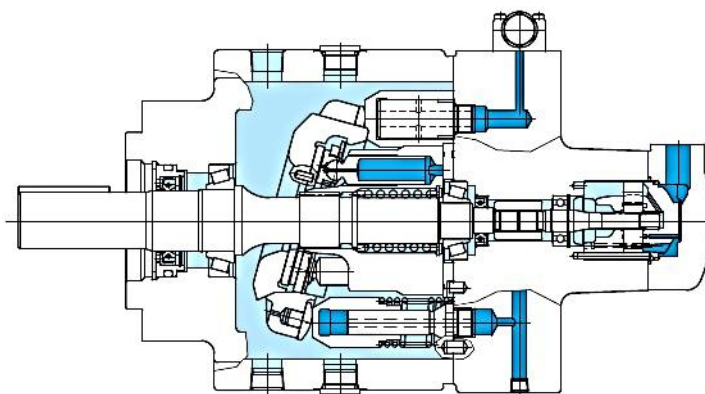


Low noise variable displacement piston pumps

P**V(M) series



This pump series offers low noise, high performance, and reliability with various functions for fast response and stability with a variety of controls such as electric direct control, pressure compensator control, and load sensing. Double pump configurations to meet system needs are also available. These pumps are ideal for customer needs for energy saving, high speed, and low noise.

Model Code

(F11)-P16V-(F)RS(G)-11-CMC-10-J

1 2 3 4 5 6 7 8 9

- | | |
|---|---|
| <p>1 Hydraulic fluid
Omit: mineral oil based fluid
F11: water glycol based fluid</p> <p>2 P16V swash plate type variable displacement piston pump
P16V</p> <p>3 Pump mounting
Omit: flange mounting
F: foot mounting</p> <p>4 Rotation (viewed from shaft end)
R: right rotation (clockwise)
L: left rotation (counter-clockwise)</p> | <p>5 Suction and delivery port piping system
(Tapered threaded pipe for JIS pipes used for drain port)
Omit: SAE O-ring seal coupling connection end port type
G: SAE 4 bolt flange connection end port side
1: SAE 4 bolt flange connection side port type</p> <p>6 Pump design no.</p> <p>7 Pump control method
Refer to the pump and control system combination table (on page A4-2).</p> <p>8 Maximum displacement adjustment function
Omit: not provided
C: w/adjuster</p> <p>9 Control valve design no.</p> |
|---|---|

Model Code

(F11)-P70V(3)(F)R-(2)(C)22-CMC-10-J

1 2 3 4 5 6 7 8 9 10 11

- | | |
|--|---|
| <p>1 Hydraulic fluid
Omit: mineral oil based fluid
F11: water glycol based fluid</p> <p>2 P**V swash plate type variable displacement piston pump
P16VM, P21VM, P21V, P31V, P40V
P70V, P100V, P130V</p> <p>3 Code for double pump
Omit: single pump
3: integrated fixed vane pump (P70V, P100V)</p> <p>4 Pump mounting
Omit: flange mounting
F: foot mounting</p> <p>5 Rotation (viewed from shaft end)
R: right rotation (clockwise)
L: left rotation (counter-clockwise)</p> | <p>6 Integrated vane pump displacement code (input only if 3 is 3)
Refer to specifications.</p> <p>7 Integrated vane pump delivery port position (input only if 3 is 3)
Viewed from cover side with control valve up
A: bottom B: left C: up D: right</p> <p>8 Pump design no.</p> <p>9 Pump control method
Refer to the pump and control system combination table (on page A4-2).</p> <p>10 Maximum displacement adjustment function
Omit: not provided
C: w/adjuster</p> <p>11 Control valve design no.</p> |
|--|---|

Model Code

● Pump and control valve combination table (consult Tokyo Keiki for parts not supported)

	Code	Applicable Series									Maximum Displacement Adjustment Function Added ("C" added to code)
		P16VM	P21VM	P16V	P21V	P31V	P40V	P70V	P100V	P130V	
Pressure compensator control	C	○	○	○	○	○	○	○	○	○	○
	CM	○	○	○	○	○	○	○	○	○	○
Remote pressure compensator control	CG	○	○	○	○	○	○	○	○	○	○
Proportional solenoid pressure compensator control	EP	○	○	○	○	○	○	○	○	○	○
Dual pressure, dual flow self-pressurized control	2P	○	○	○	○	○	○	○	○	○	○
Load sensing control	CV	○	○	○	○	○	○	○	○	○	○
	CVF	○	○	○	○	○	○	○	○	○	○
Remote load sensing control w/pressure compensator	CGVF	○	○	○	○	○	○	○	○	○	○
Multi-stage pressure compensator control (1 pressure unload)	MC1U	○	○	○	○	○	○	○	○	○	○
Multi-stage pressure compensator control (2 pressures)	MC2	○	○	○	○	○	○	○	○	○	○
Multi-stage pressure compensator control (2 pressure unload)	MC2U	○	○	○	○	○	○	○	○	○	○
Multi-stage pressure compensator control (3 pressures)	MC3	○	○	○	○	○	○	○	○	○	○
Electric direct control (flow)	EDQS	—	—	—	—	—	○	○	○	○	—
Electric direct control (flow, pressure)	EDS	—	—	—	—	—	○	—	—	—	—

Specifications

Model Code	Maximum Displacement cm³/rev	Maximum Working Pressure MPa	Max. Speed min⁻¹	Min. Speed min⁻¹	Weight kg
P16VM	16	14	1800	600	16
P21VM	21				17
P16V	16	21			16
P21V	21				22
P31V	31				23
P40V	40				37
P70V	70				63
P100V	100				91
P130V	130				112

- Weights are for pumps with pressure compensator control.
- Consult Tokyo Keiki for specifications of pumps using water glycol fluids.

● Integrated vane pump specifications

Displacement Code	Displacement cm ³ /rev	Maximum Working Pressure MPa
2	6.3	16
3	9.4	
4	12.5	
5	15.6	

- See piston pump Notes on Operation (page A0-3, A0-4)

Piping Flanges and Couplings

- Flanges must be ordered separately. See table below for required parts.

Piping Flanges (conforming to SAE J 518c Standard Pressure)

Pump Model		Threaded		Welded	
		Diameter	Flange Model	Diameter	Flange Model
P16VM, P21VM, P16V		Rc3/4	FL1-6-06P-10-JA-S4-M	20A	FL1-6-06W-10-JA-M
P21V, P31V		Rc1-1/4	FL1-10-10P-10-JA-S4-M	32A	FL1-10-10W-10-JA-M
P40V					
P70V		Rc1-1/2	FL1-12-12P-10-JA-S4-M	40A	FL1-12-12W-10-JA-M
P70V3	Delivery	Rc1-1/2	FL1-12-12P-10-JA-S4-M	40A	FL1-12-12W-10-JA-M
	Suction	Rc2	FL1-16-16P-10-JA-S4-M	50A	FL1-16-16W-10-JA-M
P100V (3)		Rc2-1/2	FL1-20-20P-10-JA-S4-M	65A	FL1-20-20W-10-JA-M
P130V (3)					

- Integrated vane pump delivery port flange

Threaded		Welded	
Diameter	Flange Model	Diameter	Flange Model
Rc3/4	FL1-6-06P-10-JA-S4-J	20A	FL1-6-06W-10-JA

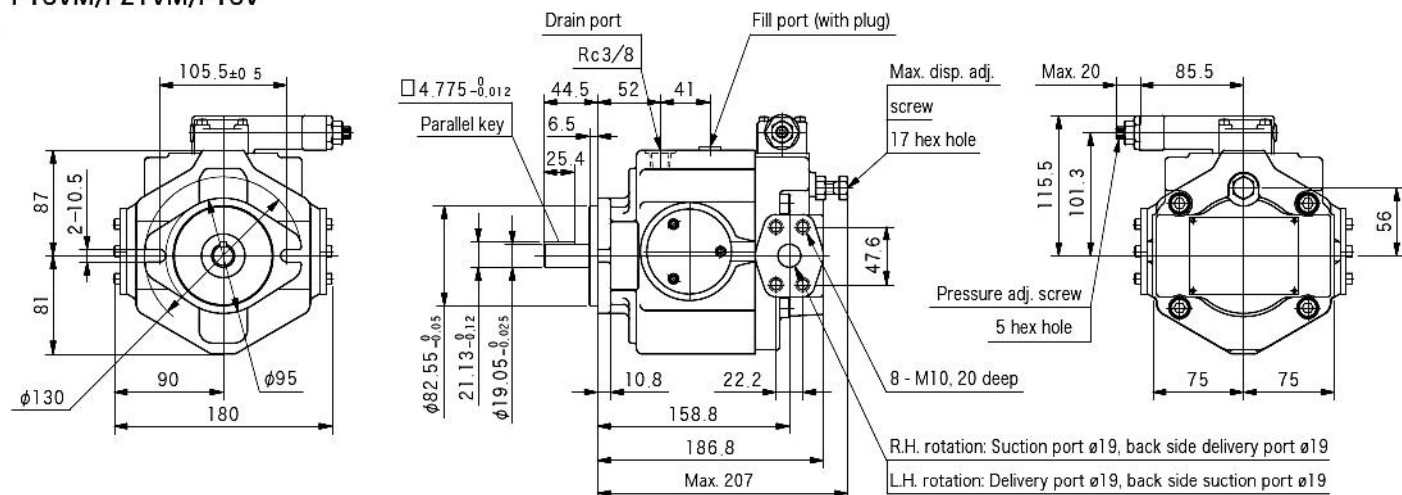
- Flange includes O-rings, mounting bolts, spring washers.

Pipe Couplings (SAE O-ring seal couplings)

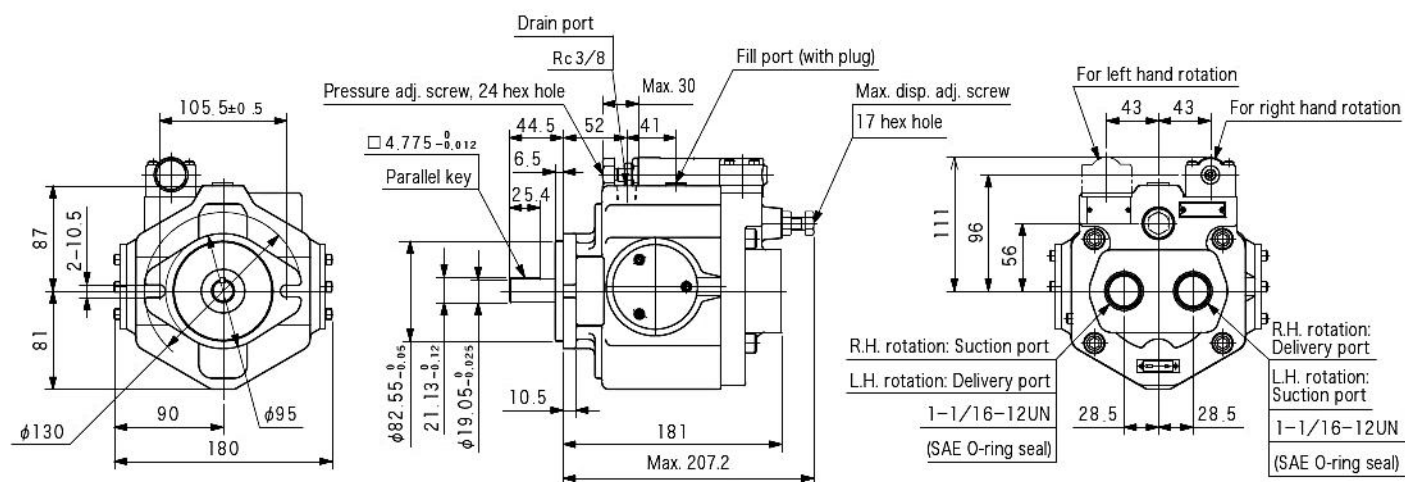
Pump Model	Suction, Delivery Port Couplings		
	Pump Side Thread Size	Piping Side Thread Size	Part No.
P16V	1-1/16-12UN	Rc3/8	VP36051
		Rc1/2	VP36873
		Rc3/4	VP31817
		Rc1	VP39410

Dimensions

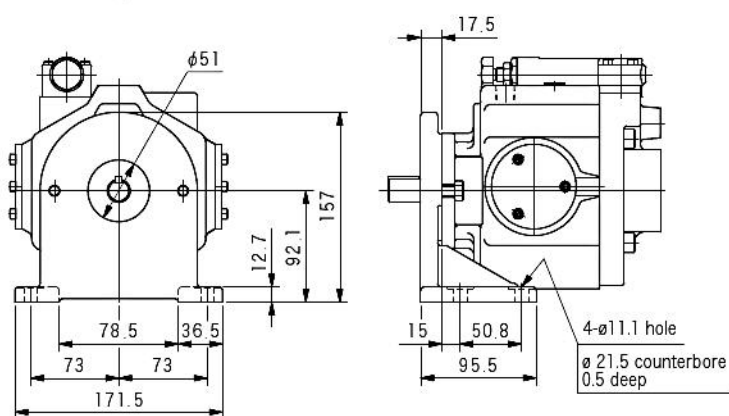
P16VM/P21VM/P16V



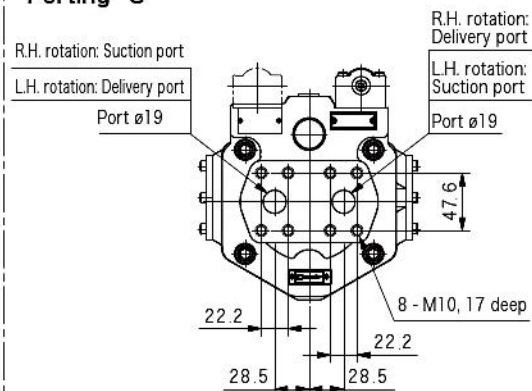
P16V (end port type)



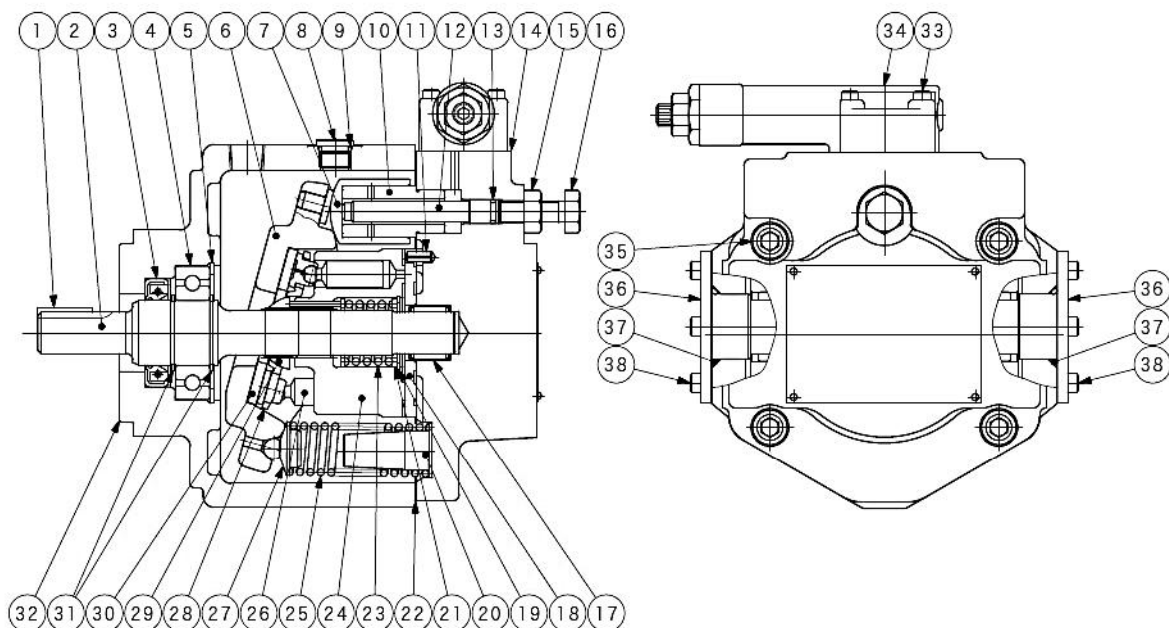
Foot mounting



Porting "G"



P16VM/P21VM/P16V, P21V/P31V



P16VM/P21VM/P16V

No.	Name	Part No.	Standard	Quantity
3	Shaft seal	VA29405		1
9	O-ring	007990619	AS568-906 (NBR, Hs90)	1
13	O-ring	008000617	JIS B 2401 1A-P8	1
22	Gasket	VA29431		1
37	O-ring	007991619	AS568-916 (NBR, Hs90)	2

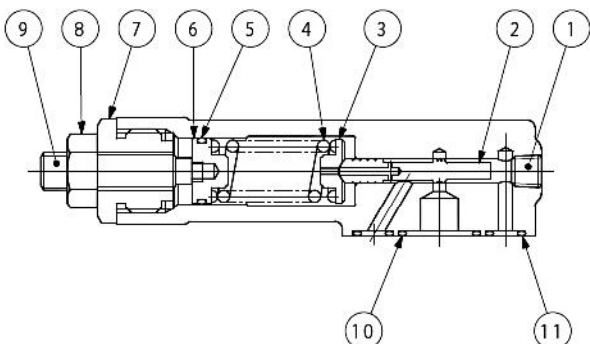
P21V/P31V

No.	Name	Part No.	Standard	Quantity
3	Shaft seal	VA29405		1
9	O-ring	007990619	AS568-906 (NBR, Hs90)	1
13	O-ring	008000417	JIS B 2401 1A-P6	1
22	Gasket	40012493		1
37	O-ring	007912719	AS568-127 (NBR, Hs90)	2

Rotating Group Kits

Model Code	P16V	P16VM	P21VM	P21V/P31V
Rotating group kit no.	40038012	40038012	40038013	40058739
R rotation No.18 w/wafer plate	40058910	40058910	40058913	40058258
L rotation No.18 w/wafer plate	40058911	40058911	40058914	40058259
Seal kit part no.	VA12268A	40038014	40038014	40088392

Pressure compensator mechanism parts



No.	Name	Part No.	Standard	Quantity
5	O-ring	007901517	AS568-015 (NBR, Hs70)	1
10	O-ring	007901819	AS568-018 (NBR, Hs90)	1
11	O-ring	007901119	AS568-011 (NBR, Hs90)	2