

Three-Way Valve



ARTES Valve & Service GmbH
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A MEMBER OF THE ARCA FLOW GROUP

| | | | | | | | | |
|----|--|--|-----------------|-----------------------|---------------|-------------------------|------------|---------|
| 1 | Customer: | ARVOS GmbH | ARTES-ref.-no.: | 5503466 | | | | |
| 2 | Project: | McCarran USA | Pos.: | 2 | | | | |
| 3 | Service: | BFW bypass control | Qty.: | 1 | | | | |
| 4 | TAG No.: | 31-TX-1304 | S/N: | 3144855.1 | | | | |
| 5 | Pipeline | | Connection 1 | Connection 2 | Connection 3 | | | |
| 6 | Dimensions | Ø D x s [inch] | 4,50 x 0,24 | 4,50 x 0,24 | 4,50 x 0,24 | ASME B16.25 | | |
| 7 | Material | | A106 Gr.B | A106 Gr.B | A106 Gr.B | | | |
| 8 | Weld ends | Ø D x s [inch] | 4,50 x 0,24 | 4,50 x 0,24 | 4,50 x 0,24 | | | |
| 9 | Flange ends | | -- | -- | -- | | | |
| 10 | Valve Design | | Connection 1 | Connection 2 | Connection 3 | | | |
| 11 | Nominal Size | NPS | 4" | 4" | 4" | | | |
| 12 | Nominal Pressure | class | -- | -- | -- | | | |
| 13 | Design Pressure | [psi(g)] | 1015,3 | 1015,3 | 1015,3 | | | |
| 14 | Design Temperature | [°F] | 554 | 554 | 554 | | | |
| 15 | Material | | SA105 | SA105 | SA105 | | | |
| 16 | Hydraulic Test Pressure | | | | | | | |
| 17 | Operation Data | | Loading Case | Loading Case | Loading Case | Loading Case | | |
| 18 | Medium: | Boiler Feed Water | 1 | 2 | 3 | 4 | | |
| 19 | Flow | [lb/h] | 118.141 | 124.048 | | | | |
| 20 | Temperature | [°F] | 298,4 | 545,0 | | | | |
| 21 | Pressure Inlet | [psi(g)] | 868,8 | 1015,3 | | | | |
| 22 | Pressure Outlet | [psi(g)] | 855,7 | 1000,8 | | | | |
| 23 | C _v Value | [USgal/min] | 231,2 | 231,2 | | | | |
| 24 | Flow Speed | [ft/min] | 386 | 504 | | | | |
| 25 | | | | | | | | |
| 26 | Valve type Type W, Diverter | | | | | | | |
| 27 | Material: | | | Valveparameter | | | | |
| 28 | | | | | | | | |
| 29 | Body: | SA105 | | | | Seat Diameter: | 2,56 | inch |
| 30 | Stem: | 1.4122 | | | | C _{vs} Value: | 232 | gal/min |
| 31 | Plug: | SA105 | | | | max. Δp actuator: | 1015,3 | psi(g) |
| 32 | | | | | | Control characteristic: | Dimensions | |
| 33 | Gaskets: | Graphite | linear | 6,89 inch | 13,78 inch | | | |
| 34 | | | | | | | | |
| 35 | | | | | | | | |
| 36 | | | | | | | | |
| 37 | Design & Inspection acc. to: ASME Boiler & Pressure Vessel Code - Section VIII Division 1 - | | | | | | | |
| 38 | | | | | | | | |
| 39 | Leakage Class: ca. 1,5% of C _{vs} | | | | | | | |
| 40 | Installation Instruction: | | | | | | | |
| 41 | | | | | | | | |
| 42 | Actuator: | pneumatic | | | | 3145062 | | |
| 43 | Model: | bar GTE210/090-F-BE-H, single acting Rack&Pinion type, air to open way 1 --> 3, spring to open way 1 --> 2, signal/air failure: outlet 2 open, outlet 3 closed | | | | | | |
| 44 | | positioner Siemens Sipart PS2 6DR5115-0EN00-0AA9-R1D; 4...20mA HART Eex d; | | | | | | |
| 45 | | air set MW-C incl. gauge, air tubing: SST, fittings double ferrule, central air connection 1/2" NPT | | | | | | |
| 46 | | air supply pressure: min.4bar(g) | | | | | | |
| 47 | | | | | | | | |
| 48 | Remarks: | | | | | | | |
| 49 | connection 3: bypass | | | | | | | |
| 50 | temperature of load case 2 reduced to 545°F to achieve water conditions (1015,28 psig @ 545°F --> steam) | | | | | | | |
| 51 | | | | | | | | |
| 52 | | | | | | | | |
| 53 | Revision: | 0 | 1 | 2 | 3 | 4 | | |
| 54 | Date: | 06th Aug 2018 | 30th Aug 2018 | 09th Nov 2018 | 10th Dec 2019 | | | |
| 55 | Prepared: | S.Haftenberger | P. Schüler | P. Schüler | P. Schüler | | | |
| 56 | Checked: | H.Jäkel | F. Exner | F. Exner | F. Exner | | | |