Hydraulic Power Units
Horizontal Mount Variable Displacement Pumps
A complete standard power unit program featuring:

- Steel reservoir sizes 35, 60 and 100 gallons.
- Vane and radial piston type pumps with flow rates of 7.5 to 30.3 GPM.
- System pressures ranging from 400 to 4060 PSI.
- Horizontal shock mounted, electric motors, in sizes from 3 to 75 HP.
- In-tank return line filter with removable bowl.
- Oil level gage with thermometer for easy check of fluid level and temperature.
- Optional bar manifolds, heat exchanger and/or accessories can be specified to form a complete compact system.
- All units are fully assembled, tested and painted.
### Index

<table>
<thead>
<tr>
<th>Tank Size</th>
<th>Pump Flow Rate</th>
<th>Motor Size</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 Gallon (133 Liter)</td>
<td>7.42 to 11.96 GPM (28.08 to 43.00 LPM)</td>
<td>3 to 20 HP</td>
<td>6</td>
</tr>
<tr>
<td>60 Gallon (228 Liter)</td>
<td>14.77 to 20.83 GPM (55.9 to 78.73 LPM)</td>
<td>7.5 to 40 HP</td>
<td>16</td>
</tr>
<tr>
<td>100 Gallon (380 Liter)</td>
<td>29.09 to 30.3 GPM (110.11 to 114.09 LPM)</td>
<td>15 to 75 HP</td>
<td>24</td>
</tr>
</tbody>
</table>

### Specifying / Ordering Procedure:

1. **Pump Flow Rate / Tank Size**
   - Start selection process in the Index above. The Pump Flow Rate / Tank Size will lead to the catalog page for the Hydraulic Power Unit required.

2. **Pump Type / Pressure / Horsepower**
   - Based upon selection in step one, the first page of that section features the Selection Chart / Ordering Part Numbers. This chart enables a part number to be determined for a Basic Power Unit, without pump, chosen by Pump Type, Horsepower and Pressure Rating. Specify this part number on purchase order.

3. **Pump Selection**
   - This chart lists various control options for vane and Radial Piston Pumps to be used with the basic Power Unit. Specify this part number on purchase order.

4. **Manifold Selection Chart / Accessory Selection**
   - Select manifold type and any accessory required from these charts. Part numbers for directional, Modular and Proportional control valves will be found in the corresponding Engineering catalogs. Specify these part numbers on purchase order.

5. **Specifying Example:**
   - If requirements are:
     * a flow rate of 7 GPM,
     * a 35 gallon tank,
     * a maximum working pressure of 3000 PSI
   
   The Index would lead to page 6 of this catalog. In the Selection Chart/Ordering Part Numbers, a Radial Piston Pump 0.98 c.i. displacement and an electric motor rated at 20 HP will deliver the 3000 PSI required. Part number 9815230372 would be used as the ordering number for the Basic Power Unit. This part number along with the part number of the pump, manifold and any combination of accessories, including control valves, should be listed as individual line items on purchase order.
## Technical Specifications

### General

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank Sizes</td>
<td>35, 60 and 100 Gallon (133, 228 and 280 Liters) Welded Steel</td>
</tr>
<tr>
<td>Hydraulic Pumps</td>
<td>7.5 to 30.3 GPM</td>
</tr>
<tr>
<td>Electric Motors</td>
<td>3 to 70 HP at 1750 PRM, C-Face, TEFC 230/460/3/60</td>
</tr>
<tr>
<td>Installation Position</td>
<td>Horizontal Mount Pump/Motor Group</td>
</tr>
<tr>
<td>Operating Pressure</td>
<td>Reference Individual Basic Power Unit</td>
</tr>
<tr>
<td>Hydraulic Fluid</td>
<td>Premium Grade Hydraulic Oil with Anti-Wear Additives (Others on Request)</td>
</tr>
</tbody>
</table>

### Viscosity

<table>
<thead>
<tr>
<th>Viscosity</th>
<th>Minimum Operating Viscosity</th>
<th>Optimum Operating Viscosity</th>
<th>Maximum Operating Viscosity</th>
<th>Maximum Start-up Viscosity</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPV-16</td>
<td>100 SUS 21 cST</td>
<td>150-250 SUS 32-54 cST</td>
<td>1000 SUS 216 cST</td>
<td>4000 SUS 864 cST</td>
</tr>
<tr>
<td>SV-10</td>
<td>150 SUS 32 cST</td>
<td>200-300 SUS 43-65 cST</td>
<td>1000 SUS 216 cST</td>
<td>4000 SUS 864 cST</td>
</tr>
<tr>
<td>SV-40</td>
<td>60 SUS 12 cST</td>
<td>216 SUS 46 cST</td>
<td>400 SUS 100 cST</td>
<td>2000 SUS 500 cST</td>
</tr>
<tr>
<td>RKP-16</td>
<td>66 SUS 32, 45, 63</td>
<td>216 SUS 46 cST</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fluid Temperature

+5 to +176° F (-15 to +80° C)

### Seals

Buna N

### Standard Equipment

- Tank, Steel Cover, Drain Plug, Oil Level Gage with Thermometer,
- Cleanout Cover, Filler/Air Breather, Motor Group Assembly: Shock Mounted, Drain Connection, Intank Return Line Filter: 10 Micron,
- Relief Valve Manifold Mount with Gage Port

### Accessories

- Pump, Filter Clogging Indicators, Heat Exchanger, Water Valve with Bulbwell, Water Strainer, Air Bleed (Recommended for Vane Pumps), Float Switch, Temperature Switch with Bulbwell, Heater with Bulbwell, Bar Manifold: 1 to 5 Station, Gage Isolator Assembly

### Valving

Reference Bosch Catalogs for Directional, Modular, and Proportional Control Valves.

### Scope of Supply

Units are completely assembled, as selected from the following selection charts, tested and painted

### Reference Catalogs

<table>
<thead>
<tr>
<th>Component Type</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vane Pumps</td>
<td></td>
</tr>
<tr>
<td>SV 10 &amp; 15</td>
<td>AKY 003/1 US</td>
</tr>
<tr>
<td>SV 20</td>
<td>AKY 003/2 US</td>
</tr>
<tr>
<td>SV 40</td>
<td>AKY 003/3 US</td>
</tr>
<tr>
<td>Radial Piston Pump</td>
<td></td>
</tr>
<tr>
<td>RKP 16, 32, 45, 63</td>
<td>AKY 002/2 US</td>
</tr>
<tr>
<td>Relief Valve</td>
<td>AKY 007/1</td>
</tr>
<tr>
<td>Directional Control Valves</td>
<td></td>
</tr>
<tr>
<td>DO3 (NG6)</td>
<td>HPUS AKY 006/4 US</td>
</tr>
<tr>
<td>DO5 (NG10)</td>
<td>HPUS AKY 006/18 US</td>
</tr>
<tr>
<td>DO7 (NG16)</td>
<td>HPUS AKY 006/6 US</td>
</tr>
<tr>
<td>Modular Valve</td>
<td></td>
</tr>
<tr>
<td>DO3 (NG6)</td>
<td>AKY 010/1 US</td>
</tr>
<tr>
<td>DO5 (NG10)</td>
<td>AKY 010/1</td>
</tr>
<tr>
<td>Proportional Control Valve</td>
<td></td>
</tr>
<tr>
<td>DO3 (NG6) &amp; DO5 (NG10)</td>
<td>AKY 013/1 EN</td>
</tr>
</tbody>
</table>

### Price

SEE "PRICE LIST HYDRAULIC POWER UNIT, HORIZONTAL MOUNT, VARIABLE DISPLACEMENT PUMPS" HPUS-AKY004/4PUS

### Product Literature Disclaimer

SPECIFICATIONS AND/OR DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. PLEASE CONSULT FACTORY.
## 35 Gallon / 133 Liter Steel Tank

### Selection Chart/Ordering Part Numbers

<table>
<thead>
<tr>
<th>Tank Size</th>
<th>Pump Designation</th>
<th>Flow (l/min)</th>
<th>Motor Pressure Max @ HP (Psi/bar)</th>
<th>Basic Power Unit without Pump Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 (133)</td>
<td>SV-10 Vane Pump</td>
<td>7.58 (28.69)</td>
<td>500/35 9815 230 355</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SV-15 Vane Pump</td>
<td>11.36 (43)</td>
<td>830/43 9815 230 360</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VPV-16 Vane Pump</td>
<td>7.58 (26.69)</td>
<td>940/65 9815 230 364</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RKP-16 Radial Piston Pump</td>
<td>7.42 (28.08)</td>
<td>960/66 9815 230 368</td>
<td></td>
</tr>
</tbody>
</table>

### Pump Selection Chart

#### Vane Pump

<table>
<thead>
<tr>
<th>Control Description</th>
<th>SV-10 Part Number</th>
<th>SV-15 Part Number</th>
<th>VPV-16 Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Stage</td>
<td>6928981</td>
<td>6928985</td>
<td>0 514 300 203</td>
</tr>
<tr>
<td>2-Stage</td>
<td>6928904</td>
<td>6928912</td>
<td>0 514 300 211</td>
</tr>
<tr>
<td>Solenoid 2-Pressure</td>
<td>6928924</td>
<td>6928923</td>
<td>Consult factory</td>
</tr>
<tr>
<td>Normally Low Energy High</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Load Sensing</td>
<td>6928907</td>
<td>6928915</td>
<td>Consult factory</td>
</tr>
<tr>
<td>Torque Limiting</td>
<td>6928918</td>
<td>6928220</td>
<td>Consult factory</td>
</tr>
</tbody>
</table>

#### Radial Piston Pump

<table>
<thead>
<tr>
<th>Control Description</th>
<th>RKP-16 Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustable</td>
<td>0 514 300 287</td>
</tr>
<tr>
<td>Remote</td>
<td>0 514 300 289</td>
</tr>
<tr>
<td>Pressure and Flow</td>
<td>0 514 300 323</td>
</tr>
<tr>
<td>Constant HP</td>
<td>Consult Factory</td>
</tr>
</tbody>
</table>
### Pump Control Manifold Selection Chart

<table>
<thead>
<tr>
<th>Manifold Type</th>
<th>Reference</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Control Manifold</td>
<td>See page 38.</td>
<td>Load Sense Flow Control</td>
<td>9 815 232 921</td>
</tr>
<tr>
<td>Pressure and Flow Control manifold</td>
<td>See page 38.</td>
<td>Combined Pressure and Flow Control</td>
<td>9 815 232 922</td>
</tr>
<tr>
<td>Proportional Control Valve</td>
<td>See page 38.</td>
<td>See Catalog NG6 and NG10 Proportional</td>
<td>Select from catalog.</td>
</tr>
</tbody>
</table>

### Bar Manifold Selection Chart

<table>
<thead>
<tr>
<th>Manifold Type</th>
<th>Reference</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar Manifold DO3 (NG6)</td>
<td>See page 35.</td>
<td>1 Valve Station</td>
<td>9 815 232 901</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Valve Station</td>
<td>9 815 232 902</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Valve Station</td>
<td>9 815 232 903</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Valve Station</td>
<td>9 815 232 904</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 Valve Station</td>
<td>9 816 232 005</td>
</tr>
<tr>
<td>Bar Manifold DO5 (NG10)</td>
<td>See page 36.</td>
<td>1 Valve Station</td>
<td>9 815 232 911</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Valve Station</td>
<td>9 815 232 912</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Valve Station</td>
<td>9 815 232 913</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Valve Station</td>
<td>9 815 232 914</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 Valve Station</td>
<td>9 815 232 915</td>
</tr>
<tr>
<td>Directional Control Valves</td>
<td>See page 35 &amp; 36.</td>
<td>See Catalog Directional Control Valve</td>
<td>Select from catalog.</td>
</tr>
<tr>
<td>Modular Control Valves</td>
<td>See page 35 &amp; 36.</td>
<td>See Catalog Directional Control Valve</td>
<td>Select from catalog.</td>
</tr>
</tbody>
</table>

### Accessory Selection Chart

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Reference</th>
<th>Description</th>
<th>Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter Clogging Indicator</td>
<td>See page 32.</td>
<td>Optical Gage</td>
<td>RB5-03</td>
<td>9 815 230 106</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical (Pressure Switch), 250 VAC, 22 PSI</td>
<td></td>
<td>9 815 230 107</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical w/Light (DIN Plug w/Light 24 Volt DC)</td>
<td></td>
<td>9 815 230 108</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical w/Light (DIN Plug w/Light 115 Volt AC)</td>
<td></td>
<td>9 815 230 109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical w/Light (DIN Plug w/Light 230 Volt AC)</td>
<td></td>
<td>9 815 230 110</td>
</tr>
<tr>
<td>Heat Exchanger</td>
<td>See page 32.</td>
<td>Water to Oil</td>
<td>10-RB5-30</td>
<td>9 815 232 947</td>
</tr>
<tr>
<td>Water Valve</td>
<td>See page 33.</td>
<td>Modulating Valve with Bulbwell</td>
<td>3/4 RB6-46-B</td>
<td>9 815 230 112</td>
</tr>
<tr>
<td>Water Strainer</td>
<td>See page 33.</td>
<td></td>
<td>3/4 RB5-43</td>
<td>9 815 232 948</td>
</tr>
<tr>
<td>Air Bleed Valve</td>
<td>See page 33.</td>
<td>Recommended For Vane Pumps</td>
<td>RB6-37</td>
<td>9 815 232 949</td>
</tr>
<tr>
<td>Float Switch</td>
<td>See page 33.</td>
<td>Normally closed dry</td>
<td>RB4-26</td>
<td>9 815 232 950</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normally open dry</td>
<td></td>
<td>9 815 232 951</td>
</tr>
<tr>
<td>Temperature Switch</td>
<td>See page 34.</td>
<td>Single Contact</td>
<td>RB4-40-B</td>
<td>9 815 232 952</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double Contact</td>
<td></td>
<td>9 815 232 953</td>
</tr>
<tr>
<td>Heater</td>
<td>See page 34.</td>
<td>Heater with Bulbwell (Specify voltage.)</td>
<td>RB5-40</td>
<td>9 815 232 954</td>
</tr>
<tr>
<td>Pressure Gage</td>
<td>See page 34.</td>
<td>Gage Isolator Assembly</td>
<td>RB4-06</td>
<td>9 815 232 955</td>
</tr>
</tbody>
</table>
Standard Equipment

1. Tank
2. Tank drain connection
3. Oil level gage with thermometer
4. Clean out cover
5. Filter/Air breather
6. Motor/Pump group, shock mounted
7. Auxiliary return connection
8. Return filter, intank mounted
9. Relief valve, manifold mounted
10. Hydraulic pump

Pressure Port Size Chart

- Radial Piston Pump
  - 3/4" Code 61 4 Bolt Flange
- Vane Pump
  - #12 SAE Straight Thread
  - VPV 16 with Shock Clipper Shown
Optional Accessories

1 through 10 see preceding page
11. Optical indicator
12. Electrical indicator
13. Electrical indicator with light
14. Heat exchanger
15. Water valve with bulbwell
16. Water strainer
17. Air bleed (recommended for vane pumps)
18. Float switch
19. Temperature switch with bulbwell
20. Heater with bulbwell
21. Bar manifold 1 to 5 station
22. Gage/Isolator assembly

*VPV 16 WITH SHOCK CLIPPER SHOWN


**35 Gallon Unit with VPV-16**

1. Tank
2. Tank drain connection
3. Oil level gage with thermometer
4. Clean out cover
5. Filler/Air breather
6. Motor/Pump group, shock mounted
7. Auxiliary return connection
8. Return filter, intank mounted
9. Relief valve, manifold mounted
10. Hydraulic pump

(Selection of pump and it's control may affect overall dimensions.)
35 Gallon Unit with VPV-16 and Optional Accessories

1. Optical indicator
2. Electrical indicator
3. Electrical indicator with light
4. Heat exchanger
5. Water valve with bulbwell
6. Water strainer
7. Air bleed (recommended for vane pumps)
8. Float switch
9. Temperature switch with bulbwell
10. Heater with bulbwell
11. Bar manifold 1 to 5 station
12. Gage/isolator assembly

Customer connections
see pages 35 and 36

Inches (Millimeters)

(Selection of pump and its control may affect overall dimensions.)
35 Gallon Unit with SV-10

1. Tank
2. Tank drain connection
3. Oil level gage with thermometer
4. Clean out cover
5. Filter/Air breather
6. Motor/Pump group, shock mounted
7. Auxiliary return connection
8. Return filter, intank mounted
9. Relief valve, manifold mounted
10. Hydraulic pump

(Inches (Millimeters))

(Selection of pump and it's control may affect overall dimension.)
35 Gallon Unit with SV-10 and Optional Accessories

1. Optical indicator
2. Electrical indicator
3. Electrical indicator with light
4. Heat exchanger
5. Water valve with bulbwell
6. Water strainer
7. Air bleed (recommended for vane pumps)
8. Float switch
9. Temperature switch with bulbwell
10. Heater with bulbwell
11. Bar manifold 1 to 5 station
12. Gauge/isolator assembly

Customer connections see pages 35 and 36

(Selection of pump and its control may affect overall dimensions.)
35 Gallon Unit with RKP-16

1. Tank
2. Tank drain connection
3. Oil level gage with thermometer
4. Clean out cover
5. Filler/Air breather
6. Motor/Pump group, shock mounted
7. Auxiliary return connection
8. Return filter, intank mounted
9. Relief valve, manifold mounted
10. Hydraulic pump

(Selection of pump and it's control may affect overall dimensions.)
35 Gallon Unit with RKP-16 and Optional Accessories

1 though 10 see preceding page

11. Optical indicator
12. Electrical indicator
13. Electrical indicator with light
14. Heat exchanger
15. Water valve with bulbwell
16. Water strainer
17. Air bleed (recommended for vane pumps)
18. Float switch
19. Temperature switch with/bulbwell
20. Heater with bulbwell
21. Bar manifold 1 to 5 station
22. Gage/bulbwell assembly

(Customer connections see pages 35 and 36)

(Selection of pump and its control may affect overall dimensions.)

(Selection of pump and its control may affect overall dimensions.)
### Selection Chart/Ordering Part Numbers

<table>
<thead>
<tr>
<th>Tank Size</th>
<th>Pump Designation</th>
<th>Pump Displacement</th>
<th>How @1750 RPM</th>
<th>Motor HP</th>
<th>Pressure Max @ HP</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 Gallon</td>
<td>SV-20 Vane Pump</td>
<td>15.15 L/min</td>
<td>7 1/2</td>
<td>705 PSI</td>
<td>49 bar</td>
</tr>
<tr>
<td>(228)</td>
<td></td>
<td>(57.34)</td>
<td>10</td>
<td>940 PSI</td>
<td>65 bar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>1410 PSI</td>
<td>97 bar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>1000 PSI</td>
<td>100 bar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td>2000 PSI</td>
<td>138 bar</td>
</tr>
<tr>
<td>SV-25</td>
<td>(1.59)</td>
<td>18.94 L/min</td>
<td>7 1/2</td>
<td>565 PSI</td>
<td>39 bar</td>
</tr>
<tr>
<td></td>
<td>(32.78)</td>
<td>(71.69)</td>
<td>10</td>
<td>750 PSI</td>
<td>52 bar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>1130 PSI</td>
<td>78 bar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>1500 PSI</td>
<td>103 bar</td>
</tr>
<tr>
<td>RKP-32</td>
<td>1.95 L/min</td>
<td>14.77 L/min</td>
<td>7 1/2</td>
<td>725 PSI</td>
<td>50 bar</td>
</tr>
<tr>
<td>Radial</td>
<td>(32)</td>
<td>(55.90)</td>
<td>10</td>
<td>965 PSI</td>
<td>67 bar</td>
</tr>
<tr>
<td>Piston</td>
<td></td>
<td></td>
<td>15</td>
<td>1450 PSI</td>
<td>100 bar</td>
</tr>
<tr>
<td>Pump</td>
<td></td>
<td></td>
<td>20</td>
<td>1930 PSI</td>
<td>133 bar</td>
</tr>
<tr>
<td>RKP-45</td>
<td>2.75 L/min</td>
<td>20.83 L/min</td>
<td>7 1/2</td>
<td>2415 PSI</td>
<td>167 bar</td>
</tr>
<tr>
<td>Radial</td>
<td>(40)</td>
<td>(76.94)</td>
<td>10</td>
<td>2900 PSI</td>
<td>200 bar</td>
</tr>
<tr>
<td>Piston</td>
<td></td>
<td></td>
<td>15</td>
<td>4560 PSI</td>
<td>260 bar</td>
</tr>
<tr>
<td>Pump</td>
<td></td>
<td></td>
<td>20</td>
<td>3045 PSI</td>
<td>210 bar</td>
</tr>
</tbody>
</table>

### Pump and Control Selection Chart

#### Vane Pumps

<table>
<thead>
<tr>
<th>Pressure compensation Control description</th>
<th>SV-20</th>
<th>SV-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single stage</td>
<td>6925767</td>
<td>6925773</td>
</tr>
<tr>
<td>2 stage</td>
<td>6925750</td>
<td>6925901</td>
</tr>
<tr>
<td>Solenoid 2-pressure</td>
<td>6925784</td>
<td>6925901</td>
</tr>
<tr>
<td>Normally low energized high</td>
<td>6925785</td>
<td>6925905</td>
</tr>
<tr>
<td>Load sensing</td>
<td>6925761</td>
<td>6925953</td>
</tr>
<tr>
<td>Torque limiting</td>
<td>6925926</td>
<td>6925996</td>
</tr>
</tbody>
</table>

#### Radial Piston Pumps

<table>
<thead>
<tr>
<th>Pressure compensator control description</th>
<th>RKP-32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustable</td>
<td>0 514 500 311</td>
</tr>
<tr>
<td>Remote</td>
<td>0 514 500 313</td>
</tr>
<tr>
<td>Pressure and flow</td>
<td>0 514 500 395</td>
</tr>
<tr>
<td>Constant H.P.</td>
<td>Consult factory</td>
</tr>
</tbody>
</table>
### Pump Control Manifold Selection Chart

<table>
<thead>
<tr>
<th>Manifold Type</th>
<th>Reference</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow control manifold</td>
<td>See page 38.</td>
<td>Load sense flow control</td>
<td>9 815 232 943</td>
</tr>
<tr>
<td>Pressure &amp; flow control manifold</td>
<td>See page 38.</td>
<td>Combined pressure and flow control</td>
<td>9 815 232 944</td>
</tr>
<tr>
<td>Proportional control valves</td>
<td>See page 38.</td>
<td>See catalog NG6 and NG10 proportional</td>
<td>Select from catalog.</td>
</tr>
</tbody>
</table>

### Bar Manifold Selection Chart

<table>
<thead>
<tr>
<th>Manifold Type</th>
<th>Reference</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar manifold (D05/NG10)</td>
<td>See page 36.</td>
<td>1 Valve Station</td>
<td>9 815 232 911</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Valve Stations</td>
<td>9 815 232 912</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Valve Stations</td>
<td>9 815 232 913</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Valve Stations</td>
<td>9 815 232 914</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 Valve Stations</td>
<td>9 815 232 915</td>
</tr>
<tr>
<td>Bar manifold (D07/NG16)</td>
<td>See page 37.</td>
<td>1 Valve Station</td>
<td>9 815 232 923</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Valve Stations</td>
<td>9 815 232 924</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Valve Stations</td>
<td>9 815 232 925</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Valve Stations</td>
<td>9 815 232 926</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 Valve Stations</td>
<td>9 815 232 927</td>
</tr>
<tr>
<td>Directional control valves</td>
<td>See page 37.</td>
<td>See catalog directional control valves</td>
<td>Select from catalog.</td>
</tr>
<tr>
<td>Modular control valves</td>
<td>See page 37.</td>
<td>See catalog modular control valves</td>
<td>Select from catalog.</td>
</tr>
</tbody>
</table>

### Accessory Selection Chart

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Reference</th>
<th>Description</th>
<th>Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter clogging indicator</td>
<td>See page 32.</td>
<td>Optical (gage) Electrical (pressure switch) 250 VAC Electrical w/light (DIN plug w/light 24 Volt DC) Electrical w/light (DIN plug w/light 115 Volt AC) Electrical w/light (DIN plug w/light 230 Volt AC)</td>
<td>RB5-03</td>
<td>9 815 230 106</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9 815 230 107</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9 815 232 928</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9 815 232 929</td>
</tr>
<tr>
<td>Heat exchanger</td>
<td>See page 32.</td>
<td>Water to Oil 11</td>
<td>RB5-30</td>
<td>9 815 232 956</td>
</tr>
<tr>
<td>Water valve</td>
<td>See page 33.</td>
<td>Modulating valve with bulbwell</td>
<td>3/4 RB5-45-B</td>
<td>9 815 230 112</td>
</tr>
<tr>
<td>Water strainer</td>
<td>See page 33.</td>
<td></td>
<td>3/4 RB5-43</td>
<td>9 815 232 948</td>
</tr>
<tr>
<td>Air bleed valve</td>
<td>See page 34.</td>
<td>Recommended for vane pumps</td>
<td>RRA-37</td>
<td>9 815 232 949</td>
</tr>
<tr>
<td>Float switch</td>
<td>See page 35.</td>
<td>Normally closed dry</td>
<td>RB4-26</td>
<td>9 815 232 957</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normally open dry</td>
<td></td>
<td>9 815 232 958</td>
</tr>
<tr>
<td>Temperature switch</td>
<td>See page 36.</td>
<td>Single contact</td>
<td>RB4-40B</td>
<td>9 815 232 952</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double contact</td>
<td></td>
<td>9 815 232 953</td>
</tr>
<tr>
<td>Heater</td>
<td>See page 36.</td>
<td>Heater w/bulbwell (Specify voltage.)</td>
<td>RB5-40</td>
<td>9 815 232 959</td>
</tr>
<tr>
<td>Pressure gage</td>
<td>See page 36.</td>
<td>Gage isolator assembly</td>
<td>RB4-05</td>
<td>9 815 232 955</td>
</tr>
</tbody>
</table>
Standard Equipment

1. Tank
2. Tank drain connection
3. Oil level gage with thermometer
4. Clean out cover
5. Filter/Air breather
6. Motor/Pump group, shock mounted
7. Auxiliary return connection
8. Return filter, intank mounted
9. Relief valve, manifold mounted
10. Hydraulic pump
Optional Accessories

11. Optical indicator
12. Electrical indicator
13. Electrical indicator with light
14. Heat exchanger
15. Water valve with bulbwell
16. Water strainer
17. Air bleed (recommended for vane pumps)
18. Float switch
19. Temperature switch with bulbwell
20. Heater with bulbwell
21. Bar manifold 1 to 5 station
   DO5 (NG10) or DO7 (NG16)
22. Gage/isolator assembly
# 60 Gallon Unit with SV-20

1. Tank  7. Auxiliary return connection
2. Tank drain connection 8. Return filter, intank mounted
3. Oil level gage with thermometer 9. Relief valve, manifold mounted
5. Filler/Air breather
6. Motor/Pump group, shock mounted

(Selection of pump and its control may affect overall dimensions.)
60 Gallon Unit with SV-20 and Optional Accessories

11. Optical indicator
12. Electrical indicator
13. Electrical indicator with light
14. Heat exchanger
15. Water valve with bulbwell
16. Water strainer
17. Air bleed (recommended for vane pumps)
18. Float switch
19. Temperature switch with bulbwell
20. Heater with bulbwell
21. Bar manifold 1 to 5 station
   D05 (NG10) or D07 (NG16)
22. Gage/Isolator assembly

Customer connections
see pages 36 and 37

7.5 HP = 35.00 (899.90)
10 HP = 35.00 (899.00)
15 HP = 37.00 (939.00)
20 HP = 37.00 (939.80)
25 HP = 39.00 (999.60)
30 HP = 39.00 (999.80)
40 HP = 41.00 (1041.40)

1/2" DRIP LIP
22.750 (577.85)
39.500 (1003.50)
49.00
(1068.80)
51.60
(1311.4)

(Selection of pump and its control may affect overall dimensions.)
60 Gallon Unit with RKP-32

1. Tank
2. Tank drain connection
3. Oil level gage with thermometer
4. Clean out cover
5. Filler/Air breather
6. Motor/Pump group, shock mounted
7. Auxiliary return connection
8. Return filter, intank mounted
9. Relief valve, manifold mounted
10. Hydraulic pump

(Selection of pump and its control may affect overall dimensions.)
60 Gallon Unit with RKP-32 and Optional Accessories

1. Optical indicator
2. Electrical indicator
3. Electrical indicator with light
4. Heat exchanger
5. Water valve with bulbwell
6. Water strainer
7. Air bleed (recommended for vane pumps)
8. Heat switch
9. Temperature switch with bulbwell
10. Heater with bulbwell
11. Bar manifold 1 to 5 station
   D05 (NG10) or D07 (NG16)
12. Gage/isolator assembly
13. Adapter plate D07 (NG16) to D05 (NG10)

Selection of pump and its control may affect overall dimensions.
## 100 Gallon/380 Liter Steel Tank

### Selection Chart/Ordering Part Numbers

<table>
<thead>
<tr>
<th>Tank Size Gallon (Liter)</th>
<th>Pump Designation</th>
<th>Pump Displacement In³/Rev (cm³/Rev)</th>
<th>Flow @1750 RPM GPM (L/min)</th>
<th>Motor HP</th>
<th>Pressure Max @ HP Without Pump Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 (380)</td>
<td>SV-40 Vane Pump</td>
<td>4 (65.56)</td>
<td>30.30 (114.69)</td>
<td>15</td>
<td>705 PSI 49 bar 9 815 230 394</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RKP-63 Radial Piston Pump</td>
<td>3.84 (63)</td>
<td>29.09 (110.11)</td>
<td>15 735 PSI 51 bar 9 815 230 400</td>
</tr>
</tbody>
</table>

### Pump Selection Chart

**Vane Pumps**
- Pressure compensation
  - Control description: SV-40
- Single stage: 6915438
- 2-stage: 6915336
- Solenoid 2-pressure
  - Normally low energized high: 6915401
  - Load sensing: 6915386
- Torque limiting: 6915388

**Radial Piston Pumps**
- Pressure compensator control description
  - RKP 45
  - RKP 63
- Adjustable: 0 514 600 225 0 514 700 323
- Remote: 0 514 600 239 0 514 700 325
- Pressure and flow: 0 514 600 233 0 514 700 383
- Constant H.P.: Consult factory
- Consult factory
## Pump Control Manifold Selection Chart

<table>
<thead>
<tr>
<th>Manifold Type</th>
<th>Reference</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow control manifold</td>
<td>See page 36.</td>
<td>Load sense flow control</td>
<td>9 815 232 945</td>
</tr>
<tr>
<td>Pressure and flow control manifold</td>
<td>See page 38.</td>
<td>Combined pressure and flow control</td>
<td>9 815 232 946</td>
</tr>
<tr>
<td>Proportional control valves</td>
<td>See page 38.</td>
<td>See catalog NG8 and NG10 proportional</td>
<td>Select from catalog.</td>
</tr>
</tbody>
</table>

## Manifold Selection Chart

<table>
<thead>
<tr>
<th>Manifold Type</th>
<th>Reference</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar manifold (D07/NG16)</td>
<td>See page 37.</td>
<td>1 Valve Station</td>
<td>9 815 232 923</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Valve Stations</td>
<td>9 815 232 924</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Valve Stations</td>
<td>9 815 232 925</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Valve Stations</td>
<td>9 815 232 926</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 Valve Stations</td>
<td>9 815 232 927</td>
</tr>
<tr>
<td>Directional control valves</td>
<td>See page 37.</td>
<td>See catalog directional control valves</td>
<td>Select from catalog.</td>
</tr>
<tr>
<td>Modular control valves</td>
<td>See page 37.</td>
<td>See catalog modular control valves</td>
<td>Select from catalog.</td>
</tr>
</tbody>
</table>

## Accessory Selection Chart

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Reference</th>
<th>Description</th>
<th>Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter clogging indicator</td>
<td>See page 32.</td>
<td>Optical (gage)</td>
<td>RB5-03</td>
<td>9 815 230 106</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical (pressure switch) 250 VAC</td>
<td></td>
<td>9 815 230 107</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical w/light (DIN plug w/light 24 Volt DC)</td>
<td></td>
<td>9 815 230 108</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical w/light (DIN plug w/light 115 Volt AC)</td>
<td></td>
<td>9 815 230 109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical w/light (DIN plug w/light 230 Volt AC)</td>
<td></td>
<td>9 815 230 110</td>
</tr>
<tr>
<td>Heat exchanger</td>
<td>See page 32.</td>
<td>Water to Oil</td>
<td>15 RB5-30</td>
<td>9 815 232 960</td>
</tr>
<tr>
<td>Water valve</td>
<td>See page 33.</td>
<td>Modulating valves with bulbwell</td>
<td>3/4 RR5-45-R</td>
<td>9 815 230 112</td>
</tr>
<tr>
<td>Water strainer</td>
<td>See page 33.</td>
<td>Recommended for vane pumps</td>
<td>RB5-43</td>
<td>9 815 232 948</td>
</tr>
<tr>
<td>Air bleed valve</td>
<td>See page 34.</td>
<td>Normally closed dry</td>
<td>RB6-37</td>
<td>9 815 232 940</td>
</tr>
<tr>
<td>Float switch</td>
<td>See page 35.</td>
<td>Normally open dry</td>
<td>RB4-28</td>
<td>9 815 232 961</td>
</tr>
<tr>
<td>Temperature switch</td>
<td>See page 36.</td>
<td>Single contact</td>
<td>RB4-40B</td>
<td>9 815 232 952</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double contact</td>
<td></td>
<td>9 815 232 953</td>
</tr>
<tr>
<td>Adapter</td>
<td>See page 36.</td>
<td>D07 (NG16) to D05 (NG10)</td>
<td></td>
<td>9 815 232 963</td>
</tr>
<tr>
<td>Heater</td>
<td>See page 36.</td>
<td>Heater w/bulbwell (Specify voltage.)</td>
<td>RB5-40</td>
<td>9 815 232 964</td>
</tr>
<tr>
<td>Pressure gage</td>
<td>See page 36.</td>
<td>Gage isolator assembly</td>
<td>RB4-05</td>
<td>9 815 232 955</td>
</tr>
<tr>
<td>Pressure gage</td>
<td>See page 36.</td>
<td>Gage isolator assembly</td>
<td>RB4-05</td>
<td>9 815 232 955</td>
</tr>
</tbody>
</table>
1. Tank
2. Tank drain connection
3. Oil level gage with thermometer
4. Clean out cover
5. Filler/Air breather
6. Motor/Pump group, shock mounted
7. Auxiliary return connection
8. Return filter, intank mounted
9. Relief valve, manifold mounted
10. Hydraulic pump
Optional Equipment

1 through 10 see preceding page
11. Optical indicator
12. Electrical indicator
13. Electrical indicator with light
14. Heat exchanger
15. Water valve with bulbwell
16. Water strainer
17. Air bleed (recommended for vane pumps)
18. Float switch
19. Temperature switch with bulbwell
20. Heater with bulbwell
21. Bar manifold 1 to 5 station
22. Gage/isolator assembly
100 Gallon Unit with SV-40

1. Tank
2. Tank drain connection
3. Oil level gage with thermometer
4. Clean out cover
5. Filler/Air breather
6. Motor/Pump group, shock mounted
7. Auxiliary return connection
8. Return filter, intank mounted
9. Relief valve, manifold mounted
10. Hydraulic pump

(Selection of pump and its control may affect overall dimensions.)
100 Gallon Unit with SV-40 and Optional Accessories

1 through 10 see preceding page
11. Optical indicator
12. Electrical indicator
13. Electrical indicator with light
14. Heat exchanger
15. Water valve with bulbwell
16. Water strainer
17. Air bleed (recommended for vane pumps)
18. Float switch
19. Temperature switch with/bulbwell
20. Heater with bulbwell
21. Bar manifold 1 to 5 station
22. Gage/isolator assembly
23. Adapter plate DO7 (NG16) to DO5 (NG10)

(customer connections see page 37)

(Selection of pump and it's control may affect overall dimensions.)
100 Gallon Unit with RKP-63

1. Tank
2. Tank drain connection
3. Oil level gage with thermometer
4. Clean out cover
5. Filter/Air breather
6. Motor/Pump group, shock mounted
7. Auxiliary return connection
8. Return filter, intank mounted
9. Relief valve, manifold mounted
10. Hydraulic pump

(Selection of pump and it's control may affect overall dimensions.)
100 Gallon Unit with RKP-63 and Optional Accessories

1. Optical indicator
2. Electrical indicator
3. Electrical indicator with light
4. Heat exchanger
5. Water valve with bulbwell
6. Water strainer
7. Air bleed (recommended for vane pumps)
8. Float switch
9. Temperature switch with bulbwell
10. Heater with bulbwell
11. Bar manifold 1 to 5 station
12. Gage/isolator assembly
13. Adapter plate D07 (NG16) to D05 (NG10)

Customer connections see page 37

Inches (Millimeters)

15 HP = 39.00 (990.60)
20 HP = 39.00 (990.60)
25 HP = 41.00 (1041.40)
30 HP = 41.00 (1041.40)
40 HP = 43.00 (1092.20)
50 HP = 45.00 (1168.40)
60 HP = 46.00 (1168.40)
75 HP = 46.00 (1168.40)

2 #20 SAE

1/2" DRIP LIP

24.75 (629.00)

(Selection of pump and its control may affect overall dimensions.)
Filter Clogging Indicators

**Optical Indicator**
- 3 - Color Gage Indicator
- Part No.: 9 815 230 106

**Electrical Indicator (Set at 22 PSI)**
- Normally Open Part No.: 9 815 230 107
- Switch Voltage MAX 250 AC/DC – 2A

**Optical/Electrical Indicator**
- With 24 Volt Light DC, Part No. 9 815 230 108
- With 115 Volt Light AC, Part No. 9 815 230 109
- With 230 Volt Light DC, Part No. 9 815 230 110

Heat Exchanger

**Water to Oil with Built in By-Pass Valve**

**Performance Characteristics**

The curve shown is based on cooling water at 85° F (28° C) and oil leaving the cooler at 125° F (52° C). Curve performance is based on oil with a viscosity of 100 SUS (21 cSt) at 100° F (38° C). Pressure drop = 5 PSI at 20 GPM.

**Specifications**
- Pressure Rating –
  - Maximum working pressure: Oil side – 550 PSI (38 bar)
  - Water side – 220 PSI (15 PSI)
- Temperature Rating –
  - Maximum working temperature: 350° F (175°C)
- Oil to Water Ratio – 2:1

<table>
<thead>
<tr>
<th>Assembly Part No.</th>
<th>Model</th>
<th>Curve</th>
<th>Tank Size</th>
<th>Oil Connection</th>
<th>Water Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 815 232 947</td>
<td>10 RB5-30</td>
<td>1</td>
<td>35 Gal</td>
<td>#12 SAE</td>
<td>3/4 NPT</td>
</tr>
<tr>
<td>9 815 232 956</td>
<td>11 RB5-30</td>
<td>2</td>
<td>60 Gal</td>
<td>#12 SAE</td>
<td>3/4 NPT</td>
</tr>
<tr>
<td>9 815 232 960</td>
<td>15 RB5-30</td>
<td>3</td>
<td>100 Gal</td>
<td>#24 SAE</td>
<td>1.50 NPT</td>
</tr>
</tbody>
</table>
Water Modulating Valve with Bulbwell

Assembly Part No. 9 815 230 112
Model 3/4 RB5-45B

Specifications
- Standard valve mounting is on water inlet.
- Pressure Rating – Maximum recommended pressure is 25 PSI (8.6 bar)
- Adjustment Range – This valve can be adjusted to open within a range of 60°F to 140°F (16°C to 60°C)
- Temperature Adjustment – To adjust for lower temperature, turn adjusting cup counterclockwise. To adjust for higher temperature, turn adjustment cup clockwise. (1/4 turn = 5°F)
- Modulation Range – This valve is normally closed, a temperature increase of 10°F (5°C) above the valve setting is required to open the valve fully.
- 3/4" NPT Connection

Air Bleed Valve

Assembly Part No. 9 815 232 949

Maximum Operating Pressure: 5000 PSI (Non-Shock)

Materials:
- Body – Carbon Steel (10047 – 18)
- Spring – Steel (Lee LC-016-B6)
- Washer – Steel (10007-67)
- Retainer – Steel (10035-53)
- Ball – Stainless Steel (10047-88)

Weight: .38 lbs.

Water Strainer

Assembly Part No. 9 815 232 948
Model 3/4 RB5-43

Specifications:
- Pressure – Temperature Ratings:
  - 250 PSIG @ 450°F (Steam, Non-Shock)
  - 400 PSIG @ 150°F (Cold, Non-Shock)
- Material:
  - Body – Cast Iron
  - Screen – Stainless Steel (Type 304)
- 3/4" NPT Connection

Float Level Switches

Specifications:
- Amb. Oil Temp: -70°F to 225°F
- Pressure Rating: 75 psi
- Float Material: Nitrophy
- Stem: Brass
- Switch Type: SPST
- Voltage: 0.1 Volt to 240 VAC/VDC
- AMP Rating (break): 0.1 amp @ 110 VAC
- Carry Rating: 3.0 amp max @ 110 VAC
- 300 watts @ 110 VAC
- Lead Wires: #18 AWG; 24" long, red
- Fluid Types: Standard, Water Base; Phosphate Ester Fluids
- Level Repeatability: ±0.02
Heater with Bulbwell

Immersion Type
Enclosure Type:

Combination Moisture Tight
Explosion Resistant
NEMA 4X
NEC Hazardous Locations:
Class I Groups C & D, Div, 1 & 2
Class II Groups E, F & G, Div. 1 & 2
Class III Div. 1 & 2
3/4" NPT Electrical Connection

Power Consumption, Currents for Resisting Heating Loads

<table>
<thead>
<tr>
<th>Three Phase Balanced Load</th>
<th>kW</th>
<th>240V</th>
<th>480V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2.5</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4.9</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>7.3</td>
<td>3.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tank Sizes</th>
<th>kw</th>
<th>Voltage</th>
<th>Model Code</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>35, 60 &amp; 100 gallon</td>
<td>1</td>
<td>480 Volt 3 Phase</td>
<td>1 RB5-40/480/3</td>
<td>9 815 232 954</td>
</tr>
<tr>
<td>60 &amp; 100 gallon</td>
<td>2</td>
<td>480 Volt 3 Phase</td>
<td>2 RB5-40/480/3</td>
<td>9 815 232 959</td>
</tr>
<tr>
<td>100 gallon</td>
<td>3</td>
<td>480 Volt 3 Phase</td>
<td>3 RB5-40/480/3</td>
<td>9 815 232 964</td>
</tr>
</tbody>
</table>

Temperature Switch

Assembly Part No.
Single Contact 9 815 232 952
Double Contact 9 815 232 953

Current Rating: 15 amps, 125–250 VAC, 0.50A 125 VDC
Housing meets:
Single Contact NEMA 1, 2, 3, 4, 6.
Double Contact NEMA 1 only
Temperature Range: 0 – 250° F
Single contact with calibrated dial and knob (outside of housing)
Double contact with independently adjustable switches (inside housing)
1/2" NPT Electrical Connection

Gauge/Isolator Assembly

Assembly Part No. 9 815 232 955
Range of Pressure Gage determined by basic power unit.
Bar Manifold D03 (NG 6)

- Any combination of single or double solenoid directional control valves may be used. Refer to Bosch catalog "Directional Control Valve D03 (NG6)".
- All modular valves may be used. Refer to Bosch catalog "Modular Valves D03 (NG 6)".

**Note:** When ordering valves as part or a bar manifold, please specify the part number(s) and the station to which they are to be mounted. Stations are identified as in above drawing.
Any combination of single or double solenoid directional control valves may be used. Refer to Bosch catalog “Directional Control Valve D05 (NG 10)”

All modular valves may be used. Refer to Bosch catalog “Modular Valves D05 (NG 10)”

Note: When ordering valves as part of a bar manifold, please specify the part number(s) and the station to which they are to be mounted. Stations are identified as in above drawing.
Any combination of single or double solenoid directional control valves may be used. Refer to Bosch catalog "Directional Control Valve D07 (NG 16)"

Note: When ordering valves as part of a bar manifold, please specify the part number(s) and the station to which they are to be mounted. Stations are identified as in above drawing.
Flow Control and Combined Pressure and Flow Control Manifolds

Flow control Manifold Part number 9 815 232 921 optional proportional throttle valve shown.

Combined pressure and flow control manifold. Part number 9 815 232 922 optional proportional pressure and throttle valves shown.

- Proportional throttle and pressure controls must be chosen from catalog NG6 and NG10 proportional control valves. Valves priced separately.