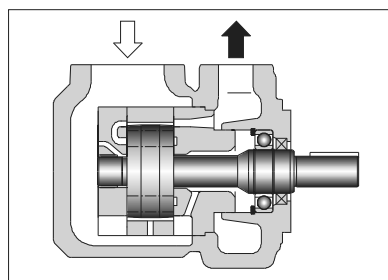
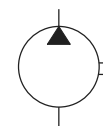


## "PV2R4A" Series Single Vane Pumps

These high pressure, high performance pumps have been developed to meet space-saving requirements. These pumps are a very compact version of the PV2R4, a vane pump series that has proven to exhibit outstanding low noise characteristics.



Graphic Symbol



### Specifications

| Model Numbers | Geometric Displacement<br>cm <sup>3</sup> /rev<br>(cu.in./rev) | Max. Operating Pressure MPa (PSI) |            |                                            |               |                        |                  | Output Flow & Input Power | Shaft Speed Range r/min   |      |
|---------------|----------------------------------------------------------------|-----------------------------------|------------|--------------------------------------------|---------------|------------------------|------------------|---------------------------|---------------------------|------|
|               |                                                                | Petroleum Base Oils               |            | Water Containing Fluids                    |               |                        | Synthetic Fluids |                           | Max.                      | Min. |
|               |                                                                | Anti-Wear Type                    | R & O Type | Anti-Wear <sup>*1</sup> Type Water-Glycols | Water Glycols | Water in Oil Emulsions | Phosphate Esters |                           |                           |      |
| PV2R4A-138    | 138.5 (8.45)                                                   | 17.2 (2500)                       | 14 (2030)  | 16 (2320)                                  | 7 (1020)      | 7 (1020)               | 14 (2030)        | Refer to Pages 179 & 180  | 1800 (1200) <sup>*3</sup> | 600  |
| PV2R4A-162    | 162.6 (9.92)                                                   |                                   |            |                                            |               |                        |                  |                           | 1800 <sup>*2</sup>        |      |
| PV2R4A-193    | 194.4 (11.86)                                                  |                                   |            |                                            |               |                        |                  |                           | 1800 (1200) <sup>*3</sup> |      |

★ 1. For the brands of anti-wear type water-glycols, see the item of "Hydraulic Fluids" on page 160.

★ 2. If PV2R4A-193 is used at speed above 1700 r/min, the suction pressure is limited to 0 kPa (0 in. Hg.).

★ 3. If phosphate ester or water containing fluids are used, the maximum speed is limited to 1200 r/min.

### Model Number Designation

| F-                                                                  | PV2R4A        | -138                                      | -L                                                         | -R                                               | A                                                        | A                             | -10           | -*               |
|---------------------------------------------------------------------|---------------|-------------------------------------------|------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------|-------------------------------|---------------|------------------|
| Special Seals                                                       | Series Number | Nominal Displacement cm <sup>3</sup> /rev | Type of Mounting                                           | Shaft Rotation                                   | Discharge Port Position                                  | Suction Port Position         | Design Number | Design Standards |
| <b>F:</b><br>For phosphate ester type fluids (Omit if not required) | <b>PV2R4A</b> | <b>138, 162, 193</b>                      | <b>L:</b><br>Foot Mounting<br><b>F:</b><br>Flange Mounting | <b>R:</b><br>Clockwise <sup>*1</sup><br>(Normal) | (Viewed from Shaft End)<br><b>A:</b><br>Upwards (Normal) | <b>A:</b><br>Upwards (Normal) | <b>10</b>     | Refer to ★ 2     |

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

★ 2. Design Standards: None.....Japanese Standard "JIS"  
80.....European Design Standard  
90.....N. American Design Standard

### Pipe Flange Kits

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

| Pump Model Numbers | Name of Port | Pipe Flange Kit Numbers |                          |                                           |                                                  |                                           |                                                  |                                           |
|--------------------|--------------|-------------------------|--------------------------|-------------------------------------------|--------------------------------------------------|-------------------------------------------|--------------------------------------------------|-------------------------------------------|
|                    |              | Threaded Connection     |                          |                                           | Socket Welding <sup>*1</sup>                     |                                           | Butt Welding                                     |                                           |
|                    |              | Japanese Standard "JIS" | European Design Standard | N. American <sup>*2</sup> Design Standard | Japanese Standard "JIS" European Design Standard | N. American <sup>*2</sup> Design Standard | Japanese Standard "JIS" European Design Standard | N. American <sup>*2</sup> Design Standard |
| PV2R4A             | Suction      | F5-24-A-10              | —                        | —                                         | F5-24-B-10                                       | F5-24-B-1090                              | F5-24-C-10                                       | F5-24-C-1090                              |
|                    | Discharge    | F5-12-A-10              | F5-12-A-1080             | —                                         | F5-12-B-10                                       | F5-12-B-1090                              | F5-12-C-10                                       | F5-12-C-1090                              |

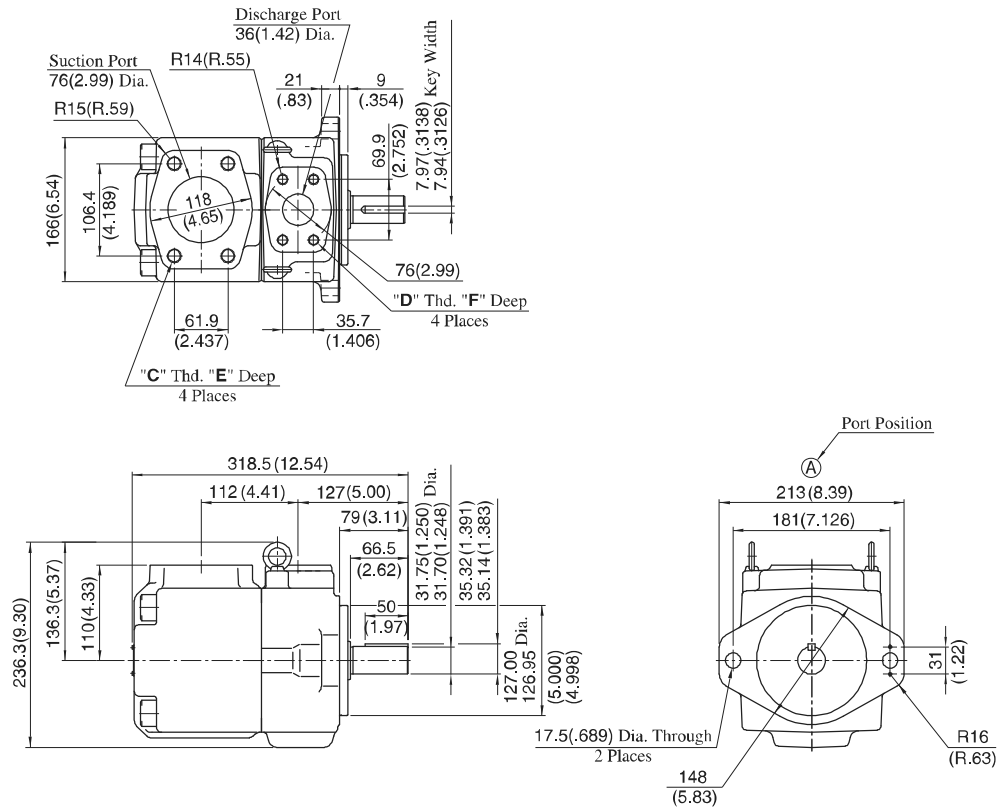
★ 1. In case of using socket welding flanges, there is a case where the operating pressure should be set lower than the normal because of strength of the flanges. Therefore, please pay cautious attention to the operating pressure when the socket welding flanges are used.

★ 2. As dimensions of the pipe flange mounting surface are conformed to SAE 4 Bolt Split Flange (Standard Pressure Series), pipe flanges conforming to the SAE Standards can be used.

Notes: Special seals (Viton seals) are required when phosphate ester type fluids are used. (Prefix "F-" to the pipe flange kit number when ordering.)

● Details of the pipe flange kits are shown on page 824.

# Flange Mtg.: PV2R4A-\*-F-RAA-10/1090

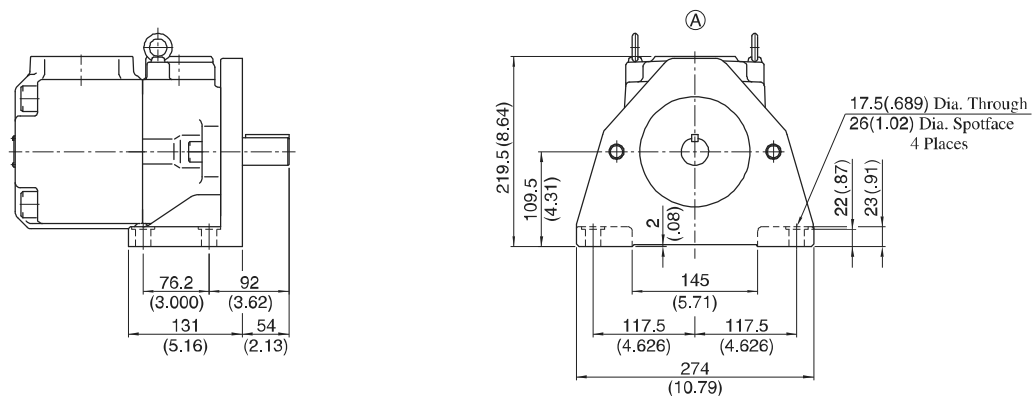


Approx. Mass.....40 kg (88.2 lbs.)

| Model Numbers       | "C" Thd.   | "D" Thd.   | Dimensions mm (Inches) |          |
|---------------------|------------|------------|------------------------|----------|
|                     |            |            | E                      | F        |
| PV2R4A-*-F-RAA-10   | M16        | M12        | 29 (1.14)              | 22 (.87) |
| PV2R4A-*-F-RAA-1090 | 5/8-11 UNC | 1/2-13 UNC | 21 (.83)               | 21 (.83) |

DIMENSIONS IN  
MILLIMETRES (INCHES)

## Foot Mtg.: PV2R4A-\*-L-RAA-10/1090



Approx. Mass.....50 kg (110 lbs.)

• For other dimensions, refer to "Flange Mtg.".

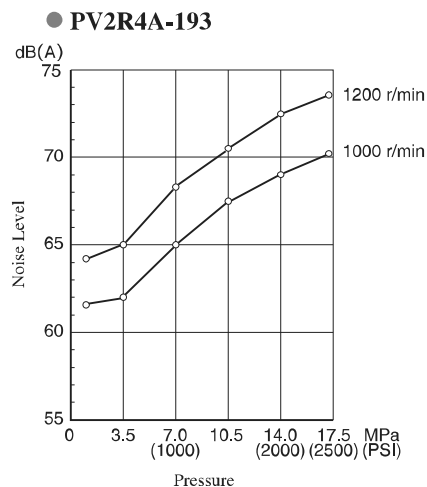
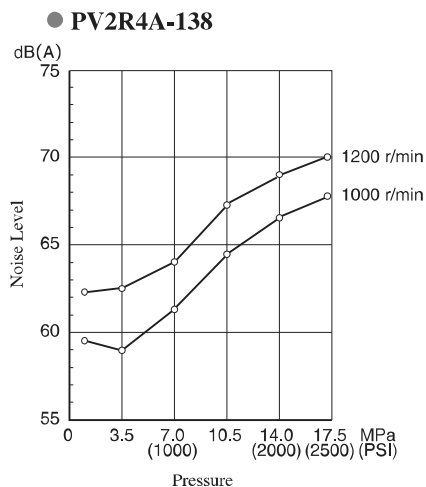
## ■ Noise Level

### ● Measuring conditions

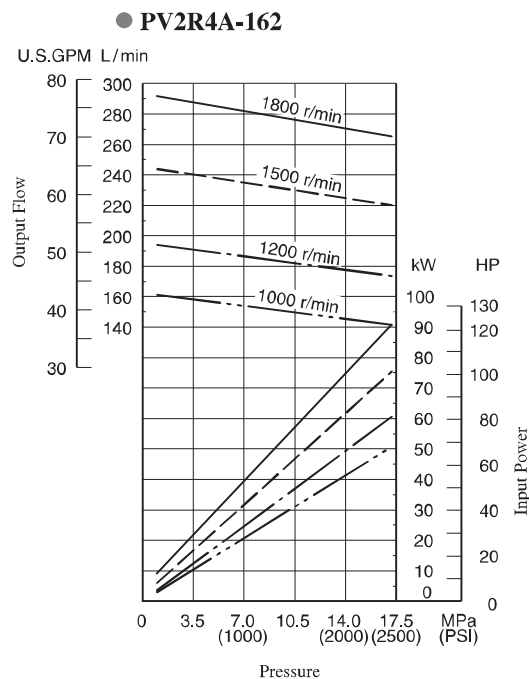
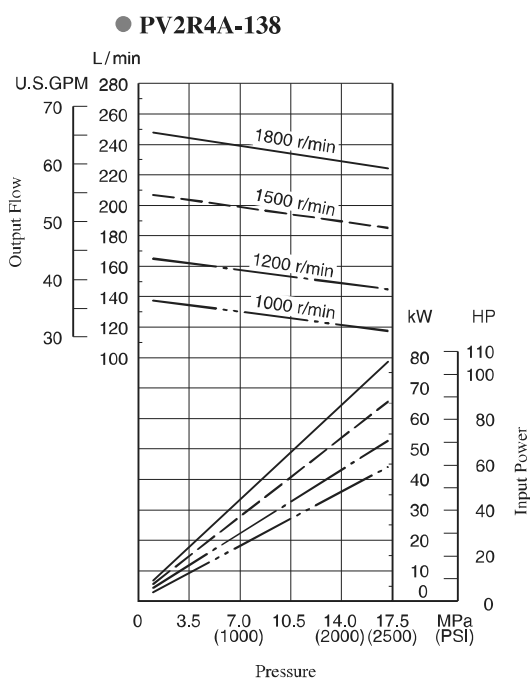
Fluid viscosity : 20 mm<sup>2</sup>/s (100 SSU)

Measurement point : One metre (3.3 ft.) horizontally away from pump head cover

Back ground noise : 40 dB (A)



Typical Pump Characteristics at Viscosity 20 mm<sup>2</sup>/s (100 SSU) [ISO VG32 Oils, 50°C (122°F)]

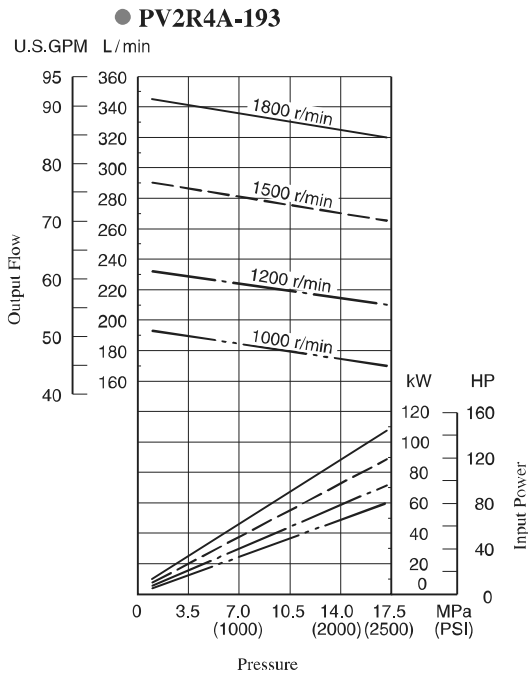


B



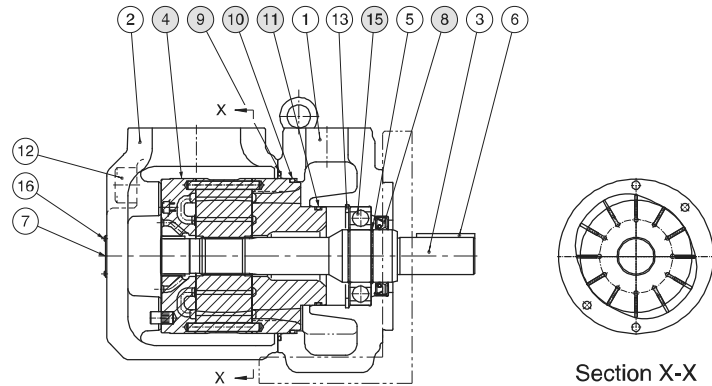
"PV2R4A" Series  
Single Vane Pumps

Typical Pump Characteristics at Viscosity 20 mm<sup>2</sup>/s (100 SSU) [ISO VG32 Oils, 50°C (122°F)]



■ Spare Parts List

PV2R4A-\*-\*-RAA-10/1090



● Cartridge Kits

| Model Numbers        | ④ Cartridge Kit Numbers |
|----------------------|-------------------------|
| PV2R4A-138-*-RAA-10* | CPV2R4A-138-R-10        |
| PV2R4A-162-*-RAA-10* | CPV2R4A-162-R-10        |
| PV2R4A-193-*-RAA-10* | CPV2R4A-193-R-10        |

● Seals & Bearings

| Item | Name of Parts | Part Numbers | Qty. |
|------|---------------|--------------|------|
| 8 *  | Oil Seal      | ISD 45 68 12 | 1    |
| 9 *  | O-Ring        | SO-NB-G140   | 1    |
| 10 * | O-Ring        | SO-NB-A250   | 1    |
| 11 * | O-Ring        | SO-NB-G80    | 1    |
| 15   | Bearing       | 6209         | 1    |

Note: 1) Item Nos. ⑩ and ⑪ (o-rings) are included in cartridge kit.

2) For pumps for phosphate ester type hydraulic fluids different part Nos. are used. Please contact us.

★ When ordering seals, please specify the kit number from the table below.

● List of Seal Kits

| Pump Model Numbers     | Seal Kit Numbers |
|------------------------|------------------|
| PV2R4A-*-*-RAA-10/1090 | KS-PV2R4A-10     |