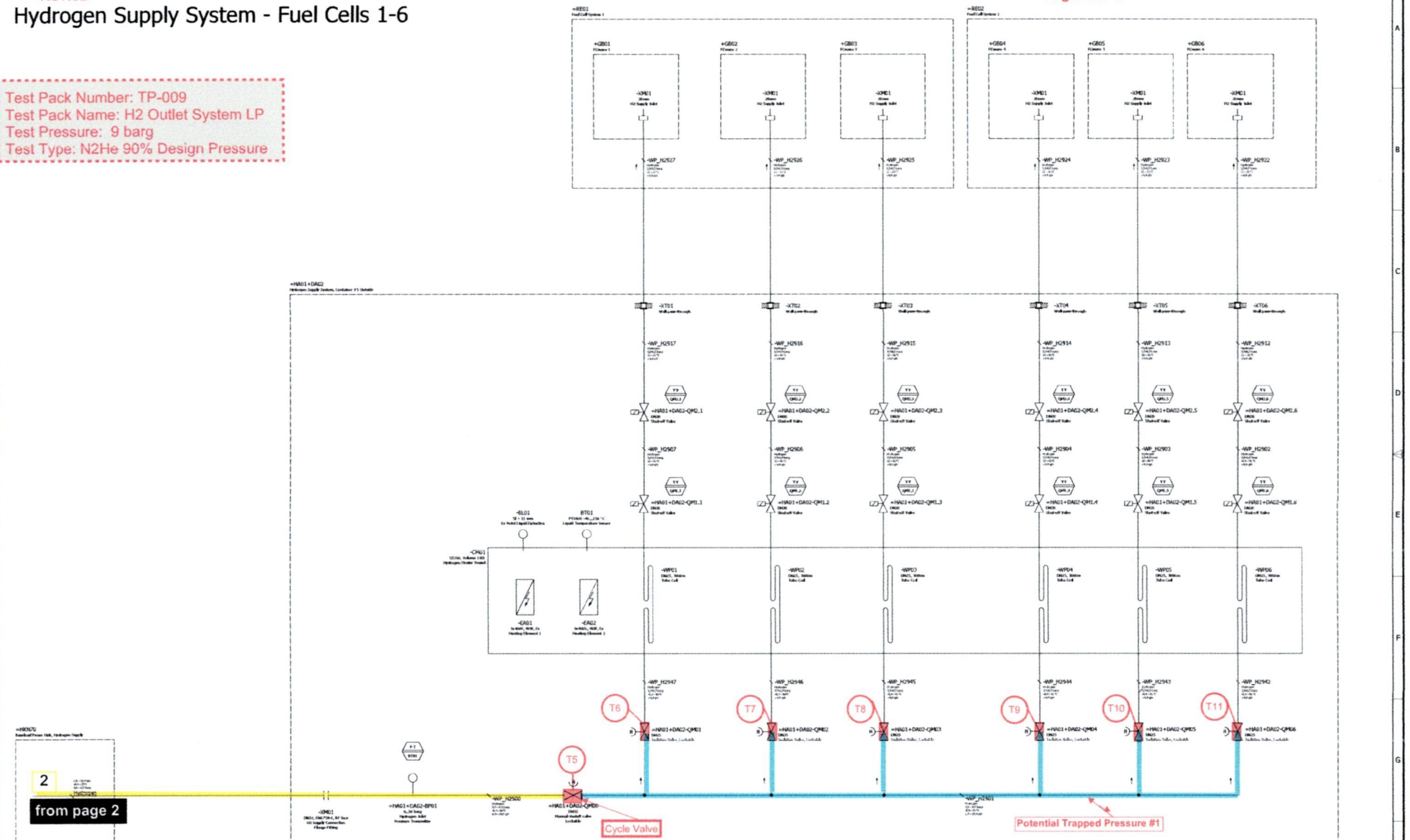
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File Name : FILE_NAME

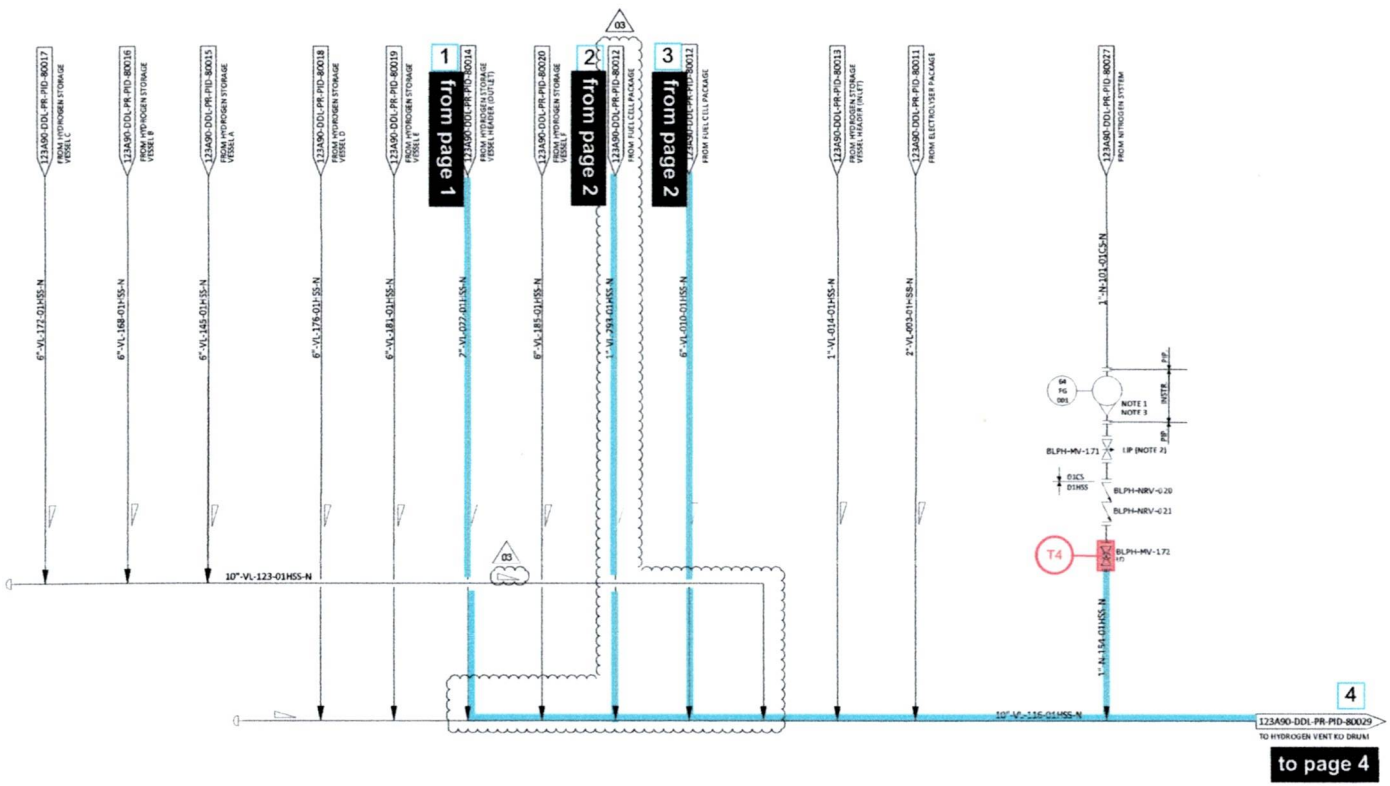
Rev.02

Hydrogen Supply System - Fuel Cells 1-6

Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure



Rev.02



Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

NOTES

1. FLOW METER 64-FG-001 SHALL BE READABLE FROM MANUAL VALVE MV-171.
2. VALVE BLPH-MV-171 TO BE LOCKED IN PLACE.
3. VERTICAL INSTALLATION.

HOLDS

1. DELETED.
2. DELETED.

REV.	DATE	DRN	CHKD	APP'D	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
HYDROGEN VENT HEADER

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-80028	SHEET 001	REV. 03

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REV. REV
File Name : FILE_NAME

Rev.02

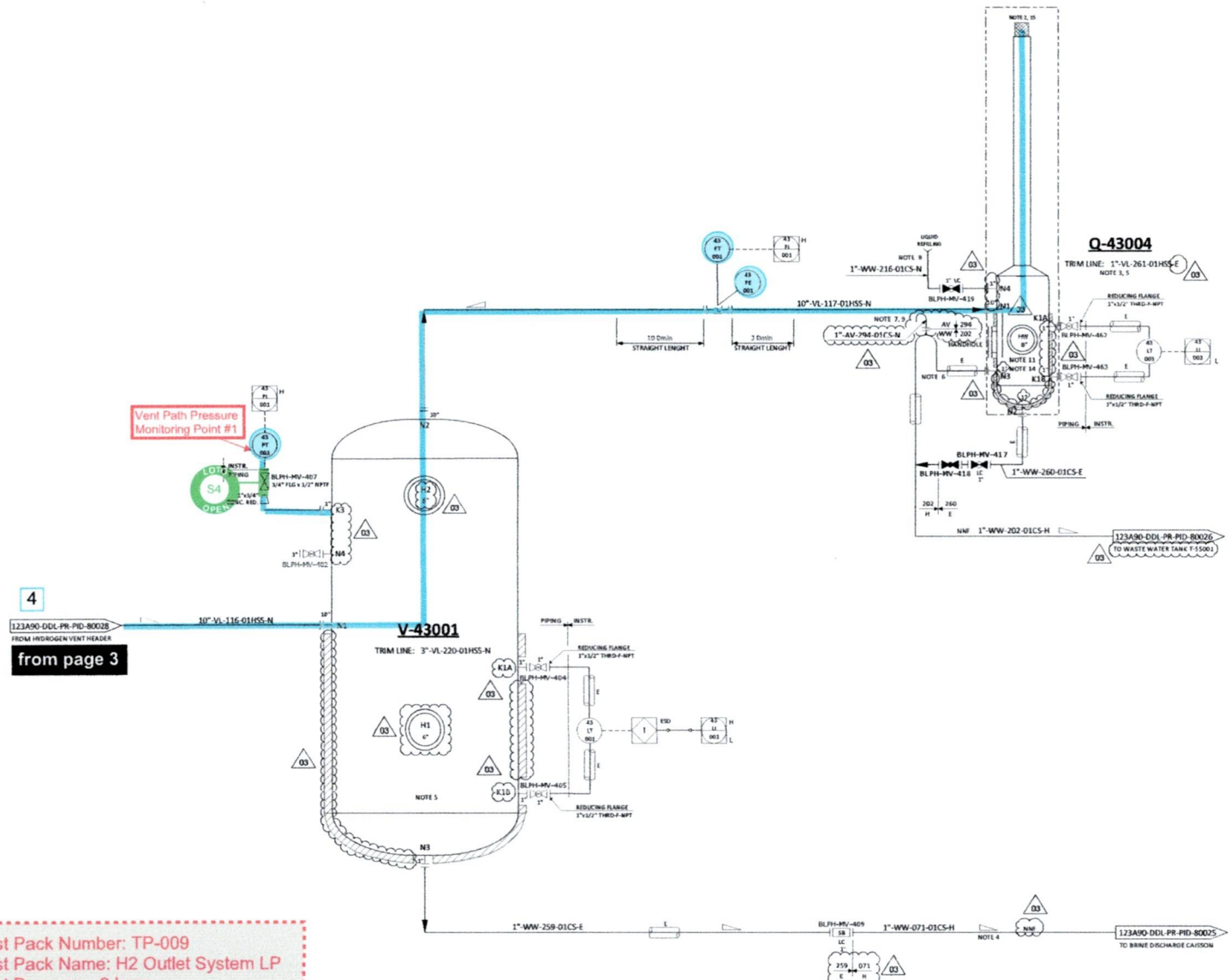
Page 5 of 5

V-43001

HYDROGEN VENT KO DRUM
SIZE : 600 mm (ID) x 2350 mm (H)
DESIGN P/T : 3.5 barg / -10 / 80°C
MATERIAL : LTCS + 1 mm CA

Q-43004

HYDROGEN VENT NOTE 1
SIZE : 254 mm (ID)
DESIGN P/T : 3.5 barg / -10 / 80°C
MATERIAL : LTCS + 3 mm CA



Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

NOTES

1. VENT TO SAFE LOCATION SEGREGATED FROM OTHER VENTS.
2. VENT TO BE EQUIPPED WITH BIRD SCREEN.
3. LIQUID SEAL DRUM IS PART OF THE VENT SYSTEM.
4. LIQUID DRAIN LINES TO BE ROUTED TO ENSURE GRAVITY DRAIN.
5. HYDROGEN VENT KO DRUM AND LIQUID SEAL DRUM TO BE HEAT TRACING.
   - V-43001 HEAT TRACED FROM B.T.L. UP TO 600 mm, BOTTOM HEAD ALSO TO BE HEAT TRACED.
6. SEAL LEG WILL BE DETERMINATED ON THE MAXIMUM BACK PRESSURE IN THE VENT.
7. SEAL VENT TO BE PLACED INTO A SAFE POSITION.
8. FILLING LINE TO BE PLACED IN AN ACCESSIBLE POSITION.
9. TRACED FROM NOZZLE N3 UP TO SWAN NECK.
10. DELETED.
11. INLET DIP LEG SUBMERSION HEIGHT OF 0.6 m.
12. DELETED.
13. FOR DESCRIPTION AND SPECIFICATION OF VESSEL NOZZLE, REFERENCE SHALL BE MADE TO THE TECHNICAL DATA SHEET FOR H2 VENT KOD.
14. LIQUID INSIDE SEAL DRUM IS A WATER - GLYCOL MIXTURE WITH 50% VOLUME OF GLYCOL. 03
15. TOP OF TIP OF H2 VENT SHALL BE AT AS MINIMUM 6.2 m FROM HIGHEST REACHABLE PLATFORM.

HOLDS

1. DELETED.
2. DELETED.
3. 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
HYDROGEN VENT DRUM

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-80029 | SHEET 001 | REV. 03

DRAWING NO. DRAWING_NO.
REV. REV
File Name : FILE_NAME

Appendix D

Restricted Access Zone

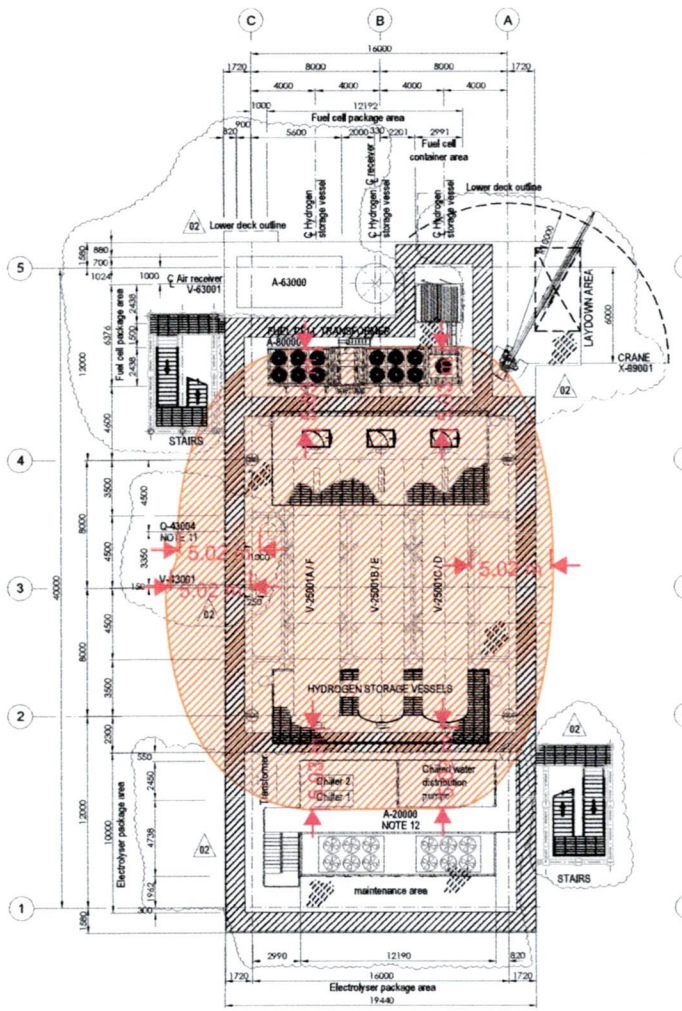
Marked Plot Plan / Deck Plan

Customer Name:	Rosetti Marino
Project Name:	Leak Testing Services for Base Load Power Hub Project
Test Pack Number:	TP 009
Test Pack Name:	H2 Outlet System LP

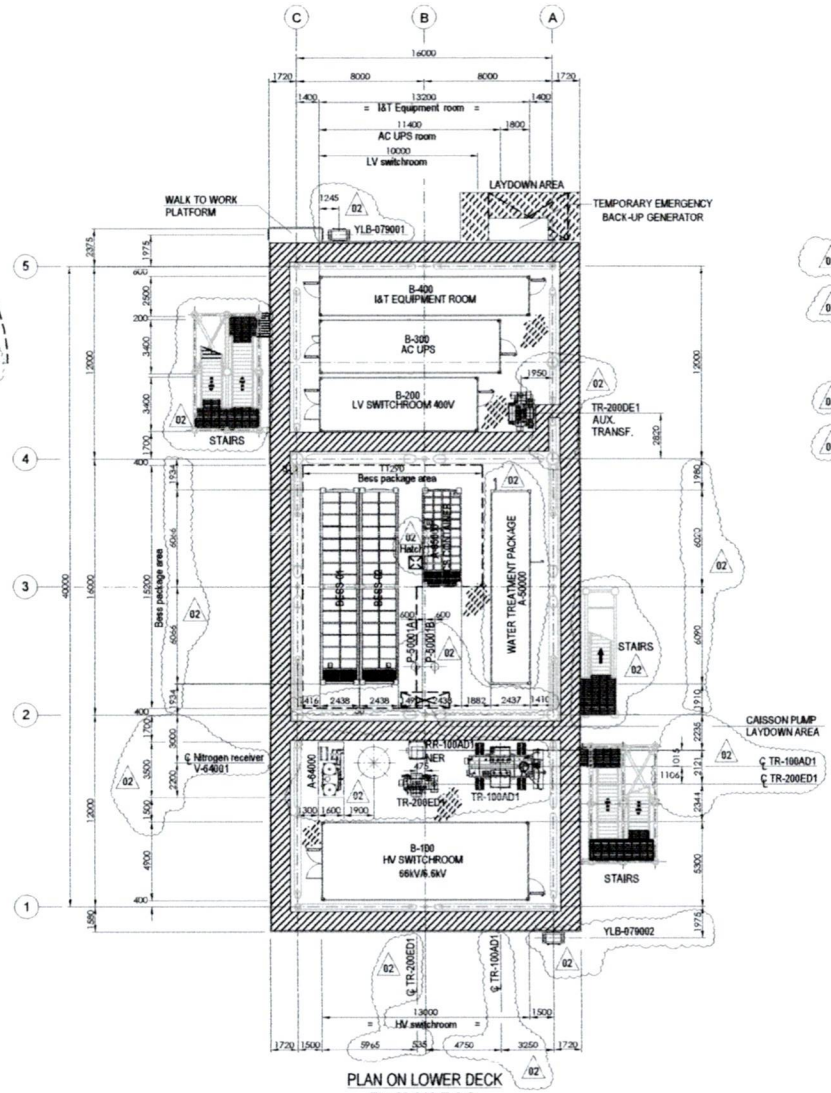
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TP-009 (Restricted Zone) @ 9 barg



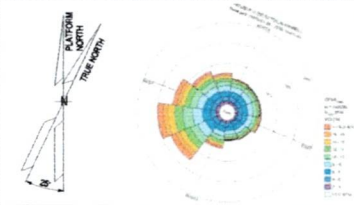
PLAN ON UPPER DECK
EL.+30.310 T.O.S.



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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION		TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	02	V-25001A-F	HYDROGEN STORAGE VESSELS
			V-43001	HYDROGEN VENT KO DRUM
			YLB-079001/2	LIFE RAFTS
			B-100	HV/MV SWITCHROOM 66kV/6.6kV
			B-200	LV SWITCHROOM 400V
A-63000	INSTRUMENT AIR PACKAGE		B-300	AC UPS EQUIPMENT ROOM
A-80000	FUEL CELL		B-400	I&T EQUIPMENT ROOM
A-85000	BESS		TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-50000	02 WATER TREATMENT PACKAGE	02	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
P-50001A/B	SEAWATER LIFT PUMPS		TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
			RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
Q-43004	HYDROGEN VENT	NOTE 11	V-63001	AIR RECEIVER
			V-64001	NITROGEN RECEIVER 02
			X-99001	CRANE
A-64000	NITROGEN SYSTEM			



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. EQUIPMENT SIZES ARE BASED ON MASTER EQUIPMENT LIST 123A90-DDL-MAC-LIS-50000 AND VENDOR DWG. RECEIVED.
4. ALL ELEVATIONS RELATE TO LOWEST ASTRONOMICAL TIDE (LAT) = 0.000.
5. PLAN SHOWS PRIMARY ESCAPE/MATERIAL HANDLING ROUTES ONLY.
6. DELETED
7. MISCELLANEOUS SAFETY EQUIPMENT ARE SHOWN IN DOC. 123A90-DDL-SAF-DL-3002516_Escape Routes, Fire Fighting, Life Saving Equipment and Safety Equipment Layouts Drawings.
8. PREVAILING WIND DIRECTION INFLUENCING EQUIPMENT/VENT LAYOUT FROM THE SOUTH WEST.
9. PLATFORM NORTH DIRECTION IS N 25°W.
10. DELETED
11. LIQUID SEAL IS PART OF THE HYDROGEN VENT.
12. FOR ELECTROLYSER PACKAGE DETAILS SEE VENDOR DWG. C63-GAD-001
13. DELETED

LEGEND

DENOTES PLATED DECK

ESCAPE/MATERIAL HANDLING ROUTE

DENOTES OPEN GRATING

HOLDS

1. DELETED
2. DELETED
3. DELETED
4. DELETED
5. DELETED
6. DELETED
7. DELETED
8. DELETED
9. DELETED

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	24/05/24	MMA	CBO	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	07/02/24	MMA	CBO	DLO	ISSUE FOR REVIEW (IFR)
00	31/10/23	MMA	CBO	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE: BASE LOAD POWER HUB (BLPH)
PLOT PLAN
LOWER & UPPER DECK

CONTRACT NO./TITLE: C#-1-WP4-7003-05/HOLLANDSE KUST NOORD WIND FARM | SCALE: 1:150
DRAWN: M. MAGNI | CHECKED: C. BOPPOLIN | APPROVED: D. LO STERZO | DATE: 24/05/24

A1 | DRAWING NO.: 123A90-DDL-PP-DL-70070 | SHEET: 001 | REV: 02

File Name: 123A90-DDL-PP-DL-70070 Rev-02

Test Pack Number: TP-009
Test Pack Name: H2 Outlet System LP
Test Pressure: 9 barg
Test Type: N2He 90% Design Pressure

Section 6.3 Chemical Loading & First Fill records Index

NOT APPLICABLE

Section 6.4 Chemical Cleaning Reports and Records Index

NOT APPLICABLE

Section 6.5 Lubrication Schedule

NOT APPLICABLE

Section 7 VENDOR

Section 7.1 Vendor Package Summary Index

NOT APPLICABLE

Section 7.2 SAT Procedure with associated punch list and reference (Front Page)

NOT APPLICABLE

Section 7.3 Vendor Spares & Special Tools lists references

NOT APPLICABLE

Section 7.4 Vendor Data / Operations / Maintenance Manuals References

NOT APPLICABLE

Section 8 LIST OF MODIFICATIONS

NOT APPLICABLE

Section 8.1 List of changes

ROSETTI MARINO	NON CONFORMITY REPORT	NCR n° 2025-Q-123A90-0003 rev. 0

DESCRIPTION

Project: 123A90	**Client:** CROSSWIND C.V.	**Originator:** ROSETTI MARINO	**Subcontractor name:** N/A

Process: CONSTRUCTION	**Procedure:** Base Load Power Hub (BLPH) - Plot Plan - Lower and Upper deck_123A90-DDL-PP-DL-70070 rev.02 Base Load Power Hub (BLPH) Plot Plan - Elevation looking north and East_123A90-DDL-PP-DL-70072 rev.02.
Activity: ASSEMBLING	
Short Title: DISCREPANCY IN H2 STORAGE TANKS LOCATION	

Description:

During the storage tank installation, a discrepancy was identified between the actual tank placement and the originally planned project layout. While the tanks are technically identical and interchangeable, their assigned identification (Tag) does not match the layout indicated in the P&ID and other project documentation. This misalignment affects the traceability of the tanks in relation to engineering documentation and operational tracking.

Noted by:	Degli Esposti Raffaele	**Role:**	PQM	**Date:**	17/01/2025
Accepted by:	Degli Esposti Raffaele	**Role:**	PQM	**Date:**	17/01/2025

MANAGEMENT

☐ **Use as is** ☐ **Rework** ☐ **Rejected**

Root-Cause Analysis

Classification: WRONG ASSEMBLY OPERATION

Notes:

Root Cause Analysis

The issue arose due to logistical constraints and the necessity to receive the tanks within the required timeframe, considering their large dimensions and extended transportation duration. As a result, the tanks were delivered and installed in an order different from the planned layout, leading to a misalignment of identification tags with the P&ID references. However, this does not affect the functionality or integrity of the tanks.

Corrective Action

To rectify this issue and ensure full traceability, the following action will be implemented:

Reaction Plan

Activities	Person in charge	Scheduled Closing Date	Actual Closing Date	Notes
Each tank will have its correct Tag number painted on the manways and side panels in accordance with the P&ID references. This identification will be clear, permanent, and aligned with project documentation to avoid any confusion. In addition a plate with the correct Tag will be placed close to the PED and ASME plates. The additional plate will not be fixed to the shell but to the existing plates supports.	Borghi Wolmer	14/03/2025		
A statement issued by Rosetti will be included in the final dossier, confirming full traceability and ensuring that the identification of each tank is correctly referenced in all project documentation.	Degli Esposti Raffaele	14/03/2025		

Defined by:	Degli Esposti Raffaele	**Role:**	PQM	**Date:**	07/02/2025
Approved by:	Degli Esposti Raffaele	**Role:**	PQM	**Date:**	07/02/2025

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Client's / AI Approval:		**Role:**		**Date:**
COMPLETION				
Checked by:	Degli Esposti Raffaele	**Role:**	PQM	**Date:**
Effective Closing Date:				
Client's / AI Approval:		**Role:**		**Date:**
Notes:				
Distribution:				

Section 9 SUPPORTING DOCUMENTS

NOT APPLICABLE