Technical Catalog

Distributors

High Torque, High Speed
Radial Piston Hydraulic Motors
SAI distributors provide ideal functionality and reliable performance. Optimal distribution is achieved with short ducts that have wide diameters. This reduces power loss when high flow rates are present and achieves very high volumetric efficiency. They can also be optimized for low flow rates. Precision machining and high performance seals provide optimal functionality though the life of the motor as well as protecting against thermal shock. Many distributors are interchangeable, providing a wide range of pressure ratings, port sizes, and flow control options. SAI distributors offer many different models and a variety of solutions for any application. Please consult with the SAI technical department to help determine the correct distributor for your application.

<table>
<thead>
<tr>
<th>Distributor Series</th>
<th>rpm cont. max</th>
<th>psi cont. max</th>
<th>flow (gal/min) cont. max</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3XX</td>
<td>300 500</td>
<td>2000 4000</td>
<td>53 106</td>
</tr>
<tr>
<td>D3XXX</td>
<td>300 500</td>
<td>3550 7100</td>
<td>53 106</td>
</tr>
<tr>
<td>D4XX</td>
<td>1200 2400</td>
<td>3550 7100</td>
<td>53 106</td>
</tr>
<tr>
<td>D90A</td>
<td>700 1200</td>
<td>3550 7100</td>
<td>132 264</td>
</tr>
<tr>
<td>D250A</td>
<td>500 1000</td>
<td>3550 7100</td>
<td>264 528</td>
</tr>
<tr>
<td>D707A</td>
<td>700 1200</td>
<td>3550 7100</td>
<td>120 150</td>
</tr>
</tbody>
</table>
SAI Distributors are designed to be bidirectional. Distributors are marked with ports labeled “A” and “B”. Both ports can be used as either intake or discharge ports. The port used will determine the rotation of the attached motor.

For applications with frequent pressure peaks or severe vibrations, distributors with a steel anti-extrusion ring for the main seal are recommended, and is available upon request.

Special distributors can be supplied that ensure silent running over a wide range of pressures and speeds.

*Adequate protection should be provided to protect the hydraulic charge pump.

<table>
<thead>
<tr>
<th>DISTRIBUTOR</th>
<th>PORTS</th>
<th>PORT DIRECTION</th>
<th>SPEED</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>D30A</td>
<td>3/4” BSP</td>
<td>Axial</td>
<td>Low</td>
<td>Short distributor</td>
</tr>
<tr>
<td>D36A</td>
<td>3/4” SAE</td>
<td>Radial</td>
<td>Low</td>
<td>Standard for FS15, GM05, GM1</td>
</tr>
<tr>
<td>D313A</td>
<td>1” BSPP</td>
<td>Radial</td>
<td>Low</td>
<td>With shuttle valve</td>
</tr>
<tr>
<td>D315A</td>
<td>3/4” BSPP</td>
<td>Radial</td>
<td>Low</td>
<td>With shuttle valve</td>
</tr>
<tr>
<td>D316A</td>
<td>1” SAE</td>
<td>Radial</td>
<td>Low</td>
<td>Standard for FS30, GM2, GM3A, GM4, GM5A</td>
</tr>
<tr>
<td>D317A</td>
<td>1” SAE</td>
<td>Radial</td>
<td>Low</td>
<td>With purge valve (5.3 gal/min @ 285 psi)*</td>
</tr>
<tr>
<td>D327A</td>
<td>1” SAE</td>
<td>Radial</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>D37A</td>
<td>1” SAE 3000 psi</td>
<td>Radial</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>D40A</td>
<td>1” BSPP</td>
<td>Radial</td>
<td>High</td>
<td>For applications that require high speed &amp; back pressure</td>
</tr>
<tr>
<td>D416A</td>
<td>1” SAE</td>
<td>Radial</td>
<td>High</td>
<td>For applications that require high speed &amp; back pressure</td>
</tr>
<tr>
<td>D47A</td>
<td>1” SAE 3000 psi</td>
<td>Radial</td>
<td>High</td>
<td>Standard for GS1, GS2, BD Series</td>
</tr>
<tr>
<td>D47RA</td>
<td>1” SAE 6000 psi</td>
<td>Radial</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>D48A</td>
<td>1” BSPP</td>
<td>Radial</td>
<td>High</td>
<td>With double pressure relief valves, 6000 psi, 40 gal/min</td>
</tr>
<tr>
<td>D481A</td>
<td>1” BSPP</td>
<td>Radial</td>
<td>High</td>
<td>With purge valve (5.3 gal/min @ 285 psi)*</td>
</tr>
<tr>
<td>D90A</td>
<td>1-1/2” SAE 6000 psi</td>
<td>Radial</td>
<td>High</td>
<td>Standard for GM6, L7B, GS3, GS4, GS5</td>
</tr>
<tr>
<td>D250A</td>
<td>2” SAE 6000 PSI</td>
<td>Radial</td>
<td>High</td>
<td>Standard for GS6</td>
</tr>
<tr>
<td>D707A</td>
<td>1-1/4” SAE 6000 psi</td>
<td>Radial</td>
<td>High</td>
<td>Standard for FS507</td>
</tr>
</tbody>
</table>
D30A
Low flow rate distributor with axial port connections.

Max Continuous Pressure: 2000 psi.
Max Peak Pressure: 4000 psi.
Weight: 5.5 lbs

D36A
Low flow rate distributor with -12 SAE O-ring ports

Max Continuous Pressure: 2000 psi.
Max Peak Pressure: 4000 psi.
Weight: 8 lbs

D313A
Low flow rate distributor with shuttle valve for high pressure pilot.

Max Continuous Pressure: 3550 psi.
Max Peak Pressure: 7100 psi.
Weight: 9.9 lbs
D315A
Low flow rate distributor with shuttle valve for high pressure pilot and 3/4" BSPP ports.
Max Continuous Pressure: 3550 psi.
Max Peak Pressure: 7100 psi.
Weight: 9.9 lbs

D316A
Low flow rate distributor with -16 SAE O-ring ports
Max Continuous Pressure: 3550 psi.
Max Peak Pressure: 7000 psi.
Weight: 8 lbs

D317A
Low flow rate distributor with purge valve (5.3 gal/min at 285 psi) and -16 SAE O-ring ports.
Max Continuous Pressure: 3550 psi.
Max Peak Pressure: 7100 psi.
Weight: 9.9 lbs
**D327A**
Low flow rate distributor with shuttle valve for high pressure pilot and -16 SAE O-ring ports.

Max Continuous Pressure: 3550 psi.
Max Peak Pressure 7100 psi.
Weight: 9.9 lbs

**D37A**
Low flow rate distributor with -16 SAE 3000 psi flanges

Max Continuous Pressure: 2000 psi.
Max Peak Pressure 4000 psi.
Weight: 11 lbs

**D40A**
High flow rate distributor for applications that require high flow rate and back pressure. With 1" BSPP ports.

Max Continuous Pressure: 3550 psi.
Max Peak Pressure 7100 psi.
Weight: 11 lbs
**D416A**

High flow rate distributor for applications that require high flow rate and back pressure. With -16 SAE O-ring ports.

Max Continuous Pressure: 3550 psi.
Max Peak Pressure: 7100 psi.
Weight: 11 lbs

**D47A**

High flow rate distributor with -16 SAE 3000 psi flanges

Max Continuous Pressure: 3550 psi.
Max Peak Pressure: 7100 psi.
Weight: 13 lbs

**D47RA**

High flow rate distributor with -16 SAE 6000 psi flanges

Max Continuous Pressure: 3550 psi.
Max Peak Pressure: 7100 psi.
Weight: 13 lbs
D48A
High flow rate distributor with direct acting relief valves. Variable relief setting, max 6000 psi. 50 gpm max.

Max Continuous Pressure: 3550 psi.
Max Peak Pressure 7100 psi.
Weight: 13 lbs

D481A
High flow rate distributor w/direct acting relief valves and purge valve. Variable relief setting, 6000 psi max, 50 gpm max. Purge valve 5.3 gal/min at 285 psi.

Max Continuous Pressure: 3550 psi.
Max Peak Pressure 7100 psi.
Weight: 13 lbs
**D90A**

High flow rate distributor for large motors. 1-1/2” SAE 6000 psi flanges.

Max Continuous Pressure: 3550 psi.
Max Peak Pressure 7100 psi.
Weight: 32 lbs

**D250A**

High flow rate distributor for large motors. 2” SAE 6000 psi flanges.

Max Continuous Pressure: 3550 psi.
Max Peak Pressure 7100 psi.
Weight: 110 lbs
D707A
High flow rate distributor for large 7-piston motors. 1-1/4" SAE 6000 psi flanges.

Max Continuous Pressure: 3550 psi.
Max Peak Pressure 7100 psi.
Weight: 32 lbs
MECHANICAL TACHOMETERS FOR ALL MOTORS

Tachometer drive plug, 1/2” BSPP thread

**Code K**

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Tachometer drive, 1/2” BSPP thread

**Code J**

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Tachometer drive mount for BEI encoder E25 BA (type 6R)

For D3XX

**Code JB2A**

For all other distributors

**Code JB2**

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Tachometer drive mount for magnetic switch (12 pulse/rev)

**Code JB3**
Distributors

Mechanical tachometer for FS15A3.
Tachometer drive mount for magnetic switch (20 pulse/rev)

Code RS

High speed option for low speed distributors

Code HS

Low speed distributors such as D30, D31...D37 can be supplied mounted on a bronze disc (see figure). With this disc these distributors have the same max speed characteristics as high speed distributors.

ORDER CODES

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(7) DISTRIBUTOR TYPE</td>
<td>D...</td>
</tr>
<tr>
<td>(8) Valve pressure setting (bar)</td>
<td>(...)</td>
</tr>
<tr>
<td>(9) Predisposed for tachometer</td>
<td>K</td>
</tr>
<tr>
<td>Mechanical Tach. mount</td>
<td>J</td>
</tr>
<tr>
<td>Mount for BEI Encoder E25 BA (type 6R)</td>
<td>JB2/ JB2A</td>
</tr>
<tr>
<td>Mount for Magnetic Switch 12 pulse/rev</td>
<td>JB3</td>
</tr>
<tr>
<td>Mount for Magnetic Switch 20 pulse/rev (FS15A3 only)</td>
<td>RS</td>
</tr>
</tbody>
</table>

Available on request: - Standard distributors are supplied with a steel anti-extrusion ring for the main seal in the rotor which is suitable for high pressure operation. - Special distributor for silent running motors. - Intermediate bronze disc for high speed operation with low speed distributors.