



Pressure Safety & Relief Valve Specifications

Sheet No.	1 of 1	Rev.No.	0
Project Name			
Project No.			
Date	2016. 01. 25.	By	S.W JUNG
Checked	S.C.KIM	Approved	S.C.KIM

GENERAL	P&ID No.	1	
	Tag No.	2	
	Service Line	3	
	Number Required	4	1
	Nozzle Type, Full or Semi	5	Full Nozzle
	Design Type	6	Bellows
	A. Conventional or Bellows		
	B. Full Bore, Low or High Lift		Full Bore Type
Bonnet Type. Open or Close	7	Close	
CONNECTION	Size. Inlet / Outlet	8	050X080
	Inlet. Rating / Facing	9	JIS B 2210 20K RF
	Outlet. Rating / Facing	10	JIS B 2210 10K FF
MATERIALS	Body	11	SC 480
	Bonnet	12	SC 480
	Seat	13	SCS 13-st.
	Disc	14	A276 304-st.
	Guide	15	SCS 13
	Gasket	16	PTFE
	Spring	17	SAE9254
	Bellows	18	A240 316L
ACCESSORY	Cap. Type	19	Screwed
	Lever. Plain or Packed	20	None Lever
	Test Gag	21	No
	Paint Color	22	Silver
BASIC	Code	23	API RP 520
	Fire	24	No
	Sizing Basis	25	
SERVICE	Fluid and State	26	OIL(L)
	Required Capacity	27	m3/h
	Mol. Weight or Specific Gravity	28	1
	Viscosity	29	
	Operating / Set Pressure	30	14 barg
	Operating / Blowout Temp	31	/ 55 °C
	Constant Back Pressure	32	barg
	Variable Back Pressure	33	barg
	Built-up Back Pressure	34	barg
	Total Back Pressure	35	0 barg
	Closing Pressure	36	Min. 0
	Hydrostatic Test	37	21 barg
	Allowable Overpressure	38	10 %
	Compressibility Factor	39	1
Ratio of Specific Heat	40	1.4	
ORIFICE	Calculated Area	41	0.00 mm ²
	Selected Area	42	1,134.115 mm ²
	Orifice Dia.(mm)	43	J(38)
	Valve Capacity	44	89.9 m3/h
	Model No.	45	JSV-BF31
Cert.	Approved by	46	/

CALCULATION

* Calculation of Area

$$A1 = 11.78 * W1 * \sqrt{\frac{G}{(1.25P-Pb)}} / (Kd * Kb * Kc * Kv * Kp)$$

$$= 11.78 * 0 * \sqrt{(1 / (1.25 * 1400 - 0))} / (0.62 * 1 * 1 * 1 * 0.6)$$

$$= \underline{\underline{0.00}} \text{ mm}^2$$

* Calculation of Capacity

$$W = A * Kd * Kb * Kc * Kv * Kp / (11.78 * \sqrt{\frac{G}{(1.25P-Pb)}})$$

$$= 1134.115 * 0.62 * 1 * 1 * 1 * 0.6 / (11.78 * \sqrt{(1 / (1.25 * 1400 - 0))})$$

$$= \underline{\underline{1498.2}} \text{ } \ell/\text{min}$$

$$\underline{\underline{89.9}} \text{ m}^3/\text{h}$$

W = Valve Capacity	1,498.20 ℓ/min
W1 = Required Capacity	0.00 ℓ/min
P = Set Pressure	1400 Kpag
A1 = Calculated Area	0.00 mm ²
A = Selected Area	1134.115 mm ²
Kd = Coefficient of Discharge	0.62
G = Specific Gravity	1.000
Pb = Back Pressure.....	0 Kpag
Kb = Correction Factor Due to Back Pressure	1
Kc = Correction Factor for a rupture disk	1
Kv = Correction Factor due to Viscosity.....	1
Kp = Correction Factor due to Overpressure...	0.6

Remark

*CDTP : 14 barg