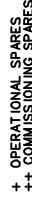
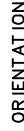
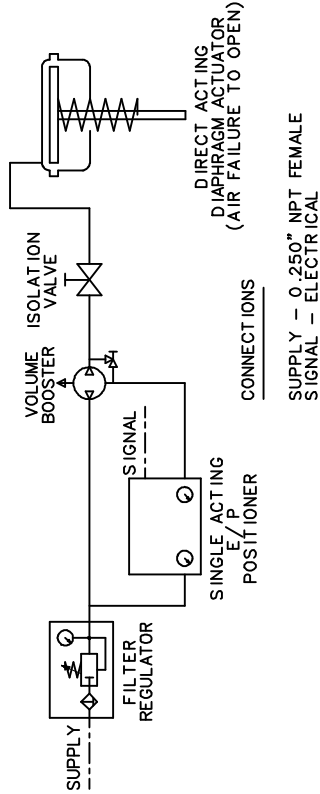


<div>COPES-VULCAN, SPX Process Equipment</div> <div>Road Two, Industrial Estate, Winsford, Cheshire. United Kingdom</div> <div>Phone: +44 (0)1606 552041 Fax: +44 (0)1606 558275</div>					<div>CONTROL VALVE</div> <div>SPECIFICATION SHEET</div>					
Customer Name: <b>ALSTOM POWER CENTRALES - BELFORT</b>					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>CW32710</b>					
Ultimate User: <b>MARITZA EAST 1 BULGARIA</b>					CV Serial#: <b>07CW32710/01-02</b>					
Tag: <b>01/02 LCJ21 AA001</b>					Item: <b>11</b>					
Application: <b>LP2 EMERGENCY DRAIN</b>					Quantity: <b>2</b>					
Description : <b>10 Inch, Class 150 STD, BW, A217 WC9, SD, CV700 160D+TMHW</b>										
FLUID: <b>Water</b> SERVICE CONDITIONS										
	FLOW t/hr	P1 bar.a	P2 bar.a	Temp deg C	Cv	Cv (%)	Travel (%)	Valve Inlet Vel. ft/sec	Noise (dBA)	Trim Exit Vel. m/sec
COND 1	88.5	0.780	0.123	85.2	217.2	85%	86%	1.64	---	5.17
COND 2	72.0	0.792	0.114	85.7	176.3	69%	70%	1.34	---	5.25
COND 3	19.2	0.415	0.038	61.2	48.49	19%	25%	0.35	---	3.92
COND 4										
COND 5										
SHUTOFF		3	1.01		Allowable Leakage:			Predicted noise level with		Insulation 0.0 Inch
DESIGN		3		125	ANSI FCI 70-2 Class IV			Insulation (IEC 60534-8-3)		
BODY AND BONNET										
Style: <b>SD-Severe Duty, Globe</b>					Bonnet Type: <b>Bolted</b>					
Size: <b>10 Inch</b>					Packing Material: <b>Grafoil</b>					
ASME Class: <b>150 Standard</b>					Packing Hardware: <b>Stainless Steel</b>					
Body Inlet: <b>Butt Weld, Sch 40 Per ANSI B16.25, Fig. 2b</b>					Options: <b>Double Packed (w/leakoff Tapped &amp; Plugged)</b>					
Body Outlet: <b>Butt Weld, Sch 40 Per ANSI B16.25, Fig. 2b</b>					Service: <b>Rarely Modulating</b>					
Material: <b>ASTM A217 WC9</b>										
Inlet Pipe: <b>10" Sch 40</b>										
Outlet Pipe: <b>10" Sch 40</b>										
TRIM										
Size: <b>8 Inch with 2 Turns</b>					Seat Type: <b>Metal</b>					
Style: <b>RAVEN (Balanced with Ucup seal)</b>					Trim Material: <b>400/70SST &amp; 300SST Disc Stack</b>					
Flow Direction: <b>UNDER THE WEB</b>					Max. Cv Available: <b>254.1 @Max Travel of 2" (+/-1/8)</b>					
Stem Diameter: <b>1.00 Inch</b>					Min. Controllable Cv of Trim: <b>1.29</b>					
Characteristic: <b>RAVEN</b>										
ACTUATOR										
Actuator Model: <b>CV700 160D+TMHW</b>					Actuator Mounting Style: <b>4 x Studded</b>					
Action: <b>Direct (Air Fail Open)</b>					Actuator Spring: <b>357572</b>					
Handwheel: <b>Top Mounted</b>					Spring Rate: <b>640 lbf/in</b>					
Frame Material: <b>Ductile Iron</b>					Max Stem Thrust Required to Close: <b>985 lbf</b>					
Air Pressure Available: <b>4.0 bar.g</b>					Max Stem Thrust Required to Open: <b>399 lbf</b>					
Air Pressure Required: <b>1.8 bar.g</b>					Bench Set: <b>6 - 15 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>None</b>					
Alarm Module: <b>NO</b>					Booster Relay: <b>RK 3000 Qty: 1</b>					
HART Module: <b>NO</b>					Additional Acc'y: <b>Pneumatic Isolation Valve Qty: 1</b>					
Piping: <b>1/2" Stainless Steel Tubing (Hoke)</b>										
Limit Switches: <b>None</b>										
COMMENTS										
Gland is Double Packed for Vacuum Service Stroking Speed Opening or Closing shall be less than 10 Seconds  Fluid is Heavily Flashing at Valve Outlet, which could cause potentially high vapor velocity in the valve outlet and downstream pipework					Condition	Remarks	Calc. Flash %	Est. Outlet Vapour Vel.		
					COND 1	FLASHING	6.20%	78887 ft/min		
					COND 2	FLASHING	6.55%	73191 ft/min		
					COND 3	FLASHING	5.69%	47634 ft/min		
					04	CMN	Revised per customer comments	Aug-31-2007		
					03	IJW	Released For Contract Use	Jan-25-2007		
					02	MW	Revised Per L2 Meeting	Nov-20-2006		
					01	MW	Resized For RAVEN	Oct-25-2006		
					00	MW	Original Data Sheet	Sep-15-2006		
					Rev	Initials	Description	Date		
Program Rev Level: <b>UK-1-2 (WS Version)</b>										

Maritza East | Power Station

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[illegible]

<b>ALSTOM</b> power Turbo Systems		Title, Serial <b>GENERAL ARRANGEMENT          DRAWING OF          01 / OF LC21 AA001</b>		Project Doc. Number <b>MTZ 12 M</b>		Unit EA 01 <b>1</b>		Unit EA 01 <b>1</b>	
Equipment reference <b>EXP 1</b>		S.O. CREATED BY NUMBER <b>1</b>		S.O. MODIFIED BY NUMBER <b>2</b>		S.O. CANCELLED BY NUMBER <b>3</b>		S.O. CANCELLED BY NUMBER <b>4</b>	
Equipment reference <b>EXP 1</b>		S.O. CREATED BY NUMBER <b>1</b>		S.O. MODIFIED BY NUMBER <b>2</b>		S.O. CANCELLED BY NUMBER <b>3</b>		S.O. CANCELLED BY NUMBER <b>4</b>	
Equipment reference <b>EXP 1</b>		S.O. CREATED BY NUMBER <b>1</b>		S.O. MODIFIED BY NUMBER <b>2</b>		S.O. CANCELLED BY NUMBER <b>3</b>		S.O. CANCELLED BY NUMBER <b>4</b>	

[illegible]

ISS	MODIFICATION	DATE
01	PER CUSTOMER COMMENTS	31-08-0
02	PER CUSTOMER COMMENTS	31-10-0

CUSTOMER NAME	ALSTOM POWER CENTRALES - BELFORT
PROJECT NAME	MARITZA EAST 1 BULGARIA
CUSTOMER TAG No	0792 LC34001
CUSTOMER TAG No	0792 LC34001
VENDOR NAME	ENGLAND COPES-VULCAN, WINSFORD
VENDOR CONTRACT No	ENGLAND COPES-VULCAN, WINSFORD
VENDOR JOB No	ENGLAND COPES-VULCAN, WINSFORD
ITEM DESCR IPT ON	LP2 EMERGENCY DRAIN

THIS DRAWING IS THE PROPERTY OF COPES-VILCOAN AND MAY NOT BE USED WITHOUT THE EXPRESS PERMISSION AND LICENCE OF COPES-VILCOAN.	DO NOT SCALE IF IN DOUBT - ASK !
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## RECOMMENDED SPARES LIST

CUSTOMER NAME	ALSTOM POWER CENTRALES - BELFORT	VENDOR CONTRACT N°	WH000071	DATE	21-May-07
PROJECT NAME	MARITZA EAST 1 BULGARIA	DOCUMENT N°	RSLCW3271001 & 02	AFTERMARKET REF	DGE070206RSL8
CUSTOMER PO N°	745117 P12 73077	REV STATUS	0	CONTACT	D.G.EDWARDS

Qty Of Valves	2 OFF	Description	Isd Globe 10" ANSI 150
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Tag N°	Serial N°	Qty Installed Per Valve	CD Drawing N°	Drawing Item	Description	Part N°	Notes	Recommended 2 Yrs Operation
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0102LCJ21AA001	CW3271001 & 02	1	CD32710	3,4,5,18,20,21,22,25,71	Assy Trim, Raven 10" 2T 64P Consisting Of #	C99108GAQA		1
0102LCJ21AA001	CW3271001 & 02	1	CD32710	3+	Plug #	C33747-XMC		1
0102LCJ21AA001	CW3271001 & 02	1	CD32710	4+	Trim Stack #	C33805-AQA		1
0102LCJ21AA001	CW3271001 & 02	1	CD32710	5+	Seat #	C32826-XMC		1
0102LCJ21AA001	CW3271001 & 02	1	CD32710	18+	Spirol Pin #	U20-122		1
0102LCJ21AA001	CW3271001 & 02	2	CD32710	20++	Trim Gasket # #	S267466Q	1	8
0102LCJ21AA001	CW3271001 & 02	1	CD32710	21+	Trim Spacer #	C33803-XMA		1
0102LCJ21AA001	CW3271001 & 02	1	CD32710	22++	Trim Gasket # #	S269587	1	4
0102LCJ21AA001	CW3271001 & 02	1	CD32710	25+	U Cup Seal #	C27727-BPP	1	4
0102LCJ21AA001	CW3271001 & 02	1	CD32710	71	Seat Adaptor Ring #	ADR3100802		
0102LCJ21AA001	CW3271001 & 02	1	CD32710	6+	Stem	STM320317502		1
0102LCJ21AA001	CW3271001 & 02	1	CD32710	9++	Bonnet Gasket	S286657	1	4
0102LCJ21AA001	CW3271001 & 02	1	CD32710	10+	Gland Washer	S373408	1	4
0102LCJ21AA001	CW3271001 & 02	1	CD32710	16++	Gland Packing	S368496	1	
0102LCJ21AA001	CW3271001 & 02	1	See Manual	5,	Actuator Spares Kit 160D Consisting of # #	C80062-AQA		1
0102LCJ21AA001	CW3271001 & 02	1	See Manual	5+	Diaphragm # #	S185990BPP		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