

"A3HG" Series High Pressure Variable Displacement Piston Pumps



High pressure piston pumps of globally common specifications conforming to international mounting standards (ISO, SAE)

Features

Feature 1 Conforming to International Standards

We have widened the range and now have available pumps not only with JIS mounting but also ISO 3019-2 and SAE J744 variants as standard depending on market needs. Both Keyed Shaft and Spline Shaft are available as standard design.

Feature 2 High Pressure and wide flow range

Maintaining the high performance of our A3H pumps, the improved A3HG series now offers a nominal pressure of 31.5MPa. With a wide flow range, varying from 16cm³/rev to 180cm³/rev. Supporting a wide range of applications as mid-high load capacity pumps.

Feature 3 Through-drive System Adopted as A Standard Feature

The through-drive system adopted as a standard feature allows connecting a pump having the same capacity as the driving pump on the non-driven side, increasing the maximum flow range. Any pump conforming to international standards can be used on the non-driven side; replacement in machines can be readily done.

Feature 4 Wide Variety of Control Modes

Four control modes are available to support various functions:
 Pressure Compensator Type
 Pilot Pressure Control Type Pressure Compensator
 Constant Power Control Type with External Pilot
 Load Sensing Type

Mounting

Standards

Frage/Port Code	Standards
E1	Europe
U1	North America
U2	United Kingdom
J1	Japan

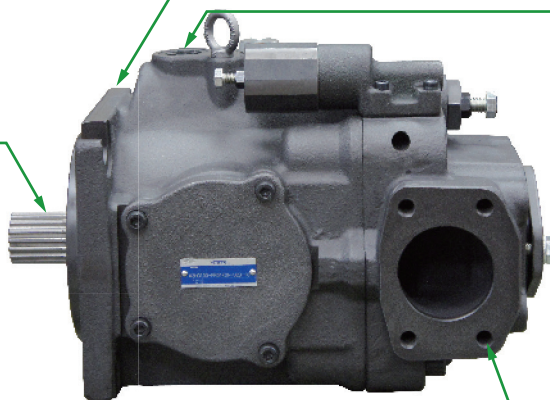
Shaft Extension

Conforming to ISO and SAE standards

Keyed



Spline



Easy replacement because of the conformance to international standards!

Mounting Flange

Standards

Frage/Port Code	Standards
E1	Conforms to ISO 3019-2
U1	Conforms to SAE J744
U2	Conforms to SAE J744
J1	Conforms to SAE J744

Number of Pump Mtg. Bolts

Series Number	2Bolts	4Bolts
A3HG16	○	—
A3HG37	○	○
A3HG56	○	○
A3HG71	—	○
A3HG100	—	○
A3HG145	—	○
A3HG180	—	○



Connecting Port

Frage/Port Code	Thread	Accessories
E1	Metric	—
U1	Unified	Adapter ☞
U2	BSPP	—
J1	Rc	Adapter ☞

Pipe Flange Thread

Frage/Port Code	Thread
E1	Metric
U1	Unified
U2	Metric
J1	Metric

Application

Pressing Machine, Pipe-bending machine, Pipe Terminal Processing Machine, Tube Molding Machine, Steel Mill Equipment, Rolling Equipment, Concrete Production Equipment, Compactor, Industrial Machinery Equipment, Industrial Vehicle

Specifications

Model number	Displacement cm ³ /rev	Min. Adj. Displacement cm ³ /rev	Operated Pressure MPa		Shaft Speed r/min	
			Rated	Intermittent	Max.	Min.
A3HG16	16.3	8.0	31.5	35	3600	600
A3HG37	37.1	16.0			2700	
A3HG56	56.3	35.0			2500	
A3HG71	70.7	45.0			2300	
A3HG100	100.5	63.0			2100	
A3HG145	145.2	95.0			1800	
A3HG180	180.7	125.0			1800	

High Pressure

A3H series
Rated Pressure :
28 MPa

A3HG series
Rated Pressure :
31.5 MPa



Rated Pressure is Improved!

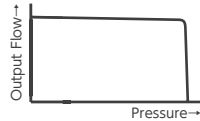
Control Type

■ Pressure Compensator Type



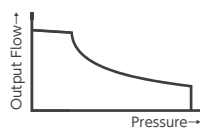
- When the system pressure increases and comes close to the preset cut-off pressure, the pump flow decreases automatically while maintaining the set pressure as it is.
- The output flow and full cut-off pressure can be manually adjusted.

■ Pilot Pressure Control Type Pressure Compensator



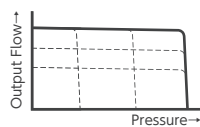
- The pump is used in combination with the pilot relief valve or multistage pressure control valve. By controlling the pilot pressure, the full cut-off pressure can be remote-controlled according to your requirements.

■ Constant Power Control Type With External Pilot



- This type of control can control the pump input power according to the motor output.
- When the system pressure increases, the output flow decreases, in correspondence to predetermined shaft input values.
- This type of control can enable one pump to act as two pumps (low-pressure and large-flow/high-pressure and small-flow). Therefore, the motor capacity can be reduced.
- This type of control provides the remote control of the full cut-off pressure by connecting a remote control relief valve to the pilot port.

■ Load Sensing Type



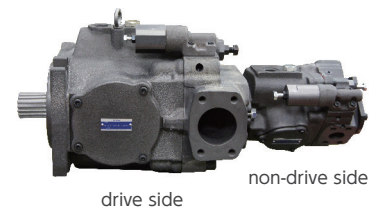
- This is an energy-saving type control which maintains the pump flow and load pressure at the absolute minimum necessary level to operate the actuator.
- This type of control automatically regulates the output flow so that the inlet-outlet differential pressure of the flow control valve at the output side is constant. To do so, the load pressure must be introduced to the load sensing port of the pump through the external piping.
- This type of control provides the remote control of the full cut-off pressure by connecting a remote control relief valve to the pilot port.

Combination of Through Drive Pump

		Shaft Extension: Splined							
drive side non-drive side	A3HG16	A3HG37		A3HG56		A3HG71	A3HG100	A3HG145	A3HG180
		2bolt	4bolt	2bolt	4bolt				
A3HG16	○	○	○	○	○	○	○	○	○
A3HG37		○	◎	○	◎	◎	◎	◎	◎
A3HG56 2bolt				○	◎	◎	◎	◎	◎
A3HG56 4bolt				○	○	○	○	○	○
A3HG71						○	○	○	○
A3HG100							◎	◎	◎
A3HG145								○	○
A3HG180									○

◎ The specification of the non-drive side pump can be used to the max operated pressure and max displacement.

○ The specification of the non-drive side pump can be used within the allowable operated pressure and max displacement.



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