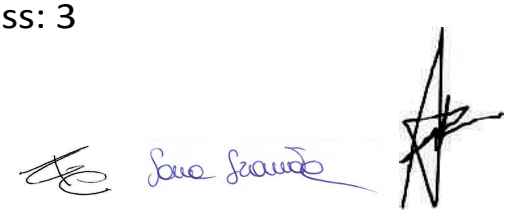
Base Load Power Hub (BLPH)

BALL, SBB, DBB VALVES

DATA SHEET

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1 INTRODUCTION

1.1. PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

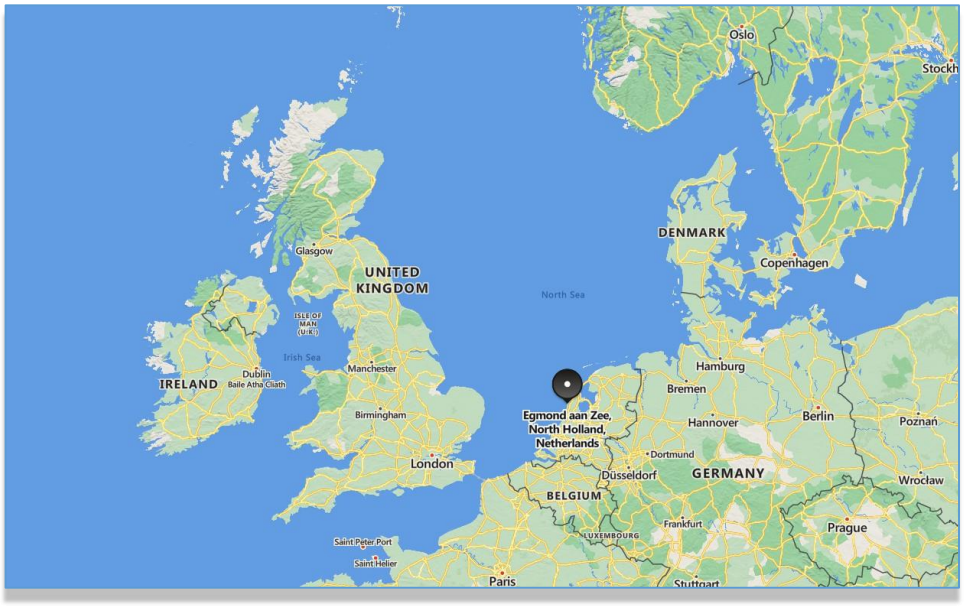


Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map

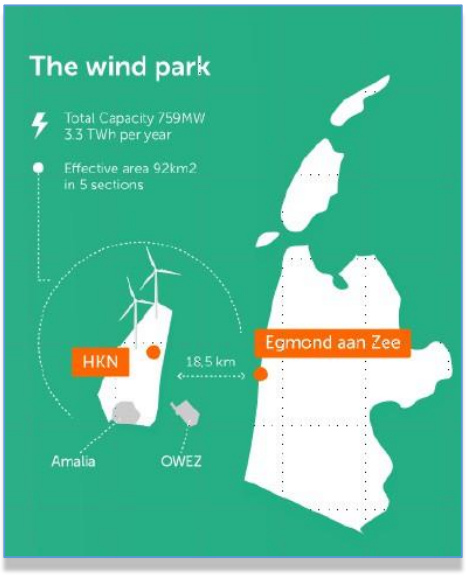


Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

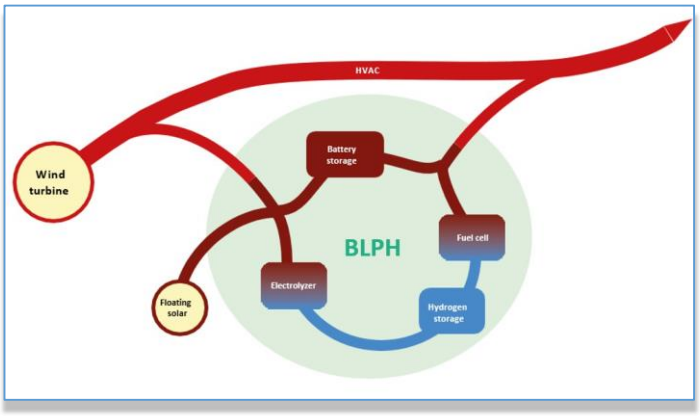


Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

	INDRA	CROSSWIND				
ITEM NR	MODEL	DWG CODE	SAP CODE	DATA SHEET 123A90-DDL-PP-DS-70003 REV.02	TAG VALVE	NOTES
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260	SBB-798-HR-100-N150RF3-N-D	00.VSF.2700/V	VLBLNN01450400	BA01C01RFHS	**BLPH-MV-201**	FB - LO
270	SB-598-TRU-HR-150-Q150RF3-Q	00.VSFT.0224/V	VLBLNN01460600	BA01C01RFHS	**BLPH-MV-005**	FB-LO
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280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-014**	-
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280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-096**	-
280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-097**	-
280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-204**	-
280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-205**	-
280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-282**	-
280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-283**	-
280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-421**	-
280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-422**	-
280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-438**	-
280	DBB-737-HR-E300RF3-D-D	00.MNF.0604/V	VLBMNN00013Q0H	MD03C02YH	**BLPH-MV-439**	-
290	SBB-727-HR-E150RF3-D-D	00.MNF.0608/V	VLBNNN00023Q0H	MS01C02YH	**BLPH-MV-025**	-
290	SBB-727-HR-E150RF3-D-D	00.MNF.0608/V	VLBNNN00023Q0H	MS01C02YH	**BLPH-MV-038**	-
290	SBB-727-HR-E150RF3-D-D	00.MNF.0608/V	VLBNNN00023Q0H	MS01C02YH	**BLPH-MV-213**	-
290	SBB-727-HR-E150RF3-D-D	00.MNF.0608/V	VLBNNN00023Q0H	MS01C02YH	**BLPH-MV-407**	-
300	SBB-727-E150RF3-D-D	00.MNF.0605/V	VLBNNN00033Q0H	MS01C02Y	**BLPH-MV-150**	-
300	SBB-727-E150RF3-D-D	00.MNF.0605/V	VLBNNN00033Q0H	MS01C02Y	**BLPH-MV-151**	-
310	SBB-727-E150RF3-D-D	00.MNF.0612/V	VLBNNN00063Q0H	MS01B02Y	**BLPH-MV-166**	-
310	SBB-727-E150RF3-D-D	00.MNF.0612/V	VLBNNN00063Q0H	MS01B02Y	**BLPH-MV-167**	-
310	SBB-727-E150RF3-D-D	00.MNF.0612/V	VLBNNN00063Q0H	MS01B02Y	**BLPH-MV-386**	-
320	SBB-727-E150RF3-D-D	00.MNF.0606/V	VLBNNN00063Q0H	MS01B02Y	**BLPH-MV-411**	Stem Extension 100mm
321	SB-598-50-L150RF3-L-LF2	00.VSF.2716/V	VBD0NN16610300	BC01B01RF	**BLPH-MV-467**	Stem Extension 100mm
324	SBB-798-25-F150RF3-F-D-	00.VSF.2784(T)	VLBLNN01370100	BS01F01RFS	**BLPH-MV-469**	Stem Extension 100mm
324	SBB-798-25-F150RF3-F-D-	00.VSF.2784(T)	VLBLNN01370100	BS01F01RFS	**BLPH-MV-470**	Stem Extension 100mm
324	SBB-798-25-F150RF3-F-D-	00.VSF.2784(T)	VLBLNN01370100	BS01F01RFS	**BLPH-MV-471**	Stem Extension 100mm

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2684/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN06943Q00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	*°C*	*Max*	**+100** *°C*	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	3/4"	RF	R9				
	OUTLET	FLANGED	3/4"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 20							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		117 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		PEEK							
SEAT SUPPORT		A182 F316/316L	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		TAG: BLPH-MV-111							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2687/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN06950100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100** °C	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	1"	RF	R9				
	OUTLET	FLANGED	1"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 25							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		127 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		RPTFE							
SEAT SUPPORT		A182 F316/316L	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A182 F316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		TAG: BLPH-MV-210 , BLPH-MV-242, BLPH-MV-447, BLPH-MV-448, BLPH-MV-449, BLPH-MV-450, BLPH-MV-451, BLPH-MV-452, BLPH-MV-453, BLPH-MV-454, BLPH-MV-455, BLPH-MV-456, BLPH-MV-457, BLPH-MV-458, BLPH-MV-459							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2690/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN06961H00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100** °C	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	1-1/2"	RF	R9				
	OUTLET	FLANGED	1-1/2"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 40							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		165 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		RPTFE							
SEAT SUPPORT		A182 F316/316L	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		TAG: BLPH-MV-149, BLPH-MV-270							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2693/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24343Q00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100** °C	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	3/4"	RF	R9				
	OUTLET	FLANGED	3/4"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 20							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		117 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						8
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		RPTFE							
SEAT SUPPORT		A182 F316/316L	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A182 F316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		DYE PENETRANT ON BONNET BODY (100 %):							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. "3. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO 15848-2 (1 FOR POSITION) ISO Acc. to procedure ""PFET_Rev.2-Procedura							
		TAG: BLPH-MV-024, BLPH-MV-028							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2694/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24350100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100**	°C
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	1"	RF	R9				
	OUTLET	FLANGED	1"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 25							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		127 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						8
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		PEEK							
SEAT SUPPORT		A182 F316/316L	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		DYE PENETRANT ON BONNET BODY (100 %):							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. "3. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO ISO 15848-2 (1 FOR POSITION) Acc. to procedure ""PFET_Rev.2-Procedura FET_EN							
		TAG: BLPH-MV-172, BLPH-MV-404, BLPH-MV-405, BLPH-MV-462, BLPH-MV-463							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2685**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24433Q00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100** °C	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	3/4"	RF	R9				
	OUTLET	FLANGED	3/4"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 20							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		117 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION	100mm						7
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F55	NACE / NORSOK						
CLOSURES		A182 F55	NACE / NORSOK						
BALL		A479 F55	NACE / NORSOK						
SEAT		PEEK							
SEAT SUPPORT		A479 F55	NACE / NORSOK						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 F55	NACE / NORSOK						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B7M	A194 Gr.2HM	+HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		IMPACT TEST ON BODY AND CLOSURES (-50°C)							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Lever is suitable for insulation up to 100mm to flange							
		TAG: BLPH-MV-044, BLPH-MV-054, BLPH-MV-241,							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2688**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24440100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100**	°C
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	1"	RF	R9				
	OUTLET	FLANGED	1"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 25							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		127 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION	100mm						7
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F55	NACE / NORSOK						
CLOSURES		A182 F55	NACE / NORSOK						
BALL		A479 F55	NACE / NORSOK						
SEAT		PEEK							
SEAT SUPPORT		A479 F55	NACE / NORSOK						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 F55	NACE / NORSOK						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B7M	A194 Gr.2H	+HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		IMPACT TEST ON BODY AND CLOSURES (-50°C)							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Lever is suitable for insulation up to 100mm to flange							
		TAG: BLPH-MV-048, BLPH-MV-051							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G.* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2692**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24460200 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**								**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100**	°C	
VALVE DESIGN		SB								
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE						
DESIGN CODE		ASME B16.34	ASME B16.5							
END CONNECTIONS	*INLET*	FLANGED	2"	RF	R9					
	OUTLET	FLANGED	2"	RF	R9					
	BLEED	N/A								
BORE VALVE (DN-mm)		DN 50								
BORE VENT (DN-mm)		N/A								
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD								
FACE TO FACE DIMENTIONS (mm)		178 mm	ASME B16.10							
DESIGN										
PORT DESIGN		FULL BORE								
RATING CLASS		ASME 150								
SEAT DESIGN		SOFT SEAT								
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION	100mm							7
CORROSION ALLOWANCE		NO								
WELD OVERLAY		NO								
OPERATOR		LEVER	St.st.316							
LOCKING SYSTEM		YES	without locking element							
NACE MR0175/ISO 15156		YES								
FUGITIVE EMISSION / CLASS		NO								
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA							
MATERIALS										
BODY		A182 F55	NACE							
CLOSURES		A182 F55	NACE							
BALL		A479 F55	NACE							
SEAT		PEEK								
SEAT SUPPORT		A182 F55	NACE							
SEAT SPRING		N/A								
TRUNNION		N/A								
STEM		A479 F55	NACE							
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)							
SEAT SUPPORT SEALS / GASKET		N/A	N/A							
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)							
BOLT / NUT / BOLT COATING		A193 B7M	A194 Gr.2HM	+HDG						
OTHER		Non-wetted part in st.steel								6
TESTS										
REFERENCE PRESSURE TESTING		API 598, API 6D								
GAS TEST										
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)								
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14								
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1								
		IMPACT TEST ON BODY AND CLOSURES (-50°C)								
NOTES:										
		1. Antistatic device								
		2. Anti-blow out stem								
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF								
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 - TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)								
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE								
		6. spring material ELGILOY R30003								
		7. Lever is suitable for insulation up to 100mm to flange.								
		TAG: BLPH-MV-464, BLPH-MV-465								

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2686/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24703Q00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)			*Min*	**-46**	*°C*	*Max*	**+100**	*°C*	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	3/4"	RF	R9				
	OUTLET	FLANGED	3/4"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 20							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		117 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A350 LF2	NACE						
CLOSURES		A350 LF2	NACE						
BALL		A479 316/316L	NACE						
SEAT		RPTFE							
SEAT SUPPORT		A182 F316/316L	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B7M	A194 Gr.2HM	+HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		TAG: BLPH-MV-275							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2770/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24710100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)			*Min*	**-46**	*°C*	*Max*	**+100**	*°C*	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	1"	RF	R9				
	OUTLET	FLANGED	1"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 25							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		127mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A350 LF2	NACE						
CLOSURES		A350 LF2	NACE						
BALL		A479 316/316L	NACE						
SEAT		RPTFE							
SEAT SUPPORT		A479 316/316L	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		ASTM A193 B7M + HDG	A194 Gr.2HM	+HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14 (CARBON STEEL EXCLUDED)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm) acc. to proc. ATP-00							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		TAG: BLPH-MV-263, BLPH-MV-419							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*31/07/2024*	*Issue for order*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2689/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24710100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)			*Min*	**-46**	°C	*Max*	**+100**	°C	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	1"	RF	R9				
	OUTLET	FLANGED	1"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 25							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		127 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION	100mm						8
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A350 LF2	NACE						
CLOSURES		A350 LF2	NACE						
BALL		A479 316/316L	NACE						
SEAT		RPTFE							
SEAT SUPPORT		A350 LF2	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B7M	A194 Gr.2H	+HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. Lever is suitable for insulation up to 100mm to flange							
		TAG: BLPH-MV-417							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2691/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24721H00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)			*Min*	**-46**	*°C*	*Max*	**+100**	*°C*	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	1-1/2"	RF	R9				
	OUTLET	FLANGED	1-1/2"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 40							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		165 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION	100mm						8
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A350 LF2	NACE						
CLOSURES		A350 LF2	NACE						
BALL		A479 316/316L	NACE						
SEAT		RPTFE							
SEAT SUPPORT		A350 LF2	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B7M	A194 Gr.2HM	+HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 - TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. Lever is suitable for insulation up to 100mm to flange							
		TAG: BLPH-MV-412							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2683**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBC0NN24893Q00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**5**	°C	*Max*	**50** °C	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	3/4"	FF					
	OUTLET	FLANGED	3/4"	FF					
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 20							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		117 mm	ASME B16.10						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION							7
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		B564 Hastelloy							
CLOSURES		B564 Hastelloy							
BALL		B574 Hastelloy							
SEAT		PEEK							
SEAT SUPPORT		B564 Hastelloy							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		B574 Hastelloy							
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4,'ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Lever is suitable for insulation up to 100mm to flange							
		TAG: BLPH-MV-214, BLPH-MV-400							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2695/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBD0NN16460300 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100**	°C	
VALVE DESIGN		SB								
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE						
DESIGN CODE		ASME B16.34	ASME B16.5							
END CONNECTIONS	*INLET*	FLANGED	3"	RF	R9					
	OUTLET	FLANGED	3"	RF	R9					
	BLEED	N/A								
BORE VALVE (DN-mm)		DN 50								
BORE VENT (DN-mm)		N/A								
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN							
FACE TO FACE DIMENTIONS (mm)		203mm	ASME B16.10							
DESIGN										
PORT DESIGN		REDUCED BORE								
RATING CLASS		ASME 150								
SEAT DESIGN		SOFT SEAT								
STEM DESIGN (STD / EXTENDED)		STANDARD								
CORROSION ALLOWANCE		YES	3mm							
WELD OVERLAY		NO								
OPERATOR		LEVER	St.st.316							
LOCKING SYSTEM		YES	without locking element							
NACE MR0175/ISO 15156		YES								
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1							8
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA							
MATERIALS										
BODY		A182 F316/316L	NACE							
CLOSURES		A182 F316/316L	NACE							
BALL		A479 316/316L	NACE							
SEAT		RPTFE								
SEAT SUPPORT		A182 F316/316L	NACE							
SEAT SPRING		N/A								
TRUNNION		N/A								
STEM		A479 316/316L	NACE							
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)							
SEAT SUPPORT SEALS / GASKET		N/A	N/A							
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)							
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr.8M							
OTHER		Non-wetted part in st.steel								6
TESTS										
REFERENCE PRESSURE TESTING		API 598, API 6D								
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0								
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)								
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14								
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1								
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01								
		DYE PENETRANT ON BONNET BODY (100 %):								
NOTES:										
		1. Antistatic device								
		2. Anti-blow out stem								
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF								
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)								
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE								
		6. spring material ELGILOY R30003								
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)								
		8. "3. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO ISO 15848-2 (1 FOR POSITION) Acc. to procedure ""PFET_Rev.2-Procedura FET_EN"""								
		TAG: BLPH-MV-402,								

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2680/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBBNN07190100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**898**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-46**	°C	*Max*	**+80** °C	
VALVE DESIGN		DBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	1"	RF	R9				
	OUTLET	FLANGED	1"	RF	R9				
	BLEED	THREADED (Female)	1/2"	NPT	with PLUG				
BORE VALVE (DN-mm)		DN 25							
BORE VENT (DN-mm)		5 mm							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		264							
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 300							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						4
FIRE SAFE		YES	API 607 / ISO 10497						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		PEEK							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		ASTM A193 B8M Cl.2	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		ANTISTATIC TEST acc. To BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. to proc. PT-PMI rev.14							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		DYE PENETRANT ON BODY BONNET (100 %):							
		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: RAL 9002(VALVE); RAL 9005(LEVER) - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" Adhesion Test (Pull Off)							
		4. Production fuggitive emission test (1 for position) ISO 15848-2 acc. to proc. PFET_Rev.2-Procedura FET_EN							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. SPRING MATERIAL : ELGILOY R30003							
		TAG: BLPH-MV-003, BLPH-MV-010, BLPH-MV-018, BLPH-MV-029, BLPH-MV-086, BLPH-MV-087, BLPH-MV-088 BLPH-MV-093, BLPH-MV-094, BLPH-MV-098, BLPH-MV-192, BLPH-MV-193, BLPH-MV-195, BLPH-MV-197 BLPH-MV-198, BLPH-MV-200, BLPH-MV-206, BLPH-MV-207, BLPH-MV-211, BLPH-MV-212, BLPH-MV-384 BLPH-MV-385, BLPH-MV-390, BLPH-MV-391, BLPH-MV-426, BLPH-MV-428, BLPH-MV-434, BLPH-MV-435, BLPH-MV-466							<1>

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*24/07/2024*	*Issue for order*	*L.D.G.* LDG	*A.G.*
1	*10/09/2024*	*Added missing valve Tag*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2681/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBBNN07201H00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**898**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-46**	*°C*	*Max*	**+80** *°C*	
VALVE DESIGN		DBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	1-1/2"	RF	R9				
	OUTLET	FLANGED	1-1/2""	RF	R9				
	BLEED	THREADED (Female)	1/2"	NPT	with PLUG				
BORE VALVE (DN-mm)		DN 40							
BORE VENT (DN-mm)		5 mm							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		317							
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 300							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						4
FIRE SAFE		YES	API 607 / ISO 10497						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		PEEK							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		ASTM A193 B8M Cl.2	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		ANTISTATIC TEST acc. To BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. to proc. PT-PMI rev.14							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		DYE PENETRANT ON BODY BONNET (100 %):							
		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: RAL 9002(VALVE); RAL 9005(LEVER) - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" Adhesion Test (Pull Off)							
		4. Production fugitive emission test (1 for position) ISO 15848-2 acc. to proc. PFET_Rev.2-Procedura FET_EN							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. SPRING MATERIAL : ELGILOY R30003							
		TAG: BLPH-MV-032, BLPH-MV-266, BLPH-MV-389, BLPH-MV-416, BLPH-MV-433, BLPH-MV-442, BLPH-MV-468							<1>

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*24/07/2024*	*Issue for order*	*L.D.G.* LDG	*A.G.*
1	*10/09/2024*	*Added missing valve Tag*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2682/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBBNN07210200 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**898**			**NOTE**
Piping Class / DESIGN TEMP. (°C)			*Min* **-46** °C	*Max* **+80** °C	
VALVE DESIGN		DBB			
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE	
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1	
END CONNECTIONS	*INLET*	FLANGED	2"	RF R9	
	OUTLET	FLANGED	2"	RF R9	
	BLEED	THREADED (Female)	1/2"	NPT with PLUG	
BORE VALVE (DN-mm)		DN 50			
BORE VENT (DN-mm)		5 mm			
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN		
FACE TO FACE DIMENTIONS (mm)		366			
DESIGN					
PORT DESIGN		FULL BORE			
RATING CLASS		ASME 300			
SEAT DESIGN		SOFT SEAT			
STEM DESIGN (STD / EXTENDED)		STANDARD			
CORROSION ALLOWANCE		NO			
WELD OVERLAY		NO			
OPERATOR		LEVER	St.st.316		
LOCKING SYSTEM		YES	without locking element		
NACE MR0175/ISO 15156		YES			
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1		4
FIRE SAFE		YES	API 607 / ISO 10497		
MATERIALS					
BODY		A182 F316/316L	NACE		
CLOSURES		A182 F316/316L	NACE		
BALL		A479 316/316L	NACE		
SEAT		PEEK			
SEAT SUPPORT		N/A			
SEAT SPRING		N/A			
TRUNNION		N/A			
STEM		A479 316/316L	NACE		
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)		
SEAT SUPPORT SEALS / GASKET		N/A	N/A		
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)		
BOLT / NUT / BOLT COATING		ASTM A193 B8M Cl.2	A194 Gr.8M		
OTHER		Non-wetted part in st.steel			6
TESTS					
REFERENCE PRESSURE TESTING		API 598, API 6D			
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0			
SUPPLEMENTARY TESTS		ANTISTATIC TEST acc. To BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)			
		CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF			
		NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)			
MATERIAL TEST		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. to proc. PT-PMI rev.14			
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01			
		DYE PENETRANT ON BODY BONNET (100 %):			
		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1			
NOTES:					
		1. Antistatic device			
		2. Anti-blow out stem			
		3. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: RAL 9002(VALVE); RAL 9005(LEVER) - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" Adhesion Test (Pull Off)			
		4. Production fuggitive emission test (1 for position) ISO 15848-2 acc. to proc. PFET_Rev.2-Procedura FET_EN			
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE			
		6. SPRING MATERIAL : ELGILOY R30003			
		TAG: BLPH-MV-019			

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*24/07/2024*	*Issue for order*	*L.D.G.* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2679/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBBNN07230400 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**898**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-46**	*°C*	*Max*	**+80** *°C*	
VALVE DESIGN		DBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	4"	RF	R9				
	OUTLET	FLANGED	4"	RF	R9				
	BLEED	THREADED (Female)	1/2"	NPT	with PLUG				
BORE VALVE (DN-mm)		DN 100							
BORE VENT (DN-mm)		5 mm							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		527							
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 300							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		GEAR	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						4
FIRE SAFE		YES	API 607 / ISO 10497						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		RPTFE							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		ASTM A193 B8M Cl.2	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		ANTISTATIC TEST acc. To BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. to proc. PT-PMI rev.14							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		DYE PENETRANT ON BODY BONNET (100 %):							
		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: RAL 9002(VALVE); RAL 9005(GEAR) - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" Adhesion Test (Pull Off)							
		4. Production fuggitive emission test (1 for position) ISO 15848-2 acc. to proc. PFET_Rev.2-Procedura FET_EN							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. SPRING MATERIAL : ELGILOY R30003							
		TAG: BLPH-MV-034, BLPH-MV-222, BLPH-MV-387, BLPH-MV-423, BLPH-MV-431, BLPH-MV-440							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*24/07/2024*	*Issue for order*	*L.D.G.* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSFT.0223/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBBNN07240600 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**898**							**NOTE**
Piping Class / Datasheet / DESIGN TEMP. (°C)			*Min*	**-46**	°C	*Max*	**80**	°C	
VALVE DESIGN		DBB							
VALVE CONSTRUCTION		TRUNNION BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.25						
END CONNECTIONS	*INLET*	FLANGED	6"	RF	R9				
	OUTLET	FLANGED	6"	RF	R9				
	BLEED	THREADED (Female)	1/2"	NPT	WITH PLUG				
BORE VALVE (DN-mm)		DN 150							
BORE VENT (DN-mm)		5 mm							11
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN SERVICE						10
FACE TO FACE DIMENTIONS (mm)		691	Manufacturer STD						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ANSI 300							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		GEAR	Handwheel in S.S. 316			T-bar in st.st.			9
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		A479 316/316L	+RPTFE	NACE					
SEAT SPRING / ANTISITATIC DEVICE		ELGILOY R30003	ELGILOY R30003						6
TRUNNION		A182 F316/316L	NACE						
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr8M						
OTHER		St.St.							
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14 (CARBON STEEL EXCLUDED)							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm) acc. to proc. ATP-00							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. Spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - GEAR RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO ISO 15848-2 (1 FOR POSITION) Acc. to procedure "PFET_Rev.2-Procedura FET_EN"							
		9 GEAR, MUST BE PRE-ARRANGED TO RECEIVE GREASE CASE MATERIAL DUCTILE IRON INPUT SHAFT: ST.ST. S316 HANDWHEEL MACHINED FROM SOLID ST.ST. CLOSING DIRECTION STAMPED ON THE HANDWHEEL							
		10. CONCENTRATION 100 % IN THE WORKING FLUID							
		11. Bonnet STANDARD							
		TAG: BLPH-MV-035, BLPH-MV-264, BLPH-MV-388, BLPH-MV-424, BLPH-MV-432, BLPH-MV-441							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*02/08/2024*	*Issue for order*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2697/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBLNN01280100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**798**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-46**	°C	*Max*	**+100** °C	<1>
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	1"	RF	R9				
	OUTLET	FLANGED	1"	RF	R9				<1>
	BLEED	THREADED (Female)	1/2"	NPT	F	PLUG			
BORE VALVE (DN-mm)		DN25							
BORE VENT (DN-mm)		5 mm							8
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		202,5	Manufacturer STD						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	T-BAR	St. St.					
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A350 LF2	NACE						
CLOSURES		A350 LF2	NACE						
BALL		A479 316/316L	NACE						
SEAT		PEEK							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A							
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B7M		A194 Gr.2HM + HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TEST		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
NOTE PER SCHEDA ARTICOLO:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. Bonnet OS&Y							
		TAG : BLPH-MV-269, BLPH-MV-271, BLPH-MV-409							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G.* IDG	*A.G.*
1	*10/09/2024*	*Modified end connections outlet and modified min. design temperature*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2699/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBLNN01291H00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**798**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-46**	°C	*Max*	**+100** °C	
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	1-1/2"	RF	R9				
	OUTLET	FLANGED	1-1/2"	RF	R9				
	BLEED	THREADED (Female)	1/2"	NPT	F	PLUG			
BORE VALVE (DN-mm)		DN40							
BORE VENT (DN-mm)		5 mm							8
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		255	Manufacturer STD						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	T-BAR	St. St.					
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A350 LF2	NACE						
CLOSURES		A350 LF2	NACE						
BALL		A479 316/316L	NACE						
SEAT		PEEK							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A							
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B7M		A194 Gr.2HM + HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TEST		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
		IMPACT TEST ON BODY AND CLOSURES (-50°C)							
NOTE PER SCHEDA ARTICOLO:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. Bonnet OS&Y							
		TAG : BLPH-MV-278							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2701/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBLNN01320100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**798**							**NOTE**
Piping Class / DESIGN TEMP. (°C)			*Min*	**-29**	*°C*	*Max*	**+100**	*°C*	
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	1"	RF R9					
	OUTLET	FLANGED	1"	RF R9					
	BLEED	THREADED (Female)	1/2"	NPT F PLUG					
BORE VALVE (DN-mm)		DN25							
BORE VENT (DN-mm)		5 mm							9
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		202,5	Manufacturer STD						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	T-BAR	St. St.					
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						8
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		PEEK							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A							
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TEST		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		DYE PENETRANT ON BONNET BODY (100 %):							
NOTE PER SCHEDA ARTICOLO:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. "3. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO ISO 15848-2 (1 FOR POSITION) Acc. to procedure ""PFET_Rev.2-Procedura FET_EN"""							
		9. Bonnet STANDARD							
		TAG : BLPH-MV-007, BLPH-MV-009,							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G.* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2698**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBLNN01381H00 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**798**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	*°C*	*Max*	**+100** *°C*	
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	1-1/2"	RF	R9				
	OUTLET	FLANGED	1-1/2"	RF	R9				
	BLEED	THREADED (Female)	1/2"	NPT	F	PLUG			
BORE VALVE (DN-mm)		DN40							
BORE VENT (DN-mm)		5 mm							8
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		255	Manufacturer STD						<1>
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION	100mm						7
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	T-BAR	St. St.					
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F55	NACE						
CLOSURES		A182 F55	NACE						
BALL		A479 F55	NACE						
SEAT		PEEK							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 F55	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A							
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B7M		A194 Gr.2HM + HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TEST		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
		IMPACT TEST ON BODY AND CLOSURES (-50°C)							
NOTE PER SCHEDA ARTICOLO:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Lever and Bonnet are suitable for insulation up to 100mm to flange							
		8. Bonnet OS&Y							
		TAG : BLPH-MV-043, BLPH-MV-050							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G.*	*A.G.*
1	*10/09/2024*	*Modified face to face dimentions*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2696/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBLNN01410100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**798**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	*°C*	*Max*	**+100** *°C*	
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	1"	RF	R9				
	OUTLET	FLANGED	1"	RF	R9				<1>
	BLEED	THREADED (Female)	1/2"	NPT	F	PLUG			
BORE VALVE (DN-mm)		DN25							
BORE VENT (DN-mm)		5 mm							9
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		202,5	Manufacturer STD						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION	100mm						8
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	T-BAR	St. St.					
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		PEEK							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A							
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TEST		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
NOTE PER SCHEDA ARTICOLO:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. Lever and Bonnet are suitable for insulation up to 100mm to flange							
		9. Bonnet OS&Y							
		TAG : BLPH-MV-001							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G.*	*A.G.*
1	*10/09/2024*	*Modified end connections outlet*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2702/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBLNN01430200 (SAP CODE)** <1>
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**798**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	*°C*	*Max*	**+100** *°C*	
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	2"	RF	R9				
	OUTLET	FLANGED	2"	RF	R9				
	BLEED	THREADED (Female)	1/2"	NPT	F	PLUG			
BORE VALVE (DN-mm)		DN50							
BORE VENT (DN-mm)		5 mm							9
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		300	Manufacturer STD						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	T-BAR	St. St.					
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						8
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		PEEK							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A							
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr.8M						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TEST		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		DYE PENETRANT ON BONNET BODY (100 %):							
NOTE PER SCHEDA ARTICOLO:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. "3. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO ISO 15848-2 (1 FOR POSITION) Acc. to procedure ""PFET_Rev.2-Procedura FET_EN"""							
		9. Bonnet STANDARD							
		TAG : BLPH-MV-002, BLPH-MV-016							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G.* LDG	*A.G.*
1	*10/09/2024*	*Modified SAP code*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2700/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBLNN01450400 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

					NOTE
VALVE MODEL		**798**			
Piping Class / DESIGN TEMP. (°C)			*Min* **-29** *°C*	*Max* **+100** *°C*	
VALVE DESIGN		SBB			
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE	
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1	
END CONNECTIONS	*INLET*	FLANGED	4"	RF R9	
	OUTLET	FLANGED	4"	RF R9	
	BLEED	THREADED (Female)	1/2"	NPT F PLUG	
BORE VALVE (DN-mm)		DN100			
BORE VENT (DN-mm)		5 mm			9
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN		
FACE TO FACE DIMENTIONS (mm)		325	Manufacturer STD		
DESIGN					
PORT DESIGN		FULL BORE			
RATING CLASS		ASME 150			
SEAT DESIGN		SOFT SEAT			
STEM DESIGN (STD / EXTENDED)		STANDARD			
CORROSION ALLOWANCE		NO			
WELD OVERLAY		NO			
OPERATOR		LEVER	T-BAR St. St.		
LOCKING SYSTEM		YES	without locking element		
NACE MR0175/ISO 15156		YES			
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1		8
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA		
MATERIALS					
BODY		A182 F316/316L	NACE		
CLOSURES		A182 F316/316L	NACE		
BALL		A479 316/316L	NACE		
SEAT		PEEK			
SEAT SUPPORT		N/A			
SEAT SPRING		N/A			
TRUNNION		N/A			
STEM		A479 316/316L	NACE		
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)		
SEAT SUPPORT SEALS / GASKET		N/A			
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)		
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr.8M		
OTHER		Non-wetted part in st.steel			6
TESTS					
REFERENCE PRESSURE TESTING		API 598, API 6D			
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0			
SUPPLEMENTARY TEST		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)			
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1			
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14			
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01			
		DYE PENETRANT ON BONNET BODY (100 %):			
NOTE PER SCHEDA ARTICOLO:					
		1. Antistatic device			
		2. Anti-blow out stem			
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF			
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)			
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE			
		6. spring material ELGILOY R30003			
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)			
		8. "3. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO ISO 15848-2 (1 FOR POSITION) Acc. to procedure ""PFET_Rev.2-Procedura FET_EN"""			
		9. Bonnet Standar			
		TAG : BLPH-MV-006, BLPH-MV-033, BLPH-MV-191, BLPH-MV-194, BLPH-MV-196, BLPH-MV-199, BLPH-MV-201			

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*25/07/2024*	*Issue for order*	*L.D.G.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSFT.0224/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBLNN01460600 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / Datasheet / DESIGN TEMP. (°C)				*Min*	**-29**	*°C*	*Max*	**100** *°C*	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		TRUNNION BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.25						
END CONNECTIONS	*INLET*	FLANGED	6"	RF	R9				
	OUTLET	FLANGED	6"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 150							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN SERVICE						10
FACE TO FACE DIMENTIONS (mm)		394	Manufacturer STD						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ANSI 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		GEAR	Handwheel in S.S. 316	T-bar in st.st.					9
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
CLOSURES		A182 F316/316L	NACE						
BALL		A479 316/316L	NACE						
SEAT		A479 316/316L	+RPTFE	NACE					
SEAT SPRING / ANTISITATIC DEVICE		ELGILOY R30003	ELGILOY R30003						6
TRUNNION		A182 F316/316L	NACE						
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	A194 Gr8M						
OTHER		St.St.							
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14 (CARBON STEEL EXCLUDED)							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm) acc. to proc. ATP-00							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. Spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: VALVE RAL 9002 - GEAR RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							
		8. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO ISO 15848-2 (1 FOR POSITION) Acc. to procedure "PFET_Rev.2-Procedura FET_EN"							
		9 GEAR, MUST BE PRE-ARRANGED TO RECEIVE GREASE CASE MATERIAL DUCTILE IRON INPUT SHAFT: ST.ST. S316 HANDWHEEL MACHINED FROM SOLID ST.ST. CLOSING DIRECTION STAMPED ON THE HANDWHEEL							
		10. CONCENTRATION 100 % IN THE WORKING FLUID							
		TAG: BLPH-MV-005							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*02/08/2024*	*Issue for order*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.MNF.0604/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBMNN00013Q0H (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**737**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-46**	*°C*	*Max*	**80** *°C*	
VALVE DESIGN		DBB							
VALVE CONSTRUCTION		MONOFLANGE VALVE		INTEGRAL BODY TYPE					
DESIGN CODE		ASME B16.5	ASME B31.3	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	3/4"	RF R9					
	OUTLET	THREADED (Female)	1/2"	NPT					
	BLEED	THREADED (Female)	1/2"	NPT with Plug					
BORE VALVE (DN-mm)		5 mm							
BORE VENT (DN-mm)		5 mm							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		57,6	Manufacturer STD						
DESIGN									
RATING CLASS		ANSI 300							
BONNET for 1st isolate		OS&Y bolted Bonnet							
BONNET for 2nd isolate		OS&Y bolted Bonnet							
BONNET for vent		OS&Y bolted Bonnet							
SEAT DESIGN		METAL							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		T-BAR	St. st						
LOCKING SYSTEM		YES	without padlock						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						**3**
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L							
SEAT HOUSING		A182 F316/316L							
BONNET BODY		A479 316/316L							
TIP		STELLITE 6							
STEM		A479 316/316L							
BODY SEALS		N/A							
STEM SEALS		RING (GRAPHITE)							
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	only Bonnet						
OTHER		Non-wetted part in St. St.							
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TESTS		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		DYE PENETRANT ON BODY BONNET (100 %):							
		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Anti blow out stem							
		2. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: RAL 9002 Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" Adhesion Test (Pull Off)							
		3. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO ISO 15848-2 (1 FOR POSITION) Acc. to procedure "PFET_Rev.2-Procedura FET_EN"							
		4. BODY AND WETTED PARTS ACCORDING TO NORSOK							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. PLUG WITH SCREWS SAFETY OUT							
		7. TAG : BLPH-MV-013, BLPH-MV-014, BLPH-MV-091, BLPH-MV-092, BLPH-MV-096, BLPH-MV-097, BLPH-MV-204 BLPH-MV-205, BLPH-MV-282, BLPH-MV-283, BLPH-MV-421, BLPH-MV-422, BLPH-MV-438, BLPH-MV-439							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*24/07/2024*	*Issue for order*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.MNF.0608/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBNNN00023Q0H (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**727**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	*°C*	*Max*	**100** *°C*	
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		MONOFLANGE VALVE		INTEGRAL BODY TYPE					
DESIGN CODE		ASME B16.5	ASME B31.3	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	3/4"	RF R9					
	OUTLET	THREADED (Female)	1/2"	NPT					
	BLEED	THREADED (Female)	1/2"	NPT with Plug					
BORE VALVE (DN-mm)		5 mm							
BORE VENT (DN-mm)		5 mm							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	HYDROGEN						
FACE TO FACE DIMENTIONS (mm)		56,6	Manufacturer STD						
DESIGN									
RATING CLASS		ANSI 150							
BONNET for 1st isolate		OS&Y bolted Bonnet							
BONNET for 2nd isolate		N/A							
BONNET for vent		OS&Y bolted Bonnet							
SEAT DESIGN		METAL							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		T-BAR	St. st						
LOCKING SYSTEM		YES	without padlock						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						**3**
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
SEAT HOUSING		A182 F316/316L	NACE						
BONNET BODY		A479 316/316L	NACE						
TIP		STELLITE 6							
STEM		A479 316/316L	NACE						
BODY SEALS		N/A							
STEM SEALS		RING (GRAPHITE)							
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	only Bonnet						
OTHER		Non-wetted part in St. St.							
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST		(HELIUM) (1 FOR POSITION) acc. to proc. PGT-VSP-VSF/ITA-ENG (24-01216) Rev.0							
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TESTS		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
		DYE PENETRANT ON BODY (100 %) acc. to proc. 'PT-DP-01							
		DYE PENETRANT ON BONNET BODY (100 %):							
		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Anti blow out stem							
		2. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: RAL 9002 Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" Adhesion Test (Pull Off)							
		3. PRODUCTION FUGGITIVE EMISSION TEST ACC.TO ISO 15848-2 (1 FOR POSITION) Acc. to procedure "PFET_Rev.2-Procedura FET_EN"							
		4. BODY AND WETTED PARTS ACCORDING TO NORSOK							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. PLUG WITH SCREWS SAFETY OUT							
		TAG : BLPH-MV-025, BLPH-MV-038, BLPH-MV-213, BLPH-MV-407							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*24/07/2024*	*Issue for order*	*L.D.G* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.MNF.0605/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBNNN00033Q0H (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**727**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100**	°C
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		MONOFLANGE VALVE		INTEGRAL BODY TYPE					
DESIGN CODE		ASME B16.5	ASME B31.3	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	3/4"	RF R9					
	OUTLET	THREADED (Female)	1/2"	NPT					
	BLEED	THREADED (Female)	1/2"	NPT with Plug					
BORE VALVE (DN-mm)		5 mm							
BORE VENT (DN-mm)		5 mm							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		56,6	Manufacturer STD						
DESIGN									
RATING CLASS		ANSI 150							
BONNET for 1st isolate		OS&Y bolted Bonnet							
BONNET for 2nd isolate		N/A							
BONNET for vent		OS&Y bolted Bonnet							
SEAT DESIGN		METAL							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		T-BAR	St. st						
LOCKING SYSTEM		YES	without padlock						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F316/316L	NACE						
SEAT HOUSING		A182 F316/316L	NACE						
BONNET BODY		A479 316/316L	NACE						
TIP		STELLITE 6							
STEM		A479 316/316L	NACE						
BODY SEALS		N/A							
STEM SEALS		RING (GRAPHITE)							
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	only Bonnet						
OTHER		Non-wetted part in St. St.							
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TESTS		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. to proc. PT-PMI rev.14							
		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Anti blow out stem							
		2. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: RAL 9002 Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" Adhesion Test (Pull Off)							
		3. Bonnet orientation 180°							
		4. BODY AND WETTED PARTS ACCORDING TO NORSOK							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. PLUG WITH SCREWS SAFETY OUT							
		TAG : BLPH-MV-150, BLPH-MV-151							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*24/07/2024*	*Issue for order*	*L.D.G*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.MNF.0612/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBNNN00063Q0H (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**727**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-46**	°C	*Max*	**+100** °C	
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		MONOFLANGE VALVE		INTEGRAL BODY TYPE					
DESIGN CODE		ASME B16.5	ASME B31.3	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	3/4"	RF R9					
	OUTLET	THREADED (Female)	1/2"	NPT					
	BLEED	THREADED (Female)	1/2"	NPT with Plug					
BORE VALVE (DN-mm)		5 mm							
BORE VENT (DN-mm)		5 mm							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		56,6	Manufacturer STD						
DESIGN									
RATING CLASS		ANSI 150							
BONNET for 1st isolate		OS&Y bolted Bonnet							
BONNET for 2nd isolate		N/A							
BONNET for vent		OS&Y bolted Bonnet							
SEAT DESIGN		METAL							
STEM DESIGN (STD / EXTENDED)		STANDARD							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		T-BAR	St. st						
LOCKING SYSTEM		YES	without padlock						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A350 LF2	NACE						
SEAT HOUSING		A350 LF2	NACE						
BONNET BODY		A479 316/316L	NACE						
TIP		STELLITE 6							
STEM		A479 316/316L	NACE						
BODY SEALS		N/A							
STEM SEALS		RING (GRAPHITE)							
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	only Bonnet						
OTHER		Non-wetted part in St. St.							
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TESTS		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. to proc. PT-PMI rev.14							
		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Anti blow out stem							
		2. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: RAL 9002 Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" Adhesion Test (Pull Off)							
		3. Bonnet orientation 180°							
		4. BODY AND WETTED PARTS ACCORDING TO NORSOK							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. PLUG WITH SCREWS SAFETY OUT							
		TAG : BLPH-MV-166, BLPH-MV-167, BLPH-MV-386							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*24/07/2024*	*Issue for order*	*L.D.G.* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.MNF.0606/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBNNN00063Q0H (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**727**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-46**	°C	*Max*	**+100**	°C
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		MONOFLANGE VALVE		INTEGRAL BODY TYPE					
DESIGN CODE		ASME B16.5	ASME B31.3	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	3/4"	RF R9					
	OUTLET	THREADED (Female)	1/2"	NPT					
	BLEED	THREADED (Female)	1/2"	NPT with Plug					
BORE VALVE (DN-mm)		5 mm							
BORE VENT (DN-mm)		5 mm							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		56,6	Manufacturer STD						
DESIGN									
RATING CLASS		ANSI 150							
BONNET for 1st isolate		OS&Y bolted Bonnet							
BONNET for 2nd isolate		N/A							
BONNET for vent		OS&Y bolted Bonnet							
SEAT DESIGN		METAL							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION							
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		T-BAR	St. st						
LOCKING SYSTEM		YES	without padlock						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A350 LF2	NACE						
SEAT HOUSING		A350 LF2	NACE						
BONNET BODY		A479 316/316L	NACE						
TIP		STELLITE 6							
STEM		A479 316/316L	NACE						
BODY SEALS		N/A							
STEM SEALS		RING (GRAPHITE)							
BOLT / NUT / BOLT COATING		A193 B8M Cl.2	only Bonnet						
OTHER		Not-wetted part in St. St.							
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
MATERIAL TESTS		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. to proc. PT-PMI rev.14							
		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Anti blow out stem							
		2. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-6A color: RAL 9002 Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" Adhesion Test (Pull Off)							
		3. Bonnet orientation 180°							
		4. BODY AND WETTED PARTS ACCORDING TO NORSOK							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. PLUG WITH SCREWS SAFETY OUT							
		TAG : BLPH-MV-411							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*24/07/2024*	*Issue for order*	*L.D.G.* LDG	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2716/V**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VBD0NN16610300 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**598**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-46**	*°C*	*Max*	**+100** *°C*	
VALVE DESIGN		SB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5						
END CONNECTIONS	*INLET*	FLANGED	3"	RF	R9				
	OUTLET	FLANGED	3"	RF	R9				
	BLEED	N/A							
BORE VALVE (DN-mm)		DN 50							
BORE VENT (DN-mm)		N/A							
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD	WASTE WATER (WW)						<2>
FACE TO FACE DIMENTIONS (mm)		203mm	ASME B16.10						
DESIGN									
PORT DESIGN		REDUCED BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION							8
CORROSION ALLOWANCE		YES	3mm						
WELD OVERLAY		NO							
OPERATOR		LEVER	St.st.316						
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		YES	ISO 15848-1						
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A350 LF2	NACE						
CLOSURES		A350 LF2	NACE						
BALL		A479 316/316L	NACE						
SEAT		RPTFE							
SEAT SUPPORT		A479 316/316L	NACE						
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 316/316L	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A	N/A						
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		ASTM A193 B7M + HDG	A194 Gr.2HM	+HDG					
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									<1>
SUPPLEMENTARY TESTS		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14 (CARBON STEEL EXCLUDED)							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
NOTES:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm) acc. to proc. ATP-00							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Painting treatment according to spec. 123A90-DDL-MAT-SP-60006 - System: SYS-9 color: VALVE RAL 9002 - LEVER RAL 9005 - Level II Nace - Frosio Inspector acc. to spec. "123A90-DDL-MAT-SP-60006 sec.5.8" - Adhesion Test (Pull Off)							<1>
		8. EXTENDED STEM FOR INTERCEPTION 1 FOR INSULATION 100 MM FROM LINE FLANGE							<2>
		TAG: BLPH-MV-467							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*31/07/2024*	*Issue for order*	*M.S.*	*A.G.*
1	*10/09/2024*	*Modified painting system and deleted GAS TEST*	*M.S.*	*A.G.*
2	*25/09/2024*	*Modified fluid service and added TAG*	*M.S.*	*A.G.*

indra VALVES - ITALY	**VALVE DATA SHEET**	VDS-01 Rev.1 02/08/2022

ORDER INFO

CUSTOMER:	**ROSETTI MARINO**	INDRA CODE:	**00.VSF.2784**
OFFER NUMBER:	**10531**	CUSTOMER CODE:	**VLBLNN01370100 (SAP CODE)**
END USER:	**PROGETTO CROSSWIND**	JOB NO:	

VALVE MODEL		**798**							**NOTE**
Piping Class / DESIGN TEMP. (°C)				*Min*	**-29**	°C	*Max*	**+100** °C	
VALVE DESIGN		SBB							
VALVE CONSTRUCTION		FLOATING BALL VALVE	SIDE ENTRY	SPLIT BODY TYPE					
DESIGN CODE		ASME B16.34	ASME B16.5	ASME B1.20.1					
END CONNECTIONS	*INLET*	FLANGED	1"	RF	R9				
	OUTLET	FLANGED	1"	RF	R9				
	BLEED	THREADED (Female)	1/2"	NPT	F	PLUG			
BORE VALVE (DN-mm)		DN25							
BORE VENT (DN-mm)		5 mm							8
SERVICE (STD / CRYOGENIC / HIGH TEMP)		STANDARD							
FACE TO FACE DIMENTIONS (mm)		202,5	Manufacturer STD						
DESIGN									
PORT DESIGN		FULL BORE							
RATING CLASS		ASME 150							
SEAT DESIGN		SOFT SEAT							
STEM DESIGN (STD / EXTENDED)		STEM EXTENSION	100mm						7
CORROSION ALLOWANCE		NO							
WELD OVERLAY		NO							
OPERATOR		LEVER	T-BAR	St. St.					
LOCKING SYSTEM		YES	without locking element						
NACE MR0175/ISO 15156		YES							
FUGITIVE EMISSION / CLASS		NO							
FIRE SAFE		YES	API 607 / ISO 10497 / API 6FA						
MATERIALS									
BODY		A182 F55	NACE						
CLOSURES		A182 F55	NACE						
BALL		A479 F55	NACE						
SEAT		PEEK							
SEAT SUPPORT		N/A							
SEAT SPRING		N/A							
TRUNNION		N/A							
STEM		A479 F55	NACE						
BODY SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
SEAT SUPPORT SEALS / GASKET		N/A							
STEM SEALS / GASKET		O-RING (FKM (AED))	RING (GRAPHITE)						
BOLT / NUT / BOLT COATING		A193 B7M + HDG	A194 Gr.2HM + HDG						
OTHER		Non-wetted part in st.steel							6
TESTS									
REFERENCE PRESSURE TESTING		API 598, API 6D							
GAS TEST									
SUPPLEMENTARY TEST		NDE (NDE OPERATORS QUALIFICATION EN ISO 9712 / SNT-TC 1A)							
		Impact Test on body and closer at -50°C							
MATERIAL TEST		Hardness test (100%) on body and wetted parts acc. to proc. PT-HT Rev.1							
		PMI: 100% Valve Body/Bonnet Body and Wetted parts in acc. a procedura PT-PMI rev.14							
NOTE PER SCHEDA ARTICOLO:									
		1. Antistatic device							
		2. Anti-blow out stem							
		3. CAVITY RELIEF PRESSURE TEST(100 %) acc. to proc. PT-VSP-VSF							
		4. ANTI-STATIC TEST acc. to spec. BS EN 12266-PART. 2 TEST F21 (12V-ACCEPTANCE CRITERIA 10 Ohm)							
		5. STAINLESS STEEL NAMEPLATE (BODY) + ST.ST NAMEPLATE WITH STEEL WIRE							
		6. spring material ELGILOY R30003							
		7. Lever and Bonnet are suitable for insulation up to 100mm to flange							
		8. Bonnet OS&Y							
		TAG : BLPH-MV-469, BLPH-MV-470, BLPH-MV-471							

Rev	*Date*	*Description*	*Verd*	*Chck*
0	*11/09/2024*	*Issue for order*	*M.S.*	*A.G.*