

AR Series Variable Displacement Piston Pumps, Pressure Compensator Type



Graphic Symbol



Specifications

Model Numbers	Geometric Displacement cm ³ /rev	Min. Adj. Flow cm ³ /rev	Operating Pressure MPa		Shaft Speed Range r/min		Approx. Mass kg
			Rated	Intermittent [★]	Max.	Min.	
AR16-FR01 * *-22	15.8	6.0	16		1800	600	11.8
AR22-FR01 * *-22	22.2	8.5					12.5

★ When setting the pressure, make sure the full cut-off pressure never exceeds the maximum intermittent pressure.

Model Number Designation

AR16	-F	R	01	B	S	-22
Series Number	Mounting	Direction of Rotation	Control Type	Pres. Adj. Range	Port Position	Design Number
AR16 (15.8 cm ³ /rev)	F : Flange Mtg.	[Viewed from Shaft End]	01 : Pressure Compensator Type	B : 1.2~7 C : 2.0~16	None : Axial Port S : Side Port	22
AR22 (22.2 cm ³ /rev)		R : Clockwise (Normal)				22

■ Pipe Flange Kits

Pipe flange kits are available. When ordering, specify the kit number from table blow.

Pump Model Number	Name of Port	Pipe Flange Kit Numbers	
		Threaded Connection	Socket Welding
AR16-FR01 AR22-FR01	Suction	F5-06-A-1021	F5-06-B-1021
	Discharge	— ★	— ★

★ Discharge port is available only for the threaded connections.

Pipe Flange Kit for Suction Port : F5-06-^A/_B-1021

F5-06-A-1021

Approx. Mass: ~0.5 kg

F5-06-B-1021

Approx. Mass: ~0.3 kg

■ Mounting Bracket Kits

Mounting bracket available on separate order.

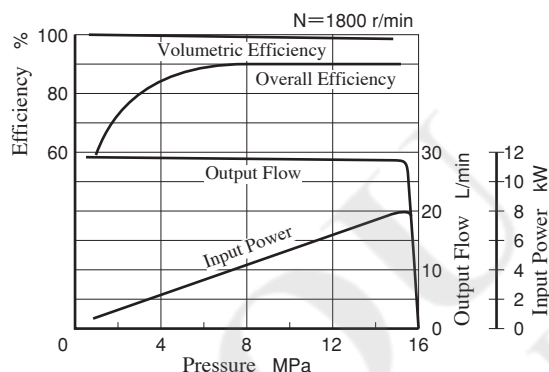
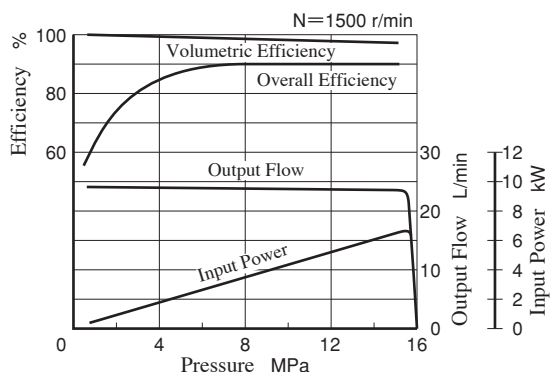
Pump Model Numbers	Mtg. Bracket Kit Numbers	Approx. Mass kg
AR16-FR01 AR22-FR01	LP-1A-10	2.2

Note : The mounting bracket kit consists of a mounting bracket, two hex. bolts and two plain washers.

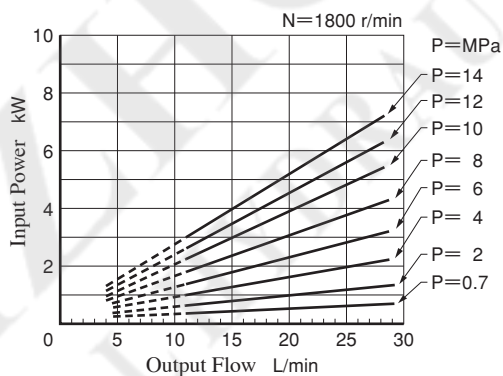
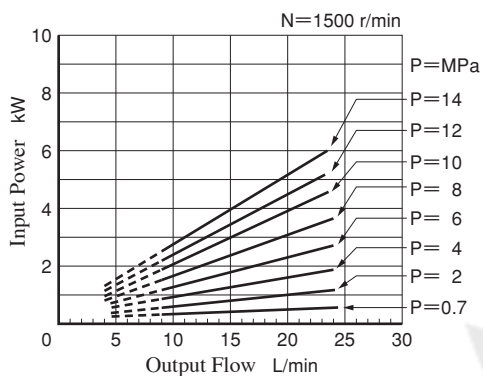
Mtg. Bracket Kit : LP-1A-10

Typical Pump Characteristics of Type **AR16** at Viscosity 20 mm²/s [ISO VG32 Oils, 50°C]

Performance Characteristic Curve

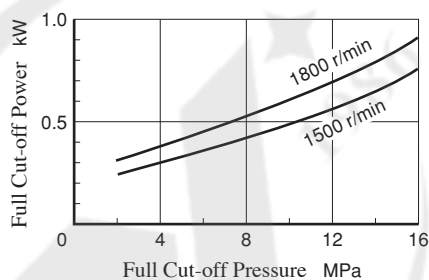


Input Power

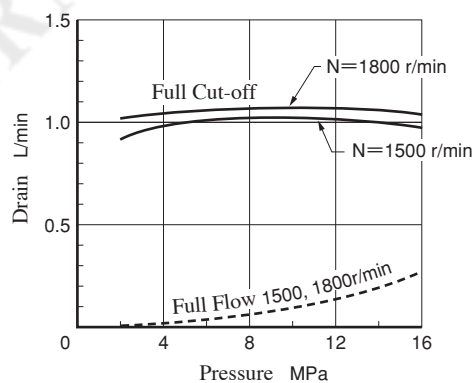


Note) The dotted line in the graph indicates less than minimum adjustable flow.

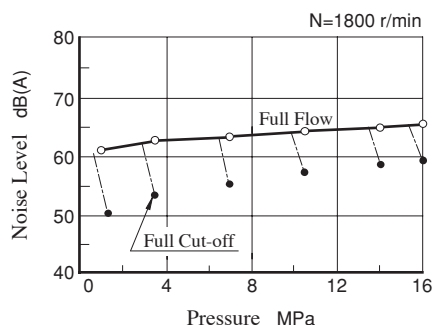
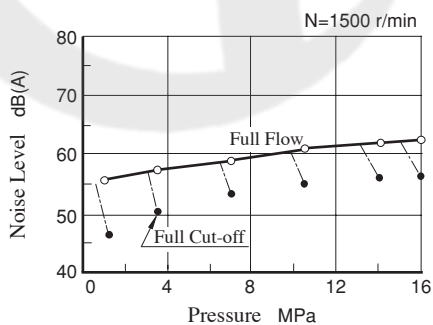
Full Cut-off Power



Drain

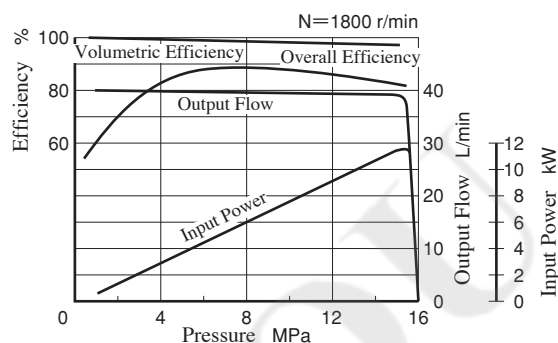
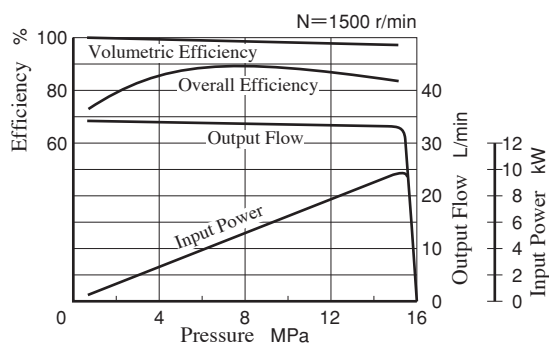


Noise Level [One metre horizontally away from pump head cover]

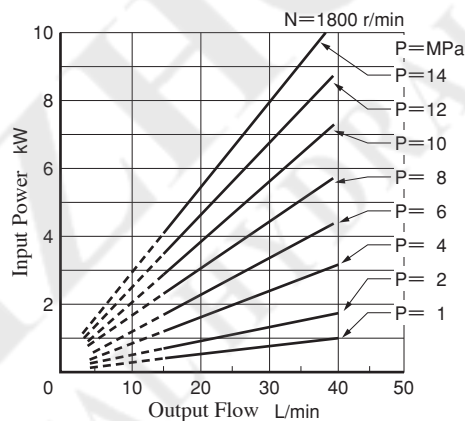
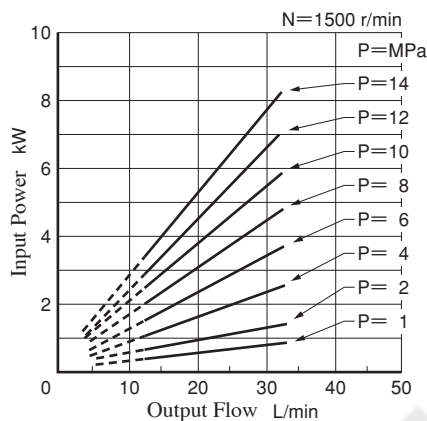


Typical Pump Characteristics of Type AR22 at Viscosity 20 mm²/s [ISO VG32 Oils, 50°C]

Performance Characteristic Curve

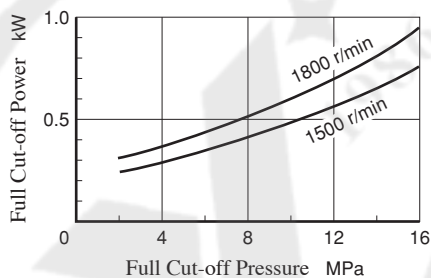


Input Power

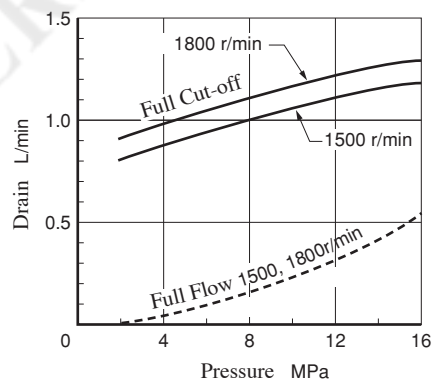


Note) The dotted line in the graph indicates less than minimum adjustable flow.

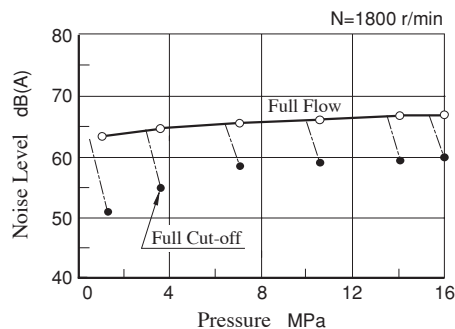
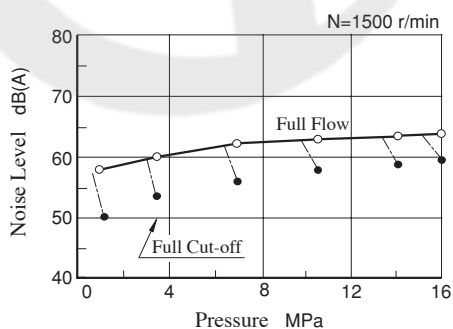
Full Cut-off Power



Drain



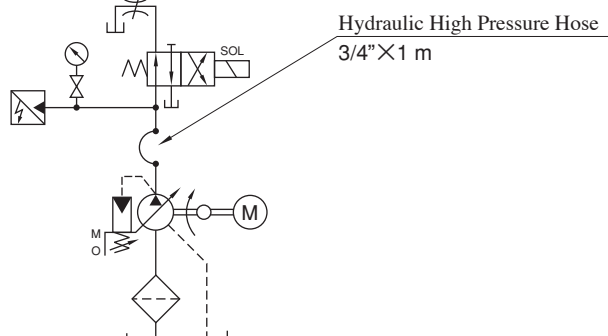
Noise Level [One metre horizontally away from pump head cover]



Response Characteristics Change in Accordance with Circuits and Operating Conditions.

Test Circuit Conditions

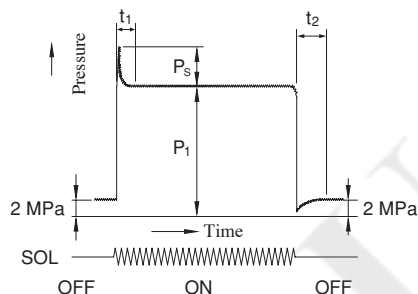
Circuit



Conditions

Shaft Speed : 1500 r/min
Hydraulic Fluid : ISO VG32 Oil
Oil Temperature : 40 °C
Viscosity : 32 mm²/s

Result of Measurement

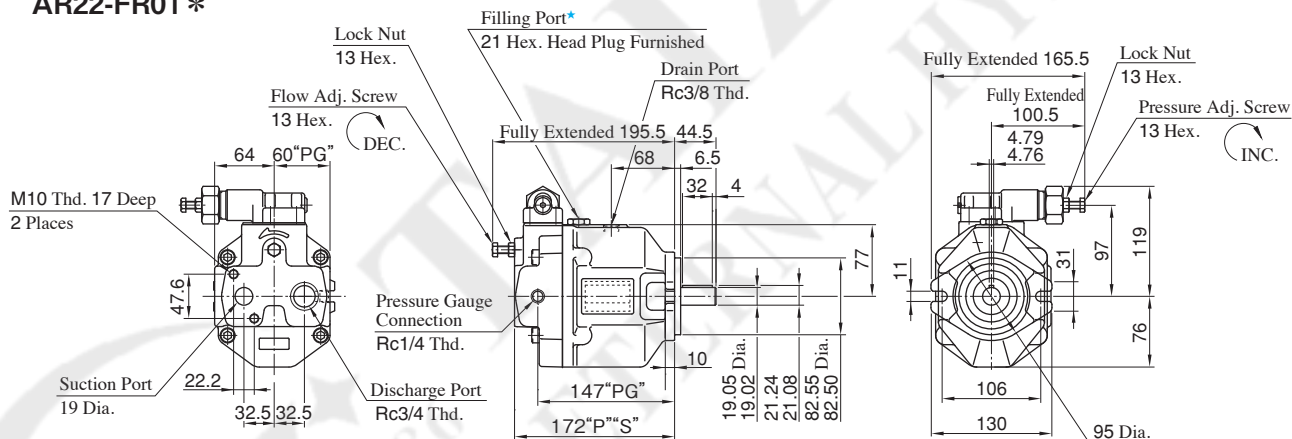


Model	Full Cut-off Pressure P ₁ MPa	Response Time ms		Overshoot Pressure P _s MPa
		t ₁	t ₂	
AR16	16	120	90	3.6
AR22		90	100	

Axial Port Type

AR16-FR01 *

AR22-FR01 *

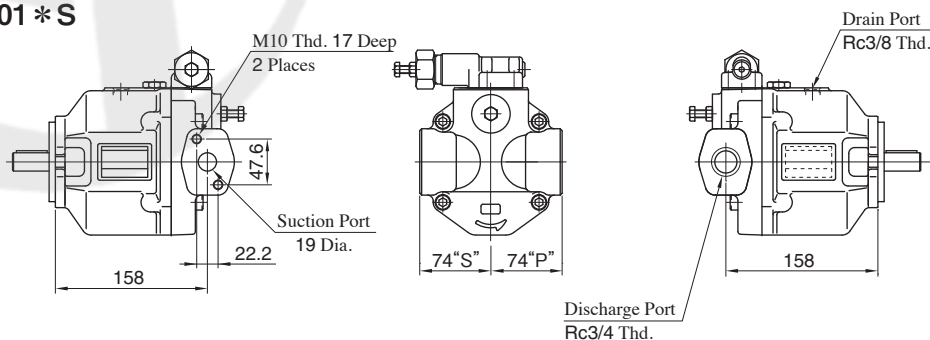


★ Install the pump so that the "Filling Port" is at the top.

Side Port Type

AR16-FR01 * S

AR22-FR01 * S

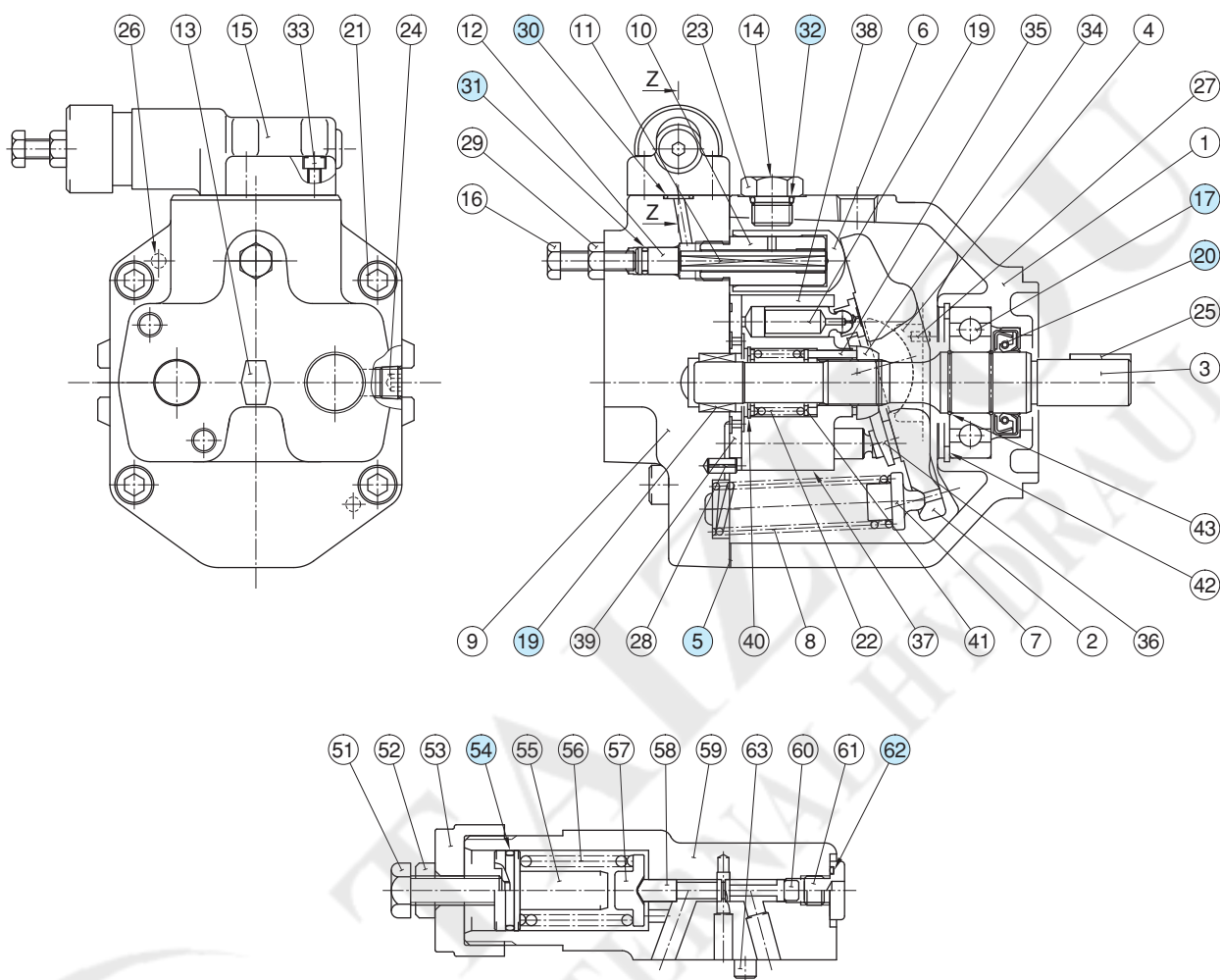


● For other dimensions, refer to "Axial port Type".

Spare Parts List

AR16-FR01

AR22-FR01



Section Z-Z

List of Seals and Bearings

Item	Name of Part	Part Numbers		Qty.
		AR16-FR01	AR22-FR01	
5	Gasket	1302-PK314545-5		1
17	Bearing	6305		1
19	Bearing	HMK 1715 V2	Z30-1303-PK410300-8	1
20	Oil Seal	TCN 254511		1
30	O-Ring	SO-NB-P9		3
31	O-Ring	SO-NB-P8		1
32	O-Ring	SO-NB-P14		1
54	O-Ring	AS 568-018 (NBR-70)		1
62	O-Ring	SO-NB-P10		1