Heavy Duty Air Intake Shut-off Valve
Model 7002

Overview

Hydraulic fracturing technology requires the use of heavy duty high horse power diesel engines. Hydrocarbon release in an area where a diesel engine is operating can lead to diesel engine runaway which can be a highly dangerous situation. Once an engine begins to run on the external fuel source, turning off the ignition will have no effect. The engine will continue to run and overspeed leading to mechanical failure or explosion. The newly released 7002 series air intake shut-off valve was designed for the wear and tear of the frac industry. The valve will effectively shut down a runaway diesel engine by closing off the engine intake air.

Features and Benefits

- Corrosion resistant, anodized aluminum and stainless steel construction
- Rated for continuous working temperature from -40°C to +280°C
- Designed for post-turbo temperatures
- IP67 rated solenoid /actuator
- Designed for high vibration environments
- Male/female marmon flange connections (can be coupled directly to Cummins QSK50 engine intakes)
- Position switch integrated into actuator housing
- Switch is not exposed to charge air temperature/debris

Applications

- Heavy duty high horse power frac diesel engines
- Offshore production engines
- Drilling industry
- Hazardous material vehicles
- Marine engines
- Power generation (gen sets)
- Well service vehicles
- Mining equipment
- Locomotives
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Dimensions

(VALVE IS CLOSED)

(VALVE IS OPEN)

Handle at stop position

Handle at full position

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RELEASE

INITIAL RELEASE 10/23/2013 JRM

TITLE

Houston, Texas, USA; Bury St Edmunds, UK;  & Shanghai, China

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FINISH:

3.2 MICRONS

SWITCH IS CLOSED WHEN VALVE IS CLOSED

Specifications:

- SOLENOID DUTY CYCLE: 1.3%, MAX 1.0s ON, MIN 75s OFF
- SOLENOID VOLTAGE: 19.2-28.8 VOLTS
- TEMP. RANGE: -40° C - 40° C
- WEIGHT: 9(20) k
- TOLERANCES (mm) UNLESS OTHERWISE STATED:
  - Ø146.45 ± .25
  - Ø117.35 ± .00 .13
  - Ø107.05 ± .13
  - Ø127.00 ± .38
  - Ø117.36 ± .00 .13
  - Ø146.45 ± .25
  - Ø127.00 ± .38
  - 20.0 ° ± 5°
  - 20.0 ° ± 5°
  - 5.64 ± .13
  - 20.0 ° ± 5°
  - 5.64 ± .13
  - 1.93 X 45.2" Channel
  - 5.03 ± .05
  - 52.03 ± .40

O-Ring Part Numbers:

(Valve is closed) 107.95
(Valve is open) 117.58

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Specifications

<table>
<thead>
<tr>
<th>Standard materials</th>
<th>Valve body</th>
<th>Hard anodized aluminum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gate</td>
<td>Brass</td>
</tr>
<tr>
<td></td>
<td>Seals</td>
<td>Viton/Silicone</td>
</tr>
<tr>
<td></td>
<td>Safety control operator</td>
<td>Anodized aluminum</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum intake air temperature</th>
<th>-40°C to 280°C</th>
<th>-40°F to 535°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve Size</td>
<td>4” valve size</td>
<td>102 mm</td>
</tr>
<tr>
<td>Net weight</td>
<td>10 kg (21 lbs)</td>
<td></td>
</tr>
<tr>
<td>Max Charge Air Pressure</td>
<td>5 bar</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solenoid</th>
<th>Voltage</th>
<th>19.2 - 28.8 Volts DC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max current draw</td>
<td>38.9 A @ 28.8 VDC &amp; -40°C</td>
</tr>
<tr>
<td></td>
<td>Inductance</td>
<td>3.5mH +40°C</td>
</tr>
<tr>
<td></td>
<td>Duty Cycle @ 125°C</td>
<td>1.3%, Max 1.0s ON Min 75s OFF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Switch</th>
<th>5 Amp resistive load max &gt;0.25W</th>
</tr>
</thead>
</table>

How to order

Use the tables below to select the unique specification of your Model 7002 Intake Air Shut-off Valve:

Example: 7002 AA BB C - DDD

<table>
<thead>
<tr>
<th>A</th>
<th>Valve Size</th>
<th>BB</th>
<th>Valve Operator</th>
<th>C Switch Options</th>
<th>DDD</th>
<th>Connection Options</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>72</td>
<td>Electric Solenoid, 24VDC</td>
<td>A Valve Open = Switch Closed</td>
<td>RZX</td>
<td>Deutsch Solenoid Connector (DT04-4P), Deustch Switch Connector with integral 33 kΩ Shunt (DT06-2S)</td>
</tr>
<tr>
<td></td>
<td>4 inch, standard</td>
<td></td>
<td></td>
<td>B Valve Open = Switch Open</td>
<td>RZO</td>
<td>Deutsch Solenoid Connector (DT04-4P), PIN Style Plug in 15-4 Layout Switch Connector (38999)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HAC</td>
<td>Weatherpack Solenoid Connector (12015792), Deustch Switch Connector (DT06-2S)</td>
</tr>
</tbody>
</table>

Note: AMOT does not qualify the valve for specific applications. Consult the engine and valve specifications.
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Model 7002

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