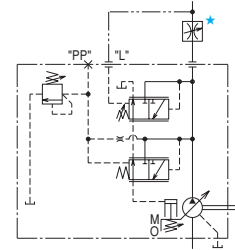


## "A3H" Series Variable Displacement Piston Pumps-Single Pump, Load Sensing Type



Graphic Symbol



★ A flow control valve is not included with the pump. Install the valve separately.

### Specifications

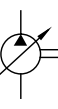
Model Numbers	Geometric Displacement cm <sup>3</sup> /rev (cu.in./rev)	Operating Pressure <sup>★1</sup> MPa (PSI)		Load Sensing Pres. Difference $\Delta P$ MPa (PSI)	Shaft Speed Range r/min		Approx. Mass kg (lbs.)	
		Rated	Intermittent		Max. <sup>★3</sup>	Min.	Flange Mtg.	Foot Mtg.
A3H 16-*R14K-10*	16.3 (.995)	28 (4060)	35 (5080)	1.5 (218) (At the time of shipment) <sup>★2</sup>	3600	600	17.5 (38.6)	26.4 (58.2)
A3H 37-*R14K-10*	37.1 (2.26)				2700	600	22.5 (49.6)	30.0 (66.2)
A3H 56-*R14K-10*	56.3 (3.44)				2500	600	28.7 (63.3)	36.2 (79.8)
A3H 71-*R14K-10*	70.7 (4.31)				2300	600	38.0 (83.8)	45.5 (100)
A3H100-*R14K-10*	100.5 (6.13)				2100	600	47.6 (105)	75.6 (167)
A3H145-*R14K-10*	145.2 (8.86)				1800	600	63.0 (139)	91.0 (201)
A3H180-*R14K-10*	180.7 (11.03)				1800	600	73.4 (162)	101.4 (224)

- ★1. The operating pressure means pump discharge pressure.
- ★2. Load pressure difference  $\Delta P$  is adjustable in range of 1.0 -3.0 MPa (145-435 PSI).
- ★3. The maximum shaft speeds shown in the above table are at suction pressure 0 kPa (0 PSIG).

### Model Number Designation

A3H37	-F	R	14	K	-10	*	
Series Number	Mounting	Direction of Rotation	Control Type	Shaft Extension <sup>★2</sup>	Design Number	Design Std.	
<b>A3H16</b> (16.3 cm <sup>3</sup> /rev)	<b>F:</b> Flange Mtg.	(Viewed from Shaft End) <b>R:</b> Clockwise <sup>★1</sup> (Normal)	<b>14:</b> Load Sensing Type	<b>K :</b> Keyed Shaft	<b>10</b>	Refer to ★3	
<b>A3H37</b> (37.1 cm <sup>3</sup> /rev)					<b>10</b>		
<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>F:</b> Flange Mtg.				<b>10</b>		
<b>A3H145</b> (145.2 cm <sup>3</sup> /rev)	<b>L:</b> Foot Mtg. <sup>★4</sup>				<b>K :</b> Keyed Shaft [44.45mm (1.75 IN.) Dia.]		<b>10</b>
<b>A3H180</b> (180.7 cm <sup>3</sup> /rev)					<b>K1:</b> Keyed Shaft <sup>★5</sup> [50.8mm (2.0 IN.) Dia.]		<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 A3H16/37/56/71)  
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.

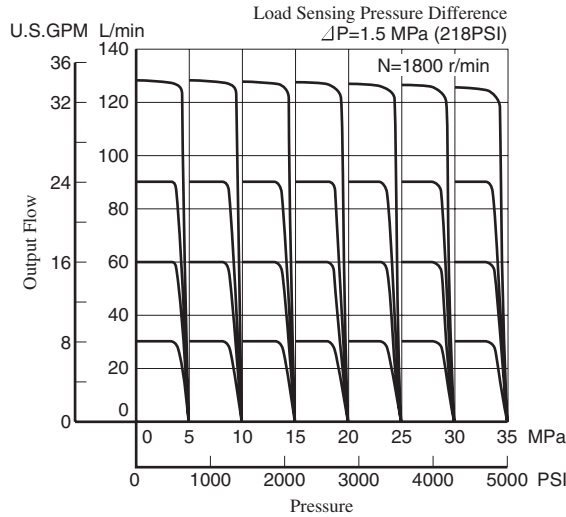


■ Pipe Flange Kits

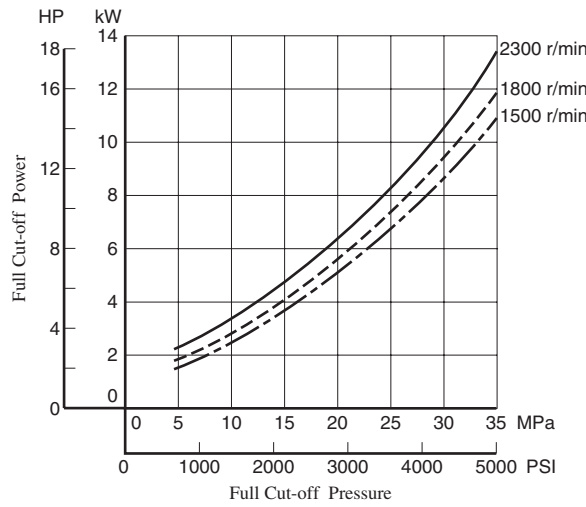
For pipe flange, refer to form of pressure compensator type on page 123.

Typical Performance Characteristics of Control Type "A3H71" at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C (104°F)]

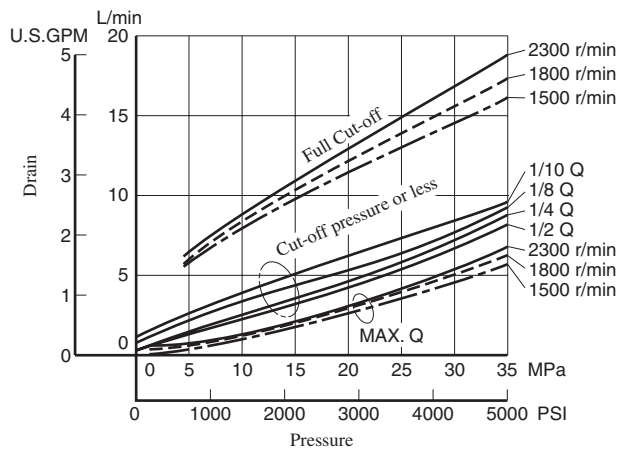
● Pressure vs. Output Flow



● Full Cut-off Input Power

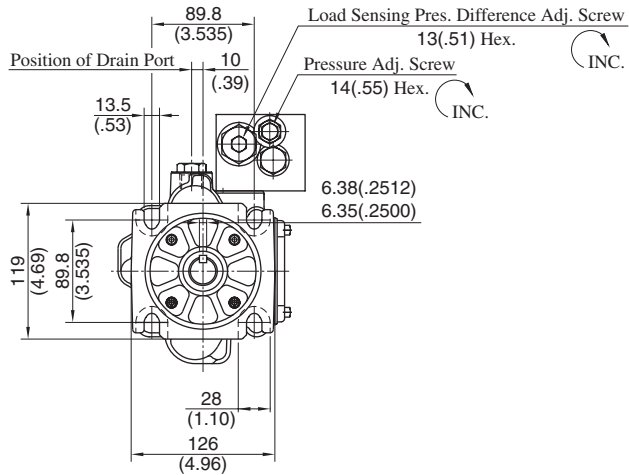
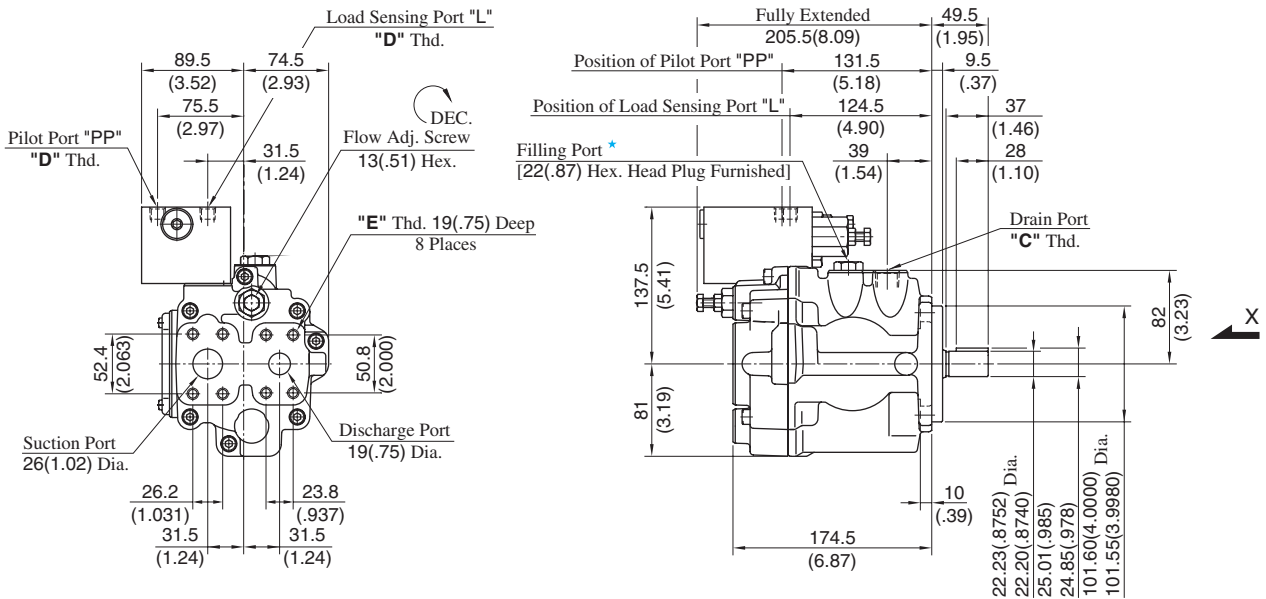


● Drain



★ Ask Yuken for Performance characteristics of other series than A3H71.

Flange Mtg.: A3H16-FR14K-10/1080/10950



View Arrow X

Model Numbers	Thread Size		
	C	D	E
A3H16-FR14K-10	Rc 1/2	Rc 1/4	M10
A3H16-FR14K-1080	1/2 BSP.F	1/4 BSP.F	
A3H16-FR14K-10950	SAE #10	SAE #4	7/16-14 UNC

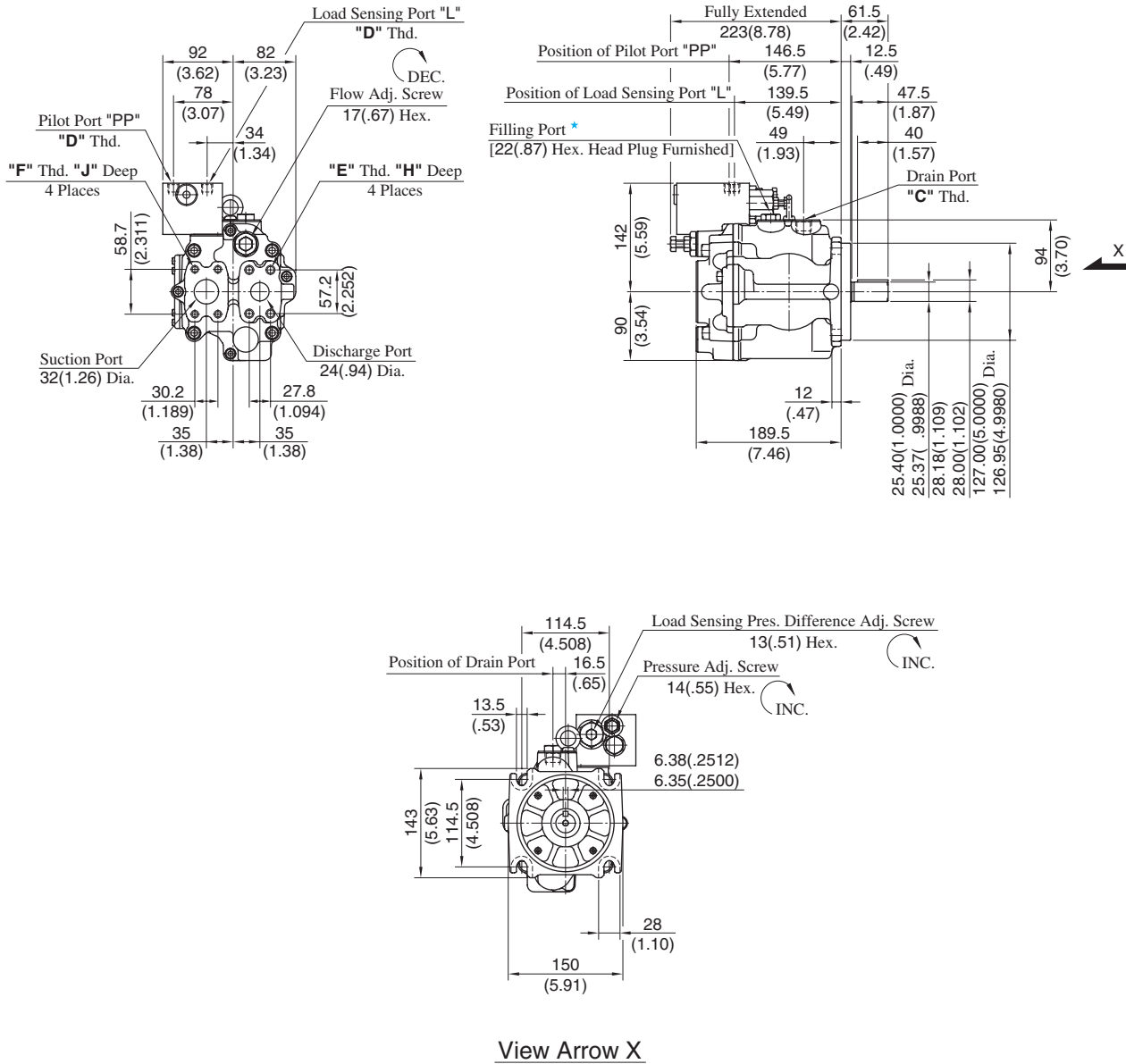
★ Install the pump so that the "Filling Port" is at the top.

**DIMENSIONS IN MILLIMETRES (INCHES)**

● **Foot Mounting Type**

Mounting bracket is common to that of pressure compensator model.  
Refer to [page 132](#) for the dimensions of mounting bracket.

Flange Mtg.: A3H37-FR14K-10/1080/10950



View Arrow X

Model Numbers	Thread Size				Dimensions mm (Inches)	
	C	D	E	F	H	J
A3H37-FR14K-10	Rc 1/2	Rc 1/4	M12	M10	22 (.87)	18 (.71)
A3H37-FR14K-1080	1/2 BSP.F	1/4 BSP.F				
A3H37-FR14K-10950	SAE #10	SAE #4	1/2-13 UNC	7/16-14 UNC	21 (.83)	20 (.79)

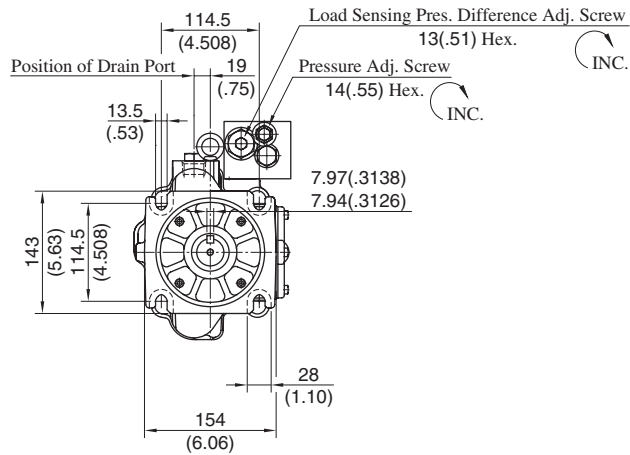
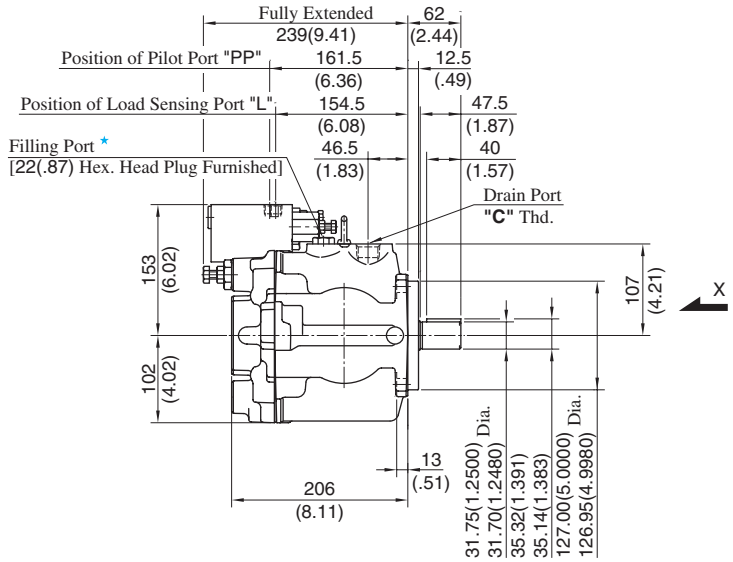
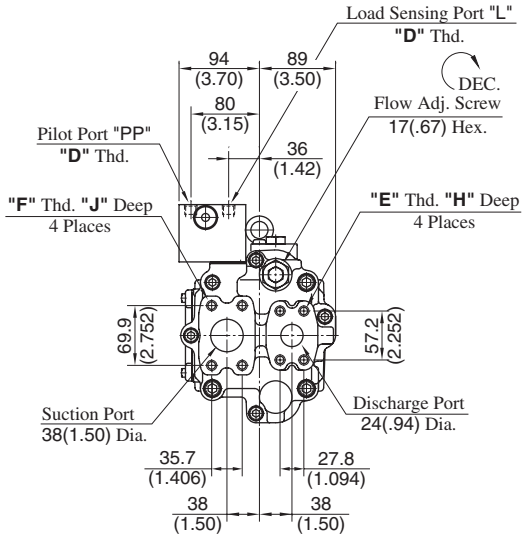
★ Install the pump so that the "Filling Port" is at the top.

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-FR14K-10/1080/10950



View Arrow X

Model Numbers	Thread Size				Dimensions mm (Inches)	
	C	D	E	F	H	J
A3H56-FR14K-10	Rc 3/4	Rc 1/4	M12	M12	22 (.87)	22 (.87)
A3H56-FR14K-1080	3/4 BSP.F	1/4 BSP.F				
A3H56-FR14K-10950	SAE #12	SAE #4	1/2-13 UNC	7/16-14 UNC	21 (.83)	20 (.79)

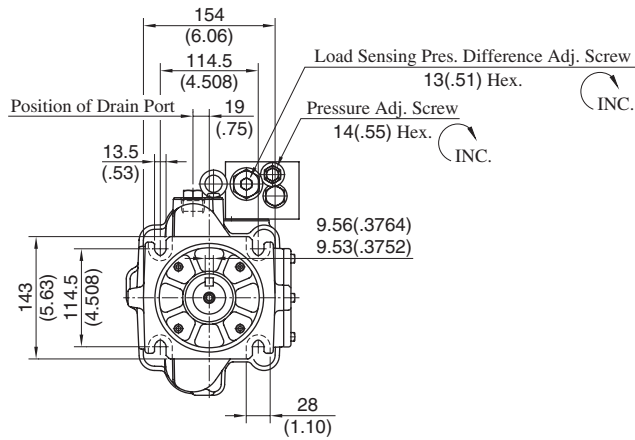
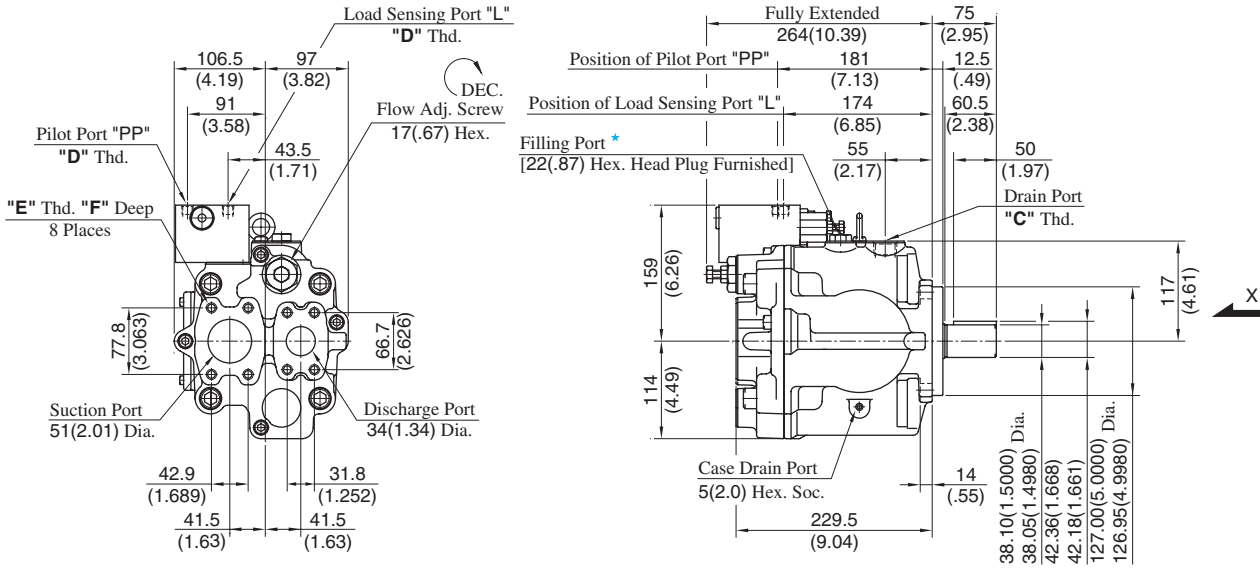
★ Install the pump so that the "Filling Port" is at the top.

**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-FR14K-10/1080/10950



View Arrow X

Model Numbers	Thread Size			Dimensions mm (Inches)
	C	D	E	F
A3H71-FR14K-10	Rc 3/4	Rc 1/4	M12	19 (.75)
A3H71-FR14K-1080	3/4 BSP.F	1/4 BSP.F		
A3H71-FR14K-10950	SAE #12	SAE #4	1/2-13 UNC	21 (.83)

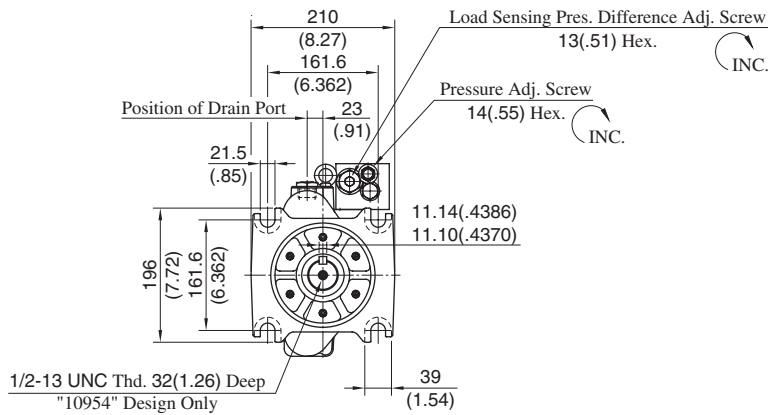
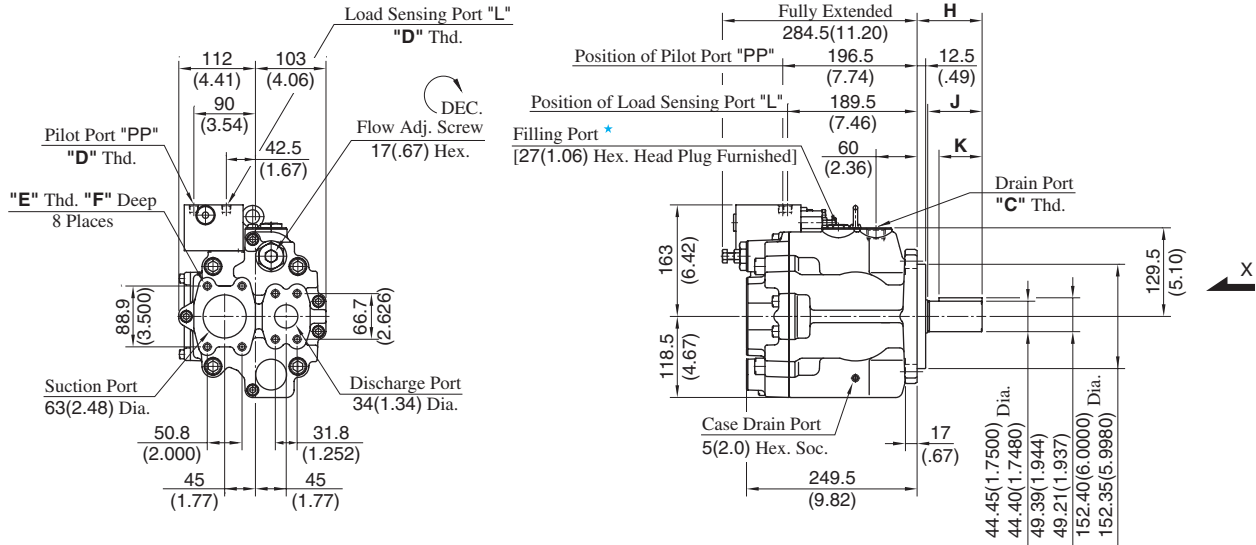
★ Install the pump so that the "Filling Port" is at the top.

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-FR14K-10/1080/10954



View Arrow X

Model Numbers	Thread Size			Dimensions mm (Inches)			
	C	D	E	F	H	J	K
A3H100-FR14K-10	Rc 3/4	Rc 1/4	M12	19 (.75)	95 (3.74)	81 (3.19)	63 (2.48)
A3H100-FR14K-1080	3/4 BSP.F	1/4 BSP.F					
A3H100-FR14K-10954	SAE #12	SAE #4	1/2-13 UNC	21 (.83)	74.6 (2.94)	60.6 (2.39)	50 (1.97)

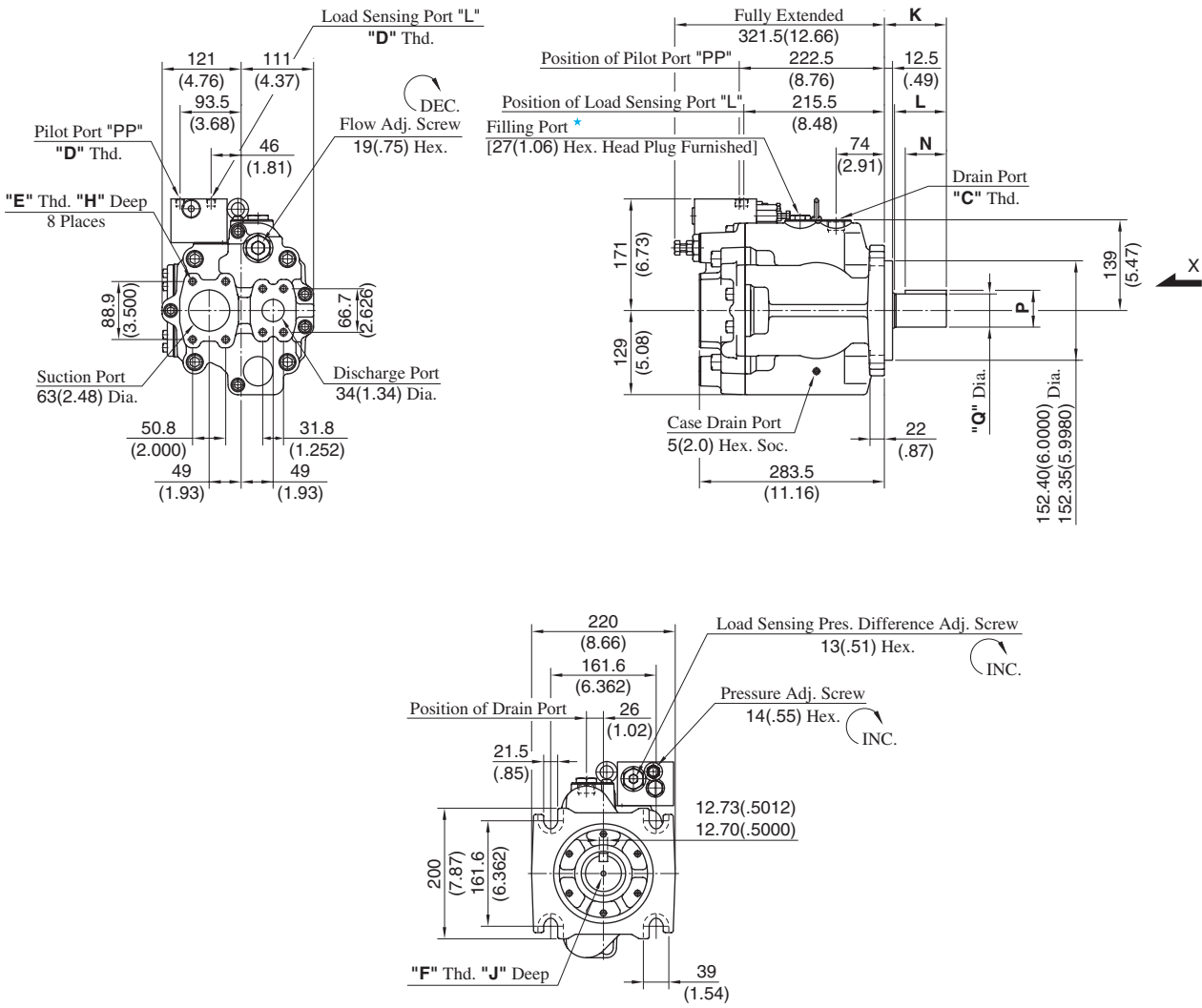
★ Install the pump so that the "Filling Port" is at the top.

**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-FR14K\*-10/1080/10954



View Arrow X

Model Numbers	Thread Size				Dimensions mm (Inches)						
	C	D	E	F	H	J	K	L	N	P	Q
A3H145-FR14K-10	Rc 3/4	Rc 1/4	M12	—	19 (.75)	—	95 (3.74)	81 (3.19)	63 (2.48)	56.43 (2.222)	50.80 (2.0000)
A3H145-FR14K-1080	3/4 BSP.F	1/4 BSP.F								56.25 (2.215)	50.75 (1.9980)
A3H145-FR14K-10954	SAE #12	SAE #4	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-FR14K1-10954			5/8-11 UNC			36 (1.42)				49.21 (1.937)	44.40 (1.7480)
										56.43 (2.222)	50.80 (2.0000)
										56.25 (2.215)	50.75 (1.9980)

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

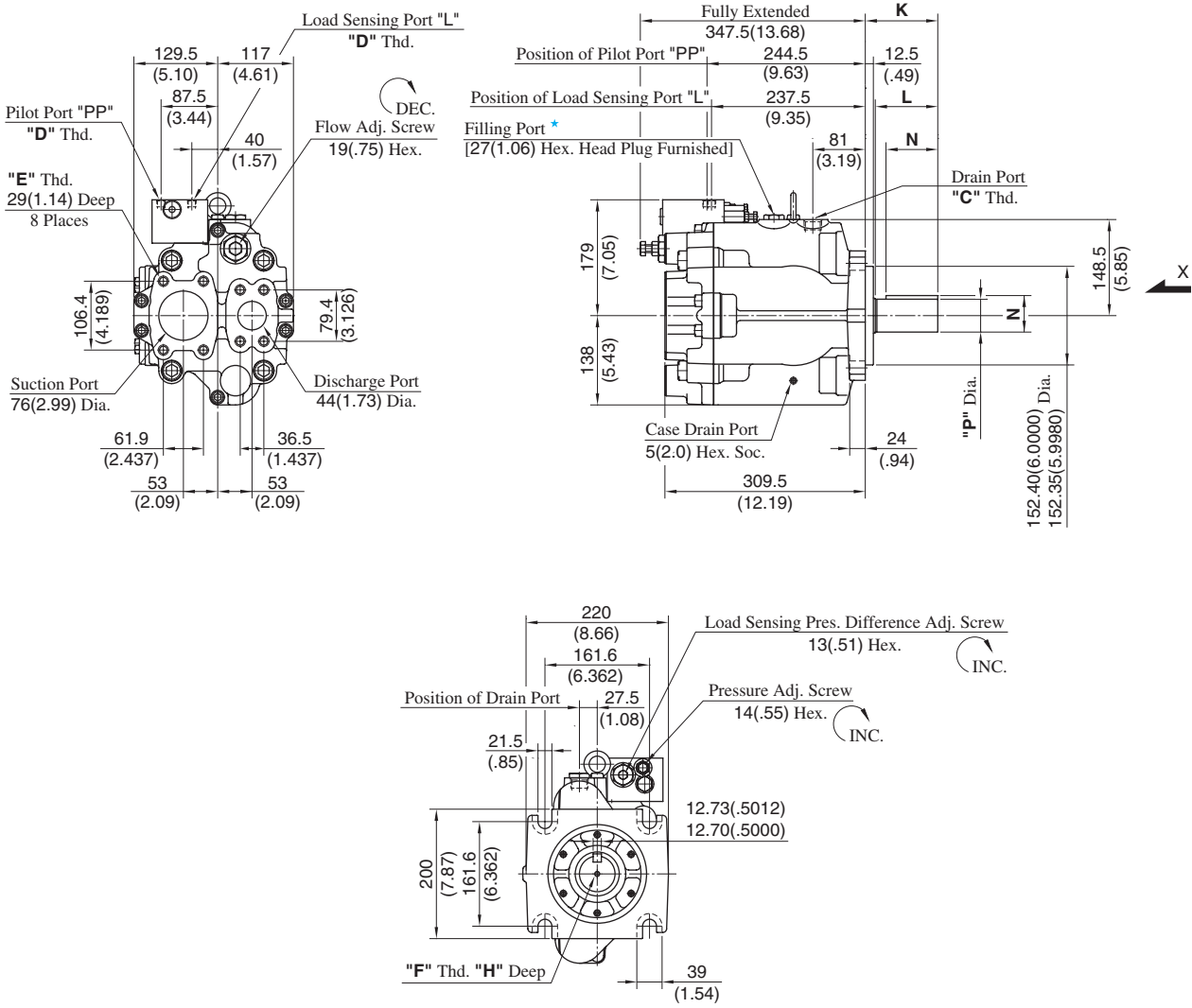
DIMENSIONS IN MILLIMETRES (INCHES)

● 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-FR14K\*-10/1080/10954



View Arrow X

Model Numbers	Thread Size			Dimensions mm (Inches)						
	C	D	E	F	H	J	K	L	N	P
A3H180-FR14K-10	Rc 3/4	Rc 1/4	M12	—	—	112 (4.41)	97.5 (3.84)	80 (3.15)	56.43 (2.222)	50.80 (2.0000)
A3H180-FR14K-1080	3/4 BSP.F	1/4 BSP.F							56.25 (2.215)	50.75 (1.9980)
A3H180-FR14K-10954	SAE #12	SAE #4	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-FR14K1-10954			5/8-11 UNC	36 (1.42)				56.43 (2.222)	50.80 (2.0000)	
									56.25 (2.215)	50.75 (1.9980)

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

**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.