

Piston pumps

Whole models

	Model No.	Piping direction	Control method									
			A	A-RC	CH	CH-RC	CJ	CJ-RC	D	D-RC	SA	SAJS
V series	V8	Side port	R	—	—	—	—	—	—	—	—	—
	V15	Side port	R (L)	R (L)	R	R	R	R	R	R	R (L)	—
		Axial port	R (L)	R (L)	—	—	—	—	—	—	R (L)	—
	V23	Side port	R (L)	R (L)	R	R	R	R	R	R	R (L)	R
		Axial port	R (L)	R (L)	—	—	—	—	—	—	R (L)	—
	V38	Side port	R (L)	R (L)	R	R	R	R	R	R	R (L)	R (L)
		Axial port	R (L)	R (L)	—	—	—	—	—	—	R (L)	—
V50	Side port	R (L)	R (L)	—	—	—	—	—	—	R (L)	R (L)	
V70	Side port	R (L)	R (L)	R	—	—	—	—	—	R (L)	R	
VZ series	VZ50	Side port	R	R	R	—	R	—	—	—	—	—
	VZ63	Side port	R	R	R	—	R	—	—	—	—	—
	VZ80	Side port	R	R	R	—	R	—	—	—	—	—
	VZ100	Side port	R	R	R	—	R	—	—	—	—	—
	VZ130	Side port	R	R	—	—	—	—	—	—	—	—

Note) In the table above, “R” and “L” stand for the direction of the rotation “Clockwise” and “Counterclockwise” with the view point from the shaft end, respectively.

Models applied for incombustible working oil

Model No.	Working oil	Control method										
		A	A-RC	CH	CH-RC	CJ	CJ-RC	D	D-RC	SA	SAJS	
V8	Working oil with water/glycol (W)	—	—	—	—	—	—	—	—	—	—	—
	Working oil with phosphoric acid ester (F)	—	—	—	—	—	—	—	—	—	—	—
V15	Working oil with water/glycol (W)	○	○	○	○	○	○	○	○	○	○	—
	Working oil with phosphoric acid ester (F)	○	○	○	○	○	○	○	○	○	○	—
V23	Working oil with water/glycol (W)	○	○	○	○	○	○	○	○	○	○	○
	Working oil with phosphoric acid ester (F)	○	○	○	○	○	○	○	○	○	○	—
V38	Working oil with water/glycol (W)	○	○	○	○	○	○	○	○	○	○	○
	Working oil with phosphoric acid ester (F)	○	○	○	○	○	○	○	○	○	○	—
V50	Working oil with water/glycol (W)	○	○	—	—	—	—	—	—	—	○	○
	Working oil with phosphoric acid ester (F)	○	○	—	—	—	—	—	—	—	○	—
V70	Working oil with water/glycol (W)	○	○	○	—	—	—	—	—	—	○	○
	Working oil with phosphoric acid ester (F)	○	○	○	—	—	—	—	—	—	○	—

Note) There is no models applied for incombustible working oil in the VZ series.
Contact us for the applied conditions.

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 : 8.0cm³/rev
 15 : 14.8cm³/rev
 23 : 23.0cm³/rev
 38 : 37.7cm³/rev
 50 : 51.6cm³/rev
 70 : 69.8cm³/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/cm²}
 B : 1.4MPa {14kgf/cm²}
 C : 2.1MPa {21kgf/cm²}

(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 ² }	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 ² }	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 ² }	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 ² }	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/cm²}.

(10) High pressure adjusting range

Mark	Pressure adjusting range MPa {kgf/cm ² }	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 ² }	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}	—	○	○	—	—