A10VS010 Axial Piston Variable Pump

- Maximum Pressure 4600 psi / Speed 4320 rpm
- For Mobile and Industrial Use
- SAE & Metric Units
- Same Day Shipments of units or parts orders

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Model Code Breakdown

A10VS0 10 DR 52 R P S A 64 N00

Axial Piston Unit
Swashplate design, variable nominal pressure 250 bar, max 315 bar ... Pump, open circuit

Size
10 - Geometric displacement cm³/rev - 10, in³/rev - 0.61

Control Device
DR - Pressure control
DRG - Pressure control, remotely operated
DFR - Pressure control with flow control (X-T open)
DFR1 - Pressure control with flow control (X-T plugged)

Series
52 - Series 5, index 2

Rotation
R - Clockwise
L - Counterclockwise
(With view on drive shaft)

Through Drive
N00 - Without through drive

Service Ports
64 - Pressure port B inlet port S, UNF-straight thread O-ring ports rear
14 - Pressure port B inlet port S, Metric thread rear

Mounting Flange
C - SAE 2-bolt J744 82-2
Ø 3.25 in
A - ISO 2-bolt ISO 3019-1
Ø 80 mm

Drive Shaft
S - Standard splined shaft 3/4 in 11T-16/32 DP
U - Splined shaft, reduced diameter 5/8 in 9T-16/32 DP
P - Parallel shaft key to DIN 6885 18 mm keyed
K - Parallel shaft keyed SAE version 3/4 in keyed

Seals
P - NBR (Nitrile-rubber, shaft seal FKM)
V - FKM (fluor-rubber)

Series 52
Open Circuit
Nominal Pressure is 3600 psi
Max Pressure is 4600 psi
Nominal Speed is 3600 rpm
Max Speed is 4320 rpm
Dimensions for SAE Version

A10VS010 DR /52 RXKC64N00

Shaft end “K” SAE

View Y
shown is clockwise rotation (R)

View Y
shown is counter-clockwise rotation (L)

Ports

<table>
<thead>
<tr>
<th></th>
<th>Pressure port</th>
<th>1/16-12UNF-2B</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>Inlet port</td>
<td>1/16-12UNF-2B</td>
</tr>
<tr>
<td>L/L</td>
<td>Case drain</td>
<td>9/16-18UNF-2B</td>
</tr>
</tbody>
</table>

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Dimensions for SAE Version
A10VS010 DR /52 RPKC64N00
DRG
DFR (1)

Shaft end “K” SAE

View Y
shown is clockwise rotation (R)

Ports

<table>
<thead>
<tr>
<th>Port</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Pressure port</td>
<td>1 1/16-12UNF-2B</td>
</tr>
<tr>
<td>S</td>
<td>Inlet port</td>
<td>1 1/16-12UNF-2B</td>
</tr>
<tr>
<td>L/L</td>
<td>Case drain</td>
<td>9/16-18UNF-2B</td>
</tr>
<tr>
<td>X</td>
<td>Pilot port</td>
<td>7/16-20UNF-2B</td>
</tr>
</tbody>
</table>

Note: Alternate X-port may be used. (One side plugged)
X-port omitted with DR control.
Dimensions for Metric Version

A10VS010 DR /52 RPKA14N00

Shaft end “P” Metric

Shaft end “S” Shaft end “U”

Ports

<table>
<thead>
<tr>
<th>Port</th>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Pressure port</td>
<td>M27x2</td>
</tr>
<tr>
<td>S</td>
<td>Inlet port</td>
<td>M27x2</td>
</tr>
<tr>
<td>L/L</td>
<td>Case drain</td>
<td>M16x1.5</td>
</tr>
</tbody>
</table>

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Dimensions for Metric Version
A10VSO10 DR /52 RPKA14N00
DGR
DFR (1)

Shaft end “P” Metric

View Y
shown is clockwise rotation

View Y
shown is counter-clockwise rotation

Shaft end “S”
Shaft end “U”

Note: Alternate X-port may be used,(one side plugged). X-port omitted on DR control.

<table>
<thead>
<tr>
<th>Ports</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Pressure port</td>
</tr>
<tr>
<td>S</td>
<td>Inlet port</td>
</tr>
<tr>
<td>L/L</td>
<td>Case drain</td>
</tr>
<tr>
<td>X</td>
<td>Pilot port w/ adapter</td>
</tr>
<tr>
<td>X</td>
<td>Pilot port w/o adapter</td>
</tr>
</tbody>
</table>

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Pressure Controls

DR & DRG

DR Pressure Control
It serves to maintain a constant pressure in the hydraulic system, within the control range of the pump. The pump therefore supplies only the amount of hydraulic fluid required by the actuators. Pressure may be steplessly set at the pilot valve.

Static characteristic
(at $n_1 = 1500$ rpm; $t_{oil} = 122$ °F (50 °C))

DRG Pressure Control
Function and design as for DR. The remote pressure control can be adjusted up to the pre set pressure level of the DR control. A pressure relief valve may be externally piped to port X for remote control purposes. It is not, however, included with the DRG control. The differential pressure at the pilot valve is set as standard to 290 psi (20 bar) and this results in a pilot flow of 0.5 gpm (1.5 L/min). If another setting is required (in the range 145-320 (10-20 bar)), please make sure you state in clear text.

Static characteristic
(at $n_1 = 1500$ rpm; $t_{oil} = 122$ °F (50 °C))
Pressure Controls
DFR & DFR1

DFR1/DFR Pressure / Flow Control
In addition to the pressure control function, the pump flow may be varied by means of a differential pressure at the actuator (ex. an orifice, not included in supply). The pump flow is equal to the actual required flow by the actuator. The DFR1-valve has no connection between X and tank.

DFR Pressure Control
The function is the same as the DFR1 control, however, in addition a bleed down orifice is provided to vent trapped pressure in the load sense line.

DFR1 Remote Pressure / Flow Control
The DFR1 control can be used for combination of remote pressure and flow control. A pressure relief valve may be externally piped to the X-point, together with the load senseline. An orifice (0.8-1.2 mm) needs to be installed in the load sense line.
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