Base Load Power Hub (BLPH)

TECHNICAL DATASHEET for Pressure Safety Valves

Document Number: 123A90-DDL-IN-DS-40033

Document Class: 2

02	06/12/2024	Accepted for Construction (AFC)	VBA	LCA	DLO
01	28/08/2024	Accepted for Construction (AFC)	VBA	LCA	DLO
00	11/12/2023	Issue for Review (IFR)	VBA	LCA	DLO
Rev.	Date	Description	Prepared	Reviewed	Approved

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Revision / Change Log

Rev.	Description
00	ISSUE FOR REVIEW (IFR)
01	ACCEPTED FOR CONSTRUCTION (AFC)
02	ACCEPTED FOR CONSTRUCTION (AFC)

HOLDS LIST

No.	Description

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GENERAL REQUIREMENTS / NOTES

1) This datasheet is to be read in conjunction with following documents:
   a) Instrumentation for Package Unit Specification (123A90-DDL-IN-SP-40094);
   b) Material Requisition (123A90-DDL-IN-MR-40034);
   c) Specification for Piping Material Classes (123A90-DDL-PP-SP-70000).
   d) Painting and coating in accordance with Coating and Painting Specification 123A90-DDL-MAT-SP-60006.
   e) Technical Specification for Manual Valves & Strainers 123A90-DDL-PP-SP-70030.

2) The Valves shall be a completely assembled unit.

3) All materials shall be suitable for use in marine environment.

4) Ambient Temperature Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C.

5) In general, all hazardous area equipment shall be certified Exd IIC (or IIB+H2) T1 for Zone 2, IP66 as per ATEX directive.

6) All flanges in ASME B31.3 and ASME B31.12 shall be Raised Face type.

7) The material pressure-temperature ratings for the valve body, bonnet shall be in accordance with the associated piping class. Design of the safety relief valve shall be such that no liquid can collect on the discharge side of the device. Safety relief valves shall not be fitted with manual seat lifting devices, or with test gags, unless specifically mentioned in the datasheets.

8) The Orifices and Sizes shall be confirmed by supplier that will provide certified sizing calculations for each valve based on the process data provided. Sizes shall be identified in accordance with API STD 526 showing inlet size - orifice area - outlet size (e.g. 1D2, 2H3, etc.).

9) Valves shall be sized in accordance with sizing formula contained in API STD 520, latest edition. Sizing for 2-phase conditions shall be in accordance with ISO 4126-10 prior review & approval by client.

10) The orifice designation and area, valve size and inlet / outlet rating, pressure and temperature limits and center to face dimension shall be in accordance to API 526.

11) Manufacturer shall carryout the noise (Max. allowed 85 Dba at 1 meter) calculation and shall be submitted for review and approval by client.

12) In general, conventional spring-operated Safety Relief Valves shall be used when superimposed and/or build-up back pressure is below 10% of set pressure for application of gas or liquid service or as specified in the data sheets.

13) If superimposed and/or build-up back pressure exceed 10% of set pressure, then conventional spring-operated Pressure Safety valves shall not be used. For such application balanced bellow seal type Safety Relief Valves shall be used.

14) Safety relief valves shall be of "full nozzle" design.

15) All internal components (including spring adjustment assembly) shall be corrosion resistant materials, with a minimum of AISI 316 SS.

16) For seawater or corrosive service, all process-wetted internal components shall be made of alloy 400 (UNS N04400), alloy 625 (UNS N06625), alloy C-276 (UNS N10276) or alloy 25-07 (UNS S32750), while non-wetted internal components shall be minimum AISI 316 SS. Material of Construction for trim material shall be of a grade equal to or higher than the relevant piping class valve trims.

17) Material test certificates MTCs shall be provided by Manufacturer for all valves, tubing & fittings. MTCs shall include EN 10204 3.1 certification for all metallic materials.

18) PED 2014/68/EU Pressure Equipment Directive 2014/68/EU shall apply for all piping materials where Category is applicable.

19) Pressure Safety Valve shall be provided with 316 SS identification tag, permanently attached.

20) Complete valve inspection and testing requirements shall comply to Material Requisition (123A90-DDL-IN-MR-40034) document.

21) The SS nameplate shall indicate the tag number, manufacture name, model number, serial number, size, rating and other items as required.

22) Information with asterisk (*) shall be confirmed or provided by manufacturer according to the service condition.

23) All valves on HYDROGEN service shall be provided with certified packing for Fugitive Emissions in accordance with ISO 15848-1 Cl B and ISO 15848-2.

24) Valve body painting shall be as per Coating and Painting Specification (123A90-DDL-MAT-SP-60006).

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GENERAL	1	Tag Number		80-PSV-001 + SPARE (1)	
	2	Service		HYDROGEN FROM STORAGE VESSEL HEADER TO HYDROGEN VENT HEADER	
	3	P&ID Number	Equipment No.	123A90-DDL-PR-PID-80012	-
	4	Nozzle (Full, Semi)	Line No.	Full	1"-HY-152-01HSS-N
	5	Design Safety, Relief, Safety-Relief		SAFETY-RELIEF (14)	
	6	Type Conventional, Bellow, Pilot Operated		Conventional	
	7	Bonnet Type		Closed	
	8	Design Conditions		16.2 barg @ 100°C	
PROCESS CONDITIONS	9	Fluid	State	HYDROGEN	GAS
	10	Required Capacity		2678 kg/h	
	11	Molecular Mass		2.016	
	12	Oper. Pressure	Set Pressure	6.5 barg	10 barg
	13	Oper. Temperature	RelievingTemperature	25°C	25°C
	14	Back Pressure	Constant		
	15		Variable		
	16		Total	0.17 barg	
	17	% Allowable Overpressure		10%	
	18	Overpressure Factor			
	19	Compressibility Factor		1.004	
	20	Latent Heat of Vaporization			
	21	Ratio of Specific Heats		1.405	
	22	Relief Density			
	23	Relief Viscosity		0.008754 cP	
	24	Barometric Pressure		as per design basis	
	25				
BASIS AND SELECTION	26	Design Code		API STD 526	
	27	Sizing Basis		API STD 520 (upstream control valves fail open)	
	28	Calculated Area		11.86 (8, 22)	
	29	Selected Area		12.94 cm^2 (8, 22)	
	30	Orifice Designation		K (8, 22)	
	31				
CONNECTIONS	32	Inlet Size, Rating & Style		Flanged ASME B16.5 / 3" / #150 RF (8, 22)	
	33	Outlet Size, Rating & Style		Flanged ASME B16.5 / 4" / #150 RF (8, 22)	
MATERIALS	34	Body and Bonnet		ASTM A351 CF8M (23)	
	35	Seat and Rings		AISI 316 (15)	
	36	Resilient Seat Seal		N.A.	
	37	Guide and Rings		AISI 316L (15)	
	38	Spring		AISI 316 (15)	
	39	Bellows		-	
	40				
	41				
OPTIONS	42	Cap: Screwed or Bolted		Screwed	
	43	Lever: Plain or Packed		-	
	44	Test Gag		-	
	45				
	46				
PURCHASE	47	Manufacturer		Technical	
	48	Model		320-K10-5L	
	49	Purchase Order Number		1724000518 123A90A	
	50				

Notes:
1) One uninstalled spare PSV shall be supplied. Quantity of PSV to be supplied is 2.
2) The Intervention time of the 80-PSV-001 shall be determined by Vendor. The 80-PSV-001 is involved in a SIL Loop and the intervention time is a requirement.

No.	Date	By	Chkd	Appr	Description
02	06/12/24	VB	LC	DL	Accepted for Construction
01	28/08/24	VB	LC	DL	Accepted for Construction
00	11/12/23	VB	LC	DL	Issued for Review

INSTRUMENT DATASHEET

Pressure Safety Valves

CROSSWIND

ROSETTI MARINO

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Code: Dwg. No.: Rev 02

GENERAL	1	Tag Number		25-PSV-001A + SPARE (1)	
	2	Service		HYDROGEN FROM STORAGE VESSEL(V-25001A) TO HYDROGEN VENT HEADER	
	3	P&ID Number	Equipment No.	123A90-DDL-PR-PID-80015	V-25001A
	4	Nozzle (Full, Semi)	Line No.	Full	1"-HY-024-03HSS-N
	5	Design Safety, Relief, Safety-Relief		SAFETY-RELIEF (14)	
	6	Type Conventional, Bellow, Pilot Operated		Conventional	
	7	Bonnet Type		Closed	
	8	Design Conditions		40 barg @ 80°C	
PROCESS CONDITIONS	9	Fluid	State	HYDROGEN	GAS
	10	Required Capacity		736.4 [kg/h]	
	11	Molecular Mass		2.016	
	12	Oper. Pressure	Set Pressure	30 barg	40 barg
	13	Oper. Temperature	RelievingTemperature	25°C	201.9°C
	14	Back Pressure	Constant		
	15		Variable		
	16		Total	1 barg	
	17	% Allowable Overpressure		21%	
	18	Overpressure Factor			
	19	Compressibility Factor		1.015	
	20	Latent Heat of Vaporization			
	21	Ratio of Specific Heats		1.405	
	22	Relief Density			
	23	Relief Viscosity		0.01272 cP	
	24	Barometric Pressure		as per design basis	
	25				
BASIS AND SELECTION	26	Design Code		API STD 526	
	27	Sizing Basis		API STD 520 (Fire)	
	28	Calculated Area		1.0066 (8, 22)	
	29	Selected Area		1.389 cm^2 (8, 22)	
	30	Orifice Designation		E (8, 22)	
	31				
CONNECTIONS	32	Inlet Size, Rating & Style		Flanged ASME B16.5 / 1" / #300 RF (8, 22)	
	33	Outlet Size, Rating & Style		Flanged ASME B16.5 / 2" / #150 RF (8, 22)	
MATERIALS	34	Body and Bonnet		ASTM A351 CF8M (23)	
	35	Seat and Rings		AISI 316 (15)	
	36	Resilient Seat Seal		-	
	37	Guide and Rings		AISI 316L (15)	
	38	Spring		AISI 316 (15)	
	39	Bellows		-	
	40				
	41				
OPTIONS	42	Cap: Screwed or Bolted		Screwed	
	43	Lever: Plain or Packed		-	
	44	Test Gag		-	
	45				
	46				
PURCHASE	47	Manufacturer		Technical	
	48	Model		320-E20-5L	
	49	Purchase Order Number		1724000518 123A90A	
	50				

Notes:
1) One common uninstalled spare PSV for all vessels shall be supplied. Quantity of PSV to be supplied is 2.

No.	Date	By	Chkd	Appr	Description
02	06/12/24	VB	LC	DL	Accepted for Construction
01	28/08/24	VB	LC	DL	Accepted for Construction
00	11/12/23	VB	LC	DL	Issued for Review

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Pressure Safety Valves

CROSSWIND

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Code: Dwg. No.: Rev 02

GENERAL	1	Tag Number		25-PSV-001B	
	2	Service		HYDROGEN FROM STORAGE VESSEL(V-25001B) TO HYDROGEN VENT HEADER	
	3	P&ID Number	Equipment No.	123A90-DDL-PR-PID-80016	V-25001B
	4	Nozzle (Full, Semi)	Line No.	Full	1"-HY-166-03HSS-N
	5	Design Safety, Relief, Safety-Relief		SAFETY-RELIEF (14)	
	6	Type Conventional, Bellow, Pilot Operated		Conventional	
	7	Bonnet Type		Closed	
	8	Design Conditions		40 barg @ 80°C	
PROCESS CONDITIONS	9	Fluid	State	HYDROGEN	GAS
	10	Required Capacity		736.4 [kg/h]	
	11	Molecular Mass		2.016	
	12	Oper. Pressure	Set Pressure	30 barg	40 barg
	13	Oper. Temperature	RelievingTemperature	25°C	201.9°C
	14	Back Pressure	Constant		
	15		Variable		
	16		Total	1 barg	
	17	% Allowable Overpressure		21%	
	18	Overpressure Factor			
	19	Compressibility Factor		1.015	
	20	Latent Heat of Vaporization			
	21	Ratio of Specific Heats		1.405	
	22	Relief Density			
	23	Relief Viscosity		0.01272 cP	
	24	Barometric Pressure		as per design basis	
	25				
BASIS AND SELECTION	26	Design Code		API STD 526	
	27	Sizing Basis		API STD 520 (Fire)	
	28	Calculated Area		1.0066 (8, 22)	
	29	Selected Area		1.389 cm^2 (8, 22)	
	30	Orifice Designation		E (8, 22)	
	31				
CONNECTIONS	32	Inlet Size, Rating & Style		Flanged ASME B16.5 / 1" / #300 RF (8, 22)	
	33	Outlet Size, Rating & Style		Flanged ASME B16.5 / 2" / #150 RF (8, 22)	
MATERIALS	34	Body and Bonnet		ASTM A351 CF8M (23)	
	35	Seat and Rings		AISI 316 (15)	
	36	Resilient Seat Seal		-	
	37	Guide and Rings		AISI 316L (15)	
	38	Spring		AISI 316 (15)	
	39	Bellows		-	
	40				
	41				
OPTIONS	42	Cap: Screwed or Bolted		Screwed	
	43	Lever: Plain or Packed		-	
	44	Test Gag		-	
	45				
	46				
PURCHASE	47	Manufacturer		Technical	
	48	Model		320-E20-5L	
	49	Purchase Order Number		1724000518 123A90A	
	50				

Notes:

No.	Date	By	Chkd	Appr	Description
02	06/12/24	VB	LC	DL	Accepted for Construction
01	28/08/24	VB	LC	DL	Accepted for Construction
00	11/12/23	VB	LC	DL	Issued for Review

INSTRUMENT DATASHEET

Pressure Safety Valves

CROSSWIND

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Code: Dwg. No.: Rev 02

GENERAL	1	Tag Number		25-PSV-001C	
	2	Service		HYDROGEN FROM STORAGE VESSEL(V-25001C) TO HYDROGEN VENT HEADER	
	3	P&ID Number	Equipment No.	123A90-DDL-PR-PID-80017	V-25001C
	4	Nozzle (Full, Semi)	Line No.	Full	1"-HY-170-03HSS-N
	5	Design Safety, Relief, Safety-Relief		SAFETY-RELIEF (14)	
	6	Type Conventional, Bellow, Pilot Operated		Conventional	
	7	Bonnet Type		Closed	
	8	Design Conditions		40 barg @ 80°C	
PROCESS CONDITIONS	9	Fluid	State	HYDROGEN	GAS
	10	Required Capacity		736.4 [kg/h]	
	11	Molecular Mass		2.016	
	12	Oper. Pressure	Set Pressure	30 barg	40 barg
	13	Oper. Temperature	RelievingTemperature	25°C	201.9°C
	14	Back Pressure	Constant		
	15		Variable		
	16		Total	1 barg	
	17	% Allowable Overpressure		21%	
	18	Overpressure Factor			
	19	Compressibility Factor		1.015	
	20	Latent Heat of Vaporization			
	21	Ratio of Specific Heats		1.405	
	22	Relief Density			
	23	Relief Viscosity		0.01272 cP	
	24	Barometric Pressure		as per design basis	
	25				
BASIS AND SELECTION	26	Design Code		API STD 526	
	27	Sizing Basis		API STD 520 (Fire)	
	28	Calculated Area		1.0066 (8, 22)	
	29	Selected Area		1.389 cm^2 (8, 22)	
	30	Orifice Designation		E (8, 22)	
	31				
CONNECTIONS	32	Inlet Size, Rating & Style		Flanged ASME B16.5 / 1" / #300 RF (8, 22)	
	33	Outlet Size, Rating & Style		Flanged ASME B16.5 / 2" / #150 RF (8, 22)	
MATERIALS	34	Body and Bonnet		ASTM A351 CF8M (23)	
	35	Seat and Rings		AISI 316 (15)	
	36	Resilient Seat Seal		-	
	37	Guide and Rings		AISI 316L (15)	
	38	Spring		AISI 316 (15)	
	39	Bellows		-	
	40				
	41				
OPTIONS	42	Cap: Screwed or Bolted		Screwed	
	43	Lever: Plain or Packed		-	
	44	Test Gag		-	
	45				
	46				
PURCHASE	47	Manufacturer		Technical	
	48	Model		320-E20-5L	
	49	Purchase Order Number		1724000518 123A90A	
	50				

Notes:

No.	Date	By	Chkd	Appr	Description
02	06/12/24	VB	LC	DL	Accepted for Construction
01	28/08/24	VB	LC	DL	Accepted for Construction
00	11/12/23	VB	LC	DL	Issued for Review

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Pressure Safety Valves

CROSSWIND

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Code: Dwg. No.: Rev 02

GENERAL	1	Tag Number		25-PSV-001D	
	2	Service		HYDROGEN FROM STORAGE VESSEL(V-25001D) TO HYDROGEN VENT HEADER	
	3	P&ID Number	Equipment No.	123A90-DDL-PR-PID-80018	V-25001D
	4	Nozzle (Full, Semi)	Line No.	Full	1"-HY-174-03HSS-N
	5	Design Safety, Relief, Safety-Relief		SAFETY-RELIEF (14)	
	6	Type Conventional, Bellow, Pilot Operated		Conventional	
	7	Bonnet Type		Closed	
	8	Design Conditions		40 barg @ 80°C	
PROCESS CONDITIONS	9	Fluid	State	HYDROGEN	GAS
	10	Required Capacity		736.4 [kg/h]	
	11	Molecular Mass		2.016	
	12	Oper. Pressure	Set Pressure	30 barg	40 barg
	13	Oper. Temperature	RelievingTemperature	25°C	201.9°C
	14	Back Pressure	Constant		
	15		Variable		
	16		Total	1 barg	
	17	% Allowable Overpressure		21%	
	18	Overpressure Factor			
	19	Compressibility Factor		1.015	
	20	Latent Heat of Vaporization			
	21	Ratio of Specific Heats		1.405	
	22	Relief Density			
	23	Relief Viscosity		0.01272 cP	
	24	Barometric Pressure		as per design basis	
	25				
BASIS AND SELECTION	26	Design Code		API STD 526	
	27	Sizing Basis		API STD 520 (Fire)	
	28	Calculated Area		1.0066 (8, 22)	
	29	Selected Area		1.389 cm^2 (8, 22)	
	30	Orifice Designation		E (8, 22)	
	31				
CONNECTIONS	32	Inlet Size, Rating & Style		Flanged ASME B16.5 / 1" / #300 RF (8, 22)	
	33	Outlet Size, Rating & Style		Flanged ASME B16.5 / 2" / #150 RF (8, 22)	
MATERIALS	34	Body and Bonnet		ASTM A351 CF8M (23)	
	35	Seat and Rings		AISI 316 (15)	
	36	Resilient Seat Seal		-	
	37	Guide and Rings		AISI 316L (15)	
	38	Spring		AISI 316 (15)	
	39	Bellows		-	
	40				
	41				
OPTIONS	42	Cap: Screwed or Bolted		Screwed	
	43	Lever: Plain or Packed		-	
	44	Test Gag		-	
	45				
	46				
PURCHASE	47	Manufacturer		Technical	
	48	Model		320-E20-5L	
	49	Purchase Order Number		1724000518 123A90A	
	50				

Notes:

No.	Date	By	Chkd	Appr	Description
02	06/12/24	VB	LC	DL	Accepted for Construction
01	28/08/24	VB	LC	DL	Accepted for Construction
00	11/12/23	VB	LC	DL	Issued for Review

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Pressure Safety Valves

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Code: Dwg. No.: Rev 02

GENERAL	1	Tag Number		25-PSV-001E	
	2	Service		HYDROGEN FROM STORAGE VESSEL(V-25001E) TO HYDROGEN VENT HEADER	
	3	P&ID Number	Equipment No.	123A90-DDL-PR-PID-80019	V-25001E
	4	Nozzle (Full, Semi)	Line No.	Full	1"-HY-179-03HSS-N
	5	Design Safety, Relief, Safety-Relief		SAFETY-RELIEF (14)	
	6	Type Conventional, Bellow, Pilot Operated		Conventional	
	7	Bonnet Type		Closed	
	8	Design Conditions		40 barg @ 80°C	
PROCESS CONDITIONS	9	Fluid	State	HYDROGEN	GAS
	10	Required Capacity		736.4 [kg/h]	
	11	Molecular Mass		2.016	
	12	Oper. Pressure	Set Pressure	30 barg	40 barg
	13	Oper. Temperature	RelievingTemperature	25°C	201.9°C
	14	Back Pressure	Constant		
	15		Variable		
	16		Total	1 barg	
	17	% Allowable Overpressure		21%	
	18	Overpressure Factor			
	19	Compressibility Factor		1.015	
	20	Latent Heat of Vaporization			
	21	Ratio of Specific Heats		1.405	
	22	Relief Density			
	23	Relief Viscosity		0.01272 cP	
	24	Barometric Pressure		as per design basis	
	25				
BASIS AND SELECTION	26	Design Code		API STD 526	
	27	Sizing Basis		API STD 520 (Fire)	
	28	Calculated Area		1.0066 (8, 22)	
	29	Selected Area		1.389 cm^2 (8, 22)	
	30	Orifice Designation		E (8, 22)	
	31				
CONNECTIONS	32	Inlet Size, Rating & Style		Flanged ASME B16.5 / 1" / #300 RF (8, 22)	
	33	Outlet Size, Rating & Style		Flanged ASME B16.5 / 2" / #150 RF (8, 22)	
MATERIALS	34	Body and Bonnet		ASTM A351 CF8M (23)	
	35	Seat and Rings		AISI 316 (15)	
	36	Resilient Seat Seal		-	
	37	Guide and Rings		AISI 316L (15)	
	38	Spring		AISI 316 (15)	
	39	Bellows		-	
	40				
	41				
OPTIONS	42	Cap: Screwed or Bolted		Screwed	
	43	Lever: Plain or Packed		-	
	44	Test Gag		-	
	45				
	46				
PURCHASE	47	Manufacturer		Technical	
	48	Model		320-E20-5L	
	49	Purchase Order Number		1724000518 123A90A	
	50				

Notes:

No.	Date	By	Chkd	Appr	Description
02	06/12/24	VB	LC	DL	Accepted for Construction
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Pressure Safety Valves

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Code: Dwg. No.: Rev 02

GENERAL	1	Tag Number		25-PSV-001F	
	2	Service		HYDROGEN FROM STORAGE VESSEL(V-25001F) TO HYDROGEN VENT HEADER	
	3	P&ID Number	Equipment No.	123A90-DDL-PR-PID-80020	V-25001F
	4	Nozzle (Full, Semi)	Line No.	Full	1"-HY-183-03HSS-N
	5	Design Safety, Relief, Safety-Relief		SAFETY-RELIEF (14)	
	6	Type Conventional, Bellow, Pilot Operated		Conventional	
	7	Bonnet Type		Closed	
	8	Design Conditions		40 barg @ 80°C	
PROCESS CONDITIONS	9	Fluid	State	HYDROGEN	GAS
	10	Required Capacity		736.4 [kg/h]	
	11	Molecular Mass		2.016	
	12	Oper. Pressure	Set Pressure	30 barg	40 barg
	13	Oper. Temperature	RelievingTemperature	25°C	201.9°C
	14	Back Pressure	Constant		
	15		Variable		
	16		Total	1 barg	
	17	% Allowable Overpressure		21%	
	18	Overpressure Factor			
	19	Compressibility Factor		1.015	
	20	Latent Heat of Vaporization			
	21	Ratio of Specific Heats		1.405	
	22	Relief Density			
	23	Relief Viscosity		0.01272 cP	
	24	Barometric Pressure		as per design basis	
	25				
BASIS AND SELECTION	26	Design Code		API STD 526	
	27	Sizing Basis		API STD 520 (Fire)	
	28	Calculated Area		1.0066 (8, 22)	
	29	Selected Area		1.389 cm^2 (8, 22)	
	30	Orifice Designation		E (8, 22)	
	31				
CONNECTIONS	32	Inlet Size, Rating & Style		Flanged ASME B16.5 / 1" / #300 RF (8, 22)	
	33	Outlet Size, Rating & Style		Flanged ASME B16.5 / 2" / #150 RF (8, 22)	
MATERIALS	34	Body and Bonnet		ASTM A351 CF8M (23)	
	35	Seat and Rings		AISI 316 (15)	
	36	Resilient Seat Seal		-	
	37	Guide and Rings		AISI 316L (15)	
	38	Spring		AISI 316 (15)	
	39	Bellows		-	
	40				
	41				
OPTIONS	42	Cap: Screwed or Bolted		Screwed	
	43	Lever: Plain or Packed		-	
	44	Test Gag		-	
	45				
	46				
PURCHASE	47	Manufacturer		Technical	
	48	Model		320-E20-5L	
	49	Purchase Order Number		1724000518 123A90A	
	50				

Notes:

No.	Date	By	Chkd	Appr	Description
02	06/12/24	VB	LC	DL	Accepted for Construction
01	28/08/24	VB	LC	DL	Accepted for Construction
00	11/12/23	VB	LC	DL	Issued for Review

INSTRUMENT DATASHEET

Pressure Safety Valves

CROSSWIND

ROSETTI MARINO

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Code: Dwg. No.: Rev 02

GENERAL	1	Tag Number		64-PSV-001	
	2	Service		HYDROGEN FROM STORAGE VESSEL(V-25001F) TO HYDROGEN VENT HEADER	
	3	P&ID Number	Equipment No.	123A90-DDL-PR-PID-80027	-
	4	Nozzle (Full, Semi)	Line No.	Full	X"-N-197-01CS-N
	5	Design Safety, Relief, Safety-Relief		SAFETY-RELIEF (14)	
	6	Type Conventional, Bellow, Pilot Operated		Conventional	
	7	Bonnet Type		Closed	
	8	Design Conditions		17.7 barg @ 100°C	
PROCESS CONDITIONS	9	Fluid	State	NITROGEN	GAS
	10	Required Capacity		61.34 kg/h	
	11	Molecular Mass		28	
	12	Oper. Pressure	Set Pressure	7 barg	10 barg
	13	Oper. Temperature	RelievingTemperature	25°C	25°C
	14	Back Pressure	Constant		
	15		Variable		
	16		Total	0.1 barg	
	17	% Allowable Overpressure		10%	
	18	Overpressure Factor			
	19	Compressibility Factor		0.9952	
	20	Latent Heat of Vaporization			
	21	Ratio of Specific Heats		1.399	
	22	Relief Density			
	23	Relief Viscosity		0.01851 cP	
	24	Barometric Pressure		as per design basis	
	25				
BASIS AND SELECTION	26	Design Code		API STD 526	
	27	Sizing Basis		API STD 520 (Fire)	
	28	Calculated Area		0.0727 (8, 22)	
	29	Selected Area		0.785 cm^2 (8, 22)	
	30	Orifice Designation		D (8, 22)	
	31				
CONNECTIONS	32	Inlet Size, Rating & Style		Flanged ASME B16.5 / 1" / #150	
	33	Outlet Size, Rating & Style		Flanged ASME B16.5 / 2" / #150	
MATERIALS	34	Body and Bonnet		ASTM A352 LCB (23)	
	35	Seat and Rings		AISI 316 (15)	
	36	Resilient Seat Seal		-	
	37	Guide and Rings		AISI 316L (15)	
	38	Spring		AISI 316 (15)	
	39	Bellows		-	
	40				
	41				
OPTIONS	42	Cap: Screwed or Bolted		Screwed	
	43	Lever: Plain or Packed		-	
	44	Test Gag		-	
	45				
	46				
PURCHASE	47	Manufacturer		Technical	
	48	Model		320-D10-L2	
	49	Purchase Order Number		1724000518 123A90A	
	50				

Notes:

No.	Date	By	Chkd	Appr	Description
02	06/12/24	VB	LC	DL	Accepted for Construction
01	28/08/24	VB	LC	DL	Accepted for Construction
00	11/12/23	VB	LC	DL	Issued for Review

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Pressure Safety Valves

CROSSWIND

ROSETTI MARINO

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Code: Dwg. No.: Rev 02

GENERAL	1	Tag Number		50-PSV-011	
	2	Service		SEA WATER TO WATER TREATMENT PACKAGE	
	3	P&ID Number	Equipment No.	123A90-DDL-PR-PID-80022	-
	4	Nozzle (Full, Semi)	Line No.	-	1 1/2"-SWS-035-01SD-E
	5	Design Safety, Relief, Safety-Relief		SAFETY-RELIEF (14)	
	6	Type Conventional, Bellow, Pilot Operated		Conventional	
	7	Bonnet Type		Closed	
	8	Design Conditions		17.7 barg @ 100°C	
PROCESS CONDITIONS	9	Fluid	State	SEA WATER	LIQUID
	10	Required Capacity	kg/hr	2500	
	11	Molecular Mass			
	12	Oper. Pressure	Set Pressure	4-5 barg	6 barg
	13	Oper. Temperature	RelievingTemperature	20 °C	20 °C
	14	Back Pressure	Constant	0 barg	
	15		Variable	0.1 barg	
	16		Total	0.1 barg	
	17	% Allowable Overpressure		10	
	18	Overpressure Factor			
	19	Compressibility Factor			
	20	Latent Heat of Vaporization			
	21	Ratio of Specific Heats			
	22	Relief Density	kg/m3	1000	
	23	Relief Viscosity	cP	1	
	24	Barometric Pressure		as per design basis	
	25				
BASIS AND SELECTION	26	Design Code		API STD 526	
	27	Sizing Basis		API STD 520 (blocked outlet)	
	28	Calculated Area		0.2683 (8, 22)	
	29	Selected Area		0.785 cm^2 (8, 22)	
	30	Orifice Designation		D (8, 22)	
	31				
CONNECTIONS	32	Inlet Size, Rating & Style		Flanged ASME B16.5 / 1" / #150	
	33	Outlet Size, Rating & Style		Flanged ASME B16.5 / 2" / #150	
MATERIALS	34	Body and Bonnet		A995 5A	
	35	Seat and Rings		A995 5A (15)	
	36	Resilient Seat Seal		Vendor to advise for non metallic seal	
	37	Guide and Rings		A995 5A (15)	
	38	Spring		AISI 316 (15)	
	39	Bellows		-	
	40				
	41				
OPTIONS	42	Cap: Screwed or Bolted		Screwed	
	43	Lever: Plain or Packed		-	
	44	Test Gag		-	
	45				
	46				
PURCHASE	47	Manufacturer		Technical	
	48	Model		320-D10-f1	
	49	Purchase Order Number		1724000518 123A90A	
	50				

Notes:

No.	Date	By	Chkd	Appr	Description
02	06/12/24				
01	28/08/24	VB	LC	DL	Accepted for Construction

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Pressure Safety Valves

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