

Customer Name:	DELTA GMBH	Project Name:	BOC	JOB #:	800302
Quote no.:	24-0151.VS	End User:	DELTA	Customer RFQ:	
Rev. no. / Date:	1 / 25-09-2024	Service:	CHILLER EXPANSION LINE	Customer PO.:	2024-PO-200
Line Item #:	1	Tag:	LCV-RU0001A-01 / LCV-RU0001B-01	Quantity:	2
Fluid:	100% PROPYLENE LIQUID	Critical Pressure:	42,50 bar a	Doc no.:	800302-IDS-001
Design Press. in/out:	22 / 22 bar g	Design Temp. in/out/min:	120 / 120 / -45 deg C	Area Class.	Zone 2, IIB, T3

1	Parameters	Units	Minimum	Normal	Maximum	Cond 4	Cond 5
2	Liquid Flow	kg/h	1139,000	2847,000	3273,000	1139,000	3273,000
3	Gas Flow	kg/h	...	...	...	...	...
4	Inlet-P1	bar g	18,780	18,780	22,000	22,000	18,780
5	Outlet-P2	bar g	3,840	3,840	3,840	3,840	3,840
6	Pressure Drop	bar	14,940	14,940	18,160	18,160	14,940
7	Temperature	deg C	56,000	56,000	57,000	56,000	57,000
8	Vapor Pressure	bar g	18,680	18,680	18,680	18,680	18,680
9	Density	kg/m3	437,000	437,000	437,000	437,000	437,000
10	Viscosity	Centipoise	0,069	0,069	0,069	0,069	0,069
11	Required Cv		0,971	2,460	2,160	0,743	2,850
12	Open	% Open	24	56	50	19	65
13	Valve Recovery Factor		0,9	0,9	0,9	0,9	0,9
14	Valve Noise at 1m (IEC)	dBA	< 85	< 85	< 85	< 85	< 85
15	Valve Velocity	m/s	Flash	Flash	Flash	Flash	Flash
16	Pipe Velocity	m/s	Flash	Flash	Flash	Flash	Flash

17	LINE	VALVE	TRIM	ACTUATOR	POSITIONER	AIRSET	SOV	(BOX) SWITCH	Booster	QC	NOTES
17	1	Pipe Size: In/Out	1,5 / 2 inch	56		Positioner Mfr. / Model	Rotork / YT3300				
18		Pipe Sch.: In/Out	80 / 40	57		Protocol / Elec. Connection	4-20 mA + HART / M20 X 1.5				
19		Pipe Insulation	No	58		Cert. / Enclosure Rating	Ex-ia / IP 65				
20		Mfr. / Body Style / Model	VSI / Globe / G-Stream	59		Housing / Diagnostics	Aluminum / Standard				
21		Size / Rating Std. / Press. Rating in/out	1" / ANSI / CL 300	60		Gauges / Options	Yes				
22		Leakage Class	IV	61		Airset Mfr.* / Code	Sitecna				
23		End Conn. / Finish / Butt Weld Sch.	Integral Flanges RF / 125- 250 Ra / NA	62		Air Conn. / Enclosure Matl.	1/4" NPT / Aluminum				
24	1	Face To Face	ANSI/ISA 75.08.01 (Ex ISA 75.03.01)	63		Drain / Relieving	Manual / Yes				
25		Body Material in/out	A352 LCB / LCC	64		Gauge Mfr. / Code	VSI				
26	1	Bonnet Type / Bellows	Extended / NA	65		SOV Mfr.*					
27		Bonnet Matl.	Same as body	66		SOV Code					
28		Body Bolting Material	L7M / 7M	67		Valve Action					
29		Gaskets Material	316L SS + graphite	68		Body matl. / Enclosure Matl.					
30		Packing Style / Options	Single / NA	69		Air Connection / Elec. Conn.					
31		Packing Material	PTFE V-Ring	70		Voltage / Rating					
32		Trim Design / Balancing	Unbal.-Contoured / N/A	71		Elec. Cert. / Enclosure Rating					
33		Trim Size [mm] / Rated Cv [Stages]	11/4,52 [NA]	72		(Box) Switch Mfr.* / Code					
34		Stroke [mm]	19,1	73		Switch Code					
35		Flow / Flow Characteristics	Under / Linear	74		Switch no. / Type					
36		Plug Material / Plug Facing	A479 316-316L / Stellite 6	75		Switch Rating					
37		Stem Material	A479 316-316L	76		Elec. Cert. / Enclosure Rating					
38		Seat Type	Metal	77		Enclosure Matl. / Elec. Conn.					
39		Seat Ring Material / Facing	A479 316-316L / Stellite 6	78		Booster Mfr.* / Code					
40		Soft Seat Material	NA	79		Air Connection / Encl. Matl.					
41		Cage / Seat Retainer Material	N/A / A351 CF8M	80		Lock-up Valve Mfr.* / Code					
42		Mfr. / Type / Model	VSI / Pneumatic Piston / L-Act	81		Air Connection / Encl. Matl.					
43		Size / Spring Type / Act. Function	25 / Standard / Throttling	82		Marking / NACE / Dual Use	No				
44		Fail Action / Air To	Close / Open	83	1	Hydro / St. Leakage / Functional	ASME B16.34 / ANSI FCI 70.2 / IEC60534.4				
45		Shut-Off Press. / Air Supply Press.	22 bar g / 4,5 bar g	84		* or equivalent					
46		Power Supply		85	1	Air supply pressure is set to 4,5 bar g					
47		Actuator Material / O-Rings	Aluminum / Buna-N	86		Instrument air normal, maximum and design pressure is 7, 8					
48		Handwheel / Travel Stop	None / None	87		and 10.25 barg respectively.Dew point is -20@8 barg					
49		Volume Tank	No	88							
50		Pneum. tubing O.D. / Matl.	5/16" / A269 Tp316	89							
51		Fitting Mfr. / Matl.	VSI Standard / 316SS double ferrule	90							
52		Sunshade	Not Provided	91							
53	1	Stroking Time [s]	< 10	92							
54		Quick Open [s]		93							
55		Quick Close [s]		94							

<b>*Factory review required. Completed by</b>		Submitted By	M.Castiglioni
-Cv calculation according to IEC 60534-2-1 / ANSI/ISA-75.01.01		Company	
-noise calculation for liquid according to IEC 60534-8-4[ed3.0]		Contact Information	
-noise calculation for gases according to IEC 60534-8-3[ed3.0]			