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Pressure Relief Valve Sizing & Selection Report

No	Prpd.	Chk.	Appr.	Date	Revision
0	EVC			27-jul.-2021	

Quote Number: 093-093

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*

Valve ID				
Tag No.	*608-TSV-1063*			
Service	*G-761B CW*			
PID No.	*P-C43-A-110990 H52*			
Line No.	*3/4"CWR-5217-B1*	Quantity		
		1		
GENERAL				
Valve Type	*Conventional, Direct Spring-Op*			
Safety / Relief	*Safety Relief*	Balanced	*No*	
Nozzle	*Full*	Bonnet	*Closed*	
CONNECTIONS				
Inlet	*3/4"*	*Thrd.*	*MNPT*	Standard
Outlet	*1"*	*Thrd.*	*FNPT*	*ASME B1.20.1*
MATERIALS OF CONSTRUCTION				
Body Cylinder	*CS SA216-WCB*			
Body Base	*316 SST*			
Connections	*N/A*			
Disc	*316 SST*			
Seat	*Metal*			
Seals	*N/A*			
Spindle	*416 SST*			
Guide	*316 SST*			
Spring	*17-7 PH SST*			
Cap Type	*Screwed & Test Rod*			
NACE MR0175/ISO 15156:2015	*No*			
Accessories				
SIZING / SELECTION SUMMARY				
Valve Model No.	*961101MFB-P*			
Brand	*Crosby®*			
Area (cm²)	Calculated	Selected		*0.710*
	Data Set	Orifice	*API*	*6*
Flow	Unit	Required	kg/hr	
		Maximum		5873.816
Reaction Force, Open Discharge	*5.4 N*			
Noise Level (db), Open Discharge	*N/A*			

SIZING DATA			
Design Code	*ASME VIII/XIII - UV*	Sizing Std.	*API 520*
Sizing Basis	*Thermal Expansion*		
Fluid State at Inlet	*Liquid*		
Relieving Case	*Pressure Relief*		
Fluid Properties			
Fluid Name	*COOLING WATER*		
Sp. Gravity, G	*0.980*		
Viscosity	*0.43820 cSt*		
Reynolds No.			
Reynolds No. (max)	*508483.58*		
Sizing Coefficients	**Unit**	-	
Effective K, Liquid	*0.65*		
Kw	Kc	*1.0*	*1*
Kv	Kv (max)		*1.0*
Required Capacity	**Unit**		
Total			
Pressures	**Unit**	kg/cm² g	
MAWP	Operating	*6.5*	*4*
Set	CDTP	*6.5*	*6.500*
Over Pressure		*0.65*	*10%*
Back Pressure	Built-Up		*0.65*
	Constant Superimposed		*0*
	Variable Superimposed		*0*
	Total		*0.65*
Inlet Loss		*0*	*0%*
Atmospheric (Barometric)		*1.033*	*kg/cm² a*
Temperatures	**Unit**	°C	
	Normal System		
Operating	Relieving	*39*	*65.6*
Design Min	Design Max		*100*

Tag Notes

1. Standard C4M acc. ISO 12944
2. Opening Adjustment 5%
3. ASME "UV" Stamp required.

Valve Dimensions

mm		kg	
A	79.38	Weight	4.54
B	49.21		
C	307.98