

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°	D61-4500057376	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	3	1	8 weeks	€ 1,342.50	€ 1,342.50
01MAW15AA011	CW32609/01	1	CD32609	3+	Plug #	PLG389020802		1	8 weeks	€ 412.50	
01MAW15AA011	CW32609/01	1	CD32609	4+	Gate #	CAG30105060402	3	1	8 weeks	€ 637.50	
01MAW15AA011	CW32609/01	1	CD32609	5+	Seat #	SRG30158902		1	8 weeks	€ 292.50	
01MAW15AA011	CW32609/01	1	CD32609	6+	Stem	STM310213002		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	€ 15.00	€ 15.00
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

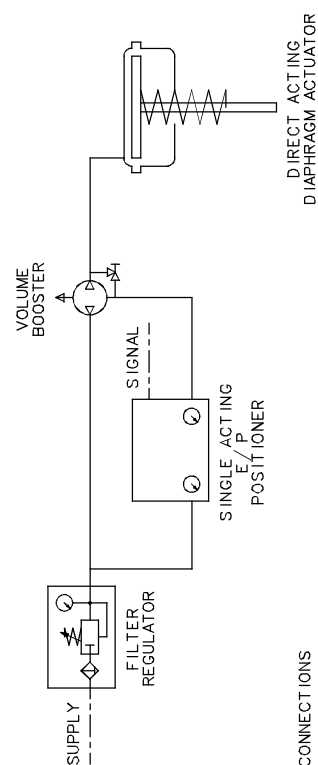
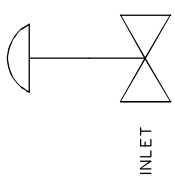
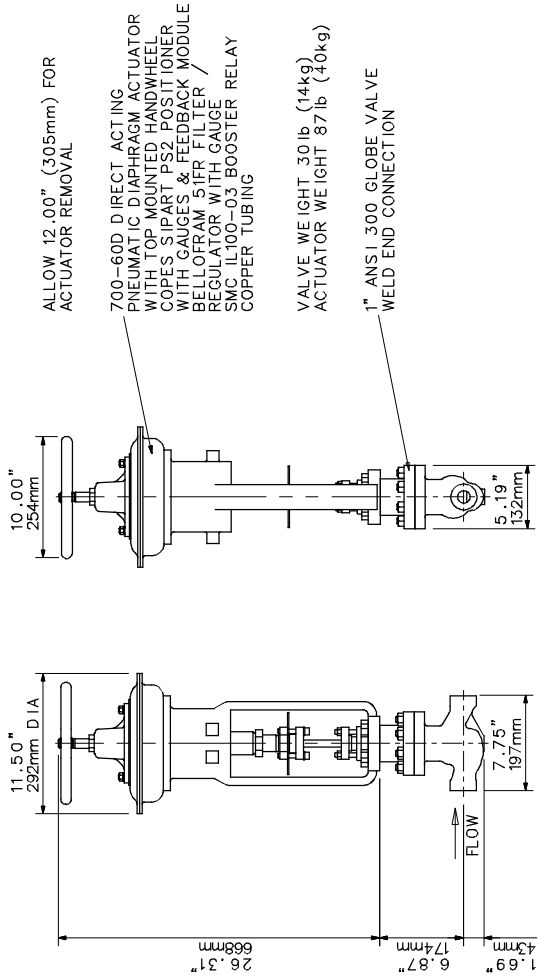
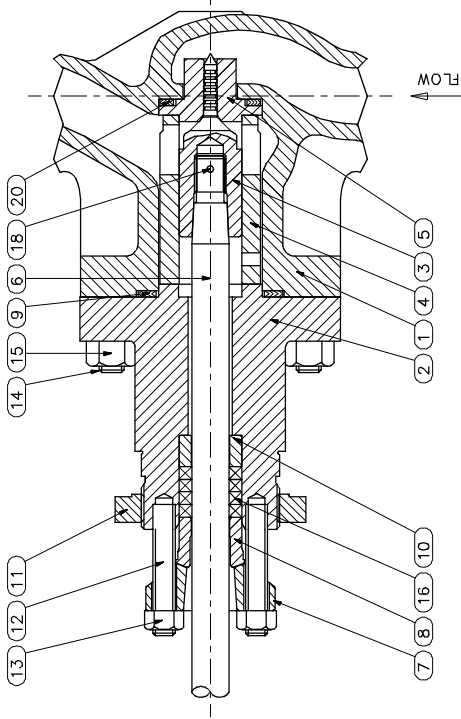
1 Please note that items marked 1, must be changed during an inspection or maintenance overhaul it should be ensured that these items are available before commencing the inspection.
Do Not Re-Use

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

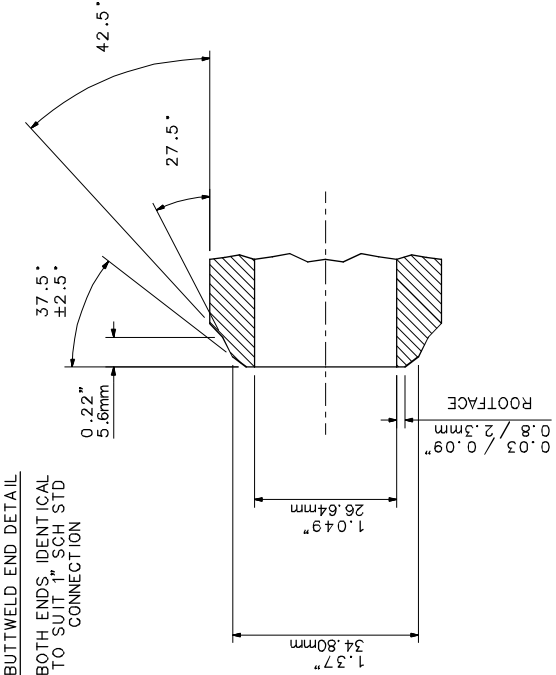
COPES-VULCAN, SPX Valves & Controls Road Two Industrial Estate, Winsford, Cheshire. United Kingdom Phone: +44 (0)1606 552041 Fax: +44 (0)1606 558275					CONTROL VALVE SPECIFICATION SHEET																									
Customer Name: ALSTOM POWER GENERATION AG Customer Inquiry: EMAIL Customer PO: D61-4500057376 Ultimate User: MARITZA EAST 1, BULGARIA Tag: 02MAW15AA011 Application: WATER CONTROL VALVE					CV Inquiry: DMS/060112/RK1 CV Job: WG/00799 CV Job Ref: CW32614 CV Serial #: 07CW32614/01 Item: 3 Quantity: 1																									
Description: 1" (25 mm), CL300, WCB , BW, GS-700-60 DA																														
FLUID: Water		SERVICE CONDITIONS																												
	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																									
BODY AND BONNET																														
Style: GS - General Service, Globe Size: 1 inch ASME Class: 300 Standard Body Inlet: Butt Weld, Sch STD per ANSI B16.25, Fig. 2b Body Outlet: Butt Weld, Sch STD per ANSI B16.25, Fig. 2b Material: A-216 WCB Inlet Pipe: 1 In. (25 mm), Sch STD Outlet Pipe: 1 In. (25 mm), Sch STD					Bonnet Type: Bolted Packing Material: Grafoil Packing Hardware: Stainless Steel Packing Nut Torque: 4 ft-lbs. Options: Single Packed Service: Continuous Modulation																									
TRIM																														
Size: #1 with 4 Ports Style: No. CASCADE (UnBalanced) Flow Direction: UNDER THE WEB Stem Diameter: .75 in. Characteristic: CASCADE, MEDIUM					Seat Type: METAL Trim Material: 400/47 SST Max. Cv Available: 0.48 @Max. Trim Travel of 1" (±1/8) Min. Controllable Cv of Trim: 0.002																									
ACTUATOR																														
Style: 700 DIAPHRAGM Size: 60 (Square Inch) Action: Spring Opening (Direct) Handwheel: Top Mounted Frame Material: Ductile Iron Air Pressure Available: 5.0 bar g (73 psig) Air Pressure Required: 1.7 bar g (25 psig)					Actuator Mounting Style: Screwed Ring Actuator Spring: 357560 Spring Rate: 720 (lbs/inch) Max. Stem Thrust Required to Close: 299 (lbs) Max. Stem Thrust Required to Open: 138 (lbs) Spring Precompression (Diaphragm Air Pressure): 3 (psig) Pressure @ Full Valve Travel (With No Internal Valve Pres.): 15 (psig)																									
ACCESSORIES																														
Positioner: Copes SIPART PS2, Single Acting Positioner Input Range: 4-20 mA Position FeedBack Module (4-20ma) : YES Alarm Module : NO HART Module : NO					Airlock: None Filter/Regulator: Bellofram 51FR w/Gauge Solenoid Valve: None Booster Relay: SMC IL100-03 Additional Acc'y:																									
Piping: Copper Tubing Limit Switches: None																														
COMMENTS																														
conditions one and two, based on MAI requirements																														
Valve open / closed 10 seconds or less																														
Model = GS1 Body Option: BDY501080401 Bonnet Option: BNT501170401 Trim Option: TRM501890610402 Hardware Pack Option: HDP5114112 Actuator Option: ACT51101**21 Stem Option: STM50101041032 Gasket Option: GSK5019902061 Accessory Kit Option: AC7A25*00*12020 I.D. Plate: OPT187019					<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: 9.2.11 S					File Name: K:\...\Technical\Contract Docs\Data Sheets\DS-CW32614.VS3 (9.2.11)																									

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 STUD
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 OF 1" ANSI 300 GLOBE VALVE WITH CASCADE TRIM & CV700-60D DIRECT ACTING PNEUMATIC DIAPHRAGM ACTUATOR WITH TOP MOUNTED HANDWHEEL										CUSTOMER NAME PROJECT NAME PROJECT NO CUSTOMER TAG No CUSTOMER TAG No VENDOR NAME VENDOR CONTRACT No 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 SPX Process Equipment																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

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