

RECOMMENDED SPARES LIST

CUSTOMER NAME	ALSTOM POWER GENERATION AG	VENDOR CONTRACT N°	WG/00799	DATE	04-Jun-07
PROJECT NAME	MARTZA EAST 1, BULGARIA	DOCUMENT N°	RSI CW32607/01	AFTERMARKET REF	WB/070141/RSLS
CUSTOMER PO N°	D614500657376	REV STATUS	0	CONTACT	W. BAKER

Qty Of Valves	1	Description	GLOBE 3" 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	Delivery	Unit Price	Total Ex-Works
01MAW10A011	CW32607/01	1	CD32607	3,4,5,71	Aesys, Trim 3" U EQU 2P 420 Consisting of #	TRM503090310203		1	8 weeks	€ 3,960.00	3,960.00
01MAW10A011	CW32607/01	1	CD32607	3+	Plug #	PLG325020503	6	1	8 weeks	€ 937.50	
01MAW10A011	CW32607/01	1	CD32607	4+	Cage #	CAG32401040203		1	8 weeks	€ 1,875.00	
01MAW10A011	CW32607/01	1	CD32607	5+	Seat #	SRG32512503	6	1	8 weeks	€ 435.00	
01MAW10A011	CW32607/01	1	CD32607	71	Seat Adaptor Ring #	ADR3032502		1	8 weeks	€ 712.50	
01MAW10A011	CW32607/01	1	CD32607	6+	Stem	STM310216001		1	8 weeks	€ 427.50	427.50
01MAW10A011	CW32607/01	1	CD32607	9++	Bottom Gasket	288652	1	2	8 weeks	€ 30.00	60.00
01MAW10A011	CW32607/01	1	CD32607	10++	Gland Washer	373407		2	8 weeks	€ 75.00	150.00
01MAW10A011	CW32607/01	1	CD32607	16++	Gland Packing	368489	1	2	8 weeks	€ 82.50	165.00
01MAW10A011	CW32607/01	1	CD32607	18+	Spiral Pin #	U20-116		1	8 weeks	€ 1.50	1.50
01MAW10A011	CW32607/01	1	CD32607	20,22	Trim Gasket Consisting Of ##	GSK5030201061	1	2	8 weeks	€ 60.00	120.00
01MAW10A011	CW32607/01	2	CD32607	20++	Trim Gasket #	267768	1	4	8 weeks	€ 22.50	
01MAW10A011	CW32607/01	1	CD32607	22++	Trim Gasket #	268903	1	2	8 weeks	€ 15.00	
01MAW10A011	CW32607/01	1	REFER TO MANUAL	14,32,33,35,36	Actuator Spares Kit 160R 3/4" Consisting of ##	C80138-AQA		1	8 weeks	€ 387.00	387.00
01MAW10A011	CW32607/01	1	REFER TO MANUAL	14+	Diaphragm #	185900BPP		1	8 weeks	€ 322.50	€215.00
01MAW10A011	CW32607/01	1	REFER TO MANUAL	32++	Gasket #	356999		1	8 weeks	€ 37.50	€25.00
01MAW10A011	CW32607/01	1	REFER TO MANUAL	33+	U Cup Seal #	357800		1	8 weeks	€ 15.00	€10.00
01MAW10A011	CW32607/01	1	REFER TO MANUAL	35+	O Ring (Inner) #	357801		1	8 weeks	€ 6.00	€4.00
01MAW10A011	CW32607/01	1	REFER TO MANUAL	36+	O Ring (Outer) #	357802		1	8 weeks	€ 6.00	€4.00
01MAW10A011	CW32607/01	1	REFER TO MANUAL	30+	Bushing	356093		1	8 weeks	€ 502.50	502.50
Total Ex-Works Value Sheet										€	6,031.50
Packing										See Summary Sheet	
Carriage CPT Job Site Galabovo Romania										See Summary Sheet	
Total Price Packed and Delivered CPT Job Site Galabovo Romania										€	6,031.50

For And On Behalf Of SPX Flow Control

Compiled By Mr. D. G. Edwards
Title/Position Aftermarket Manager
Date 27/01/2010

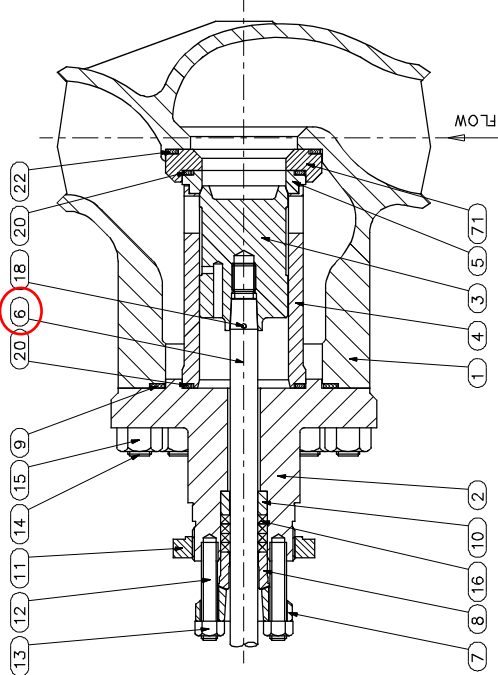
1 Please note that items marked 1, must be changed during an inspection or maintenance overhaul it should be ensured that these items are available before commencing the inspection.
Do Not Re-Use

6 Please note that items marked 6, 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

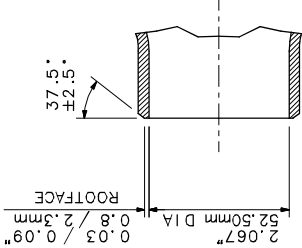
COPES-VULCAN, SPX Valves & Controls Road Two Industrial Estate, Winsford, Cheshire. United Kingdom Phone: +44 (0)1606 552041 Fax: +44 (0)1606 558275					CONTROL VALVE SPECIFICATION SHEET					
Customer Name: ALSTOM POWER GENERATION AG Customer Inquiry: EMAIL Customer PO: D61-4500057376 Ultimate User: MARITZA EAST 1, BULGARIA Tag: 01MAW10AA011 Application: GLAND STEAM VALVE					CV Inquiry: DMS/060112/RK1 CV Job: WG/00799 CV Job Ref: CW32607 CV Serial #: 07CW32607/01 Item: 1 Quantity: 1					
Description: 3" (80 mm), CL600, WC6 , BW, GS-700 DIAPHRAGM										
FLUID: Steam		SERVICE CONDITIONS								
	FLOW (kg/sec)	P1 (bar a)	P2 (bar a)	Temp. (deg C)	Cv	CV (%)	Travel (%)	Valve Outlet Vel. (ft/min)	Noise * (dBA)	Remarks
COND 1	0.82	15	4.357	300	21.7	80%	90%	20760	84	
COND 2										
COND 3										
COND 4										
COND 5										
SHUTOFF		51	1		Allowable Leakage:			* Estimated Noise Level with 3.5" of Insulation		
DESIGN		51		500	Class IV					
BODY AND BONNET										
Style: GS - General Service, Globe Size: 3 inch ASME Class: 600 Standard Body Inlet: Butt Weld, Sch STD per ANSI B16.25, Fig. 2b Body Outlet: Butt Weld, Sch 40 per ANSI B16.25, Fig. 2b Material: A-217 WC6 Inlet Pipe: 2 In. (50 mm), Sch STD Inlet Expander: 3" Sch STD X 2" , Length: 3.50 In., Material: A-234 WP11 Outlet Pipe: 10 In. (250 mm), Sch 20 Outlet Expander: 3" Sch 40 X 10" Sch 20, Length: 11.00 In., Material: A-234 WP11					Bonnet Type: Bolted Packing Material: Grafoil Packing Hardware: Stainless Steel Packing Nut Torque: 4 ft-lbs. Options: Single Packed					
TRIM										
Size: 2 inch with 2 Ports Style: PORT THROTTLE (UnBalanced) Flow Direction: UNDER THE WEB Stem Diameter: .75 in. Characteristic: EQUAL PERCENTAGE - PORT					Seat Type: METAL Trim Material: 400/70 SST Max. Cv Available: 27 @Max. Trim Travel of 1" (±1/8) Min. Controllable Cv of Trim: 1.1					
ACTUATOR										
Style: 700 DIAPHRAGM Size: 160 (Square Inch) Action: Spring Closing (Reverse) Handwheel: Top Mounted Frame Material: Ductile Iron Air Pressure Available: 5.0 bar g (73 psig) Air Pressure Required: 3.6 bar g (53 psig)					Actuator Mounting Style: Screwed Ring Actuator Spring: 357576 Spring Rate: 1280 (lbs/inch) Max. Stem Thrust Required to Close: 3606 (lbs) Max. Stem Thrust Required to Open: None (lbs) Spring Precompression (Diaphragm Air Pressure): 39 (psig) Pressure @ Full Valve Travel (With No Internal Valve Pres.): 47 (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 Qty: 1 Solenoid Valve: None Booster Relay: RK 1000 Qty: 1 Additional Acc'y:					
Piping: Copper Tubing Limit Switches: None										
COMMENTS										
Final pressure reduction to be preformed by outlet diffuser cartridge, 4.357 bar a down to 1.03 bara Valve open / closed 10 seconds or less										
Model = GS3 Body Option: BDY503080602 Bonnet Option: BNT503170602 Trim Option: TRM503090310203 Hardware Pack Option: HDP5114112 Actuator Option: ACT5***** Stem Option: STM5**03031011 Gasket Option: GSK5030201061 Accessory Kit Option: I.D. Plate: OPT187019 Limit Switch Option: None										
					04	CMN	Booster Relay Added			Sep-25-2007
					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
					Rev	Initials	Description			Date
Program Rev Level: 9.2.11 S File Name: O:\...Technical\Contract Docs\Data Sheets\DS-CW32607-SHT1.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	YOKE NUT
12	GLAND STUD
13	GLAND NUT
14	BONNET STUD
15	BONNET NUT
16++	GLAND PACKING
18+	SPIROL PIN
20++	TRIM GASKET
22++	TRIM GASKET
71+	ADAPTOR RING

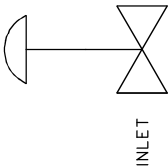
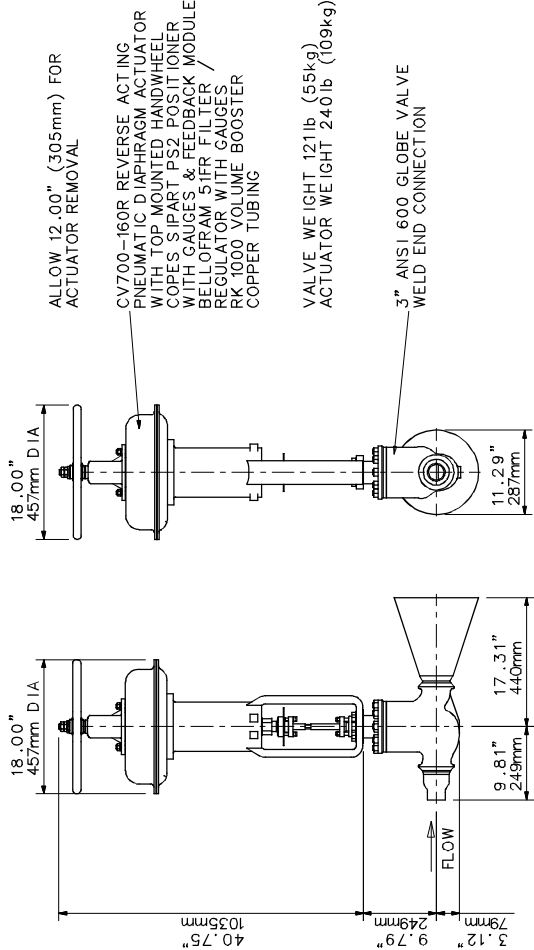
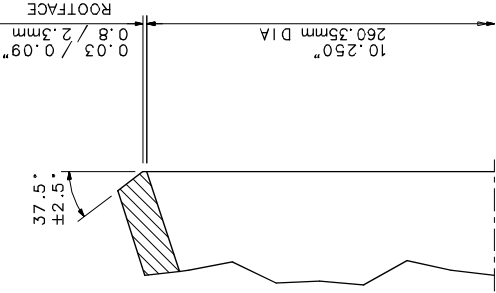
RECOMMENDED SPARES
+ OPERATIONAL SPARES
++ COMMISSIONING SPARES



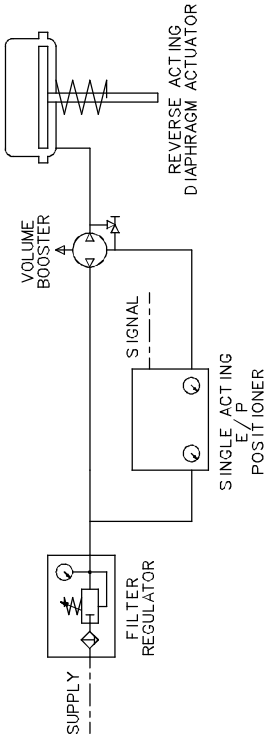
BUTTWELD END DETAIL
TO SUIT 2" SCH STD
INLET CONNECTION



BUTTWELD END DETAIL
TO SUIT 10" SCH 20
OUTLET CONNECTION



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
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GENERAL ARRANGMENT DRAWING OF 3" ANSI 600 GLOBE VALVE
WITH PORT THROTTLE TRIM & CV700-160R REVERSE ACTING
PNEUMATIC DIAPHRAGM ACTUATOR WITH TOP MOUNTED HANDWHEEL

DO NOT SCALE
IF IN DOUBT – ASK!

CUSTOMER NAME PROJECT NAME CUSTOMER PO No CUSTOMER TAG No VENDOR NAME VENDOR CONTRACT No VENDOR JOB No ITEM DESCRIPTION		ALSTON POWER GENERATION AG MARTIZA EAST 1, BULGARIA D61-450057376 OTMANIADAO11 COPES-VULCAN, WINSFORD ENGLAND No WG/0799 CW32607 GLAND STEAM VALVE		ISS 01	MODIFICATION VOLUME BOOSTER ADDED	DATE 26-09-07	BY CMN	SCALE MPL	DRAWN CMN	JRL	COPES-VULCAN	
									CHECKED	CMN	SPX Process Equipment	
									APPROVED		DRAWING NO	
									DATE	26-04-07	ISSUE	
											01	