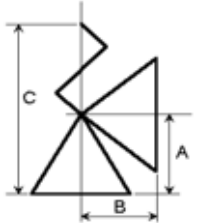
 <p>EMERSON edgardovicente.chiari@emerson.com</p> <p>Madrid, Spain +34 911 111 320 edgardovicente.chiari@emerson.com</p>				Pressure Relief Valve Sizing & Selection Report						
				1	EVC			7-mar.-2022	New process data.	
				0	EVC			27-jul.-2021		
Quote Number: 093-093				No	Prpd.	Chk.	Appr.	Date	Revision	
Client: TECHNIP ENERGIES				End-User Ref. No.: 201754C001						
Location: CARTAGENA, SPAIN				Project Ref. No.: U-608 Hydrogen Unit						
Project: C43 "New Bios 2G Hydrotreatment Unit"										
1	Valve ID				41	SIZING DATA				
2	Tag No.	608-PSV-1005			42	Design Code	ASME VIII/XIII - UV			
3	Service	Feed to pre-treatment			43	Sizing Basis	FV-1004 fail open			
4	PID No.	201754C001-PID-0021-131			44	Fluid State at Inlet	Gas / Vapor			
5	Line No.	3"P-3306-C5-H	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	Molecular Weight, M		17.29		
9	Safety / Relief	Safety Relief	Balanced	Yes	49	Compressibility, Z		0.908		
10	Nozzle	Full	Bonnet	Vented	50	Ratio of Sp. Heats, k (Cp / Cv)		1.29		
11	CONNECTIONS				51	Gas Constant, C		262.7		
12	Inlet	1 1/2"	Flngd.	300# RF Standard	52					
13	Outlet	3"	Flngd.	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	Teflon			59	Sizing Coefficients		Unit	-	
20	Spindle	416 SST			60	Effective K, Gas		0.975		
21	Guide	SS A297 Gr. HE			61	Kb	Kc	1	1	
22	Spring	Chr. Steel - Alum. Metallized			62					
23	Gaskets	316 SST			63					
24	Bellows	Inconel® 625			64	Required Capacity		Unit	kg/hr	
25	Cap Type	Bolted w/ Test Rod			65	Total		6000		
26	NACE MR0175/ISO 15156:2015	Yes			66					
27	Accessories	Bug Screen			67	Pressures		Unit	kg/cm² g	
28					68	MAWP	Operating	41	37.3	
29					69	Set	CDTP	41	41.41	
30					70	Over Pressure		4.1	10%	
31	SIZING / SELECTION SUMMARY				71	Built-Up		8.45		
32	Valve Model No.	1.5G3JLTJBS-EX35M-PN2SPL			72	Constant Superimposed		0.3		
33	Brand	Crosby®			73	Variable Superimposed		1.5		
34	Area	Calculated	Selected	2.086	3.245	Back Pressure	Total		10.25	
35	(cm²)	Data Set	Orifice	API	G		Inlet Loss		0	0%
36		Unit	Required	kg/hr	6000		Atmospheric (Barometric)		1.033	kg/cm² a
37	Flow		Maximum		9336.312	77	Temperatures		Unit	°C
38						78	Normal System			
39	Reaction Force, Open Discharge		1458 N		79	Operating	Relieving	90	35.7	
40	Noise Level (db), Open Discharge		138.8 at 1.0000-m		80	Design Min	Design Max		250	
Tag Notes	1. Radiographic Test: Body and Bonnet				Valve Dimensions	mm	A			
	2. Maximum Content P(%) 0.020 - S(%) 0.015. (body and bonnet)						123.95			
	3. Standard C4M acc. ISO 129 44						B			
	4. Opening Adjustment 5%						152.40			
	5. NACE 0103 certificate required ( disc & bellow).						C			
	6. Magnetic Particle (Body and Bonnet)						603.25			
7. Blow down: 9%				kg	Weight					
8. ASME "UV" Stamp required.					22.68					