B

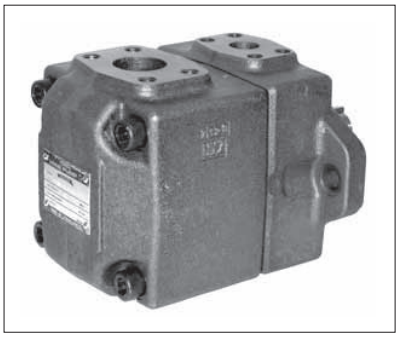
VANE PUMPS

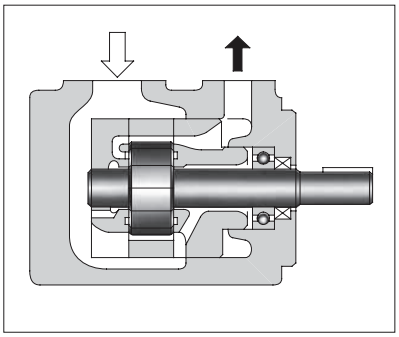
	Pump Type	Graphic Symbols	Output Flow at 1200 r/min at No-Load (U.S.GPM: .3 .5 1 2 5 10 20 50 100 200 / L/min: 1 2 5 10 20 50 100 200 500 800)	Maximum Operating Pressure MPa (PSI)	Page
Fixed Displacedment	"PV2R" Series Single Pumps		PV2R1 PV2R2 PV2R3 PV2R4	21 (3050)	163
	"PV2R4A" Series Single Pumps		PV2R4A	17.2 (2500)	177
	"PV2R" Series Double Pumps		Small Volume (PV2R1) (PV2R2) (PV2R3) / Large Volume (PV2R2) (PV2R3) (PV2R4)	21 (3050)	181
	"PV2R24A/34A" Series Double Pumps		Small Volume PV2R2 PV2R3 / Large Volume PV2R4	21 (3050) 17.2(2500)	196

Caution : In the case of Water Glycol fluid, a slight oil leak occurs from the shaft seal part.
(Criterion : 500ml / 6 months of oil leakages.)
Install a tray appropriate capacity on the pump-base, please.

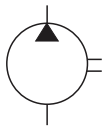
"PV2R" Series Single Vane Pumps

These pumps are of high pressure and high performance, which have been developed especially for low noise operation. To comply with a variety of applications including injection moulding machines, PV2R series single pumps provide the output flow of such a wide range as from 5.8 to 237 cm^3/rev (.354 to 14.46 cu.in./rev).
The intergral driving parts of the pumps are combined into a kit form and available for supply as a cartridge kit. Therefore, the replacement of the driving parts can be done easily.





Graphic Symbol



Model Number Designation

F-	PV2R1	-6	-L	-R	A	A	-42	-*
Special Seals	Series Number	Nominal Displacement cm^3/rev	Type of Mounting	Shaft Rotation	Discharge Port Position	Suction Port Position	Design Number	Design Standards
F: For phosphate ester type fluids (Omit if not required)	**PV2R1**	**6, 8, 10, 12 14, 17, 19 23, 25, 31**	**L:** Foot Mounting	(Viewed from Shaft End)			**42**	Refer to ★2
	PV2R2	**41, 47, 53 59, 65**		**R:** Clockwise ★1 (Normal)	**A:** Upwards (Normal)	**A:** Upwards (Normal)	**41**	
	PV2R3	**76, 94, 116**	**F:** Flange Mounting				**31**	
	PV2R4	**136, 153, 184 200, 237**					**30**	

★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 ★1		Butt Welding	
		Japanese Standard "JIS"	European Design Standard	N. American Design Standard ★2	Japanese Standard "JIS" European Design Standard	N. American Design Standard ★2	Japanese Standard "JIS" European Design Standard	N. American Design Standard ★2
PV2R1	Suction	F5-08-A-10	F5-08-A-1080	——	F5-08-B-10	F5-08-B-1090	F5-08-C-10	F5-08-C-1090
	Discharge	F5-04-A-10	F5-04-A-1080	——	F5-04-B-10	F5-04-B-1090	F5-04-C-10	F5-04-C-1090
PV2R2	Suction	F5-10-A-10	F5-10-A-1080	——	F5-10-B-10	F5-10-B-1090	F5-10-C-10	F5-10-C-1090
	Discharge	F5-06-A-10	F5-06-A-1080	——	F5-06-B-10	F5-06-B-1090	F5-06-C-10	F5-06-C-1090
PV2R3	Suction	F5-16-A-10	F5-16-A-1080	——	F5-16-B-10	F5-16-B-1090	F5-16-C-10	F5-16-C-1090
	Discharge	F5-10-A-10	F5-10-A-1080	——	F5-10-B-10	F5-10-B-1090	F5-10-C-10	F5-10-C-1090
PV2R4	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.

Specifications

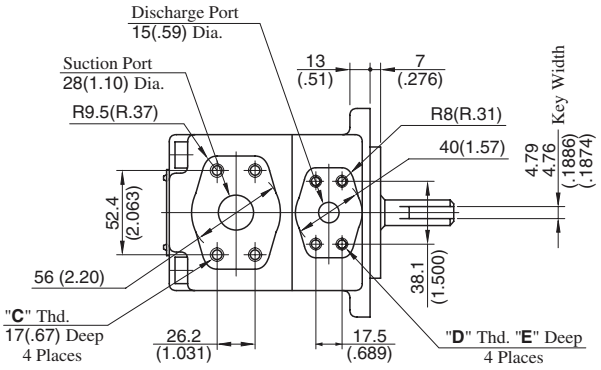
Model Numbers	Geometric Displacement cm³/rev (cu.in./rev)	Max. Operating Pressure MPa (PSI)						Output Flow & Input Power	Shaft Speed Range r/min	
		Petroleum Base Oils		Water Containing Fluids			Synthetic Fluids			
		Anti-Wear Type	R & O Type	Anti-Wear Type Water Glycols ★1	Water Glycols	Water in Oil Emulsions	Phosphate Esters		Max.	Min.
PV2R1-6	5.8 (.354)	21 ★6 (3050)	16 (2320)	16 (2320)	7 (1020)	7 (1020)	16 (2320)	Refer to Pages 170 - 172	1800 (1200) ★4	750 ★5
PV2R1-8	8.0 (.488)									
PV2R1-10	9.4 (.574)	21 (3050)								
PV2R1-12	12.2 (.744)									
PV2R1-14	13.7 (.836)									
PV2R1-17	16.6 (1.013)									
PV2R1-19	18.6 (1.135)									
PV2R1-23	22.7 (1.385)									
PV2R1-25	25.3 (1.544)									
PV2R1-31	31.0 (1.892)	16 (2320)								
PV2R2-41	41.3 (2.52)	21 (3050)	14 (2030)	16 (2320)	7 (1020)	7 (1020)	14 (2030)	Refer to Pages 172 & 173	1800 (1200) ★4	600 ★5
PV2R2-47	47.2 (2.88)									
PV2R2-53	52.5 (3.20)									
PV2R2-59	58.2 (3.55)									
PV2R2-65	64.7 (3.95)									
PV2R3-76	76.4 (4.66)	21 (3050)	14 (2030)	16 (2320)	7 (1020)	7 (1020)	14 (2030)	Refer to Page 174	1800 (1200) ★4	600
PV2R3-94	93.6 (5.71)									
PV2R3-116	115.6 (7.05)	16 (2320)							1800 ★2 (1200) ★4	
PV2R4-136	136 (8.30)	17.5 (2540)	14 (2030)	16 (2320)	7 (1020)	7 (1020)	14 (2030)	Refer to Pages 174 & 175	1800 (1200) ★4	600
PV2R4-153	153 (9.34)									
PV2R4-184	184 (11.23)									
PV2R4-200	201 (12.27)									
PV2R4-237	237 (14.46)								1800 ★3 (1200) ★4	

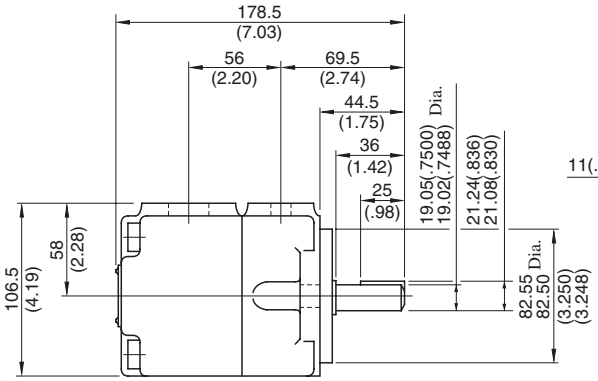
★1. For the brands of anti-wear type water-glycols , see the item of "Hydraulic Fluids" on page 160.
★2. If PV2R3-116 is used at speed above 1700 r/min, the suction pressure is limited to 0 kPa (0 in. Hg.).
★3. If PV2R4-237 is used at speed above 1700 r/min, the suction pressure is limited to -13 kPa (3.94 in. Hg. vacuum).
★4. If phosphate ester or water containing fluids are used, the maximum speed is limited to 1200 r/min.
★5. For starting at low speed, the maximum viscosity is limited. For details, see the item of "Hydraulic Fluids" on page 160.
★6. For pressure above 16 MPa (2320 PSI), raise the speed over 1450 r/min.

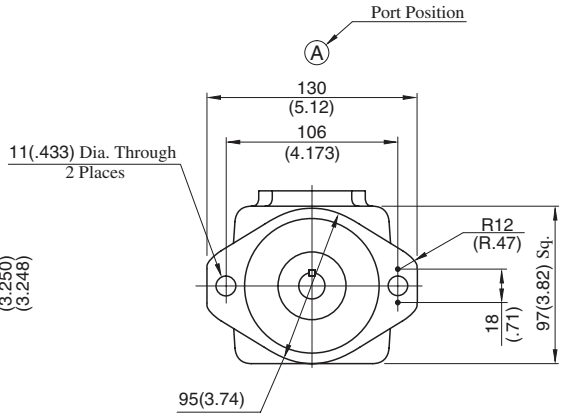
● Mass

Model Numbers	Approx. Mass kg (lbs.)	
	Flange Mtg.	Foot Mtg.
PVR2R1	9.0 (19.8)	11.2 (24.7)
PVR2R2	15.5 (34.2)	19.8 (43.7)
PVR2R3	30.9 (68.1)	40.9 (90.2)
PVR2R4	68.5 (151)	93.5 (206)

Flange Mtg.: PV2R1-∗-F-RAA-42/4290



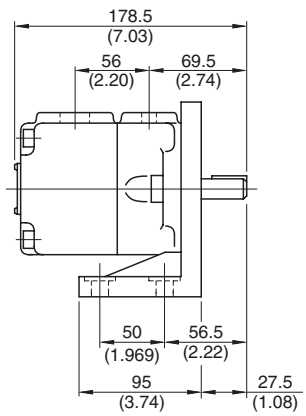


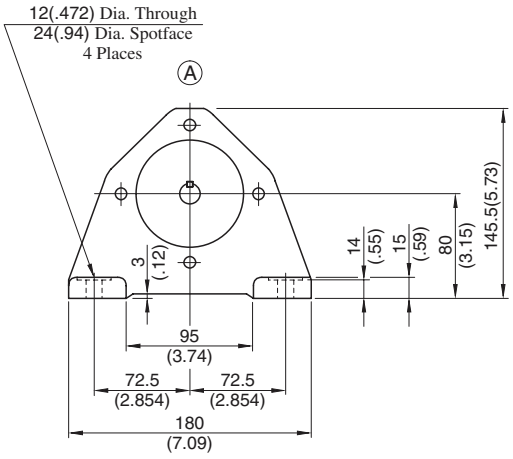


Model Numbers	"C" Thd.	"D" Thd.	E mm (Inches)
PV2R1-∗-F-RAA-42	M10	M8	14 (.55)
PV2R1-∗-F-RAA-4290	3/8-16 UNC	5/16-18 UNC	16 (.63)

DIMENSIONS IN MILLIMETRES (INCHES)

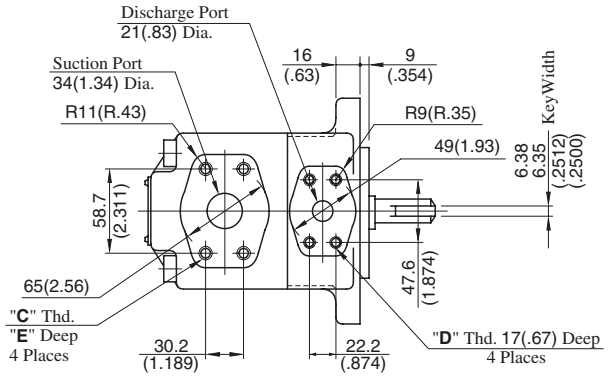
Foot Mtg.: PV2R1-∗-L-RAA-42/4290

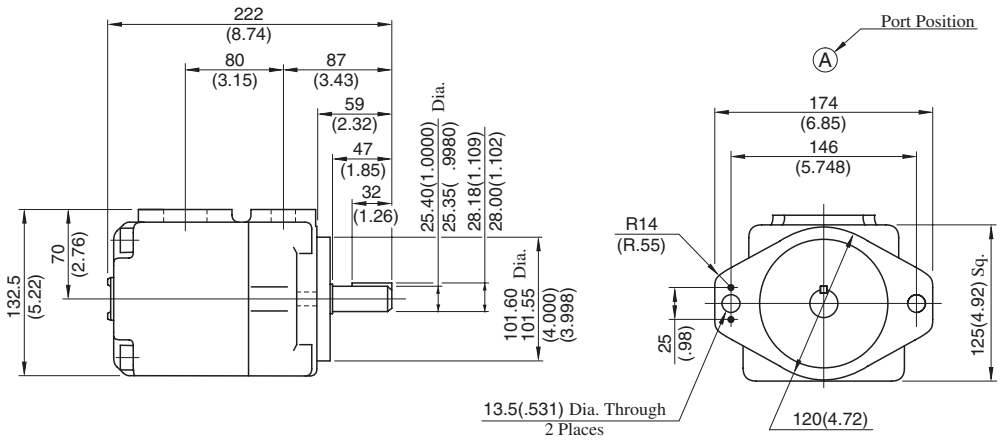




• For other dimensions, refer to "Flange Mtg.".

Flange Mtg.: PV2R2-∗-F-RAA-41/4190

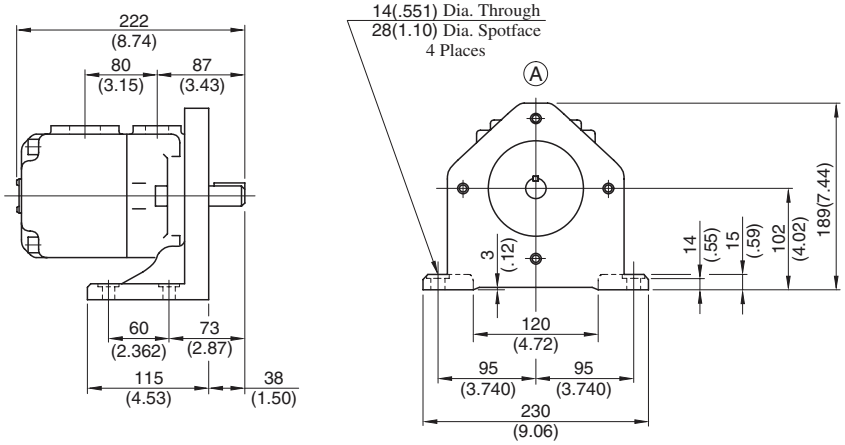




Model Numbers	"**C**" Thd.	"**D**" Thd.	**E** mm (Inches)
PV2R2-∗-F-RAA-41	M10	M10	19 (.75)
PV2R2-∗-F-RAA-4190	7/16-14 UNC	7/16-14 UNC	20 (.79)

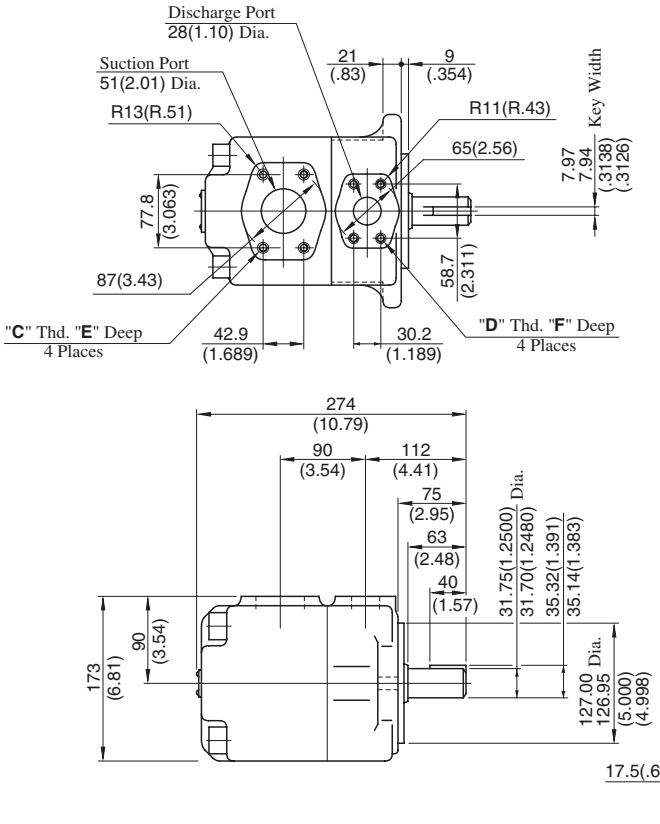
DIMENSIONS IN MILLIMETRES (INCHES)

Foot Mtg.: PV2R2-∗-L-RAA-41/4190



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

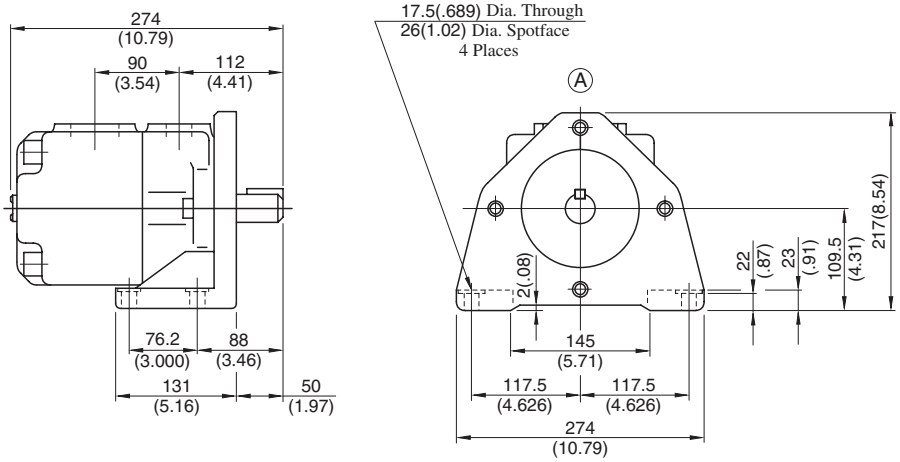
Flange Mtg.: PV2R3-*-F-RAA-31/3190



Model Numbers	"C" Thd.	"D" Thd.	Dimensions mm (Inches)	
			E	F
PV2R3-*-F-RAA-31	M12	M10	19 (.75)	19 (.75)
PV2R3-*-F-RAA-3190	1/2-13 UNC	7/16-14 UNC	21 (.83)	20 (.79)

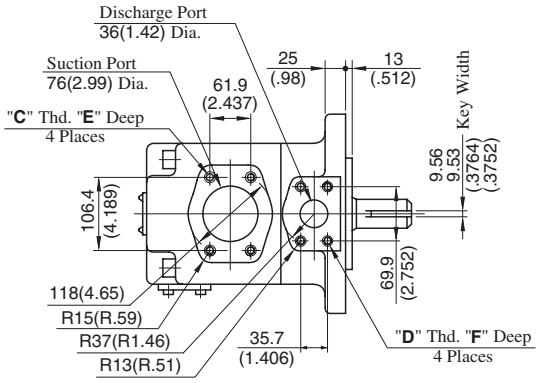
DIMENSIONS IN MILLIMETRES (INCHES)

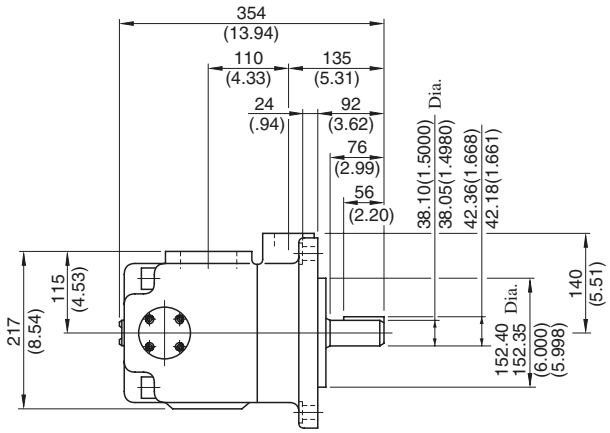
Foot Mtg.: PV2R3-*-L-RAA-31/3190

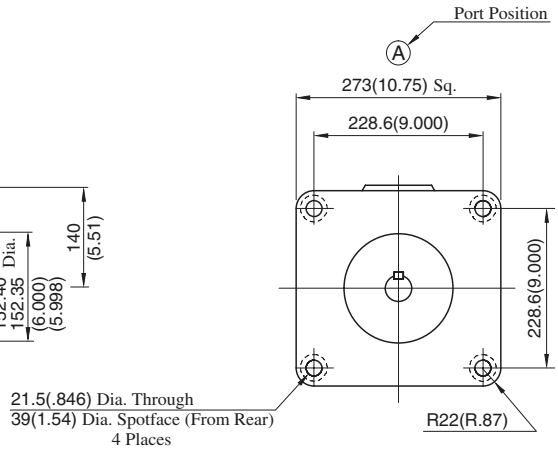


• For other dimensions, refer to "Flange Mtg.".

Flange Mtg.: PV2R4-∗-F-RAA-30/3090



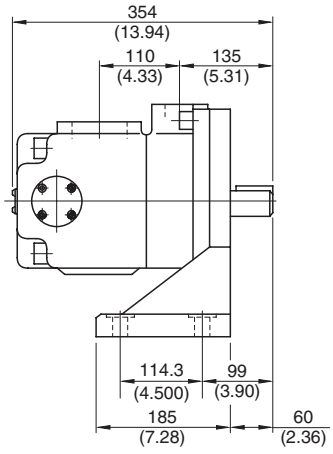


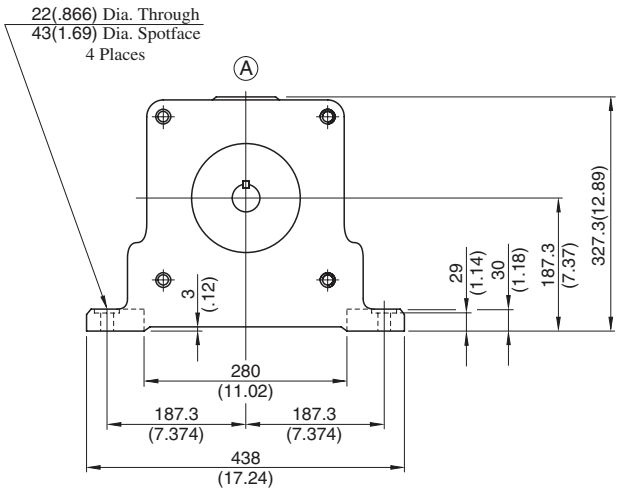


Model Numbers	"C" Thd.	"D" Thd.	Dimensions mm (Inches)	
			E	F
PV2R4-∗-F-RAA-30	M16	M12	19 (.75)	19 (.75)
PV2R4-∗-F-RAA-3090	5/8-11 UNC	1/2-13 UNC	21 (.83)	21 (.83)

DIMENSIONS IN MILLIMETRES (INCHES)

Foot Mtg.: PV2R4-∗-L-RAA-30/3090

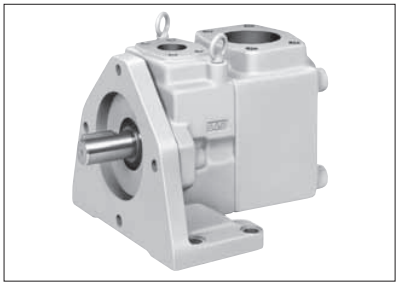


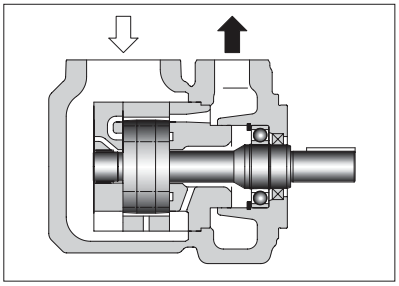


• For other dimensions, refer to "Flange Mtg.".

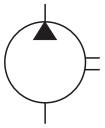
"PV2R4A" Series Single Vane Pumps

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 cm³/rev (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			
		Anti-Wear Type	R & O Type	Anti-Wear Type Water-Glycols ★1	Water Glycols	Water in Oil Emulsions	Phosphate Esters		Max.	Min.
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)★3	600
PV2R4A-162	162.6(9.92)									
PV2R4A-193	194.4(11.86)								1800 ★2 (1200)★3	

★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 cm³/rev	Type of Mounting	Shaft Rotation	Discharge Port Position	Suction Port Position	Design Number	Design Standards
F: For phosphate ester type fluids (Omit if not required)	**PV2R4A**	**138, 162, 193**	**L:** Foot Mounting **F:** Flange Mounting	(Viewed from Shaft End) **R:** Clockwise ★1 (Normal)	**A:** Upwards (Normal)	**A:** Upwards (Normal)	**10**	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.

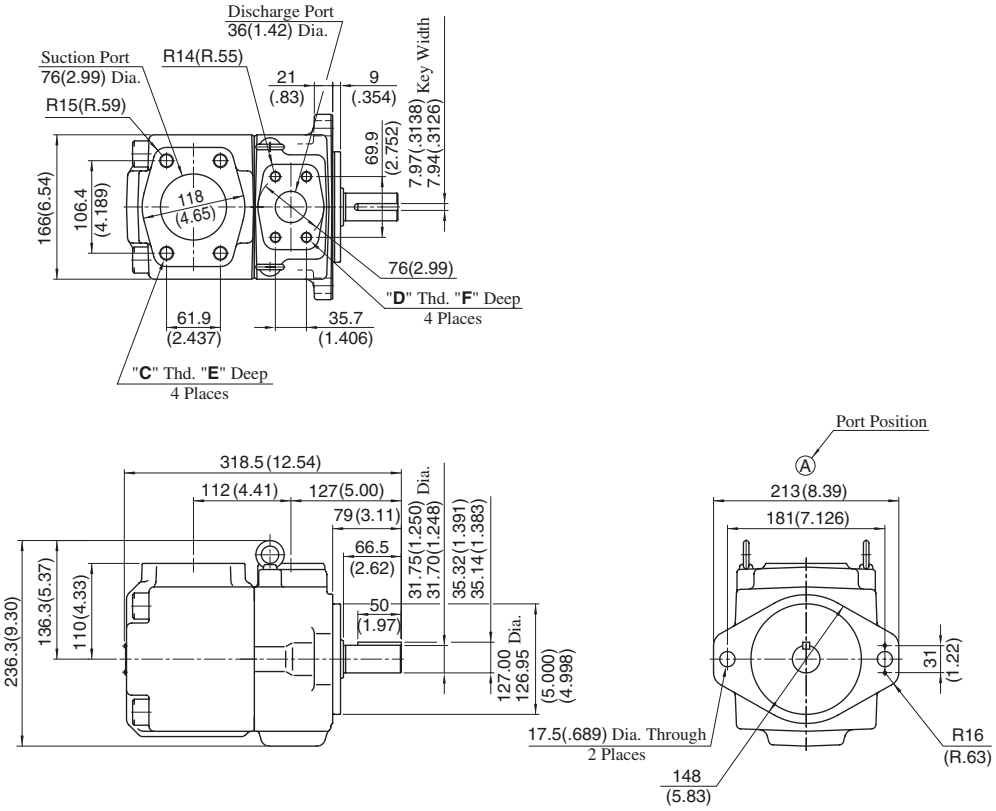
Pump Model Numbers	Name of Port	Pipe Flange Kit Numbers						
		Threaded Connection			Socket Welding ★1		Butt Welding	
		Japanese Standard "JIS"	European Design Standard	N. American Design Standard ★2	Japanese Standard "JIS" European Design Standard	N. American Design Standard ★2	Japanese Standard "JIS" European Design Standard	N. American Design Standard ★2
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

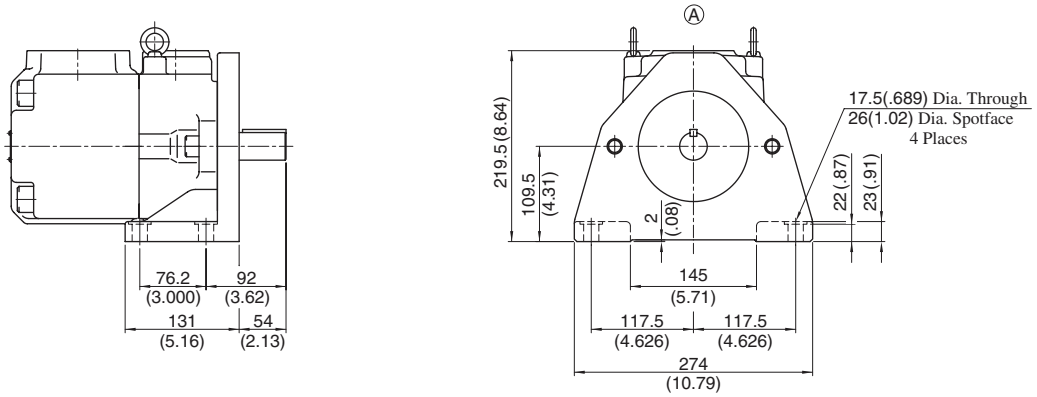


Approx. Mass.....40 kg (88.2 lbs.)

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

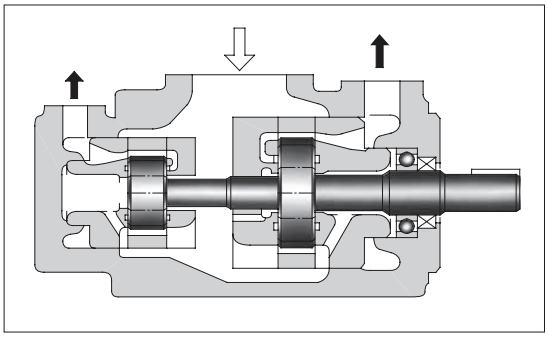


Approx. Mass.....50 kg (110 lbs.)

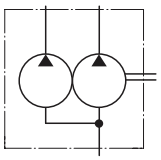
• For other dimensions, refer to "Flange Mtg.".

"PV2R" Series Double Vane Pumps

These double pumps consist of two PV2R seires 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

F-	PV2R13	-6	-76	-L	-R	A	A	A	-40	*
Special Seals	Series Number	Small Volume Pump Nominal Displacement cm^3/rev	Large Volume Pump Nominal Displacement cm^3/rev	Mounting	Direction of Rotation	Small Volume Pump Discharge Port Position	Large Volume Pump Discharge Port Position	Suction Port Position	Design Number	Design Standards
						(Viewed from Shaft End)				
F: Special seals for phosphate ester type fluids (Omit if not required)	**PV2R12**	**6, 8 10, 12 14, 17 19, 23 25, 31**	**26, 33 41, 47 53, 59 65**	**L:** Foot Mtg.	**R:** ★1 Clockwise (Normal)	**E:** Left 45° Upwards (Normal)	**A:** Upwards (Normal)	**A:** Upwards (Normal)	**42**	Refer to ★2
	PV2R13	**6, 8 10, 12 14, 17 19, 23 25, 31**	**76, 94 116**			**A:** Upwards (Normal)			**42**	
	PV2R23	**41, 47 53, 59 65**	**52, 60 66, 76 94, 116**			**E:** Left 45° Upwards (Normal)			**41**	
	PV2R33	**76, 94 116**	**76, 94 116**	**F:** Flange Mtg.		**A:** Upwards (Normal)			**31**	
	PV2R14	**6, 8 10, 12 14, 17 19, 23**	**136, 153 184, 200 237**			**A:** Upwards (Normal)			**32**	
	PV2R24	**26, 33 41, 47**							**31**	
	PV2R34	**52, 60 66, 76 94, 116**				**E:** Left 45° Upwards (Normal)			**31**	

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

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

Specifications

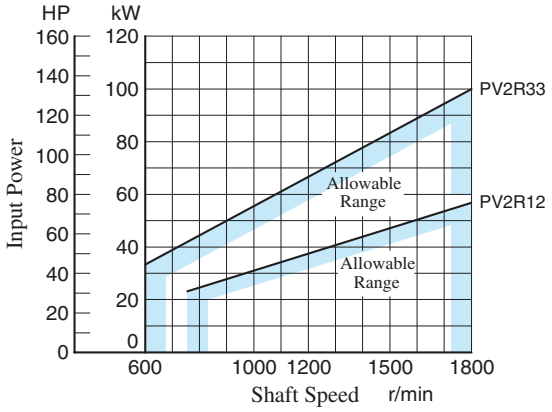
Maximum Operating Pressure

Nominal Displacement cm³/rev	Max. Operating Pressure MPa (PSI)					
	Petroleum Base Oils		Water Containing Fluids			Synthetic Fluids
	Anti-Wear Type	R & O Type	Anti-Wear ★1 Type Water Glycols	Water Glycols	Water in Oil Emulsions	Phosphate Esters
6	21 ★2 (3050)	16 (2320)	16 (2320)	7 (1020)	7 (1020)	16 (2320)
8						
10	21 (3050)					
12						
14						
17						
19						
23 ★3	21 ★3 (3050)					
25	21 (3050)					
31	16 (2320)					
26	21 (3050)	14 (2030)	16 (2320)	7 (1020)	7 (1020)	14 (2030)
33						
41						
47						
53						
59						
65						
52	21 (3050)	14 (2030)	16 (2320)	7 (1020)	7 (1020)	14 (2030)
60						
66						
76						
94						
116	16 (2320)					
136	17.5 (2540)	14 (2030)	16 (2320)	7 (1020)	7 (1020)	14 (2030)
153						
184						
200						
237						

Note: 1) For the relation between model (series) No. and nominal displacement, see the table below.

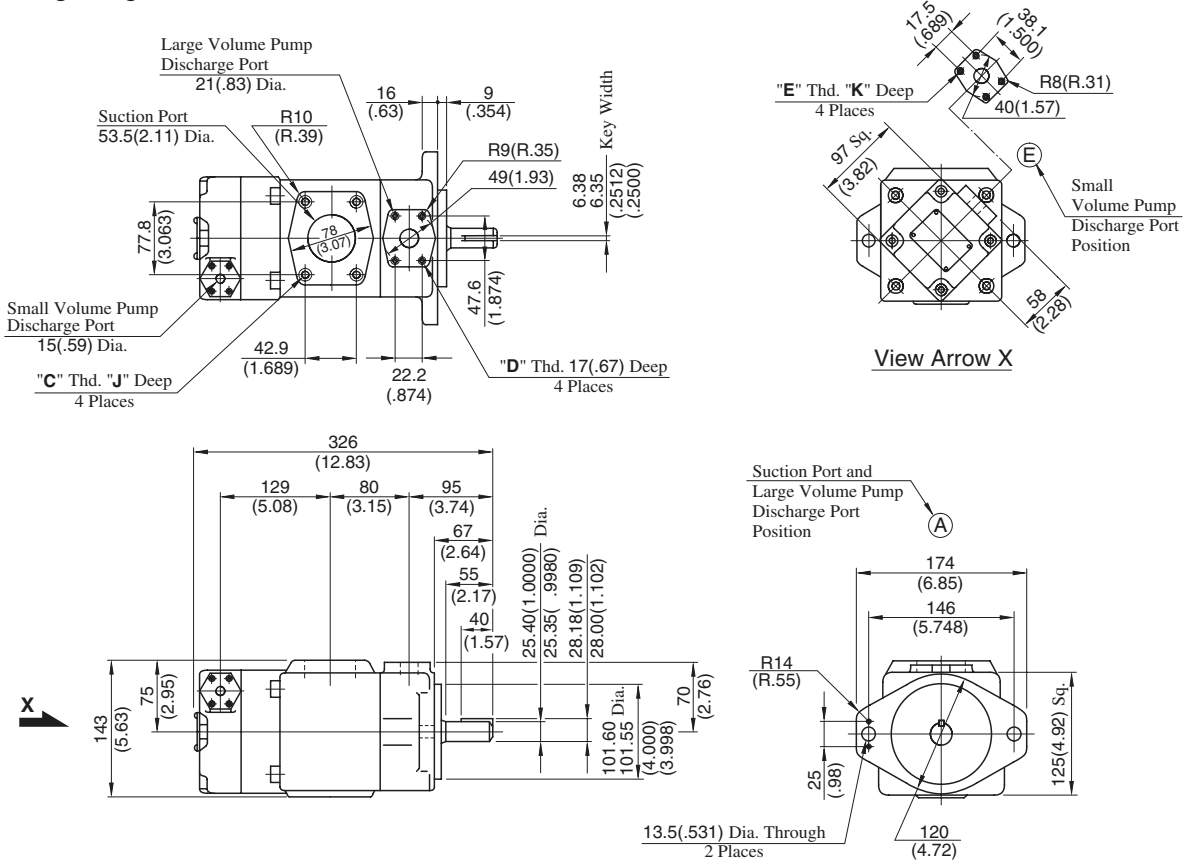
Nominal Displacement, Small Volume Pump	Nominal Displacement, Large Volume Pump: 26, 33, 41, 47, 53, 59, 65	52, 60 66	76, 94 116	136, 153, 184, 200, 237
6	PV2R12	—	PV2R13	PV2R14
8				
10				
12				
14				
17				
19				
23				
25				—
31				
26	—	—		PV2R24
33				
41		PV2R23		
47				
53				—
59				
65				
52	—	—		PV2R34
60				
66				
76		—	PV2R33	
94				
116				

2) As for PV2R12 and PV2R33 series, the sum of the input powers to small volume pump and large volume pump is limited against shaft speed as follows.



★1. For the brands of anti-wear type water-glycols, see the item of "Hydraulic Fluids" on page 160.
★2. For pressures above 16 MPa (2320 PSI), raise the speed over 1450 r/min.
★3. If nominal displacement "23", of the PV2R14 series is selected, the maximum operating pressure is limited to 16 MPa (2320 PSI).

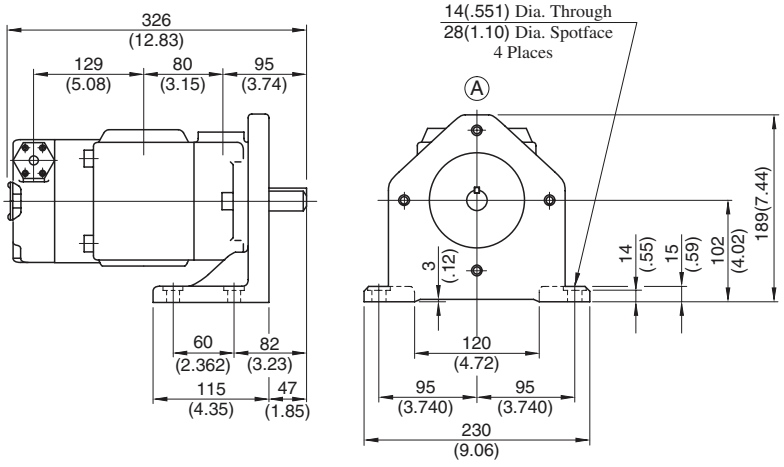
Flange Mtg.: PV2R12-∗-∗-F-REAA-42/4290



Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.	Dimensions mm (Inches)	
				J	K
PV2R12-∗-∗-F-REAA-42	M12	M10	M8	19 (.75)	14 (.55)
PV2R12-∗-∗-F-REAA-4290	1/2-13 UNC	3/8-16 UNC	5/16-18 UNC	21 (.83)	16 (.63)

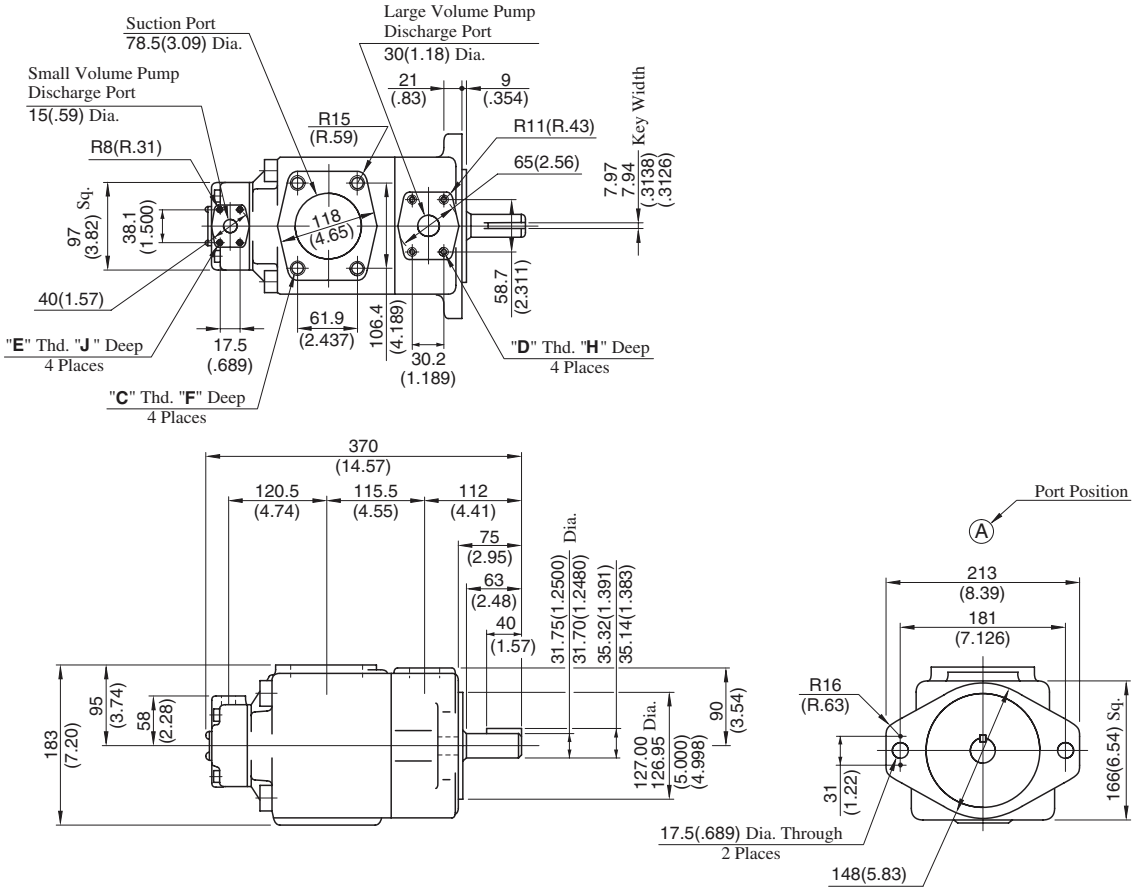
DIMENSIONS IN MILLIMETRES (INCHES)

Foot Mtg.: PV2R12-∗-∗-L-REAA-42/4290



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

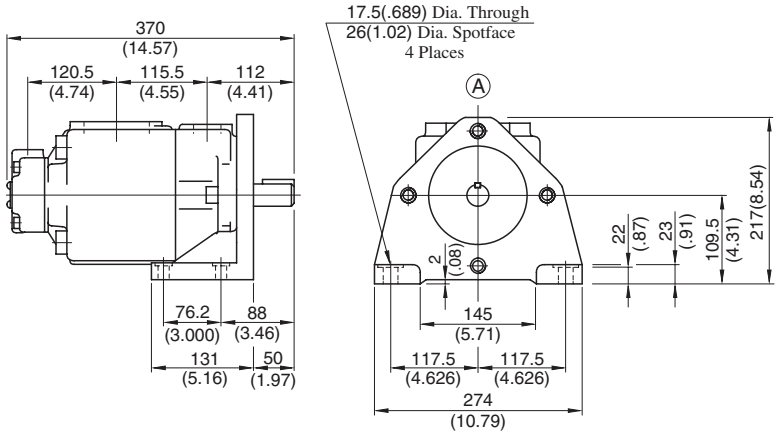
Flange Mtg.: PV2R13-∗-∗-F-RAAA-42/4290



Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.	Dimensions mm (Inches)		
				F	H	J
PV2R13-∗-∗-F-RAAA-42	M16	M10	M8	19 (.75)	19 (.75)	14 (.55)
PV2R13-∗-∗-F-RAAA-4290	5/8-11 UNC	7/16-14 UNC	5/16-18 UNC	21 (.83)	20 (.79)	16 (.63)

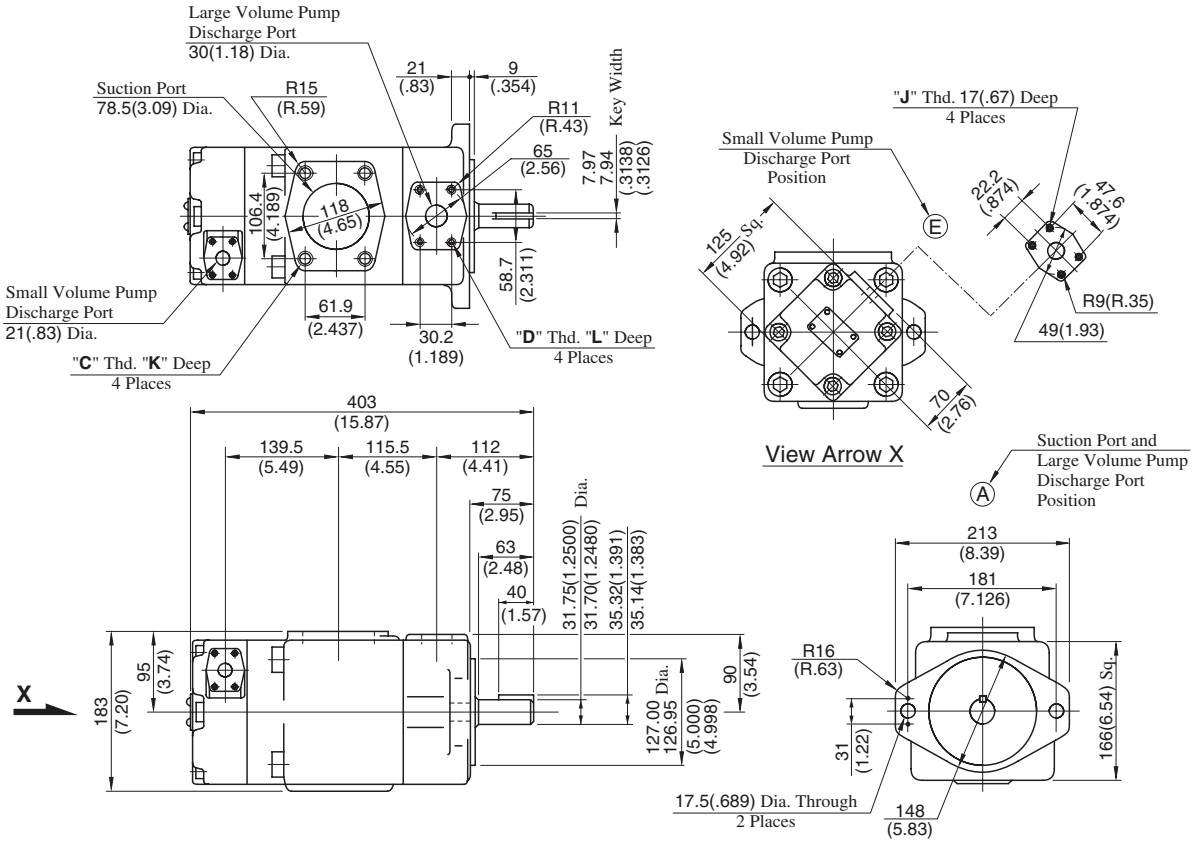
DIMENSIONS IN MILLIMETRES (INCHES)

Foot Mtg.: PV2R13-∗-∗-L-RAAA-42/4290



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

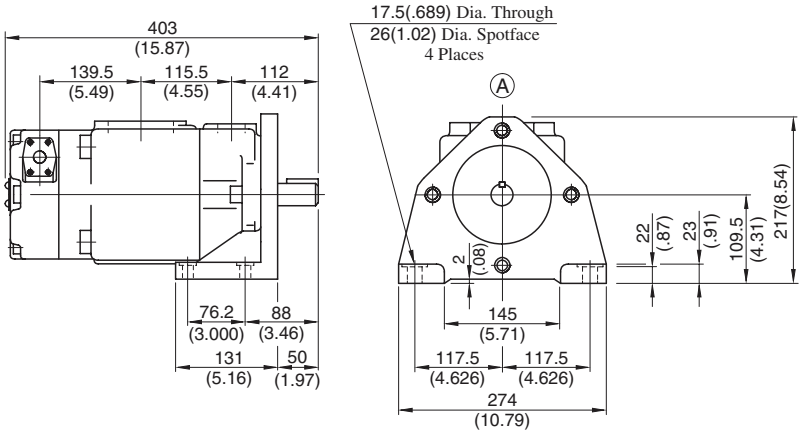
Flange Mtg.: PV2R23-∗-∗-F-REAA-41/4190



Model Numbers	"C" Thd.	"D" Thd.	"J" Thd.	Dimensions mm (Inches)	
				K	L
PV2R23-∗-∗-F-REAA-41	M16	M10	M10	19 (.75)	19 (.75)
PV2R23-∗-∗-F-REAA-4190	5/8-11 UNC	7/16-14 UNC	3/8-16 UNC	21 (.83)	20 (.79)

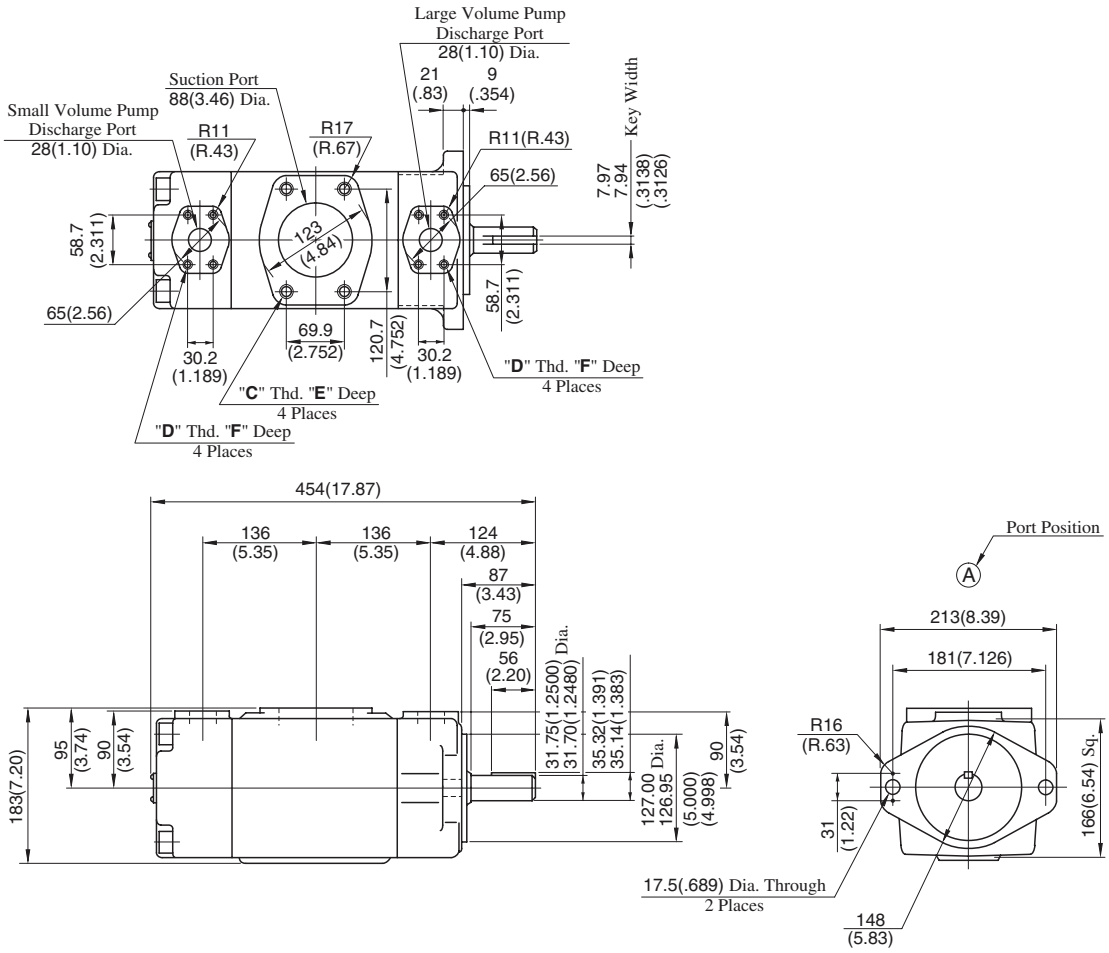
DIMENSIONS IN MILLIMETRES (INCHES)

Foot Mtg.: PV2R23-∗-∗-L-REAA-41/4190



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

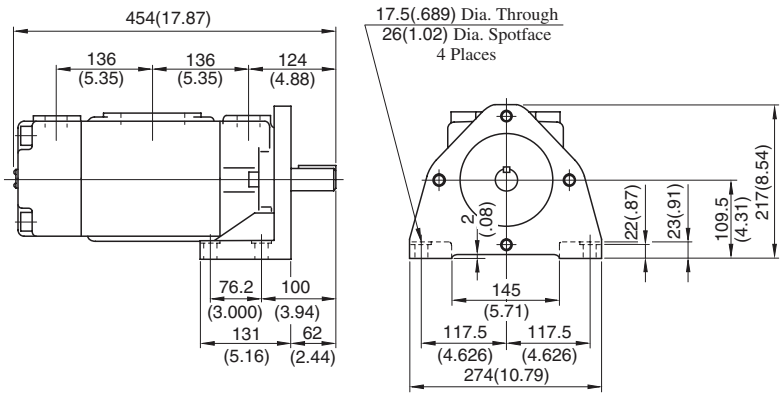
Flange Mtg.: PV2R33-∗-∗-F-RAAA-31/3190



Model Numbers	"C" Thd.	"D" Thd.	Dimensions mm (Inches)	
			E	F
PV2R33-∗-∗-F-RAAA-31	M16	M10	19 (.75)	19 (.75)
PV2R33-∗-∗-F-RAAA-3190	5/8-11 UNC	7/16-14 UNC	21 (.83)	20 (.79)

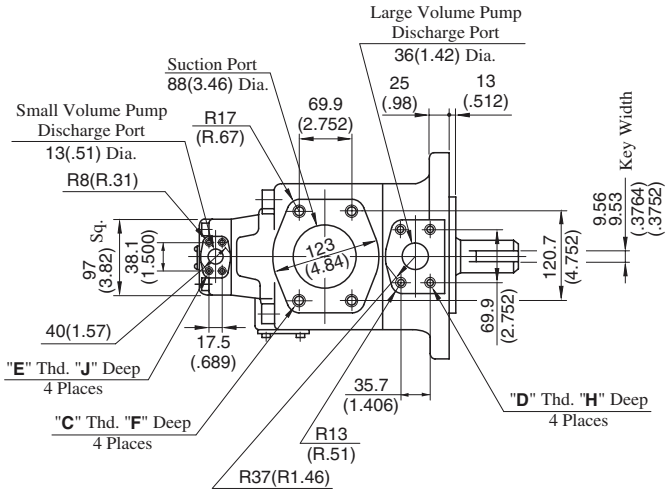
DIMENSIONS IN MILLIMETRES (INCHES)

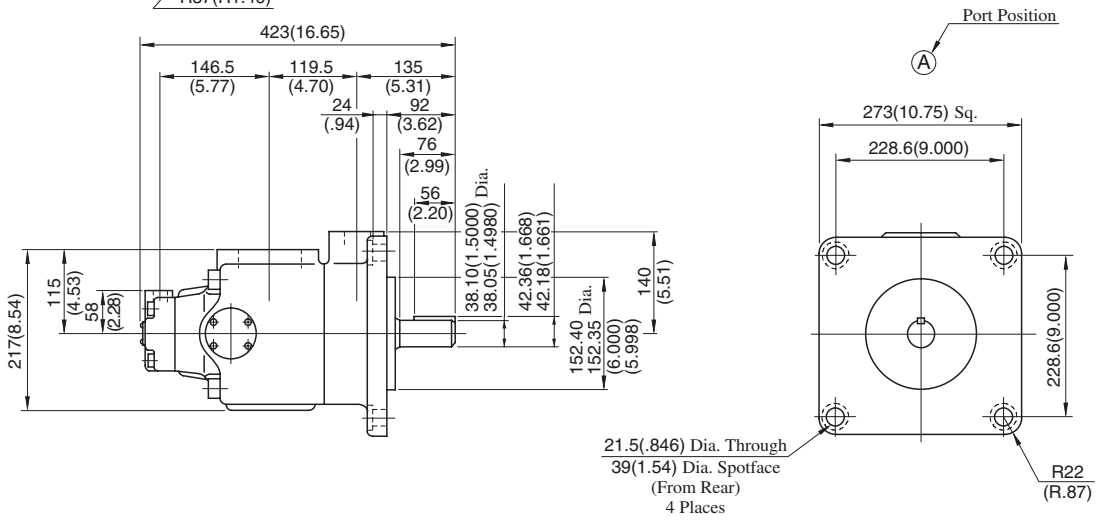
Foot Mtg.: PV2R33-∗-∗-L-RAAA-31/3190



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

Flange Mtg.: PV2R14-∗-∗-F-RAAA-32/3290

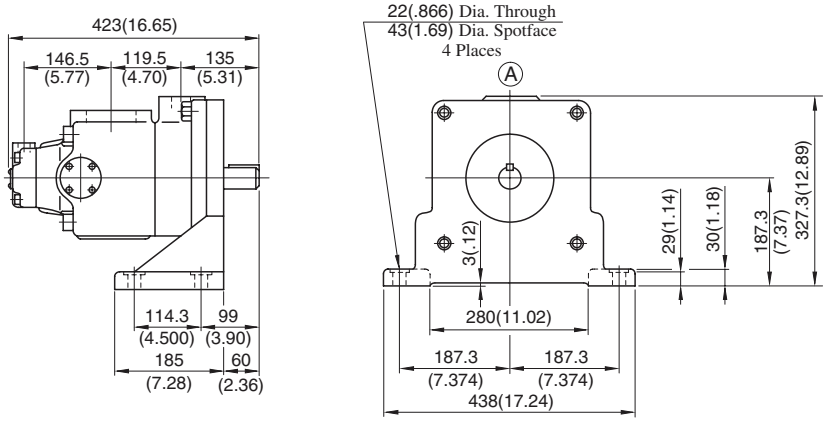




Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.	Dimensions mm (Inches)		
				F	H	J
PV2R14-∗-∗-F-RAAA-32	M16	M12	M8	19 (.75)	19 (.75)	14 (.55)
PV2R14-∗-∗-F-RAAA-3290	5/8-11 UNC	1/2-13 UNC	5/16-18 UNC	21 (.83)	21 (.83)	16 (.63)

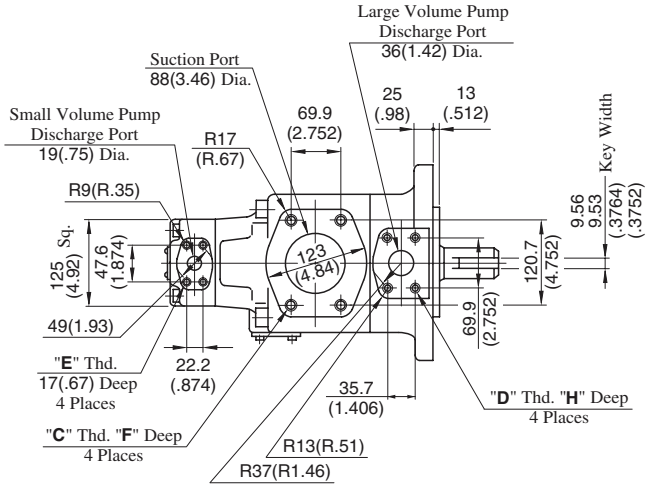
DIMENSIONS IN MILLIMETRES (INCHES)

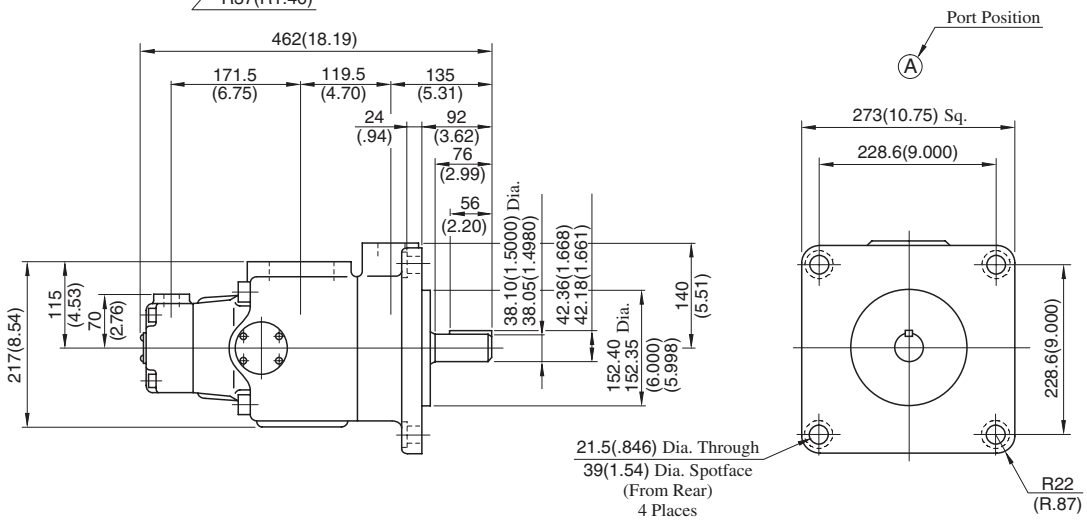
Foot Mtg.: PV2R14-∗-∗-L-RAAA-32/3290



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

Flange Mtg.: PV2R24-∗-∗-F-RAAA-31/3190

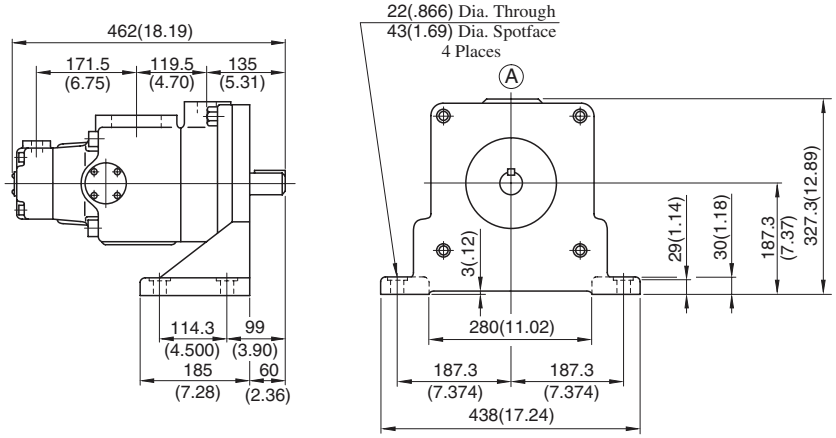




Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.	Dimensions mm (Inches)	
				F	H
PV2R24-∗-∗-F-RAAA-31	M16	M12	M10	19 (.75)	19 (.75)
PV2R24-∗-∗-F-RAAA-3190	5/8-11 UNC	1/2-13 UNC	3/8-16 UNC	21 (.83)	21 (.83)

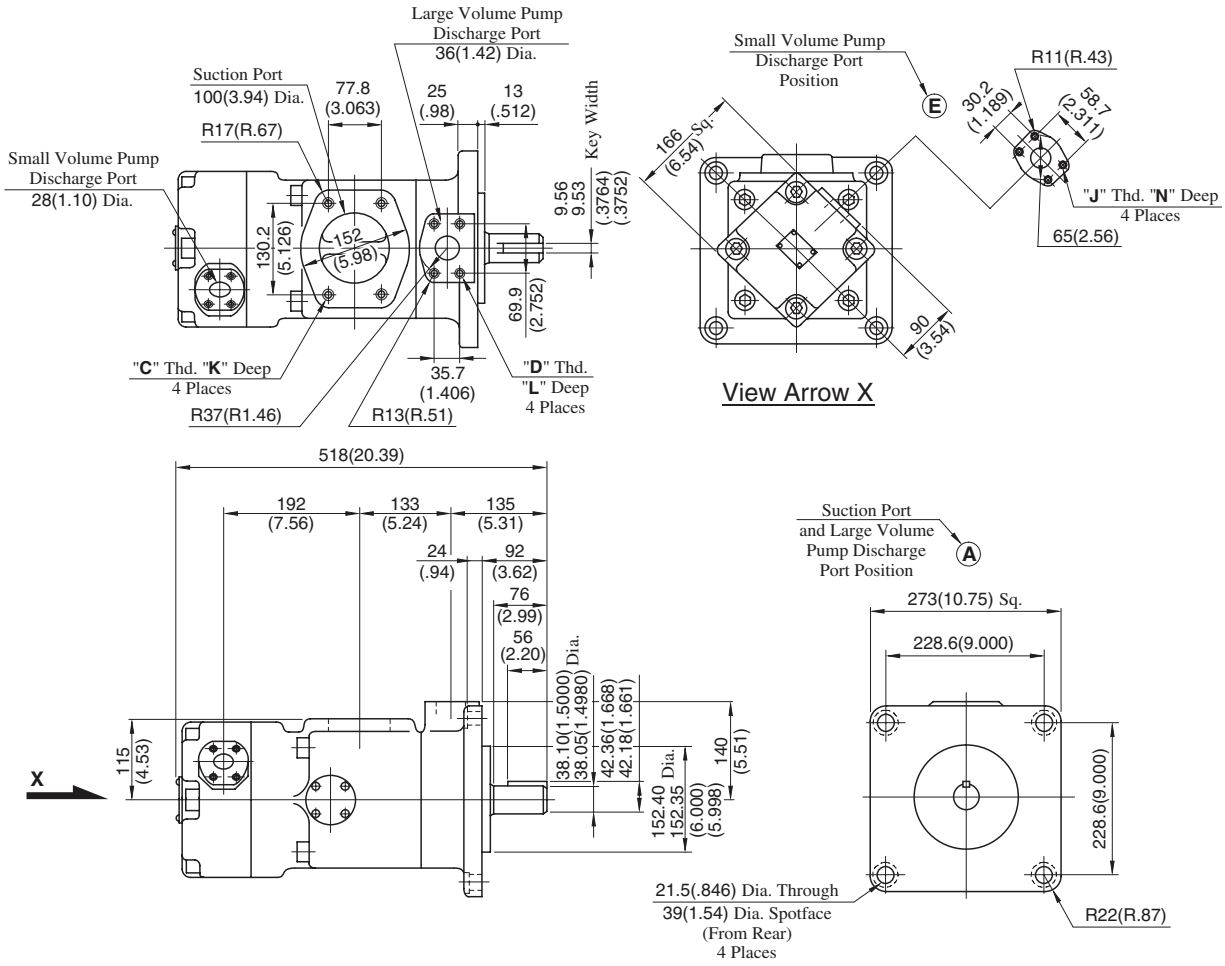
DIMENSIONS IN MILLIMETRES (INCHES)

Foot Mtg.: PV2R24-∗-∗-L-RAAA-31/3190



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

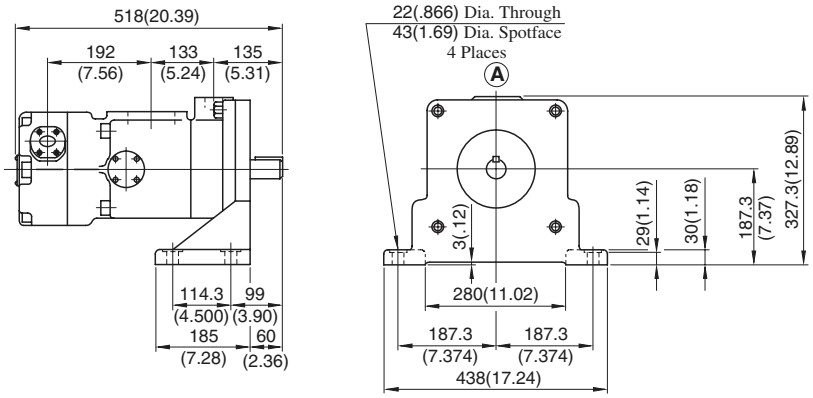
Flange Mtg.: PV2R34-*-*-F-REAA-31/3190



Model Numbers	"C" Thd.	"D" Thd.	"J" Thd.	Dimensions mm (Inches)		
				K	L	N
PV2R34-*-*-F-REAA-31	M16	M12	M8	19 (.75)	19 (.75)	19 (.75)
PV2R34-*-*-F-REAA-3190	5/8-11 UNC	1/2-13 UNC	7/16-14 UNC	21 (.83)	21 (.83)	20 (.79)

DIMENSIONS IN MILLIMETRES (INCHES)

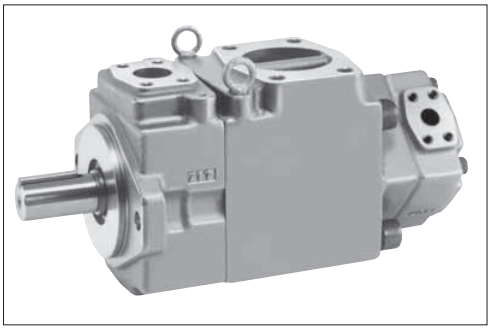
Foot Mtg.: PV2R34-*-*-L-REAA-31/3190

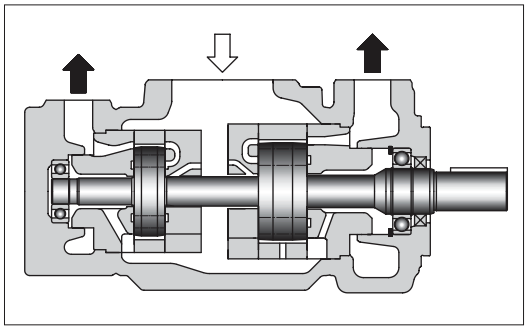


- For other dimensions, refer to "Flange Mtg.".

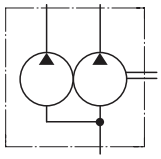
"PV2R24A/34A" Series Double Vane Pumps

These double pumps incorporate the new PV2R4A series pumps for the large volume side, a feature that permits discharge to separate circuits.





Graphic Symbol



Model Number Designation

F-	PV2R24A	-26	-193	-L	-R	E	A	A	-10	*
Special Seals	Series Number	Small Volume Pump Nominal Displacement cm^3/rev	Large Volume Pump Nominal Displacement cm^3/rev	Mounting	Direction of Rotation	Small Volume Pump Discharge Port Position	Large Volume Pump Discharge Port Position	Suction Port Position	Design Number	Design Standards
F: Special seals for phosphate ester type fluids (Omit if not required)	**PV2R24A**	**26, 33 41, 47 53, 59 65**	**138, 162 193**	**L:** Foot Mtg. **F:** Flange Mtg.	**R:** ★1 Clockwise (Normal)	(Viewed from Shaft End) **E:** Left 45° Upwards (Normal)	**A:** Upwards (Normal)	**A:** Upwards (Normal)	**10**	Refer to ★2
	PV2R34A	**76, 94 116**				**A:** Upwards (Normal)			**10**	

★1. Available to supply pump with anti-clockwise rotation.
Consult Yuken for details.
★2. Design Standards: None ..... Japanese Standard "JIS" and European Design Standard
90 ..... N. American Design Standard

Pipe Flange Kits

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

Pump Model Numbers	Name of Port	Pipe Flange Kit Numbers						
		Threaded Connection			Socket Welding ★1		Butt Welding	
		Japanese Standard "JIS"	European Design Standard	N. American Design Standard ★2	Japanese Standard "JIS" European Design Standard	N. American Design Standard ★2	Japanese Standard "JIS" European Design Standard	N. American Design Standard ★2
PV2R24A	Suction	F5-28-A-10	——	——	F5-28-B-10	F5-28-B-1090	F5-28-C-10	F5-28-C-1090
	Large 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
	Small Discharge	F5-06-A-10	F5-06-A-1080	——	F5-06-B-10	F5-06-B-1090	F5-06-C-10	F5-06-C-1090
PV2R34A	Suction	F5-32-A-10	——	——	F5-32-B-10	F5-32-B-1090	F5-32-C-10	F5-32-C-1090
	Large 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
	Small Discharge	F5-10-A-10	F5-10-A-1080	——	F5-10-B-10	F5-10-B-1090	F5-10-C-10	F5-10-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.

Specifications

Maximum Operating Pressure

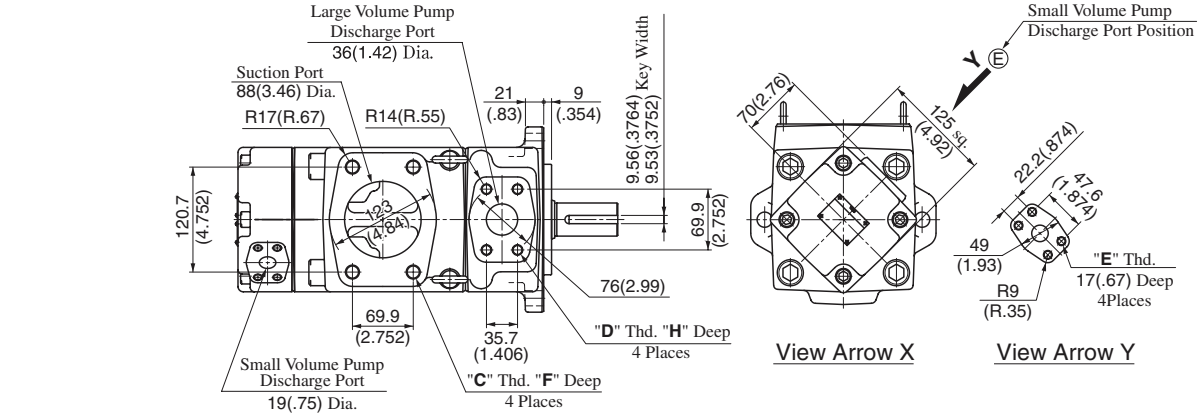
Model Numbers	Max. Operating Pressure MPa (PSI)					
	Petroleum Base Oils		Water Containing Fluids			Synthetic Fluids
	Anti-Wear Type	R & O Type	Anti-Wear ★1 Type Water Glycols	Water Glycols	Water in Oil Emulsions	Phosphate Esters
PV2R24A-26	21 (3050)	14 (2030)	16 (2320)	7 (1020)	7 (1020)	14 (2030)
PV2R24A-33						
PV2R24A-41						
PV2R24A-47						
PV2R24A-53						
PV2R24A-59						
PV2R24A-65						
PV2R34A-76	21 (3050)	14 (2030)	16 (2320)	7 (1020)	7 (1020)	14 (2030)
PV2R34A-94						
PV2R34A-116	16 (2320)					
PV2R24A/34A-*-138	17.2 (2500)	14 (2030)	16 (2320)	7 (1020)	7 (1020)	14 (2030)
PV2R24A/34A-*-162						
PV2R24A/34A-*-193						

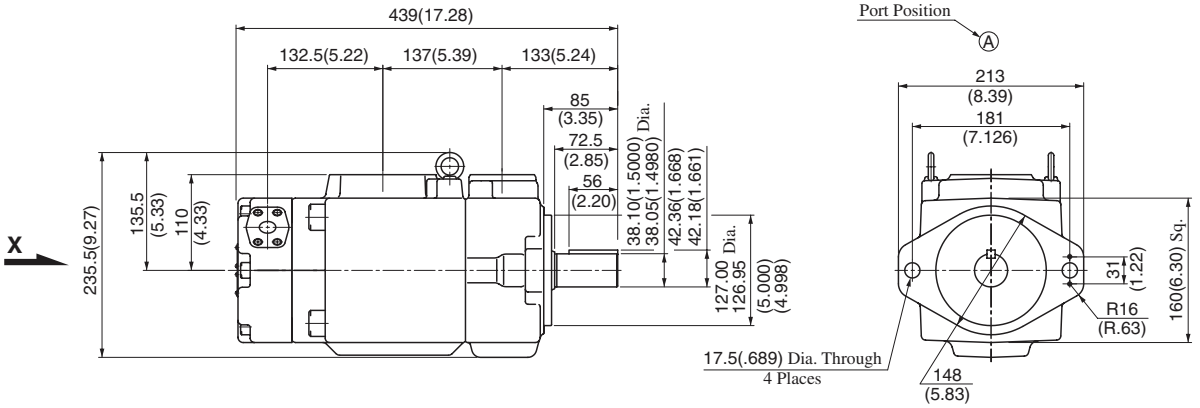
Output Flow & Input Power, Shaft Speed Range and Mass

Model Numbers	Output Flow & Input Power		Shaft Speed Range r/min				Approx. Mass kg (lbs.)	
			Petroleum Base Oils		Water Containing Fluids Phosphate Esters			
	Small Volume Pump	Large Volume Pump	Max.	Min.	Max.	Min.	Flange Mtg.	Foot Mtg.
PV2R24A	Same as single pump "PV2R2", refer to pages 172 & 173. However, as for displacement of "26" and "33", refer to page 192.	Same as single pump "PV2R4A", refer to pages 179 & 180.	1800★	600	1200	600	60 (132)	70 (154)
PV2R34A	Same as single pump "PV2R3", refer to page 174.		1800★	600	1200	600	92.5 (204)	102.5 (226)

★If the pump is used at speed above 1400 r/min, the suction pressure is limited to 0 kPa (0 in. Hg.).

Flange Mtg.: PV2R24A-∗-∗-F-REAA-10/1090

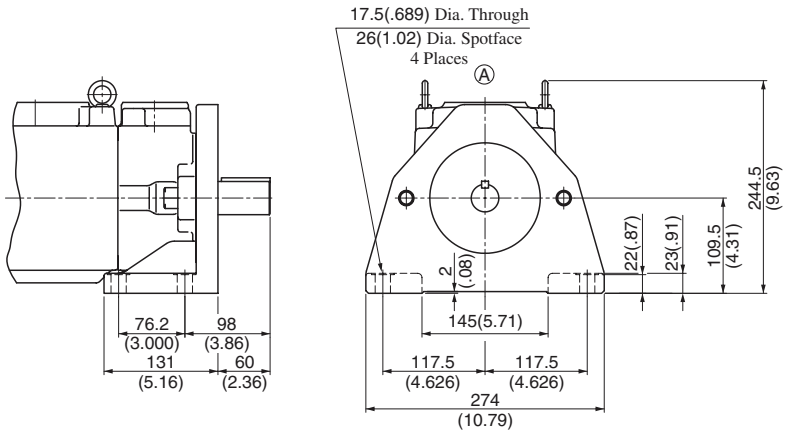




Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.	Dimensions mm (Inches)	
				F	H
PV2R24A-∗-∗-F-REAA-10	M16	M14	M10	19 (.75)	22 (.87)
PV2R24A-∗-∗-F-REAA-1090	5/8-11 UNC	1/2-13 UNC	3/8-16 UNC	21 (.83)	21 (.83)

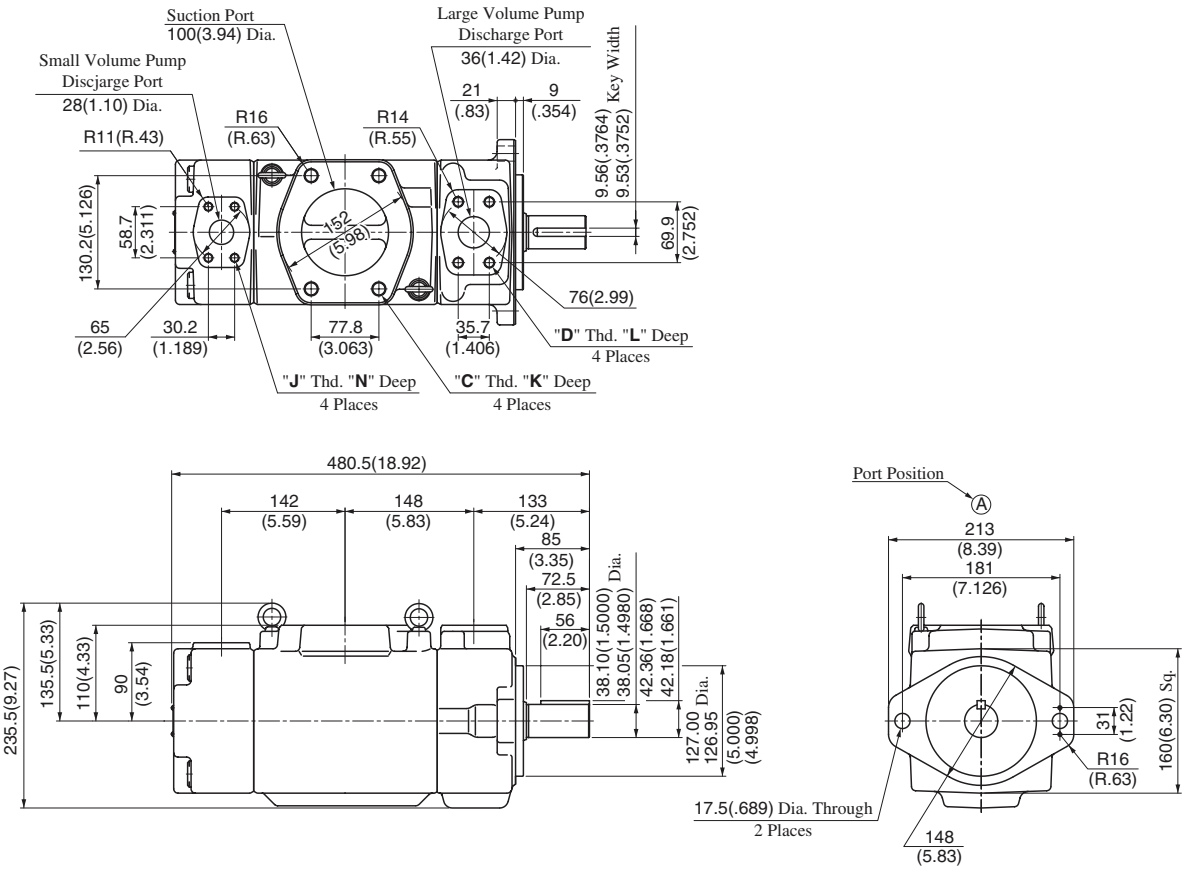
DIMENSIONS IN MILLIMETRES (INCHES)

Foot Mtg.: PV2R24A-∗-∗-L-REAA-10/1090



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

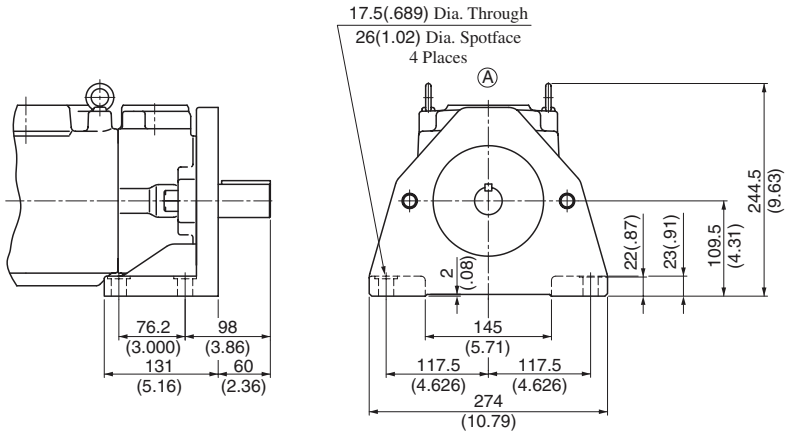
Flange Mtg.: PV2R34A-*-*-F-RAAA-10/1090



Model Numbers	"C" Thd.	"D" Thd.	"J" Thd.	Dimensions mm (Inches)		
				K	L	N
PV2R34-*-*-F-RAAA-10	M16	M14	M10	19 (.75)	22 (.87)	19 (.75)
PV2R34-*-*-F-RAAA-1090	5/8-11 UNC	1/2-13 UNC	7/16-14 UNC	21 (.83)	21 (.83)	20 (.79)

DIMENSIONS IN MILLIMETRES (INCHES)

Foot Mtg.: PV2R34A-*-*-L-RAAA-10/1090



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