

# V series piston pump



## Features

- **Low noise**
  - Realized low noise operation in overall pressure area on each series.
- **High efficiency**
  - Oil temperature rise can be reduced due to the less power-loss.  
Accordingly, it is possible to design the tank in small size.
- **High reliability**
  - High response, high stability, and long life make it possible to increase the reliability of the main machine.

## Nomenclature

### ● Pressure compensator control

\* - **V** \*\* **A** \* \* \* - \*\* \*\*  
1 2 3 4 5 12 15 16 17

### ● Combination control (Self pressure method)

\* - **V** \*\* **C** \* \* **R H X** - \*\* \*\*  
1 2 3 4 7 8 12 13 15 16 17

### ● Combination control(Solenoid operated method)

\* - **V** \*\* **C** \* \* **R J** \* **X** - \*\* \*\*  
1 2 3 4 7 8 12 13 14 15 16 17

### ● Dual pressure control

\* - **V** \*\* **D** \* \* **R** \* **X** - \*\* \*\*  
1 2 3 4 9 10 12 14 15 16 17

### ● Power-match control

\* - **V** \*\* **SA** \* \* \* \* - \*\*  
1 2 3 4 6 11 12 15 16

(1) Nomenclature of applied fluid (refer to page 1 for the applied models)

No mark : Working oil with petroleum contents  
W : Working oil with water/glycol  
F : Working oil with phosphoric acid ester

(2) Model No.

V : V series piston pump

(3) Displacement volume

8 : 8.0cm<sup>3</sup>/rev  
15 : 14.8cm<sup>3</sup>/rev  
23 : 23.0cm<sup>3</sup>/rev  
38 : 37.7cm<sup>3</sup>/rev  
50 : 51.6cm<sup>3</sup>/rev  
70 : 69.8cm<sup>3</sup>/rev

(4) Control method I (refer to page 1 for the applied models)

A : Pressure compensator control  
C : Combination control  
D : Dual pressure control  
SA : Power match control

(5)(6) Pressure adjusting range

(refer to the pressure adjusting range table)

(7)(9) Low pressure adjusting range

(refer to the pressure adjusting range table)

(8)(10) High pressure adjusting range

(refer to the pressure adjusting table)

(11) FC valve pressure differential

A : 0.7MPa {7kgf/cm<sup>2</sup>}  
B : 1.4MPa {14kgf/cm<sup>2</sup>}  
C : 2.1MPa {21kgf/cm<sup>2</sup>}

(12)Direction of the rotation from the view of the shaft end (refer to page 1 for the applied models)

R : Clockwise (rightward)  
L : Counterclockwise (leftward)

\* Impossible to exchange "clockwise" to "counterclockwise".

(13)Control method II

H : Self pressure method  
J : Solenoid operated method

(14)Voltage for the solenoid operated valve

A : AC100V (50/60Hz), AC110V (60Hz)  
B : AC200V (50/60Hz), AC220V (60Hz)  
N : DC12V  
P : DC24V

(15)Piping direction (refer to page 1 for the applied models)

No mark : Axial port  
X : Side port

(16)Design number (the design number is subject to change)

20 : Pump model No. V8, V50  
95 : Pump model No. V15, V38  
30 : Pump model No. V23  
<In case that the control method is A, CH, or SA>  
35 : Pump model No. V23  
<In case that the control method I is CJ or D>  
60 : Pump model No. V70

(17)Control method III

No mark : Without remote control system  
RC : With remote control system

## Pressure adjusting range table

### ● Pressure compensator control

#### (5) Pressure adjusting range

Mark	Pressure adjusting range MPa {kgf/cm <sup>2</sup> }	Without remote controller system						With remote controller system				
		V8	V15	V23	V38	V50	V70	V15	V23	V38	V50	V70
1	0.8~7 {8~70}	○	○	○	○	—	—	—	—	—	—	—
1	1.5~7 {15~70}	—	—	—	—	○	○	—	—	—	—	—
2	1.5~14 {15~140}	—	○	○	○	○	○	—	—	—	—	—
3	1.5~21 {15~210}	—	—	—	—	—	—	○	○	○	—	—
3	2~21 {20~210}	—	—	—	—	—	—	—	—	—	○	○
3	3.5~21 {35~210}	—	○	○	○	○	○	—	—	—	—	—
4	1.5~25 {15~250}	—	—	—	—	—	—	—	○	○	—	—
4	3.5~25 {35~250}	—	—	○	○	—	—	—	—	—	—	—

### ● Combination control

#### (7) Low pressure adjusting range

Mark	Pressure adjusting range MPa {kgf/cm <sup>2</sup> }	Self pressure method				Solenoid operated valve method		
		V15	V23	V38	V70	V15	V23	V38
1	1.5~7 {15~70}	—	—	—	○	○	○	○
1	2.5~7 {25~70}	○	○	○	—	—	—	—
2	1.5~14 {15~140}	—	—	—	○	○	○	○
2	2.5~14 {25~140}	○	○	○	—	—	—	—

#### (8) High pressure adjusting range

Mark	Pressure adjusting range MPa {kgf/cm <sup>2</sup> }	Self pressure method				Solenoid operated valve method		
		V15	V23	V38	V70	V15	V23	V38
1	1.5~7 {15~70}	—	—	—	○	○	○	○
1	2.5~7 {25~70}	○	○	○	—	—	—	—
2	1.5~14 {15~140}	—	—	—	○	○	○	○
2	2.5~14 {25~140}	○	○	○	—	—	—	—
3	3.5~21 {35~210}	○	○	○	○	○	○	○
4	3.5~25 {35~250}	—	○	○	—	—	○	○

### ● Dual pressure control

#### (9) Low pressure adjusting range

Mark	Pressure adjusting range MPa {kgf/cm <sup>2</sup> }	V15	V23	V38
1	1.5~7 {15~70}	○	○	○
2	1.5~14 {15~140}	○	○	○

Note) If both low and high pressure adjusting range are the pattern 1, the adjusting pressure range becomes 0.8~7MPa {8~70kgf/cm<sup>2</sup>}.

#### (10) High pressure adjusting range

Mark	Pressure adjusting range MPa {kgf/cm <sup>2</sup> }	V15	V23	V38
1	1.5~7 {15~70}	○	○	○
2	1.5~14 {15~140}	○	○	○
3	3.5~21 {35~210}	○	○	○
4	3.5~25 {35~250}	—	○	○

### ● Power match control

#### (6) Pressure adjusting range

Mark	Pressure adjusting range MPa {kgf/cm <sup>2</sup> }	V15	V23	V38	V50	V70
1	0.8~7 {8~70}	○	○	○	—	—
1	1.5~7 {15~70}	—	—	—	○	○
2	1.5~14 {15~140}	○	○	○	○	○
3	3.5~21 {35~210}	○	○	○	○	○
4	3.5~25 {35~250}	—	○	○	—	—