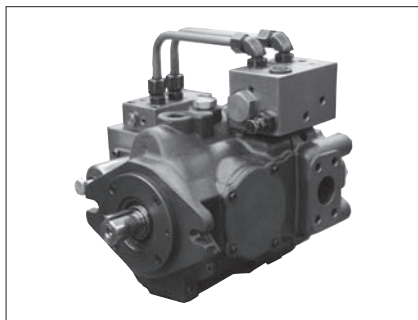
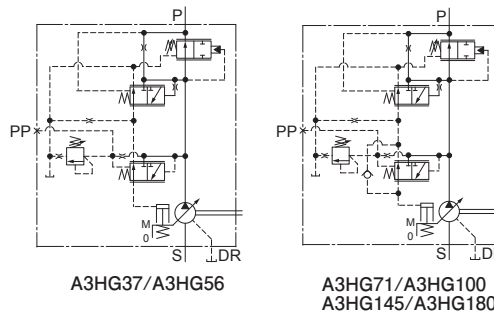


A3HG Series high Pressure Variable Displacement Piston Pumps Constant Power Control Type With External Pilot



Graphic Symbol



Specifications

Model Numbers	Geometric Displacement cm ³ /rev	Minimum Adjustment Flow cm ³ /rev	Operating Pressure MPa		Minimum Adjustment Pressure MPa	Shaft Speed Range r/min		Approx. Mass kg					
			Rated★1	Intermittent		Max.★2	Min.	Flange Mtg.	Foot Mtg.				
A3HG37- *R09V * - * - *C-10	37.1	16	31.5	35	5	2700	600	37	45.5				
A3HG37- *R09V * - * - *D-10									44.5				
A3HG56- *R09V * - * - *C-10	56.3	35				2500	600	45	53.5				
A3HG56- *R09V * - * - *D-10									43	50.5			
A3HG71- *R09V * - * -E1D/E2D-10	70.7	45				2300	600	56	82				
A3HG71- *R09V * - * -U1D/U2D/J1D-10									52.5	60			
A3HG100- *R09V * -K-E1D/E2D-10	100.5	63				31.5	35	5	2100	600	67.5	92.5	
A3HG100- *R09V * -SP * -E1D/E2D-10												67	92
A3HG100- *R09V * - * -U1D/U2D/J1D-10												67	94
A3HG145- *R09V * -K-E1D/E2D-10	145.2	95							1800	600	83.5	109.5	
A3HG145- *R09V * -SP * -E1D/E2D-10												83	109
A3HG145- *R09V * - * -U1D/U2D/J1D-10										83	110.5		
A3HG180- *R09V * -K-E1D/E2D-10	180.7	130	1800	600	101				127				
A3HG180- *R09V * -SP * -E1D/E2D-10									100.5	126.5			
A3HG180- *R09V * - * -U1D/U2D/J1D-10				100.5	128								

★1. Consult Yuken when pump is used over rated pressure because there is a restriction on operating condition.

★2. The maximum shaft speeds shown in the above table are at suction pressure 0 kPa.

Model Number Designation

A3HG37	-F	R	09V	B	-K	-E1				D	-10		
Series Number	Mounting	Direction of Rotation	Control Type	Input Power Setting	Shaft Extension	Main Pump Mtg. Flange Connecting Port / Pipe Flange Thread Second Pump Mtg.				Number of Pump Mtg. Bolts	Design Number		
A3HG37 (37.1 cm ³ /rev)	F: Flange Mtg.	(Viewed from Shaft End)	09V: Constant Power Control Type With External Pilot	B:7.5 kW N:110 kW	K: Keyed Shaft	Code	Main Pump Mtg. Flange	Connecting Port	Pipe Flange Thread	Second Pump Mtg.	C: 2 D: 4	10	
A3HG56 (56.3 cm ³ /rev)													
A3HG71 (70.7 cm ³ /rev)	L: Foot Mtg.	R: Clockwise (Normal)		Refer to the table on following page for combination.	SP: Splined Shaft (High torque)	SP1: Splined Shaft (Conforms to ISO 3019-1)	E1	ISO 3019-2	Metric	Metric	ISO 3019-2	D: 4	10
A3HG100 (100.5 cm ³ /rev)							E2	ISO 3019-2	Metric	Metric	ISO 3019-1		10
A3HG145 (145.2 cm ³ /rev)					U1	ISO 3019-1	Unified	Metric	ISO 3019-1	10			
A3HG180 (180.7 cm ³ /rev)					U2	ISO 3019-1	BSPP	Metric	ISO 3019-1	10			
	J1	ISO 3019-1	Rc		Metric	ISO 3019-1	10						

Combination of pump series and input power setting

Mark "○" in the table below refers to available combinations.

Model Numbers	Input Power Setting kW											
	B: 7.5	C: 11	D: 15	E: 18.5	F: 22	G: 30	H: 37	J: 45	K: 55	L: 75	M: 90	N: 110
A3HG37	○	○	○	○	○							
A3HG56		○	○	○	○	○	○					
A3HG71			○	○	○	○	○	○				
A3HG100				○	○	○	○	○	○			
A3HG145					○	○	○	○	○	○	○	
A3HG180						○	○	○	○	○	○	○

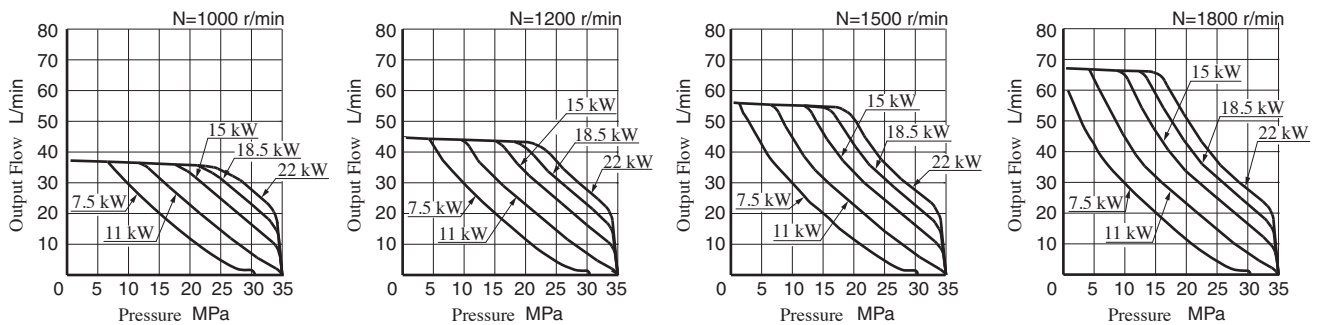
Pipe Flange Kits

Pipe flange mouting surface conforms to SAE J 518, 4 bolt split flange.

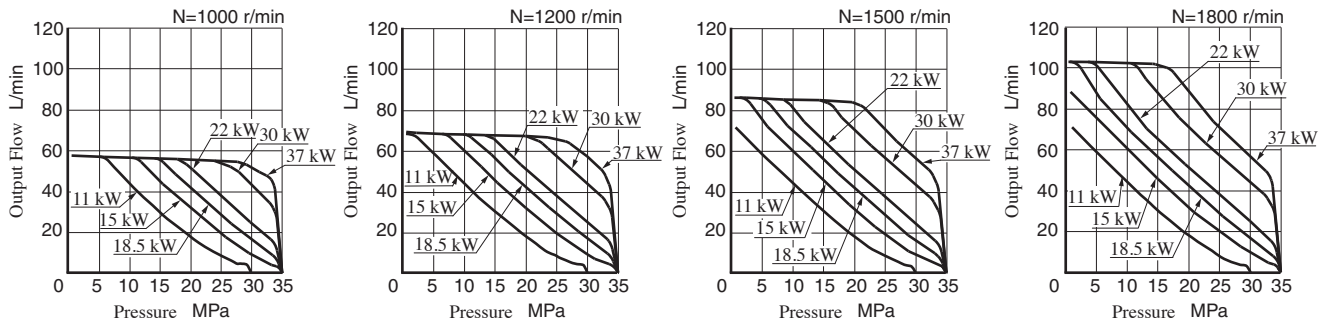
Pipe flange kits are not available. Contact us for the details.

Typical Performance Characteristics of Type "A3HG37/56/71" at Viscosity 32 mm²/s [ISO VG32 oils, 40°C]

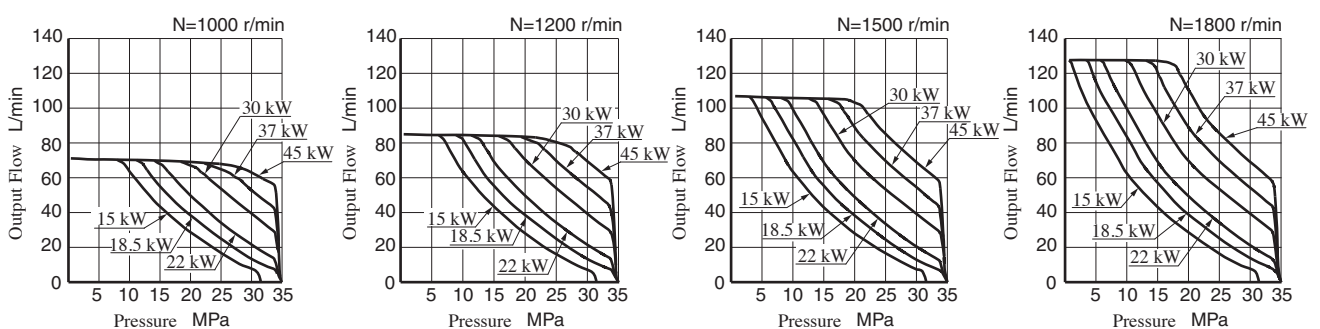
A3HG37



A3HG56



A3HG71

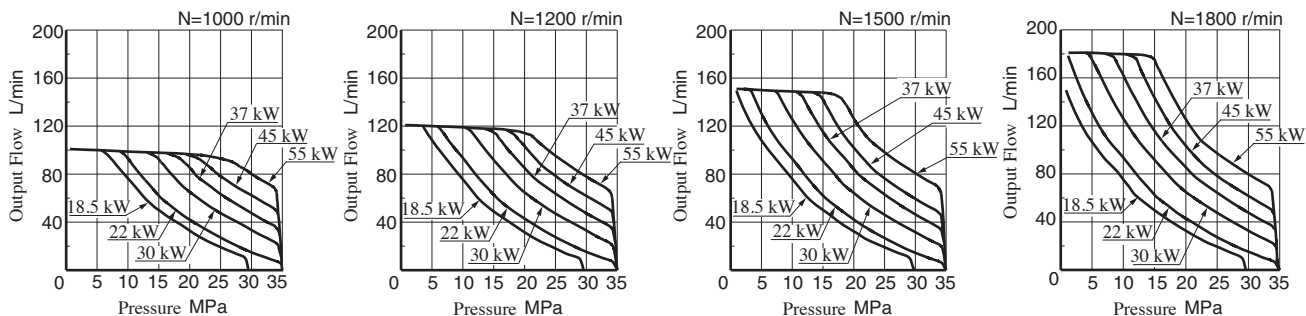


★1. Pumps are adjusted to the required power before shipment, but in case of oil temperature raise (increase of drain) the input power may exceed the adjusted power. In that case phase re-adjust screw referring to instruction manual.

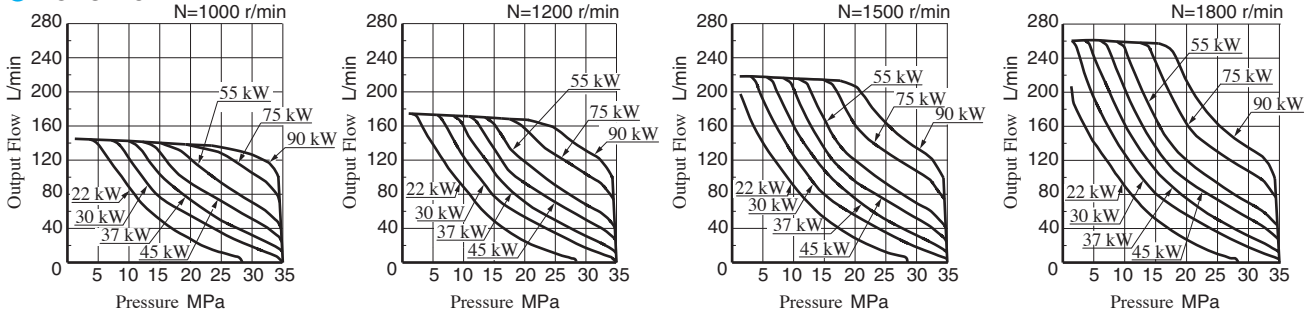
★2. In case of over 1800 r/min of shaft speed, the input power may exceed the adjusted power. In that case phase re-adjust screw referring to instruction manual.

Typical Performance Characteristics of Type "A3HG100/145/180" at Viscosity 32 mm²/s [ISO VG32 oils,40°C]

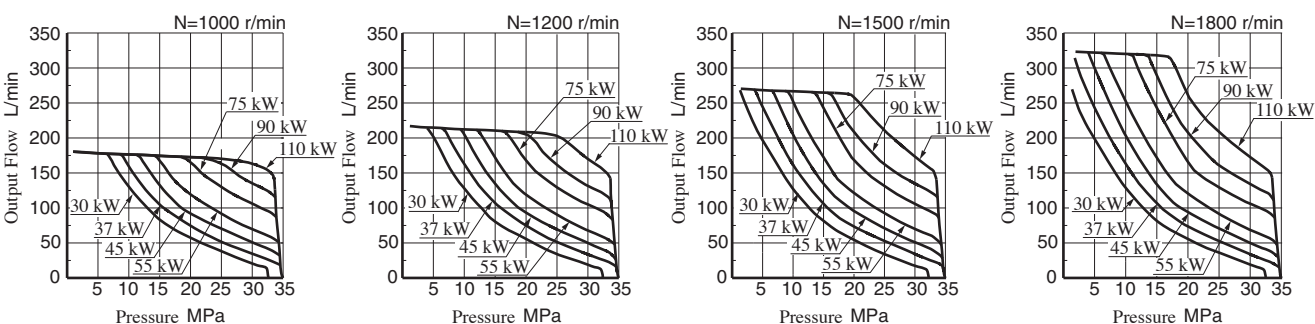
● A3HG100



● A3HG145

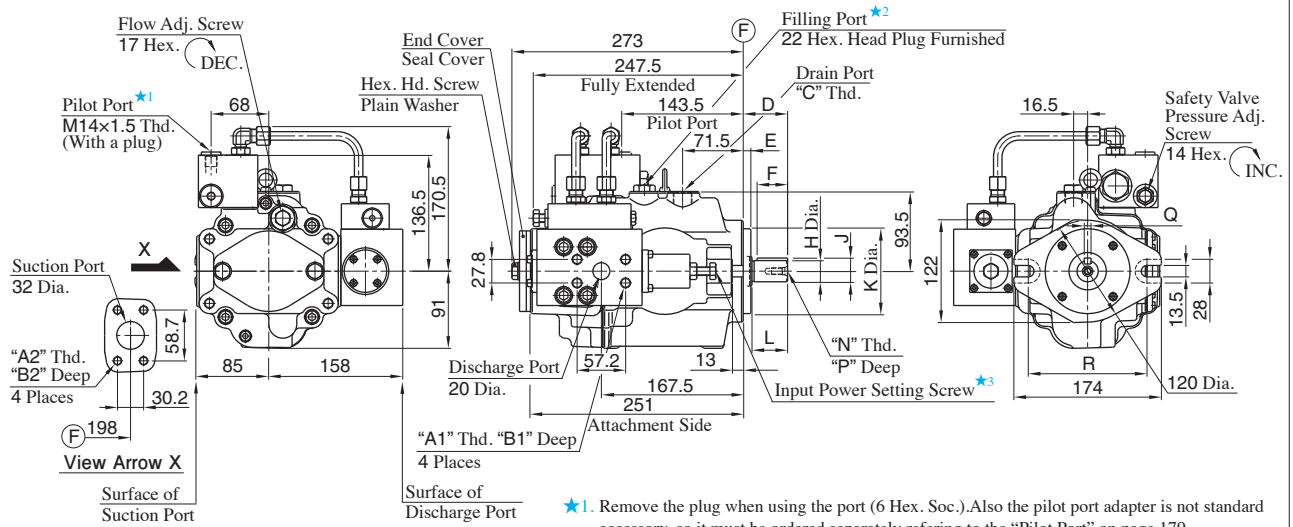


● A3HG180



- ★1. Pumps are adjusted to the required power before shipment, but in case of oil temperature raise(increase of drain) the input power may exceed the adjusted power. In that case phase re-adjust screw referring to instruction manual.
- ★2. In case of over 1800 r/min of shaft speed, the input power may exceed the adjusted power. In that case phase re-adjust screw referring to instruction manual(except the model of "A3HG145/A3HG180").

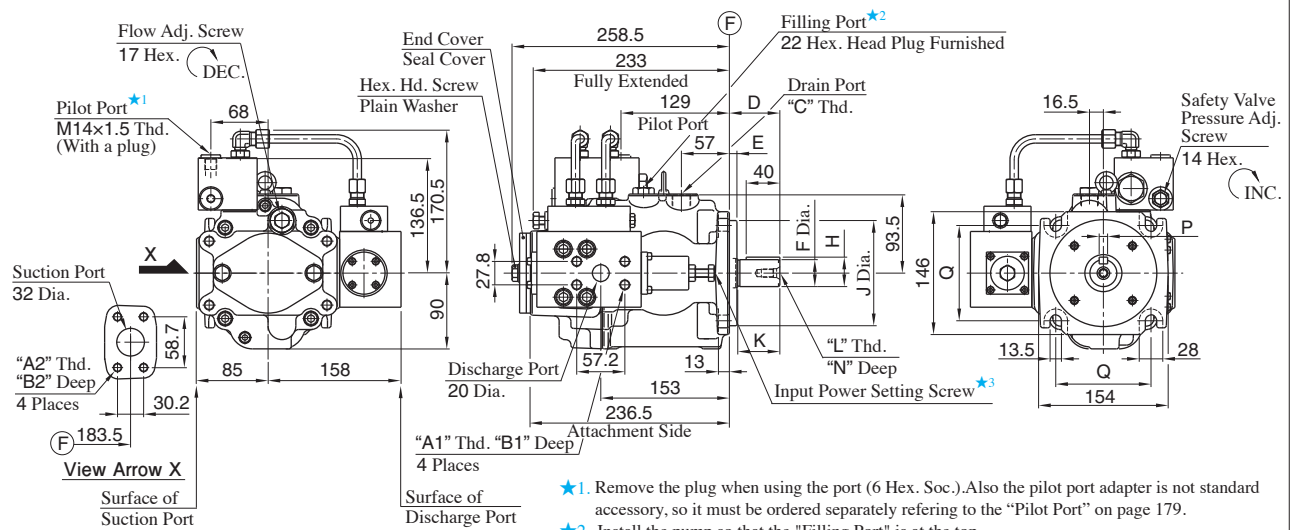
Flange Mtg. Two Bolts:A3HG37-FR09V*-K-E1C/E2C/U1C/U2C/J1C



- ★1. Remove the plug when using the port (6 Hex. Soc.).Also the pilot port adapter is not standard accessory, so it must be ordered separately referring to the "Pilot Port" on page 179.
- ★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.

Model Numbers	A1	A2	B1	B2	C	D	E	F	H	J	K	L	N	P	Q	R	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG37-FR09V*-K-E1C/E2C	M12	M10	22	18	M22×1.5	52	9	36	25 ^{+0.009} _{-0.004}	28 ^{+0.009} _{-0.294}	100 ⁰ _{-0.054}	42	M8	19	8 ⁰ _{-0.036}	140	Conforms to ISO 3019-2	Metric	Metric
A3HG37-FR09V*-K-U1C	7/16-14 UNC		20		G 1/2	46	9.7	32	25.4 ⁰ _{-0.05}	28.18 ⁰ _{-0.18}	101.6 ⁰ _{-0.05}	38	1/4-20 UNC	16	6.35 ^{+0.03} ₀	146	Conforms to ISO 3019-1	Unified	Unified
A3HG37-FR09V*-K-U2C	M12	M10	22	18	G 1/2	46	9.7	32	25.4 ⁰ _{-0.05}	28.18 ⁰ _{-0.18}	101.6 ⁰ _{-0.05}	38		16	6.35 ^{+0.03} ₀	146	Conforms to ISO 3019-1	BSP	Metric
A3HG37-FR09V*-K-J1C	M12	M10	22	18	G 1/2	46	9.7	32	25.4 ⁰ _{-0.05}	28.18 ⁰ _{-0.18}	101.6 ⁰ _{-0.05}	38	16	6.35 ^{+0.03} ₀	146	Conforms to ISO 3019-1	Rc	Metric	

Flange Mtg. Four Bolts:A3HG37-FR09V*-K-E1D/E2D/U1D/U2D/J1D



- ★1. Remove the plug when using the port (6 Hex. Soc.).Also the pilot port adapter is not standard accessory, so it must be ordered separately referring to the "Pilot Port" on page 179.
- ★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.

Model Numbers	A1	A2	B1	B2	C	D	E	F	H	J	K	L	N	P	Q	Mounting Flange	Connecting Port	Pipe Flange Threads	
A3HG37-FR09V*-K-E1D/E2D	M12	M10	22	18	M22×1.5	60	9	32	31.75 ^{+0.018} _{-0.002}	35 ^{+0.018} _{-0.288}	125 ⁰ _{-0.063}	50	M10	22	10 ⁰ _{-0.036}	113.2	Conforms to ISO 3019-2	Metric	Metric
A3HG37-FR09V*-K-U1D	7/16-14 UNC		20		G 1/2	56	12.7	31.75 ⁰ _{-0.05}	35.32 ⁰ _{-0.18}	127 ⁰ _{-0.05}	48	5/16-18 UNC	19	7.94 ^{+0.03} ₀	114.5	Conforms to ISO 3019-1	Unified	Unified	
A3HG37-FR09V*-K-U2D	M12	M10	22	18	G 1/2	56	12.7	31.75 ⁰ _{-0.05}	35.32 ⁰ _{-0.18}	127 ⁰ _{-0.05}	48		19	7.94 ^{+0.03} ₀	114.5	Conforms to ISO 3019-1	BSP	Metric	
A3HG37-FR09V*-K-J1D	M12	M10	22	18	G 1/2	56	12.7	31.75 ⁰ _{-0.05}	35.32 ⁰ _{-0.18}	127 ⁰ _{-0.05}	48	19	7.94 ^{+0.03} ₀	114.5	Conforms to ISO 3019-1	Rc	Metric		

Pilot Port

Pilot Port is common to that of "A3HG16-FR07K-E1C/U1C/U2C/J1C"(except the height dimension from the center of the pump). Refer to page 179 for the dimensions of Pilot Port.

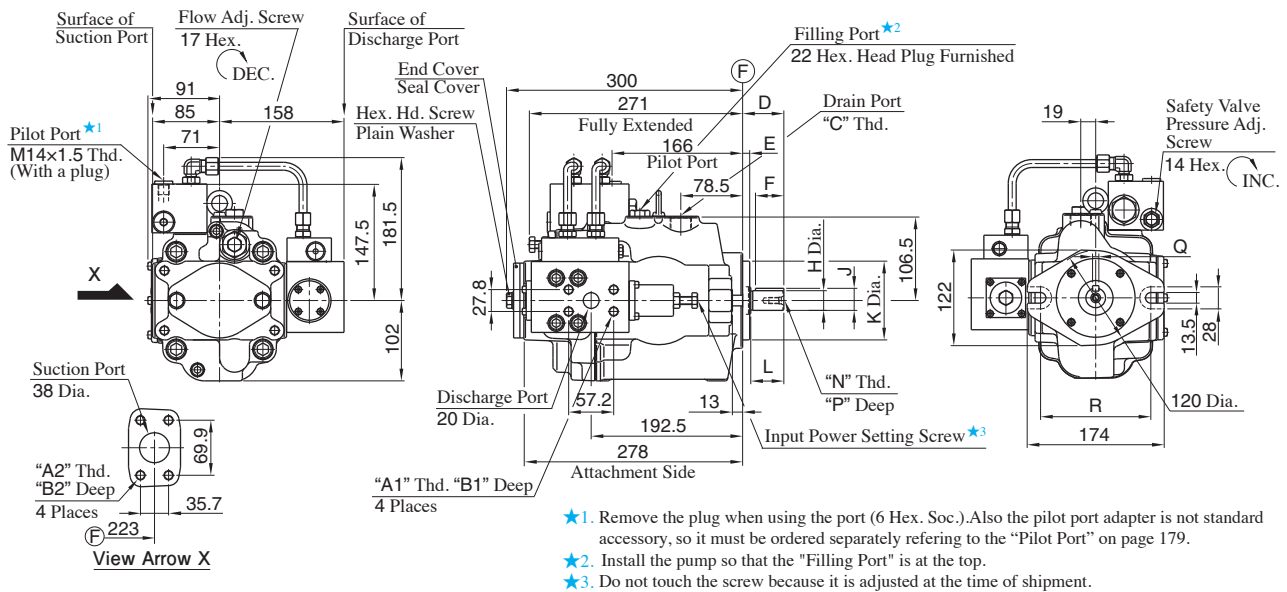
Drain Port

Drain Port is common to that of pressure compensator model.Refer to page 168 or 169 for the dimensions of Drain Port.

Foot Mtg.:A3HG37-LR09V*-K-E1C/E2C/U1C/U2C/J1C, A3HG37-LR09V*-K-E1D/E2D/U1D/U2D/J1D

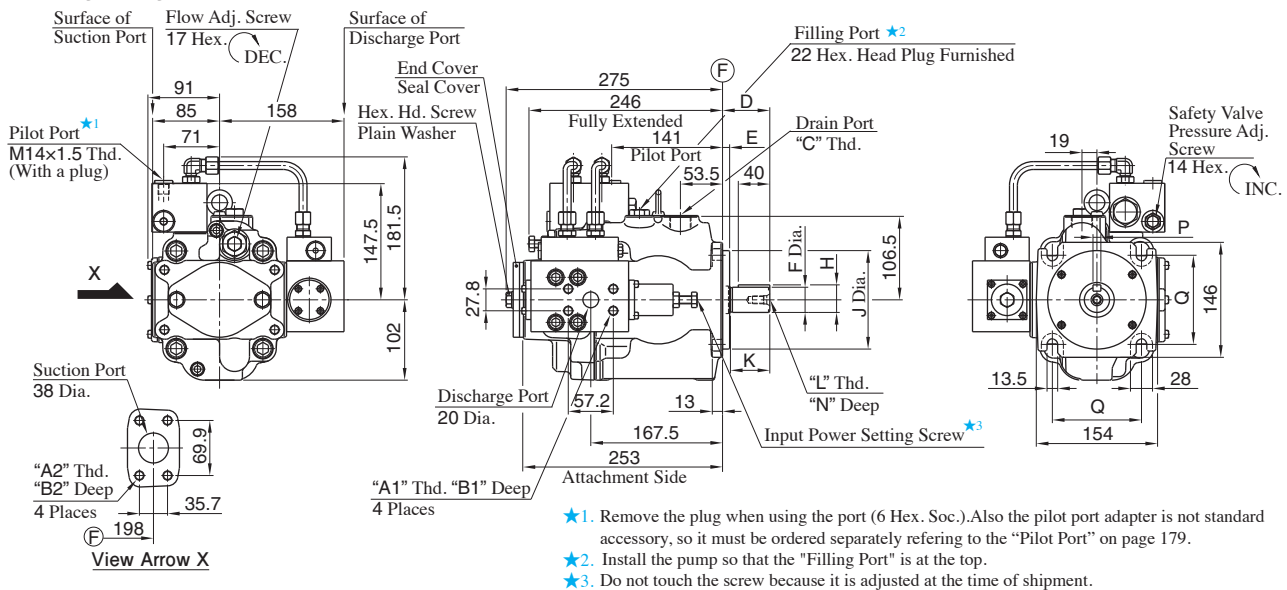
Mounting bracket is common to that of pressure compensator model (except max height dimension). Refer to page 168 and 169 for the dimensions of mounting bracket.

Flange Mtg. Two Bolts:A3HG56-FR09V*-K-E1C/E2C/U1C/U2C/J1C



Model Numbers	A1	A2	B1	B2	C	D	E	F	H	J	K	L	N	P	Q	R	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG56-FR09V*-K-E1C/E2C	M12	M12	22	22	M27X2	52	9	36	25 ^{+0.009} _{-0.004}	28 ^{+0.009} _{-0.294}	100 ⁰ _{-0.054}	42	M8	19	8 ⁰ _{-0.036}	140	Conforms to ISO 3019-2	Metric	Metric
A3HG56-FR09V*-K-U1C	7/16-14 UNC	1/2-13 UNC	20	21	G 3/4	46	9.7	32	25.4 ⁰ _{-0.05}	28.18 ⁰ _{-0.18}	101.6 ⁰ _{-0.05}	38	1/4-20 UNC	16	6.35 ^{+0.03} ₀	146	Conforms to ISO 3019-1	Unified	Unified
A3HG56-FR09V*-K-U2C	M12	M12	22	22	G 3/4	46	9.7	32	25.4 ⁰ _{-0.05}	28.18 ⁰ _{-0.18}	101.6 ⁰ _{-0.05}	38	1/4-20 UNC	16	6.35 ^{+0.03} ₀	146	Conforms to ISO 3019-1	BSPP	Metric
A3HG56-FR09V*-K-J1C	M12	M12	22	22	G 3/4	46	9.7	32	25.4 ⁰ _{-0.05}	28.18 ⁰ _{-0.18}	101.6 ⁰ _{-0.05}	38	16	6.35 ^{+0.03} ₀	146	Conforms to ISO 3019-1	Rc	Metric	

Flange Mtg. Four Bolts:A3HG56-FR09V*-K-E1D/E2D/U1D/U2D/J1D



Model Numbers	A1	A2	B1	B2	C	D	E	F	H	J	K	L	N	P	Q	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG56-FR09V*-K-E1D/E2D	M12	M12	22	22	M27X2	60	9	32 ^{+0.018} _{+0.002}	35 ^{+0.018} _{-0.288}	125 ⁰ _{-0.063}	50	M10	22	10 ⁰ _{-0.036}	113.2	Conforms to ISO 3019-2	Metric	Metric
A3HG56-FR09V*-K-U1D	7/16-14 UNC	1/2-13 UNC	20	21	G 3/4	56	12.7	31.75 ⁰ _{-0.05}	35.32 ⁰ _{-0.18}	127 ⁰ _{-0.05}	48	5/16-18 UNC	19	7.94 ^{+0.03} ₀	114.5	Conforms to ISO 3019-1	Unified	Unified
A3HG56-FR09V*-K-U2D	M12	M12	22	22	G 3/4	56	12.7	31.75 ⁰ _{-0.05}	35.32 ⁰ _{-0.18}	127 ⁰ _{-0.05}	48	5/16-18 UNC	19	7.94 ^{+0.03} ₀	114.5	Conforms to ISO 3019-1	BSPP	Metric
A3HG56-FR09V*-K-J1D	M12	M12	22	22	G 3/4	56	12.7	31.75 ⁰ _{-0.05}	35.32 ⁰ _{-0.18}	127 ⁰ _{-0.05}	48	19	7.94 ^{+0.03} ₀	114.5	Conforms to ISO 3019-1	Rc	Metric	

Pilot Port

Pilot Port is common to that of "A3HG16-FR07K-E1C/U1C/U2C/J1C"(except the height dimension from the center of the pump). Refer to page 179 for the dimensions of Pilot Port.

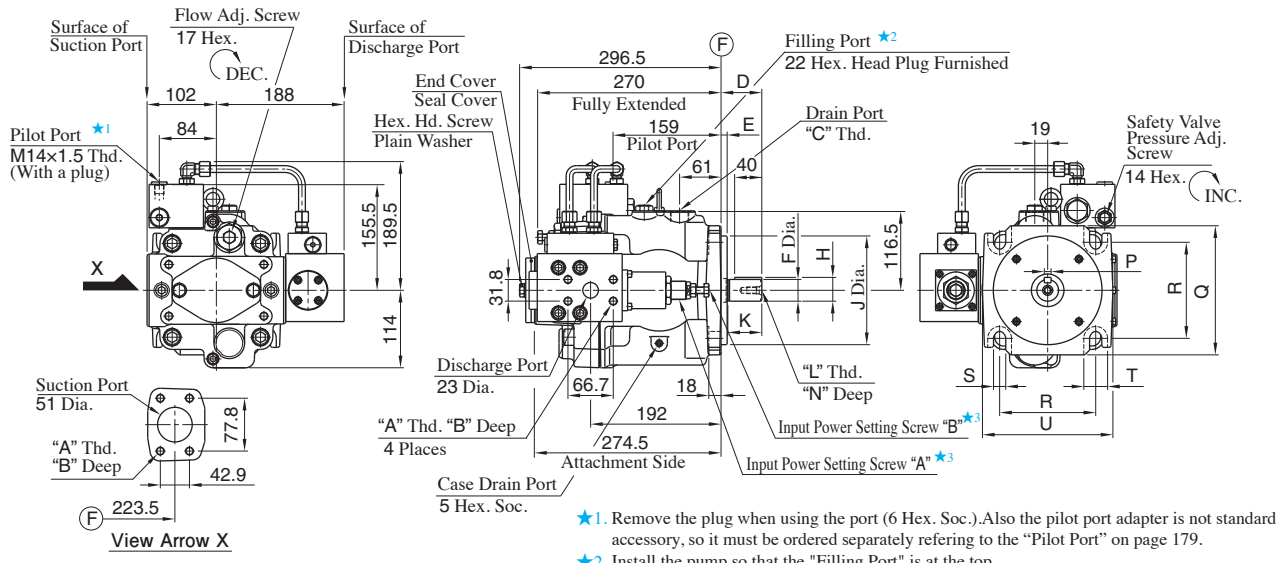
Drain Port

Drain Port is common to that of pressure compensator model.Refer to page 170 or 171 for the dimensions of Drain Port.

Foot Mtg.:A3HG56-LR09V*-K-E1C/E2C/U1C/U2C/J1C, A3HG56-LR09V*-K-E1D/E2D/U1D/U2D/J1D

Mounting bracket is common to that of pressure compensator model (except max height dimension). Refer to page 170 and 171 for the dimensions of mounting bracket.

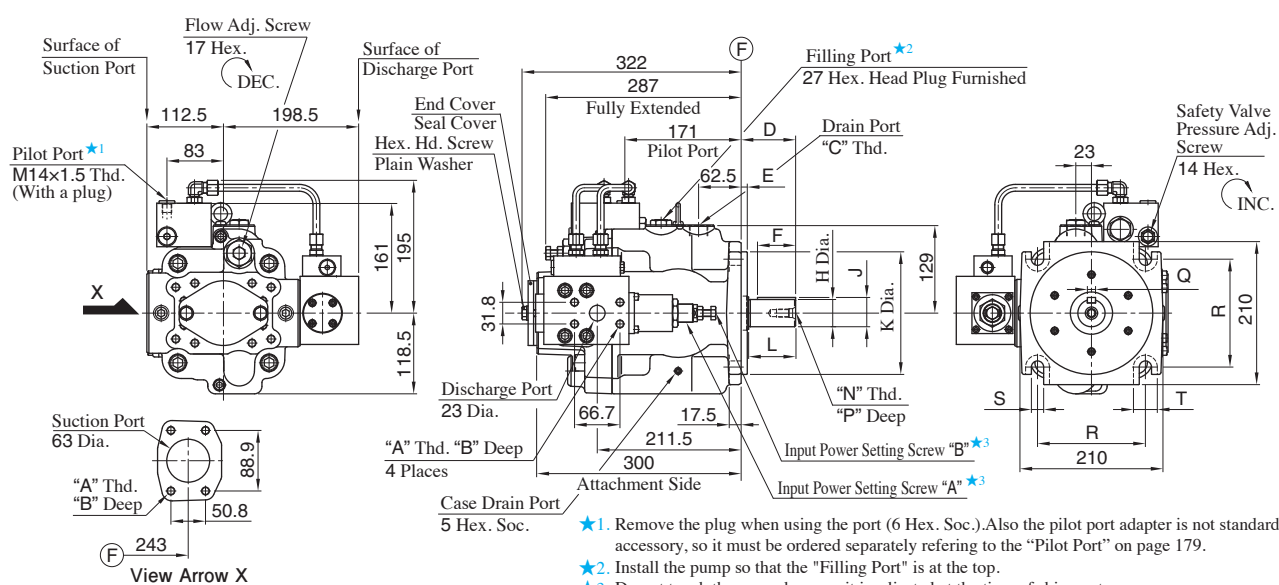
Flange Mtg.:A3HG71-FR09V*-K-E1D/E2D/U1D/U2D/J1D



- ★1. Remove the plug when using the port (6 Hex. Soc.).Also the pilot port adapter is not standard accessory, so it must be ordered separately referring to the "Pilot Port" on page 179.
- ★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.

Model Numbers	A	B	C	D	E	F	H	J	K	L	N	P	Q	R	S	T	U	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG71-FR09V*-K-E1D/E2D	M12	22	M27X2	60	9	32 ^{+0.018} / _{-0.002}	35 ^{+0.018} / _{-0.288}	160 ⁰ / _{-0.063}	50	M10	22	10 ⁰ / _{-0.036}	190	141.4	18	35	192	Conforms to ISO 3019-2	Metric	Metric
A3HG71-FR09V*-K-U1D	1/2-13 UNC	21	G 3/4	56	12.7	31.75 ⁰ / _{-0.05}	35.32 ⁰ / _{-0.18}	127 ⁰ / _{-0.05}	48	5/16-18 UNC	19	7.94 ^{+0.03} / ₀	143	114.5	13.5	28	155	Conforms to ISO 3019-1	Unified	Unified
A3HG71-FR09V*-K-U2D	M12	22	G 3/4	56	12.7	31.75 ⁰ / _{-0.05}	35.32 ⁰ / _{-0.18}	127 ⁰ / _{-0.05}	48	5/16-18 UNC	19	7.94 ^{+0.03} / ₀	143	114.5	13.5	28	155	Conforms to ISO 3019-1	BSP	Metric
A3HG71-FR09V*-K-J1D	M12	22	G 3/4	56	12.7	31.75 ⁰ / _{-0.05}	35.32 ⁰ / _{-0.18}	127 ⁰ / _{-0.05}	48	5/16-18 UNC	19	7.94 ^{+0.03} / ₀	143	114.5	13.5	28	155	Conforms to ISO 3019-1	Rc	Metric

Flange Mtg.:A3HG100-FR09V*-K-E1D/E2D/U1D/U2D/J1D



- ★1. Remove the plug when using the port (6 Hex. Soc.).Also the pilot port adapter is not standard accessory, so it must be ordered separately referring to the "Pilot Port" on page 179.
- ★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.

Model Numbers	A	B	C	D	E	F	H	J	K	L	N	P	Q	R	S	T	U	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG100-FR09V*-K-E1D/E2D	M12	22	M27X2	80	9	40 ^{+0.018} / _{-0.002}	43 ^{+0.018} / _{-0.288}	180 ⁰ / _{-0.063}	70	M12	28	12 ⁰ / _{-0.043}	158.4	18	35			Conforms to ISO 3019-2	Metric	Metric
A3HG100-FR09V*-K-U1D	1/2-13 UNC	21	G 3/4	62	12.7	38.1 ⁰ / _{-0.05}	42.36 ⁰ / _{-0.18}	152.4 ⁰ / _{-0.05}	54	7/16-14 UNC	28	9.53 ^{+0.03} / ₀	161.6	21.5	39			Conforms to ISO 3019-1	Unified	Unified
A3HG100-FR09V*-K-U2D	M12	22	G 3/4	62	12.7	38.1 ⁰ / _{-0.05}	42.36 ⁰ / _{-0.18}	152.4 ⁰ / _{-0.05}	54	7/16-14 UNC	28	9.53 ^{+0.03} / ₀	161.6	21.5	39			Conforms to ISO 3019-1	BSP	Metric
A3HG100-FR09V*-K-J1D	M12	22	G 3/4	62	12.7	38.1 ⁰ / _{-0.05}	42.36 ⁰ / _{-0.18}	152.4 ⁰ / _{-0.05}	54	7/16-14 UNC	28	9.53 ^{+0.03} / ₀	161.6	21.5	39			Conforms to ISO 3019-1	Rc	Metric

Pilot Port

Pilot Port is common to that of "A3HG16-FR07K-E1C/U1C/U2C/J1C"(except the height dimension from the center of the pump). Refer to page 179 for the dimensions of Pilot Port.

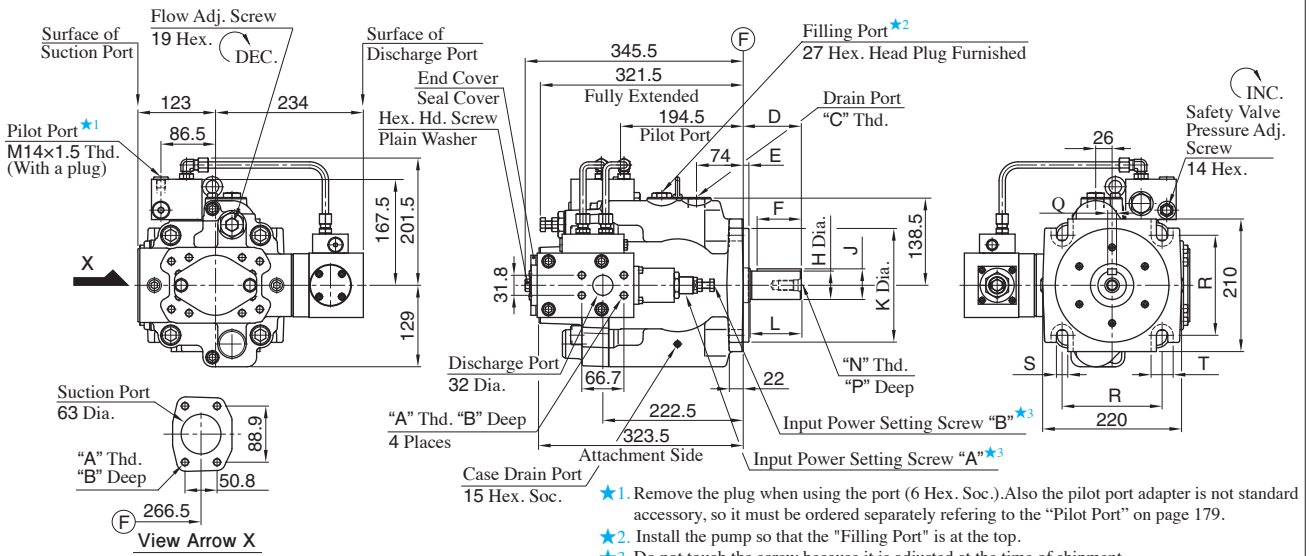
Drain Port

Drain Port is common to that of pressure compensator model.Refer to page 172 or 173 for the dimensions of Drain Port.

Foot Mtg.:A3HG71-LR09V*-K-E1D/E2D/U1D/U2D/J1D, A3HG100-LR09V*-K-E1D/E2D/U1D/U2D/J1D

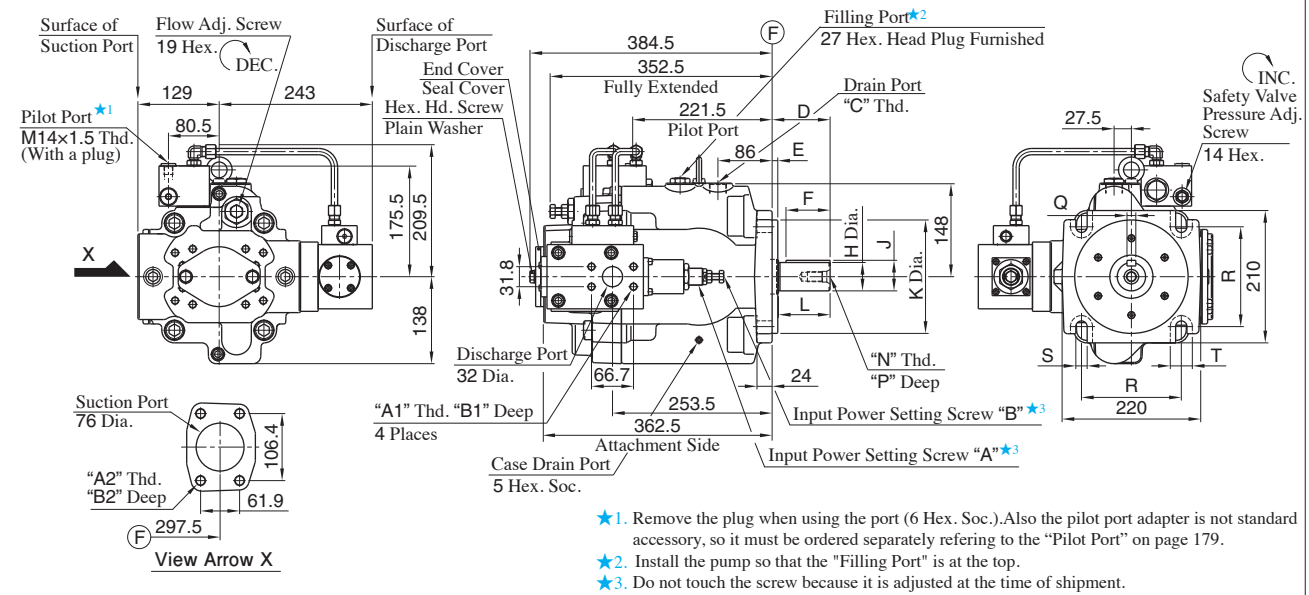
Mounting bracket is common to that of pressure compensator model (except max height dimension). Refer to page 172 and 173 for the dimensions of mounting bracket.

Flange Mtg.:A3HG145-FR09V*-K-E1D/E2D/U1D/U2D/J1D



Model Numbers	A	B	C	D	E	F	H	J	K	L	N	P	Q	R	S	T	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG145-FR09V*-K-E1D/E2D	M12	22	M27X2	92	9	70	45 ^{+0.018} / _{+0.002}	48.5 ^{+0.018} / _{-0.288}	180 ⁰ / _{-0.063}	82	M16	36	14 ⁰ / _{-0.043}	158.4	18	35	Conforms to ISO 3019-2	Metric	Metric
A3HG145-FR09V*-K-U1D	1/2-13 UNC	21	G 3/4	75	12.7	56	44.45 ⁰ / _{-0.05}	49.39 ⁰ / _{-0.18}	152.4 ⁰ / _{-0.05}	67		32	11.11 ^{+0.03} / ₀	161.6	21.5	39	Conforms to ISO 3019-1	Unified	Unified
A3HG145-FR09V*-K-U2D	M12	22	G 3/4	75	12.7	56	44.45 ⁰ / _{-0.05}	49.39 ⁰ / _{-0.18}	152.4 ⁰ / _{-0.05}	67	1/2-13 UNC	32	11.11 ^{+0.03} / ₀	161.6	21.5	39	Conforms to ISO 3019-1	BSPP	Metric
A3HG145-FR09V*-K-J1D	M12	22	G 3/4	75	12.7	56	44.45 ⁰ / _{-0.05}	49.39 ⁰ / _{-0.18}	152.4 ⁰ / _{-0.05}	67		32	11.11 ^{+0.03} / ₀	161.6	21.5	39	Conforms to ISO 3019-1	Rc	Metric

Flange Mtg.:A3HG180-FR09V*-K-E1D/E2D/U1D/U2D/J1D



Model Numbers	A1	A2	B1	B2	C	D	E	F	H	J	K	L	N	P	Q	R	S	T	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG180-FR09V*-K-E1D/E2D	M12	M16	22	29	M27X2	92	9	70	45 ^{+0.018} / _{+0.002}	48.5 ^{+0.018} / _{-0.288}	180 ⁰ / _{-0.063}	82	M16	36	14 ⁰ / _{-0.043}	158.4	18	35	Conforms to ISO 3019-2	Metric	Metric
A3HG180-FR09V*-K-U1D	1/2-13 UNC	5/8-11 UNC	21	29	G 3/4	75	12.7	56	44.45 ⁰ / _{-0.05}	49.39 ⁰ / _{-0.18}	152.4 ⁰ / _{-0.05}	67		32	11.11 ^{+0.03} / ₀	161.6	21.5	39	Conforms to ISO 3019-1	Unified	Unified
A3HG180-FR09V*-K-U2D	M12	M16	22	29	G 3/4	75	12.7	56	44.45 ⁰ / _{-0.05}	49.39 ⁰ / _{-0.18}	152.4 ⁰ / _{-0.05}	67	1/2-13 UNC	32	11.11 ^{+0.03} / ₀	161.6	21.5	39	Conforms to ISO 3019-1	BSPP	Metric
A3HG180-FR09V*-K-J1D	M12	M16	22	29	G 3/4	75	12.7	56	44.45 ⁰ / _{-0.05}	49.39 ⁰ / _{-0.18}	152.4 ⁰ / _{-0.05}	67		32	11.11 ^{+0.03} / ₀	161.6	21.5	39	Conforms to ISO 3019-1	Rc	Metric

Pilot Port

Pilot Port is common to that of "A3HG16-FR07K-E1C/U1C/U2C/J1C"(except the height dimension from the center of the pump). Refer to page 179 for the dimensions of Pilot Port.

Drain Port

Drain Port is common to that of pressure compensator model. Refer to page 174 or 175 for the dimensions of Drain Port.

Foot Mtg.:A3HG145-LR09V*-K-E1D/E2D/U1D/U2D/J1D, A3HG180-LR09V*-K-E1D/E2D/U1D/U2D/J1D

Mounting bracket is common to that of pressure compensator model (except max. height dimension). Refer to page 174 and 175 for the dimensions of mounting bracket.