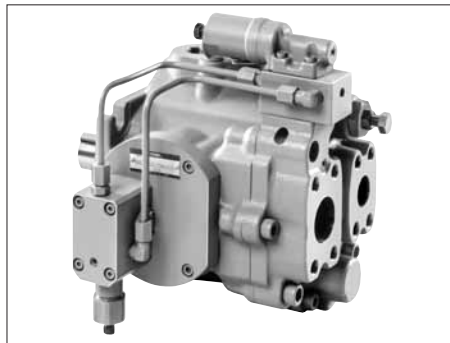
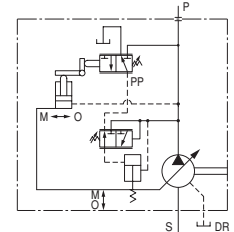


# "A3H" Series Variable Displacement Piston Pumps-Single Pump, Constant Power (Torque) Control Type



Graphic Symbol



## Specifications

Model Numbers	Geometric Displacement cm <sup>3</sup> /rev (cu.in./rev)	Minimum Adj. Flow cm <sup>3</sup> /rev (cu.in./rev)	Max. Operating Pressure MPa (PSI)	Shaft Speed Range r/min		Approx. Mass kg (lbs.)	
				Max. *	Min.	Flange Mtg.	Foot Mtg.
A3H 37-*R09-***K-10*	37.1 (2.26)	16.0 (.976)	35 (5080)	2700	600	23.0 (50.7)	30.5 (67.3)
A3H 56-*R09-***K-10*	56.3 (3.44)	35.0 (2.14)		2500	600	29.0 (63.9)	36.5 (80.5)
A3H 71-*R09-***K-10*	70.7 (4.31)	45.0 (2.75)		2300	600	38.0 (83.8)	45.5 (100)
A3H100-*R09-***K-10*	100.5 (6.13)	63.0 (3.84)		2100	600	48.0 (106)	76.0 (168)
A3H145-*R09-***K-10*	145.2 (8.86)	95.0 (5.80)		1800	600	63.0 (139)	91.0 (201)
A3H180-*R09-***K-10*	180.7 (11.03)	125.0 (7.63)		1800	600	74.2 (164)	102.2 (225)

\* The maximum shaft speeds shown in the above table are at suction pressure 0 kPa (0 PSIG).

## Model Number Designation

A3H37	-F	R	09	-11	A	4	K	-10	*
Series Number	Mounting	Direction of Rotation	Control Type	Input Power Setting	Frequency of Power Source	Pole Number of Electric Motor	Shaft Extension *2	Design Number	Design Std.
<b>A3H37</b> (37.1 cm <sup>3</sup> /rev)	<b>F</b> : Flange Mtg.	<b>R</b> : Clockwise *1 (Normal)  (Viewed from Shaft End)	<b>09</b> : Constant Power (Torque) Control Type	<b>5.5</b> : 5.5 kW   <b>110</b> : 110 kW  Refer to the table on following page for combination.	<b>A</b> : 50 Hz  <b>B</b> : 60 Hz	<b>4</b> : 4 Poles  <b>6</b> : 6 Poles	<b>K</b> : Keyed Shaft	<b>10</b>	Refer to *3
<b>A3H56</b> (56.3 cm <sup>3</sup> /rev)								<b>10</b>	
<b>A3H71</b> (70.7 cm <sup>3</sup> /rev)	<b>10</b>								
<b>A3H100</b> (100.5 cm <sup>3</sup> /rev)	<b>10</b>								
<b>A3H145</b> (145.2 cm <sup>3</sup> /rev)	<b>10</b>								
<b>A3H180</b> (180.7 cm <sup>3</sup> /rev)	<b>10</b>								

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

\*2. We can also supply spline-type shaft extension. Consult Yuken for details.

\*3. Design Standards: None ..... Japanese Standard "JIS"

80 ..... European Design Standard

950 ..... N. American Design Standard (Applicable only for A3H37/56/71)

954 ..... N. American Design Standard (Applicable only for A3H100/145/180)

\*4. Mounting type "L" is not available for N. American Design Standard.

\*5. Shaft extension "K1" is applicable only for N. American Design Standard.

● **Combination of pump series and input power setting (○ = available combinations)**

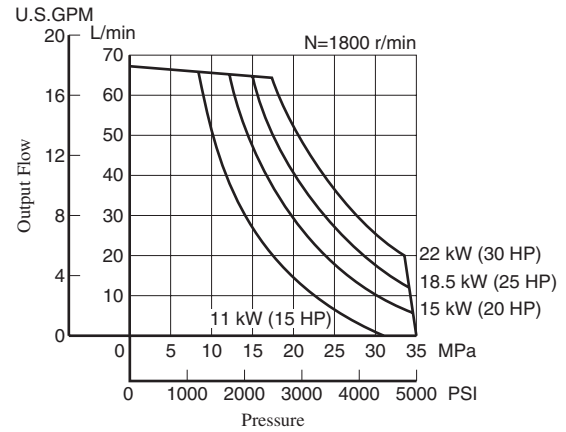
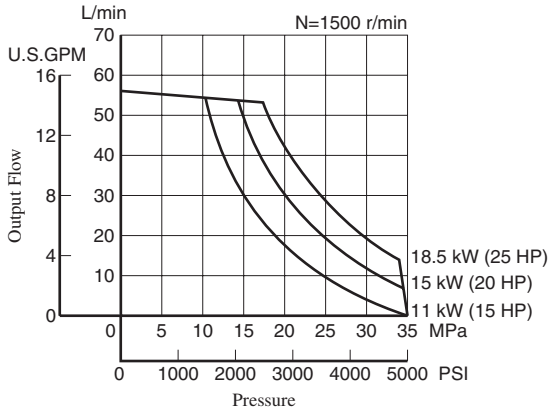
Model Numbers		Input Power Setting kW (HP)																						
		Pole Number of Electric Motor : <b>4P</b>										Pole Number of Electric Motor : <b>6P</b>												
		11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (120)	110 (150)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	
A3H 37	50 Hz	○	○	○								○	○	○										
	60 Hz	○	○	○									○	○	○									
A3H 56	50 Hz		○	○	○								○	○	○	○								
	60 Hz		○	○	○	○							○	○	○	○								
A3H 71	50 Hz			○	○	○	○							○	○	○	○							
	60 Hz			○	○	○	○							○	○	○	○	○						
A3H100	50 Hz				○	○	○	○							○	○	○	○						
	60 Hz				○	○	○	○							○	○	○	○	○			○	○	
A3H145	50 Hz					○	○	○	○		○					○	○	○	○	○		○	○	
	60 Hz					○	○	○	○		○					○	○	○	○	○	○	○	○	
A3H180	50 Hz						○	○	○	○	○						○	○	○	○	○	○	○	
	60 Hz						○	○	○	○	○						○	○	○	○	○	○	○	○

■ **Pipe Flange Kits**

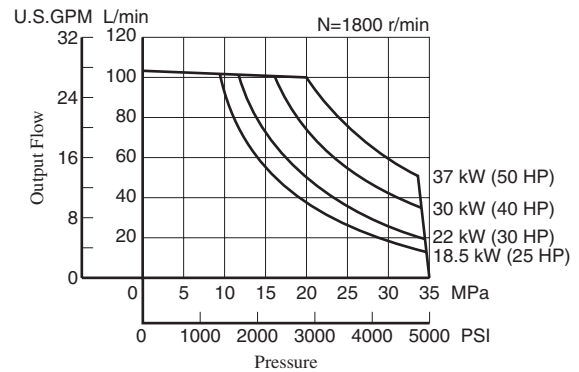
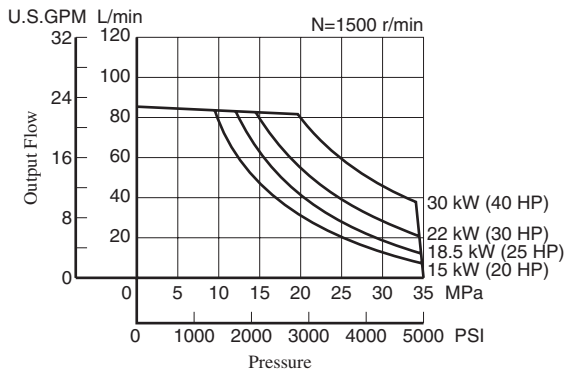
For pipe flange, refer to form of pressure compensator type on [page 123](#).

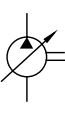
Typical Performance Characteristics of Control Type "09" at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C (104°F)]

● **A3H37**



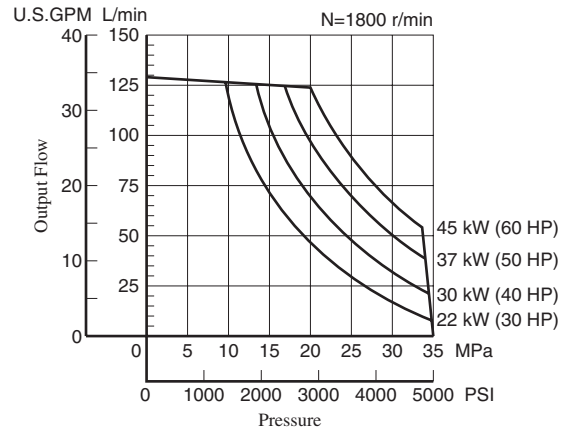
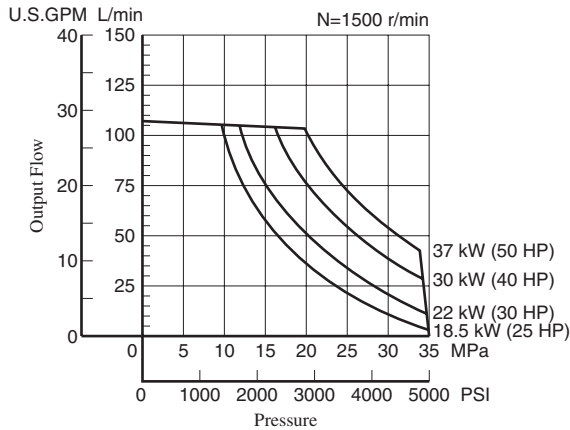
● **A3H56**



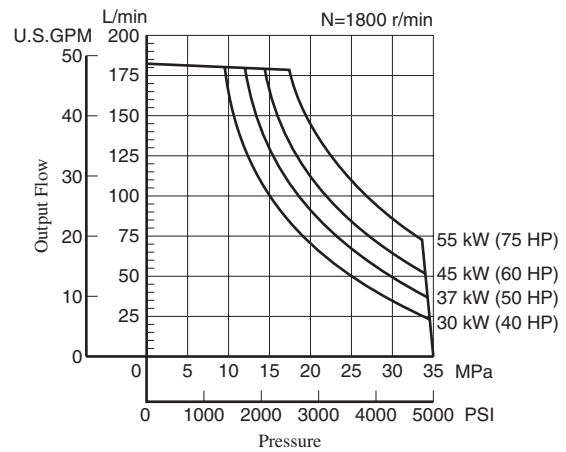
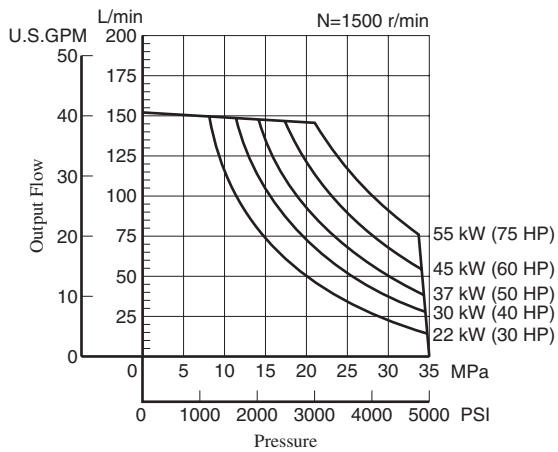


### Typical Performance Characteristics of Control Type "09" at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C (104°F)]

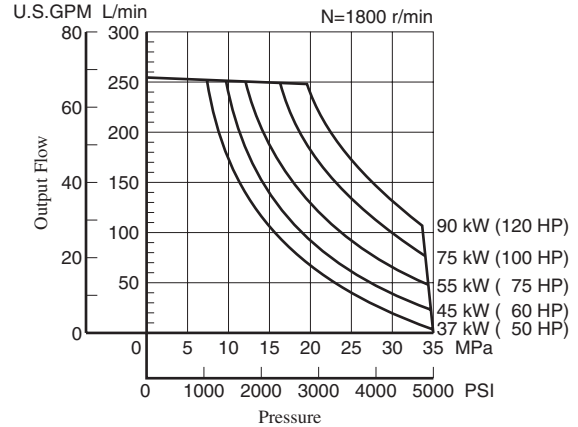
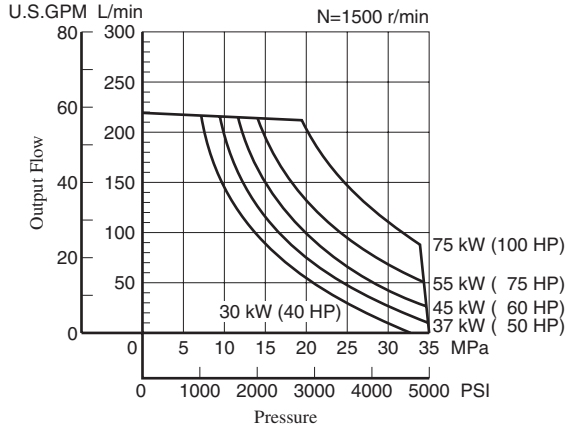
#### ● A3H71



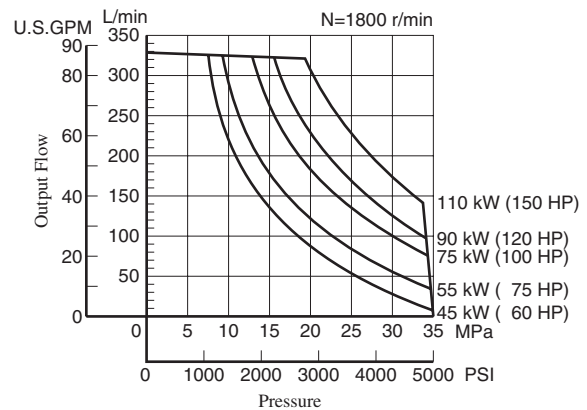
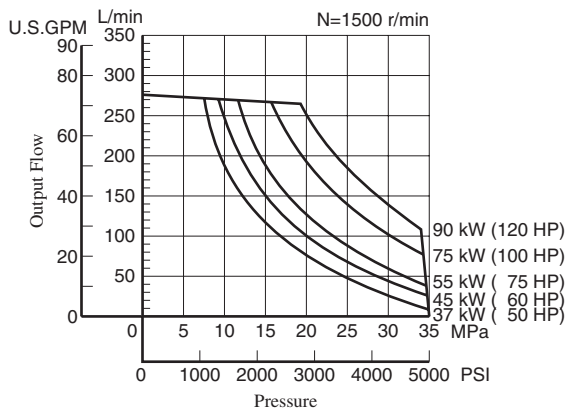
#### ● A3H100



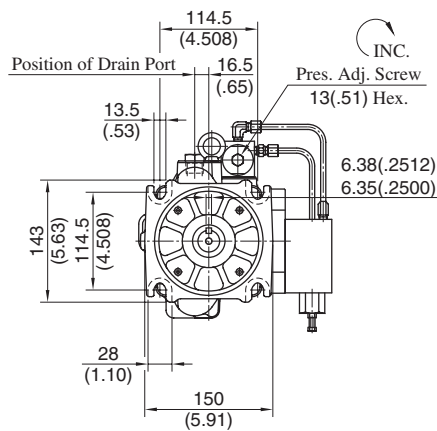
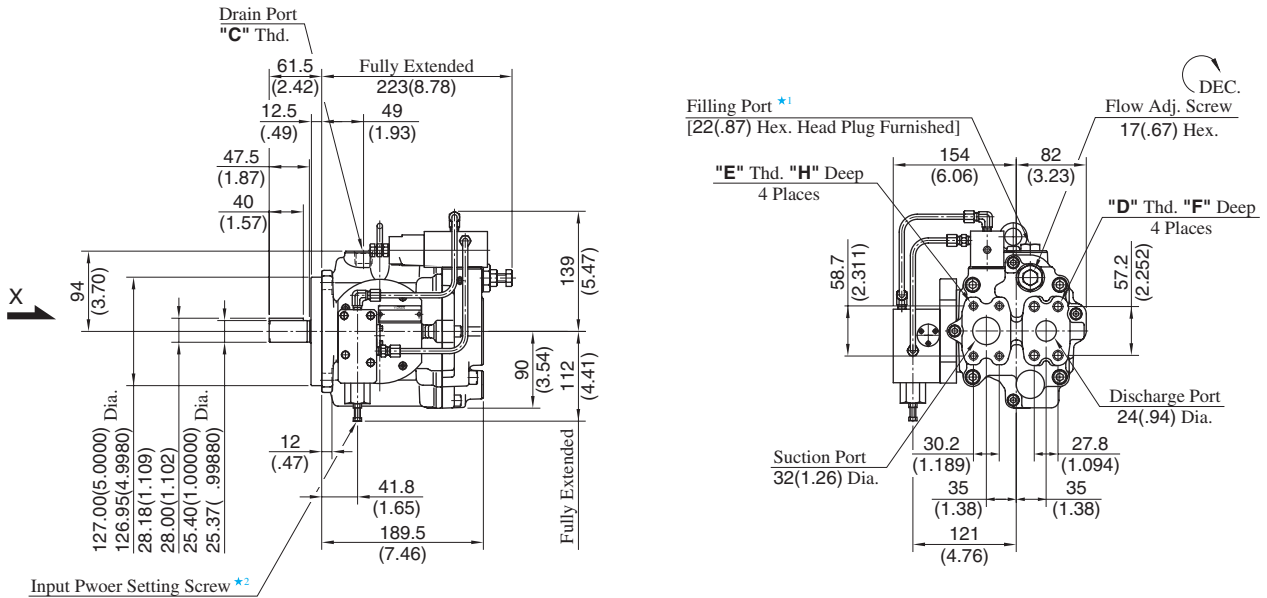
#### ● A3H145



#### ● A3H180



Flange Mtg.: A3H37-FR09-\*\*\*K-10/1080/10950



View Arrow X

Model Numbers	Thread Size			Dimensions mm (Inches)	
	C	D	E	F	H
A3H37-FR09-***K-10	Rc 1/2	M12	M10	22 (.87)	18 (.71)
A3H37-FR09-***K-1080	1/2 BSP.F				
A3H37-FR09-***K-10950	SAE #10	1/2-13 UNC	7/16-14 UNC	21 (.83)	20 (.79)

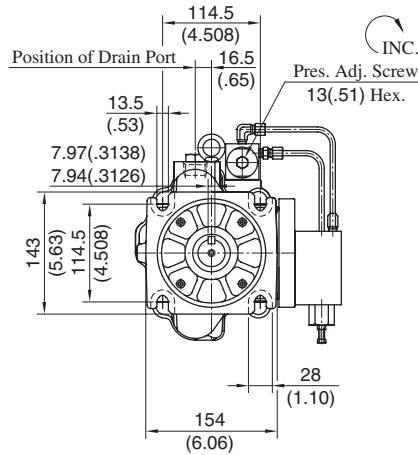
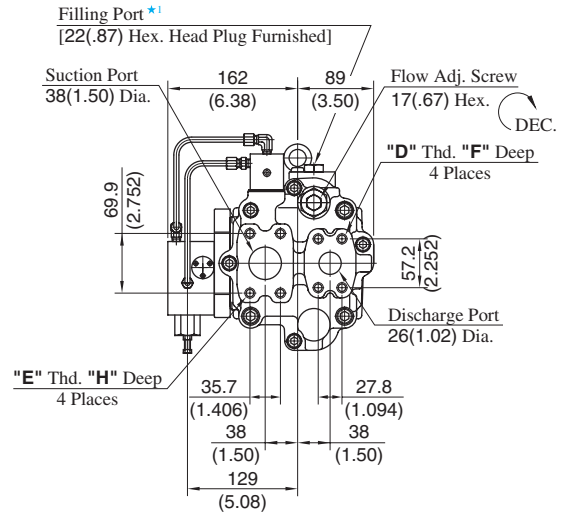
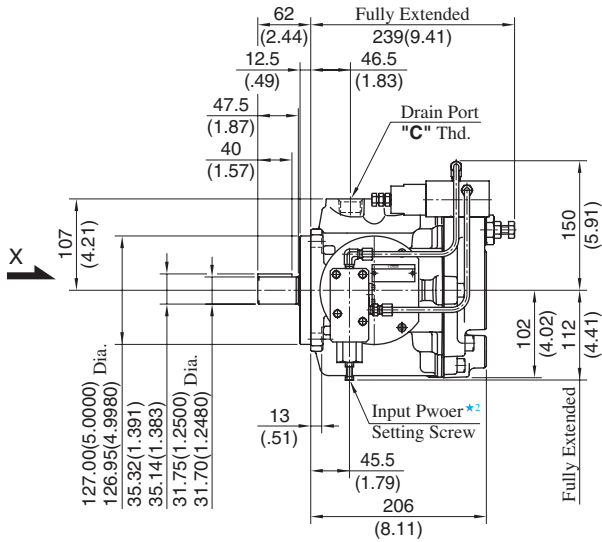
- ★ 1. Install the pump so that the "Filling Port" is at the top.
- ★ 2. Do not touch the screw because it is adjusted at the time of shipment.

**DIMENSIONS IN MILLIMETRES (INCHES)**

● **Foot Mounting Type**

Mounting bracket is common to that of pressure compensator model. Refer to page 133 for the dimensions of mounting bracket.

Flange Mtg.: A3H56-FR09-\*\*\*K-10/1080/10950



View Arrow X

Model Numbers	Thread Size			Dimensions mm (Inches)	
	C	D	E	F	H
A3H56-FR09-***K-10	Rc 3/4	M12	M12	22 (.87)	22 (.87)
A3H56-FR09-***K-1080	3/4 BSP.F	M12	M12	22 (.87)	22 (.87)
A3H56-FR09-***K-10950	SAE #12	1/2-13 UNC	7/16-14 UNC	21 (.83)	20 (.79)

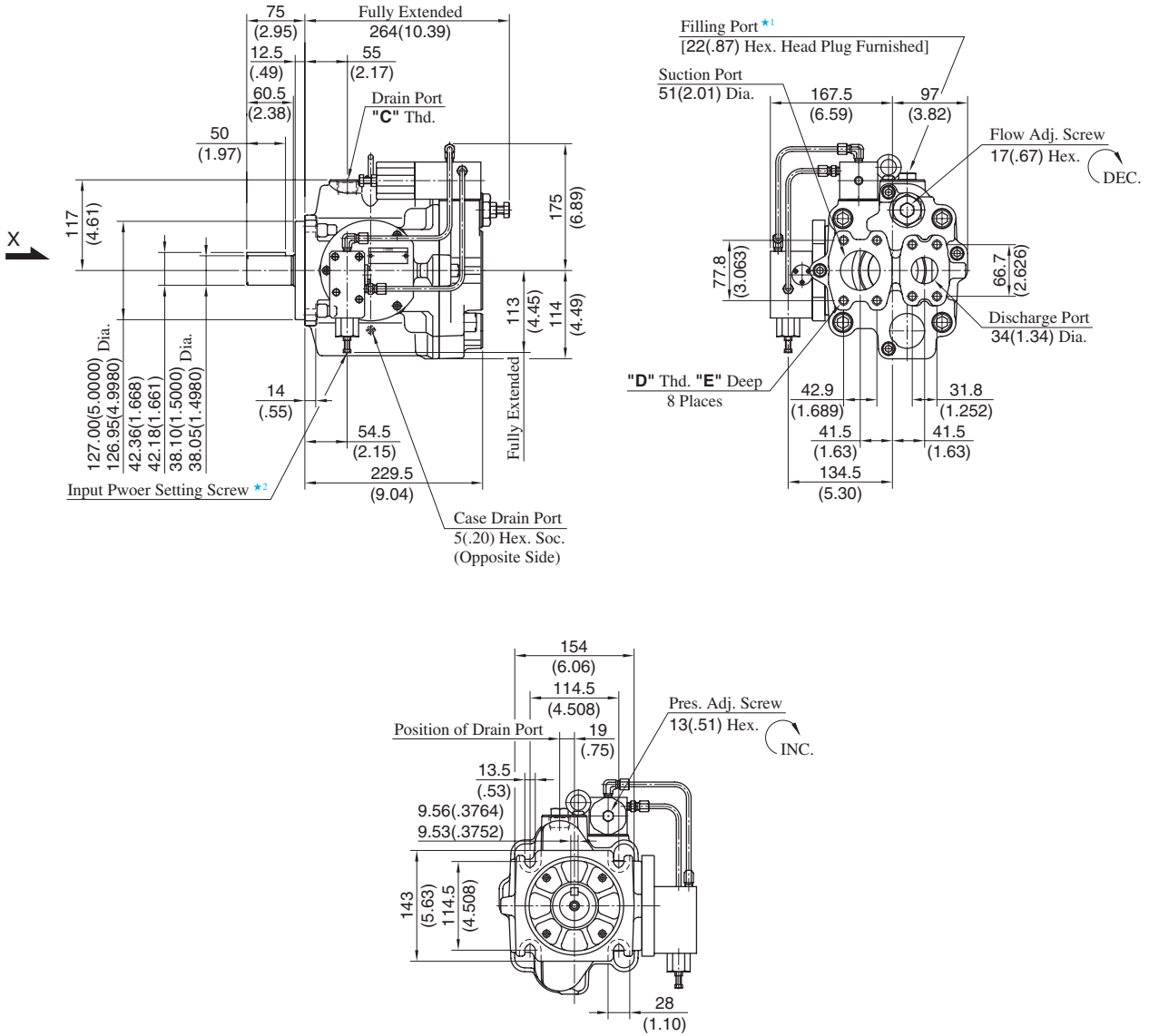
- ★ 1. Install the pump so that the "Filling Port" is at the top.
- ★ 2. Do not touch the screw because it is adjusted at the time of shipment.

DIMENSIONS IN MILLIMETRES (INCHES)

● **Foot Mounting Type**

Mounting bracket is common to that of pressure compensator model. Refer to [page 134](#) for the dimensions of mounting bracket.

Flange Mtg.: A3H71-FR09-\*\*\*K-10/1080/10950



View Arrow X

Model Numbers	Thread Size		Dimensions mm (Inches)
	C	D	E
A3H71-FR09-***K-10	Rc 3/4	M12	19 (.75)
A3H71-FR09-***K-1080	3/4 BSP.F		
A3H71-FR09-***K-10950	SAE #12	1/2-13 UNC	21 (.83)

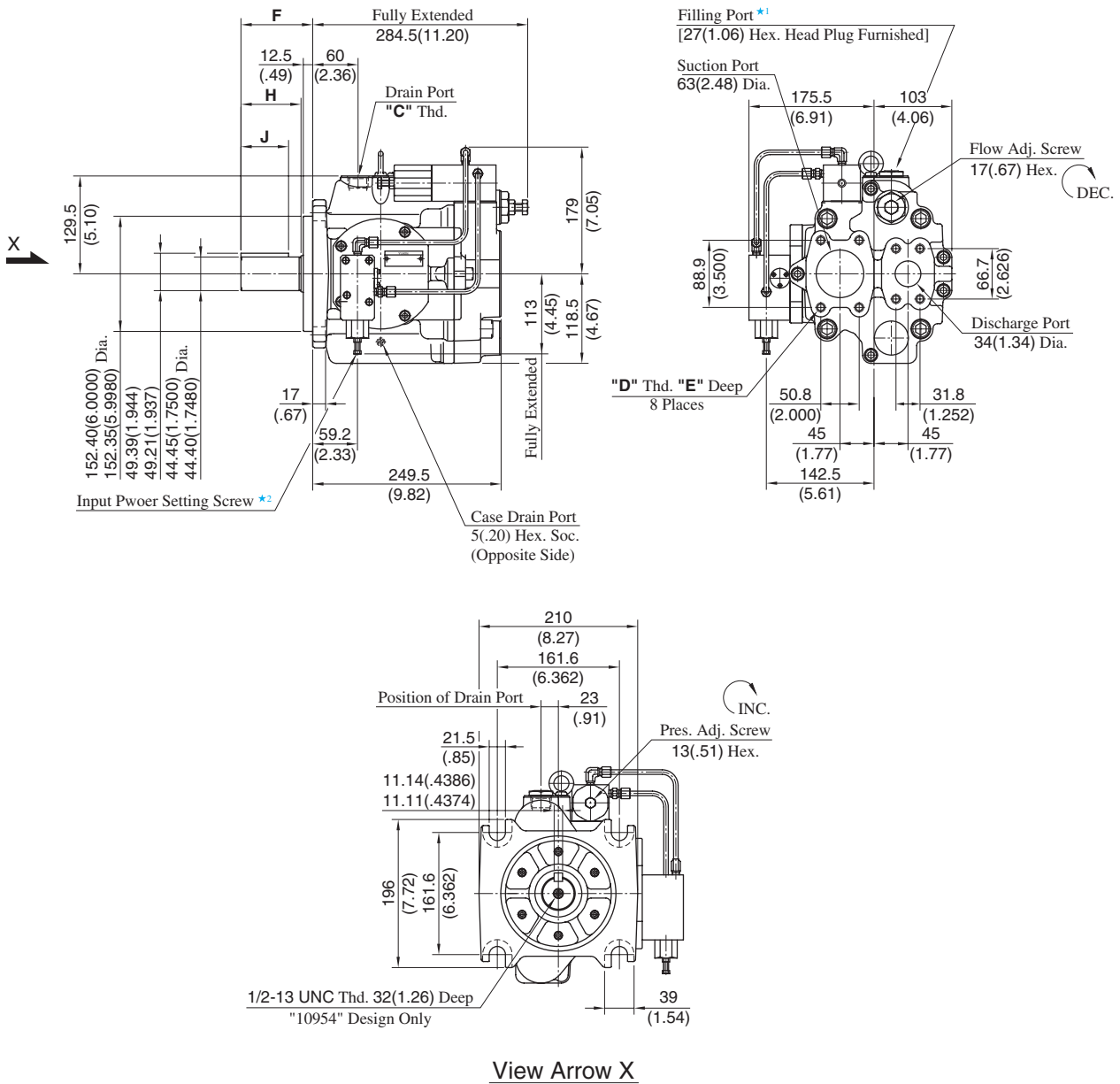
- ★ 1. Install the pump so that the "Filling Port" is at the top.
- ★ 2. Do not touch the screw because it is adjusted at the time of shipment.

**DIMENSIONS IN  
MILLIMETRES (INCHES)**

● **Foot Mounting Type**

Mounting bracket is common to that of pressure compensator model.  
Refer to [page 135](#) for the dimensions of mounting bracket.

Flange Mtg.: A3H100-FR09-\*\*\*K-10/1080/10954



Model Numbers	Thread Size		Dimensions mm (Inches)			
	C	D	E	F	H	J
A3H100-FR09-***K-10	Rc 3/4	M12	19 (.75)	95 (3.74)	81 (3.19)	63 (2.48)
A3H100-FR09-***K-1080	3/4 BSP.F					
A3H100-FR09-***K-10954	SAE #12	1/2-13 UNC	21 (.83)	74.6 (2.94)	60.6 (2.39)	50 (1.97)

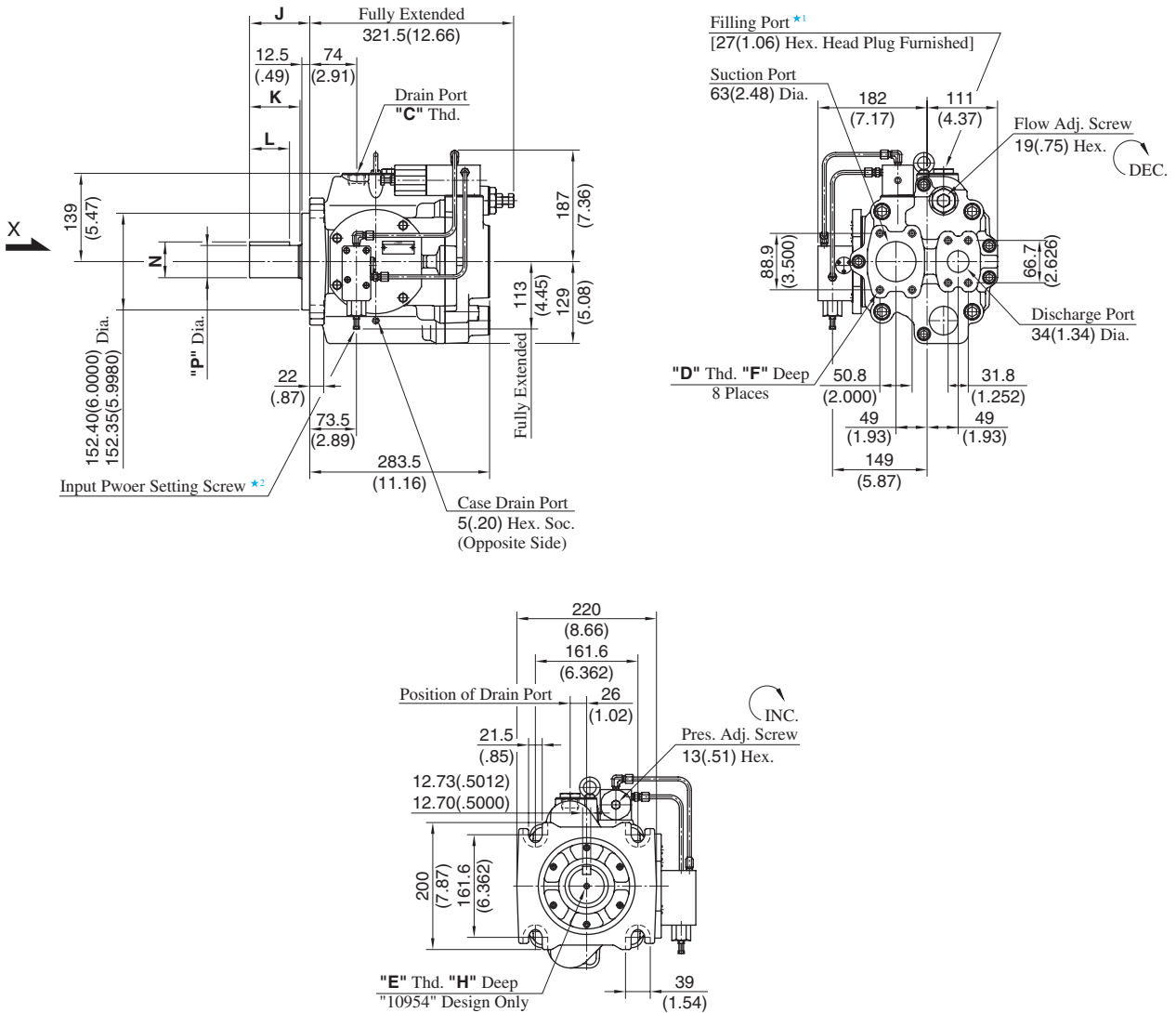
- \* 1. Install the pump so that the "Filling Port" is at the top.
- \* 2. Do not touch the screw because it is adjusted at the time of shipment.

DIMENSIONS IN MILLIMETRES (INCHES)

● **Foot Mounting Type**

Mounting bracket is common to that of pressure compensator model. Refer to page 136 for the dimensions of mounting bracket.

Flange Mtg.: A3H145-FR09-\*\*\*K\*-10/1080/10954



View Arrow X

Model Numbers	Thread Size			Dimensions mm (Inches)						
	C	D	E	F	H	J	K	L	N	P
A3H145-FR09-***K-10	Rc 3/4	M12	—	19 (.75)	—	95 (3.74)	81 (3.19)	63 (2.48)	56.43 (2.222)	50.80 (2.0000)
A3H145-FR09-***K-1080	3/4 BSP.F		—	—	—	—	—	—	—	56.25 (2.215)
A3H145-FR09-***K-10954	SAE #12	1/2-13 UNC	1/2-13 UNC	21 (.83)	32 (1.26)	74.6 (2.94)	60.6 (2.39)	50 (1.97)	49.39 (1.944)	44.45 (1.7500)
A3H145-FR09-***K1-10954			5/8-11 UNC		36 (1.42)				—	—
									56.25 (2.215)	50.75 (1.9980)

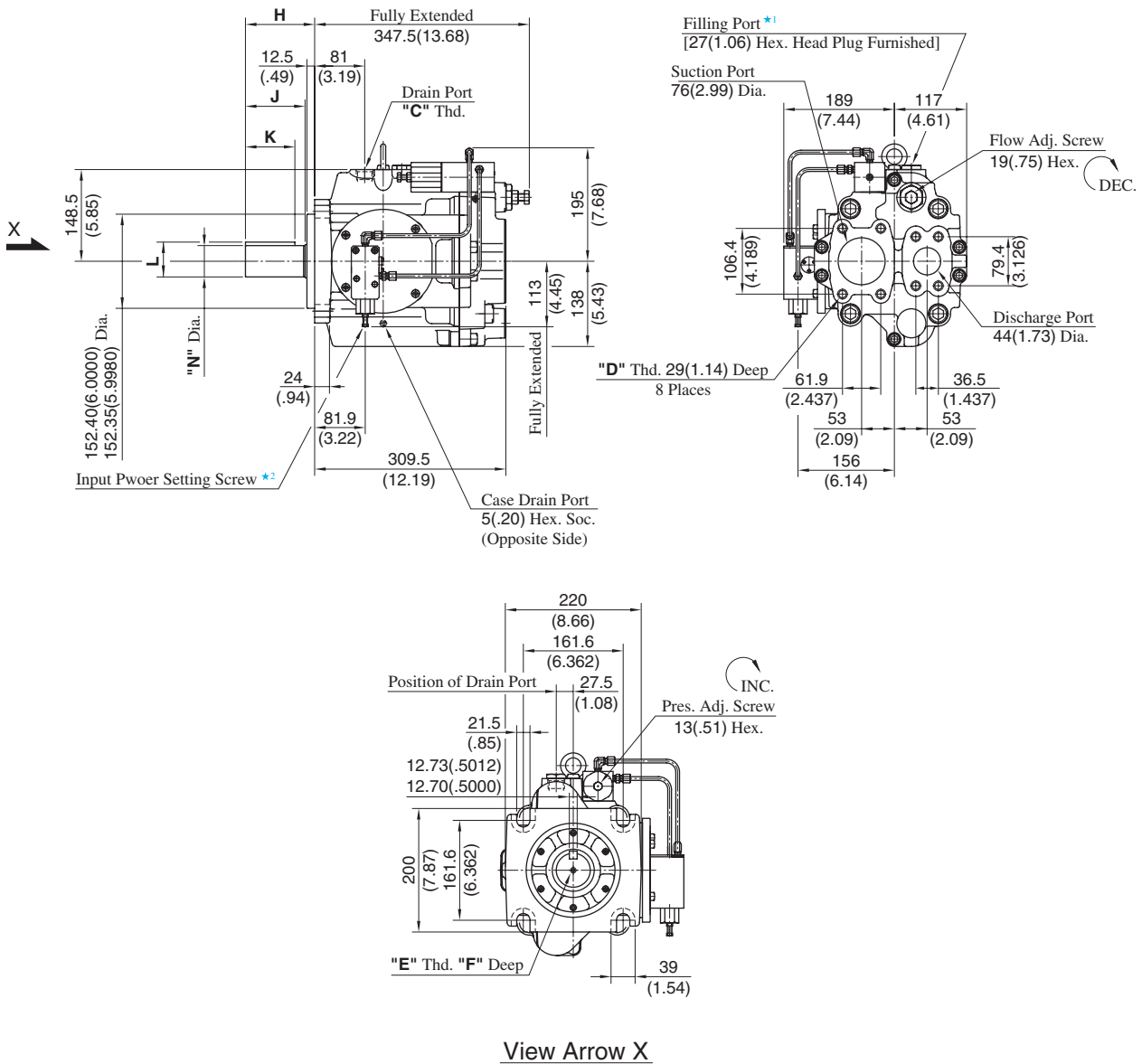
- ★ 1. Install the pump so that the "Filling Port" is at the top.
- ★ 2. Do not touch the screw because it is adjusted at the time of shipment.

**DIMENSIONS IN MILLIMETRES (INCHES)**

● **Foot Mounting Type**

Mounting bracket is common to that of pressure compensator model.  
Refer to [page 137](#) for the dimensions of mounting bracket.

Flange Mtg.: A3H180-FR09-\*\*\*K\*-10/1080/10954



View Arrow X

Model Numbers	Thread Size			Dimensions mm (Inches)					
	C	D	E	F	H	J	K	L	N
A3H180-FR09-***K-10	Rc 3/4	M16	—	—	112 (4.41)	97.5 (3.84)	80 (3.15)	56.43 (2.222)	50.80 (2.0000)
A3H180-FR09-***K-1080	3/4 BSP.F		—	—	—	—	—	56.25 (2.215)	50.75 (1.9980)
A3H180-FR09-***K-10954	SAE #12	5/8-11 UNC	1/2-13 UNC	32 (1.26)	99.8 (3.93)	85.3 (3.36)	70 (2.76)	49.39 (1.944)	44.45 (1.7500)
A3H180-FR09-***K1-10954			5/8-11 UNC	36 (1.42)				56.43 (2.222)	50.80 (2.0000)
								56.25 (2.215)	50.75 (1.9980)

- ★ 1. Install the pump so that the "Filling Port" is at the top.
- ★ 2. 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 138](#) for the dimensions of mounting bracket.