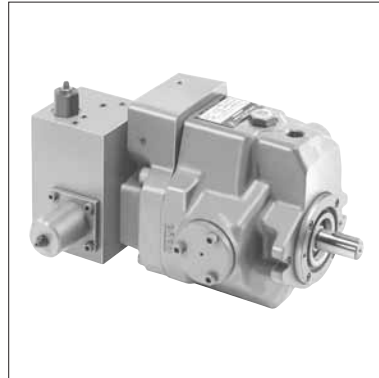
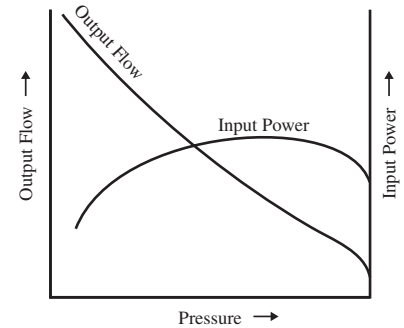


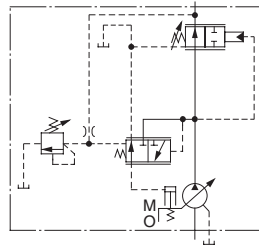
# "A" Series Variable Displacement Piston Pumps – Single Pump, Constant Power Control Type



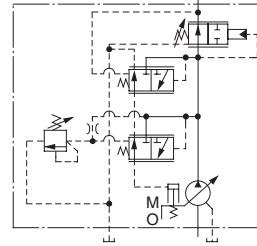
## Performance Characteristics



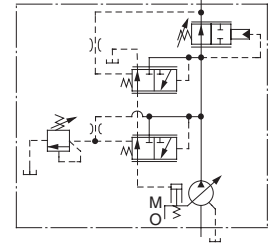
## Graphic Symbols



A16



A37/A56



A70/A145

## Specifications

Model Numbers	Geometric Displacement cm <sup>3</sup> /rev (cu. in. /rev)	Minimum Adj. Flow cm <sup>3</sup> /rev (cu. in. /rev)	Operating Pres. MPa (PSI)	Shaft Speed Range r/min		Approx. Mass kg (lbs.)	
			Max.	Max.	Min.	Flange Mtg.	Foot Mtg.
A16-*-R-09-*-K-32*	15.8 (.964)	—	21 (3050) <sup>★1</sup>	1800	600	29.0 (63.9)	31.2 (68.8)
A37-*-R-09-*-K-32*	36.9 (2.25)	—	21 (3050) <sup>★1</sup>	1800	600	37.0 (81.6)	41.3 (91.1)
A56-*-R-09-*-K-32*	56.2 (3.43)	—	21 (3050) <sup>★1</sup>	1800	600	44.0 (97.0)	48.3 (107)
A70-*R09*S-60*	70.0 (4.27)	30 (.295)	25 (3630)	1800	600	72.8 (161)	84.8 (187)
A145-*R09*S-60*	145 (8.85)	83 (5.06)	25 (3630)	1800	600	110 (243)	135 (298)

★1. Maximum Operating Pressure of A16/A37/A56 varies according to Input Power Setting. See Model Number Designation for details.

★2. Minimum Adjustment Flow of A70/A145 is absolutely minimum flow that can be adjusted with Flow Adjustment Screw.

A90 type pump (91 cm<sup>3</sup>/rev) is available. Ask Yuken for Details.

■ Model Number Designation

● A16/A37/A56

A16	-F	-R	-09	-A		-16M	-K	-32	*
Series Number	Mounting	Direction of Rotation	Control Type	Input Power Setting		Specify Control Pres.*2	Shaft Extension	Design Number	Design Std.
<b>A16</b> (15.8 cm <sup>3</sup> /rev)	<b>F:</b> Flange Mtg.  <b>L:</b> Foot Mtg.	(Viewed from Shaft End)  <b>R:</b> Clockwise*1 (Normal)	<b>09:</b> Constant Power Control Type	<b>A:</b> 3.7 kW (5 HP)	<b>E:</b> 2.2 kW (3 HP)	<b>7M:</b> 7 MPa (1020 PSI)  <b>10.5M:</b> 10.5 MPa (1520 PSI)  <b>14M:</b> 14 MPa (2030 PSI)  <b>16M:</b> 16 MPa (2320 PSI)  <b>17.5M:</b> 17.5 MPa (2540 PSI)  <b>21M:</b> 21 MPa (3050 PSI)	<b>K:</b> Keyed Shaft	<b>32</b>	Refer to ★3
<b>B:</b> 5.5 kW (7.5 HP)				<b>F:</b> 1.5 kW (2 HP)					
<b>A:</b> 3.7 kW (5 HP)				<b>C:</b> 7.5 kW (10 HP)					
<b>A37</b> (36.9 cm <sup>3</sup> /rev)				<b>B:</b> 5.5 kW (7.5 HP)	<b>D:</b> 11 kW (15 HP)				
<b>A56</b> (56.2 cm <sup>3</sup> /rev)				<b>A:</b> 3.7 kW (5 HP)	<b>E:</b> 15 kW (20 HP)				
				<b>B:</b> 5.5 kW (7.5 HP)	<b>F:</b> 18.5 kW (25 HP)				
				<b>C:</b> 7.5 kW (10 HP)	<b>G:</b> 22 kW (30 HP)				
				<b>D:</b> 11 kW (15 HP)					

● A70/A145

A70	-F	R	09	A		S	-60	*
Series Number	Mounting	Direction of Rotation	Control Type	Input Power Setting		Direction of Port	Design Number	Design Std.
<b>A70</b> (70 cm <sup>3</sup> /rev)	<b>F:</b> Flange Mtg.  <b>L:</b> Foot Mtg.	(Viewed from Shaft End)  <b>R:</b> Clockwise*1 (Normal)	<b>09:</b> Constant Power Control Type	<b>A:</b> 15 kW (20 HP)	<b>E:</b> 22 kW (30 HP)	<b>S:</b> Side Port	<b>60</b>	Refer to ★3
<b>A145</b> (145 cm <sup>3</sup> /rev)				<b>B:</b> 18.5 kW (25 HP)	<b>F:</b> 30 kW (40 HP)			
				<b>A:</b> 15 kW (20 HP)	<b>E:</b> 37 kW (50 HP)			
				<b>B:</b> 18.5 kW (25 HP)	<b>F:</b> 45 kW (60 HP)			
				<b>C:</b> 22 kW (30 HP)	<b>G:</b> 55 kW (75 HP)			
				<b>D:</b> 30 kW (40 HP)	<b>H:</b> 75 kW (100 HP)			

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

★2. Specify control pressure of A16/A37/A56 with lower than Maximum Operating Pressure depending on Input Power Setting.

Model	Maximum Operating Pressure MPa (PSI)								
	1.5 kW (2 HP)	2.2 kW (3 HP)	3.7 kW (5 HP)	5.5 kW (7.5 HP)	7.5 kW (10 HP)	11 kW (15 HP)	15 kW (20 HP)	18.5 kW (25 HP)	22 kW (30 HP)
A16	10.5 (1520)	16 (2320)	21 (3050)	21 (3050)	—	—	—	—	—
A37	—	—	16 (2320)	21 (3050)	21 (3050)	21 (3050)	—	—	—
A56	—	—	10.5 (1520)	14 (2030)	17.5 (2540)	21 (3050)	21 (3050)	21 (3050)	21 (3050)

★3. Design Standards: None ..... Japanese Standard "JIS"  
 80 ..... European Design Standard  
 950 ..... 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 Std. "JIS"	European Design Std.	N. American Design Standard	Japanese Std. "JIS" & European Design Std.	N. American Design Standard	Japanese Std. "JIS" & European Design Std.	N. American Design Standard
A16-*-R-09	Suction	F5-06-A-10	F5-06-A-1080	—	F5-06-B-10	F5-06-B-1090	F5-06-C-10	F5-06-C-1090
	Discharge	—*2	—*2	—*2	—*2	—*2	—*2	—*2
A37-*-R-09	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
A56-*-R-09	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
A70-*-R-09	Suction	F5-12-A-10	F5-12-A-1080	—	F5-12-B-10	F5-12-B-1090	F5-12-C-10	F5-12-C-1090
	Discharge	F5-08-A-10	F5-08-A-1080	—	F5-08-B-10	F5-08-B-1090	F5-08-C-10	F5-08-C-1090
A145-*-R-09	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

★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 hat flanges. Therefore, please pay cautious attention to the operating pressure when the socket welding flanges are used.

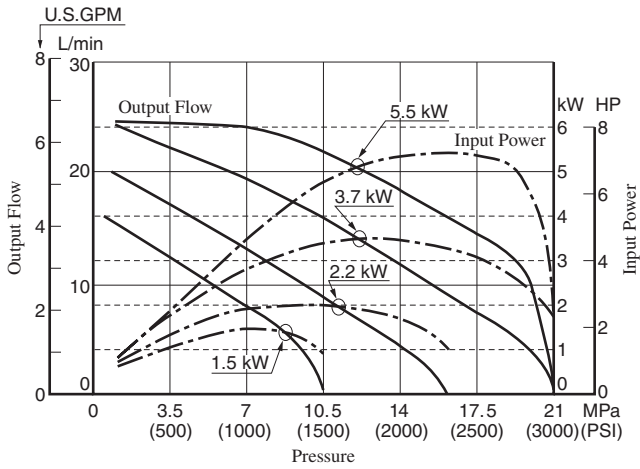
★2. Discharge port for pump model "A16" is available only the threaded connections.

★3. 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.

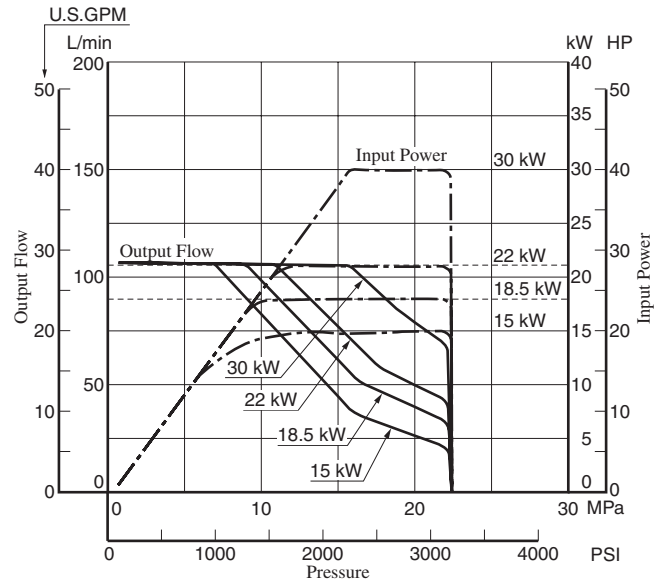
● Detail of the pipe flange kits are shown on page 824.

## Typical Performance Characteristics at 1500 r/min

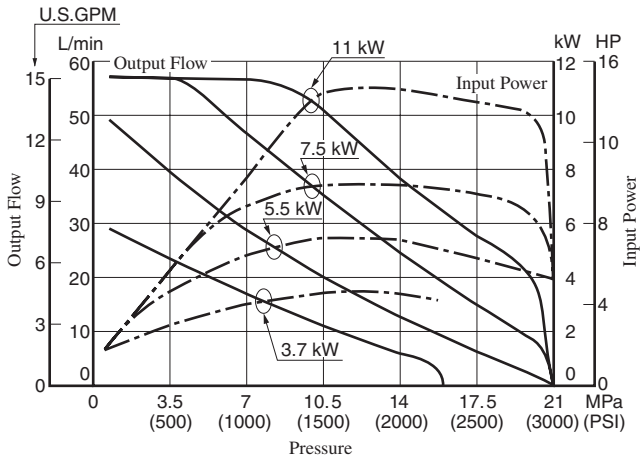
**A16**



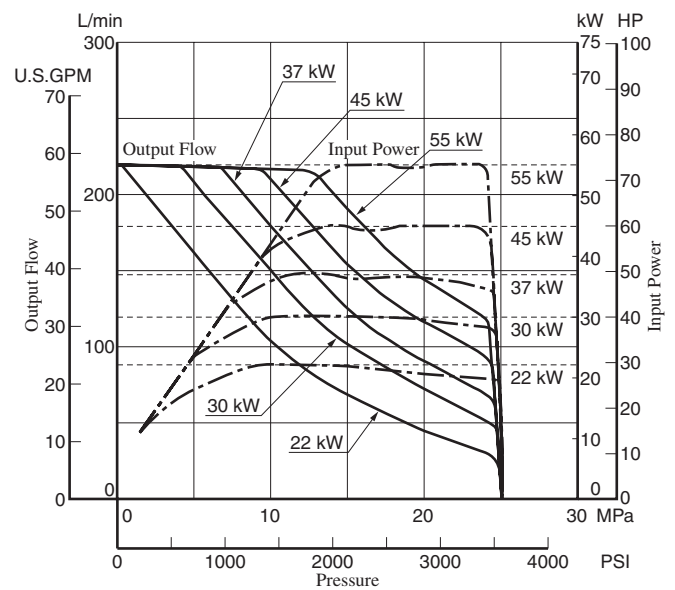
**A70**



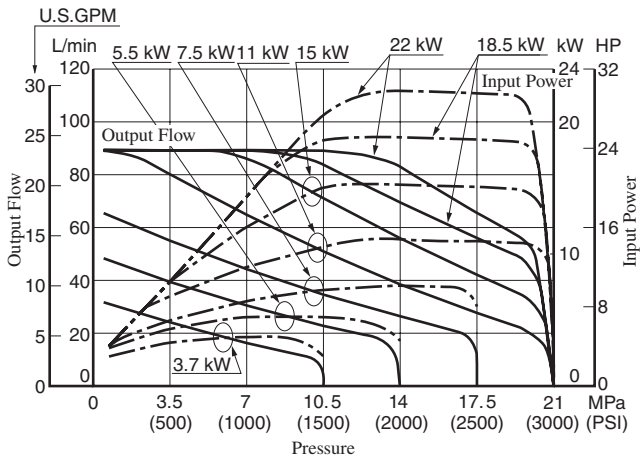
**A37**



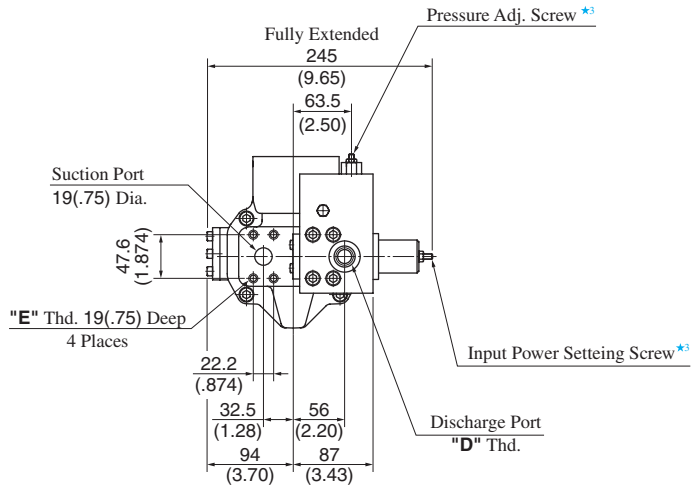
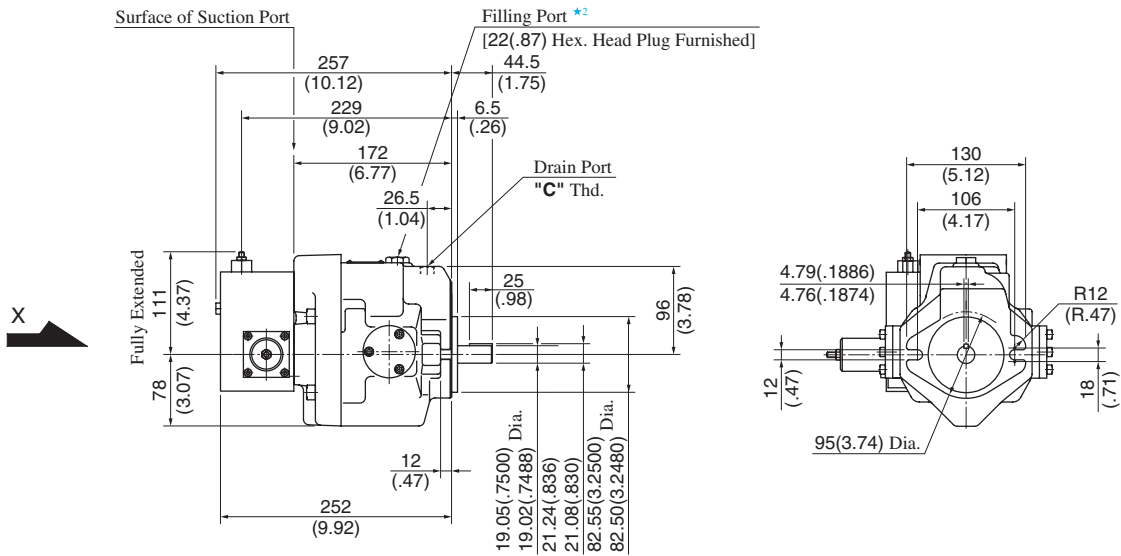
**A145**



**A56**



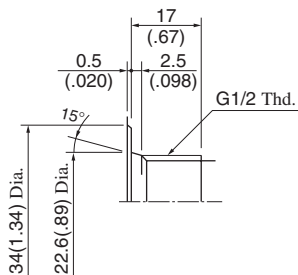
Flange Mtg. : A16-F-R-09-\*-K-32/3280/32950



View Arrow X

Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.
A16-F-R-09-*-K-32	Rc 3/8	G 1/2 * <sup>1</sup>	M10
A16-F-R-09-*-K-3280	3/8 BSP.F	1/2 BSP.F	
A16-F-R-09-*-K-32950	SAE #8	SAE #8	3/8-16 UNC

★ 1. Detail of Discharge Port  
[For Japanese Standard]



★ 2. Install the pump so that the "Filling Port" is at the top.

★ 3. Do not touch the screw because it is adjusted at the time of shipment.

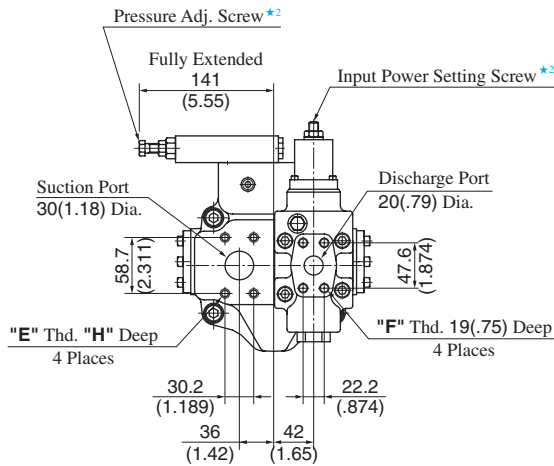
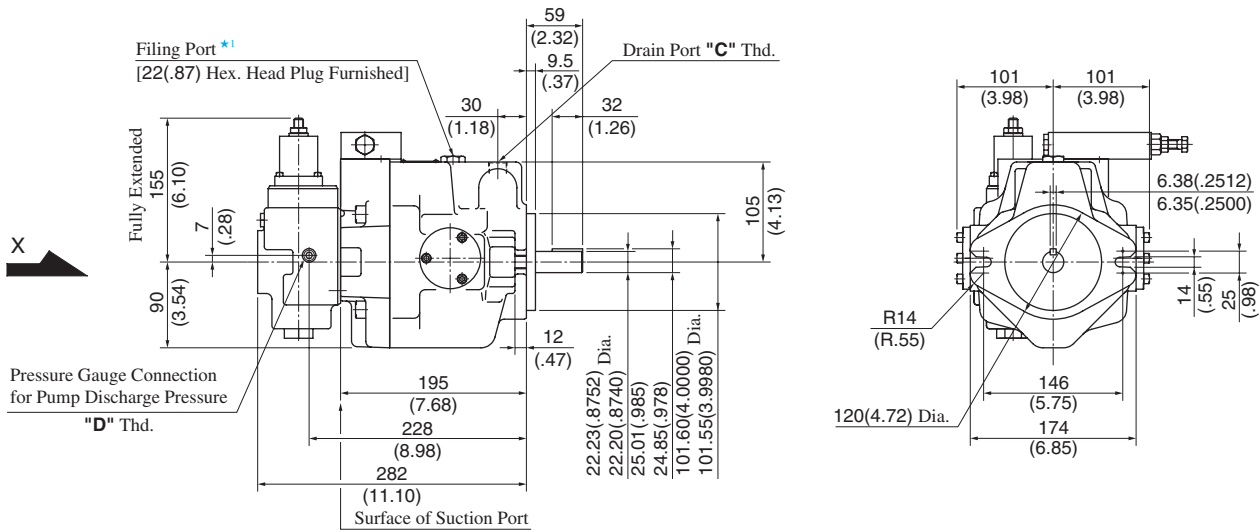
**DIMENSIONS IN  
MILLIMETRES (INCHES)**

● **Foot Mounting Type**

Mounting bracket is common to that of pressure compensator model.

Refer to [page 45](#) for the dimensions of mounting bracket.

Flange Mtg. : A37-F-R-09-*\**-K-32/3280/32950



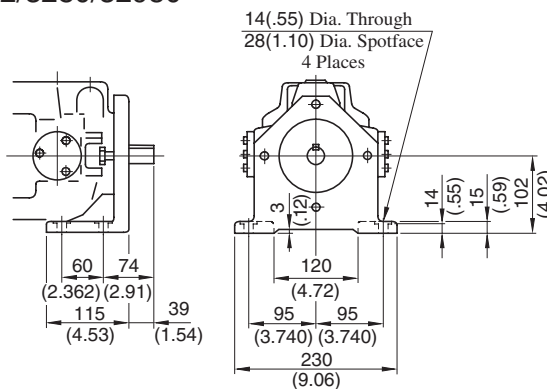
- ★ 1. Install the pump so that the "Filing Port" is at the top.
- ★ 2. Do not touch the screw because it is adjusted at the time of shipment.

View Arrow X

Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.	"F" Thd.	"H" mm (IN.)
A37-F-R-09- <i>*</i> -K-32	Rc 1/2	Rc 1/4	M10	M10	19 (.75)
A37-F-R-09- <i>*</i> -K-3280	1/2 BSP.F	1/4 BSP.Tr			
A37-F-R-09- <i>*</i> -K-32950	SAE #10	SAE #4	7/16-14 UNC	3/8-16 UNC	20 (.79)

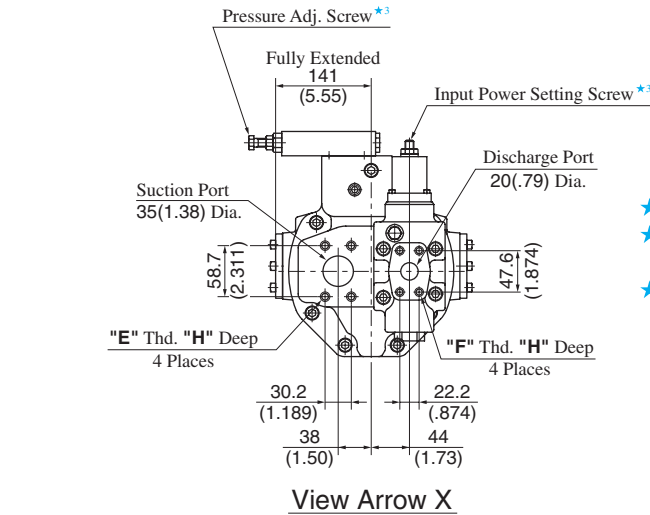
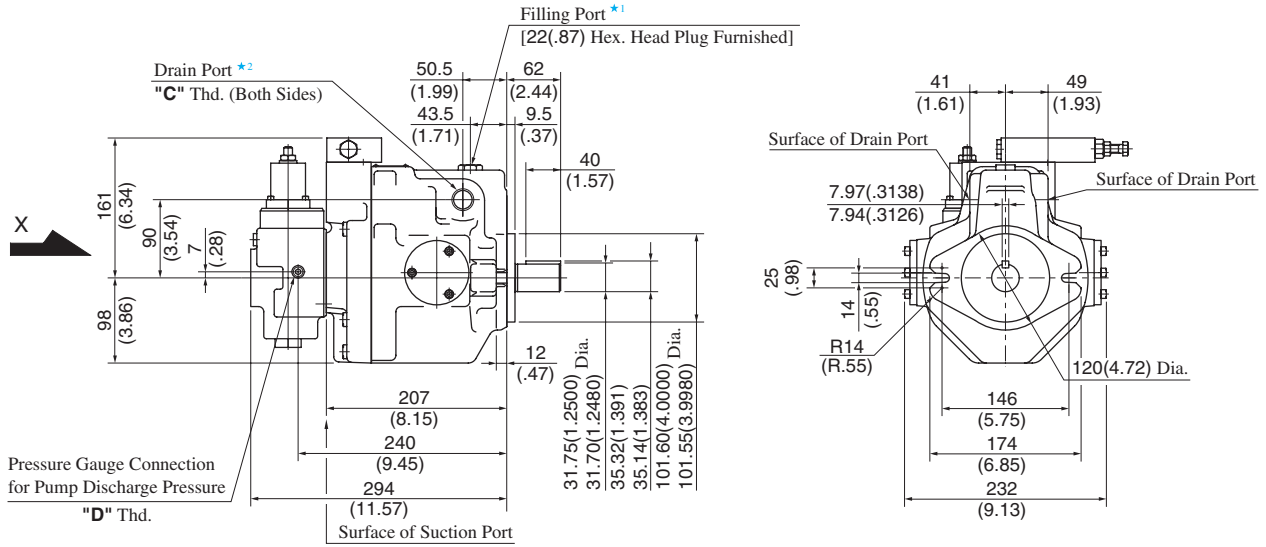
DIMENSIONS IN MILLIMETRES (INCHES)

Foot Mtg. : A37-L-R-09-*\**-K-32/3280/32950



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

Flange Mtg. : A56-F-R-09-\*-K-32/3280/32950

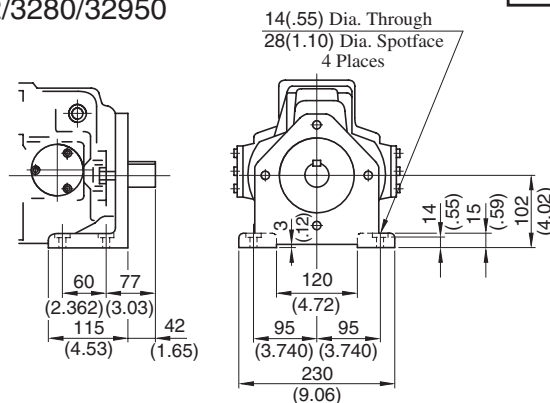


- ★ 1. Install the pump so that the "Filling Port" is at the top.
- ★ 2. Use either port of two drain ports at your option. Keep the remaining port plugged.
- ★ 3. Do not touch the screw because it is adjusted at the time of shipment.

Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.	"F" Thd.	"H" mm (IN.)
A56-F-R-09-*-K-32	Rc 3/4	Rc 1/4	M10	M10	19 (.75)
A56-F-R-09-*-K-3280	3/4 BSP.F	1/4 BSP.Tr			
A56-F-R-09-*-K-32950	SAE #12	SAE #4	7/16-14 UNC	3/8-16 UNC	20 (.79)

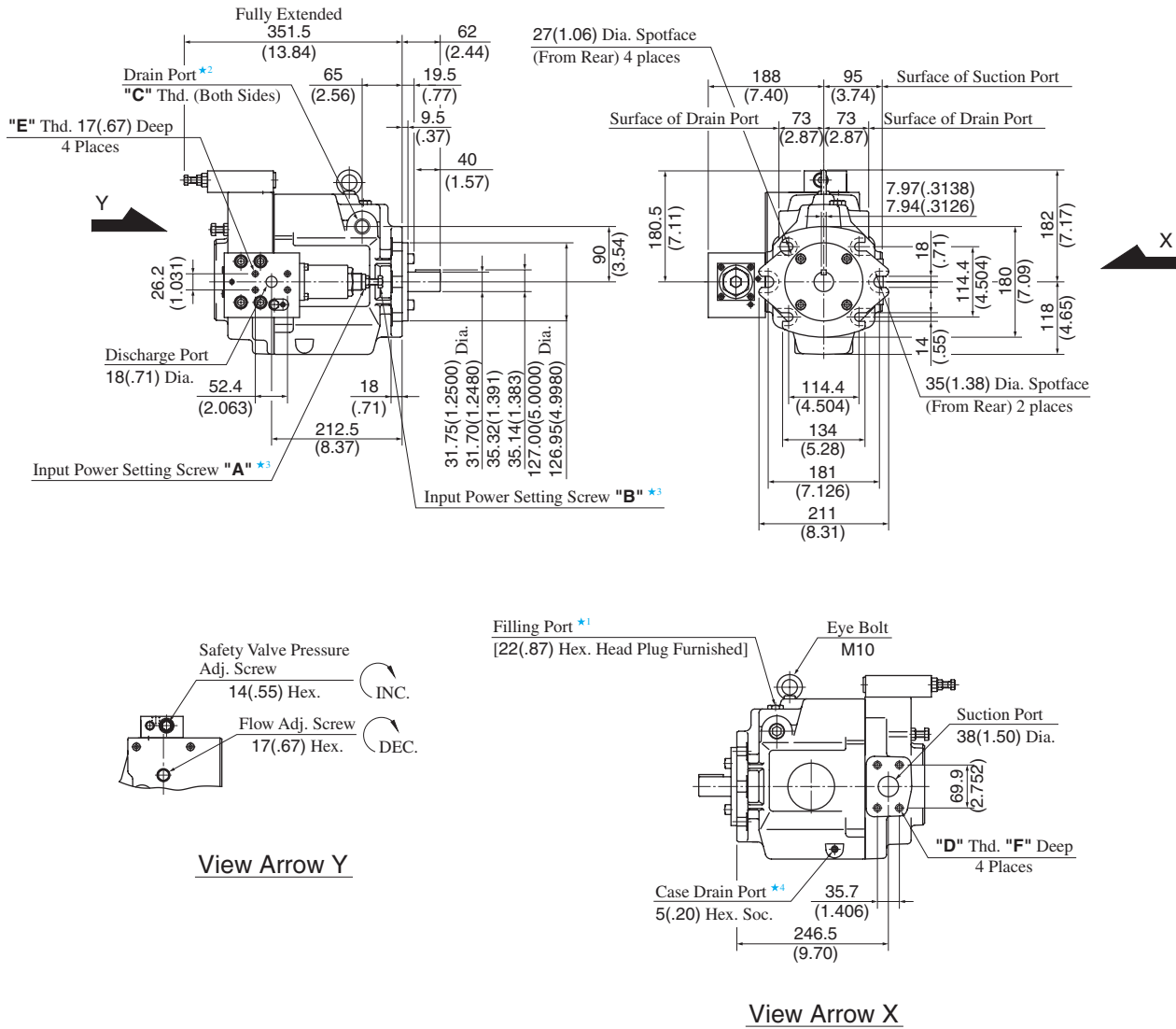
**DIMENSIONS IN MILLIMETRES (INCHES)**

Foot Mtg. : A56-L-R-09-\*-K-32/3280/32950



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

Flange Mtg. : A70-FR09\*S-60/6080/60950



- ★ 1. Install the pump so that the "Filling Port" is at the top.
- ★ 2. Use either port of two drain ports at your option. Keep the remaining port plugged.
- ★ 3. Do not touch the screw because it is adjusted at the time of shipment.
- ★ 4. Case drain port is available for use when draining hydraulic fluid from pump casing.

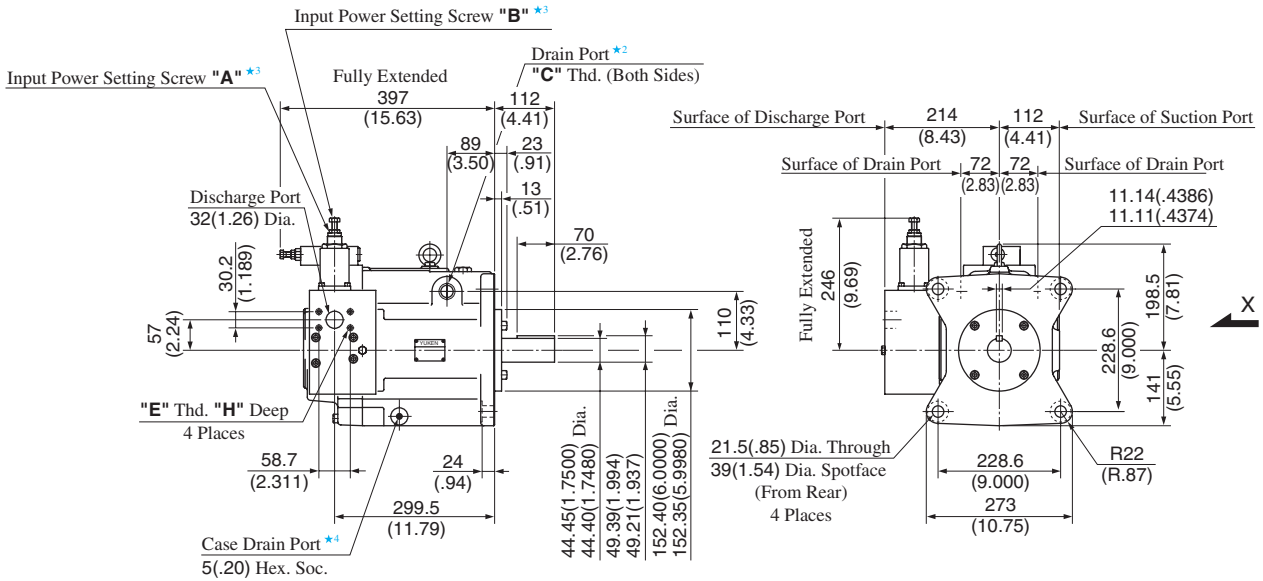
Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.	F mm (IN.)
A70-FR09*S-60	Rc 3/4	M12	M10	19 (.75)
A70-FR09*S-6080	3/4 BSP.F			
A70-FR09*S-60950	SAE #12	1/2-13 UNC	3/8-16 UNC	21 (.83)

DIMENSIONS IN MILLIMETRES (INCHES)

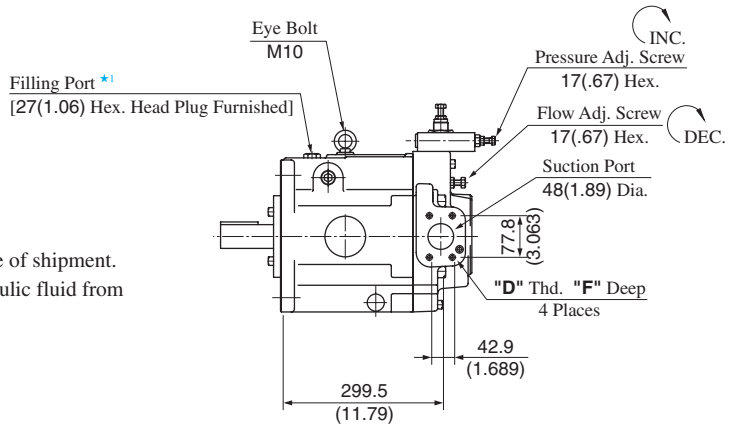
● **Foot Mounting Type**

Mounting bracket is common to that of pressure compensator model. Refer to [page 48](#) for the dimensions of mounting bracket.

Flange Mtg. : A145-FR09\*S-60/6080/60950



- ★ 1. Install the pump so that the "Filling Port" is at the top.
- ★ 2. Use either port of two drain ports at your option. Keep the remaining port plugged.
- ★ 3. Do not touch the screw because it is adjusted at the time of shipment.
- ★ 4. Case drain port is available for use when draining hydraulic fluid from pump casing.



View Arrow X

Model Numbers	"C" Thd.	"D" Thd.	"E" Thd.	F mm (IN.)	H mm (IN.)
A145-FR09*S-60	Rc 3/4	M12	M10	19 (.75)	19 (.75)
A145-FR09*S-6080	3/4 BSP.F				
A145-FR09*S-60950	SAE #12	1/2-13 UNC	7/16-14 UNC	21 (.83)	20 (.79)

DIMENSIONS IN  
MILLIMETRES (INCHES)

● **Foot Mounting Type**

Mounting bracket is common to that of pressure compensator model.  
Refer to [page 50](#) for the dimensions of mounting bracket.