

Customer Name:			DELTA GmbH			Project Name:			BOC			JOB #:								
Quote no.:			24-0151.VS			End User:			DELTA			Customer RFQ:								
Rev. no. / Date:			0.0 / 23-07-2024			Service:			CHILLER EXPANSION LINE			Customer PO.:								
Line Item #:			1			Tag:		LCV-0001A-B		Quantity:		2		PID no.:						
Fluid:			100% PROPYLENE LIQUID			Critical Pressure:			42.50 bar a			Doc no.:		24-030_2-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		SIZING CONDITIONS	Parameters		Units		Minimum		Normal		Maximum		Cond 4		Cond 5					
2			Liquid Flow		kg/h		1139.00		2847.00		3273.00		1139.00		3273.00					
3			Gas Flow		kg/h										
4			Inlet-P1		bar g		18.78		18.78		22.00		22.00		18.78					
5			Outlet-P2		bar g		3.840		3.840		3.840		3.840		3.840					
6			Pressure Drop		bar		14.94		14.94		18.16		18.16		14.94					
7			Temperature		deg C		56.00		56.00		57.00		56.00		57.00					
8			Vapor Pressure		bar g		18.68		18.68		18.68		18.68		18.68					
9			Density		kg/m3		437.00		437.00		437.00		437.00		437.00					
10			Viscosity		Centipoise		0.069		0.069		0.069		0.069		0.069					
11			Required Cv				0.971		2.46		2.16		0.743		2.84					
12			Open		% Open		24		56		50		19		64					
13			Valve Noise (IEC)		dBA		Flash		Flash		Flash		Flash		Flash					
14			Valve Velocity		m/s		Flash		Flash		Flash		Flash		Flash					
15			Pipe Velocity		m/s		Flash		Flash		Flash		Flash		Flash					
16		LINE	Pipe Size: In/Out			1.5 / 2 inch			55			POSITIONER			Positioner Mfr. / Model			Rotork YT-3300		
17			Pipe Sch.: In/Out			80 / 40			56						Protocol / Elec. Connection			4-20 mA + HART / M20 X 1.5		
18			Pipe Insulation			No			57			AIRSET			Cert. / Enclosure Rating			Ex-ia / IP 65		
19		VALVE	Mfr. / Body Style / Model			VSI / Globe / G-Stream			58						Housing / Diagnostics			Aluminium / Standard		
20			Size / Rating Std. / Press. Rating in/out			1" / ANSI / CL 300			59			Gauges / Options			Yes					
21			Leakage Class			IV			60			Airset Mfr.* / Code			Sitecna					
22			End Conn. / Finish / Butt Weld Sch.			Integral Flanges RF / 125- 250 Ra / NA			61			Air Conn. / Enclosure Matl.			1/4" NPT / Aluminum					
23			Face To Face			ANSI/ISA 75.03			62			Drain / Relieving			Manual / Yes					
24			Body Material in/out			A352 LCB / LCC			63			Gauge Mfr. / Code			VSI					
25			Bonnet Type / Bellows			Extended / NA			64			SOV			SOV Mfr.*					
26			Bonnet Matl.			Same as body			65						SOV Code					
27			Body Bolting Material			L7M / 7M			66						Valve Action					
28			Gaskets Material			316L SS + graphite			67						Body matl. / Enclosure Matl.					
29			Packing Style / Options			Single / NA			68			Air Connection / Elec. Conn.								
30			Packing Material			PTFE V-Ring			69			Voltage / Rating								
31		TRIM	Trim Design / Balancing			Unbal.-Contoured / N/A			70			(BOX) SWITCH			Elec. Cert. / Enclosure Rating					
32			Trim Size [mm] / Rated Cv [Stages]			11/4.52 [NA]			71						(Box) Switch Mfr.* / Code					
33			Stroke [mm]			19.1			72						Switch Code					
34			Flow / Flow Characteristics			Under / Linear			73						Switch no. / Type					
35			Plug Material / Plug Facing			A479 316-316L / Stellite 6			74			Switch Rating								
36			Stem Material			A479 316-316L			75			Elec. Cert. / Enclosure Rating								
37			Seat Type			Metal			76			Enclosure Matl. / Elec. Conn.								
38			Seat Ring Material / Facing			A479 316-316L / Stellite 6			77			Booster			Booster Mfr.* / Code					
39			Soft Seat Material			NA			78						Air Connection / Encl. Matl.					
40			Cage / Seat Retainer Material			N/A / A351 CF8M			79			Lock-up Valve Mfr.* / Code								
41		ACTUATOR	Mfr. / Type / Model			VSI / Pneumatic Piston / L-Act			80			QC			Air Connection / Encl. Matl.					
42			Size / Spring Type / Act. Function			25 / Standard / Throttling			81						Marking / NACE / Dual Use			No		
43			Fail Action / Air To			Close / Open			82			Hydro / St. Leakage / Functional			ASME B16.34 / IEC60534.4 / IEC60534.4					
44			Shut-Off Press. / Air Supply Press.			22 bar g / 4.5 bar g			83			NOTES			* or equivalent					
45			Power Supply			NA			84						1) Our calculation and sizing software are based on the IEC 60534-8-4, and according to the mentioned standard: "This part of IEC 60534 considers only noise generated by normal turbulence and liquid cavitation. It does not consider any noise that might be generated by flashing conditions". Therefore, we cannot provide an exactly calculation of the noise and velocity, but we confirm that our selection is suitable for the service. 2) Expanders & Reducers will not be under our scope of supply.					
46			Actuator Material / O-Rings			Aluminum / Buna-N			85											
47			Handwheel / Travel Stop			None / None			86											
48			Volume Tank			No			87											
49			Pneum. tubing O.D. / Matl.			5/16" / A269 Tp316			88											
50			Fitting Mfr. / Matl.			VSI Standard / 316SS double ferrule			89											
51			Sunshade			Not Provided			90											
52			Stroking Time [s]						91											
53			Quick Open [s]						92											
54			Quick Close [s]						93											
*Factory review required. Completed by -Cv calculation according to IEC 60534-2-1 / ANSI/ISA-75.01.01 -noise calculation for liquid according to IEC 60534-8-4{ed3.0} -noise calculation for gases according to IEC 60534-8-3{ed3.0}									Submitted By			user1								
									Company											
									Contact Information											