

| | | | | | |
|----------------|----------------------------|--------------------|----------------|-----------------|----------------|
| CUSTOMER NAME | ALSTOM POWER GENERATION AG | VENDOR CONTRACT N° | WG/00789 | DATE | 04-Jun-07 |
| PROJECT NAME | MARTZA EAST 1, BULGARIA | DOCUMENT N° | RSI CW32607/01 | AFTERMARKET REF | WB/070141/RSLS |
| CUSTOMER PO N° | D61450067376 | REV STATUS | 0 | CONTACT | W. BAKER |

| | | | |
|---------------|---|-------------|-------------------|
| Qty Of Valves | 1 | Description | GLOBE 3" ANSI 600 |
|---------------|---|-------------|-------------------|

| Tag N° | Serial N° | Qty Installed Per Valve | CD Drawing N° | Drawing Item | Description | Part N° | Notes | Recommended 12 Yrs Operation | Delivery | Unit Price | Total Ex-Works |
|--|------------|-------------------------|-----------------|----------------|---|-----------------|-------|------------------------------|----------|-------------------|----------------|
| 01MAW10A011 | CW32607/01 | 1 | CD32607 | 3,4,5,71 | Aesys, Trm 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++ | Bonnet Gasket | 286652 | 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 | Trm Gasket Consisting Of ## | GSX5030201081 | 1 | 2 | 8 weeks | € 60.00 | 120.00 |
| 01MAW10A011 | CW32607/01 | 2 | CD32607 | 20++ | Trm Gasket # # | 287768 | 1 | 4 | 8 weeks | € 22.50 | |
| 01MAW10A011 | CW32607/01 | 1 | CD32607 | 22++ | Trm Gasket # # | 288903 | 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

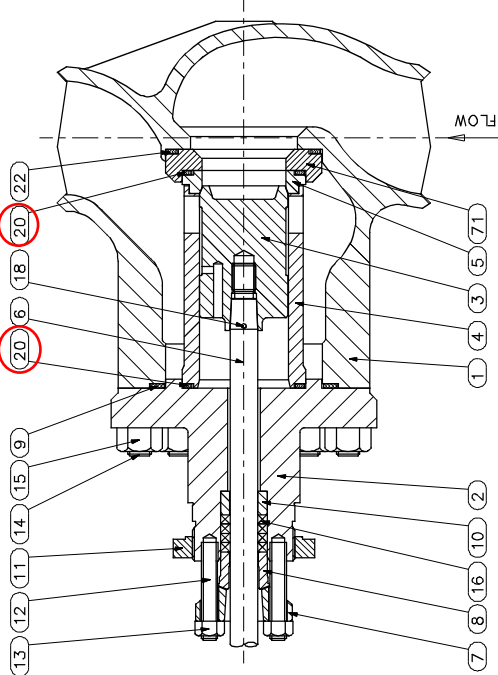
1 Please note that items marked 6, must be changed during an inspection or maintenance overhaul it should be ensured that these items are available before commencing the inspection.
Do Not Re-Use

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

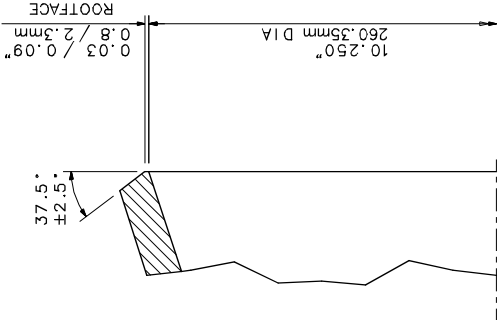
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|---|------------------|---------------------------|---------------|------------------|---|-----------|--|---|------------------|---------|
| COPES-VULCAN, SPX Valves & Controls Road Two Industrial Estate, Winsford, Cheshire. United Kingdom Phone: +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 |

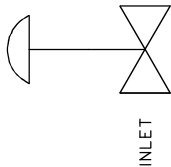
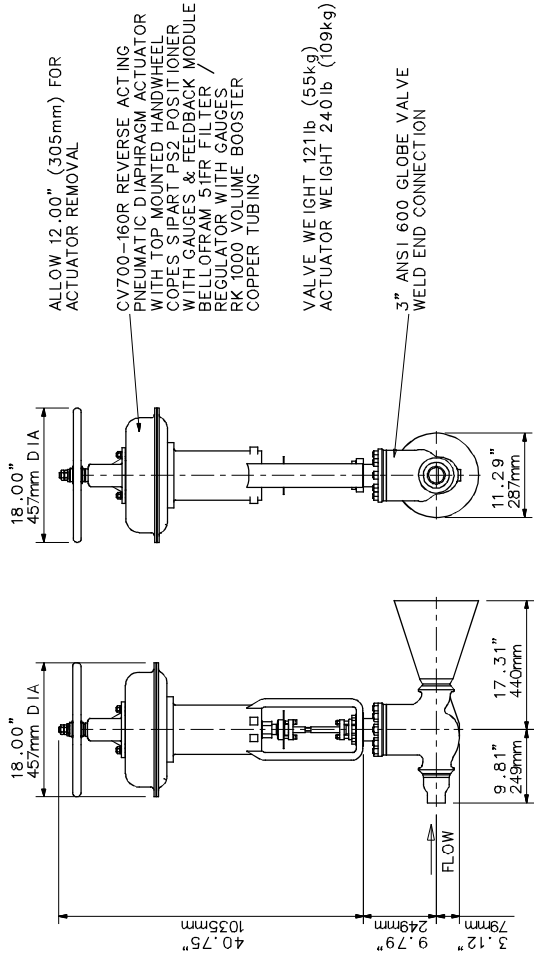
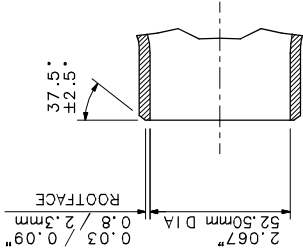
RECOMMENDED SPARES
+ OPERATIONAL SPARES
++ COMMISSIONING SPARES



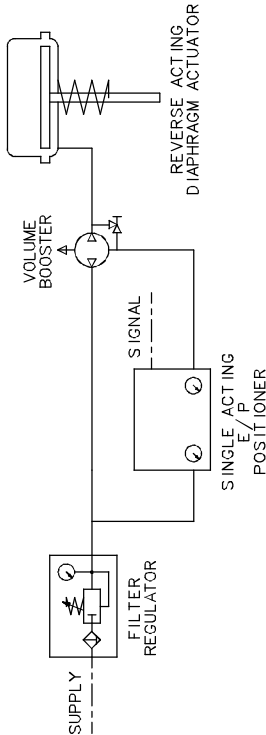
BUTTWELD END DETAIL
TO SUIT 10" SCH 20
OUTLET CONNECTION



BUTTWELD END DETAIL
TO SUIT 2" SCH STD
INLET 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
PERMISSION AND LICENCE OF COPES-VULCAN.

GENERAL ARRANGEMENT 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
OTOMATOVA011
COPES-VULCAN, WINSTON
ENGLAND
No WG05799
CW32607
GLAND STEAM VALVE

ISS

01

MODIFICATION

VOLUME BOOSTER ADDED

DATE

25-09-07

BY

CMN

SCALE

MATL

USED ON

CW32607

DATE

25-04-07

TRACED

APPROVED

CMN

CHECKED

JRL

COPES-VULCAN

SPX Process Equipment

DRAWING NO

CD32607

ISSUE

01