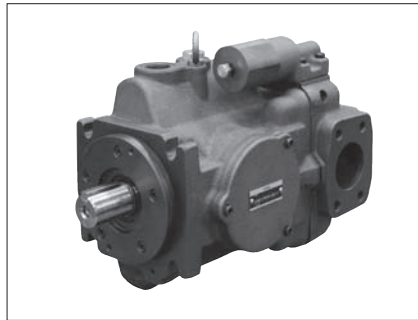
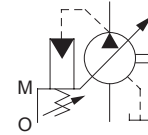


# A3HG Series High Pressure Variable Displacement Piston Pumps Pressure Compensator Type



Graphic Symbol



## Specifications

Model Numbers	Geometric Displacement cm <sup>3</sup> /rev	Minimum Adjustment Flow cm <sup>3</sup> /rev	Operating Pressure MPa		Shaft Speed Range r/min		Approx. Mass kg	
			Rated <sup>★1</sup>	Intermittent	Max. <sup>★2</sup>	Min.	Flange Mtg.	Foot Mtg.
A3HG16- *R01K * - *C-10	16.3	8	31.5	35	3600	600	17	21
A3HG37- *R01K * - *C-10	37.1	16			2700	600	26.5	35
A3HG37- *R01K * - *D-10							34	
A3HG56- *R01K * - *C-10	56.3	35			2500	600	34.5	43
A3HG56- *R01K * - *D-10							32.5	40
A3HG71- *R01K * -E1D/E2D-10	70.7	45			2300	600	45	71
A3HG71- *R01K * -U1D/U2D/J1D-10							41.5	49
A3HG100- *R01KK-E1D/E2D-10	100.5	63			2100	600	56.5	81.5
A3HG100- *R01KSP * -E1D/E2D-10							56	81
A3HG100- *R01K * -U1D/U2D/J1D-10							56	83
A3HG145- *R01KK-E1D/E2D-10							68.5	94.5
A3HG145- *R01KSP * -E1D/E2D-10	145.2	95			1800	600	68	94
A3HG145- *R01K * -U1D/U2D/J1D-10							68	95.5
A3HG180- *R01KK-E1D/E2D-10	180.7	130			1800	600	88	114
A3HG180- *R01KSP * -E1D/E2D-10							87.5	113.5
A3HG180- *R01KK-U1D/U2D/J1D-10							87.5	115

★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

A3HG16	-F	R	01	K	K	-E1					D	-10	
Series Number	Mounting	Direction of Rotation	Control Type	Pres. Adj. Range MPa	Shaft Extension	Main Pump Mtg. Flange Connecting Port / Pipe Flange Thread Second Pump Mtg.					Number of Pump Mtg. Bolts	Design Number	
A3HG16 (16.3 cm <sup>3</sup> /rev)	F: Flange Mtg.  L: Foot Mtg.	(Viewed from Shaft End)  R: Clockwise (Normal)	01: Pressure Compensator Type	K: 5 - 35	K: Keyed Shaft  SP: Splined Shaft (High torque)  SP1: Splined Shaft (Conforms to ISO 3019-1)	Code	Main Pump Mtg. Flange	Connecting Port	Pipe Flange Thread	Second Pump Mtg.	C: 2	D: 4	10
A3HG37 (37.1 cm <sup>3</sup> /rev)													10
A3HG56 (56.3 cm <sup>3</sup> /rev)													10
A3HG71 (70.7 cm <sup>3</sup> /rev)													10
A3HG100 (100.5 cm <sup>3</sup> /rev)													10
A3HG145 (145.2 cm <sup>3</sup> /rev)													10
A3HG180 (180.7 cm <sup>3</sup> /rev)													10

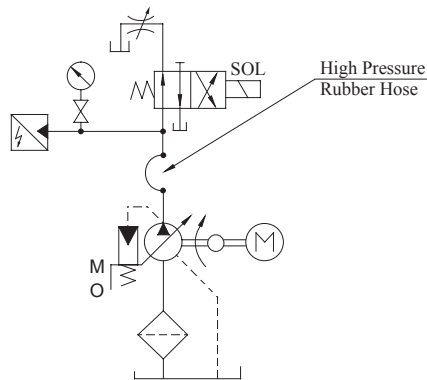
## ■ Pipe Flange Kits

Pipe flange mouting surface conforms to SAE J 518, 4 bolt split flange.  
Pipe flange kits are not available. Contact us for the details.

**Response Characteristics** Change in Accordance with Circuits and Operating Conditions.

## ■ Test Circuit and Conditions

### ● Circuit



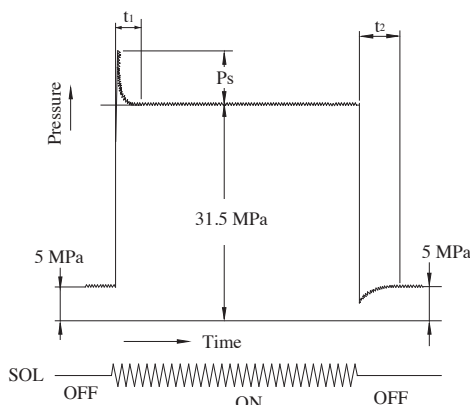
### ● Size of High Pressure Rubber Hose

Model	High Pressure Rubber Hose
A3HG16	3/4B × 1500 mm
A3HG37/56/71	3/4B × 2000 mm
A3HG100/145	1-1/4B × 2000 mm
A3HG180	1-1/4B × 2500 mm

### ● Conditions

Drive Speed : 1500 r/min  
Hydraulic Fluid : ISO VG32 Oil  
Oil Temperature: 40°C [Viscosity 32 mm<sup>2</sup>/s]

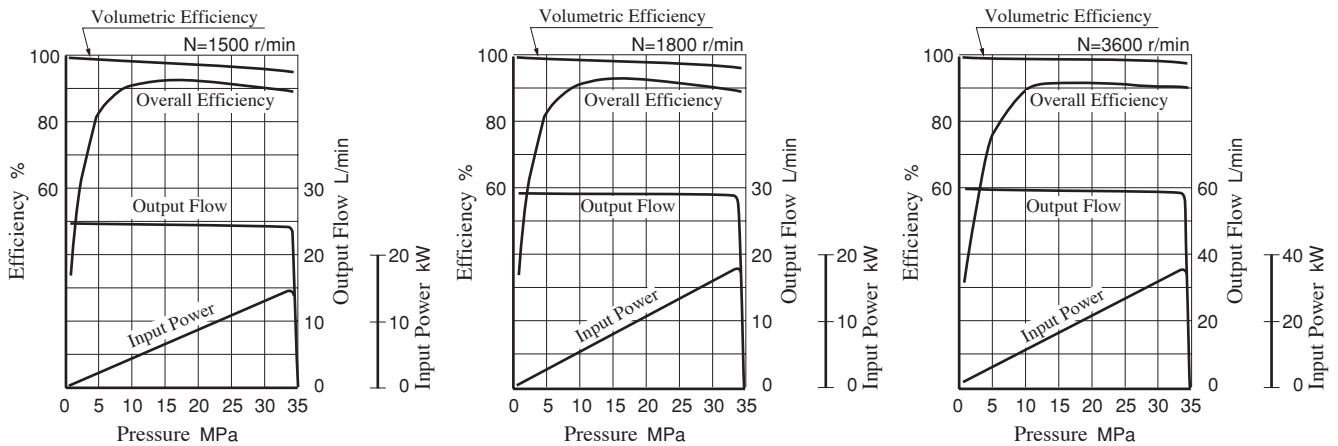
## ■ Result of Measurement



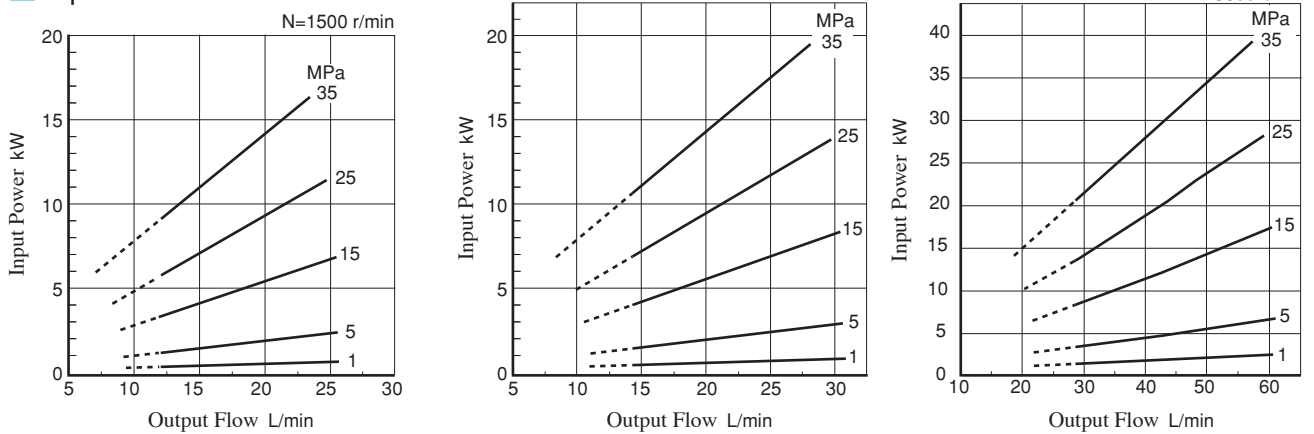
Model	Response Time ms		Overshoot Pressure Ps MPa
	t <sub>1</sub>	t <sub>2</sub>	
A3HG16	130	140	2.5
A3HG37	95	70	4.0
A3HG56	105	90	7.5
A3HG71	80	125	9.5
A3HG100	85	140	11.0
A3HG145	85	150	12.0
A3HG180	95	230	16.0

Typical Performance Characteristics of Type **A3HG16** at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C]

**Performance Characteristic Curve**

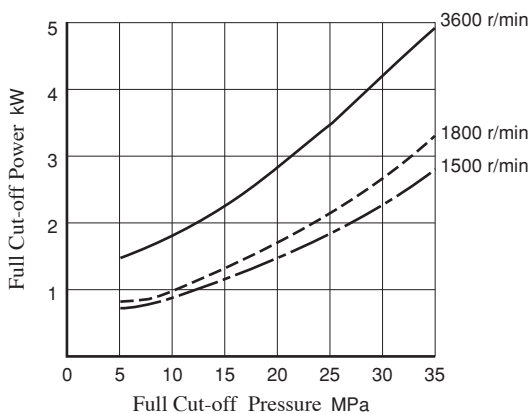


**Input Power**

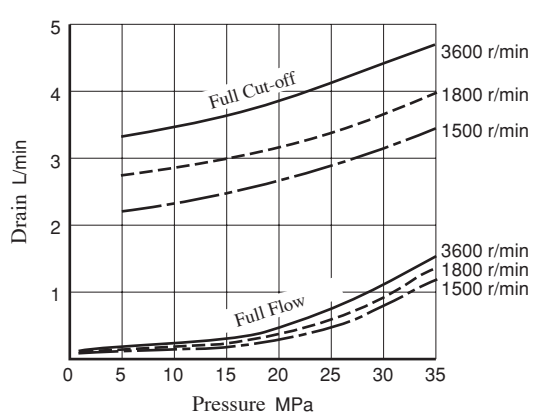


★ The dotted line in the graph indicates less than minimum adjustable flow.

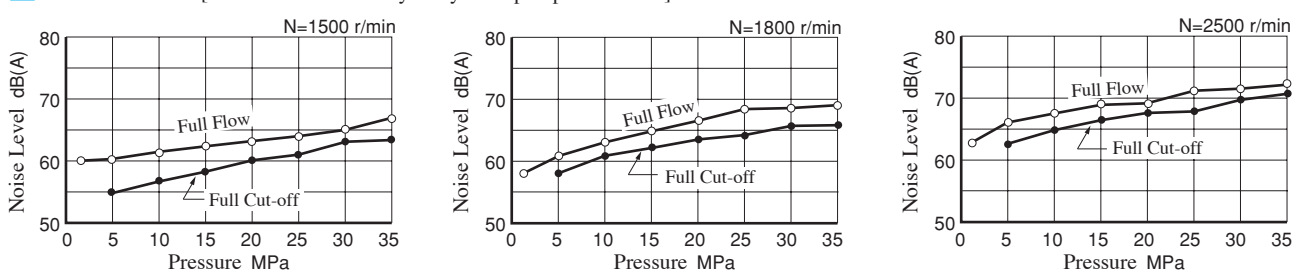
**Full Cut-off Power**



**Drain**

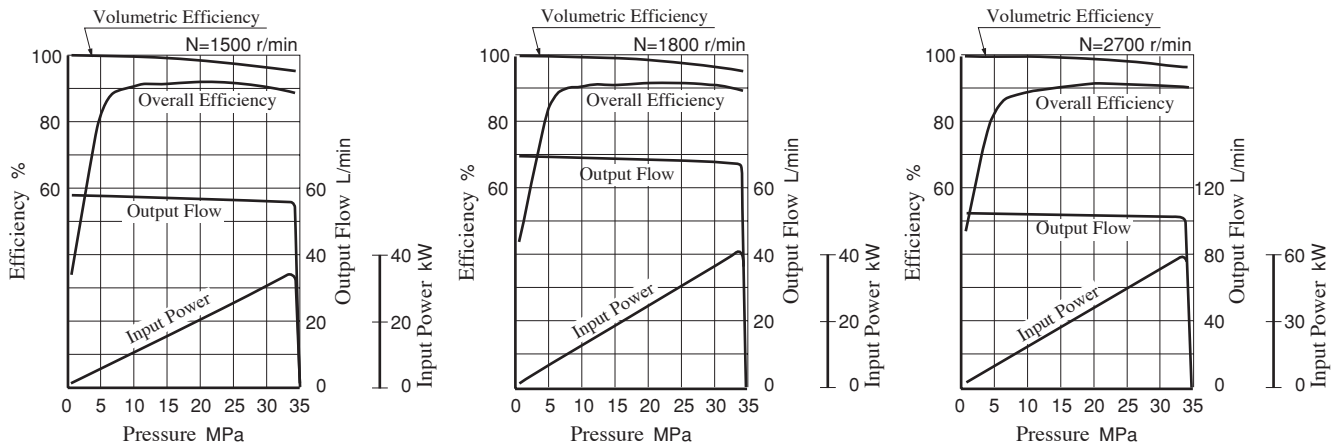


**Noise Level** [One metre horizontally away from pump head cover]

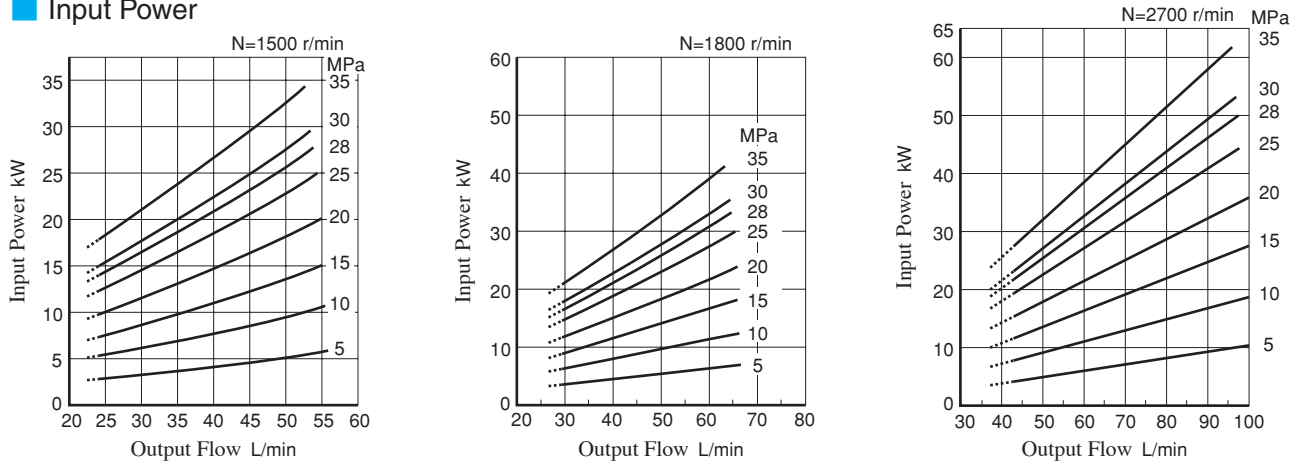


## Typical Performance Characteristics of Type **A3HG37** at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C]

### Performance Characteristic Curve

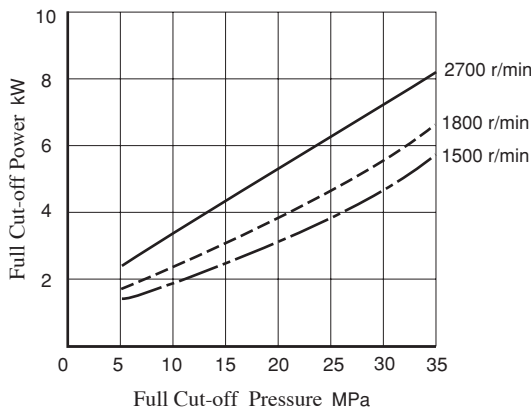


### Input Power

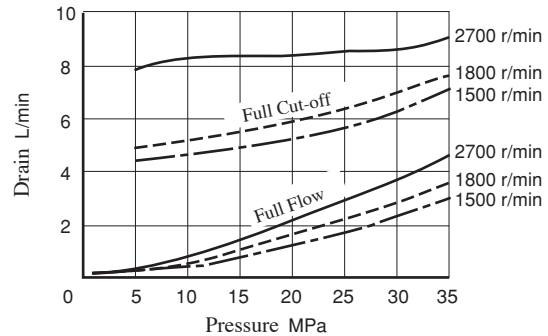


★ The dotted line in the graph indicates less than minimum adjustable flow.

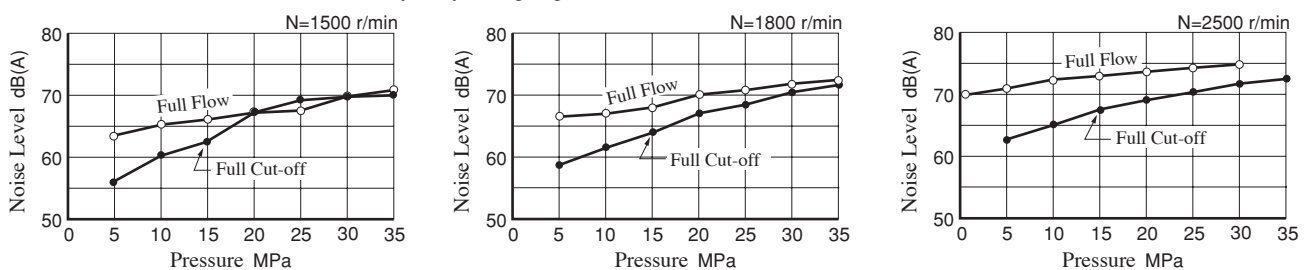
### Full Cut-off Power



### Drain

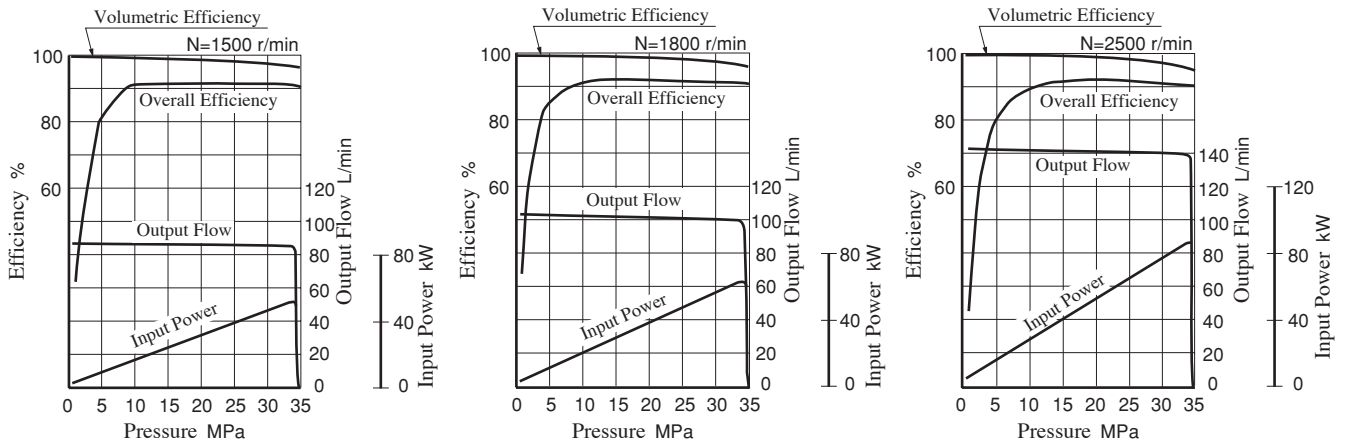


### Noise Level [One metre horizontally away from pump head cover]

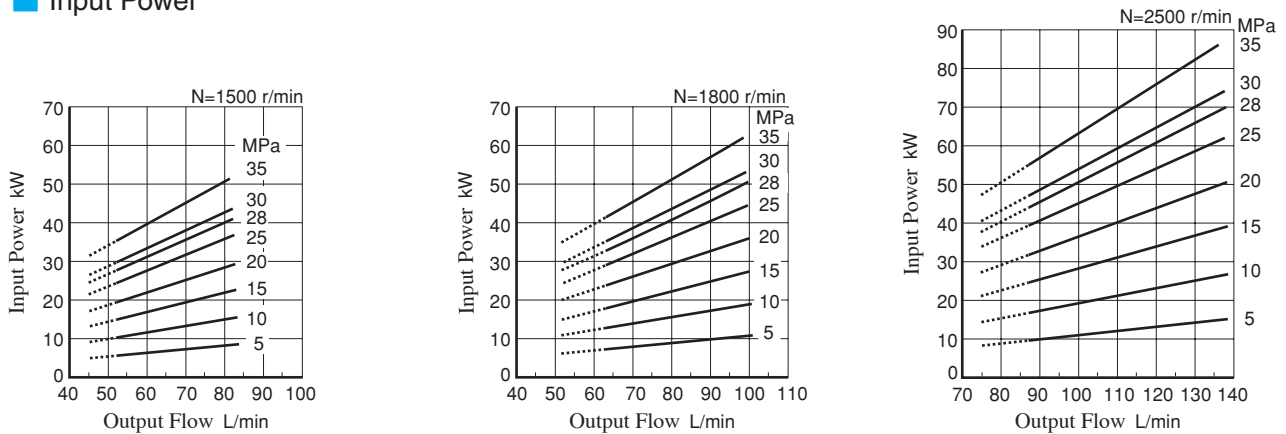


Typical Performance Characteristics of Type **A3HG56** at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C]

**Performance Characteristic Curve**

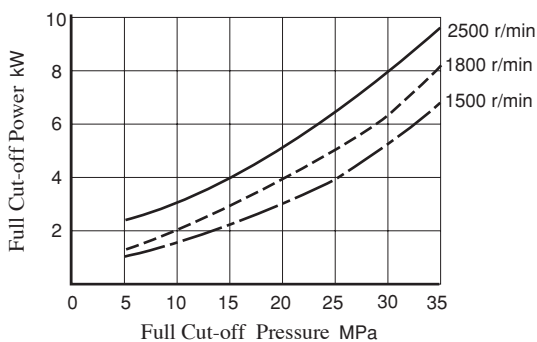


**Input Power**

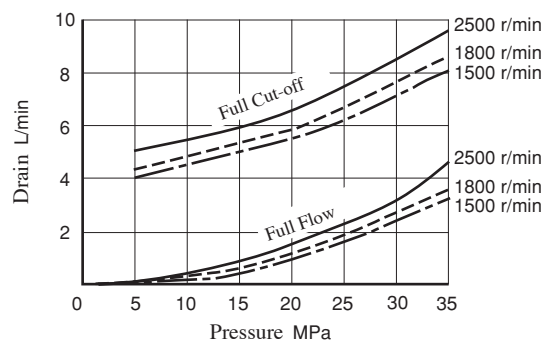


★ The dotted line in the graph indicates less than minimum adjustable flow.

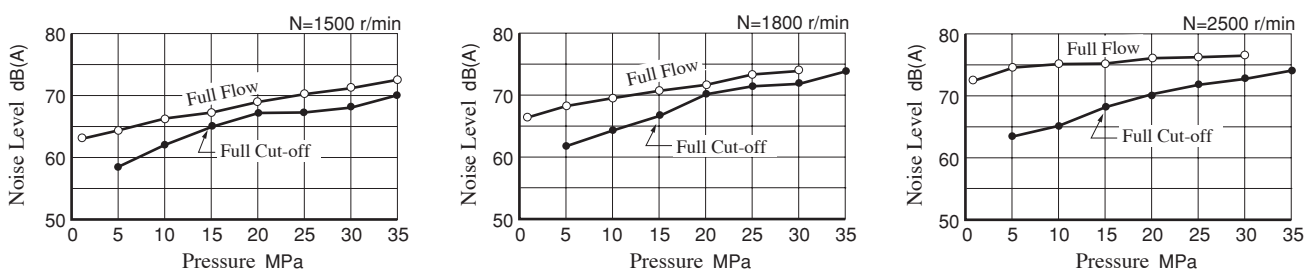
**Full Cut-off Power**



**Drain**

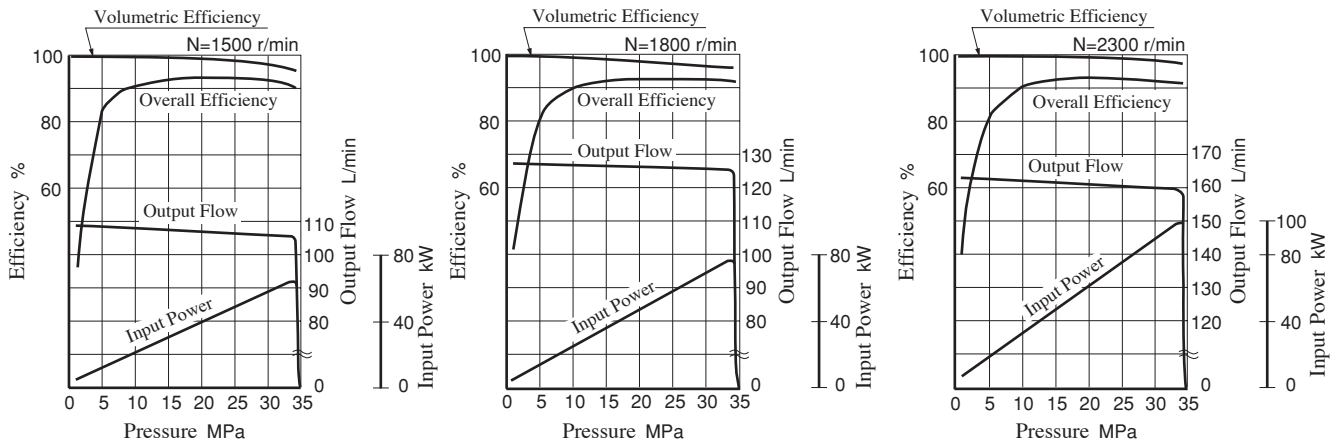


**Noise Level** [One metre horizontally away from pump head cover]

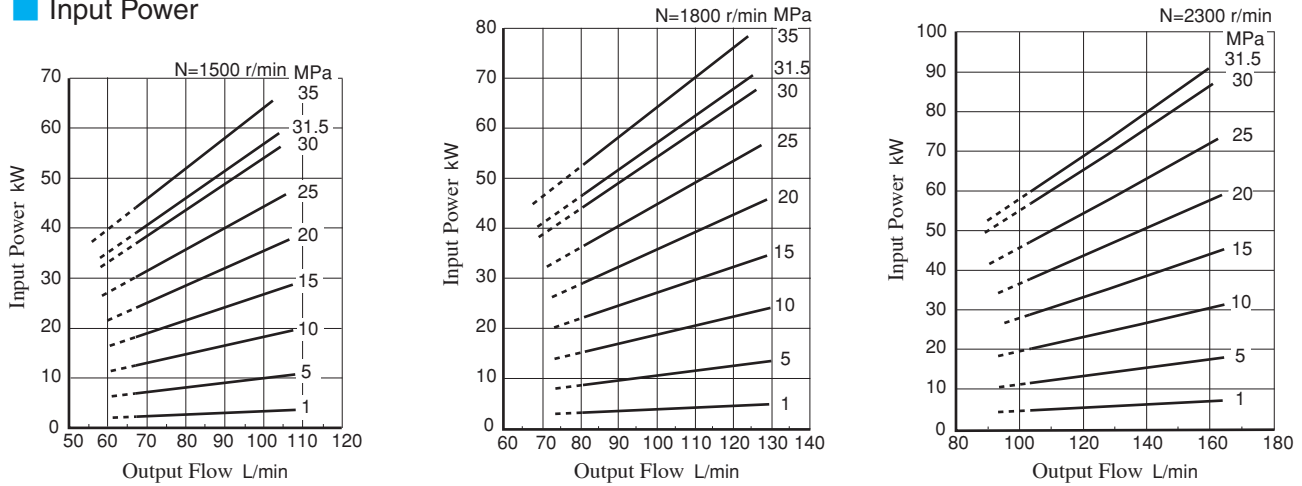


## Typical Performance Characteristics of Type **A3HG71** at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C]

### Performance Characteristic Curve

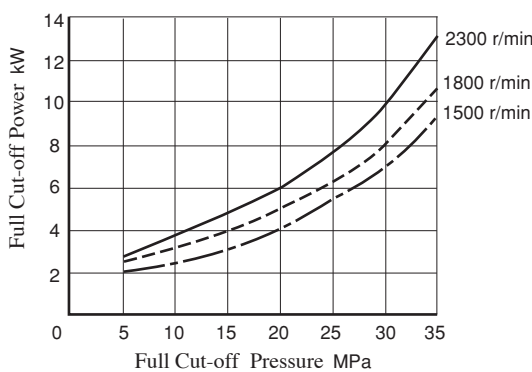


### Input Power

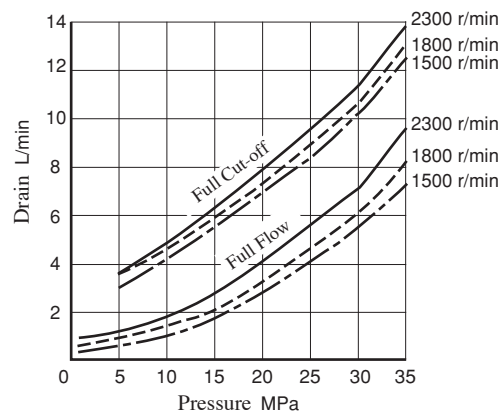


★ The dotted line in the graph indicates less than minimum adjustable flow.

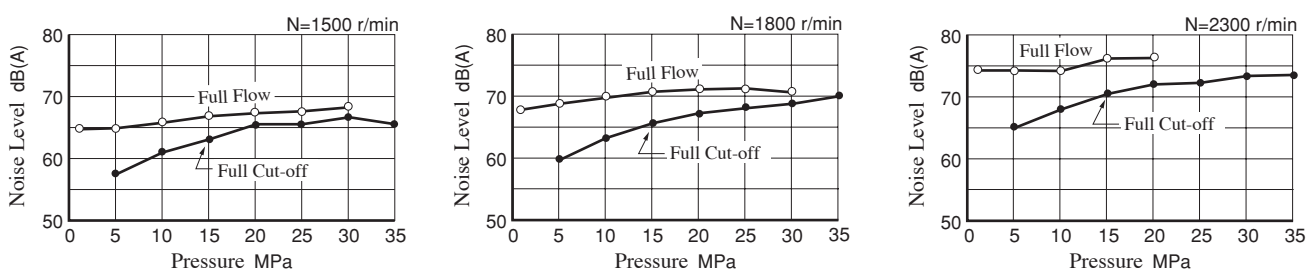
### Full Cut-off Power



### Drain

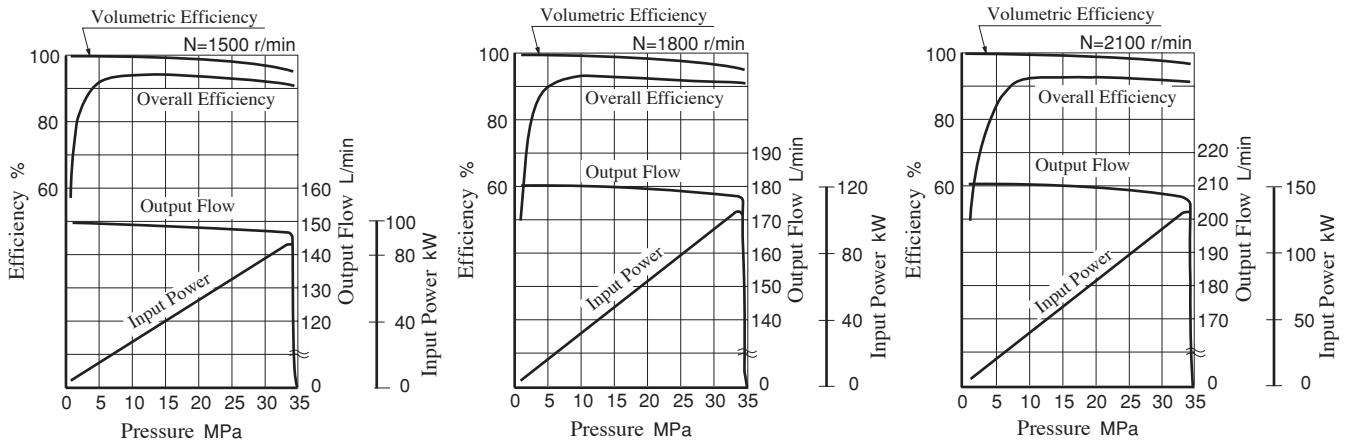


### Noise Level [One metre horizontally away from pump head cover]

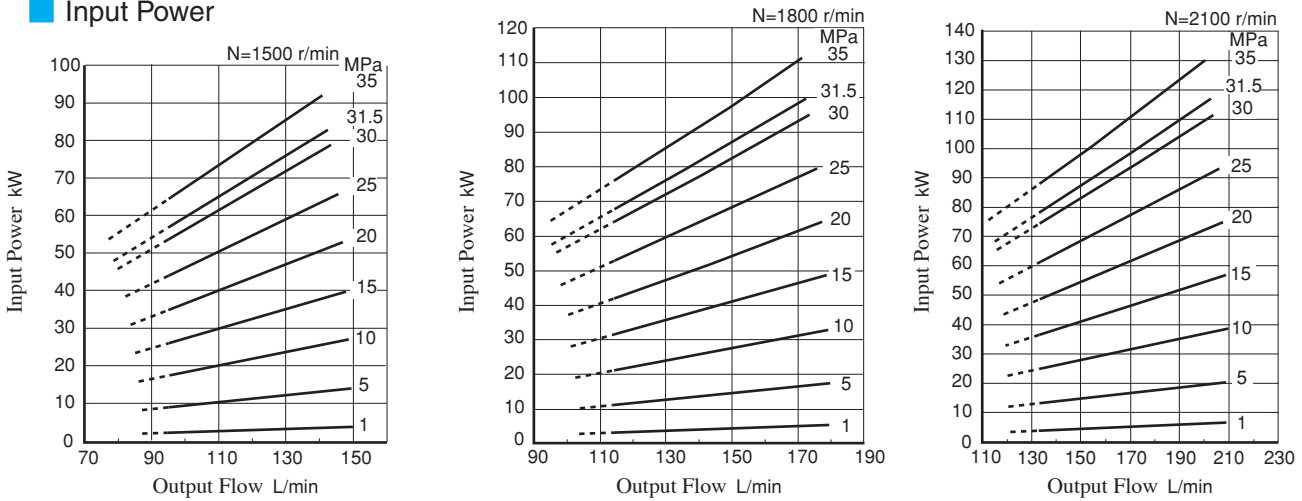


Typical Performance Characteristics of Type **A3HG100** at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C]

**Performance Characteristic Curve**

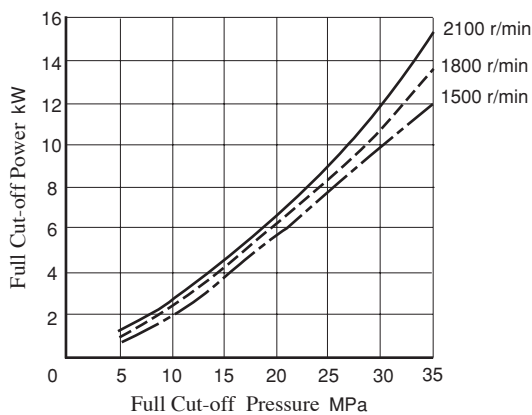


**Input Power**

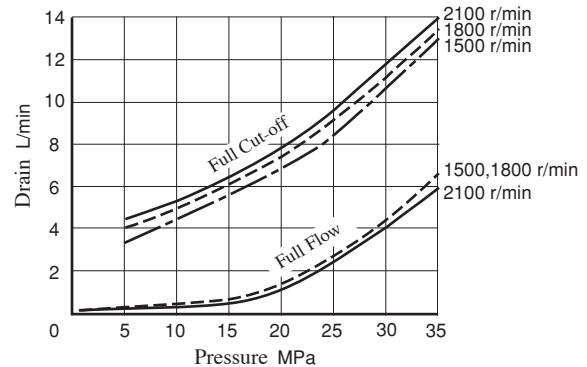


★ The dotted line in the graph indicates less than minimum adjustable flow.

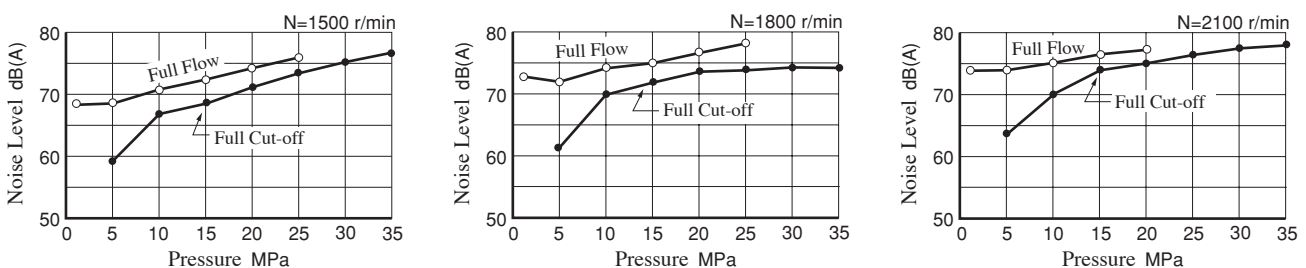
**Full Cut-off Power**



**Drain**

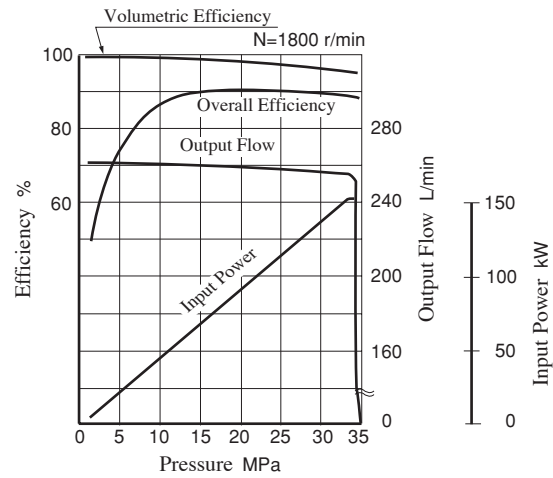
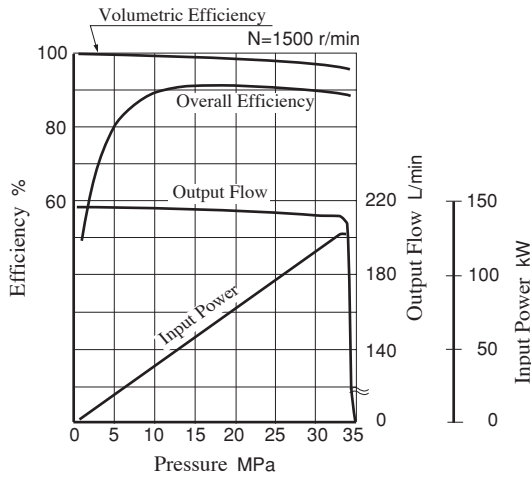


**Noise Level** [One metre horizontally away from pump head cover]

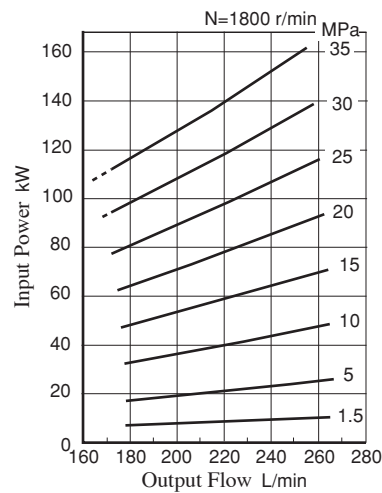
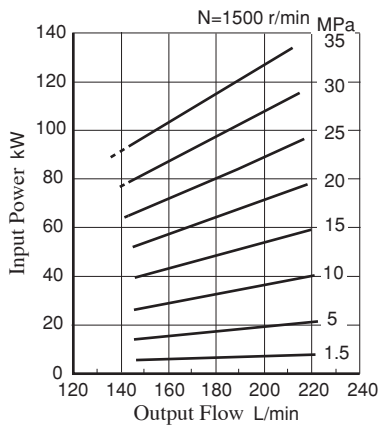


## Typical Performance Characteristics of Type **A3HG145** at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C]

### Performance Characteristic Curve

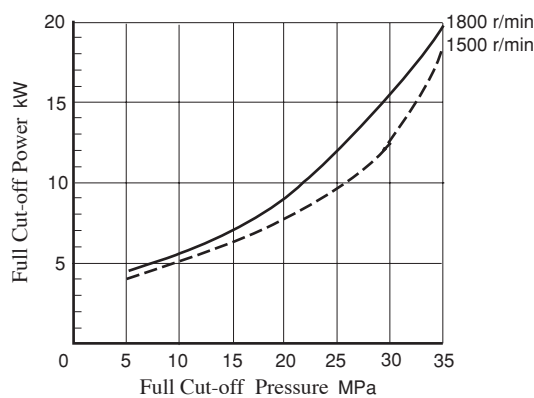


### Input Power

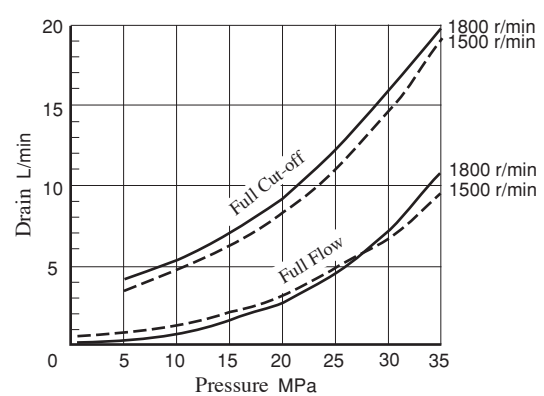


★ The dotted line in the graph indicates less than minimum adjustable flow.

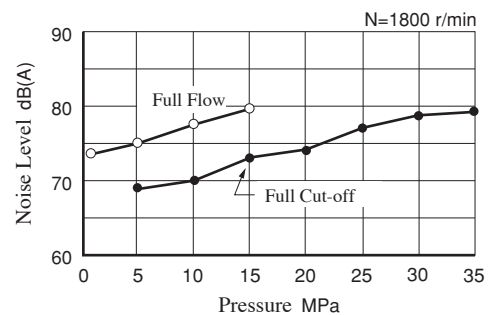
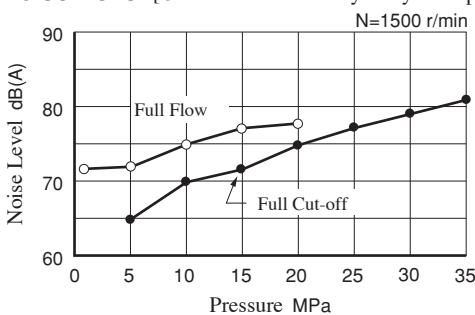
### Full Cut-off Power



### Drain



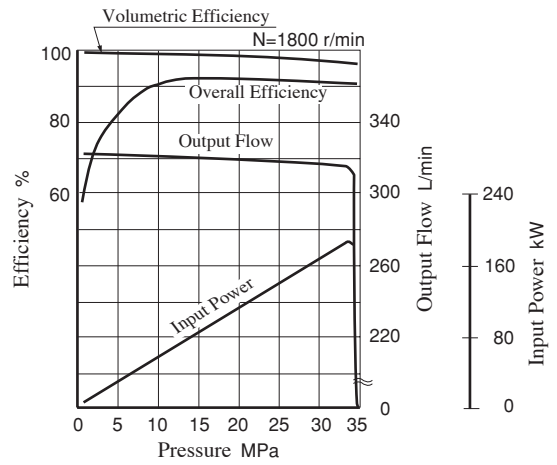
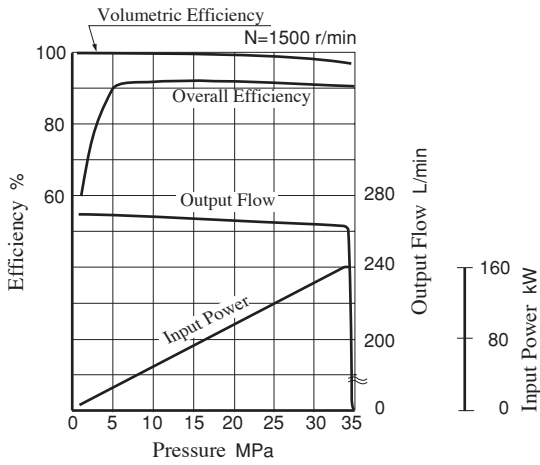
### Noise Level [One metre horizontally away from pump head cover]



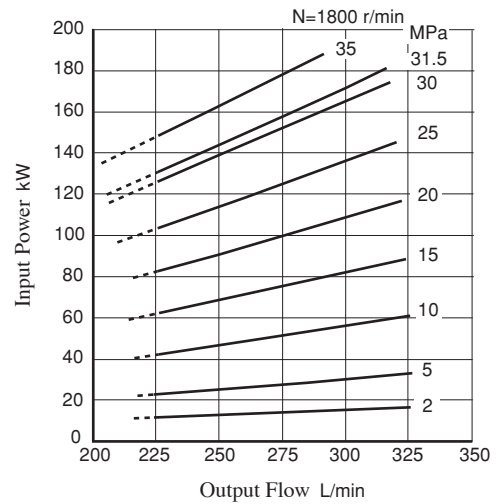
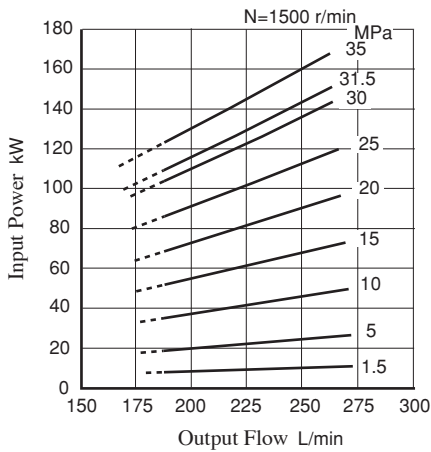


Typical Performance Characteristics of Type **A3HG180** at Viscosity 32 mm<sup>2</sup>/s [ISO VG32 oils, 40°C]

**Performance Characteristic Curve**

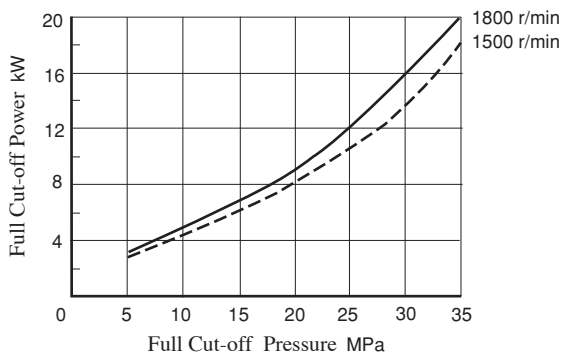


**Input Power**

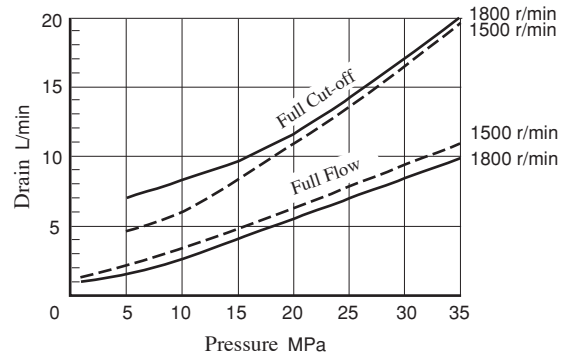


★ The dotted line in the graph indicates less than minimum adjustable flow.

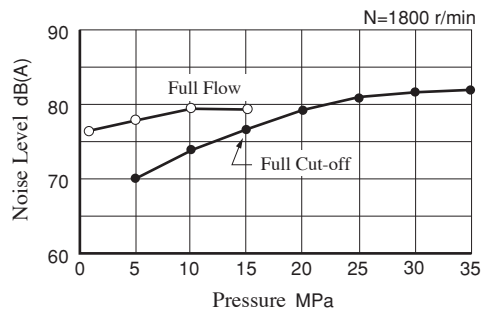
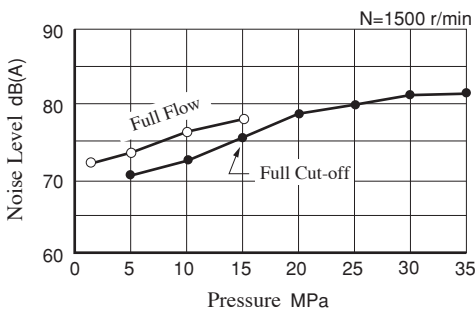
**Full Cut-off Power**



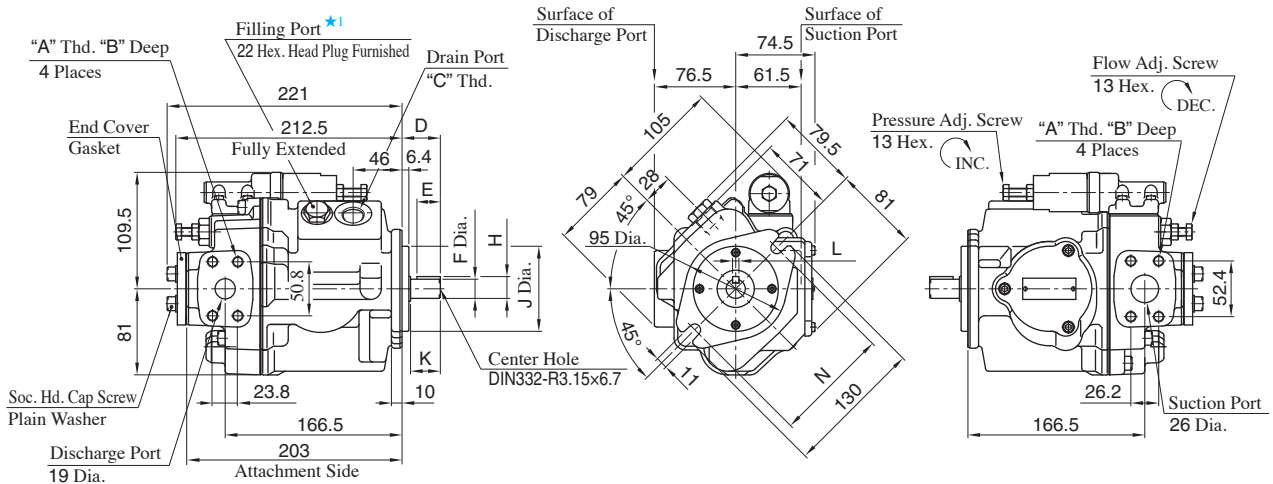
**Drain**



**Noise Level** [One metre horizontally away from pump head cover]



## Flange Mtg.:A3HG16-FR01KK-E1C/U1C/U2C/J1C



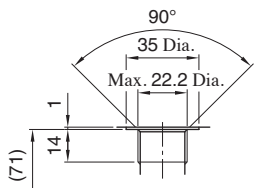
★1. Install the pump so that the "Filling Port" is at the top.

Model Numbers	A	B	C	D	E	F	H	J	K	L	N	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG16-FR01KK-E1C	M10	19	M22X1.5	36	22	18 <sup>+0.008</sup> <sub>-0.003</sub>	20.5 <sup>+0.008</sup> <sub>-0.133</sub>	80 <sup>0</sup> <sub>-0.046</sub>	28	6 <sup>0</sup> <sub>-0.03</sub>	109	Conforms to ISO 3019-2	Metric	Metric
A3HG16-FR01KK-U1C	3/8-16 UNC	17	G 1/2	41	28	19.05 <sup>0</sup> <sub>-0.03</sub>	21.24 <sup>0</sup> <sub>-0.16</sub>	82.55 <sup>0</sup> <sub>-0.05</sub>	33	4.76 <sup>+0.03</sup> <sub>0</sub>	106	Conforms to ISO 3019-1	Unified	Unified
A3HG16-FR01KK-U2C	M10	19	G 1/2	41	28	19.05 <sup>0</sup> <sub>-0.03</sub>	21.24 <sup>0</sup> <sub>-0.16</sub>	82.55 <sup>0</sup> <sub>-0.05</sub>	33	4.76 <sup>+0.03</sup> <sub>0</sub>	106	Conforms to ISO 3019-1	BSPP	Metric
A3HG16-FR01KK-J1C	M10	19	G 1/2	41	28	19.05 <sup>0</sup> <sub>-0.03</sub>	21.24 <sup>0</sup> <sub>-0.16</sub>	82.55 <sup>0</sup> <sub>-0.05</sub>	33	4.76 <sup>+0.03</sup> <sub>0</sub>	106	Conforms to ISO 3019-1	Rc	Metric

## Drain Port

For Port/Flange Code "U1/J1", Adapter and bonded seal are attached. After installing the bonded seal at the drain port tighten the adapter

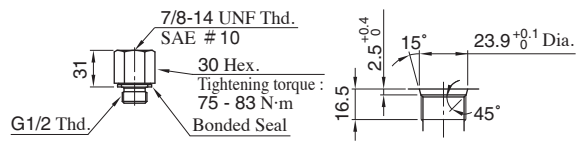
### Detail:A3HG16-FR01KK-E1C



Detail of Drain Port ★2

★2. Drain port conforms to ISO 9974-1, metric threads.

### Accessories:A3HG16-FR01KK-U1C

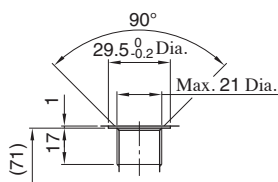


Adapter

Detail of Adapter Port ★3

★3. Adapter port conforms to SAE J 514, O-Ring seals.

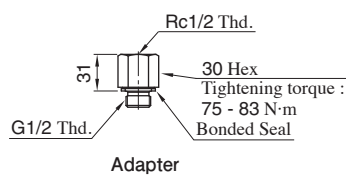
### Detail:A3HG16-FR01KK-U2C



Detail of Drain Port ★4

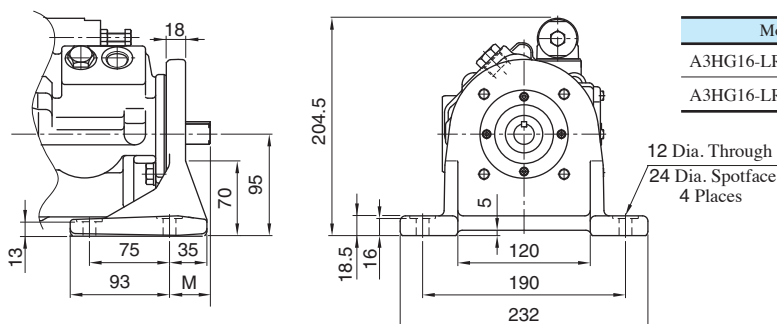
★4. Drain port conforms to ISO 1179-1, BSPP threads.

### Accessories:A3HG16-FR01KK-J1C



Adapter

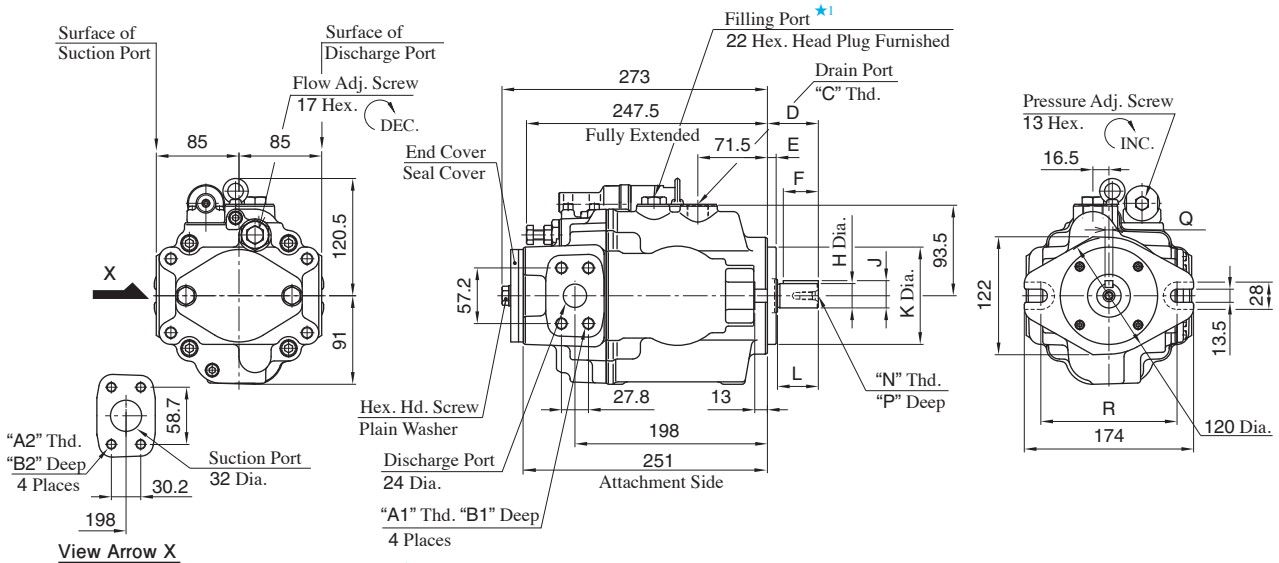
## Foot Mtg.:A3HG16-LR01KK-E1C/U1C/U2C/J1C



Model Numbers	M
A3HG16-LR01KK-E1C	33
A3HG16-LR01KK-U1C/U2C/J1C	38

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

**Flange Mtg. Two Bolts:A3HG37-FR01KK-E1C/E2C/U1C/U2C/J1C**

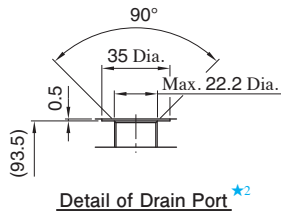


Model Numbers	A1	A2	B1	B2	C	D	E	F	H	J	K	L	N	P	Q	R	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG37-FR01KK-E1C/E2C	M12	M10	22	18	M22X1.5	52	9	36	25 <sup>+0.009</sup> <sub>-0.004</sub>	28 <sup>+0.009</sup> <sub>-0.294</sub>	100 <sup>0</sup> <sub>-0.054</sub>	42	M8	19	8 <sup>0</sup> <sub>-0.036</sub>	140	Conforms to ISO 3019-2	Metric	Metric
A3HG37-FR01KK-U1C	7/16-14 UNC		20		G 1/2	46	9.7	32	25.4 <sup>0</sup> <sub>-0.05</sub>	28.18 <sup>0</sup> <sub>-0.18</sub>	101.6 <sup>0</sup> <sub>-0.05</sub>	38	1/4	16	6.35 <sup>+0.03</sup> <sub>0</sub>	146	Conforms to ISO 3019-1	Unified	Unified
A3HG37-FR01KK-U2C	M12	M10	22	18	G 1/2	46	9.7	32	25.4 <sup>0</sup> <sub>-0.05</sub>	28.18 <sup>0</sup> <sub>-0.18</sub>	101.6 <sup>0</sup> <sub>-0.05</sub>	38	20 UNC	16	6.35 <sup>+0.03</sup> <sub>0</sub>	146	Conforms to ISO 3019-1	BSP	Metric
A3HG37-FR01KK-J1C	M12	M10	22	18	G 1/2	46	9.7	32	25.4 <sup>0</sup> <sub>-0.05</sub>	28.18 <sup>0</sup> <sub>-0.18</sub>	101.6 <sup>0</sup> <sub>-0.05</sub>	38		16	6.35 <sup>+0.03</sup> <sub>0</sub>	146	Conforms to ISO 3019-1	Rc	Metric

**Drain Port**

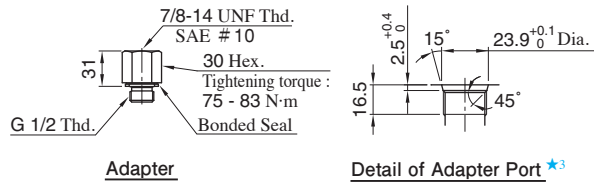
For Port/Flange Code "U1/J1", Adapter and bonded seal are attached. After installing the bonded seal at the drain port tighten the adapter

● **Detail:A3HG37-FR01KK-E1C/E2C**



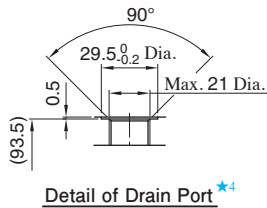
★2. Drain port conforms to ISO 9974-1, metric threads.

● **Accessories:A3HG37-FR01KK-U1C**



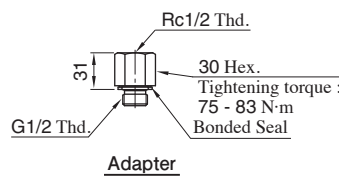
★3. Adapter port conforms to SAE J 514, O-Ring seals.

● **Detail:A3HG37-FR01KK-U2C**

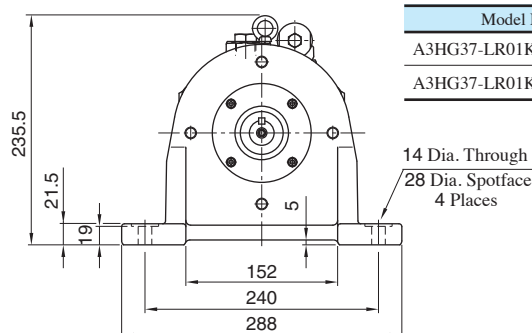
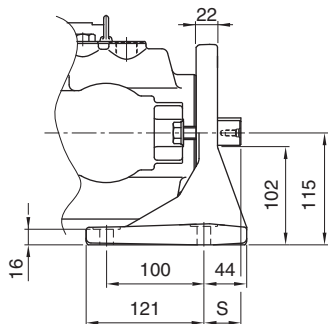


★4. Drain port conforms to ISO 1179-1, BSP threads.

● **Accessories:A3HG37-FR01KK-J1C**



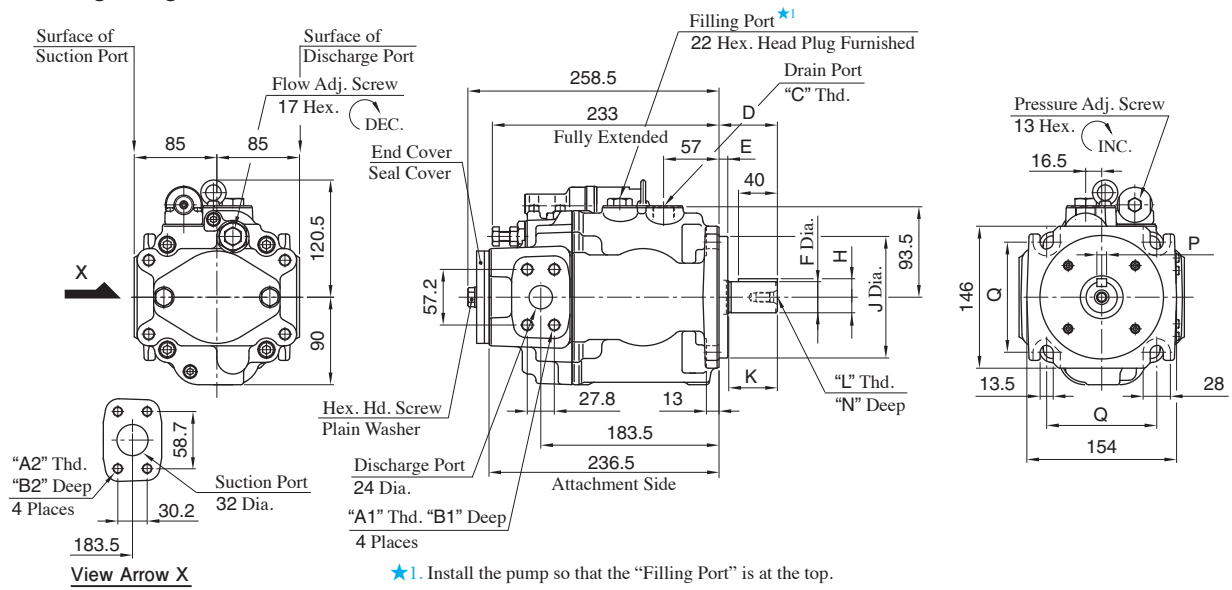
**Foot Mtg. Two Bolts:A3HG37-LR01KK-E1C/E2C/U1C/U2C/J1C**



Model Numbers	S
A3HG37-LR01KK-E1C/E2C	44
A3HG37-LR01KK-U1C/U2C/J1C	38

● For other dimensions, refer to "Flange Mtg. Two Bolts".

## Flange Mtg. Four Bolts:A3HG37-FR01KK-E1D/E2D/U1D/U2D/J1D

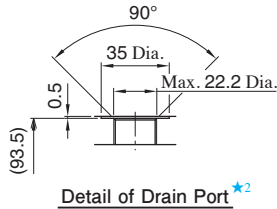


Model Numbers	A1	A2	B1	B2	C	D	E	F	H	J	K	L	N	P	Q	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG37-FR01KK-E1D/E2D	M12	M10	22	18	M22X1.5	60	9	32 <sup>+0.018</sup> <sub>-0.002</sub>	35 <sup>+0.018</sup> <sub>-0.288</sub>	125 <sup>0</sup> <sub>-0.063</sub>	50	M10	22	10 <sup>0</sup> <sub>-0.036</sub>	113.2	Conforms to ISO 3019-2	Metric	Metric
A3HG37-FR01KK-U1D	7/16-14 UNC		20		G 1/2	56	12.7	31.75 <sup>0</sup> <sub>-0.05</sub>	35.32 <sup>0</sup> <sub>-0.18</sub>	127 <sup>0</sup> <sub>-0.05</sub>	48	5/16-18 UNC	19	7.94 <sup>+0.03</sup> <sub>0</sub>	114.5	Conforms to ISO 3019-1	Unified	Unified
A3HG37-FR01KK-U2D	M12	M10	22	18	G 1/2	56	12.7	31.75 <sup>0</sup> <sub>-0.05</sub>	35.32 <sup>0</sup> <sub>-0.18</sub>	127 <sup>0</sup> <sub>-0.05</sub>	48		19	7.94 <sup>+0.03</sup> <sub>0</sub>	114.5	Conforms to ISO 3019-1	BSP	Metric
A3HG37-FR01KK-J1D	M12	M10	22	18	G 1/2	56	12.7	31.75 <sup>0</sup> <sub>-0.05</sub>	35.32 <sup>0</sup> <sub>-0.18</sub>	127 <sup>0</sup> <sub>-0.05</sub>	48		19	7.94 <sup>+0.03</sup> <sub>0</sub>	114.5	Conforms to ISO 3019-1	Rc	Metric

### Drain Port

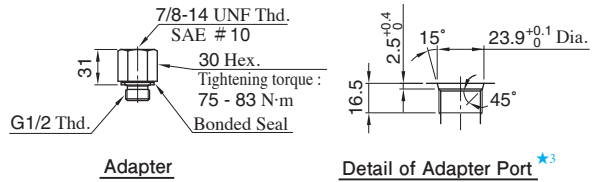
For Port/Flange Code "U1/J1", Adapter and bonded seal are attached. After installing the bonded seal at the drain port tighten the adapter

#### Detail:A3HG37-FR01KK-E1D/E2D



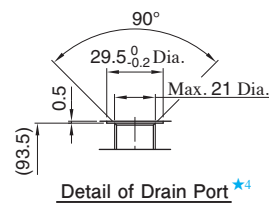
★2. Drain port conforms to ISO 9974-1, metric threads.

#### Accessories:A3HG37-FR01KK-U1D



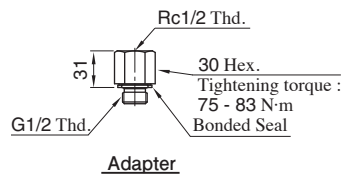
★3. Adapter port conforms to SAE J 514, O-Ring seals.

#### Detail:A3HG37-FR01KK-U2D

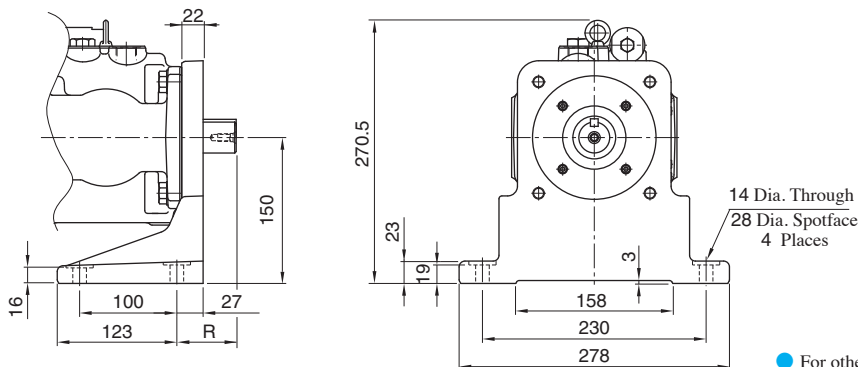


★4. Drain port conforms to ISO 1179-1, BSPP threads.

#### Accessories:A3HG37-FR01KK-J1D



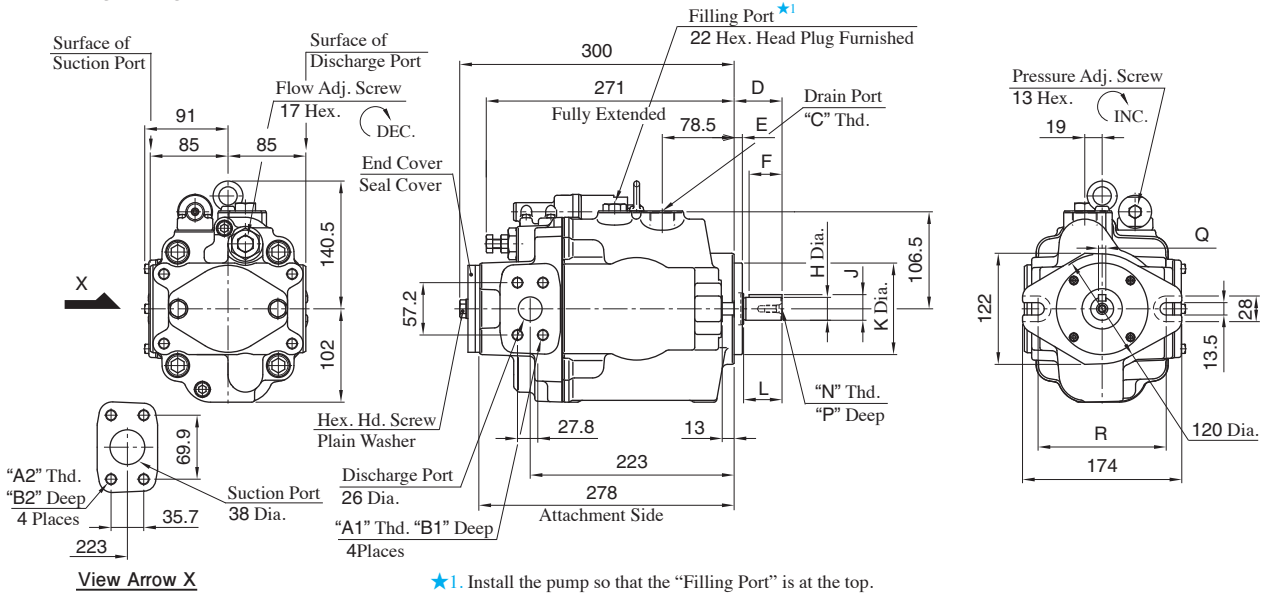
## Foot Mtg. Four Bolts:A3HG37-LR01KK-E1D/E2D/U1D/U2D/J1D



Model Numbers	R
A3HG37-LR01KK-E1D/E2D	65
A3HG37-LR01KK-U1D/U2D/J1D	61

★ For other dimensions, refer to "Flange Mtg. Four Bolts".

**Flange Mtg. Two Bolts:A3HG56-FR01KK-E1C/E2C/U1C/U2C/J1C**



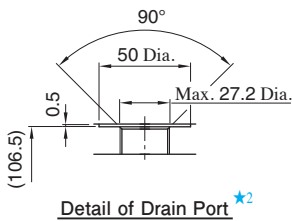
★1. Install the pump so that the "Filling Port" is at the top.

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-FR01KK-E1C/E2C	M12	M12	22	22	M27X2	52	9	36	25 <sup>+0.009</sup> <sub>-0.004</sub>	28 <sup>+0.009</sup> <sub>-0.294</sub>	100 <sup>0</sup> <sub>-0.054</sub>	42	M8	19	8 <sup>0</sup> <sub>-0.036</sub>	140	Conforms to ISO 3019-2	Metric	Metric
A3HG56-FR01KK-U1C	7/16-14 UNC	1/2-13 UNC	20	21	G 3/4	46	9.7	32	25.4 <sup>0</sup> <sub>-0.05</sub>	28.18 <sup>0</sup> <sub>-0.18</sub>	101.6 <sup>0</sup> <sub>-0.05</sub>	38	1/4-20 UNC	16	6.35 <sup>+0.03</sup> <sub>0</sub>	146	Conforms to ISO 3019-1	Unified	Unified
A3HG56-FR01KK-U2C	M12	M12	22	22	G 3/4	46	9.7	32	25.4 <sup>0</sup> <sub>-0.05</sub>	28.18 <sup>0</sup> <sub>-0.18</sub>	101.6 <sup>0</sup> <sub>-0.05</sub>	38	20 UNC	16	6.35 <sup>+0.03</sup> <sub>0</sub>	146	Conforms to ISO 3019-1	BSP	Metric
A3HG56-FR01KK-J1C	M12	M12	22	22	G 3/4	46	9.7	32	25.4 <sup>0</sup> <sub>-0.05</sub>	28.18 <sup>0</sup> <sub>-0.18</sub>	101.6 <sup>0</sup> <sub>-0.05</sub>	38		16	6.35 <sup>+0.03</sup> <sub>0</sub>	146	Conforms to ISO 3019-1	Rc	Metric

**Drain Port**

For Port/Flange Code "U1/J1", Adapter and bonded seal are attached. After installing the bonded seal at the drain port tighten the adapter

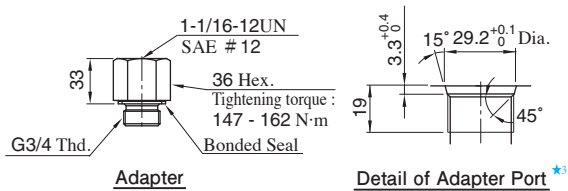
● Detail:A3HG56-FR01KK-E1C/E2C



Detail of Drain Port ★2

★2. Drain port conforms to ISO 9974-1, metric threads.

● Accessories:A3HG56-FR01KK-U1C

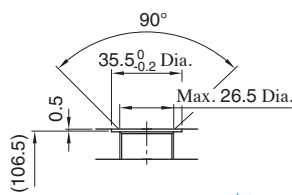


Adapter

Detail of Adapter Port ★3

★3. Adapter port conforms to SAE J 514, O-Ring seals.

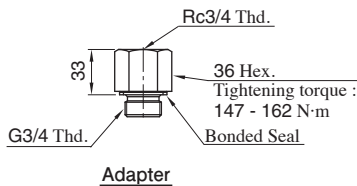
● Detail:A3HG56-FR01KK-U2C



Detail of Drain Port ★4

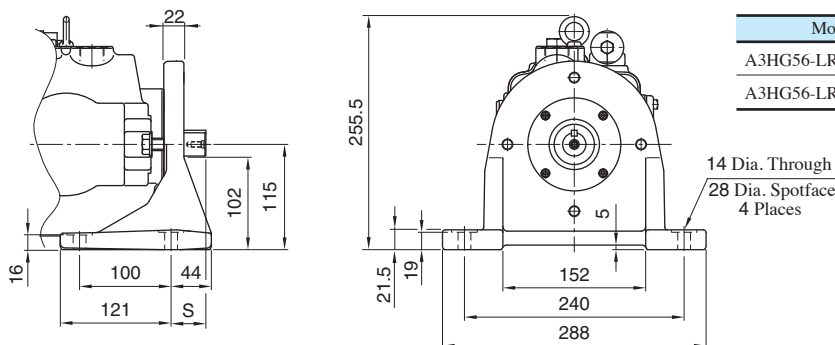
★4. Drain port conforms to ISO 1179-1, BSP threads.

● Accessories:A3HG56-FR01KK-J1C



Adapter

**Foot Mtg. Two Bolts:A3HG56-LR01KK-E1C/E2C/U1C/U2C/J1C**

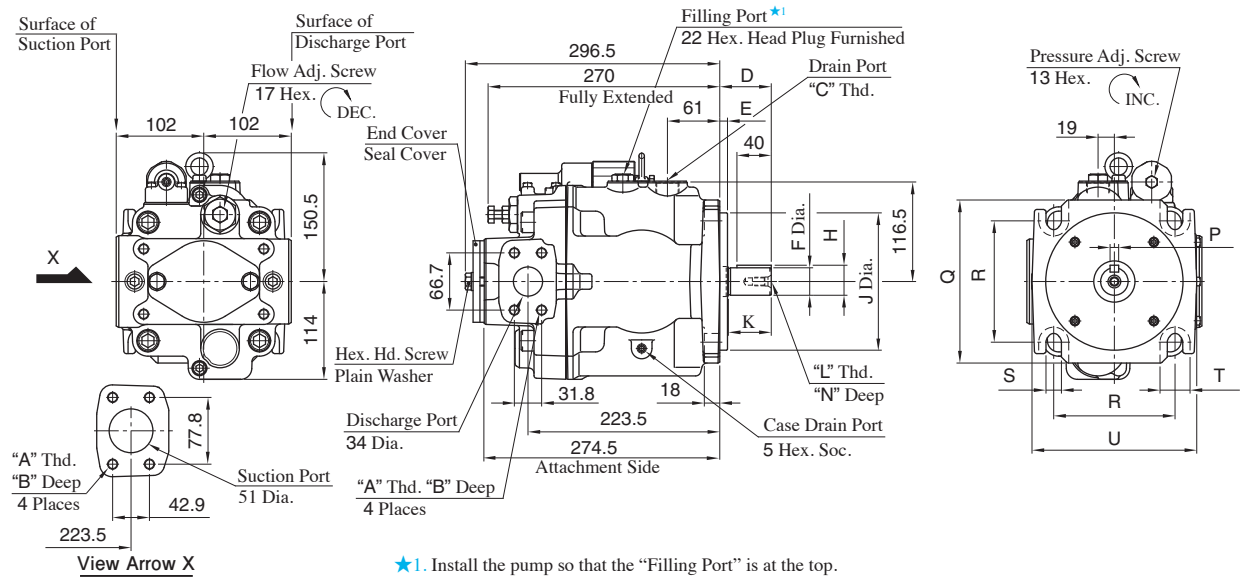


Model Numbers	S
A3HG56-LR01KK-E1C/E2C	44
A3HG56-LR01KK-U1C/U2C/J1C	38

● For other dimensions, refer to "Flange Mtg. Two Bolts".



**Flange Mtg.:A3HG71-FR01KK-E1D/E2D/U1D/U2D/J1D**

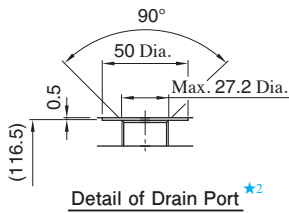


Model Numbers	A	B	C	D	E	F	H	J	K	L	N	P	Q	R	S	T	U	Mounting Flange	Connecting Port	Pipe Flange Threads
A3HG71-FR01KK-E1D/E2D	M12	22	M27X2	60	9	32 <sup>+0.018</sup> <sub>+0.002</sub>	35 <sup>+0.018</sup> <sub>-0.288</sub>	160 <sup>0</sup> <sub>-0.063</sub>	50	M10	22	10 <sup>0</sup> <sub>-0.036</sub>	190	141.4	18	35	192	Conforms to ISO 3019-2	Metric	Metric
A3HG71-FR01KK-U1D	1/2-13 UNC	21	G 3/4	56	12.7	31.75 <sup>0</sup> <sub>-0.05</sub>	35.32 <sup>0</sup> <sub>-0.18</sub>	127 <sup>0</sup> <sub>-0.05</sub>	48		19	7.94 <sup>+0.03</sup> <sub>0</sub>	143	114.5	13.5	28	155	Conforms to ISO 3019-1	Unified	Unified
A3HG71-FR01KK-U2D	M12	22	G 3/4	56	12.7	31.75 <sup>0</sup> <sub>-0.05</sub>	35.32 <sup>0</sup> <sub>-0.18</sub>	127 <sup>0</sup> <sub>-0.05</sub>	48	5/16-18 UNC	19	7.94 <sup>+0.03</sup> <sub>0</sub>	143	114.5	13.5	28	155	Conforms to ISO 3019-1	BSPP	Metric
A3HG71-FR01KK-J1D	M12	22	G 3/4	56	12.7	31.75 <sup>0</sup> <sub>-0.05</sub>	35.32 <sup>0</sup> <sub>-0.18</sub>	127 <sup>0</sup> <sub>-0.05</sub>	48		19	7.94 <sup>+0.03</sup> <sub>0</sub>	143	114.5	13.5	28	155	Conforms to ISO 3019-1	Rc	Metric

**Drain Port**

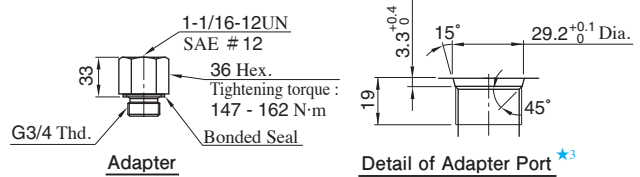
For Port/Flange Code "U1/J1", Adapter and bonded seal are attached. After installing the bonded seal at the drain port tighten the adapter

● Detail:A3HG71-FR01KK-E1D/E2D



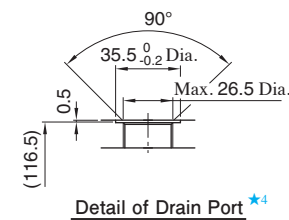
★2. Drain port conforms to ISO 9974-1, metric threads.

● Accessories:A3HG71-FR01KK-U1D



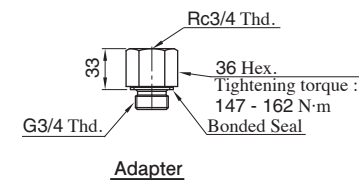
★3. Adapter port conforms to SAE J 514, O-Ring seals.

● Detail:A3HG71-FR01KK-U2D

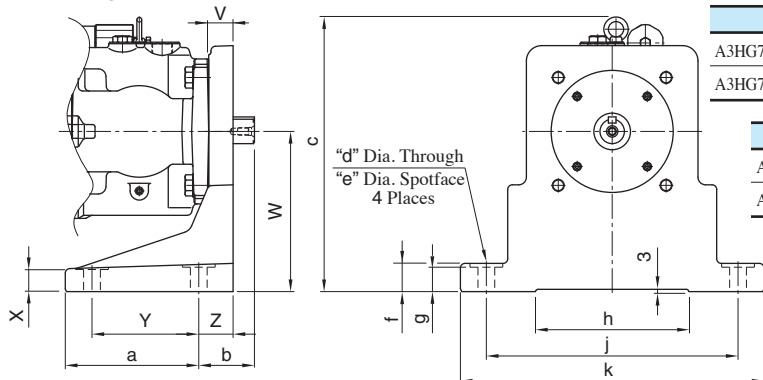


★4. Drain port conforms to ISO 1179-1, BSPP threads.

● Accessories:A3HG71-FR01KK-J1D



**Foot Mtg.:A3HG71-LR01KK-E1D/E2D/U1D/U2D/J1D**

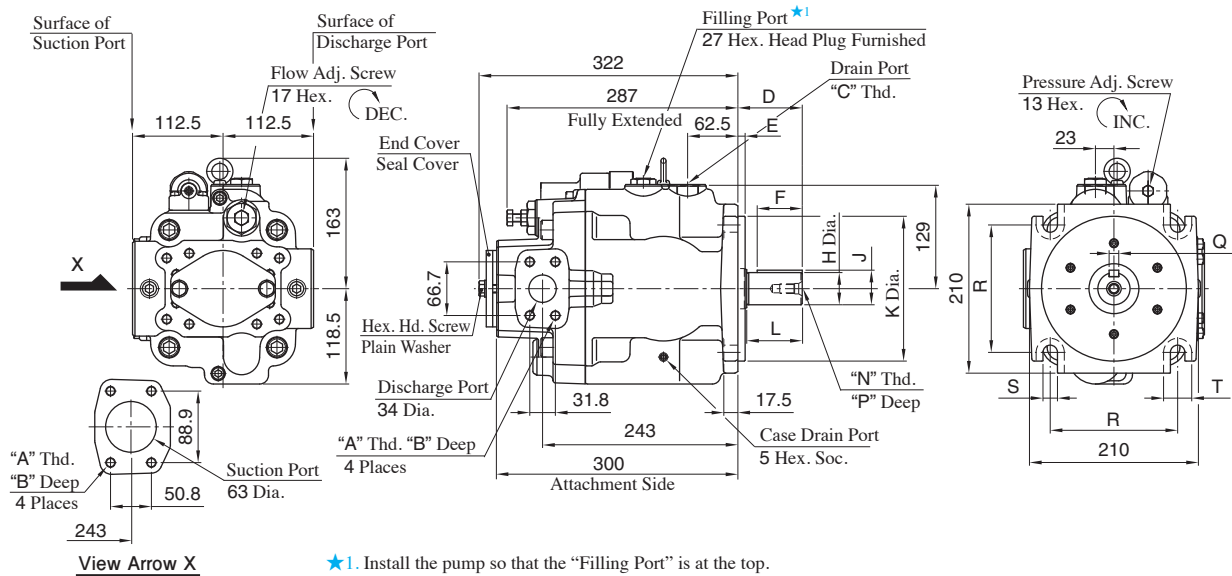


Model Numbers	V	W	X	Y	Z	a	b	c
A3HG71-LR01KK-E1D/E2D	32	210	29	140	45	175	73	360.5
A3HG71-LR01KK-U1D/U2D/J1D	22	150	16	100	27	123	61	300.5

Model Numbers	d	e	f	g	h	j	k
A3HG71-LR01KK-E1D/E2D	22	43	37	32	198	330	398
A3HG71-LR01KK-U1D/U2D/J1D	14	28	23	19	158	230	278

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

Flange Mtg.:A3HG100-FR01KK-E1D/E2D/U1D/U2D/J1D



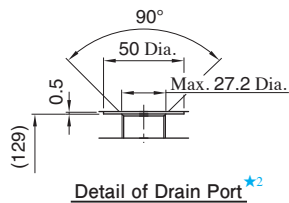
★1. Install the pump so that the "Filling Port" is at the top.

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
A3HG100-FR01KK-E1D/E2D	M12	22	M27X2	80	9	56	40 <sup>+0.018/+0.002</sup>	43 <sup>+0.018/-0.288</sup>	180 <sup>0/-0.063</sup>	70	M12	28	12 <sup>0/-0.043</sup>	158.4	18	35	Conforms to ISO 3019-2	Metric	Metric
A3HG100-FR01KK-U1D	1/2-13 UNC	21	G 3/4	62	12.7	45	38.1 <sup>0/-0.05</sup>	42.36 <sup>0/-0.18</sup>	152.4 <sup>0/-0.05</sup>	54		28	9.53 <sup>+0.03/0</sup>	161.6	21.5	39	Conforms to ISO 3019-1	Unified	Unified
A3HG100-FR01KK-U2D	M12	22	G 3/4	62	12.7	45	38.1 <sup>0/-0.05</sup>	42.36 <sup>0/-0.18</sup>	152.4 <sup>0/-0.05</sup>	54	7/16-14 UNC	28	9.53 <sup>+0.03/0</sup>	161.6	21.5	39	Conforms to ISO 3019-1	BSPP	Metric
A3HG100-FR01KK-J1D	M12	22	G 3/4	62	12.7	45	38.1 <sup>0/-0.05</sup>	42.36 <sup>0/-0.18</sup>	152.4 <sup>0/-0.05</sup>	54		28	9.53 <sup>+0.03/0</sup>	161.6	21.5	39	Conforms to ISO 3019-1	Rc	Metric

Drain Port

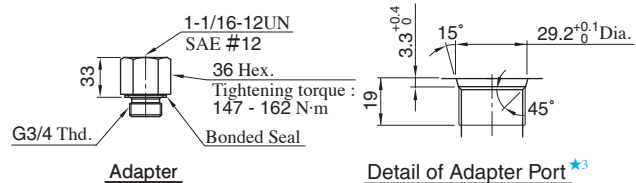
For Port/Flange Code "U1/J1", Adapter and bonded seal are attached. After installing the bonded seal at the drain port tighten the adapter

● Detail:A3HG100-FR01KK-E1D/E2D



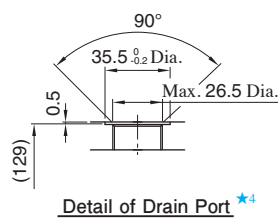
★2. Drain port conforms to ISO 9974-1, metric threads.

● Accessories:A3HG100-FR01KK-U1D



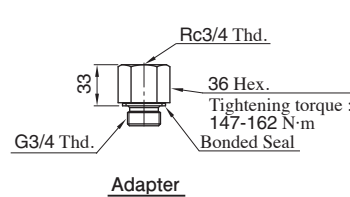
★3. Adapter port conforms to SAE J 514, O-Ring seals.

● Detail:A3HG100-FR01KK-U2D

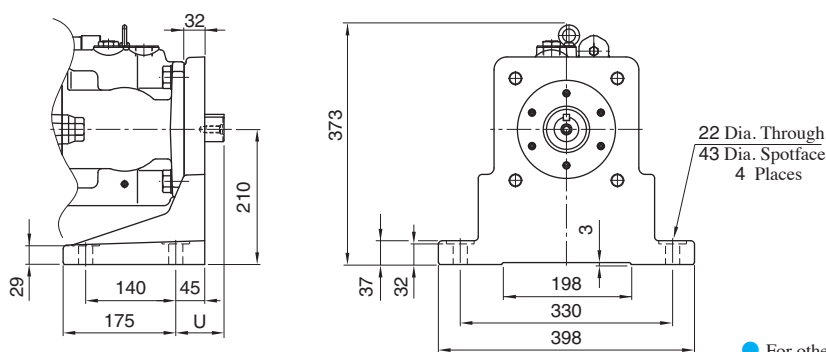


★4. Drain port conforms to ISO 1179-1, BSPP threads.

● Accessories:A3HG100-FR01KK-J1D



Foot Mtg.:A3HG100-LR01KK-E1D/E2D/U1D/U2D/J1D

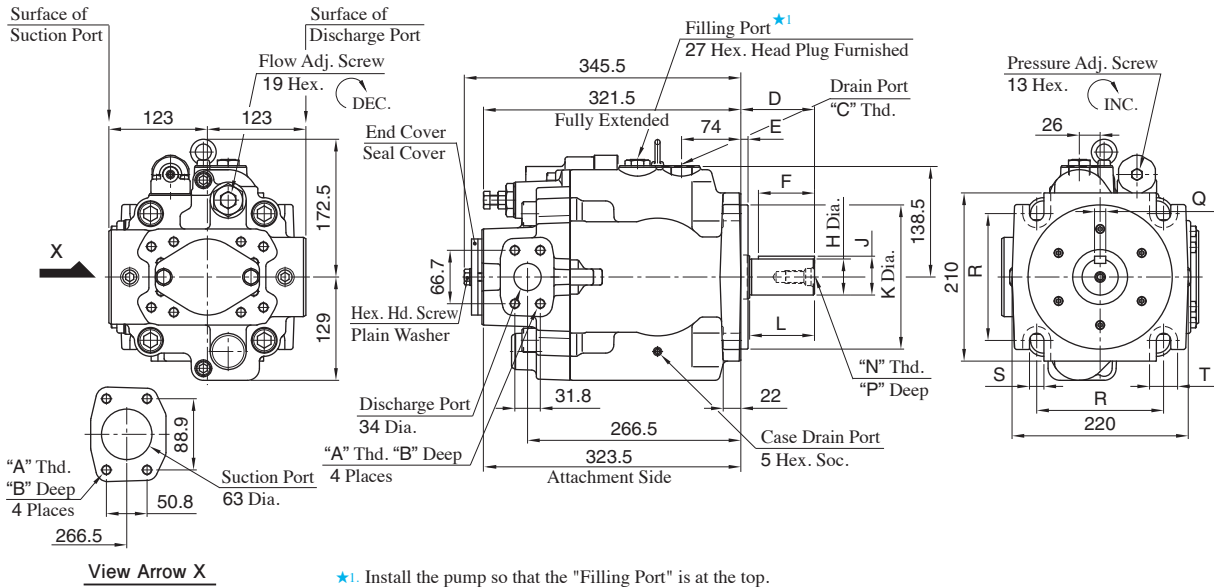


Model Numbers	U
A3HG100-LR01KK-E1D/E2D	93
A3HG100-LR01KK-U1D/U2D/J1D	75

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



**Flange Mtg.:A3HG145-FR01KK-E1D/E2D/U1D/U2D/J1D**



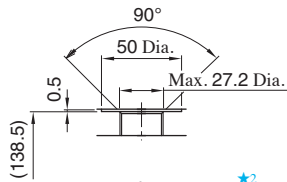
\*1. Install the pump so that the "Filling Port" is at the top.

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-FR01KK-E1D/E2D	M12	22	M27X2	92	9	70	45 <sup>+0.018</sup> <sub>-0.002</sub>	48.5 <sup>+0.018</sup> <sub>-0.288</sub>	180 <sup>0</sup> <sub>-0.063</sub>	82	M16	36	14 <sup>0</sup> <sub>-0.043</sub>	158.4	18	35	Conforms to ISO 3019-2	Metric	Metric
A3HG145-FR01KK-U1D	1/2-13 UNC	21	G 3/4	75	12.7	56	44.45 <sup>0</sup> <sub>-0.05</sub>	49.39 <sup>0</sup> <sub>-0.18</sub>	152.4 <sup>0</sup> <sub>-0.05</sub>	67		32	11.11 <sup>+0.03</sup> <sub>0</sub>	161.6	21.5	39	Conforms to ISO 3019-1	Unified	Unified
A3HG145-FR01KK-U2D	M12	22	G 3/4	75	12.7	56	44.45 <sup>0</sup> <sub>-0.05</sub>	49.39 <sup>0</sup> <sub>-0.18</sub>	152.4 <sup>0</sup> <sub>-0.05</sub>	67	1/2-13 UNC	32	11.11 <sup>+0.03</sup> <sub>0</sub>	161.6	21.5	39	Conforms to ISO 3019-1	BSPP	Metric
A3HG145-FR01KK-J1D	M12	22	G 3/4	75	12.7	56	44.45 <sup>0</sup> <sub>-0.05</sub>	49.39 <sup>0</sup> <sub>-0.18</sub>	152.4 <sup>0</sup> <sub>-0.05</sub>	67		32	11.11 <sup>+0.03</sup> <sub>0</sub>	161.6	21.5	39	Conforms to ISO 3019-1	Rc	Metric

**Drain Port**

For Port/Flange Code "U1/J1", Adapter and bonded seal are attached. After installing the bonded seal at the drain port tighten the adapter

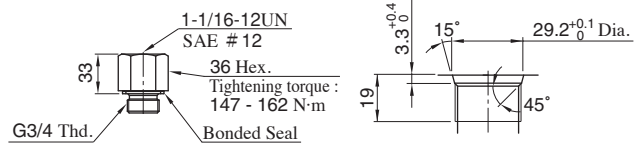
**Detail:A3HG145-FR01KK-E1D/E2D**



Detail of Drain Port \*2

\*2. Drain port conforms to ISO 9974-1, metric threads.

**Accessories:A3HG145-FR01KK-U1D**

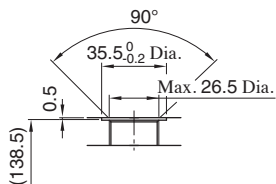


Adapter

Detail of Adapter Port \*3

\*3. Adapter port conforms to SAE J 514, O-Ring seals.

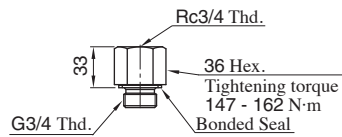
**Detail:A3HG145-FR01KK-U2D**



Detail of Drain Port \*4

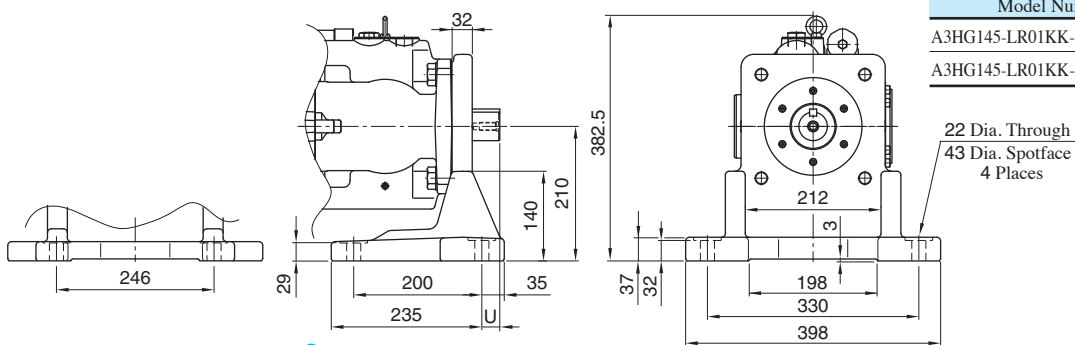
\*4. Drain port conforms to ISO 1179-1, BSPP threads.

**Accessories:A3HG145-FR01KK-J1D**



Adapter

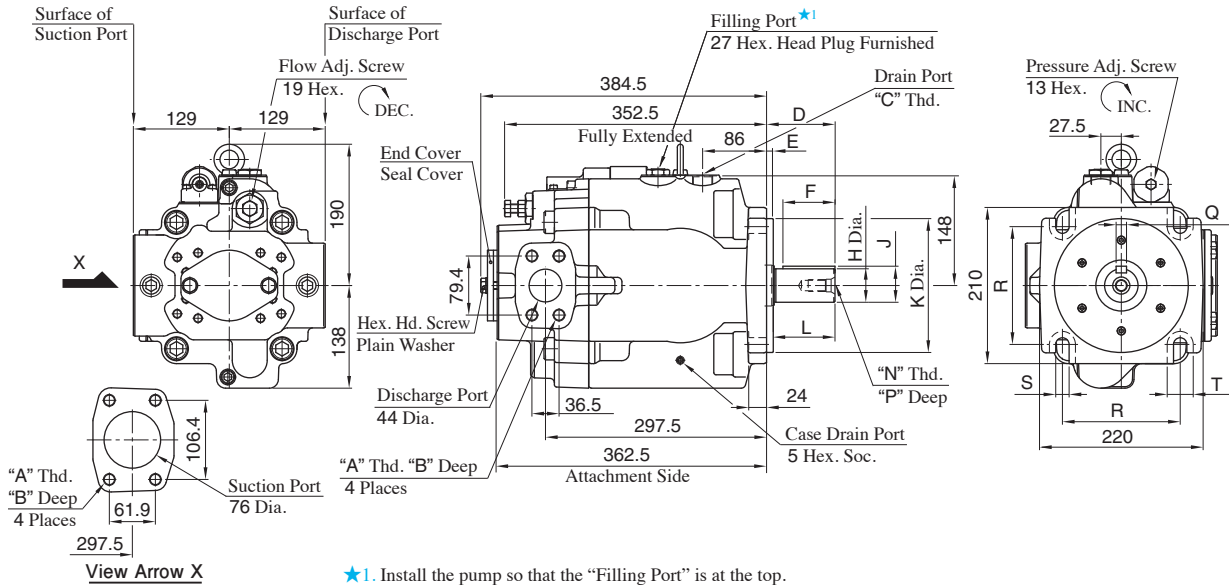
**Foot Mtg.:A3HG145-LR01KK-E1D/E2D/U1D/U2D/J1D**



Model Numbers	U
A3HG145-LR01KK-E1D/E2D	45
A3HG145-LR01KK-U1D/U2D/J1D	28

For other dimensions, refer to "Flange Mtg."

**Flange Mtg.: A3HG180-FR01KK-E1D/E2D/U1D/U2D/J1D**



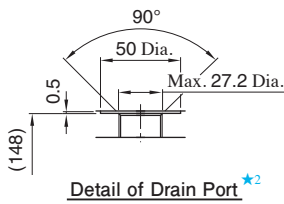
★1. Install the pump so that the "Filling Port" is at the top.

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
A3HG180-FR01KK-E1D/E2D	M16	29	M27X2	92	9	70	45 <sup>+0.018</sup> <sub>+0.002</sub>	48.5 <sup>+0.018</sup> <sub>-0.288</sub>	180 <sup>0</sup> <sub>-0.063</sub>	82	M16	36	14 <sup>0</sup> <sub>-0.043</sub>	158.4	18	35	Conforms to ISO 3019-2	Metric	Metric
A3HG180-FR01KK-U1D	5/8-11 UNC	29	G 3/4	75	12.7	56	44.45 <sup>0</sup> <sub>-0.005</sub>	49.39 <sup>0</sup> <sub>-0.18</sub>	152.4 <sup>0</sup> <sub>-0.05</sub>	67		32	11.11 <sup>+0.03</sup> <sub>0</sub>	161.6	21.5	39	Conforms to ISO 3019-1	Unified	Unified
A3HG180-FR01KK-U2D	M16	29	G 3/4	75	12.7	56	44.45 <sup>0</sup> <sub>-0.005</sub>	49.39 <sup>0</sup> <sub>-0.18</sub>	152.4 <sup>0</sup> <sub>-0.05</sub>	67	1/2-13 UNC	32	11.11 <sup>+0.03</sup> <sub>0</sub>	161.6	21.5	39	Conforms to ISO 3019-1	BSPP	Metric
A3HG180-FR01KK-J1D	M16	29	G 3/4	75	12.7	56	44.45 <sup>0</sup> <sub>-0.005</sub>	49.39 <sup>0</sup> <sub>-0.18</sub>	152.4 <sup>0</sup> <sub>-0.05</sub>	67		32	11.11 <sup>+0.03</sup> <sub>0</sub>	161.6	21.5	39	Conforms to ISO 3019-1	Rc	Metric

**Drain Port**

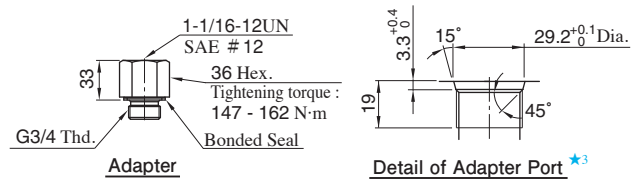
For Port/Flange Code "U1/J1", Adapter and bonded seal are attached. After installing the bonded seal at the drain port tighten the adapter

**Detail: A3HG180-FR01KK-E1D/E2D**



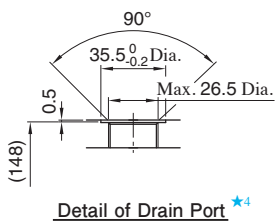
★2. Drain port conforms to ISO 9974-1, metric threads.

**Accessories: A3HG180-FR01KK-U1D**



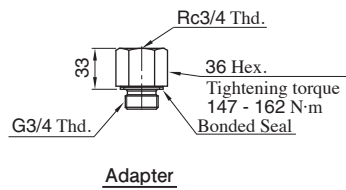
★3. Adapter port conforms to SAE J 514, O-Ring seals.

**Detail: A3HG180-FR01KK-U2D**

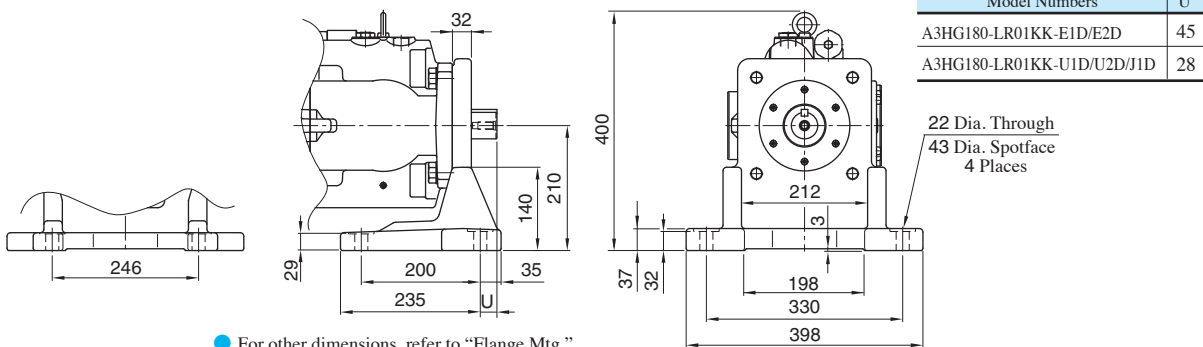


★4. Drain port conforms to ISO 1179-1, BSPP threads.

**Accessories: A3HG180-FR01KK-J1D**



**Foot Mtg.: A3HG180-LR01KK-E1D/E2D/U1D/U2D/J1D**

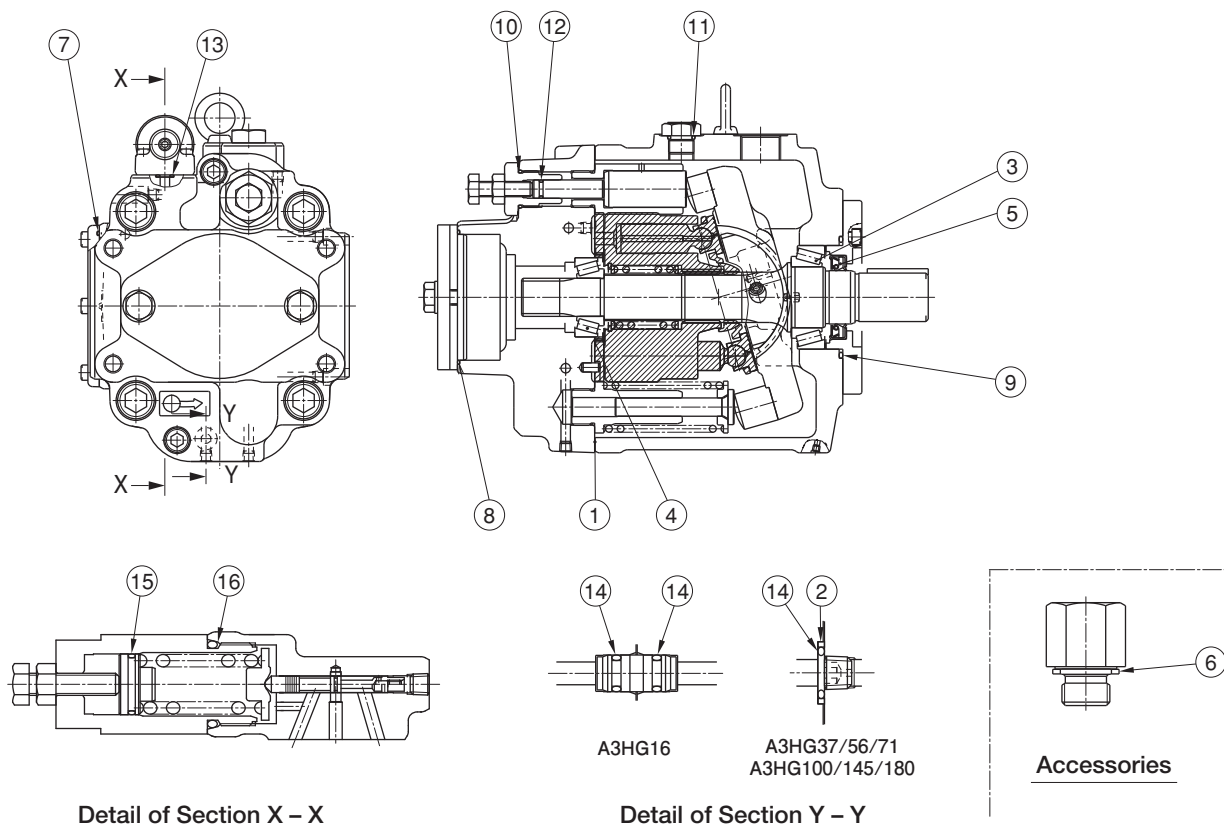


● For other dimensions, refer to "Flange Mtg."

Model Numbers	U
A3HG180-LR01KK-E1D/E2D	45
A3HG180-LR01KK-U1D/U2D/J1D	28

**Spear Parts List**

**A3HG \*- \* R01KK**



**List of Seals and Bearings**

Item	Name of Parts	Part Numbers							Q'ty.
		A3HG16	A3HG37	A3HG56	A3HG71	A3HG100	A3HG145	A3HG180	
1	Gasket	Z150-2270-PK314095-1	Z800-2271-PK314517-4	Z800-2272-PK314506-7	2283-PK212657-1	2284-PK212655-5	2285-PK212635-7	2286-PK212656-3	1
2	Back Up Ring	—	1310E-PK412440-0					—	1
3	Tapered Roller Bearing	—	HR33007J	4T-33008	33009JR	4T-30210	HR33011	—	1
	Cylindrical Roller Bearing	NUP205E	—	—	—	—	—	2276-PK412859-1	
4	Tapered Roller Bearing	—	4T-33005	4T-33205R	4T-33205	4T-33206	4T-33206	—	1
	Needle Roller Bearing	HMK2030V3	—	—	—	—	—	2276-PK412860-9	
5	Oil Seal	TCN254511 (FKM)	TCN355511 (FKM)	TCN355511 (FKM)	TCN355511 (FKM)	TCN507212 (FKM)	TCN557812 (FKM)	TCN557812 (FKM)	1
6	Bonded Seal★	KP-C-04 (FKM)	KP-C-04 (FKM)	KP-C-05 (FKM)	KP-C-05 (FKM)	KP-C-05 (FKM)	KP-C-05 (FKM)	KP-C-05 (FKM)	1
7	O-Ring	S65 (FKM-70)	S85 (FKM-70)	S95 (FKM-70)	S100 (FKM-70)	S110 (FKM-70)	S125 (FKM-70)	S130 (FKM-70)	1
8	O-Ring, Gasket	2280-PK413358-3	S80 (FKM-70)	S80 (FKM-70)	S80 (FKM-70)	S80 (FKM-70)	S80 (FKM-70)	S80 (FKM-70)	1
9	O-Ring	SO-FB-A139	SO-FA-G70	SO-FA-G75	SO-FA-G80	SO-FA-G95	SO-FA-G95	SO-FA-G105	1
10	O-Ring	SO-FB-P14	SO-FB-P18	SO-FB-P21	SO-FB-P24	SO-FB-P24	SO-FB-P26	SO-FB-P26	1
11	O-Ring	SO-FB-P14	SO-FB-P14	SO-FB-P14	SO-FB-P14	SO-FB-P18	SO-FB-P18	SO-FB-P18	1
12	O-Ring	SO-FB-P6	SO-FB-P8	SO-FB-P9	SO-FB-P9	SO-FB-P9	SO-FB-P10A	SO-FB-P10A	1
13	O-Ring	SO-FB-P9	SO-FB-P9	SO-FB-P9	SO-FB-P9	SO-FB-P9	SO-FB-P9	SO-FB-P9	3
14	O-Ring	SO-FB-P7	SO-FB-P9	SO-FB-P9	SO-FB-P9	SO-FB-P9	SO-FB-P9	SO-FB-P9	SO-FB-P7:2 SO-FB-P9:1
15	O-Ring	SO-FA-A018	SO-FA-A018	SO-FA-A018	SO-FA-A021	SO-FA-A021	SO-FA-A021	SO-FA-A021	1
16	O-Ring	SO-FB-P26	SO-FB-P26	SO-FB-P26	SO-FB-P32	SO-FB-P32	SO-FB-P32	SO-FB-P32	1

★ Attached only to the port/flange U1 or J1.