

RECOMMENDED SPARES LIST

CUSTOMER NAME	ALSTOM POWER GENERATION AG	VENDOR CONTRACT N°	WG00799	DATE	04-Jun-07
PROJECT NAME	MARTIZA EAST 1, BULGARIA	DOCUMENT N°	RSL CW32609/01	AFTERMARKET REF	WB/070111/RSL3
CUSTOMER PO N°	D61-450057376	REV STATUS	0	CONTACT	W. BAKER

Qty OT Valves	1	Description	GLOBE 1" 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	Delivery	Unit Price	Total Ex-Works
01MAW15AA011	CW32609/01	1	CD32609	3,4.5	Assy Trim, 1" U 1 CAS Consisting of #	TRM501890610402		1	8 weeks	€ 1,342.50	€ 1,342.50
01MAW15AA011	CW32609/01	1	CD32609	3+	Plug #	PLG389020802	③	1	8 weeks	€ 412.50	
01MAW15AA011	CW32609/01	1	CD32609	4+	Cage #	CAG30105060402		1	8 weeks	€ 637.50	
01MAW15AA011	CW32609/01	1	CD32609	5+	Seat #	SRG30158902	③	1	8 weeks	€ 292.50	
01MAW15AA011	CW32609/01	1	CD32609	6+	Stem	STM340243002		1	8 weeks	€ 262.50	€ 262.50
01MAW15AA011	CW32609/01	1	CD32609	9++	Bonnet Gasket	286649	①	2	8 weeks	€ 22.50	€ 45.00
01MAW15AA011	CW32609/01	1	CD32609	10++	Gland Washer	373407		2	8 weeks	€ 75.00	€ 150.00
01MAW15AA011	CW32609/01	1	CD32609	16++	Gland Packing	368489	①	2	8 weeks	€ 82.50	€ 165.00
01MAW15AA011	CW32609/01	1	CD32609	18+	Spirol Pin #	U20-119		1	8 weeks	€ 3.00	€ 3.00
01MAW15AA011	CW32609/01	1	CD32609	20++	Trim Gasket Consisting Of # #	GSK5018902061	①	2	8 weeks	€ 37.50	€ 75.00
01MAW15AA011	CW32609/01	1	CD32609	20++	Trim Gasket # #	286709	①	2	8 weeks	€ 37.50	
01MAW15AA011	CW32609/01	1	REFER TO MANUAL	14+	Actuator Spares Kit 60D Consisting of # #	C80130-AQA		1	8 weeks	€ 172.50	€ 172.50
01MAW15AA011	CW32609/01	1	REFER TO MANUAL	14+	Diaphragm # # #	185988BPP		1	8 weeks	€ 172.50	
01MAW15AA011	CW32609/01	1	REFER TO MANUAL	A2+	Actuator Gasket	078688BPP		1	8 weeks	€ 15.00	€ 15.00
01MAW15AA011	CW32609/01	1	REFER TO MANUAL	A6+	Actuator U Cup Seal	289037		1	8 weeks	€ 15.00	€ 15.00
Total Ex-Works Value Sheet											€ 2,245.50
Packing											See Summary Sheet
Carriage CPT Job Site Galabovo Romania											See Summary Sheet
Total Price Packed and Delivered CPT Job Site Galabovo Romania											€ 2,245.50

For And On Behalf Of SPX Flow Control

Compiled By Mr D.G.Edwards  
Title/Position Aftermarket Manager  
Date

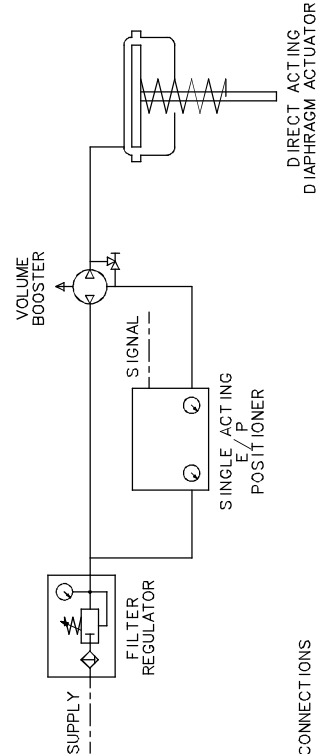
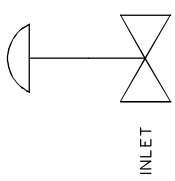
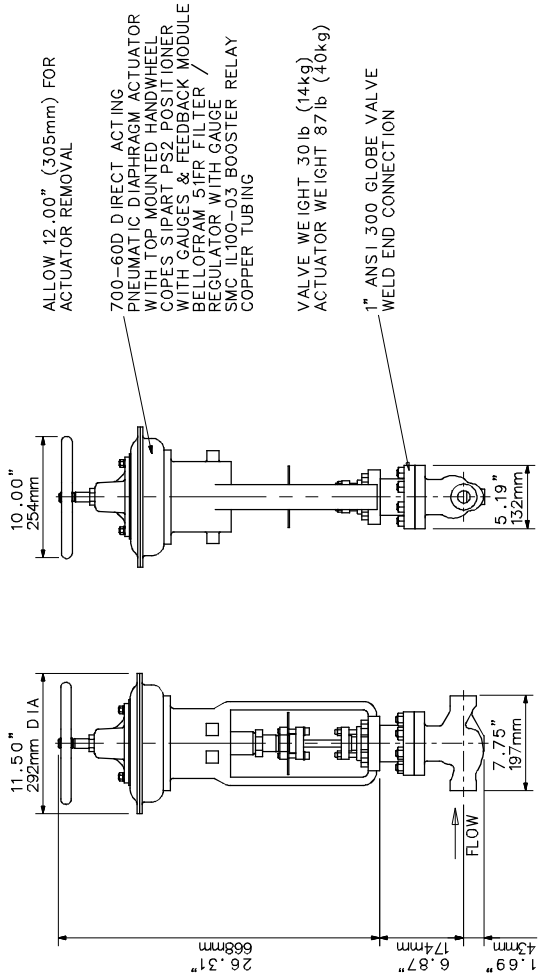
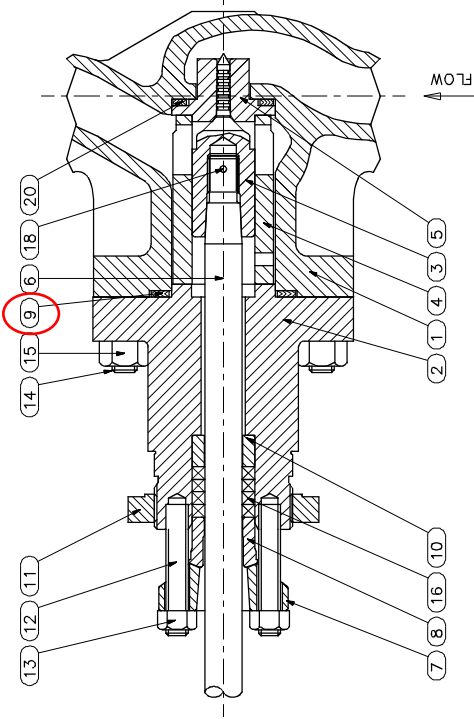
① Please note that items marked ①, must be changed during an inspection or maintenance overhaul it should be ensured that these items are available before commencing the inspection.  
Do Not Re-Use

③ Please note that items marked ③, are operational spares  
Please note that these items require factory mating prior to shipment and form a unique matched set that must not be separated in storage or during valve rebuild  
We will lap the plug with the seat prior to shipment  
Plug and seat cannot be purchased as individual components

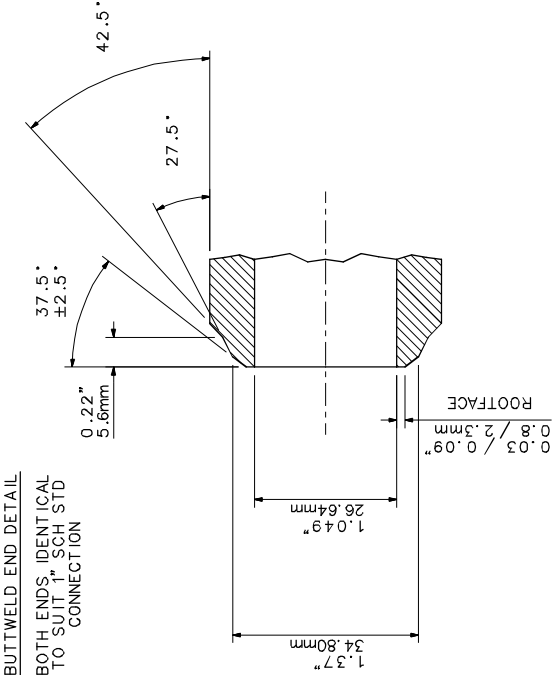
<b>COPES-VULCAN, SPX Valves &amp; Controls</b> Road Two Industrial Estate, Winsford, Cheshire. United Kingdom Phone: +44 (0)1606 552041 Fax: +44 (0)1606 558275					<b>CONTROL VALVE SPECIFICATION SHEET</b>																									
Customer Name: <b>ALSTOM POWER GENERATION AG</b> Customer Inquiry: <b>EMAIL</b> Customer PO: <b>D61-4500057376</b> Ultimate User: <b>MARITZA EAST 1, BULGARIA</b> Tag: <b>02MAW15AA011</b> Application: <b>WATER CONTROL VALVE</b>					CV Inquiry: <b>DMS/060112/RK1</b> CV Job: <b>WG/00799</b> CV Job Ref: <b>CW32614</b> CV Serial #: <b>07CW32614/01</b> Item: <b>3</b> Quantity: <b>1</b>																									
Description: <b>1" (25 mm), CL300, WCB , BW, GS-700-60 DA</b>																														
FLUID: <b>Water</b>		<b>SERVICE CONDITIONS</b>																												
	FLOW (kg/sec)	P1 (bar a)	P2 (bar a)	Temp. (deg C)	Cv	CV (%)	Travel (%)	Valve Outlet Vel. (ft/sec)	Noise * (dBA)	Remarks																				
COND 1	0.131	20	11.2	40	0.18	39%	42%	0.9	<75																					
COND 2	0.131	30	11.2	40	0.13	26%	32%	0.9	<75																					
COND 3	0.25	20	11.2	40	0.35	73%	71%	1.6	<75																					
COND 4	0.25	30	11.2	40	0.24	50%	52%	1.6	<75																					
COND 5																														
SHUTOFF		40	1		Allowable Leakage:			* Estimated Noise Level with 0" of Insulation																						
DESIGN		40		80	Class IV																									
<b>BODY AND BONNET</b>																														
Style: <b>GS - General Service, Globe</b> Size: <b>1 inch</b> ASME Class: <b>300 Standard</b> Body Inlet: <b>Butt Weld, Sch STD per ANSI B16.25, Fig. 2b</b> Body Outlet: <b>Butt Weld, Sch STD per ANSI B16.25, Fig. 2b</b> Material: <b>A-216 WCB</b> Inlet Pipe: <b>1 In. (25 mm), Sch STD</b> Outlet Pipe: <b>1 In. (25 mm), Sch STD</b>					Bonnet Type: <b>Bolted</b> Packing Material: <b>Grafoil</b> Packing Hardware: <b>Stainless Steel</b> Packing Nut Torque: <b>4 ft-lbs.</b> Options: <b>Single Packed</b> Service: <b>Continuous Modulation</b>																									
<b>TRIM</b>																														
Size: <b>#1 with 4 Ports</b> Style: <b>No. CASCADE (UnBalanced)</b> Flow Direction: <b>UNDER THE WEB</b> Stem Diameter: <b>.75 in.</b> Characteristic: <b>CASCADE, MEDIUM</b>					Seat Type: <b>METAL</b> Trim Material: <b>400/47 SST</b> Max. Cv Available: <b>0.48 @Max. Trim Travel of 1" (±1/8)</b> Min. Controllable Cv of Trim: <b>0.002</b>																									
<b>ACTUATOR</b>																														
Style: <b>700 DIAPHRAGM</b> Size: <b>60 (Square Inch)</b> Action: <b>Spring Opening (Direct)</b> Handwheel: <b>Top Mounted</b> Frame Material: <b>Ductile Iron</b> Air Pressure Available: <b>5.0 bar g (73 psig)</b> Air Pressure Required: <b>1.7 bar g (25 psig)</b>					Actuator Mounting Style: <b>Screwed Ring</b> Actuator Spring: <b>357560</b> Spring Rate: <b>720 (lbs/inch)</b> Max. Stem Thrust Required to Close: <b>299 (lbs)</b> Max. Stem Thrust Required to Open: <b>138 (lbs)</b> Spring Precompression (Diaphragm Air Pressure): <b>3 (psig)</b> Pressure @ Full Valve Travel (With No Internal Valve Pres.): <b>15 (psig)</b>																									
<b>ACCESSORIES</b>																														
Positioner: <b>Copes 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>					Airlock: <b>None</b> Filter/Regulator: <b>Bellofram 51FR w/Gauge</b> Solenoid Valve: <b>None</b> Booster Relay: <b>SMC IL100-03</b> Additional Acc'y:																									
Piping: <b>Copper Tubing</b> Limit Switches: <b>None</b>																														
<b>COMMENTS</b>																														
conditions one and two, based on MAI requirements																														
Valve open / closed 10 seconds or less																														
Model = <b>GS1</b> Body Option: <b>BDY501080401</b> Bonnet Option: <b>BNT501170401</b> Trim Option: <b>TRM501890610402</b> Hardware Pack Option: <b>HDP5114112</b> Actuator Option: <b>ACT51101**21</b> Stem Option: <b>STM50101041032</b> Gasket Option: <b>GSK5019902061</b> Accessory Kit Option: <b>AC7A25*00*12020</b> I.D. Plate: <b>OPT187019</b>					<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Rev</th> <th>Initials</th> <th>Description</th> <th>Date</th> </tr> <tr> <td>03</td> <td>CMR</td> <td>Issued for contract use</td> <td>Mar-24-2007</td> </tr> <tr> <td>02</td> <td>IJW</td> <td>Revised Per Client Specification Rev A</td> <td>Jul-25-2006</td> </tr> <tr> <td>01</td> <td>DMS</td> <td>REVISED PER CUSTOMER COMMENTS</td> <td>Jan-24-2006</td> </tr> <tr> <td>00</td> <td>DMS</td> <td>INITIAL BID</td> <td>Jan-18-2006</td> </tr> </table>						Rev	Initials	Description	Date	03	CMR	Issued for contract use	Mar-24-2007	02	IJW	Revised Per Client Specification Rev A	Jul-25-2006	01	DMS	REVISED PER CUSTOMER COMMENTS	Jan-24-2006	00	DMS	INITIAL BID	Jan-18-2006
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Program Rev Level: <b>9.2.11</b> S					File Name: <b>K:\...\Technical\Contract Docs\Data Sheets\DS-CW32614.VS3 (9.2.11)</b>																									

ITEM	DESCRIPTION
1	BODY
2	BONNET
3+	PLUG
4+	CAGE
5+	SEAT
6+	STEM
7	GLAND BRIDGE
8	GLAND FOLLOWER
9++	BONNET GASKET
10	GLAND WASHER
11	TOKE NUT
12	GLAND NUT
13	BONNET NUT
14	BONNET STUD
15	BONNET NUT
16++	GLAND PACKING
18+	SPIROL PIN
20++	TRIM GASKET

RECOMMENDED SPARES  
 + OPERATIONAL SPARES  
 ++ COMMISSIONING SPARES



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.	GENERAL ARRANGMENT DRAWING OF 1" ANSI 300 GLOBE VALVE WITH CASCADE TRIM & CV700-60D DIRECT ACTING PNEUMATIC DIAPHRAGM ACTUATOR WITH TOP MOUNTED HANDWHEEL	CUSTOMER NAME PROJECT NAME CUSTOMER TAG No CUSTOMER TAG No VENDOR NAME VENDOR CONTRACT VENDOR JOB No ITEM DESCRIPTION	ALSTON POWER GENERATION AG MARTIZA EAST 1, BULGARIA D61-450057376 02MAW15A011 COPES-VULCAN, WINSFORD ENGLAND No WG00799 CW32614 WATER CONTROL VALVE	ISS	MODIFICATION	DATE	BY	SCALE	DRAWN	JRL	COPES-VULCAN						
DO NOT SCALE IF IN DOUBT - ASK!												DRAWING NO		CD32614		ISSUE	00
																SPX Process Equipment	