JOKWANG I.L.I

Pressure Safety & Relief Valve Specification and Calculation Sheet

Sheet No.	1 of 1	Rev . No	
Project Name			
Project No.			
Date		By	jungbae.cho
Checked		Approved	

GENERAL	P&ID No.	1	-	
	Tag No.	2	-	
	Service Line	3	-	
	Model No.	4	JSV-HT41	
	Quantity	5	4	
TYPE	Nozzle Type	6	Full Nozzle	
	Design Type	7	Conventional	
	Bonnet Type	8	Close	
	Lever Type	9	Plain Lever	
	Cap Type	10	Plain	
CONN.	Size. Inlet / Outlet	11	015X020	
	Inlet. Rating / Facing	12	JIS PT	
	Outlet. Rating / Facing	13	JIS PT	
MATERIALS	Body (Base)	14	A276 304-st. or SUS304-st.	
	Bonnet	15	B62 C83600 or BC6(CAC406)	
	Seat	16	304 SS-st.	
	Disc	17	304 SS-st.	
	Guide	18	-	
	Gasket (Bonnet)	19	PTFE	
	Spring	20	Chrome Alloy(SWOSC-B)	
	Bellows	21	-	
BASIS	Approved by	22	KOSHA	
	Comply with NACE	23	No	
	EN 10204	24	No	
	Code	25	KS B 6216	
	Fire	26	None	
	Sizing Basis	27	None	
	Rupture Disk	28	None	
SERVICE CONDITION	Fluid / State	29	Air / AIR	
	Mol. Weight / Specific Gravity	30	28.96	
	Compressibility Factor	31	1	
	Ratio of Specific Heat	32	1.4	
	Viscosity	33	-	
	Operating / Relieving Temp.	34	/ 20 ℃	
	Design Min. / Design Max. Temp.	35	- ℃	
	Operating / Set Pressure	36	/ 5 Kgf/㎠g	
	Design Pressure / C.D.T.P	37	- / 5 Kgf/㎠g	
	Back Pressure: Superimposed - Constant	38	- Kgf/㎠g	
	Back Pressure: Superimposed - Variable	39	- Kgf/㎠g	
	Back Pressure: Built-up	40	- Kgf/㎠g	
	Back Pressure: Total	41	0 Kgf/㎠g	
	Allowable Overpressure	42	10 %	
	Closing Pressure / Blowdown(%)	43	Min. 4.5 Kgf/㎠g / -%	
	Hydrostatic Test Pressure	44	7.5 Kgf/㎠g	
SIZING & SELECTION	Required Capacity	45	0 kg/h	
	Valve Actual Capacity	46	141 kg/h	
	Calculated Orifice Area	47	0 ㎟	
	Selected Orifice Area	48	35.186 ㎟	
	Orifice Dia.(mm)	49	13	
			-	
			-	
ETC	Paint System & Color	50	None	
	Test Gag	51	None	
	Bug screen	52	No	

Calculation

Calculation of Area

A1 = W1/(C*Kd*(P*1.1+1)*√(M/ZT))*0.9

= 0/(2.65*0.82*(5*1.1+1)*√(28.96/(1*293))*0.9

= **0** ㎟

Calculation of Capacity

W = C*Kd*A*(P*0+1)*√(M/ZT)*0.9

= 2.65*0.82*35.186*(5*1.1+1)*√(28.96/(1*293))*0.9

= **141** kg/h

W	Valve Capacity	141 kg/h
W1	Required Capacity	0 kg/h
P	Set Pressure	5 Kgf/cm2g
A1	Calculated Area	0 ㎟
A	Selected Area	35.186 ㎟
Kd	Coefficient of Discharge	0.82
C	Coefficient base on Ratio of Specific Heat	2.65
T	Kelvin Temperature	293 K
M	Molecular Weight	28.96
Z	Compressibility Factor	1

Remarks