

<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: <b>ALSTOM POWER CENTRALES - BELFORT</b>					CV Inquiry: <b>DMS/060909/PM1</b>					
Customer Inquiry: <b>EMAIL</b>					CV Job: <b>WH/00071</b>					
Customer PO: <b>745117 P12 73077</b>					CV Job Ref: <b>CW32709</b>					
Ultimate User: <b>MARITZA EAST 1 BULGARIA</b>					CV Serial#: <b>07CW32709/01-02</b>					
Tag: <b>01/02 LBC20 AA011</b>					Item: <b>10</b>					
Application: <b>START-UP CONTROL VALVE</b>					Quantity: <b>2</b>					
Description : <b>8 Inch, Class 600 STD, BW, A217 WC9, GS, CV700 160-5R</b>										
FLUID: <b>Steam</b>		SERVICE CONDITIONS								
	FLOW t/hr	P1 bar.a	P2 bar.a	Temp deg C	Cv	Cv (%)	Travel (%)	Valve Outlet Vel. ft/min	Noise (dBA)	Velocity Head bar.a
COND 1	31.8	16.54	15.0	299.5	396.2	87%	83%	9373	<70	0.30
COND 2	64.2	39.2	15.0	334.0	164.06	36%	37%	19420	76	3.73
COND 3										
COND 4										
COND 5										
SHUTOFF		54	1.01		Allowable Leakage:			Predicted noise level with		Insulation 3.0 Inch
DESIGN		54		500	ANSI FCI 70-2      Class IV			Insulation (IEC 60534-8-3)		
BODY AND BONNET										
Style: <b>GS - General Service, Globe</b>					Bonnet Type: <b>Bolted w/Extension &amp; Bonnet Spacer</b>					
Size: <b>8 Inch</b>					Packing Material: <b>Grafoil</b>					
ASME Class: <b>600      Standard</b>					Packing Hardware: <b>Stainless Steel</b>					
Body Inlet: <b>Butt Weld, Sch 40 Per ANSI B16.25, Fig. 2b</b>					Options: <b>Single Packed</b>					
Body Outlet: <b>Butt Weld, Sch 40 Per ANSI B16.25, Fig. 2b</b>					Service: <b>Continuous Modulation</b>					
Material: <b>ASTM A217 WC9</b>										
Inlet Pipe: <b>8" Sch    8mm WT</b>										
Outlet Pipe: <b>8" Sch    8mm WT</b>										
TRIM										
Size: <b>8 Inch with 4,2 Turns</b>					Seat Type: <b>Metal</b>					
Style: <b>RAVEN (Balanced with Piston rings)</b>					Trim Material: <b>400/70 SST &amp; 300SST Disc Stack</b>					
Flow Direction: <b>UNDER THE WEB</b>					Max. Cv Available: <b>457.5 @Max Travel of 4.5" (+/-1/8)</b>					
Stem Diameter: <b>1.00    Inch</b>					Min. Controllable Cv of Trim: <b>12.96</b>					
Characteristic: <b>RAVEN</b>										
ACTUATOR										
Actuator Model: <b>CV700 160-5R</b>					Actuator Mounting Style: <b>4 x Studded</b>					
Action: <b>Reverse      (Air Fail Closed)</b>					Actuator Spring: <b>357580</b>					
Handwheel: <b>None</b>					Spring Rate: <b>768      lbf/in</b>					
Frame Material: <b>Ductile Iron</b>					Max Stem Thrust Required to Close: <b>1422      lbf</b>					
Air Pressure Available: <b>4.0      bar.g</b>					Max Stem Thrust Required to Open: <b>730      lbf</b>					
Air Pressure Required: <b>2.9      bar.g</b>					Bench Set: <b>11 - 32      psi.g</b>					
ACCESSORIES										
Positioner: <b>Siemens SIPART PS2, Single Acting</b>					Airlock: <b>None</b>					
Positioner Input Range: <b>4-20 mA</b>					Filter/Regulator: <b>Norgren B64G-4GK-AD3-RMN      Qty: 1</b>					
Position FeedBack Module (4-20mA): <b>YES</b>					Solenoid Valve: <b>ASCO (110V DC)      Qty: 1</b>					
Alarm Module: <b>NO</b>					De-Energise to Vent Actuator					
HART Module: <b>NO</b>					Booster Relay: <b>RK 3000      Qty: 1</b>					
Piping: <b>1/2" Stainless Steel Tubing (Hoke)</b>					Additional Acc'y: <b>Pneumatic Isolation Valve</b>					
Limit Switches: <b>None</b>										
COMMENTS										
Solenoid Tag Number 01/02 LBC20AA011 A										
Stroking Speed Opening or Closing shall be less than 10 Seconds										
				06	CMN	Cond 2 flow changed. Tag No corrected		Oct-31-2007		
				05	CMN	Per Customer Comments		Aug-31-2007		
				04	JRL	Tag Number Change		Aug-23-2007		
				03	IJW	Released For Contract Use		Jan-24-2007		
				02	MW	Revised For L2 Meeting		Nov-20-2006		
				01	MW	Revised For RAVEN Trim		Oct-25-2006		
				00	MW	Original Data Sheet		Aug-31-2006		
				Rev	Initials	Description		Date		
Program Rev Level: <b>UK-1-2 (WS Version)</b>										



SPX Process Equipment

LISTEN<sub>00000</sub>INNOVATE<sub>00000</sub>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°	RSUCW32709/01 & 02	AFTERMARKET REF	DGE070206/RSLS
CUSTOMER PO N°	745117 P12 73077	REV STATUS	0	CONTACT	D.G.EDWARDS

Qty Of Valves	2 OFF	Description	GS Globe 8" ANSI 600					
Tag N°	Serial N°	Qty Installed Per Valve	CD Drawing N°	Drawing Item	Description	Part N°	Notes	Recommended 2 Yrs Operation
0102LBC20AA011	CW32709/01 & 02	1	CD32709	3,4,5,18,20,21,22,40	Assy Trim, Raven 8" 4, 2T 64P Consisting Of #	C99127AAQA		1
0102LBC20AA011	CW32709/01 & 02	1	CD32709	3+	Plug #	C33752-XMC		1
0102LBC20AA011	CW32709/01 & 02	1	CD32709	4+	Trim Stack #	C33829-AQA		1
0102LBC20AA011	CW32709/01 & 02	1	CD32709	5+	Seat #	C32826-XMC		1
0102LBC20AA011	CW32709/01 & 02	1	CD32709	18+	Spirol Pin #	U20-122		1
0102LBC20AA011	CW32709/01 & 02	1	CD32709	20++	Trim Gasket #	S269587	1	2
0102LBC20AA011	CW32709/01 & 02	1	CD32709	21+	Trim Spacer #	C33836-XMC		1
0102LBC20AA011	CW32709/01 & 02	1	CD32709	22+	Trim Gasket #	S353698	1	2
0102LBC20AA011	CW32709/01 & 02	2	CD32709	40++	Piston Ring #	C30140-BPP	1	4
0102LBC20AA011	CW32709/01 & 02	1	CD32709	6+	Stem	STM320328001		1
0102LBC20AA011	CW32709/01 & 02	1	CD32709	9++	Bonnet Gasket	S197477	1	2
0102LBC20AA011	CW32709/01 & 02	1	CD32709	10+	Gland Washer	S373408		1
0102LBC20AA011	CW32709/01 & 02	1	See Manual	14,30,32,33,35,36	Actuator Spares Kit 160R-L 1" Consisting of ##	C80141-AQA		1
0102LBC20AA011	CW32709/01 & 02	1	See Manual	14+	Diaphragm # #	S195964BPP		1
0102LBC20AA011	CW32709/01 & 02	1	See Manual	32++	Gasket # #	S356999		1
0102LBC20AA011	CW32709/01 & 02	1	See Manual	33+	U Cup Seal # #	S357800		1
0102LBC20AA011	CW32709/01 & 02	1	See Manual	35+	O Ring (Inner) # #	S357801		1
0102LBC20AA011	CW32709/01 & 02	1	See Manual	36+	O Ring (Outer) # #	S357802		1
0102LBC20AA011	CW32709/01 & 02	1	See Manual	30+	Bushing	S356093		1

NOTES

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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