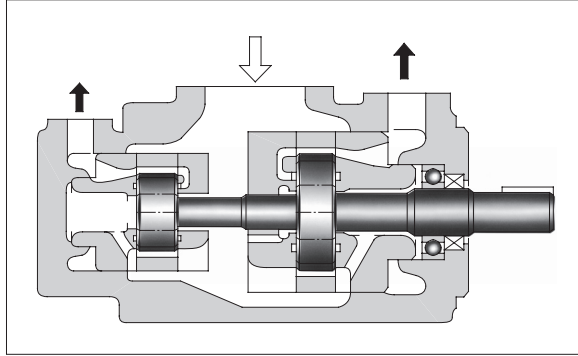
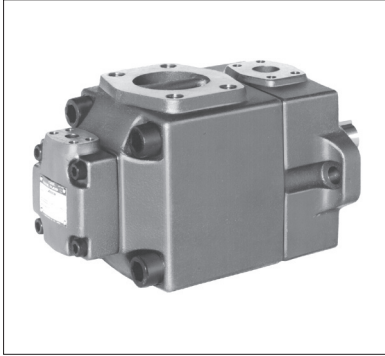
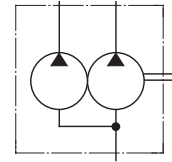


# "PV2R" Series Double Pumps

These double pumps consist of two PV2R series single pumps combined in tandem within a single housing and driven by a common shaft. A single suction port and two discharge ports are provided so that the output flow can be supplied to separate circuits.



Graphic Symbol



## Model number designation

PV2R13	-6	-76	-L	-R	A	A	A	-43
Series Number	Small Volume Pump Nominal Displacement cm <sup>3</sup> /rev	Large Volume Pump Nominal Displacement cm <sup>3</sup> /rev	Mounting	Direction of Rotation	Small Volume Pump Discharge Port Position	Large Volume Pump Discharge Port Position	Suction Port Position	Design Number
PV2R12 <sup>★2</sup>	6, 8, 10, 12 14, 17, 19, 23 25, 31	26, 33, 41, 47 53, 59, 65	L: Foot Mtg.  F: Flange Mtg.	R: <sup>★1</sup> Clockwise (Normal)	(Viewed from Shaft End)			43
PV2R13 <sup>★2</sup>	6, 8, 10, 12 14, 17, 19, 23 25, 31	76, 94, 116			E: Left 45° Upwards (Normal)	A: Upwards (Normal)	A: Upwards (Normal)	
PV2R23 <sup>★2</sup>	41, 47, 53, 59 65	52, 60, 66, 76 94, 116			A: Upwards (Normal)	E: Left 45° Upwards (Normal)		

★1. Available to supply pump with anti-clockwise rotation. Consult Yuken for details.

★2. When phosphate esters are used, prefix "F-" to the model number because the special seals (fluororubber) are required to be used.

The following large-capacity dual pumps are also available.  
For details, please contact us for a separate document.

Model Numbers	Max. Operating Pressure · Output Flow · Input Power		Shaft Speed Range r/min
	Small Volume Pump	Large Volume Pump	
PV2R33- * - * - * -RAAA-31	Same as PV2R3	Same as PV2R3	600-1800
PV2R14- * - * - * -RAAA-33	6, 8, 10, 12, 14, 17, 19, 23	Same as PV2R4	750-1800
PV2R24- * - * - * -RAAA-31	26, 33, 41, 47		600-1800
PV2R34- * - * - * -REAA-31	Same as PV2R3		

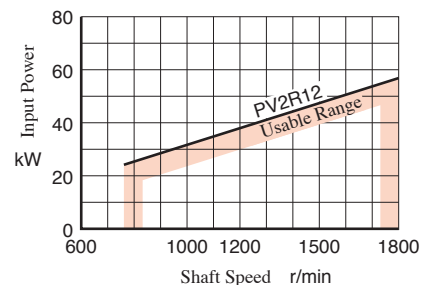
## Specifications

### Maximum Operating Pressure

Model Numbers		Max. Operating Pressure MPa				
		Petroleum Base Oils		Water Containing Fluids		Synthetic Fluids
		Anti-Wear Type	R&O Type	Anti-Wear <sup>*1</sup> Type Water Glycols	Water Glycols	Phosphate Esters
PV2R12 <sup>*4</sup>	Small Volume Pump	21 <sup>*2</sup>	16	16	7	16
	Large Volume Pump	21	14	16	7	14
PV2R13	Small Volume Pump	21 <sup>*2</sup>	16	16	7	16
	Large Volume Pump	21 <sup>*3</sup>	14	16	7	14
PV2R23	Small Volume Pump	21	14	16	7	14
	Large Volume Pump	21 <sup>*3</sup>	14	16	7	14

- ★1. For the brands of anti-wear type water-glycols, see the item of "Hydraulic Fluids" on page B-2.
- ★2. When using a push-off volume of nominal size "6" or "8" (PV2R12/PV2R13-6, 8) at a pressure exceeding 16 MPa, rotational speed should be 1450 r/min or higher.  
The nominal push-off volume "31" (PV2R12/PV2R13-31) is limited to a maximum operating pressure of 16 MPa.
- ★3. Nominal push-off volume "116" (PV2R13/PV2R23-\*116) limits the maximum operating pressure to 16 MPa.
- ★4. For the PV2R12 type, the total shaft input power of the small-capacity side pump and the large-capacity side pump is limited to the rotational speed as shown to the right.

### PV2R12 Type Allowable Shaft Input



### Shaft Speed Range & Output Flow & Input Power, Mass

Model Numbers	Shaft Speed Range r/min				Output Flow & Input Power				Mass kg	
	Petroleum Base Oils		Water Containing Fluids Phosphate Esters		Small Volume Pump	Large Volume Pump	Flange Mtg.	Foot Mtg.		
	Max.	Min. <sup>*2</sup>	Max.	Min. <sup>*2</sup>						
PV2R12	1800	750	1200	750	Same as single pump "PV2R1", refer to pages B-11 - B-13	Same as single pump "PV2R2", refer to pages B-13 & B-14. However, as for displacement of "26" and "33", refer to page B-22.	25		29.3	
PV2R13 <sup>*1</sup>	1800	750	1200	750	Same as single pump "PV2R1", refer to pages B-11 - B-13	Same as single pump "PV2R3", refer to pages B-14 & B-15	45.6		55.6	
PV2R23 <sup>*1</sup>	1800	600	1200	600	Same as single pump "PV2R2", refer to pages B-13 & B-14	Same as single pump "PV2R3", refer to pages B-14 & B-15. However, as for displacement of "52", "60" and "66", refer to pages B-22 & B-23	51		61	

- ★1. As for models displacements listed below. Minimum suction pressure is limited in relation to the shaft speed.
- ★2. For starting at low speed, the maximum viscosity is limited. For details, see the item of "Hydraulic Fluids" on page B-2.

Model Numbers	Min. Suction Pres.	
	Less than 1700 r/min	1700-1800 r/min
PV2R13-*116 PV2R23-*116	-20 kPa	0 kPa
PV2R23-*76 PV2R23-*94	-20 kPa	-6.7 kPa

**■ Pipe Flange Kits**

Pipe flange kits are available. When ordering, specify the kit number from the table below.

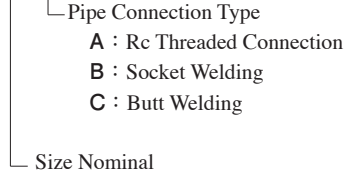
Pump Model Numbers	Pipe Flange Kit Numbers		
	Suction Port	Large Volume Pump Discharge Port	Small Volume Pump Discharge Port
PV2R12	F5-16- *-10	F5-06- *-10	F5-04- *-10
PV2R13	F5-24- <sup>A</sup> / <sub>B</sub> -10	F5-10- *-10	F5-04- *-10
PV2R23	F5-24- <sup>A</sup> / <sub>B</sub> -10	F5-10- *-10	F5-06- *-10

Notes : 1. Letter (A,B,C) indicating pipe connection type is required instead of \* symbol in the table above. Please, select a letter referring to the pipe flange kit number designation shown on the right side.

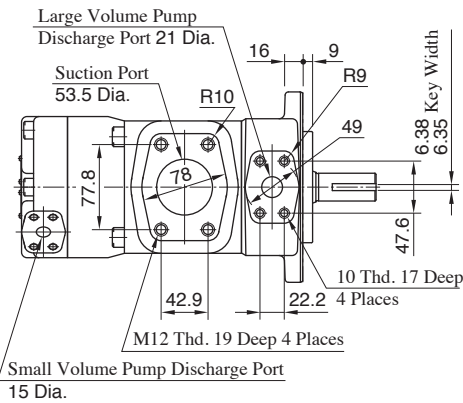
- In case of using socket welding flanges, there is a case where the operating pressure should be set lower than the normal because of strength of the flanges. Therefore, please pay cautious attention to the operating pressure when the socket welding flanges are used.
- When phosphate esters are used, prefix "F-" to the model number.

**● Pipe Flange Kits Numbers Configuration**

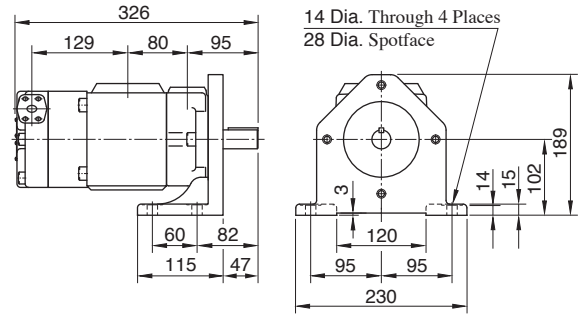
F5-06- \*-10



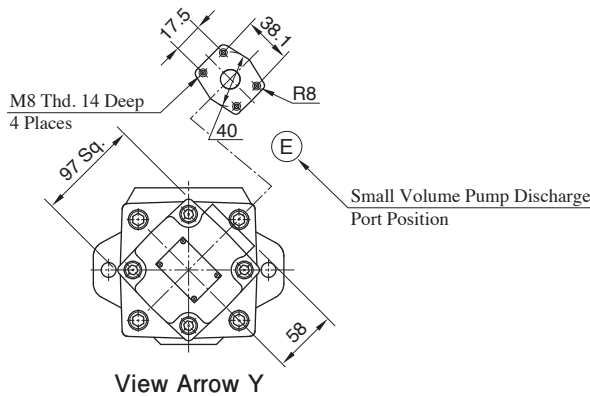
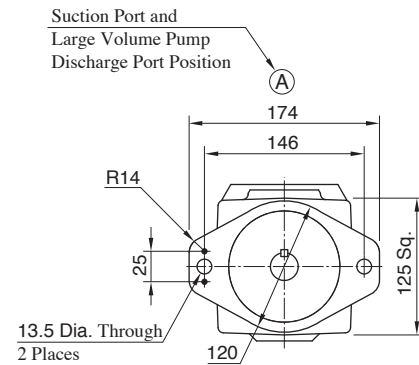
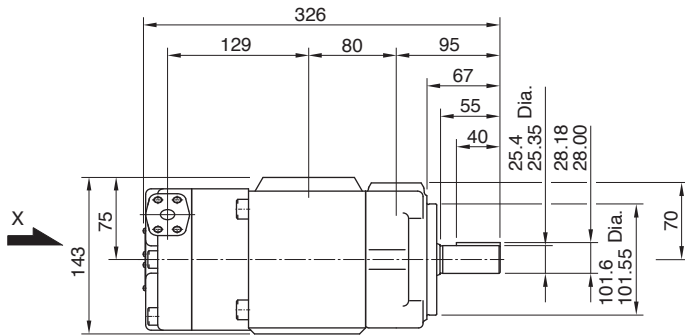
**Flange Mtg. : PV2R12- \*- \*-F**



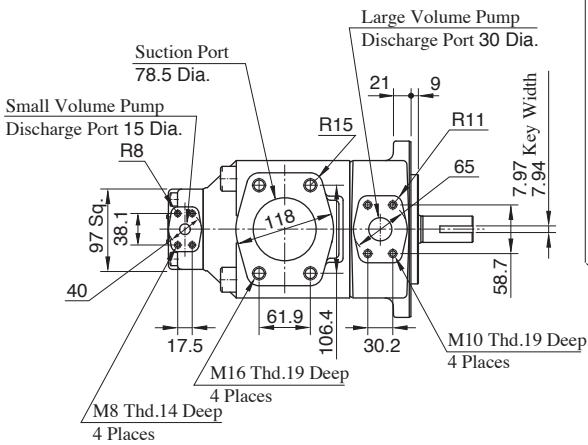
**Foot Mtg. : PV2R12- \*- \*-L**



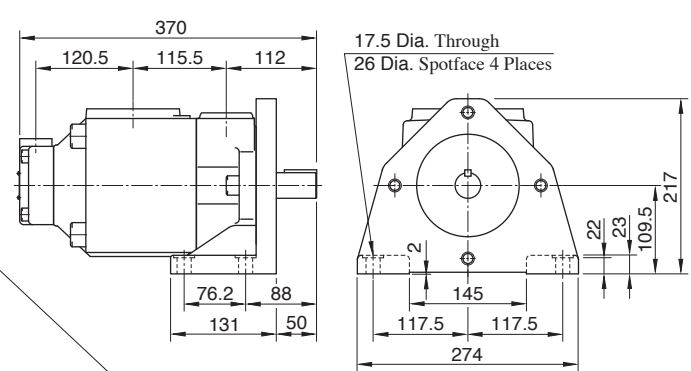
For other dimensions, refer to "Flange Mtg."



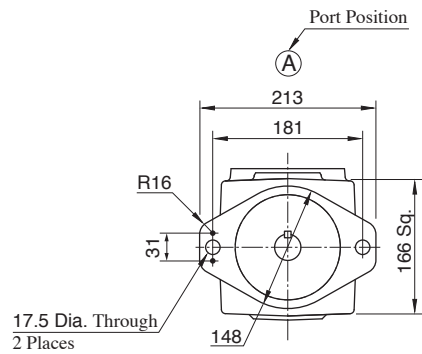
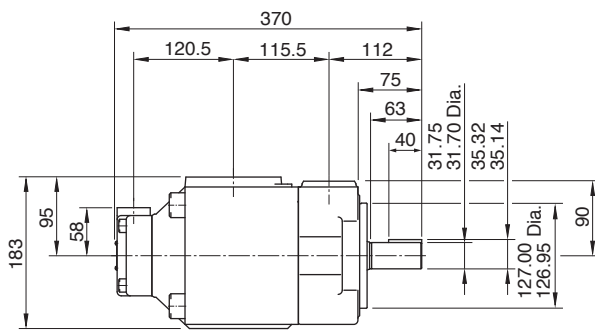
Flange Mtg.: PV2R13- \* - \* -F



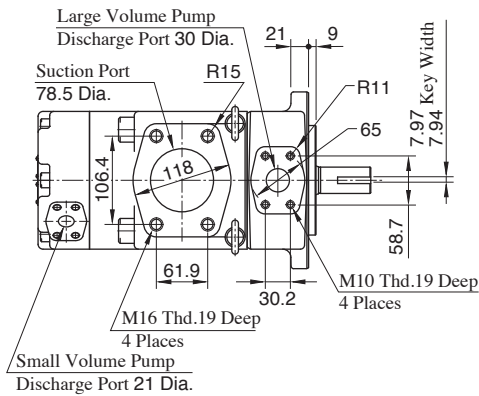
Foot Mtg.: PV2R13- \* - \* -L



For other dimensions, refer to "Flange Mtg."

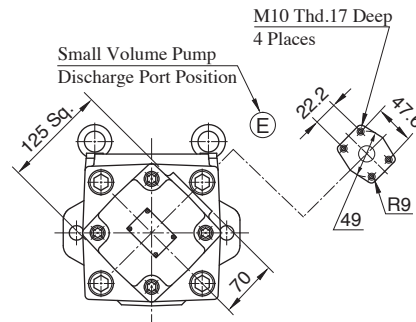


Flange Mtg.: PV2R23- \* - \* -F

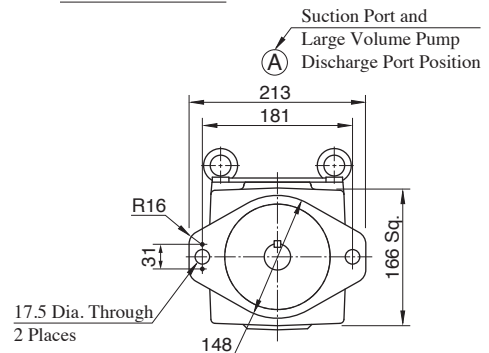
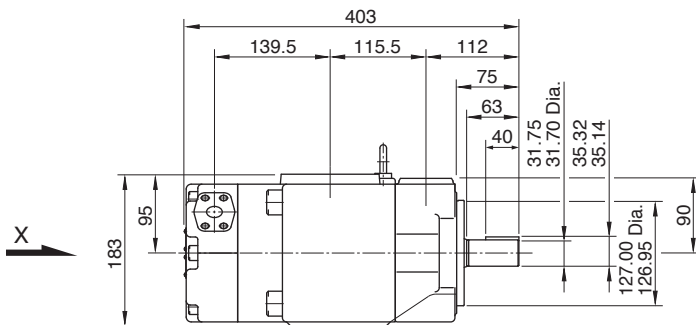


Foot Mtg.: PV2R23- \* - \* -L

Mounting bracket is same as for PV2R13 type. Refer to PV2R13 type above for dimensions related to the bracket.



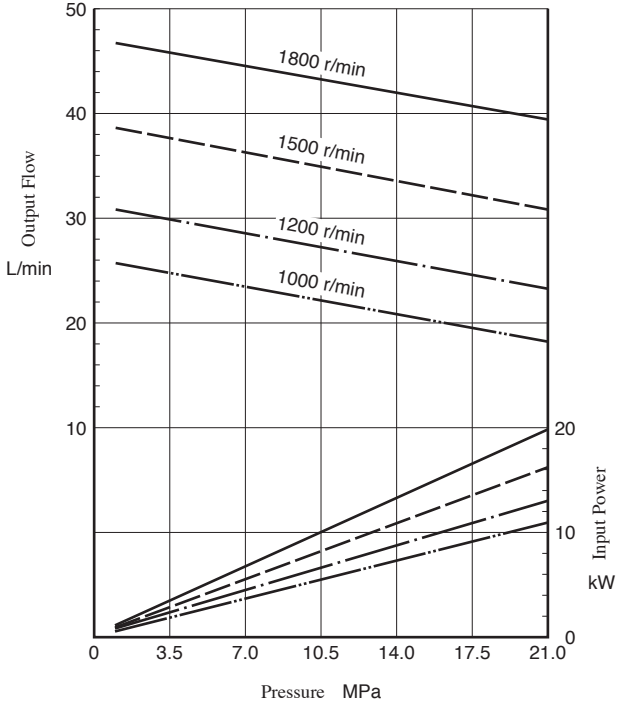
View Arrow X



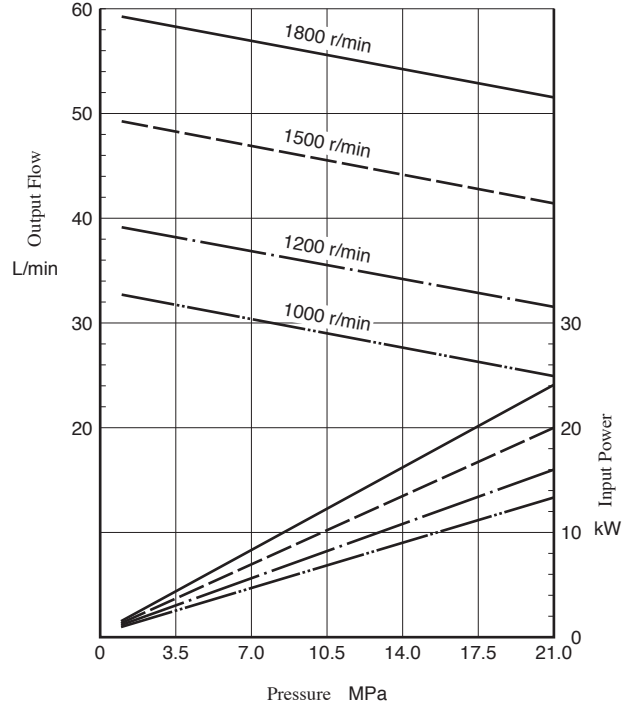
**Pressure, Output Flow, and Input Power**

Typical Pump Characteristics at Viscosity 20 mm<sup>2</sup>/s [ISO VG32 Oils, 50°C]

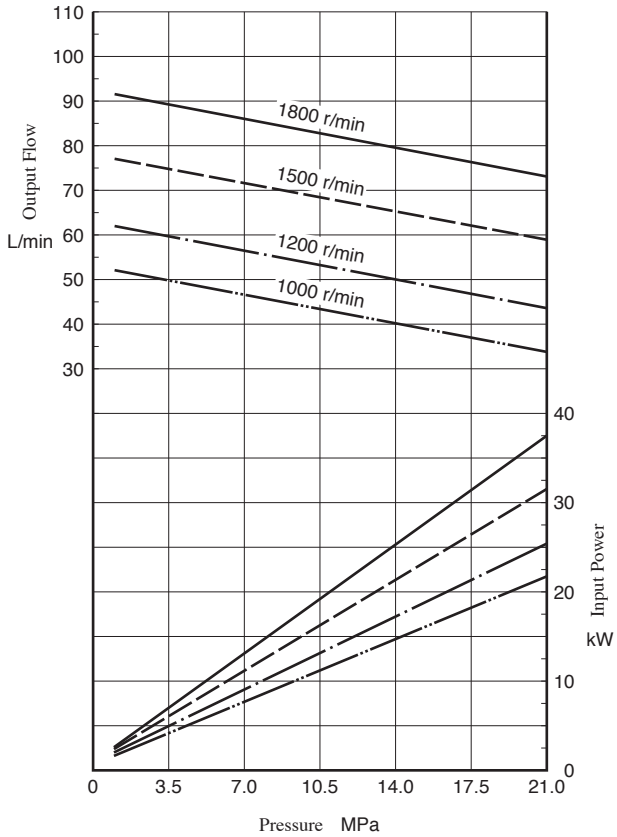
● PV2R12- \*-26



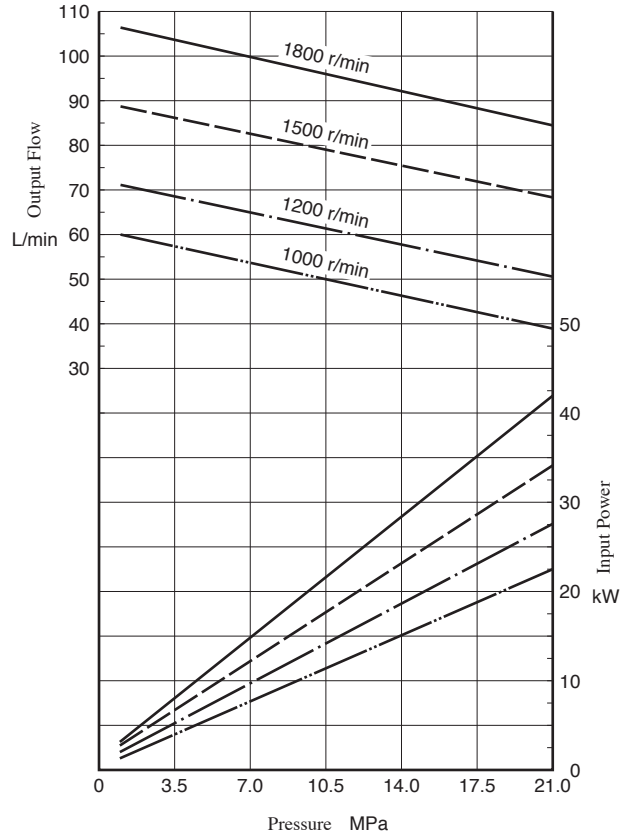
● PV2R12- \*-33



● PV2R23- \*-52

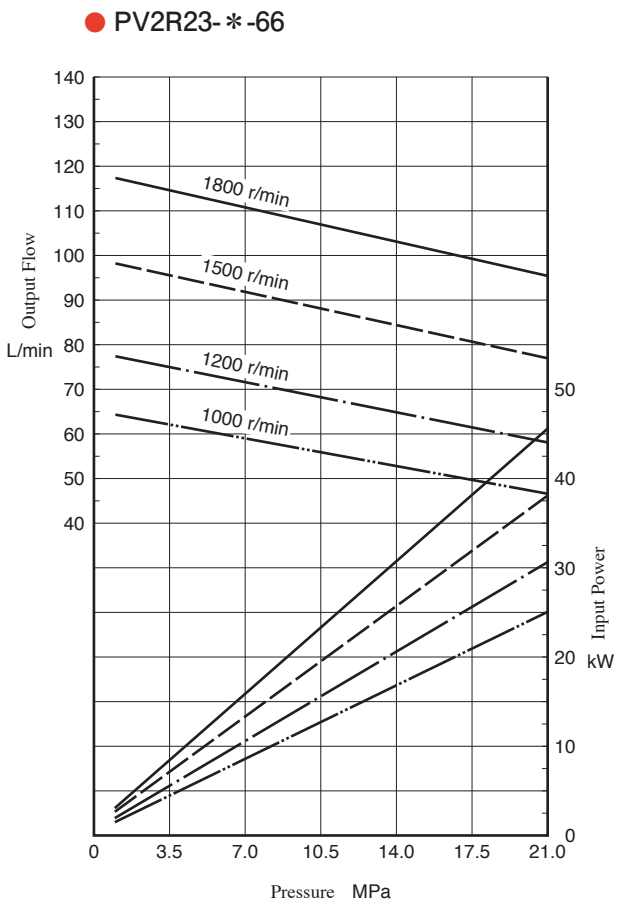


● PV2R23- \*-60



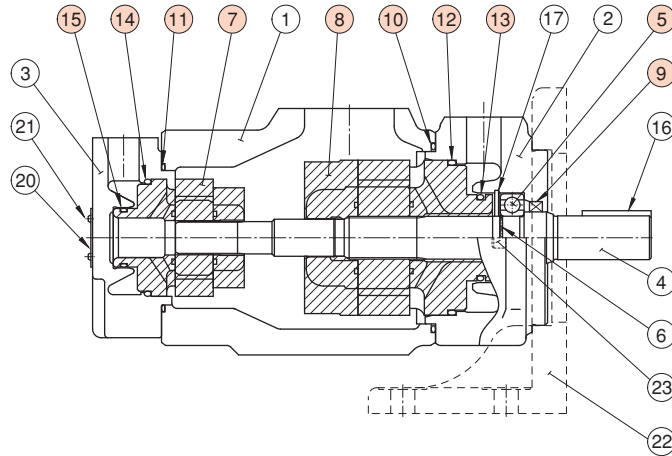
## Pressure, Output Flow, and Input Power

Typical Pump Characteristics at Viscosity 20 mm<sup>2</sup>/s [ISO VG32 Oils, 50°C]



**Spare Parts List**

**PV2R12  
PV2R13  
PV2R23**



**Cartridge Kits**

Model Numbers	⑦Small Volume Pump Cartridge Kit Numbers	⑧Large Volume Pump Cartridge Kit Numbers	Model Numbers	⑦Small Volume Pump Cartridge Kit Numbers	⑧Large Volume Pump Cartridge Kit Numbers
PV2R12- 6-★-* -REAA-43	CPV2R13- 6-L-43	CPV2R2 -★-R-41	PV2R13- 6-★-* -RAAA-43	CPV2R13- 6-L-43	CPV2R3 -★-R-31
PV2R12- 8-★-* -REAA-43	CPV2R13- 8-L-43		PV2R13- 8-★-* -RAAA-43	CPV2R13- 8-L-43	
PV2R12-10-★-* -REAA-43	CPV2R13-10-L-43		PV2R13-10-★-* -RAAA-43	CPV2R13-10-L-43	
PV2R12-12-★-* -REAA-43	CPV2R13-12-L-43		PV2R13-12-★-* -RAAA-43	CPV2R13-12-L-43	
PV2R12-14-★-* -REAA-43	CPV2R13-14-L-43		PV2R13-14-★-* -RAAA-43	CPV2R13-14-L-43	
PV2R12-17-★-* -REAA-43	CPV2R13-17-L-43		PV2R13-17-★-* -RAAA-43	CPV2R13-17-L-43	
PV2R12-19-★-* -REAA-43	CPV2R13-19-L-43		PV2R13-19-★-* -RAAA-43	CPV2R13-19-L-43	
PV2R12-23-★-* -REAA-43	CPV2R13-23-L-43		PV2R13-23-★-* -RAAA-43	CPV2R13-23-L-43	
PV2R12-25-★-* -REAA-43	CPV2R13-25-L-43		PV2R13-25-★-* -RAAA-43	CPV2R13-25-L-43	
PV2R12-31-★-* -REAA-43	CPV2R13-31-L-43		PV2R13-31-★-* -RAAA-43	CPV2R13-31-L-43	
PV2R23-41-★-* -REAA-41	CPV2R23-41-L-41	CPV2R3 -★-R-31			
PV2R23-47-★-* -REAA-41	CPV2R23-47-L-41				
PV2R23-53-★-* -REAA-41	CPV2R23-53-L-41				
PV2R23-59-★-* -REAA-41	CPV2R23-59-L-41				
PV2R23-65-★-* -REAA-41	CPV2R23-65-L-41				

Note: The ★ marks are the spaces for large volume pump nominal displacement. Refer to the model No. designation on page B-18, write correct nominal displacement figures.

**Seals & Bearings**

Item	Name of Parts	Part Numbers			Qty.
		PV2R12	PV2R13	PV2R23	
5	Bearing	6205	6207	6207	1
9	Oil Seal	ISD 30 42 8	ISD 35 55 11	ISD 35 55 11	1
10	O-Ring	OR NBR-90 G105-N	OR NBR-90 G135-N	OR NBR-90 G135-N	1
11	O-Ring	OR NBR-90 G80-N	OR NBR-90 G80-N	OR NBR-90 G105-N	1
12	O-Ring	OR NBR-90 G85-N	OR NBR-90 G115-N	OR NBR-90 G115-N	1
13	O-Ring	OR NBR-90 P46-N	AS 568-231 (NBR-90)	AS 568-231 (NBR-90)	1
14	O-Ring	OR NBR-90 G60-N	OR NBR-90 G60-N	OR NBR-90 G85-N	1
15	O-Ring	OR NBR-90 G30-N	OR NBR-90 G30-N	OR NBR-90 P46-N	1

Note: The o-rings under item No. ⑫ and ⑬ are included in the large volume pump cartridge kit and those under item No. ⑭ and ⑮ are included in the small volume pump cartridge kit.

● Cartridge kits and seals for pumps for phosphate esters (F-PV2R \* \*) differ from those in the table above. Consult Yuken for details.