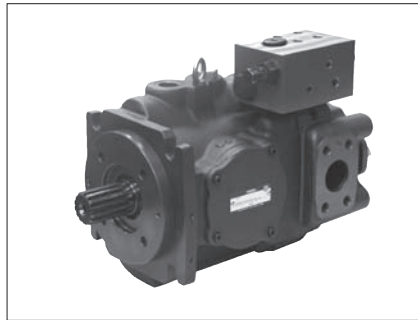
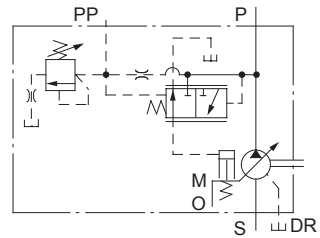


A3HG Series high Pressure Variable Displacement Piston Pumps Pilot Pressure Control Type Pressure Compensator

A3HG Series



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. |
| A3HG16- *R07* - *C-10 | 16.3 | 8 | 31.5 | 35 | 5 | 3600 | 600 | 18.9 | 22.9 |
| A3HG37- *R07* - *C-10 | 37.1 | 16 | | | | 2700 | 600 | 28.5 | 37 |
| A3HG37- *R07* - *D-10 | | | | | | | | 36 | |
| A3HG56- *R07* - *C-10 | 56.3 | 35 | | | | 2500 | 600 | 36.5 | 45 |
| A3HG56- *R07* - *D-10 | | | | | | | | 34.5 | 42 |
| A3HG71- *R07* -E1D/E2D-10 | 70.7 | 45 | | | | 2300 | 600 | 47 | 73 |
| A3HG71- *R07* -U1D/U2D/J1D-10 | | | | | | | 43.5 | 51 | |
| A3HG100- *R07K-E1D/E2D-10 | 100.5 | 63 | | | 6 | 2100 | 600 | 58.5 | 83.5 |
| A3HG100- *R07SP* -E1D/E2D-10 | | | | | | | | 58 | 83 |
| A3HG100- *R07* -U1D/U2D/J1D-10 | | | | | | | | 58 | 85 |
| A3HG145- *R07K-E1D/E2D-10 | | | | | | | | 145.2 | 95 |
| A3HG145- *R07SP* -E1D/E2D-10 | 70 | 96 | | | | | | | |
| A3HG145- *R07* -U1D/U2D/J1D-10 | 70 | 97.5 | | | | | | | |
| A3HG180- *R07K-E1D/E2D-10 | 180.7 | 130 | | | 1800 | 600 | 90 | 116 | |
| A3HG180- *R07SP* -E1D/E2D-10 | | | 89.5 | 115.5 | | | | | |
| A3HG180- *R07* -U1D/U2D/J1D-10 | | | 89.5 | 117 | | | | | |

★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

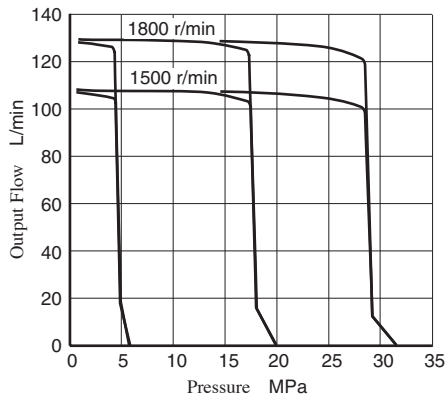
| A3HG16 | -F | R | 07 | K | -E1 | | | | | D | -10 | | | | | | | | | | |
|---|--|---|---|---|---|-----------------------|-----------------|--------------------|------------------|---------------------------|---------------|--|--|--|--|--|--|--|--|--|--|
| Series Number | Mounting | Direction of Rotation | Control Type | 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 ³ /rev) | F: Flange Mtg. L: Foot Mtg. | (Viewed from Shaft End) R: Clockwise (Normal) | 07: Pilot Pressure Control Type Pressure Compensator | 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 ³ /rev) | | | | | | | | | | | | | | | | | | | | | |
| A3HG56 (56.3 cm ³ /rev) | | | | | | | | | | | | | | | | | | | | | |
| A3HG71 (70.7 cm ³ /rev) | | | | | | | | | | | | | | | | | | | | | |
| A3HG100 (100.5 cm ³ /rev) | | | | | | | | | | | | | | | | | | | | | |
| A3HG145 (145.2 cm ³ /rev) | | | | | | | | | | | | | | | | | | | | | |
| A3HG180 (180.7 cm ³ /rev) | | | | | | | | | | | | | | | | | | | | | |

■ Pipe Flange Kits

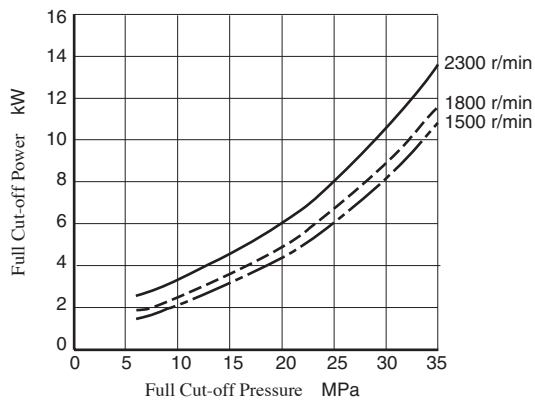
Pipe flange mouting surface conforms to SAE J 518, 4 bolt split flange.
 Pipe flange kits are not available. Contact us for the details.

Typical Performance Characteristics of Type "A3HG71" at Viscosity 32 mm²/s [ISO VG32 oils, 40°C]

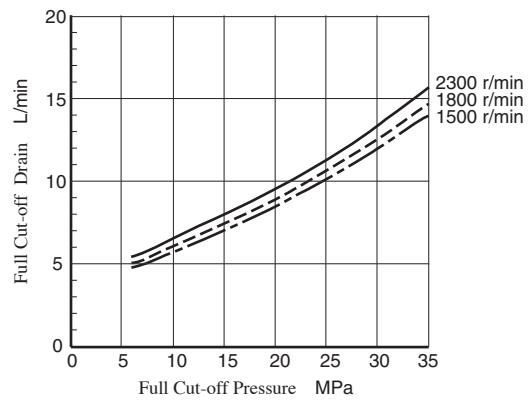
■ Pressure vs. Output Flow



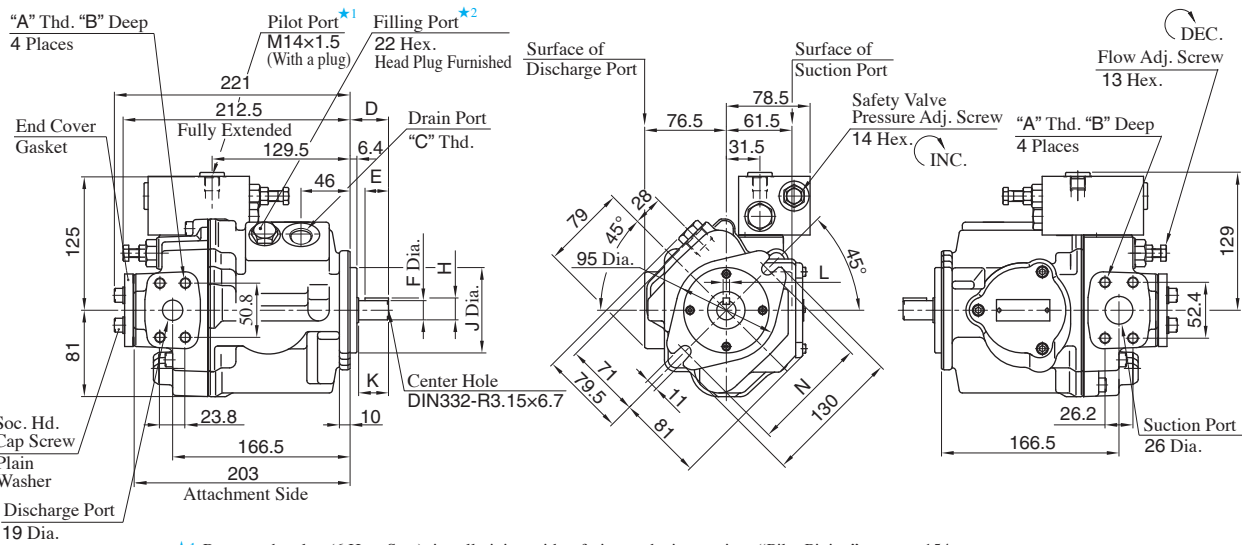
■ Full Cut-off Power



■ Full Cut-off Drain



Flange Mtg.:A3HG16-FR07K-E1C/U1C/U2C/J1C



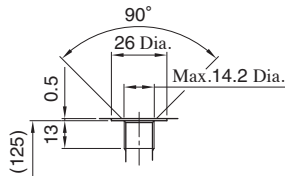
- ★1. Remove the plug (6 Hex. Soc.), install piping with referring to the instructions "Pilot Piping" on page 154.
- ★2. Install the pump so that the "Filling Port" is at the top.

| Model Numbers | A | B | C | D | E | F | H | J | K | L | N | Mounting Flange | Connecting Port | Pipe Flange Threads |
|------------------|------------|----|-----------|----|----|--|--|-------------------------------------|----|------------------------------------|-----|------------------------|-----------------|---------------------|
| A3HG16-FR07K-E1C | M10 | 19 | M22 x 1.5 | 36 | 22 | 18 ^{+0.008} _{-0.003} | 20.5 ^{+0.008} _{-0.133} | 80 ⁰ _{-0.046} | 28 | 6 ⁰ _{-0.03} | 109 | Conforms to ISO 3019-2 | Metric | Metric |
| A3HG16-FR07K-U1C | 3/8-16 UNC | 17 | G 1/2 | 41 | 28 | 19.05 ⁰ _{-0.03} | 21.24 ⁰ _{-0.16} | 82.55 ⁰ _{-0.05} | 33 | 4.76 ^{+0.03} ₀ | 106 | Conforms to ISO 3019-1 | Unified | Unified |
| A3HG16-FR07K-U2C | M10 | 19 | G 1/2 | 41 | 28 | 19.05 ⁰ _{-0.03} | 21.24 ⁰ _{-0.16} | 82.55 ⁰ _{-0.05} | 33 | 4.76 ^{+0.03} ₀ | 106 | Conforms to ISO 3019-1 | BSP | Metric |
| A3HG16-FR07K-J1C | M10 | 19 | G 1/2 | 41 | 28 | 19.05 ⁰ _{-0.03} | 21.24 ⁰ _{-0.16} | 82.55 ⁰ _{-0.05} | 33 | 4.76 ^{+0.03} ₀ | 106 | Conforms to ISO 3019-1 | Rc | Metric |

Pilot Port

For Port/Flange Code "U1/U2/J1" Adapter and O-Ring are attached. After installing the O-Ring at the drain port tighten the adapter

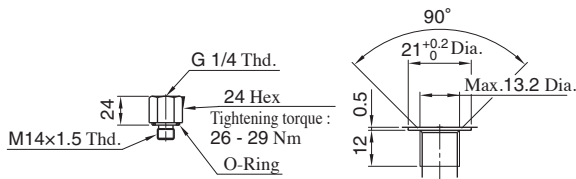
● Detail:A3HG16-FR07K-E1C



Detail of Pilot Port ★3

★3. Pilot port conforms to ISO 9974-1, metric threads.

● Accessories:A3HG16-FR07K-U2C

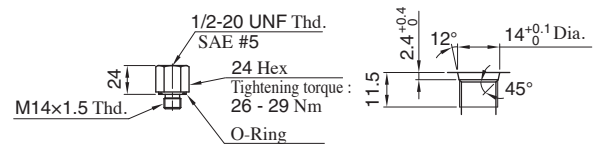


Adapter

Detail of Adapter Port ★5

★5. Adapter port conforms to ISO 1179-1, BSP threads.

● Accessories:A3HG16-FR07K-U1C

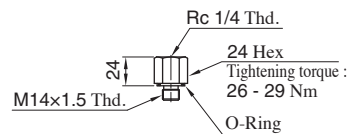


Adapter

Detail of Adapter Port ★4

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

● Accessories:A3HG16-FR07K-J1C



Adapter

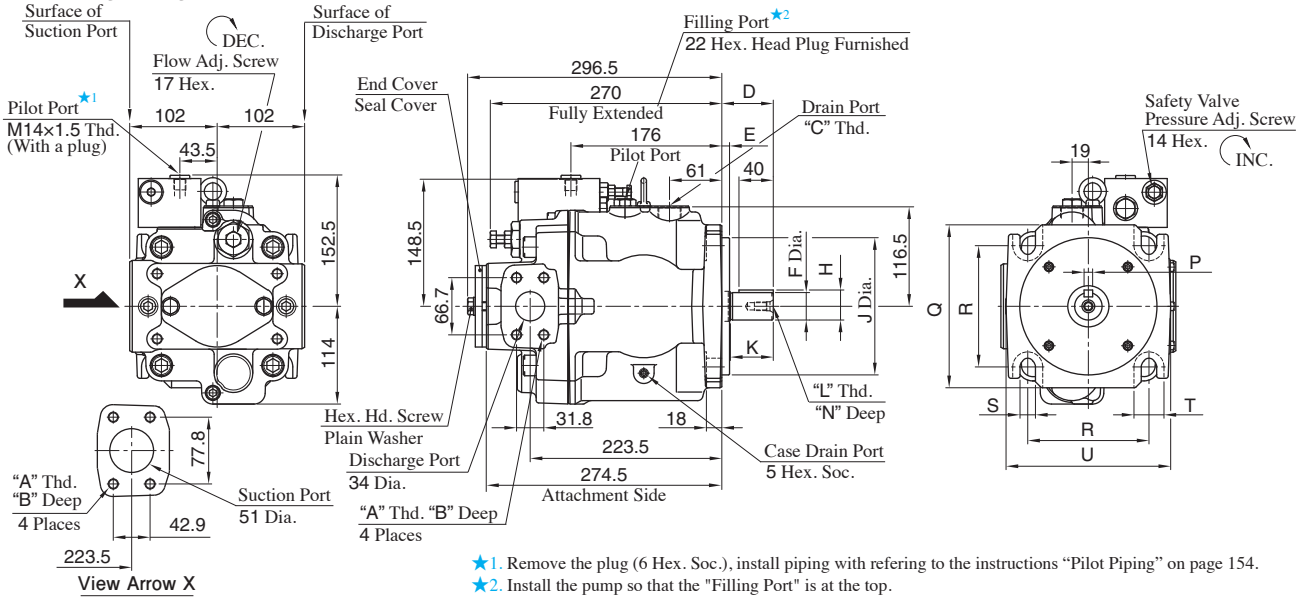
Drain Port

Drain Port is common to that of pressure compensator model. Refer to page 167 for the dimensions of Drain Port.

Foot Mtg.:A3HG16-LR07K-E1C/U1C/U2C/J1C

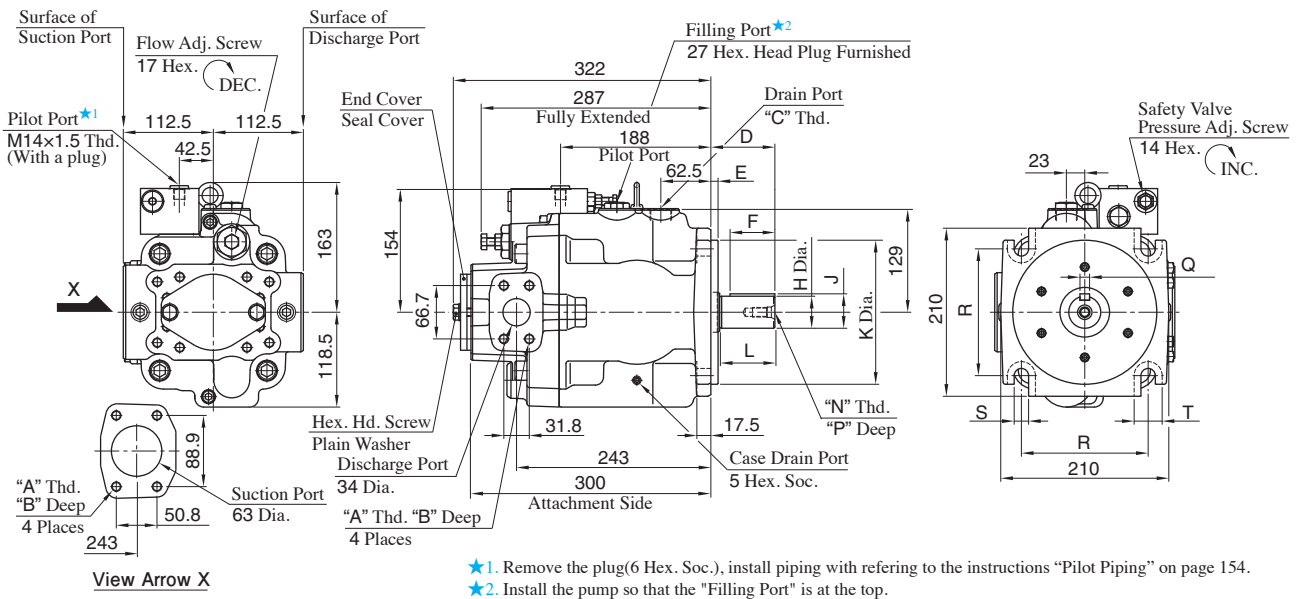
Mounting bracket is common to that of pressure compensator model (except max height dimension). Refer to page 167 for the dimensions of mounting bracket.

Flange Mtg.:A3HG71-FR07K-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-FR07K-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-FR07K-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 | | 19 | 7.94 ^{+0.03} / ₀ | 143 | 114.5 | 13.5 | 28 | 155 | Conforms to ISO 3019-1 | Unified | Unified |
| A3HG71-FR07K-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-FR07K-J1D | M12 | 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 | 143 | 114.5 | 13.5 | 28 | 155 | Conforms to ISO 3019-1 | Re | Metric |

Flange Mtg.:A3HG100-FR07K-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 |
|-----------------------|------------|----|-------|----|------|----|--|--|---------------------------------------|----|-------------|----|--------------------------------------|-------|------|----|---|------------------------|-----------------|---------------------|
| A3HG100-FR07K-E1D/E2D | M12 | 22 | M27x2 | 80 | 9 | 56 | 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-FR07K-U1D | 1/2-13 UNC | 21 | G 3/4 | 62 | 12.7 | 45 | 38.1 ⁰ / _{-0.05} | 42.36 ⁰ / _{-0.18} | 152.4 ⁰ / _{-0.05} | 54 | | 28 | 9.53 ^{+0.03} / ₀ | 161.6 | 21.5 | 39 | | Conforms to ISO 3019-1 | Unified | Unified |
| A3HG100-FR07K-U2D | M12 | 22 | G 3/4 | 62 | 12.7 | 45 | 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-FR07K-J1D | M12 | 22 | G 3/4 | 62 | 12.7 | 45 | 38.1 ⁰ / _{-0.05} | 42.36 ⁰ / _{-0.18} | 152.4 ⁰ / _{-0.05} | 54 | | 28 | 9.53 ^{+0.03} / ₀ | 161.6 | 21.5 | 39 | | Conforms to ISO 3019-1 | Re | 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-LR07K-E1D/E2D/U1D/U2D/J1D, A3HG100-LR07K-E1D/E2D/U1D/U2D/J1D

Mounting bracket is common to that of pressure compensator model. Refer to page 172 and 173 for the dimensions of mounting bracket.

