MANIFLOW SELECTOR VALVE (MSV)  
MODEL 48SZ
Applications

- MSV is a multiport switching valve developed for oil and gas industries
- Well test and monitoring manifold
- Alternative to conventional test manifolds that requires over 20 manual valve and associated

Problems with existing MSV

- Incorrect indexing of the actuator
- Slippage between valve stem and actuator
- Sticking of the stem
- Misalignment of the plug
- Seal wear
- Erosion of the body
- No independent position feedback to indicate a problem
- Inadequate operator training and poor technical back-up

SchuF MSV solution

- SchuF design provides solutions to these issues as a result of over 40 years of multiport diverter valve design for chemical, polymer, petrochemical and oil and gas industries

- Up to 8 inlets, with 1 test outlet and a group outlet
- Max. 7 inlets are connected to the wells. One inlet, called home port, is kept free for calibration and maintenance. A single actuator rotates the plug to the selected well inlet
- Flow from selected well is diverted to the test outlet and on to the Multiphase Flowmeter (MPFM)
- The flow from all the other connected wells converges in the valve body and exits via the group outlet

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MSV Sealing System

- SchuF MSV is leak tight to atmosphere & process
- Bonnet seal: slide bearing, packing
- Plug seal to test outlet: slide bearing & shaft seal
- Plug seal to body is adjustable in the field

Plug Sealing System

- PTFE seal ring in constant contact with valve body
- External cup springs apply load to the seal ring
- Threaded nut can be adjusted in the field, to re-tighten the seal
- O-Ring material is PTFE

Precision Plug Positioning

- Multi-turn electric actuator coupled to special SchuF Positioning system
- Electro-mechanical positioning device, utilizing cam roller technology
- Position tolerance < 0.5°
- Position detection via incremental rotary encoders
- Repeatability and accuracy of the plug position is guaranteed
- Speed of rotation is reduced as plug reaches the selected port
- Precision indexing of plug prevents erosion of the plug seal

MSV Actuator

- Multi-turn electric actuator
- Hazardous area protection
- Single phase, 3-Phase VAC or 24VDC
- Single or bi-directional operation
- Continuous 360° drive capability
- Display with operator-friendly controls
- Programmable positioning/sequencing
- Remote & local operation modes
- Network control via Modbus RTU Protocol
Benefits

- Reduction in space, weight & cost vs. conventional manifold thanks to a modular and compact design
- SchuF design is reliable, robust and leak tight
- Ensures repeatability and accuracy of the plug position, no slippage
- Position tolerance < 0.5°
- Position accuracy reduces wear on the adjustable, spring-loaded plug seal
- Body geometry optimised to prevent effects of erosion
- Part of the proven SchuF range of diverter and switching valves
- Independent position feedback

<table>
<thead>
<tr>
<th>ITEM</th>
<th>STANDARD</th>
<th>OPTIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve type</td>
<td>Multiport selector manifold</td>
<td>Multiport flow selector</td>
</tr>
<tr>
<td>SchuF valve name</td>
<td>Maniflow Selector Valve</td>
<td>MSV</td>
</tr>
<tr>
<td>Model number</td>
<td>48SZ</td>
<td>48XX</td>
</tr>
<tr>
<td>Number inlets</td>
<td>8 (7 inlets, 1 home port)</td>
<td>more on request</td>
</tr>
<tr>
<td>Inlet size</td>
<td>1” to 12”</td>
<td>larger on request</td>
</tr>
<tr>
<td>Test outlet</td>
<td>1” to 12”</td>
<td>larger on request</td>
</tr>
<tr>
<td>Main outlet</td>
<td>2” to 24”</td>
<td>larger on request</td>
</tr>
<tr>
<td>Material</td>
<td>Carbon St. or St.St. Body with Duplex plug</td>
<td>special materials on request (i.e. Incoloy cladding or Incoloy body and trim for sour service)</td>
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<tr>
<td>Sealing</td>
<td>Radial seal ring (PTFE)</td>
<td>Metal to Metal seal</td>
</tr>
<tr>
<td>Temperature</td>
<td>minus 29°C to 230°C</td>
<td>Higher or lower on request</td>
</tr>
<tr>
<td>Pressure range</td>
<td>All up to ASME 2500</td>
<td>Higher on request</td>
</tr>
<tr>
<td>Actuators</td>
<td>Electric motor with Positioning</td>
<td>Manual</td>
</tr>
<tr>
<td>Add ons</td>
<td>Flushing/Draining ports</td>
<td>Sampling valve, lock, skid assembly, protective bellow</td>
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MSV with Skid assembly