V series Piston Pump

Features

- **Low noise**
  - Low noise operation over the entire pressure range has been realized in each series.
- **High efficiency**
  - Fluid temperature rise can be reduced due to the smaller power loss. This means that the tank can be designed in a small size.
- **High reliability**
  - High responsivity, high stability, and long life make it possible to increase the reliability of the main machine.

Nomenclature

- **Pressure compensator control**
  - \[ \begin{align*} &1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 12 \quad 15 \quad 16 \quad 17 \\
& \end{align*} \]
- **Combination control (pressure feedback method)**
  - \[ \begin{align*} &1 \quad 2 \quad 3 \quad 4 \quad 7 \quad 8 \quad 12 \quad 13 \quad 15 \quad 16 \quad 17 \\
& \end{align*} \]
- **Combination control (solenoid operated method)**
  - \[ \begin{align*} &1 \quad 2 \quad 3 \quad 4 \quad 7 \quad 8 \quad 12 \quad 13 \quad 14 \quad 15 \quad 16 \quad 17 \\
& \end{align*} \]
- **Dual pressure control**
  - \[ \begin{align*} &1 \quad 2 \quad 3 \quad 4 \quad 9 \quad 10 \quad 12 \quad 13 \quad 15 \quad 16 \quad 17 \\
& \end{align*} \]
- **Power-match control**
  - \[ \begin{align*} &1 \quad 2 \quad 3 \quad 4 \quad 6 \quad 11 \quad 12 \quad 15 \quad 16 \\
& \end{align*} \]

1  **Applicable fluid code (Refer to Page A-5 for the applicable models and conditions of use)**
   - No designation: Petroleum-based hydraulic fluid
   - W: Water-glycol hydraulic fluid
   - F: Phosphate ester hydraulic fluid

2  **Model No.**
   - V: V series piston pump

3  **Pump capacity**
   - 8: 8.0 cm³/rev
   - 15: 14.8 cm³/rev
   - 23: 23.0 cm³/rev
   - 38: 37.7 cm³/rev
   - 50: 51.6 cm³/rev
   - 70: 69.8 cm³/rev

4  **Control method I (Refer to Page A-4 for the applicable models)**
   - A: Pressure compensator control
   - C: Combination control
   - D: Dual pressure control
   - SA: Power-match control

5  **Pressure adjustment range**
(See the pressure adjustment range table)

6  **Low pressure adjustment range**
(See the pressure adjustment range table)

7  **High pressure adjustment range**
(See the pressure adjustment range table)

11  **FC valve differential pressure**
   - A: 0.7 MPa \( \{ 7 \text{ kgf/cm}^2 \} \)
   - B: 1.4 MPa \( \{ 14 \text{ kgf/cm}^2 \} \)
   - C: 2.1 MPa \( \{ 21 \text{ kgf/cm}^2 \} \)

Refer to Page N-2 for hydraulic unit piston packs incorporating V series piston pumps, Page N-17 for NDJ series new DAIPACKs, Page N-22 for ND series Mini-packs, Page N-27 for ND series new DAIPACKs, and Page N-30 for the NT series SSS MARK-II.
# Models and pressure adjustment range table

## Pressure compensator control \((4 = A)\)

### Pressure adjustment range

<table>
<thead>
<tr>
<th>Code</th>
<th>Pressure adjustment range (MPa/kgf/cm²)</th>
<th>Without remote control system</th>
<th>With remote control system</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>V8</td>
<td>V15</td>
</tr>
<tr>
<td>1</td>
<td>0.8 to 7 (8 to 70)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1</td>
<td>1.5 to 7 (15 to 70)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>1.5 to 14 (15 to 140)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>1.5 to 21 (15 to 210)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>2 to 21 (20 to 210)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.5 to 21 (35 to 210)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>1.5 to 25 (15 to 250)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.5 to 25 (35 to 250)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Combination control \((4 = C, 13 = H \text{(self-regulation method)} \text{ or } 13 = J \text{(solenoid operated method)})\)

### Low pressure adjustment range

<table>
<thead>
<tr>
<th>Code</th>
<th>Pressure adjustment range (MPa/kgf/cm²)</th>
<th>Pressure feedback method</th>
<th>Solenoid operated method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>V15</td>
<td>V23</td>
</tr>
<tr>
<td>1</td>
<td>1.5 to 7 (15 to 70)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.5 to 7 (25 to 70)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>1.5 to 14 (15 to 140)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.5 to 14 (25 to 140)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>2.0 to 21 (20 to 210)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.5 to 21 (25 to 210)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.5 to 21 (35 to 210)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>2.0 to 25 (20 to 250)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.5 to 25 (25 to 250)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.5 to 25 (35 to 250)</td>
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<td>✓</td>
</tr>
</tbody>
</table>

### High pressure adjustment range

<table>
<thead>
<tr>
<th>Code</th>
<th>Pressure adjustment range (MPa/kgf/cm²)</th>
<th>Without remote control system</th>
<th>With remote control system</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>V15</td>
<td>V23</td>
</tr>
<tr>
<td>1</td>
<td>1.5 to 7 (15 to 70)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.5 to 7 (25 to 70)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>1.5 to 14 (15 to 140)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.5 to 14 (25 to 140)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>2.0 to 21 (20 to 210)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.5 to 21 (25 to 210)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.5 to 21 (35 to 210)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>2.0 to 25 (20 to 250)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.5 to 25 (25 to 250)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.5 to 25 (35 to 250)</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

## Dual pressure control \((4 = D)\)

### Low pressure adjustment range

<table>
<thead>
<tr>
<th>Code</th>
<th>Pressure adjustment range (MPa/kgf/cm²)</th>
<th>V15</th>
<th>V23</th>
<th>V38</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.5 to 7 (15 to 70)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1</td>
<td>2.5 to 7 (25 to 70)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>1.5 to 14 (15 to 140)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>2.5 to 14 (25 to 140)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>2.0 to 21 (20 to 210)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.5 to 21 (25 to 210)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.5 to 21 (35 to 210)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>2.0 to 25 (20 to 250)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.5 to 25 (25 to 250)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.5 to 25 (35 to 250)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Power-match control \((4 = SA)\)

### Pressure adjustment range

<table>
<thead>
<tr>
<th>Code</th>
<th>Pressure adjustment range (MPa/kgf/cm²)</th>
<th>V15</th>
<th>V23</th>
<th>V38</th>
<th>V50</th>
<th>V70</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.8 to 7 (8 to 70)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.5 to 7 (15 to 70)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.5 to 14 (15 to 140)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.5 to 21 (35 to 210)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.5 to 25 (35 to 250)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: If both low and high pressure adjustment ranges are the 1st pattern, the pressure adjustment range becomes 0.8 to 7 MPa (8 to 70 kgf/cm²).

## Power-match control \((4 = SA)\)
**Nomenclature**

**Applicable fluid code**
- No designation: Petroleum-based hydraulic fluid
- W: Water-glycol hydraulic fluid
- F: Phosphate ester hydraulic fluid

**Model No.**
- V: V series piston pump

**Pump capacity**
- 23: 23.0 cm³/rev
- 38: 37.7 cm³/rev
- 50: 51.6 cm³/rev
- 70: 69.8 cm³/rev

**Control method**
- SAJS: Power-match control

**Pressure adjustment range**
- A: Up to 14 MPa (140 kgf/cm²)
- B: Up to 17.5 MPa (175 kgf/cm²)
- C: Up to 21 MPa (210 kgf/cm²)
* The minimum adjustment pressure varies depending on the model.

**Direction of rotation, when viewed from the shaft end (Refer to Page A-4 for the applicable models)**
- R: Clockwise (rightward)
- L: Counterclockwise (leftward)

**Piping direction**
- X: Side port

**Design number**
(The design number is subject to change)
- 30: Pump model V23
- 95: Pump model V38
- 20: Pump model V50
- 60: Pump model V70

**Specifications**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Theoretical discharge rate cm³/rev</th>
<th>Maximum operating pressure MPa (kgf/cm²)</th>
<th>Permissible rotational speed min⁻¹</th>
<th>Discharge rate adjustment range 1800 min⁻¹ L/min</th>
<th>Mass (Control method A) kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Axial port</td>
<td>Side port</td>
</tr>
<tr>
<td>V8</td>
<td>8.0</td>
<td>7 (70)</td>
<td>500 to 1800</td>
<td>2 to 14.4</td>
<td>–</td>
</tr>
<tr>
<td>V15</td>
<td>14.8</td>
<td>21 (210)</td>
<td>500 to 1800</td>
<td>4.5 to 26.6</td>
<td>7.5 to 26.6</td>
</tr>
<tr>
<td>V15 (Type Y)</td>
<td>14.8</td>
<td>7 (70)</td>
<td>500 to 1800</td>
<td>4.5 to 26.6</td>
<td>–</td>
</tr>
<tr>
<td>V23</td>
<td>23.0</td>
<td>25 (250)</td>
<td>500 to 1800</td>
<td>12 to 41.4</td>
<td>–</td>
</tr>
<tr>
<td>V38</td>
<td>37.7</td>
<td>25 (250)</td>
<td>500 to 1800</td>
<td>34 to 68</td>
<td>36.5 to 68</td>
</tr>
<tr>
<td>V50</td>
<td>51.6</td>
<td>21 (210)</td>
<td>500 to 1800</td>
<td>0 to 93</td>
<td>–</td>
</tr>
<tr>
<td>V70</td>
<td>69.8</td>
<td>21 (210)</td>
<td>500 to 1800</td>
<td>13 to 126</td>
<td>–</td>
</tr>
</tbody>
</table>

Note: JR-G (T) 02 and JRP-G02 are recommended for the remote control system’s relief valve.

If the vent port is blocked, the pressure compensation structure does not work and the pump operates at a fixed pressure.

- Foot supports and piping flanges are not provided with the pump. Order them separately as required by referring to Pages S-2 and S-4.
Relationship between number of revolutions of the pressure adjusting screw and variation of discharge pressure

- The discharge pressure can be set to the desired value by turning the pressure adjusting screw of the PC valve.
  - Turning the adjusting screw clockwise increases the pressure.
  - Turning the adjusting screw counterclockwise decreases the pressure.

Excessive loosening of the pressure adjusting screw may cause oil to leak from the threaded section or parts to spring out. Do not loosen the screw beyond the pressure adjustment range.

The 1st to 4th patterns correspond to the pressure adjustment range designation codes 1 to 4.
The maximum discharge rate can be set to the desired value by turning the discharge rate adjusting screw at the end cap.

- Turning the adjusting screw clockwise decreases the discharge rate.
- Turning the adjusting screw counterclockwise increases the discharge rate.

The discharge rate can be roughly judged from the protruding length of the discharge rate adjusting screw (L).

Overtightening of the discharge rate adjusting screw may cause oil to leak from the threaded section. Do not tighten the screw beyond the adjustment range.
Relationship between the protruding length of the discharge rate adjusting screw and the discharge rate \( (4-C) \)

**Discharge rate adjustment in combination control**

The discharge rate for both the low quantity (QL) and high quantity (QH) ranges can be adjusted as follows:

- Turning the adjusting screw clockwise decreases the discharge rate.
- Turning the adjusting screw counterclockwise increases the discharge rate.

The discharge rate adjusting screws are provided with scales on the nameplates as shown below.

<table>
<thead>
<tr>
<th>Pump model</th>
<th>Scale</th>
<th>Low quantity adjusting screw</th>
<th>High quantity adjusting screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>V15C</td>
<td>0 to 7</td>
<td>5 to 15</td>
<td></td>
</tr>
<tr>
<td>V23C</td>
<td>0 to 9</td>
<td>8 to 17</td>
<td></td>
</tr>
<tr>
<td>V38C</td>
<td>0 to 9</td>
<td>9 to 18</td>
<td></td>
</tr>
<tr>
<td>V70C</td>
<td>0 to 9</td>
<td>6 to 18</td>
<td></td>
</tr>
</tbody>
</table>

(Scale graduation: 1°)

Note: The high quantity adjustment range may be restricted due to the setting for the low quantity range. See the graphs on Page A-15 for details.

Adjust the discharge rate according to the relevant discharge rate adjustment graph by following the procedure below.

1. For the low quantity range, read the value for the desired discharge rate on the graph and turn the low quantity adjusting screw to set the scale position to the read value.
2. For the high quantity range, read the value for the desired discharge rate on the line corresponding to the value for the low quantity range on the graph and turn the high quantity adjusting screw to set the scale position to the read value.
3. When adjusting only the high quantity range, loosen the lock nut and adjust as described above.
4. When adjusting only the low quantity range, loosen the lock nut on the high quantity adjustment screw and adjust the setting for the low quantity range as described above while holding the high quantity adjusting screw in place with a hex key.

**Example of adjustment**

Example: When adjusting the discharge rate of V15C at 1500 min\(^{-1}\) to 7 L/min for the low quantity range (QL) and 18 L/min for the high quantity range (QH)

- From the discharge rate adjustment graph for V15C at 1500 min\(^{-1}\), first read the value for QL = 7 L/min, which is 4, and adjust the low quantity adjusting screw accordingly.
- Then, read the value for QH = 18 L/min on the line for 4 of QL, which is 7, and adjust the high quantity adjusting screw accordingly.

The setting values indicated above may change slightly depending on the conditions of use (fluid temperature, hydraulic fluid type, etc.)

For final fine adjustment, repeat the adjustment described above and achieve the setting appropriate for the actual application.

**Factory settings**

The discharge rate for the high quantity range is factory adjusted to the maximum discharge rate and the discharge rate for the low quantity range is factory adjusted as follows.

<table>
<thead>
<tr>
<th>Pump model</th>
<th>Low quantity (QL) setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>V15C</td>
<td>Scale position: 3°</td>
</tr>
<tr>
<td>V23C</td>
<td>Scale position: 3°</td>
</tr>
<tr>
<td>V38C</td>
<td>Scale position: 2°</td>
</tr>
<tr>
<td>V70C</td>
<td>Scale position: 1.5°</td>
</tr>
</tbody>
</table>
V15C combination control (1800 min⁻¹)

V15C combination control (1500 min⁻¹)

V23C combination control (1800 min⁻¹)

V23C combination control (1500 min⁻¹)

V38C combination control (1800 min⁻¹)

V38C combination control (1500 min⁻¹)

V70C combination control (1800 min⁻¹)

V70C combination control (1500 min⁻¹)
Before using the product, please check the guide pages at the front of this catalog.

Internet
Contact Details
http://www.daikinpmc.com/en/
For latest information, PDF catalogs and operation manuals

Pressure compensator characteristics

- Sharp cutoff characteristics
  ○ The pressure gradient at cutoff is no greater than 0.5 MPa \(\{5 \text{ kgf/cm}^2\}\)
  ○ Sharp and stable cutoff characteristics are achieved.

Noise characteristics (JIS B 8350, measuring position: 1 m from pump front)

<table>
<thead>
<tr>
<th>Input rotational speed</th>
<th>Fluid used</th>
<th>Oil temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800 min(^{-1}) 1500 min(^{-1})</td>
<td>Equivalent to ISO VG32</td>
<td>50(^{\circ})C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Response time sec.</th>
<th>Surge pressure MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(t_1)</td>
<td>(t_2)</td>
</tr>
<tr>
<td>V8</td>
<td>0.04 to 0.05</td>
<td>0.05 to 0.07</td>
</tr>
<tr>
<td>V15</td>
<td>0.04 to 0.05</td>
<td>0.05 to 0.07</td>
</tr>
<tr>
<td>V23</td>
<td>0.05 to 0.06</td>
<td>0.05 to 0.07</td>
</tr>
<tr>
<td>V38</td>
<td>0.05 to 0.09</td>
<td>0.05 to 0.07</td>
</tr>
<tr>
<td>V50</td>
<td>0.06 to 0.09</td>
<td>0.06 to 0.09</td>
</tr>
<tr>
<td>V70</td>
<td>0.06 to 0.09</td>
<td>0.06 to 0.09</td>
</tr>
</tbody>
</table>

- At full-cutoff at 1800 min\(^{-1}\)
- \(\times\) At full-cutoff at 1500 min\(^{-1}\)

Response characteristics

![Response characteristics diagram]
General performance

Discharge rate setting: maximum, Fluid used: ISO VG32, Fluid temperature: 50°C

1800 min⁻¹

V8

<table>
<thead>
<tr>
<th>Pressure (MPa) (×10 kgf/cm²)</th>
<th>Efficiency (%)</th>
<th>Shaft input (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>1.5</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>1.5</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>1.5</td>
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<tr>
<td>6</td>
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<td>1.5</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>1.5</td>
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</tbody>
</table>

V15

<table>
<thead>
<tr>
<th>Pressure (MPa) (×10 kgf/cm²)</th>
<th>Efficiency (%)</th>
<th>Shaft input (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>1.5</td>
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<td>0</td>
<td>1.5</td>
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<td>1.5</td>
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<td>4</td>
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<td>1.5</td>
</tr>
<tr>
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</table>

V23

<table>
<thead>
<tr>
<th>Pressure (MPa) (×10 kgf/cm²)</th>
<th>Efficiency (%)</th>
<th>Shaft input (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>1.5</td>
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<tr>
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</tr>
<tr>
<td>7</td>
<td>0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Note: The efficiency varies depending on the discharge rate setting. When selecting the motor capacity, refer to the shaft input characteristics on Page A-19.
Shaft input characteristics at full cutoff
Common to 1800 min\(^{-1}\) and 1500 min\(^{-1}\) Fluid used: ISO VG32, Fluid Temperature: 50°C
### Shaft input characteristics

Common to 1800 min\(^{-1}\) and 1500 min\(^{-1}\) Fluid used: ISO VG32, Fluid Temperature: 50°C

<table>
<thead>
<tr>
<th>Pressure (MPa) ⨉ 10 kgf/cm(^2)</th>
<th>Shaft input (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<tr>
<td>1</td>
<td>1</td>
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<td>6</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

#### V8

- 15 L/min
- 12 L/min
- 8 L/min
- 4 L/min

#### V15

- 26.6 L/min
- 21.3 L/min
- 16.0 L/min
- 10.7 L/min

#### V23

- 41.4 L/min
- 36.3 L/min
- 31.0 L/min
- 25.7 L/min

<table>
<thead>
<tr>
<th>Pressure (MPa) ⨉ 10 kgf/cm(^2)</th>
<th>Drainage rate (L/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>1</td>
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<td>4</td>
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</tr>
<tr>
<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td>7</td>
<td>0.7</td>
</tr>
</tbody>
</table>

#### V38

- 27.9 L/min
- 23.6 L/min
- 20.9 L/min

#### V50

- 31.9 L/min
- 27.6 L/min
- 23.3 L/min

#### V70

- 41.9 L/min
- 37.6 L/min
- 33.3 L/min

### Drainage volume characteristics

Common to 1800 min\(^{-1}\) and 1500 min\(^{-1}\) Fluid used: ISO VG32, Fluid Temperature: 50°C

<table>
<thead>
<tr>
<th>Pressure (MPa) ⨉ 10 kgf/cm(^2)</th>
<th>Drainage rate (L/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0.1</td>
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<tr>
<td>2</td>
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<tr>
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<td>0.4</td>
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<tr>
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<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td>7</td>
<td>0.7</td>
</tr>
</tbody>
</table>

#### V8

- At full cutoff
- At full volume

#### V15

- 1st pattern
- At full cutoff
- At full volume

#### V23

- 1st pattern
- At full cutoff
- At full volume

#### V38

- 1st pattern
- At full cutoff
- At full volume

#### V50

- 1st pattern
- At full cutoff
- At full volume

#### V70

- 1st pattern
- At full cutoff
- At full volume
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External dimension diagram

V8A1RX-20

Drain port Rc⅜
Discharge rate adjusting screw
(clockwise: discharge rate decrease)
Socket for hex key: 3
Hexagonal flat lock nut: 10
PC valve

Discharge port G¾
Bonded seal

Pressure adjusting screw
(clockwise: pressure increase)
Socket for hex key: 6.5
Hexagonal flat lock nut: 27

Suction port G¾
Bonded seal

Oil filler port on the case

Mass: 8.9 kg
External dimension diagram

V15A×RX-95

<table>
<thead>
<tr>
<th>Part</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain port Rc⅜</td>
<td>144</td>
</tr>
<tr>
<td>Oil filler port on the case</td>
<td>170</td>
</tr>
<tr>
<td>Discharge port G1</td>
<td>147</td>
</tr>
<tr>
<td>O-ring boss</td>
<td>207</td>
</tr>
<tr>
<td>PC valve</td>
<td></td>
</tr>
<tr>
<td>Pressure adjusting screw (clockwise: pressure increase)</td>
<td>Socket for hex key: 6.5 Hexagonal flat lock nut: 27</td>
</tr>
<tr>
<td>PC differential pressure adjusting screw (factory adjusted)</td>
<td></td>
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</tbody>
</table>

Mass: 14.5 kg

V15A×R-95

<table>
<thead>
<tr>
<th>Part</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain port Rc⅜</td>
<td>144</td>
</tr>
<tr>
<td>Oil filler port on the case</td>
<td>170</td>
</tr>
<tr>
<td>Discharge port G1</td>
<td>147</td>
</tr>
<tr>
<td>O-ring boss</td>
<td>207</td>
</tr>
<tr>
<td>PC valve</td>
<td></td>
</tr>
<tr>
<td>Pressure adjusting screw (clockwise: pressure increase)</td>
<td>Socket for hex key: 6.5 Hexagonal flat lock nut: 27</td>
</tr>
<tr>
<td>PC differential pressure adjusting screw (factory adjusted)</td>
<td></td>
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</tbody>
</table>

Mass: 12.8 kg

V15A3RX-95RC

<table>
<thead>
<tr>
<th>Part</th>
<th>Measurement</th>
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</thead>
<tbody>
<tr>
<td>Drain port Rc⅜</td>
<td>144</td>
</tr>
<tr>
<td>Oil filler port on the case</td>
<td>170</td>
</tr>
<tr>
<td>Discharge port G1</td>
<td>147</td>
</tr>
<tr>
<td>O-ring boss</td>
<td>207</td>
</tr>
<tr>
<td>PC remote control valve</td>
<td></td>
</tr>
<tr>
<td>Vent port RC⅔</td>
<td></td>
</tr>
<tr>
<td>PC differential pressure adjusting screw (factory adjusted)</td>
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</tr>
</tbody>
</table>

Mass: 16 kg
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**External dimension diagram**

**V15A3R-95RC**
- Oil filler port on the case
- Drain port Rd⅜
- PC remote control valve
- Suction port G1
- O-ring boss

**V15C×RHX-95**
- Oil filler port on the case
- Drain port Rd⅜
- Combination control valve
- Suction port G1
- O-ring boss
- Discharge port G1
- O-ring boss

**V15C×3RHX-95RC**
- Oil filler port on the case
- Drain port Rd⅜
- Combination control valve
- Suction port G1
- O-ring boss
- Discharge port G1
- O-ring boss

**Dimensions and Specifications**
- Mass: 14.3 kg
- Mass: 17.6 kg
- Mass: 18.4 kg
External dimension diagram

V15C×RJ×X-95

- Solenoid
- Discharge rate adjusting screw (low quantity)
- Discharge rate adjusting screw (high quantity)
- Oil filler port on the case
- Drain port Rc⅜
- Combination control valve
- Low pressure adjusting screw (PL)
- Socket for hex key: 6.5
- Hexagonal flat lock nut: 27
- High pressure adjusting screw (PH)
- Socket for hex key: 6.5
- Hexagonal flat lock nut: 27

Suction port G1
O-ring boss

Discharge port G1
O-ring boss

Mass: 19.3 kg

V15C×3RJ×X-95RC

- Solenoid
- Discharge rate adjusting screw (low quantity)
- Discharge rate adjusting screw (high quantity)
- Combination control valve
- Oil filler port on the case
- High pressure PC differential pressure adjusting screw (Pv)
  (factory adjusted)
- Vent port RC⅜
- Drain port Rc⅜

Suction port G1
O-ring boss

Discharge port G1
O-ring boss

Mass: 20.1 kg

V15D×RJ×X-95

- Solenoid
- Discharge rate adjusting screw
- Dual pressure control valve
- Drain port Rc⅜
- Oil filler port on the case
- Low pressure adjusting screw (PL)
- Socket for hex key: 6.5
- Hexagonal flat lock nut: 27
- High pressure adjusting screw (PH)
- Socket for hex key: 6.5
- Hexagonal flat lock nut: 27

Suction port G1
O-ring boss

Discharge port G1
O-ring boss

Mass: 17.8 kg
External dimension diagram

V15A1RY-95

- Discharge rate adjusting screw (clockwise: discharge rate decrease)
- Socket for hex key: 5
- Hexagonal flat lock nut: 17
- Suction port φ18
- Drain port A Rc⅜ (plugged)
- Drain port B Rc⅜ (plugged)
- Oil filler port on the case
- PC valve
- Discharge port A Rc⅜ (plugged)
- Discharge port B Rc⅜ (plugged)
- Pressure adjusting screw (clockwise: pressure increase)
- Socket for hex key: 6.5
- Hexagonal flat lock nut: 27
- Preparied hole depth 25
- Oil filler port on the case

* Use SHA15 or SSA20 pipe flange (JIS B 2291) or equivalent at the suction side.

Mass: 13.5 kg
External dimension diagram

**V23A×RX-30**

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimension</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge rate adjusting screw</td>
<td>52 minimum 58.5</td>
<td>21.5 kg</td>
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<tr>
<td>Drain port Rc⅜</td>
<td>184</td>
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</tr>
<tr>
<td>Drain port G1</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>Pressure adjusting screw (clockwise: pressure increase)</td>
<td>36.3 ( \times ) 35</td>
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</tr>
<tr>
<td>Hardware</td>
<td>6.5</td>
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</tr>
<tr>
<td>Oil filler port on the case</td>
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**V23A×R-30**

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimension</th>
<th>Mass</th>
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<tbody>
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<td>52 minimum 58.5</td>
<td>18.4 kg</td>
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<td>Drain port Rc⅜</td>
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</tr>
<tr>
<td>Drain port G1</td>
<td>189</td>
<td></td>
</tr>
<tr>
<td>Pressure adjusting screw (clockwise: pressure increase)</td>
<td>36.3 ( \times ) 35</td>
<td></td>
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<tr>
<td>Hardware</td>
<td>6.5</td>
<td></td>
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<tr>
<td>Oil filler port on the case</td>
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**V23A4RX-30RC**

<table>
<thead>
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<th>Dimension</th>
<th>Mass</th>
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<tbody>
<tr>
<td>Discharge rate adjusting screw</td>
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<td>23 kg</td>
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<td>Drain port Rc⅜</td>
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<tr>
<td>Drain port G1</td>
<td>164</td>
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</tr>
<tr>
<td>Pressure adjusting screw (factory adjusted)</td>
<td>36.3 ( \times ) 35</td>
<td></td>
</tr>
<tr>
<td>Hardware</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>Oil filler port on the case</td>
<td>27</td>
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</table>

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External dimension diagram

**V23A4R-30RC**

- PC remote control valve
- Suction port G1: O-ring boss
- Discharge port G1: O-ring boss

**V23C**×**RHX-30**

- Combination control valve
- Discharge rate adjusting screw (low quantity)
- Discharge rate adjusting screw (high quantity)
- Drain port Rc¾

**V23C**×**4RHX-30RC**

- Combination control valve
- Discharge rate adjusting screw (low quantity)
- Discharge rate adjusting screw (high quantity)
- Drain port Rc¾

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External dimension diagram

V23C××RJ×X-35

Suction port G1 O-ring boss
Discharge port G1 O-ring boss

Discharge rate adjusting screw (low quantity)
Discharge rate adjusting screw (high quantity)

Low pressure adjusting screw (PL)
Socket for hex key: 6.5
Hexagonal flat lock nut: 27

High pressure adjusting screw (PH)
Socket for hex key: 6.5
Hexagonal flat lock nut: 27

Oil filler port on the case 82 maximum

Mass: 25.1 kg

V23C×4RJ×X-35RC

Suction port G1 O-ring boss
Discharge port G1 O-ring boss

Discharge rate adjusting screw (low quantity)
Discharge rate adjusting screw (high quantity)

Low pressure adjusting screw (PL)
Socket for hex key: 6.5
Hexagonal flat lock nut: 27

High pressure PC differential pressure adjusting screw (PH) (factory adjusted)

Oil filler port on the case 82 maximum

Mass: 25.9 kg

V23D××R×X-35

Suction port G1 O-ring boss
Discharge port G1 O-ring boss

Discharge rate adjusting screw (clockwise: discharge rate decrease)
Socket for hex key: 5
Hexagonal flat lock nut: 17

Low pressure adjusting screw (PL)
Socket for hex key: 6.5
Hexagonal flat lock nut: 27

High pressure adjusting screw (PH)
Socket for hex key: 6.5
Hexagonal flat lock nut: 27

Mass: 24.8 kg
External dimension diagram

V23DX4RxX-35RC

Suction port G1 O-ring boss

Discharge port G1 O-ring boss

Discharge rate adjusting screw

Solenoid KSO-G02-2B×(××××××)

Dual pressure control valve

Vent port RC$rac{1}{8}$

301.5 (AC), 304.5 (DC)

58.5

Low pressure adjusting screw (P$	ext{L}$)

High-pressure PC differential pressure adjusting screw (P$	ext{H}$)

Socket for hex key: 6.5

Hexagonal flat lock nut: 27

Drain port Rc$rac{1}{8}$

Load pressure port

$rac{1}{2}$-20UNF-2B

O-ring boss (with UNF-Rc$rac{1}{4}$ (male) conversion nipple)

Discharge rate adjusting screw (clockwise: discharge rate decrease)

Socket for hex key: 5

Hexagonal flat lock nut: 17

Mass: 25.6 kg

V23SA×RX-30

Power-match control valve

Suction port G1 O-ring boss

Discharge port G1 O-ring boss

Load pressure port

$rac{1}{2}$-20UNF-2B

O-ring boss (with UNF-Rc$rac{1}{4}$ (male) conversion nipple)

Discharge rate adjusting screw (clockwise: discharge rate decrease)

Socket for hex key: 6.5

Hexagonal flat lock nut: 27

Differential pressure setting adjusting screw (FC valve)

Socket for hex key: 6.5

Hexagonal flat lock nut: 27

Maximum pressure adjusting screw (PC valve)

Socket for hex key: 6.5

Hexagonal flat lock nut: 27

Oil filler port on the case

Mass: 22.2 kg

V23SA×R-30

Power-match control valve

Suction port G1 O-ring boss

Discharge port G1 O-ring boss

Load pressure port

$rac{1}{2}$-20UNF-2B

O-ring boss (with UNF-Rc$rac{1}{4}$ (male) conversion nipple)

Discharge rate adjusting screw (clockwise: discharge rate decrease)

Socket for hex key: 5

Hexagonal flat lock nut: 17

Differential pressure setting adjusting screw (FC valve)

Socket for hex key: 6.5

Hexagonal flat lock nut: 27

Maximum pressure adjusting screw (PC valve)

Socket for hex key: 6.5

Hexagonal flat lock nut: 27

Oil filler port on the case

Mass: 19.1 kg
External dimension diagram

V23SAJS-×RX-30

Mass: 25 kg
External dimension diagram

**V38A×RX-95**

- **Suction port G1 ¼**
- **O-ring boss**
- **PC valve**
- **Discharge port G1 ¼**
- **O-ring boss**
- **Drain port Rc ½**
- **Discharge rate adjusting screw**
  - **(clockwise: discharge rate decrease)**
  - **Socket for hex key: 5**
  - **Hexagonal flat lock nut: 17**

**Pressure adjusting screw**
- **(clockwise: pressure increase)**
- **Socket for hex key: 6.5**
- **Hexagonal flat lock nut: 27**

**Dimensions**
- Mass: 26 kg

**V38A×R-95**

- **Suction port G1 ¼**
- **O-ring boss**
- **PC valve**
- **Discharge port G1 ¼**
- **O-ring boss**
- **Drain port Rc ½**
- **Discharge rate adjusting screw**
  - **(clockwise: discharge rate decrease)**
  - **Socket for hex key: 5**
  - **Hexagonal flat lock nut: 17**

**Pressure adjusting screw**
- **(clockwise: pressure increase)**
- **Socket for hex key: 6.5**
- **Hexagonal flat lock nut: 27**

**Dimensions**
- Mass: 24.4 kg

**V38A×RX-95RC**

- **Suction port G1 ¼**
- **O-ring boss**
- **Vent port RC ½**
  - **(with UNF-Rc ½ (male) conversion nipple)**
  - **PC remote control valve**
- **Drain port Rc ½**
- **Discharge port G1 ¼**
- **O-ring boss**

**Pressure adjusting screw**
- **(clockwise: discharge rate decrease)**
- **Socket for hex key: 5**
- **Hexagonal flat lock nut: 17**

**Dimensions**
- Mass: 28.7 kg
External dimension diagram

V38A4R-95RC

Discharge rate adjusting screw (clockwise: discharge rate decrease)
Socket for hex key: 5
Hexagonal flat lock nut: 17
Low pressure adjusting screw (PL)
Socket for hex key: 6.5
Hexagonal flat lock nut: 27
High-pressure PC differential pressure adjusting screw (PH) (factory adjusted)

Mass: 26 kg

V38C×RHX-95

Discharge rate adjusting screw (low quantity)
Discharge rate adjusting screw (high quantity)

Mass: 29 kg

V38C×4RHX-95RC

Combination control valve

Mass: 29.8 kg
External dimension diagram

V38C×RJ×X-95

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass</td>
<td>30.7 kg</td>
</tr>
<tr>
<td>Suction port G1¼ O-ring boss</td>
<td></td>
</tr>
<tr>
<td>Discharge port G1¼ O-ring boss</td>
<td></td>
</tr>
<tr>
<td>Combination control valve</td>
<td>307 (AC), 310 (DC)</td>
</tr>
<tr>
<td>Low pressure adjusting screw (Pₐ)</td>
<td>Socket for hex key: 6.5 Hexagonal flat lock nut: 27</td>
</tr>
<tr>
<td>High pressure adjusting screw (Pₚ)</td>
<td>Socket for hex key: 6.5 Hexagonal flat lock nut: 27</td>
</tr>
</tbody>
</table>

V38C×4RJ×X-95RC

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass</td>
<td>31.5 kg</td>
</tr>
<tr>
<td>Suction port G1¼ O-ring boss</td>
<td></td>
</tr>
<tr>
<td>Discharge port G1¼ O-ring boss</td>
<td></td>
</tr>
<tr>
<td>Combination control valve</td>
<td>307 (AC), 310 (DC)</td>
</tr>
<tr>
<td>Low pressure adjusting screw (Pₐ)</td>
<td>Socket for hex key: 6.5 Hexagonal flat lock nut: 27</td>
</tr>
<tr>
<td>High pressure PC differential pressure adjusting screw (Pₚ) (factory adjusted)</td>
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</table>

V38D×R×X-95

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass</td>
<td>30.5 kg</td>
</tr>
<tr>
<td>Suction port G1¼ O-ring boss</td>
<td></td>
</tr>
<tr>
<td>Discharge port G1¼ O-ring boss</td>
<td></td>
</tr>
<tr>
<td>Dual pressure control valve</td>
<td>307 (AC), 310 (DC)</td>
</tr>
<tr>
<td>Low pressure adjusting screw (Pₐ)</td>
<td>Socket for hex key: 6.5 Hexagonal flat lock nut: 27</td>
</tr>
<tr>
<td>High pressure adjusting screw (Pₚ)</td>
<td>Socket for hex key: 6.5 Hexagonal flat lock nut: 27</td>
</tr>
</tbody>
</table>

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External dimension diagram

V38D×4R×X-95RC

- **Suction port G1¼**
- **O-ring boss**
- **88**
- **61**
- **66**

- **Discharge port G1¼**
- **O-ring boss**
- **172**
- **196**

- **Solenoid (KSO-G07-2B-XX-XX-C)**
- **Dual pressure control valve**
- **Vent port RC½**
- **Drain port Rc½**

- **Discharge rate adjusting screw**
  - (clockwise: discharge rate decrease)
  - **Socket for hex key: 5**
  - **Hexagonal flat lock nut: 17**

- **Power-match control valve**

- **Mass: 31.3 kg**

V38SA×RX-95

- **Load pressure port**
  - ½-20UNF-2B O-ring boss
  - (with UNF-Rc½ (male) conversion nipple)

- **Suction port G1¼**
- **O-ring boss**
- **172**
- **196**

- **Discharge port G1¼**
- **O-ring boss**
- **172**
- **196**

- **Discharge rate adjusting screw**
  - (clockwise: discharge rate decrease)
  - **Socket for hex key: 5**
  - **Hexagonal flat lock nut: 17**

- **Power-match control valve**

- **Mass: 28 kg**

V38SA×R-95

- **Load pressure port**
  - ½-20UNF-2B O-ring boss
  - (with UNF-Rc½ (male) conversion nipple)

- **Suction port G1¼**
- **O-ring boss**
- **172**
- **196**

- **Discharge port G1¼**
- **O-ring boss**
- **172**
- **196**

- **Discharge rate adjusting screw**
  - (clockwise: discharge rate decrease)
  - **Socket for hex key: 5**
  - **Hexagonal flat lock nut: 17**

- **Power-match control valve**

- **Mass: 25.1 kg**
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External dimension diagram

V38SAJS-RX-95

Mass: 32 kg
External dimension diagram

V50A×RX-20

Discharge rate adjusting screw (clockwise: discharge rate decrease) Socket for hex key: 6
Hexagonal flat lock nut: 19

Pressure adjusting screw (clockwise: pressure increase) Socket for hex key: 8
Hexagonal flat lock nut: 32

Drain port Rc½

Oil filler port on the case

Mass: 50 kg

V50A3RX-20RC

Vent port 20UNF-2B O-ring boss (with UNF-Rc½ (male) conversion nipple)
Discharge rate adjusting screw (clockwise: discharge rate decrease) Socket for hex key: 6
Hexagonal flat lock nut: 19

PC remote control valve

Mass: 52.1 kg

V50SA×RX-20

Load pressure port 20UNF-2B O-ring boss (with UNF-Rc½ (male) conversion nipple)
Discharge rate adjusting screw (clockwise: discharge rate decrease) Socket for hex key: 6
Hexagonal flat lock nut: 19
Power-match control valve

Differential pressure setting adjusting screw (PC valve) Socket for hex key: 6.5
Hexagonal flat lock nut: 27

Maximum pressure adjusting screw (PC valve) Socket for hex key: 6.5

Drain port Rc½

Oil filler port on the case

Mass: 53.5 kg
External dimension diagram

V50SAJS-×RX-20

Mass: 69 kg
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External dimension diagram

V70A×RX-60

Discharge rate adjusting screw
(clockwise: discharge rate decrease)
Socket for hex key: 6
Hexagonal flat lock nut: 19

Drain port Rc¾
Oil filler port on the case
Pressure adjusting screw
(clockwise: pressure increase)
Socket for hex key: 8
Hexagonal flat lock nut: 32

Discharge port
1½ split flange boss
(SAE J518)

Mass: 55 kg

V70A3RX-60RC

Vent port
-20UNF-2B O-ring boss
(with UNF-Rc¾ (male) conversion nipple)

Discharge rate adjusting screw
(clockwise: discharge rate decrease)
Socket for hex key: 6
Hexagonal flat lock nut: 19

Drain port Rc¾
Oil filler port on the case
PC differential pressure adjusting screw
(factory adjusted)

Discharge port
1½ split flange boss
(SAE J518)

Mass: 57 kg

V70C××RHX-60

Combination control valve

Discharge rate adjusting screw
(low quantity)
Discharge rate adjusting screw
(high quantity)

Discharge port
1½ split flange boss
(SAE J518)

Low pressure adjusting screw (Pₗ)
Socket for hex key: 8
Hexagonal flat lock nut: 32

High pressure adjusting screw (Pₘ)
Socket for hex key: 8
Hexagonal flat lock nut: 32

Drain port Rc¾
Oil filler port on the case

Discharge port
1½ split flange boss
(SAE J518)

Mass: 59.3 kg
External dimension diagram

V70SA××RX-60

- Load pressure port ¼-20UNF-2B O-ring boss (with UNF-Rc⅛ (male) conversion nipple)
- Discharge rate adjusting screw (clockwise: discharge rate decrease)
  Socket for hex key: 8
  Hexagonal flat lock nut: 19
- Power-match control valve
- Suction port 1½ split flange boss (SAE J518)
- Discharge port 1½ split flange boss (SAE J518)

V70SAJS-×RX-60

- Load pressure port M12 P1.75 Effective thread depth 20
- Surge absorbing valve port Rc⅛
- Suction port 1½ split flange boss (SAE J518)
- Discharge port Refer to flange dimensions. 1½ split flange boss (SAE J518)

Mass: 58.5 kg

Mass: 68 kg
Contact Details
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Sectional structural diagram

V8, V15

V8 Seal/bearing table

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Name</th>
<th>Specifications</th>
<th>Material</th>
<th>Quantity</th>
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<tbody>
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<td>Oil seal</td>
<td>TCV19358</td>
<td>NBR</td>
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<tr>
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<td>Ball bearing</td>
<td>6004</td>
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<td>1</td>
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<td>37</td>
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<td>O-ring</td>
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<tr>
<td>47</td>
<td>O-ring</td>
<td>AS568-903 (HS90)</td>
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<tr>
<td>49</td>
<td>O-ring</td>
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V15 Seal/bearing table

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<td>Gasket</td>
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<td>O-ring</td>
<td>JIS B 2401 1B-P14</td>
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<tr>
<td>47</td>
<td>O-ring</td>
<td>AS568-903 (HS90)</td>
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## Sectional structural diagram

### V23, V38

![Diagram of V23, V38]

#### V23 Seal/bearing table

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<td>10</td>
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<td>35</td>
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<td>46</td>
<td>O-ring</td>
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#### V38 Seal/bearing table

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<td>Oil seal</td>
<td>TCV24408</td>
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<td>Sealing washer</td>
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<td>1</td>
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<td>35</td>
<td>Gasket</td>
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<td>O-ring</td>
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<tr>
<td>46</td>
<td>O-ring</td>
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</table>
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Sectional structural diagram

V50, V70

V50 Seal/bearing table

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Name</th>
<th>Specifications</th>
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<td>Tapered roller bearing Cup: 21212 Sa</td>
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V70 Seal/bearing table

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