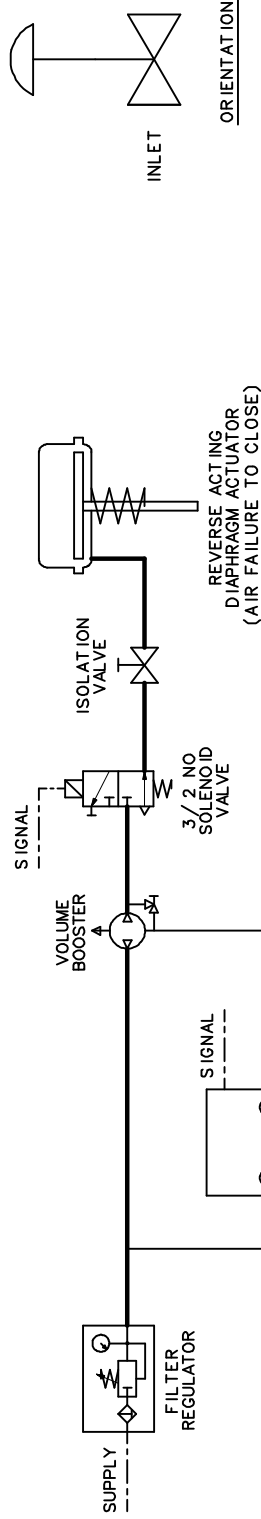
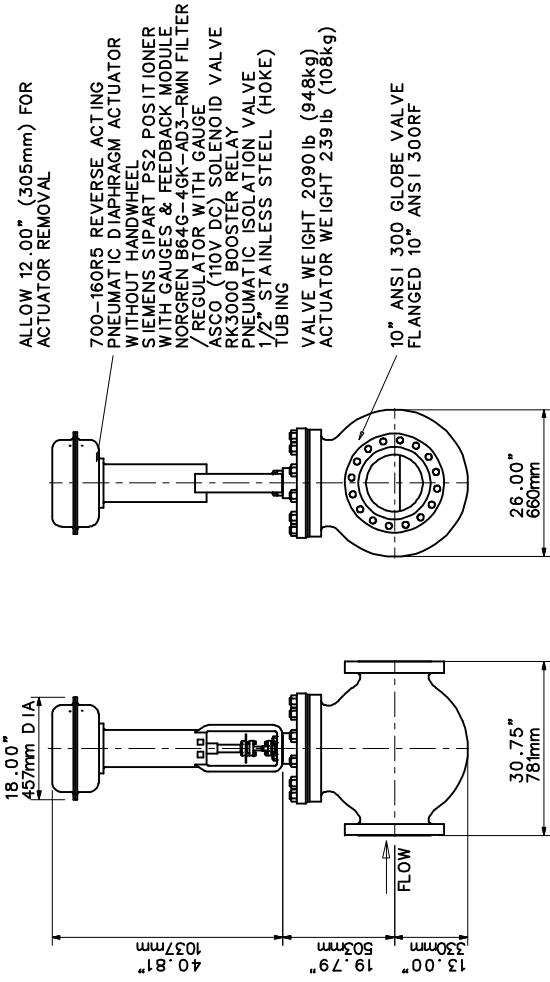
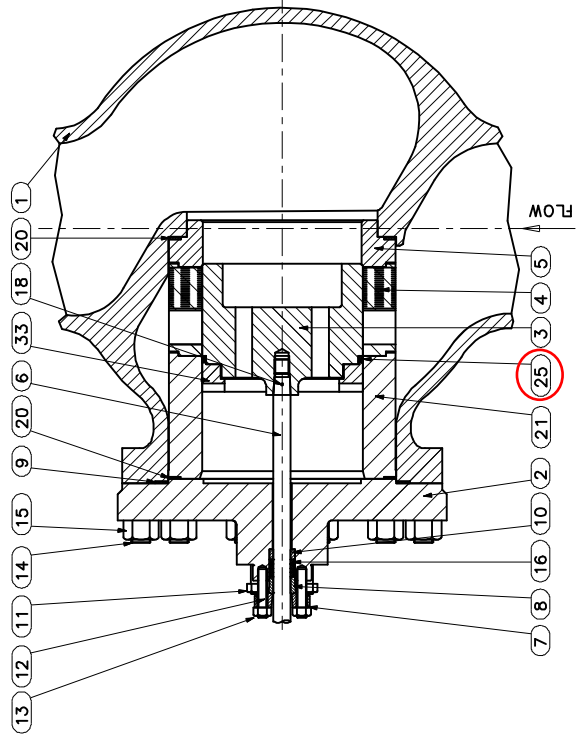


<div>COPES-VULCAN, SPX Process Equipment</div> <div>Road Two, Industrial Estate, Winsford, Cheshire. United Kingdom</div> <div>Phone: +44 (0)1606 552041 Fax: +44 (0)1606 558275</div>					<div>CONTROL VALVE</div> <div>SPECIFICATION SHEET</div>					
Customer Name: <b>ALSTOM POWER CENTRALES - BELFORT</b>					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>CW32717</b>					
Ultimate User: <b>MARITZA EAST 1 BULGARIA</b>					CV Serial#: <b>07CW32717/01-02</b>					
Tag: <b>01/02 LCA30AA001</b>					Item: <b>18</b>					
Application: <b>CONDENSER LEVEL CONTROL VALVE</b>					Quantity: <b>2</b>					
Description : <b>10 Inch, Class 300 STD, FLG, A216 WCB, SD, CV700 160-5R</b>										
FLUID: <b>Water</b>		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	920	21.3	19.8	52.3	977.3	85%	86%	17	<75	14.15
COND 2	694	25.6	16.1	37.4	292.0	26%	47%	13	<75	14.20
COND 3	245	29.7	5.6	24.6	64.58	6%	13%	4	<75	22.62
COND 4										
COND 5										
SHUTOFF		36	1.01		Allowable Leakage:			Predicted noise level with		Insulation 0.0 Inch
DESIGN		36		80	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>300 Standard</b>					Packing Hardware: <b>Stainless Steel</b>					
Body Inlet: <b>Flanged, Raised Face Per ANSI B16.25</b>					Options: <b>Single Packed</b>					
Body Outlet: <b>Flanged, Raised Face Per ANSI B16.25</b>					Service: <b>Continuous Modulation</b>					
Material: <b>ASTM A216 WCB</b>										
Inlet Pipe: <b>12" Sch 40</b>										
Outlet Pipe: <b>12" Sch 40</b>										
TRIM										
Size: <b>10 Inch with 4 Turns and 8 Ports</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>OVER the web</b>					Max. Cv Available: <b>1144.3 @Max Travel of 5" (+/-1/8)</b>					
Stem Diameter: <b>1.00 Inch</b>					Min. Controllable Cv of Trim: <b>3.49</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>364494</b>					
Handwheel: <b>None</b>					Spring Rate: <b>987 lbf/in</b>					
Frame Material: <b>Ductile Iron</b>					Max Stem Thrust Required to Close: <b>1529 lbf</b>					
Air Pressure Available: <b>4.0 bar.g</b>					Max Stem Thrust Required to Open: <b>634 lbf</b>					
Air Pressure Required: <b>3.4 bar.g</b>					Bench Set: <b>9 - 40 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>					<b>De-energise to Vent Actuator</b>					
HART Module: <b>NO</b>					Booster Relay: <b>RK3000 Qty: 1</b>					
Piping: <b>1/2" Stainless Steel Tubing (Hoke)</b>					Additional Acc'y: <b>Pneumatic Isolation Valve Qty: 1</b>					
Limit Switches: <b>None</b>										
COMMENTS										
Solenoid Tag No - 01/02LCA30AA001 A										
Stroke Time Opening or Closing Shall be Less Than 20 Seconds										
Minimum of 4 Stages of Pressure Reduction Required for Cavitation Elimination at Condition 2 & 3										
				03	IJW	Revised For Contract Use			Jan-25-2007	
				02	MW	Revised Per L2 Meeting			Nov-20-2006	
				01	MW	Stroking Speed & Trim Exit Velocity Added			Oct-26-2006	
				00	MW	Original Data Sheet			Aug-31-2006	
				Rev	Initials	Description			Date	
Program Rev Level: <b>UK-1-2 (WS Version)</b>										

[illegible]

## 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°	RSUCW3271701 & 02	AFTERMARKET REF	DGE070206/RSLS
CUSTOMER PO N°	745117 P12 73077	REV STATUS	0	CONTACT	D.G.EDWARDS

Qty Of Valves	2 OFF	Description	SD Globe 10" ANSI 300
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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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0102LCA30AA001	CW3271701 & 02	1	CD32717	3,4,5,18,20,21,25,51,	Assy Trim, Raven 10" 4T 60P Consisting Of #	C99108JQAQ		1
0102LCA30AA001	CW3271701 & 02	1	CD32717	3, 25, 51	Plug Assembly # - Consisting Of ###	C33817-AQA		1
0102LCA30AA001	CW3271701 & 02	1	CD32717	3+	Plug ###	C33816XMC		1
0102LCA30AA001	CW3271701 & 02	1	CD32717	25+	U Cup Seal ###	C31570-BPP	1	4
0102LCA30AA001	CW3271701 & 02	1	CD32717	51+	Retaining Ring ###	C31568-XMC		1
0102LCA30AA001	CW3271701 & 02	1	CD32717	4+	Trim Stack #	C33814-AQA		1
0102LCA30AA001	CW3271701 & 02	1	CD32717	5+	Seat #	C33060-XMC		1
0102LCA30AA001	CW3271701 & 02	1	CD32717	18+	Spirol Pin #	U20-124		1
0102LCA30AA001	CW3271701 & 02	2	CD32717	20++	Trim Gasket #	S267466Q	1	8
0102LCA30AA001	CW3271701 & 02	1	CD32717	21+	Trim Spacer #	C33815-XMA		1
0102LCA30AA001	CW3271701 & 02	1	CD32717	6+	Stem	STM320320502		1
0102LCA30AA001	CW3271701 & 02	1	CD32717	9++	Bonnet Gasket	S286657	1	4
0102LCA30AA001	CW3271701 & 02	1	CD32717	10++	Gland Washer	S373408		1
0102LCA30AA001	CW3271701 & 02	1	CD32717	16++	Gland Packing	S368493	1	4
0102LCA30AA001	CW3271701 & 02	1	See Manual	14,30,32,33,35,36	Actuator Spares Kit 160R-L 1" Consisting of ###	C80141-AQA		1
0102LCA30AA001	CW3271701 & 02	1	See Manual	14+	Diaphragm # #	S195964BPP		1
0102LCA30AA001	CW3271701 & 02	1	See Manual	32++	Gasket # #	S356999		1
0102LCA30AA001	CW3271701 & 02	1	See Manual	33+	U Cup Seal # #	S357800		1
0102LCA30AA001	CW3271701 & 02	1	See Manual	35+	O Ring (Inner) # #	S357801		1
0102LCA30AA001	CW3271701 & 02	1	See Manual	36+	O Ring (Outer) # #	S357802		1
0102LCA30AA001	CW3271701 & 02	1	See Manual	30+	Bushing	S356093		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