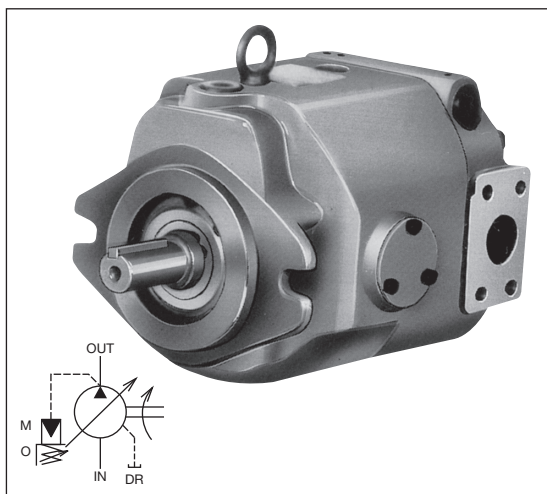


VARIABLE-DISPLACEMENT PISTON PUMP (HPP-VD2V)

A

PUMPS AND MOTORS



This swash plate type piston pump features low noise, high efficiency and high response. It provides specifications that assure ease of use, such as discharge rate, pressure adjustment range and pipe connection directions, and ensures excellent durability.

Features

- Low noise**
14 MPa, at cut-off: 56 dB (A), before cut-off: 60 dB (A) (at 1 m from 1,200 min⁻¹ pump)
- High efficiency (energy saving)**
Volumetric efficiency: 95%, whole efficiency: 85% (at 13.5 MPa, 1,800 min⁻¹)
- High response**
Response time from 14 MPa cut-off to 13.5 MPa: 0.07 sec
Response time from 13.5 MPa to 14 MPa cut-off: 0.06 sec

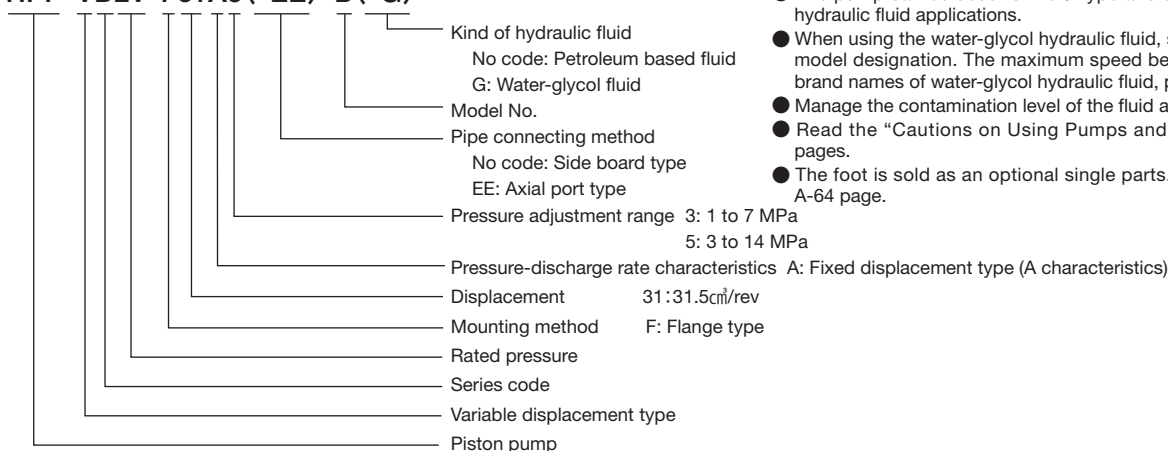
⚠ Cautions on use

Please read the Operating Manual carefully to ensure correct usage.

- Direction of rotation is to right (CW) viewed from the shaft end.
- Connect the drain pipe from where the drain outlet will become the highest.
 - Before starting the pump, supply hydraulic fluid through the oil filler port so that the pump is filled with the hydraulic fluid. (1ℓ)
 - When mounting a check valve at the pump outlet side, use a valve with a cracking pressure of 0.005 MPa.
 - For the value of discharge rate set by the discharge rate adjustment screw, refer to the graph on K-12 page.
 - Installation of a line filter of 20μm is recommended in the return line to the reservoir.
 - The pump can be used for R&O type and abrasion-resistant type hydraulic fluid applications.
 - When using the water-glycol hydraulic fluid, specify -G at the end of model designation. The maximum speed becomes 1,800 min⁻¹. For brand names of water-glycol hydraulic fluid, please consult us.
 - Manage the contamination level of the fluid at NAS11 or better.
 - Read the "Cautions on Using Pumps and Motors", A-2 and A-3 pages.
 - The foot is sold as an optional single parts. Refer to "About foot", A-64 page.

Description of the model designation

HPP-VD2V-F31A3(-EE)-B(-G)



Specifications

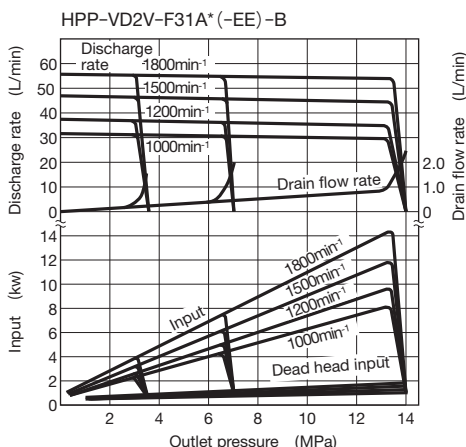
Model Flange type	Displacement (cm³/rev)	Pressure adjustment range (MPa)	Rotating speed (min ⁻¹)		
			Rated	Max.	Lowest
HPP-VD2V-F31A3(-EE)-B	*to 31.5	1 to 7	1,800	2,500	500
HPP-VD2V-F31A5(-EE)-B		3 to 14			

-EE indicates the pipe connecting method of axial port type.

Symbol "**": Set the minimum discharge rate at 12 L/min. or more, regardless of revolving speed.

General performance characteristics

Performance curve for hydraulic fluid viscosity of 20 mm²/s



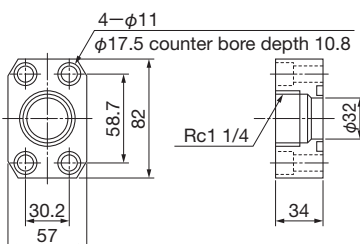
Pipe flange

(Specify separately by selecting from this table.)

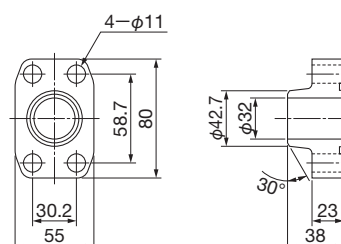
Name	Screw joint pipe flange	Welding pipe flange
Model	FHPP-10PT	FHPP-10WE
Bolt	M10×35	M10×35
O-ring	1BG40	1BG40

(Note) This flange comes with mounting bolts and O-ring.
Bolts of strength capacity according to JIS B 1176 standard are used.
The applicable standard for O-ring is JIS B 2401 standard.

FHPP-10PT (1/4 thread type)

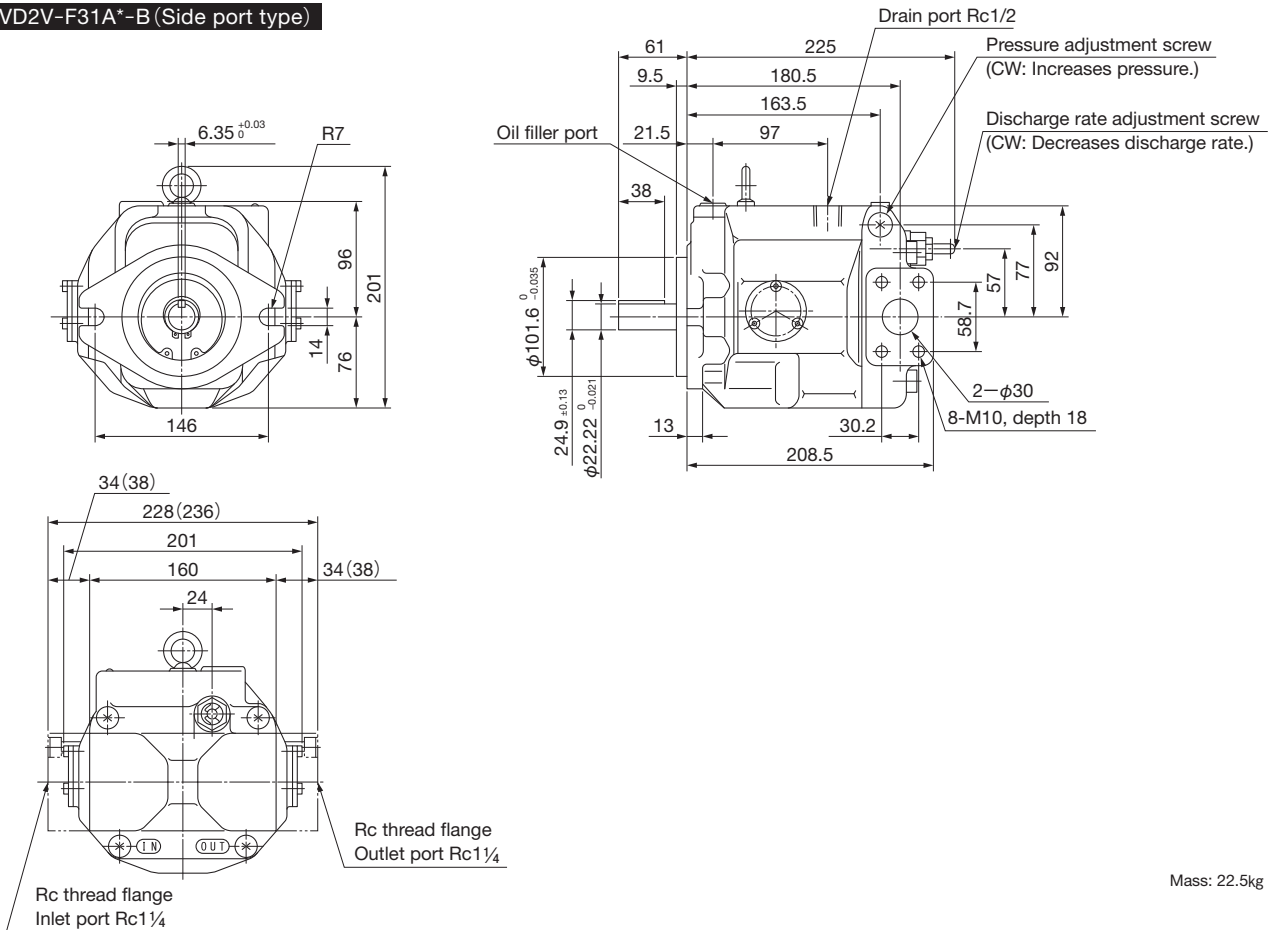


FHPP-04WE (1/4 welding type)

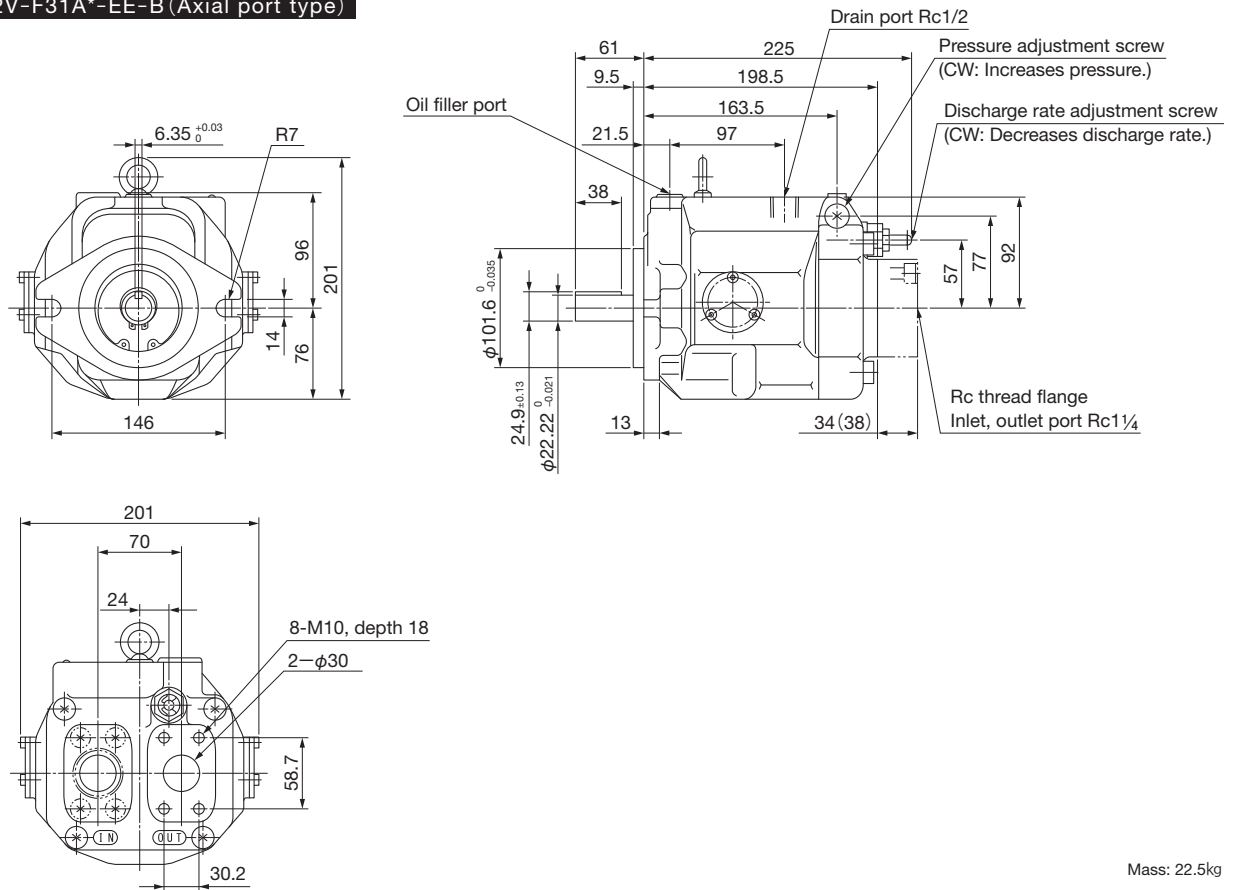


Outside dimensions

HPP-VD2V-F31A*-B (Side port type)



HPP-VD2V-F31A*-EE-B (Axial port type)

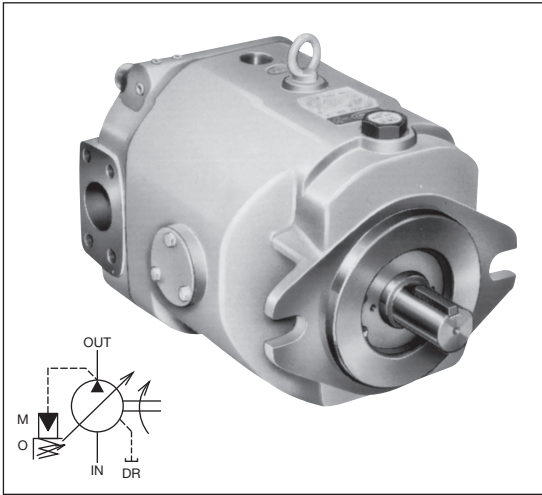


(Note) Dimension in parentheses indicates the welding flange dimension, dimensions without parentheses indicate Rc thread flange dimension.

VARIABLE-DISPLACEMENT PISTON PUMP (HPP-VF2V)

A

PUMPS AND MOTORS



This swash plate type piston pump features low noise, high efficiency and high response. It provides specifications that assure ease of use, such as discharge rate, pressure adjustment range and pipe connection directions, and ensures excellent durability.

Features

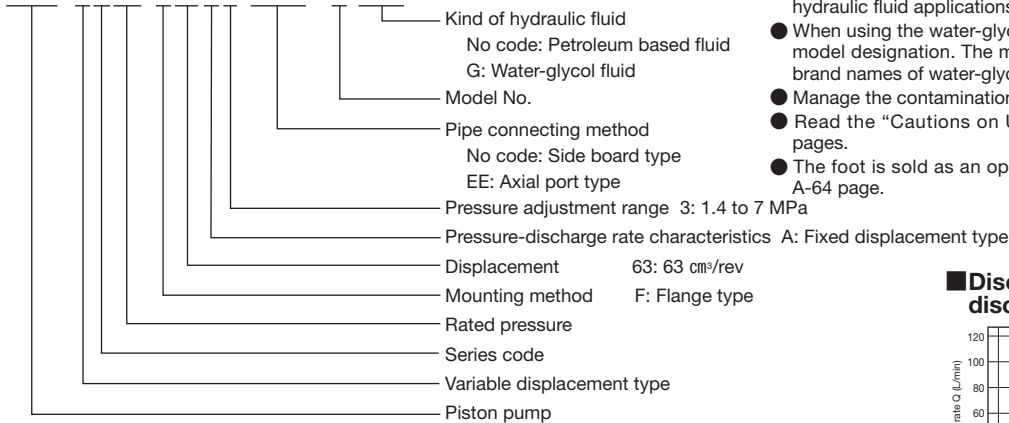
- Low noise**
7 MPa, at cut-off: 59 dB (A), before cut-off: 64 dB (A) (at 1 m from 1,200 min⁻¹ pump)
- High efficiency (energy saving)**
Volumetric efficiency: 95%, whole efficiency: 83% (at 6.5 MPa, 1,800 min⁻¹)
- High response**
Response time from 7 MPa cut-off to 6.5 MPa: 0.09 sec
Response time from 6.5 MPa to 7 MPa cut-off: 0.07 sec

⚠ Cautions on use Please read the Operating Manual carefully to ensure correct usage.

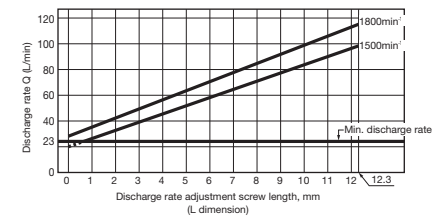
- Direction of rotation is to right (CW) viewed from the shaft end.
- Connect the drain pipe from where the drain outlet will become the highest.
 - Before starting the pump, supply hydraulic fluid through the oil filler port so that the pump is filled with the hydraulic fluid. (2.3ℓ)
 - When mounting a check valve at the pump outlet side, use a valve with a cracking pressure of 0.005 MPa.
 - For the value of discharge rate set by the discharge rate adjustment screw, refer to the graph on K-12 page.
 - Installation of a line filter of 20μm is recommended in the return line to the reservoir.
 - The pump can be used for R&O type and abrasion-resistant type hydraulic fluid applications.
 - When using the water-glycol hydraulic fluid, specify -G at the end of model designation. The maximum speed becomes 1,800 min⁻¹. For brand names of water-glycol hydraulic fluid, please consult us.
 - Manage the contamination level of the fluid at NAS11 or better.
 - Read the "Cautions on Using Pumps and Motors", A-2 and A-3 pages.
 - The foot is sold as an optional single parts. Refer to "About foot", A-64 page.

Description of the model designation

HPP-VF2V-F63A3(-EE)-A(-G)



Discharge rate setting with the discharge rate adjustment screw



Specifications

Model	Displacement (cm³/rev)	Pressure adjustment range (MPa)	Rotating speed (min ⁻¹)		
			Rated	Max.	Lowest
HPP-VF2V-F63A3(-EE)-A	*to 63	1.4 to 7	1,800	2,000	600

-EE indicates the pipe connecting method of axial port type.

Symbol "****": Set the minimum discharge rate at 23 L/min. or more, regardless of revolving speed.

Pipe flange

(Specify separately by selecting from this table.)

Name	Screw joint pipe flange	Welding pipe flange
Model	FHPP-12PT	FHPP-12WE
Bolt	M12×40	M12×40
O-ring	1AG50	1AG45

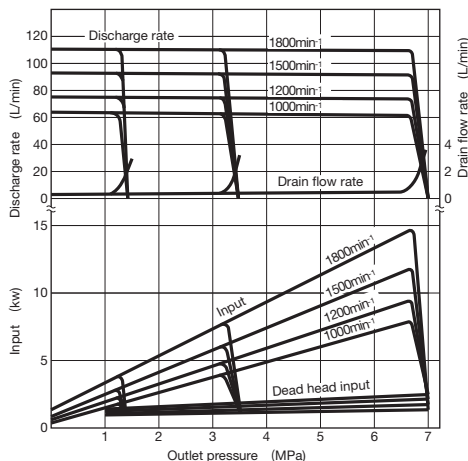
(Note) This flange comes with mounting bolts and O-ring.

Bolts of strength capacity according to JIS B 1176 standard are used.

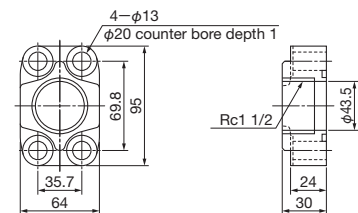
The applicable standard for O-ring is JIS B 2401 standard.

General performance characteristics

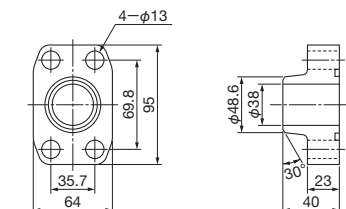
Performance curve for hydraulic fluid viscosity of 20 mm²/s



FHPP-12PT (1 1/2 thread type)

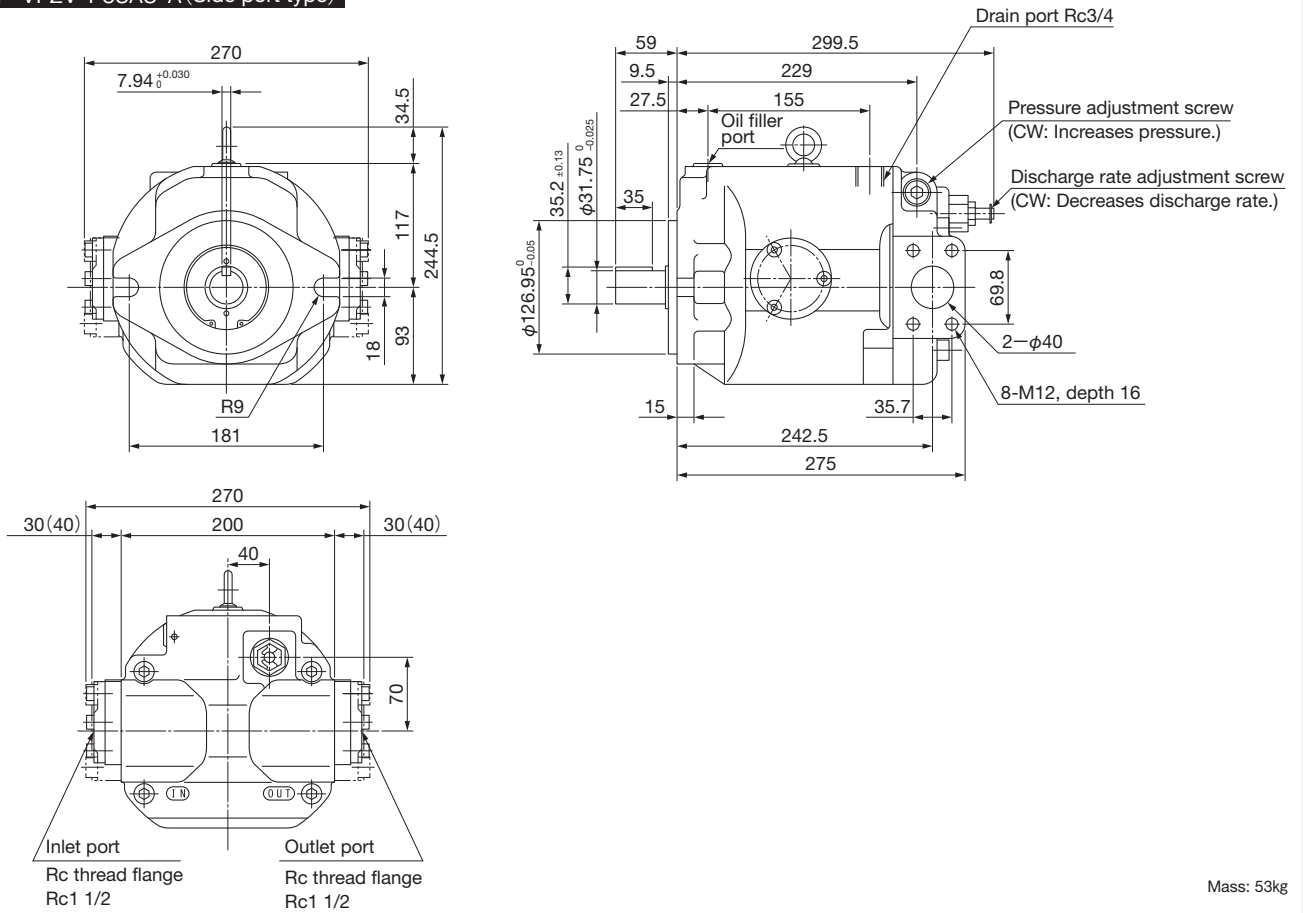


FHPP-12WE (1 1/2 welding type)

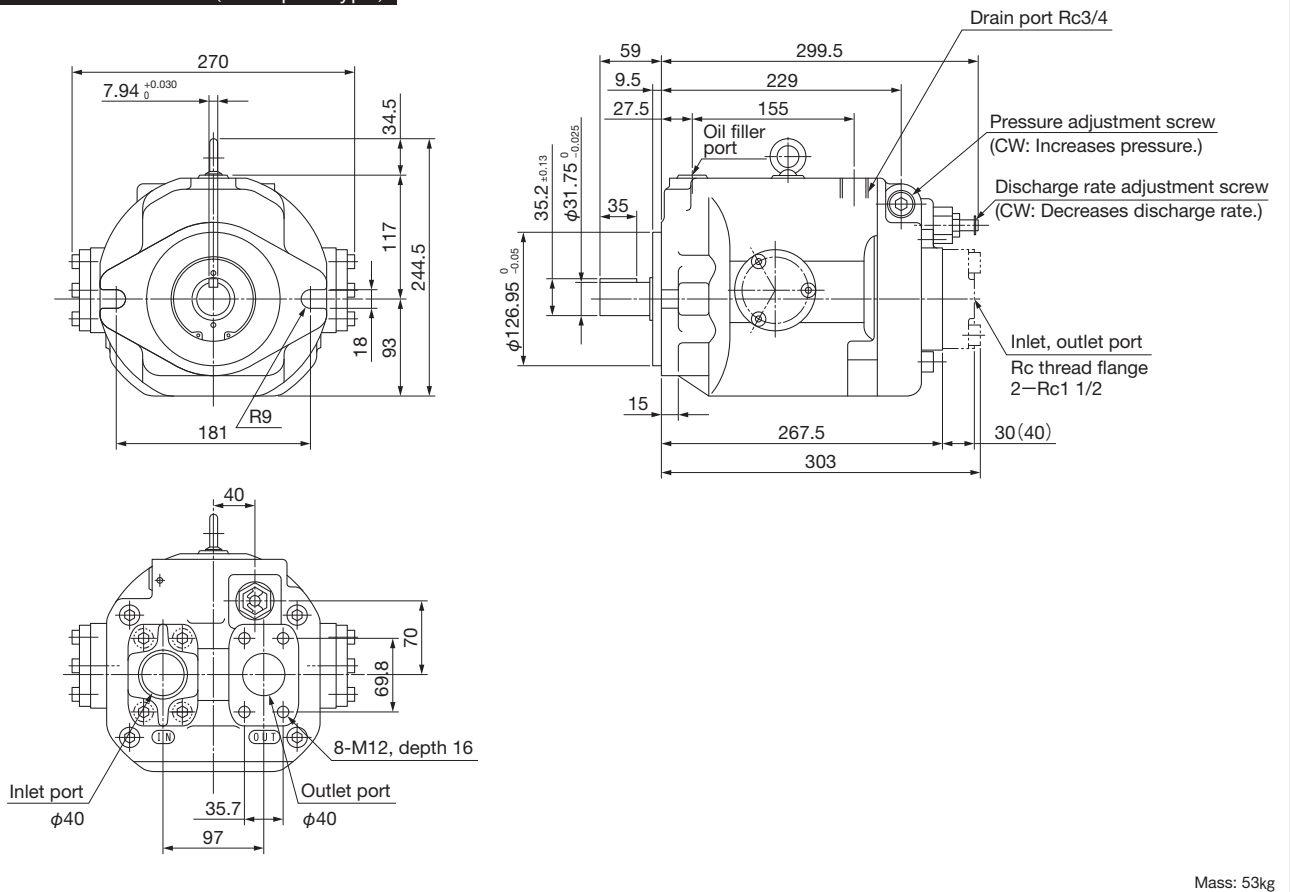


■ Outside dimensions

HPP-VF2V-F63A3-A (Side port type)



HPP-VF2V-F63A3-EE-A (Axial port type)



(Note) Dimension in parentheses indicates the welding flange dimension, dimensions without parentheses indicate Rc thread flange dimension.