

<b>JOKWANG ILI</b>	<b>Pressure Safety &amp; Relief Valve Specification and Calculation Sheet</b>			
	Sheet No.	1 of 1	Rev. No	0
	Project Name			
	Project No.			
	Date	2024-08-19	By	LeeJihan
	Checked	NONE	Approved	NONE

<b>GENERAL</b>	P&ID No.	1	-						
	Tag No.	2	K291						
	Service Line	3	-						
	Model No.	4	JSV-FF21	<b>Calculation</b>					
	Quantity	5	1						
<b>TYPE</b>	Nozzle	6	Full Nozzle			Calculation of Area			
	Design Type	7	Conventional			$A1 = 190.4 * W1 / ((P * 1.1 + 101.325) * Kd * Kb * Kc * Kn * Ksh)$ $= 190.4 * 5100 / ((2156 * 1.1 + 101.325) * 0.975 * 1 * 1 * 1)$ $= 402.737027 \text{ mm}^2$			
	Bonnet Type	8	Close						
	Lever Type	9	None						
	Cap Type	10	Screwed						
<b>CONN</b>	Size. Inlet / Outlet	11	1-1/2"X2-1/2"						
	Inlet. Rating / Facing	12	ASME CL150 RF						
	Outlet. Rating / Facing	13	ASME CL150 RF						
<b>MATERIALS</b>	Body (Base)	14	A216 WCB	<b>Calculation of Capacity</b>					
	Bonnet	15	A216 WCB						
	Seat	16	304 SS-st.						
	Disc	17	304 SS-st.						
	Guide	18	304 SS						
	Gasket (Bonnet)	19	PTFE						
	Spring	20	Chrome Alloy(SWOSC-B)						
	Bellows	21	-						
<b>BASIS</b>	Approved by	22	-	W	Valve Capacity	8951 kg/h			
	Comply with NACE	23	-	W1	Required Capacity	5100 kg/h			
	EN 10204	24	No	A1	Calculated Area	402.737027 mm <sup>2</sup>			
	Code	25	API RP 520	A	Selected Area	706.858 mm <sup>2</sup>			
	Fire	26	No	Kd	Coefficient of Discharge	0.975			
	Sizing Basis	27		P	Set Pressure	2156 KPag			
	Rupture Disk	28	No	Kb	Correction Factor Due to Back Pressure	1			
	<b>SERVICE CONDITION</b>	Fluid / State	29	Steam / STEAM	Kc	Correction Factor for a rupture disk	1		
Mol. Weight / Specific Gravity		30	18	Kn	Correction Factor for Napier equation	1			
Compressibility Factor		31	1	Ksh	Ksh	1			
Ratio of Specific Heat		32	1.33	ATM	Standard Atmosphere	101.325 KPaa			
Viscosity		33	-						
Operating / Relieving Temp.		34	/ 0 °C						
Design Min. / Design Max. Temp.		35	- °C						
Operating / Set Pressure		36	/ 22 Kgf/cm <sup>2</sup> g						
Design Pressure / C.D.T.P		37	- / 22 Kgf/cm <sup>2</sup> g						
Back Pressure		Superimposed - Constant	38	- Kgf/cm <sup>2</sup> g	<b>Remarks</b>				
		Superimposed - Variable	39	- Kgf/cm <sup>2</sup> g					
		Built-up	40	- Kgf/cm <sup>2</sup> g					
	Total	41	0 Kgf/cm <sup>2</sup> g						
Allowable Overpressure	42	10 %							
Closing Pressure / Blowdown	43	Min. 19.8 Kgf/cm <sup>2</sup> g / 10%							
<b>SIZING &amp; SELECTION</b>	Required Capacity	44	5100 kg/h						
	Valve Actual Capacity	45	8951 kg/h						
	Calculated Orifice Area	46	402.737027 mm <sup>2</sup>						
	Selected Orifice Area	47	706.858 mm <sup>2</sup>						
	Orifice Dia.(mm)	48	H(30)						
<b>ETC</b>	Paint System & Color	49	Heat Resistant Silver QT603						
	Test Gag	50	No						
	Bug screen	51	No						