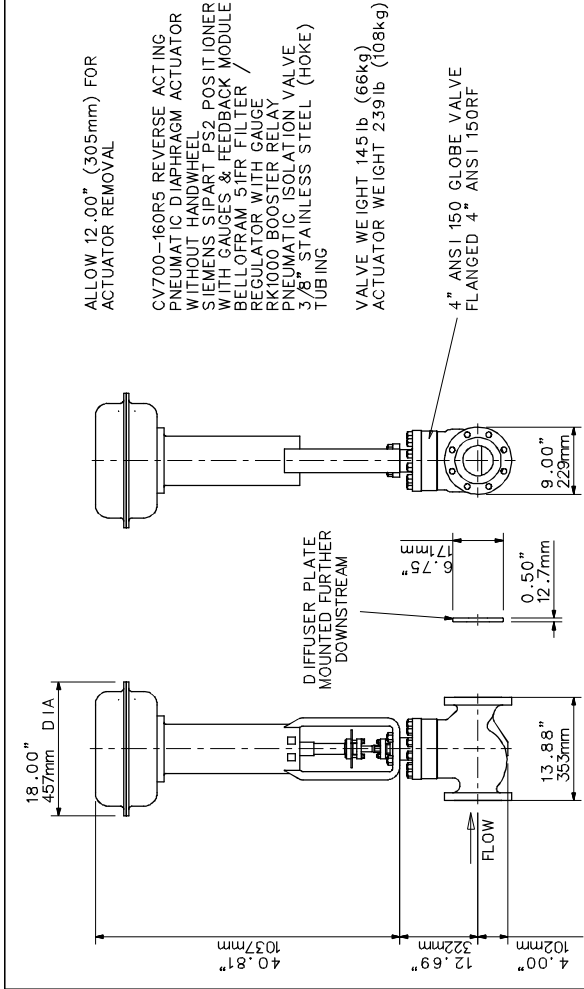
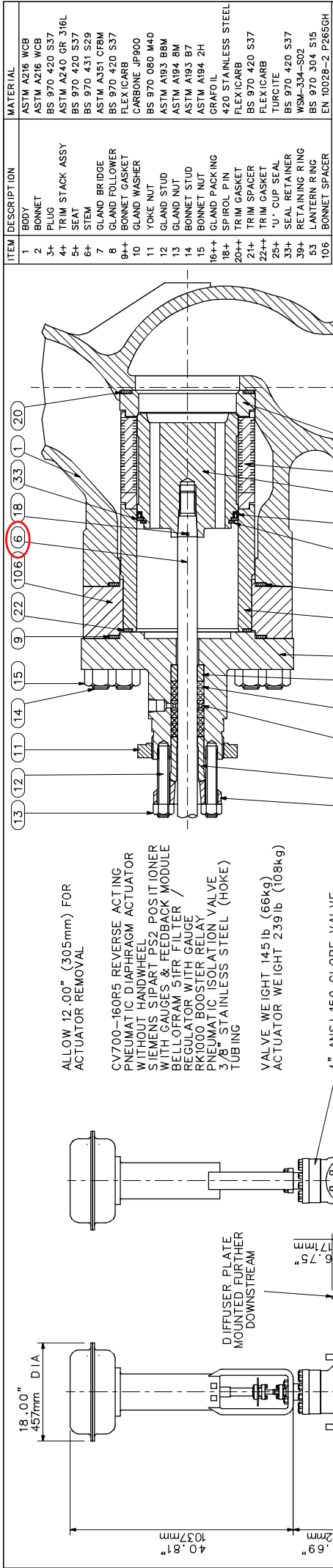
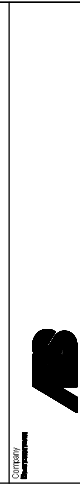


<b>COPES-VULCAN, SPX Process Equipment</b> Road Two, Industrial Estate, Winsford, Cheshire. United Kingdom Phone: +44 (0)1606 552041 Fax: +44 (0)1606 558275					<b>CONTROL VALVE SPECIFICATION SHEET</b>					
Customer Name: <b>ALSTOM POWER CENTRALES - BELFORT</b> Customer Inquiry: <b>EMAIL</b> Customer PO: <b>745117-P12-73077</b> Ultimate User: <b>MARITZA EAST 1 BULGARIA</b> Tag: <b>01/02 LCP30 AA001</b> Application: <b>FWT LEVEL CONTROL VALVE</b>					CV Inquiry: <b>DMS/060909/PM1</b> CV Job: <b>WH/00071</b> CV Job Ref: <b>CW32721</b> CV Serial#: <b>07CW32721/01-02</b> Item: <b>22</b> Quantity: <b>2</b>					
Description : 4 Inch, Class 150 STD, FLG, A216 WCB, GS, CV700 160-5R										
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	80	1.3	0.3	70	143.7	88%	82%	9.2	<75	4.51
COND 2	70	4.6	0.3	70	44.9	28%	28%	8.0	<75	12.63
COND 3										
COND 4										
COND 5										
SHUTOFF		7	1.01		Allowable Leakage:			Predicted noise level with		Insulation 0.0 Inch
DESIGN		7		80	ANSI FCI 70-2 Class IV			Insulation (IEC 60534-8-3)		
BODY AND BONNET										
Style: <b>GS - General Service, Globe</b> Size: <b>4 Inch</b> ASME Class: <b>150 Standard</b> Body Inlet: <b>Flanged, Raised Face Per ANSI B16.25</b> Body Outlet: <b>Flanged, Raised Face Per ANSI B16.25</b> Material: <b>ASTM A216 WCB</b> Inlet Pipe: <b>4" Sch 40</b> Outlet Pipe: <b>4" Sch 40</b>					Bonnet Type: <b>Bolted with Bonnet Spacer</b> Packing Material: <b>Grafoil</b> Packing Hardware: <b>Stainless Steel</b> Options: <b>Double Packed (w/leakoff Tapped &amp; Plugged)</b> Service: <b>Continuous Modulation</b>					
TRIM										
Size: <b>4 Inch with 2 Turns</b> Style: <b>RAVEN (Balanced with Ucup seal)</b> Flow Direction: <b>UNDER THE WEB</b> Stem Diameter: <b>0.75 Inch</b> Characteristic: <b>RAVEN</b>					Seat Type: <b>Metal</b> Trim Material: <b>410/420 &amp; 300SST Disc Stack</b> Max. Cv Available: <b>163.1 @Max Travel of 3.5" (+/-1/8)</b> Min. Controllable Cv of Trim: <b>3.61</b>					
ACTUATOR										
Actuator Model: <b>CV700 160-5R</b>  Action: <b>Reverse (Air Fail Closed)</b> Handwheel: <b>None</b> Frame Material: <b>Ductile Iron</b> Air Pressure Available: <b>5.0 bar.g</b> Air Pressure Required: <b>1.4 bar.g</b>					Actuator Mounting Style: <b>4 x Studded</b> Actuator Spring: <b>357579</b> Spring Rate: <b>384 lbf/in</b> Max Stem Thrust Required to Close: <b>422 lbf</b> Max Stem Thrust Required to Open: <b>134 lbf</b> Bench Set: <b>7 - 15 psi.g</b>					
ACCESSORIES										
Positioner: <b>Siemens 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>3/8" Stainless Steel Tubing (Hoke)</b> Limit Switches: <b>None</b>					Airlock: <b>None</b> Filter/Regulator: <b>Bellofram 51FR c/w gauge Qty: 1</b> Solenoid Valve: <b>None</b> Booster Relay: <b>RK1000 Qty: 1</b> Additional Acc'y: <b>Pneumatic Isolation Valve Qty: 1</b>					
COMMENTS										
Downstream Orifice Plate Sized at 145CV (approx 63.5mm Bore) to provide a small back pressure onto the Valve The Orifice Plate will impart the following pressure drops: COND 1: 0.5 bar, COND 2: 0.38 Bar. If the Pressure Drops are Increased above these values then cavitation will occur at the orifice plate. THE PRESSURES SHOWN ON THE DATA SHEET ARE THOSE BEFORE THE ORIFICE PLATE. Orifice Plate Tag Number: 01/02 LCP30 BP001 shall be stamped on the outside edge Orifice Plate manufactured from 420SST Nitrided and designed to Fit between 4" ANSI 150 RF Flanges Gland is Double Packed for Vacuum Service Stroking Time Opening or Closing shall be Less than 20 Seconds										
				04	IJW	Pressure Conditions Modified			Oct-30-2007	
				03	IJW	Revised For Contract Use			Jan-26-2007	
				02	MWV	Revised Per L2 Meeting			Nov-20-2006	
				01	MWV	Stroking Speed & Trim Exit Velocity Added			Oct-25-2006	
				00	MWV	Original Data Sheet			Sep-15-2006	
				Rev	Initials	Description			Date	
Program Rev Level: <b>UK-1-2 (WS Version)</b>										



3	15-01-08	CMN	CMN	CMN	
2	31-10-07	DJ	CMN	CMN	
1	02-06-07	JRL	CMN	CMN	
0	21-04-07	JRL	CMN	CMN	FOR REVIEW
FR		Checked by	Approved by	Exception	STATUS

Maritza East I Power Station



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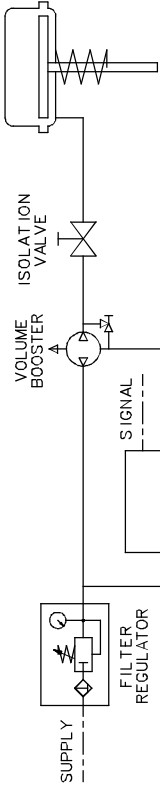
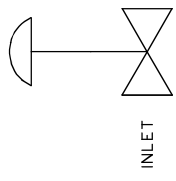
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ORIENTATION

CONNECTIONS

SUPPLY - 0.250" NPT FEMALE  
SIGNAL - ELECTRICAL

THIS DRAWING IS THE PROPERTY OF COPES-VULCAN AND MAY NOT BE USED WITHOUT THE EXPRESS PERMISSION AND LICENCE OF COPES-VULCAN.		CUSTOMER NAME PROJECT NAME CUSTOMER PO No CUSTOMER POG No VENDOR NAME VENDOR CONTRACT No ITEM DESCRIPTION		ISS 01 02 03 04		ALSTOM POWER CENTRALES - BELFORT MARITZA EAST 1 BULGAR IA 44517-P02-7307-001 COPES-VULCAN, WINSFORD ENGLAND WH700071 FWT LEVEL CONTROL VALVE		DATE 26-04-07 03-09-07 31-10-07 15-01-08		MODIFICATION SUTLINE OF DIFFUSER PER CUSTOMER COMMENTS PER CUSTOMER COMMENTS WAS 10.49"		BY JRL JRL JRL CMN		SCALE DRAWN CHECKED APPROVED TRACED		JRL CMN CMN CMN		COPES-VULCAN SPX Process Equipment		DRAWING NO CD32721		ISSUE 04	
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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/CW32721/01 & 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 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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01/02LCP30AA001	CW32721/01 & 02	1	CD32721	3, 4, 5, 18, 20, 21, 22, 25, 33, 39	Assy Trim, Raven 4" 2T 38P Consisting Of #	C89105LAQA		1
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	3+	Plug #	C33812-XMC		1
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	4+	Trim Slack #	C33810-AQA		1
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	5+	Seat#	SRG30410403		1
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	18+	Spirol Pin #	U20-119		1
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	20++	Trim Gasket #	S325432	1	4
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	21	Trim Spacer #	C33811-XMC		1
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	22++	Trim Gasket #	S196093-BPP	1	4
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	25++	U Cup Seal #	VAS040101	1	4
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	33+	Seal Retainer #	RET3040104		1
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	39++	Retaining Ring #	S342267	1	4
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	6+	Stem	STM310219002		1
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	9++	Bonnet Gasket	S342796	1	4
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	10+	Gland Washer	S373407		1
01/02LCP30AA001	CW32721/01 & 02	1	CD32721	16++	Gland Packing	S368491	1	4
01/02LCP30AA001	CW32721/01 & 02	1	See Manual	14, 32, 33, 35, 36	Actuator Spares Kit 160R 3/4" Consisting of ##	C80141-AQA		1
01/02LCP30AA001	CW32721/01 & 02	1	See Manual	14+	Diaphragm #	S196964BPP		1
01/02LCP30AA001	CW32721/01 & 02	1	See Manual	32++	Gasket #	S356999		1
01/02LCP30AA001	CW32721/01 & 02	1	See Manual	33+	U Cup Seal #	S357800		1
01/02LCP30AA001	CW32721/01 & 02	1	See Manual	35+	O Ring (Inner) #	S357801		1
01/02LCP30AA001	CW32721/01 & 02	1	See Manual	36+	O Ring (Outer) #	S357802		1
01/02LCP30AA001	CW32721/01 & 02	1	See Manual	30+	Bushing	S356093		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