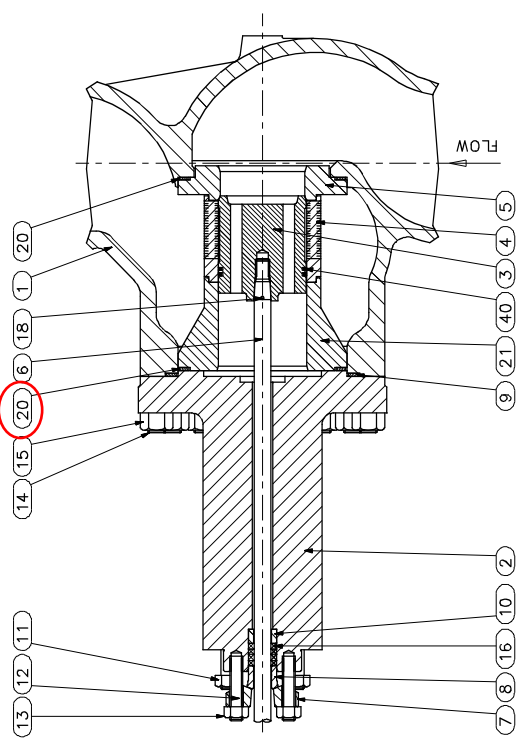
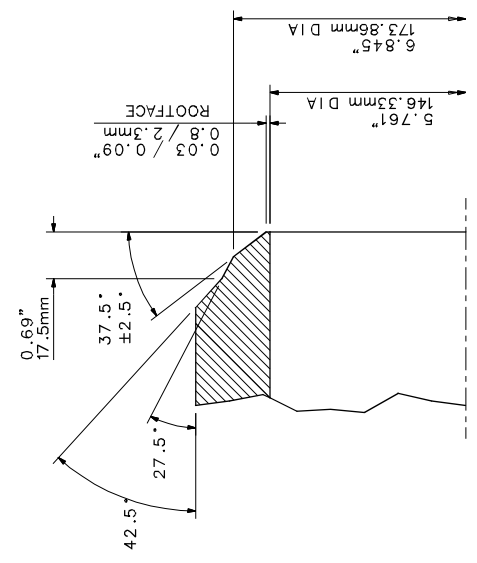
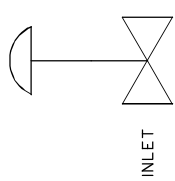


<b>COPES-VULCAN, SPX Process Equipment</b> Road Two, Industrial Estate, Winsford, Cheshire. United Kingdom Phone: +44 (0)1606 552041      Fax: +44 (0)1606 558275					<b>CONTROL VALVE SPECIFICATION SHEET</b>					
Customer Name: <b>ALSTOM POWER CENTRALES - BELFORT</b> Customer Inquiry: <b>EMAIL</b> Customer PO: <b>745117 P12 73077</b> Ultimate User: <b>MARITZA EAST 1 BULGARIA</b> Tag: <b>01/02 LBC20 AA021</b> Application: <b>NORMAL CONTROL VALVE</b>					CV Inquiry: <b>DMS/060909/PM1</b> CV Job: <b>WH/00071</b> CV Job Ref: <b>CW32708</b> CV Serial#: <b>07CW32708/01-02</b> Item: <b>09</b> Quantity: <b>2</b>					
Description : <b>6 Inch, Class 600 STD, BW, A217 WC9, GS, CV700 160R</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)	Velocity Head bar.a
COND 1	39.8	38.9	15.000	334.0	99.9	81%	83%	20726	87	3.87
COND 2	1.1	39.3	15.000	334.0	2.73	2%	8%	572	<70	3.96
COND 3										
COND 4										
COND 5										
SHUTOFF		54	1.01		Allowable Leakage:			Predicted noise level with Insulation (IEC 60534-8-3)		Insulation
DESIGN		54		500	ANSI FCI 70-2      Class IV					3.0 Inch
BODY AND BONNET										
Style: <b>GS - General Service, Globe</b> Size: <b>6 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 80 Per ANSI B16.25, Fig. 2b</b> Material: <b>ASTM A217 WC9</b> Inlet Pipe: <b>6" x      8mm WT</b> Outlet Pipe: <b>6" x      8mm WT</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>					
TRIM										
Size: <b>4 Inch with 4 Turns</b> Style: <b>RAVEN (Balanced with Piston rings)</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>400/70 SST &amp; 300SST Disc Stack</b> Max. Cv Available: <b>122.7 @Max Travel of 2.75" (+/-1/8)</b> Min. Controllable Cv of Trim: <b>3.00</b>					
ACTUATOR										
Actuator Model: <b>CV700 160R</b>  Action: <b>Reverse      (Air Fail Closed)</b> Handwheel: <b>None</b> Frame Material: <b>Ductile Iron</b> Air Pressure Available: <b>4.0      bar.g</b> Air Pressure Required: <b>1.8      bar.g</b>					Actuator Mounting Style: <b>4 x Studded</b> Actuator Spring: <b>357575</b> Spring Rate: <b>640      lbf/in</b> Max Stem Thrust Required to Close: <b>883      lbf</b> Max Stem Thrust Required to Open: <b>470      lbf</b> Bench Set: <b>6 - 17      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>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 (110V DC)</b> Qty: 1 <b>De-Energise to Vent Actuator</b> Booster Relay: <b>RK 3000</b> Qty: 1 Additional Acc'y: <b>Pneumatic Isolation Valve</b>					
COMMENTS										
Solenoid Tag Number 01/02 LBC20AA021 A Stroking Speed Opening or Closing shall be less than 10 Seconds										
					06	CMN	Tag Number Change		Oct-31-2007	
					05	JRL	Per customer comments		Aug-30-2007	
					04	JRL	Tag Number Change		Aug-23-2007	
					03	IJW	Released For Contract Use		Jan-24-2007	
					02	MW	Revised For L2 Meeting		Nov-20-2006	
					01	MW	Revised For RAVEN Trim		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>										



ITEM	DESCRIPTION	WATER TAIL
1	BODY	ASTM A217 WC9
2	BONNET	ASTM A217 WC9
3+	PLUG	BS 970 420 S37
4+	TRIM STACK ASSY	ASTM A240 GR 316L
5+	SEAT	BS 970 420 S37
6+	STEM	ASTM A217 WC9
7	GLAND BRIDGE	ASTM A351 CF8M
8	GLAND FOLLOWER	BS 970 420 S37
9++	BONNET GASKET	FLEXICARB
10++	GLAND WASHER	CARBON JP900
11	ACTUATOR BOLT NG	ASTM A193 B8M
12	GLAND STUD	ASTM A193 B8M
13	GLAND NUT	ASTM A194 8M
14	BONNET STUD	ASTM A193 B16
15	BONNET NUT	ASTM A194 4
16++	GLAND PACKING	GRAFOIL
18+	SPIROL P IN	420 STAINLESS STEEL
20++	TRIM GASKET	FLEXICARB
21+	TRIM SPACER	BS 970 420 S37
40+	PISTON RING	CARBON JP900

RECOMMENDED SPARES

5	21-12-07	SJH	CWN	CWN	
4	20-05-07	CWN	CWN	CWN	
3	31-10-07	DJ	CWN	CWN	
2	18-10-07	DJ	JRL	CWN	
1	31-08-07	JRL	CWN	CWN	
0	18-04-07	JRL	JRL	CWN	
Created by			Checked by	Approved by	
Revision Date			Description		
FOR REVIEW			FR		
			Status		

Mar itza East | Power Station



Space for stamp of Municipality of Galakovo Место на штамп на Община Галаково	Space for further stamps Место на допълнителни щампи
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Area for stamp of EQE Control OOD (ICS)  
 Show on every HA EQE Control OOD (Hess, Haysop)

Main Contractor / <b>Постройщик</b>	Partner of Main Contractor / <b>Партнер по созданию недвижимости</b>
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[illegible]

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THIS DRAWING IS THE PROPERTY OF COPES-VULCAN AND MAY NOT BE USED WITHOUT THE EXPRESS PERMISSION AND LICENCE OF COPES-VULCAN.	GENERAL ARRANGEMENT DRAWING OF 6" ANSI 1 600 GLOBE VALVE WITH RAVEN TRIM & CV700-160R REVERSE ACTING PNEUMATIC DIAPHRAGM ACTUATOR WITHOUT HANDWHEEL	CUSTOMER NAME PROJECT NAME CUSTOMER PO No CUSTOMER TAG No VENDOR NAME VENDOR CONTRACT No VENDOR JOB No ITEM DESCRIPTION	ALSTOM POWER CENTRALES – BELFORT A EAST 1 BULLGAR IA 745117 P12 73077 01/02 LB020 AAO21 COPES-VULCAN, WINSPORD WH/00071 No CW32708 NORMAL CONTROL VALVE	ISS	MODIFICATION	DATE	BY	SCALE	JURL	EDRAWN	JURL	
				01	PER CUSTOMER COMMENTS	31-08-07						
				02	HOOK-UP MODIFIED	18-09-07	DJ					
				03	PER CUSTOMER COMMENTS	31-10-07	DJ					
				04	21.43" WAS 12.28"	20-02-07	CNN					
DO NOT SCALE IF IN DOUBT – ASK!				05	TAG NUMBER CORRECTED	21-02-07	SJH					
				DRAWING NO CD32708							05	
										PROCESS Equipment		
										COPES-VULCAN		

## 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°	RSJCW32708/01 & 02	AFTERMARKET REF	DGE070206/RSL8
CUSTOMER PO N°	745117 P12 73077	REV STATUS	0	CONTACT	D.G.EDWARDS

Qty Of Valves	2 OFF	Description	GS Globe 6" ANSI 600
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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
0102LBC20AA021	CW32708/01 & 02	1	CD32708	3,4,5,18,20,21,40	Assy Trim, Raven 6" 4T 40P Consisting Of #	C99106TAQA		1
0102LBC20AA021	CW32708/01 & 02	1	CD32708	3+	Plug #	PLG04020203		1
0102LBC20AA021	CW32708/01 & 02	1	CD32708	4+	Trim Stack #	C33846-AQA		1
0102LBC20AA021	CW32708/01 & 02	1	CD32708	5+	Seat #	C33844-XMC		1
0102LBC20AA021	CW32708/01 & 02	1	CD32708	18+	Spirol Pin #	U20-120		1
0102LBC20AA021	CW32708/01 & 02	2	CD32708	20++	Trim Gasket #	S269031		8
0102LBC20AA021	CW32708/01 & 02	1	CD32708	21+	Trim Spacer #	C33847-XMC		8
0102LBC20AA021	CW32708/01 & 02	2	CD32708	40++	Piston Ring #	S347749	1	1
0102LBC20AA021	CW32708/01 & 02	1	CD32708	6+	Stem	STM310225001	1	1
0102LBC20AA021	CW32708/01 & 02	1	CD32708	9++	Bonnet Gasket	S282694	1	4
0102LBC20AA021	CW32708/01 & 02	1	CD32708	10++	Gland Washer	S373407	1	1
0102LBC20AA021	CW32708/01 & 02	1	CD32708	16++	Gland Packing	S368489	1	4
0102LBC20AA021	CW32708/01 & 02	1	See Manual	14,32,33,35,36	Actuator Spares Kit 160R 3/4" Consisting of ###	C80138-AQA	1	1
0102LBC20AA021	CW32708/01 & 02	1	See Manual	14+	Diaphragm # # #	S185990BPP	1	1
0102LBC20AA021	CW32708/01 & 02	1	See Manual	32++	Gasket # # #	S356999	1	1
0102LBC20AA021	CW32708/01 & 02	1	See Manual	33+	U Cup Seal # #	S357800	1	1
0102LBC20AA021	CW32708/01 & 02	1	See Manual	35+	O Ring (Inner) # # #	S357801	1	1
0102LBC20AA021	CW32708/01 & 02	1	See Manual	36+	O Ring (Outer) # # #	S357802	1	1
0102LBC20AA021	CW32708/01 & 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