

<div>COPES-VULCAN, SPX Process Equipment</div> <div>Road Two, Industrial Estate, Winsford, Cheshire. United Kingdom</div> <div>Phone: +44 (0)1606 552041 Fax: +44 (0)1606 558275</div>					<div>CONTROL VALVE</div> <div>SPECIFICATION SHEET</div>					
Customer Name: ALSTOM POWER CENTRALES - BELFORT					CV Inquiry: DMS/060909/PM1					
Customer Inquiry: EMAIL					CV Job: WH/00071					
Customer PO: 745117 P12 73077					CV Job Ref: CW32702					
Ultimate User: MARITZA EAST 1 BULGARIA					CV Serial#: 07CW32702/01-02					
Tag: 01/02LAB40 AA002					Item: 03					
Application: DRUM LEVEL NORMAL CONTROL VALVE					Quantity: 2					
Description : 8 Inch, Class 2500 STD, BW, A217 WC6, SD, Pneumatic Piston										
FLUID: Water		SERVICE CONDITIONS								
	FLOW t/hr	P1 bar.a	P2 bar.a	Temp deg C	Cv	Cv (%)	Travel (%)	Valve Outlet Vel. ft/sec	Noise (dBA)	Trim Exit Vel. m/sec
COND 1	960.5	213.7	203.7	182.4	402.5	85%	79%	32	<75	20.17
COND 2	889.2	210.0	200.0	179.0	371.8	79%	71%	29	<75	20.17
COND 3	864.0	225.6	215.7	173.6	361.9	77%	69%	28	<75	20.07
COND 4	449.6	197.6	187.6	152.1	185.1	39%	34%	14	<75	20.17
COND 5	304.9	189.5	179.0	137.0	121.6	26%	23%	10	<75	20.67
SHUTOFF		333	1.01		Allowable Leakage:			Predicted noise level with		Insulation 0.0 Inch
DESIGN		333		195	ANSI FCI 70-2 Class V			Insulation (IEC 60534-8-3)		
BODY AND BONNET										
Style: SD-Severe Duty, Globe					Bonnet Type: Pressure Seal					
Size: 8 Inch					Packing Material: Teflon					
ASME Class: 2500 Standard					Packing Hardware: Stainless Steel					
Body Inlet: Butt Weld, Sch 160 Per ANSI B16.25, Fig. 2b					Options: Single Packed					
Body Outlet: Butt Weld, Sch 160 Per ANSI B16.25, Fig. 2b					Service: Continuous Modulation					
Material: ASTM A217 WC6										
Inlet Pipe: 310mm ID x 25.5mm WT					Inlet Reducer: 8" Sch 160 x 310mm ID x 25.5mm WT, Length: 12.00 In., 15NiCuMoNb5					
Outlet Pipe: 310mm ID x 25.5mm WT					Outlet Expander: 8" Sch 160 x 310mm ID x 25.5mm WT, Length: 12.00 In., 15NiCuMoNb5					
TRIM										
Size: 8 Inch with 2 Turns					Seat Type: Metal					
Style: RAVEN (Balanced with Ucup seal)					Trim Material: 400/70 SST & 300SST Disc Stack					
Flow Direction: OVER THE WEB					Max. Cv Available: 472.2 @Max Travel of 4.5" (+/-1/8)					
Stem Diameter: 1.25 Inch					Min. Controllable Cv of Trim: 1.29					
Characteristic: RAVEN										
ACTUATOR										
Actuator Model: Pneumatic Piston					Actuator Mounting Style: Studded					
18" Diameter					Actuator Spring: TBA					
Action: Direct (Air Fail Open)					Spring Rate: TBA					
Handwheel: None					Max Stem Thrust Required to Close: 12286 lbf/in					
Frame Material: Ductile Iron					Max Stem Thrust Required to Open: 4577 lbf					
Air Pressure Available: 5.0 bar.g					Bench Set: N/A psi.g					
Air Pressure Required: 3.5 bar.g										
ACCESSORIES										
Positioner: Siemens SIPART PS2, Single Acting					Airlock: None					
Positioner Input Range: 4-20 mA					Filter/Regulator: Davis Pneumatics, w/Gauge Qty: 1					
Position FeedBack Module (4-20mA): YES					Solenoid Valve: None					
Alarm Module: NO					Booster Relay: As Required for Stroke Speed					
HART Module: NO					Additional Acc'y: Pneumatic Isolation Valve Qty: 1					
Piping: 1/2" Stainless Steel Tubing (NERO)										
Limit Switches: None										
COMMENTS										
Stroking Speed Opening or Closing shall be less than 30 Seconds										
Trim Exit Velocities are Shown										
Reducer / Transition pieces shall be provided on the inlet & Outlet Connection to match the customer pipe size and material.										
	06	CMN	Design and Shut Off Pressures were 331 Customer Req						Dec-24-2007	
	05	CMN	Shut Off was Class IV						Nov-14-2007	
	04	ADA	DESIGN REVIEW						Mar-28-2007	
	03	IJW	Issued For Contract Use						Jan-24-2007	
	02	MW	Revised Per L2 Meeting						Nov-20-2006	
	01	MW	Revised to RAVEN Trim						Oct-25-2006	
	00	MW	Original Data Sheet						Sep-15-2006	
	Rev	Initials	Description						Date	
Program Rev Level: UK-1-2 (WS Version)										

SPX Process Equipment

LISTEN...INNOVATE...DELIVER

COPES-VULCAN®

RECOMMENDED SPARES LIST

CUSTOMER NAME	ALSTOM POWER CENTRALES - BELFORT	VENDOR CONTRACT N°	WH/00071	DATE	21-May-07
PROJECT NAME	MARITZA EAST 1 BULGARIA	DOCUMENT N°	RSL/CW32702/01 & 02	AFTERMARKET REF	DGE/070206/IRSL8
CUSTOMER PO N°	745117 P12 73077	REV STATUS	0	CONTACT	D.G. EDWARDS

Qty Of Valves	2 OFF	Description	SD Globe 8" ANSI 2500
---------------	-------	-------------	-----------------------

Tag N°	Serial N°	Qty Installed Per Valve	CD Drawing N°	Drawing Item	Description	Part N°	Notes	Recommended 2 Yrs Operation
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	3,4,5,18,20,21,22,25,39,88,107,142	Assy Trim, 8" Raven 2T 32P Consisting Of #	C99107VQAQ		1
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	3+	Plug #	C33751-XMC		1
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	4+	Trim Slack #	C33745-AQA		1
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	5+	Seat#	C32826-XMC		1
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	18+	Spirol Pin #	U20-126		1
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	20++	Trim Gasket #	S269593	1	4
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	21+	Trim Spacer #	C33754-XMA		1
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	25++	U Cup Seal #	C27727-BPP	1	4
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	39	Retaining Ring #	C33040-XHE		1
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	89,107	Assy Split Ring Bolt & Bar #	C33042-AQA		1
01/02LAB40AA002	CW32702/01 & 02	16	CD32702	89	Split Ring Bolt #	C33038-XHR		16
01/02LAB40AA002	CW32702/01 & 02	14	CD32702	107+	Locking Bar #	SBF0030X0120		14
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	142++	U Cup Seal #	C33753-BPP	1	4
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	6+	Stem	STM330431004		1
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	46++	Pressure Seal	C22971UBPP	1	4
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	16++	Gland Packing	C11576-BPP	1	4
01/02LAB40AA002	CW32702/01 & 02	1	CD32702	144+	Gland Spring	C08421-BPP		1
01/02LAB40AA002	CW32702/01 & 02	1	See Manual		Actuator Repair Kit	AKX25-256		1

NOTES

1

COMMENTS

Please note that items marked with a [1] must be changed during an inspection or maintenance overhaul it should be ensured that these items are available before commencing the inspection.

Do Not Re-Use