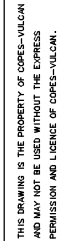
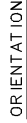
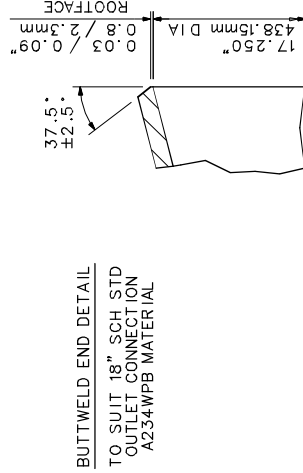


<b>COPES-VULCAN, SPX Process Equipment</b> Road Two, Industrial Estate, Winsford, Cheshire. United Kingdom Phone: +44 (0)1606 552041 Fax: +44 (0)1606 558275							<b>CONTROL VALVE SPECIFICATION SHEET</b>				
Customer Name: <b>ALSTOM POWER CENTRALES - BELFORT</b> Customer Inquiry: <b>EMAIL</b> Customer PO: <b>745117 P12 73077</b> Ultimate User: <b>MARITZA EAST 1 BULGARIA</b> Tag: <b>01/02 LBC55 AA001</b> Application: <b>FEEDWATER SUSTAINING BY CRS</b>							CV Inquiry: <b>DMS/060909/PM1</b> CV Job: <b>WH/00071</b> CV Job Ref: <b>CW32700</b> CV Serial#: <b>07CW32700/01-02</b> Item: <b>01</b> Quantity: <b>2</b>				
Description : <b>10 Inch, Class 600 STD, BW, A217 WC9, SD, CV700 160-5R+TMHW</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)	Exit Vel. Head bar.a	
COND 1	43.2	13.3	3.779	333.3	323.2	83%	85%	29212	77	1.49	
COND 2	32.8	13.3	3.341	333.3	243.4	63%	65%	24298	78	1.66	
COND 3											
COND 4											
COND 5											
SHUTOFF		54	1.01	370.0	Allowable Leakage:			Predicted noise level with		Insulation 3.0 Inch	
DESIGN		54		370.0	ANSI FCI 70-2 Class IV			Insulation (IEC 60534-8-3)			
BODY AND BONNET											
Style: <b>SD-Severe Duty, Globe</b> Size: <b>10 Inch</b> ASME Class: <b>600 Standard</b> Body Inlet: <b>Butt Weld, Sch 80 Per ANSI B16.25, Fig. 2b</b> Body Outlet: <b>Butt Weld, Sch STD Per ANSI B16.25, Fig. 2b</b> Material: <b>ASTM A217 WC9</b> Inlet Pipe: <b>10" x 8mm WT</b> Outlet Pipe: <b>18" Sch STD</b>					Bonnet Type: <b>Bolted w/Extension</b> Packing Material: <b>Grafoil</b> Packing Hardware: <b>Stainless Steel</b> Options: <b>Single Packed</b> Service: <b>Continuous Modulation</b>						
Outlet Expander : <b>10" x 18" Sch STD, Length: 15.00 In., Material: A-234 WPB</b>											
TRIM											
Size: <b>10 Inch with 4 Turns</b> Style: <b>RAVEN (Balanced with Piston rings)</b> Flow Direction: <b>UNDER THE WEB</b> Stem Diameter: <b>1.00 Inch</b> <b>LINEAR</b>					Seat Type: <b>Metal</b> Trim Material: <b>400/70 SST &amp; 300 SST Disc Stack</b> Max. Cv Available: <b>388.2 @Max Travel of 3" (+/-1/8)</b> Min. Controllable Cv of Trim: <b>11.08</b>						
ACTUATOR											
Actuator Model: <b>CV700 160-5R+TMHW</b>  Action: <b>Reverse (Air Fail Closed)</b> Handwheel: <b>Top Mounted</b> Frame Material: <b>Ductile Iron</b> Air Pressure Available: <b>4.0 bar.g</b> Air Pressure Required: <b>3.2 bar.g</b>					Actuator Mounting Style: <b>4 x Studded</b> Actuator Spring: <b>357580</b> Spring Rate: <b>768 lbf/in</b> Max Stem Thrust Required to Close: <b>1605 lbf</b> Max Stem Thrust Required to Open: <b>806 lbf</b> Bench Set: <b>20-35 psi.g</b>						
ACCESSORIES											
Positioner: <b>Copes SIPART PS2, Single Acting</b> Positioner Input Range: <b>4-20 mA</b> Position FeedBack Module (4-20mA): <b>YES</b> Alarm Module: <b>NO</b> HART Module: <b>NO</b>  Piping: <b>1/2" Stainless Steel Tubing (Hoke)</b> Limit Switches: <b>None</b>					Airlock: <b>None</b> Filter/Regulator: <b>Norgren B64G-4GK-AD3-RMN</b> Qty: 1 Solenoid Valve: <b>ASCO (110 VDC)</b> Qty: 1 <b>De-energize to vent actuator</b> Booster Relay: <b>RK3000</b> Qty: 1 Additional Acc'y: <b>Pneumatic Isolation Valve</b> Qty: 1						
COMMENTS											
Downstream multi-orifice diffuser cartridge fitted - See Separate Data Sheet Outlet pressure shown on this datasheet are those prior to the diffuser plate  Stroking speed Opening or Closing shall be less than 10 seconds											
					04	CMN				Per customer comments	Aug-31-2007
					03	IJW				Revised For Contract Use	Jan-23-2007
					02	MW				Revised per L2 meeting	Nov-20-2006
					01	MW				Stroking speed added	Oct-25-2006
					00	MW				Original Data Sheet	Sep-15-2006
					Rev	Initials				Description	Date
Program Rev Level: <b>LIK-1-2 (WS Version)</b>											



DO NOT SCALE  
IF IN DOUBT - AS

+ OPERATIONAL SPARES  
++ COMMISSIONING SPARESMaritza East | Power Station

Stamp of Municipality of Galatovo

Stamp of EGE Control OOD (ICS)

<b>Tractor / Tractor Manufacturer</b>	<b>Partner of Main Contractor / Partner of main contractor</b>
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<b>COPES-VULCAN</b>	JURL	DRAWN	SCALE	BV
<b>SPX Process Equipment</b>	CWN	CHECKED	MATL.	JURL
	APPROVED	USED ON	DATE	JURL
		CW3700	17-04-07	J DJJ
				WSH
				* CWN

**DRAWING NO** CD32700  
 ISSUE 05

## SPX Process Equipment

LISTEN...INNOVATE...DELIVER

## RECOMMENDED SPARES LIST

CUSTOMER NAME	ALSTOM POWER CENTRALES - BELFORT	VENDOR CONTRACT N°	WH100071	DATE	21-May-07
PROJECT NAME	MARITZA EAST 1 BULGARIA	DOCUMENT N°	CW3270001-02	AFTERMARKET REF	DGE070206IRSL8
CUSTOMER PO N°	745117 P12 73077	REV STATUS	0	CONTACT	D.G EDWARDS

Qty Of Valves	2 OFF	Description	SD - Globe 10" ANSI 600
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Taq N°	Serial N°	Qty Installed Per Valve	CD Drawing N°	Drawing Item	Description	Part N°	Notes	Recommended 2 Yrs Operation
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			3,4,5,18,20,21,40	Assy Trim, Raven 10" 4T 48P Consisting Of #	C99108EAQA
1	CD32700	1	3+	Plug #	C33791-XMC
1	CD32700	1	4+	Trim Stack #	C33789-AQA
1	CD32700	1	5+	Seat #	C33790-XMA
1	CD32700	1	18+	Spirol Pin #	U20-120
2	CD32700	2	20++	Trim Gasket #	S267466Q
1	CD32700	1	21+	Trim Spacer #	C33792-XMA
2	CD32700	2	40++	Piston Ring #	S339357
1	CD32700	1	6+	Stem	STM320332504
1	CD32700	1	9++	Bonnet Gasket	S286657
1	CD32700	1	10+	Gland Washer	S373408
1	CD32700	1	16++	Gland Packing	S368493
1	See Manual	1	14,30,32,33,35,36	Actuator Spares Kit 160R-L 1" Consisting of ##	C80141-AQA
1	See Manual	1	14+	Diaphragm # #	S195964BPP
1	See Manual	1	32++	Gasket # #	S366999
1	See Manual	1	33+	U Cup Seal # # #	S357800
1	See Manual	1	35+	O Ring (Inner) # # #	S357801
1	See Manual	1	36+	O Ring (Outer) # # #	S357802
1	See Manual	1	30+	Bushing	S356093

## NOTES

## 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**