

<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>CW32720</b>					
Ultimate User: <b>MARITZA EAST 1 BULGARIA</b>					CV Serial#: <b>07CW32720/01-02</b>					
Tag: <b>01/02 LCA35 AA001</b>					Item: <b>21</b>					
Application: <b>CONDENSER SURPLUS CONTROL VALVE</b>					Quantity: <b>2</b>					
Description : 4 Inch, Class 300 STD, FLG, A216 WCB, GS, CV700 160R										
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	140	18.2	1.5	37.4	40.3	76%	75%	15.8	<75	14.74
COND 2	140	29.2	1.5	24.7	31.2	59%	62%	15.8	<75	18.99
COND 3										
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>GS - General Service, Globe</b>					Bonnet Type: <b>Bolted</b>					
Size: <b>4 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>6" Sch 40</b>										
Outlet Pipe: <b>6" Sch 40</b>										
TRIM										
Size: <b>4 Inch with 6 Turns</b>					Seat Type: <b>Metal</b>					
Style: <b>RAVEN (Balanced with Ucup seal)</b>					Trim Material: <b>400/70 SST &amp; 300SST Disc Stack</b>					
Flow Direction: <b>OVER THE WEB</b>					Max. Cv Available: <b>52.8 @Max Travel of 2" (+/-1/8)</b>					
Stem Diameter: <b>0.75 Inch</b>					Min. Controllable Cv of Trim: <b>0.51</b>					
Characteristic: <b>RAVEN</b>										
ACTUATOR										
Actuator Model: <b>CV700 160R</b>					Actuator Mounting Style: <b>Screwed ring</b>					
Action: <b>Reverse (Air Fail Closed)</b>					Actuator Spring: <b>357575</b>					
Handwheel: <b>None</b>					Spring Rate: <b>640 lbf/in</b>					
Frame Material: <b>Ductile Iron</b>					Max Stem Thrust Required to Close: <b>549 lbf</b>					
Air Pressure Available: <b>4.0 bar.g</b>					Max Stem Thrust Required to Open: <b>266 lbf</b>					
Air Pressure Required: <b>1.5 bar.g</b>					Bench Set: <b>7 - 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>Bellofram 51FR c/w gauge</b> Qty: 1					
Position FeedBack Module (4-20mA): <b>YES</b>					Solenoid Valve: <b>None</b>					
Alarm Module: <b>NO</b>					Booster Relay: <b>RK1000</b> Qty: 1					
HART Module: <b>NO</b>					Additional Acc'y: <b>Pneumatic Isolation Valve</b> Qty: 1					
Piping: <b>3/8" Stainless Steel Tubing (Hoke)</b>										
Limit Switches: <b>None</b>										
COMMENTS										
Stroking Speed Opening or Closing Shall be Less than 15 seconds										
	04	CMN	Request by customer to reduce stroking speed from 20 seconds. Advised additional accessories may be required					Aug-31-2007		
	03	IJW	Revised For Contract Use					Jan-26-2007		
	02	MW	Revised For L2 Meeting					Nov-20-2006		
	01	MW	Stroking Speed & Trim Exit Velocity Added					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>										



## RECOMMENDED SPARES LIST

CUSTOMER NAME	ALSTOM POWER CENTRALES - BELFORT	VENDOR CONTRACT N°	WH00071	DATE	21-May-07
PROJECT NAME	MARITZA EAST 1 BULGARIA	DOCUMENT N°	RSL/CW3272001 & 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	GS Globe 4" 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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01/02/LCA35AA001	CW3272001 & 02	1	CD32720	3,4,5,18,20,21,25,33,39	Assy Trim, Raven 4" 6T 20P Consisting Of #	C89105KAQA		1
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	3+	Plug #	C33830-XMC		1
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	4+	Trim Slack #	C33833-AQA		1
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	5+	Seat#	C33831-XMC		1
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	18+	Spirol Pin #	U20-120		1
01/02/LCA35AA001	CW3272001 & 02	2	CD32720	20++	Trim Gasket #	S325432	1	8
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	21+	Trim Spacer #	C33834-XMC		1
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	25++	U Cup Seal #	VAS030101	1	4
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	33+	Seal Retainer #	RET3030101	1	1
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	39++	Retaining Ring #	S342268	1	4
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	6+	Stem	STM310216002	1	1
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	9++	Bonnet Gasket	S342796	1	4
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	10++	Gland Washer	S373407	1	4
01/02/LCA35AA001	CW3272001 & 02	1	CD32720	16++	Gland Packing	S368489	1	4
01/02/LCA35AA001	CW3272001 & 02	1	See Manual	14,32,33,35,36	Actuator Spares Kit 160R 3/4" Consisting of ##	C80138-AQA	1	1
01/02/LCA35AA001	CW3272001 & 02	1	See Manual	14+	Diaphragm # ##	S185950BPP	1	1
01/02/LCA35AA001	CW3272001 & 02	1	See Manual	32++	Gasket # ##	S356999	1	1
01/02/LCA35AA001	CW3272001 & 02	1	See Manual	33+	U Cup Seal # ##	S357800	1	1
01/02/LCA35AA001	CW3272001 & 02	1	See Manual	35+	O Ring (Inner) # ##	S357801	1	1
01/02/LCA35AA001	CW3272001 & 02	1	See Manual	36+	O Ring (Outer) # ##	S357802	1	1
01/02/LCA35AA001	CW3272001 & 02	1	See Manual	30+	Bushing	S356093	1	1

### 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