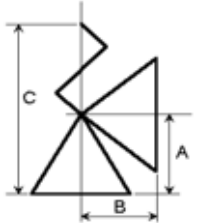
 <p>EMERSON edgardovicente.chiari@emerson.com Madrid, Spain +34 911 111 320 edgardovicente.chiari@emerson.com</p>				Pressure Relief Valve Sizing & Selection Report					
				3	EVC			7-abr.-2022	New flow capacity.
				2	EVC			1-feb.-2022	New process data.
				1	EVC			30-ago.-2021	New process data.
				0	EVC			27-jul.-2021	
Quote Number: 093-093				No	Prpd.	Chk.	Appr.	Date	Revision
Client: TECHNIP ENERGIES Location: CARTAGENA, SPAIN Project: C43 "New Bios 2G Hydrotreatment Unit"									
End-User Ref. No.: 201754C001 Project Ref. No.: U-608 Hydrogen Unit									
1	Valve ID				41	SIZING DATA			
2	Tag No.	608-PSV-1059			42	Design Code	ASME VIII/XIII - UV Sizing Std. API 520		
3	Service	CE-203 through T-501			43	Sizing Basis	Tube Rupture		
4	PID No.	P-C43-A-110990 H51			44	Fluid State at Inlet	Two-Phase Flow (9th, C.2.2)		
5	Line No.	6"P-5109-C3	Quantity		45	Relieving Case	Pressure Relief		
6			1		46	Fluid Properties			
7	GENERAL				47	Fluid Name		PROCESS GAS	
8	Valve Type	Balanced Bellows, Direct Spring-Op			48	Specific Vol. @ Flowing Press.	Vapor	0.00101 m³/kg	
9	Safety / Relief	Safety Relief	Balanced	Yes	49		Liquid	0.00101 m³/kg	
10	Nozzle	Full	Bonnet	Vented	50	Sp. Vol. @ 90% Flowing Press.		0.02169 m³/kg	
11	CONNECTIONS				51	Ratio of Sp. Heats, k (Cp / Cv)		1.376	
12	Inlet	4"	Fingd.	300# RF Standard	52				
13	Outlet	6"	Fingd.	150# RF ASME B16.5	53				
14	MATERIALS OF CONSTRUCTION				54				
15	Body / Base	CS SA216-WCB/WCC			55				
16	Bonnet / Cylinder	CS SA216-WCB/WCC			56				
17	Nozzle	316 SST			57				
18	Disc	316 SST			58				
19	Seat	Viton® (75)			59	Sizing Coefficients		Unit	-
20	Spindle	416 SST			60	Effective K, Gas		0.975	
21	Guide	SS A297 Gr. HE			61	Effective K, Liquid		0.65	
22	Spring	Chrome Steel - Corr. Rest.			62	Kw	Kb	0.914	1
23	Gaskets	316 SST			63	Kc	Kv	1	1.0
24	Bellows	Inconel® 625			64	Required Capacity		Unit	kg/hr
25	Cap Type	Bolted w/ Test Rod			65	Vapor	Liquid	13375	7561
26	NACE MR0175/ISO 15156:2015	No			66	Total		20936	
27	Accessories				67	Pressures		Unit	kg/cm² g
28					68	MAWP	Operating	31	26.2
29					69	Set	CDTP	29	29.00
30					70	Over Pressure		2.9	10%
31	SIZING / SELECTION SUMMARY				71	Back Pressure	Built-Up		5.45
32	Valve Model No.	4L6JLTJBS-EOR35M-P			72		Constant Superimposed		0.3
33	Brand	Crosby®			73		Variable Superimposed		1.5
34	Area	Calculated	Selected	17.295	74		Total		7.25
35	(cm²)	Data Set	Orifice	API	75	Inlet Loss		0	0%
36	Flow	Unit	Required	kg/hr	76	Atmospheric (Barometric)		1.033	kg/cm² a
37		Maximum		22280.962	77	Temperatures		Unit	°C
38					78	Normal System			
39	Reaction Force, Open Discharge				79	Operating	Relieving	35	35
40	Noise Level (db), Open Discharge		N/A		80	Design Min	Design Max		185
Tag Notes	1. Maximum Carbon content % C Max 0.22 / %C Equivalent. Max. 0.43 (body and bonnet)				Valve Dimensions	mm	A		
	2. Maximum Content P(%) 0.020 - S(%) 0.015. (body and bonnet)						179.32		
	3. Standard C4M acc. ISO 12944						B		
	4. Opening Ad justment 5%						181.10		
	5. Magnetic Particle (Body and Bonnet)						C		
	6. Allowable Blowdown: 9.7%						876.30		
	7. ASME "UV" Stamp required.						Weight		
				kg	87.09				