



Control Valve Specification
Prepared By :

Customer :
PO # :
Quote # :
Rev/By : 0.0 / rcsehi
Application : LP Feedwater Line

Project : -
Proj Num :
Q. ID : rcsehi_JKBS4707PNXT_6053
Alternate :

Valve Tag # : 13LAB70AA901
Page # : 4
P&ID :
Line :
Date / Ver : 01-Jun-2022 / 12.7370

Process Data For Control Valve Selection	1	Pipe Size, Up/Down	3.000 / 3.000			
	2	Pipe Sch, Up/Down	40 / 40			
	3	Allow Noise/Add Attn/Type	85 / 0 /			
	4	Process Fluid	WATER			
	5	Design Press./Temp.	0.00 / 23.00 bar (g) / 0.00 / 180.00 °C			
	6	Driving Cond.	MAX	NORM	MIN	Cond4
	7	Temperature (°C)	138.900	138.900	138.900	
	8	Inlet Press (bar (g))	10.100	11.000	13.200	
	9	Outlet Press (bar (g))	4.600	4.600	4.300	
	10	Liq Flow Rate (1000 kg/h)	58.090	52.810	5.000	
	11	Gas Flow Rate (kg/h)	0	0	0	
	12	Viscosity (cP)	0.000	0.000	0.000	
	13	Vapor Press (bar (g))	2.540	2.540	2.540	
	14	SG-MW	0.931	0.931	0.931	
	15	Max Shutoff / Shutoff Class	14.200 bar / Class IV			
	16	Min Supply Pressure / Max Supply Pressure	8.800 / 10.340 bar (g)			
	17	Valve Function / Amb Temp Min/Max	Throttling / °F			
Calculated Data	18	Driving Cond.	MAX	NORM	MIN	Cond4
	19	Flow Coeff. (Cv)	29.714	25.042	2.011	
	20	Est Stroke (% Lift)	83.000	68.000	5.000	
	21	Pressure Drop (bar)	5.500	6.400	8.900	
	22	Choke Drop (bar)	6.626	7.388	9.250	
	23	Noise [IEC] (dBA)	<70	<70	<70	
	24	Valve Vel (m/s)	3.807	3.461	0.328	
	25	Pipe Vel (m/s)	3.640	3.309	0.313	
Valve Body Assembly	26	Model / Body Type / Trim Type	Mark One / Globe / ChannelStream			
	27	Size/Pressure Class/Body Form	3.00 / CL 600 / Cast			
	28	Trim # - Cv / Characteristic	1.62C Cv:34 (3stg) / Linear			
	29	Stages/DWG/Ret Guiding	2 Stage / / CD_1500 /			
	30	Flow Direction	Flow Over			
	31	Body Matl / Bonnet Matl	Carbon Steel (WCC) / Carbon Steel			
	32	End Conn/Sch/Face to Face	Butt Weld / 40 / ISA S75.08.05			
	33	Flange Finish				
	34	Bonnet / Drip Plate / Cryo Type	Standard / /			
	35	Balance Type / P/B Seal Matl.	Unbalanced /			
	36	Plug Mtl/ Facing Treatment /Stem Cvr	1.4122 HT / /			
	37	Stem Mtl/ Facing Treatment /Pilot Spr	1.4122 HT / /			
	38	Seat Ring Mtl/ Facing Treatment	1.4122 HT (~440C) /			
	39	Soft Seat Material	/ /			
	40	Seat Retainer Mtl/ Facing Treatment	1.4122 HT (~440C) /			
	41	Sleeve Mtl/ Facing Treatment	/			
	42	Guides Upper/Lower	Bronze C93200 / Bronze C93200			
	43	Packing Matl / Style / Vac / Fire / Cert	AFPI / Single / / /			
	44	Packing - Live-Loaded				
	45	Bonnet Port / Body Drain	/			
	46	Bellows Type / Material	/			
	47	Body Bolting/Bonnet Flange Matl	B7-2H Zinc Plated / Carbon Steel			
	48	Gaskets	Spiral Graphite			
	49	Gland Flange Material	Stainless Steel			
	50	Gland Flange Bolting	Carbon Steel, Zinc Plated			
	T1					
	T2					
	T3					
	T4					
Customer Spec	01	Certification/Approval Type	ATEX / Intr Safe /			
	02	Class or Gas Group	IIB+H2			
	03	Division or Zone	Zone 1 (2)			
	04	Group				
	05	Ingress / Temperature	IP 65 / T4			
	06	NACE / Nuclear	NA / NA			
	07	SIL Vlv-Act / Pos	NA / NA			
	08	Oxygen Service/Assy. Lubricant	NA /			
Actuator	51	Act. Type/Matl	VL Cylinder / Aluminum			
	52	Act. Size/Instr. Sup.	50 / Air			
	53	Stroke/Spring	2.50 / Standard			
	54	Fail/Air-To	In Place / Open			
	55	Vol Tank/Orient/Mtg	/ /			
	56	Tubing Size/Mtl	3/8" / 316 SS			
	57	Fitting Mfg/Mtl	Swagelok / 316 SS			
	58	Pos. Ornt./HW	HVR / Side Mnt/Cont Connect			
	59	Act O-Rings	Buna-N			
	60	Spud	2.62 / 1.00-12 UNF			
	61					
Positioner	62	Model	BETA			
	63	Model #	L3W1L11B1100-NT3002282SN1W00			
	64	Material Paint	Aluminum, White			
	65	Venting	Non-Vented			
	66	Base Soft Goods	Buna-N			
	67	Gauges	2 SS-Brass PSI/BAR/KPA			
	68	Signal	4 - 20 mA			
	69	Spool Valve	Standard			
	70	Pos Tag/Mounting	/			
	71	Transducer	NT 3000 / Direct Mounted			
	72	Conduit Conn.	1/2" NPT / Std Alum w/ Mylar Cert Sticker			
	73	Model	Pos. Pac TX (analog)			
Pos Ind Sw	74	Switch Model#				
	75	Indicate				
	76	Mounting				
	77	Tag				
	78					
	79					
	80					
	81					
Solenoid	82	Model/Qty	/			
	83	Cv-Kv/De-en	/			
	84	Volt/Watt	/			
	85	Body/Housing Mtl	/			
	86	Body/Elect Conn	/			
	87	Port Size/Mtg	/			
	88	Tag/Reset-Override	/ / /			
Others	89	Air Filter/Mnting	/			
	90	Filter-Reg/Mnting	FR 04411S00ALLT2 AI / Nipple Mtd			
	91	Flow Booster / Mtg.	/			
	92	Booster Config	/			
	93	Quick Exhaust	/			
	94	SupTube/Jctn Box	/			
	95	Lockup/Mnting	Fail-In-Place /			
	96	Plate ID				
	97	Plate Type				
	98	Packaging	Standard			
	99	Pwr. Sup.				
	00	Wiring Conn. Type				
Special Req	01	Rad. Exm	/			
	02	Drawings	Type I			
	03	Assem Hydro	EN 60534-4 / FCI 70-2			
	04	Seat leak/Final test cert.	EN 60534-4 / FCI 70-2 /			
	05	PMI/Weld Req	/ ASME BPVC Section IX			
	06	Cert of Conf.	DIN 3.1B Seat-Leak & Results			
	07	Clean/Bld/Doc	/ /			
	08	CMTR	Body & Bonnet / EN 10204 3.1			
	09	Special Paint/Test	Epoxy stand. V16 /			
	10	Diag Test/FM	/			
	11	Cust. Insp/Witn.	No / No			
	12		/			
	13	Cust Furnish	None			
	14	Flow Testing				
	S1					
	S2					

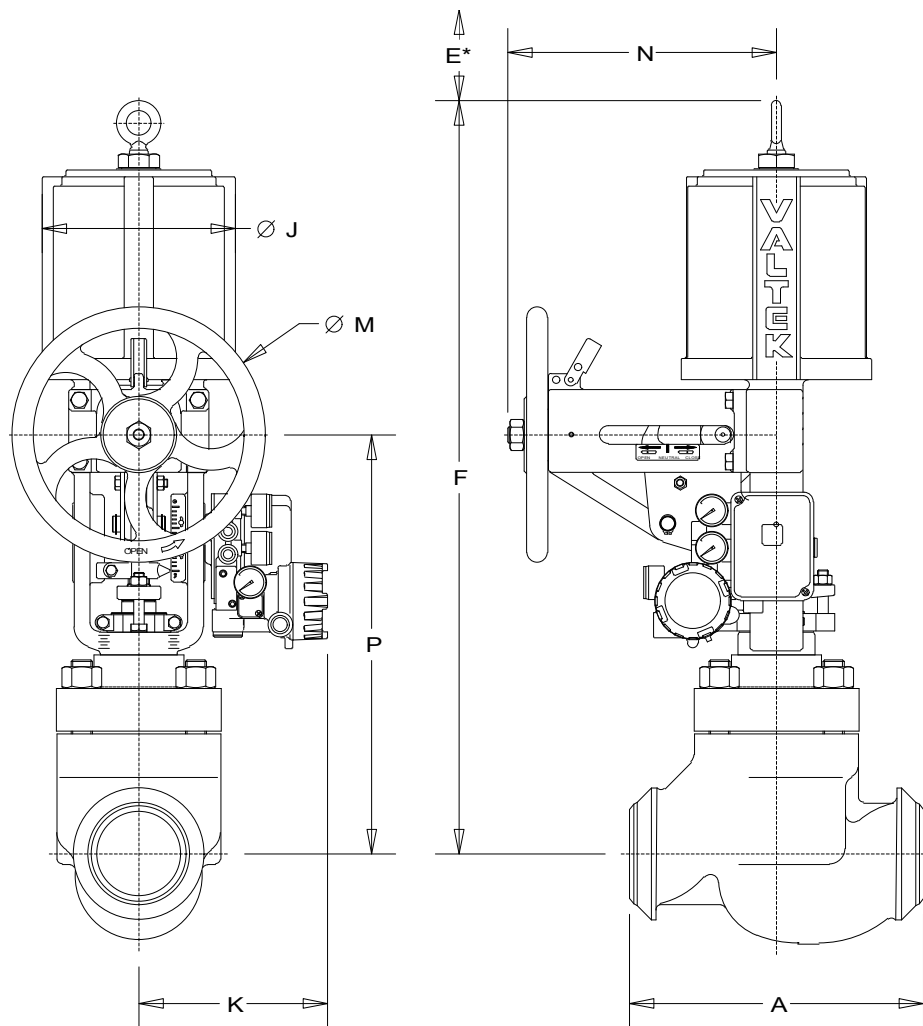
Line # : Remarks :

C	29	SEAT RET, MK1, CHNLSTRM, 3", CL 900/1500, LIN, TN 2.50, CV 13, 2 STAGE, 2.50 STROKE, A-582-416, HEAT TREAT PER SPP-929 (HRC 34-43) (ECO 153 11-8-02) as per 192296.158.000
C	72	we will supply to electrical conn 1/2" 3/4" NPT(F) with adaptor.
C	90	Connection 1/4" NPT
C	202	Replacement to SN 708872.003

DB Rev - 782 : 19-Jul-2022 : ID = rcsehi_JKBS4707PNXT_6053

Quantity: 1

MK1|D|W|V|NL3|XX|3"|600|A216WCC|O|D|X|I|I2|N|P|X|L|I|1,62|X|A|L3|50|X|S|S|I|P|N|


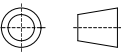


FLOW →

* - DISASSEMBLY / MAINTENANCE CLEARANCE

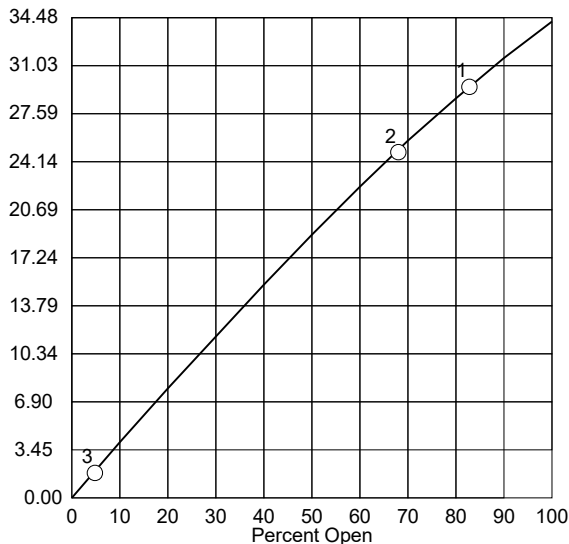
	A	E	F	J	K	M	N	P	WT
INCH	13.25	5.8	32.8	9.1	9.6	12.0	12.8	17.1	178 LBS
MM	336.6	147	832	232	244	305	324	434	81 KG

Note: Dimensions are correct per associated specification sheet. End connections and scaling may not actual. For accessory information, see associated specification sheet.

MODEL Mark One	ACTUATOR 50 SQ IN				DIMENSIONAL DRAWING	
SIZE 3 INCH	AIR TO OPEN	BY rcsehi	CUSTOMER		ITEM 4	
RATING / F/F STD CL 600 / S75.08.05	FAIL In Place	DATE 01-Jun-2022	VALVE TAG 13LAB70AA901		SHEET 1	
END CONNECTION BW SCH	SPRING STANDARD	THIRD ANGLE PROJECTION 	P.O. NUMBER		REVISION 0.0	
TRIM TYPE CHNLSTRM	TRIM / CV 1.62C / Cv:34 (3stg)		PROJECT -		SERIAL NUMBER .004	

3.00 in (Trim: 1.62C Cv:34 (3stg)) CL 600 Mark One ChannelStream Globe

	MAX	NORM	MIN							
Process Data										
Temp (°C)	138.900	138.900	138.900	---	---	---	---	---	---	---
P1 (bar (g))	10.100	11.000	13.200	---	---	---	---	---	---	---
P2 (bar (g))	4.600	4.600	4.300	---	---	---	---	---	---	---
Liq Flow (1000 kg/h)	58.090	52.810	5.000	---	---	---	---	---	---	---
Gas Flow (kg/h)	---	---	---	---	---	---	---	---	---	---
Visc (cP)	0.000	0.000	0.000	---	---	---	---	---	---	---
VP (bar (g))	2.540	2.540	2.540	---	---	---	---	---	---	---
DP (bar)	5.500	6.400	8.900	---	---	---	---	---	---	---
DpC (bar)	6.626	7.388	9.250	---	---	---	---	---	---	---
Vel (m/s)	3.807	3.461	0.328	---	---	---	---	---	---	---
Pipe Vel (m/s)	3.640	3.309	0.313	---	---	---	---	---	---	---
Noise (dBA)	< 70.0	< 70.0	< 70.0	---	---	---	---	---	---	---
Flow Cap (Cv)	29.714	25.042	2.011	---	---	---	---	---	---	---
Stroke (% Lift)	83	68	5	---	---	---	---	---	---	---
Info (l)	---	---	---	---	---	---	---	---	---	---
Detailed Miscellaneous Information										
FP	1.000	1.000	1.000	---	---	---	---	---	---	---
FL	0.920	0.920	0.920	---	---	---	---	---	---	---
FR	1.000	1.000	1.000	---	---	---	---	---	---	---
Sg	0.931	0.931	0.931	---	---	---	---	---	---	---
K	---	---	---	---	---	---	---	---	---	---
Xt	---	---	---	---	---	---	---	---	---	---
Z	---	---	---	---	---	---	---	---	---	---
FD	---	---	---	---	---	---	---	---	---	---
MWT	---	---	---	---	---	---	---	---	---	---
Detailed Cavitation (Sigma) Information										
Sigma	1.375	1.322	1.198	---	---	---	---	---	---	---
Sigma MR	1.107	1.107	1.107	---	---	---	---	---	---	---
PSE	0.535	0.547	0.572	---	---	---	---	---	---	---
SSE	1.000	1.000	1.000	---	---	---	---	---	---	---
Sigma V	1.057	1.058	1.061	---	---	---	---	---	---	---
Sigma P	1.057	1.058	1.061	---	---	---	---	---	---	---



Fluid: WATER
Type: Full
Owner: EVERYONE Fluid List: STANDARD
Vp Equation: Antoine

Critical Pressure (psi (a)/bar (a)) : 3208.200 / 221.255
Critical Temperature (°F/°C) : 705.430 / 374.128
Reference Specific Gravity: 1.000
Molecular Weight: 18.020
Specific Heat Ratio: 1.330
Reference Temperature (°F/°C) : 67.730 / 19.850
Vp-A: 14.358 Vp-B: 6869.520
Vp-C: -83.030

Minimum Temperature (°F/°C) : 35.330 / 1.850
Maximum Temperature (°F/°C) : 704.930 / 373.850
Bulk Modulus ((lbf/in²)/(kg/cm²)) : 340000.000 / 4835820.000

Flow Direction : Flow Over
Trim Characteristic : Linear
Balance Type: Unbalanced
Trim Type : ChannelStream

DB Rev - 782 : 19-Jul-2022