

## GPM

## Motorized Grease Pump

- Electronically operated progressive type grease pumps
- Simple to install and operate
- High performance unit discharging 10cm<sup>3</sup>/min to 12cm<sup>3</sup>/min

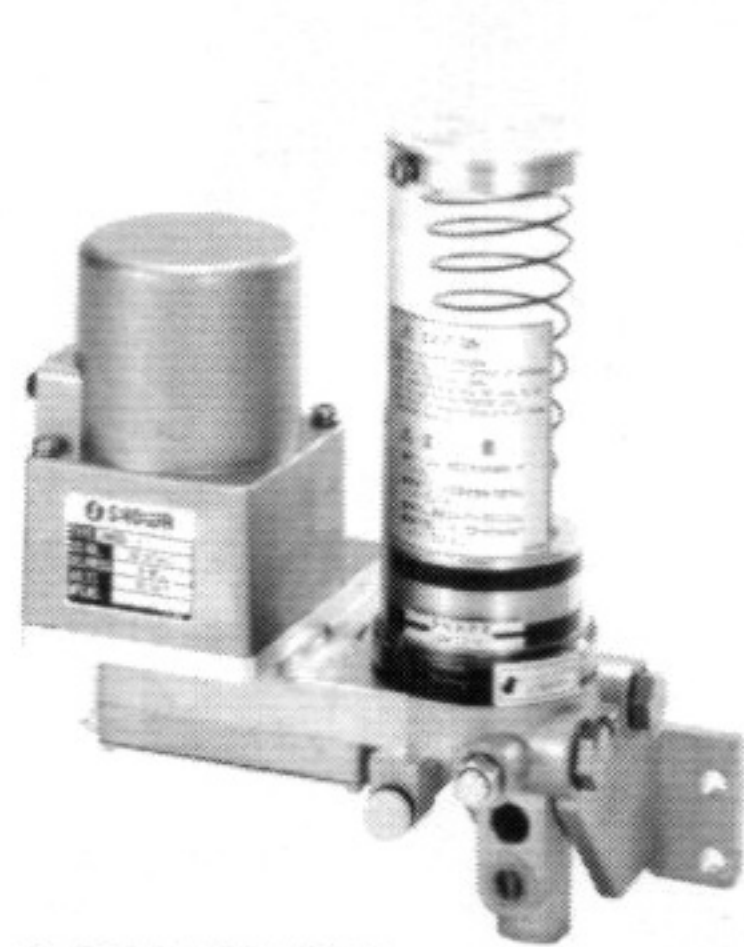
The GPM electronically operated progressive type grease pumps, are designed for larger scale lubrication requirements.

Depending upon the power specification chosen, the GPM pump unit possesses a discharge rate of either 10 cm<sup>3</sup>/min or 12cm<sup>3</sup>/min.

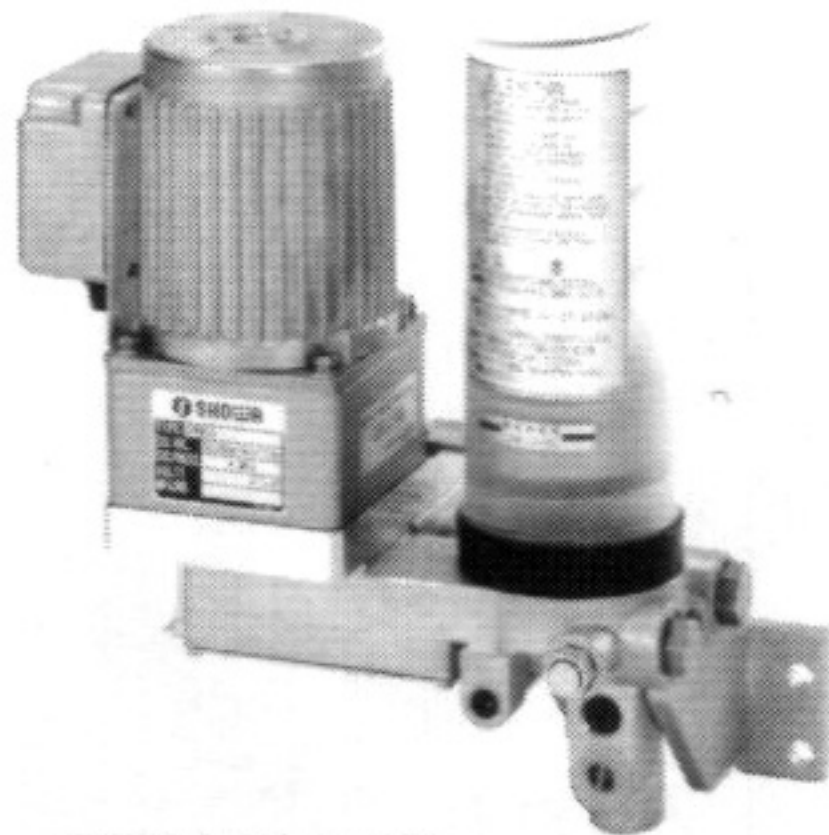
An array of lubrication requirements can be covered by this unit with the ability to select; reservoir type, capacity size, discharging pressure of 14MPa or 21 MPa, various power options, and the option of a level switch to enable lubrication management from a distant location.



GPM1010E



GPM1023D



GPM1014C

### MODEL CODE

GPM 10 \* \* \* \* \*

#### Level Switch

- : No Level Detecting
- L : Level Switch Option

#### Terminal Board

- : DC Motor No Terminal Board
- T : DC Motor with Terminal Board

#### Motor Power Code

- C : 1 Phase AC 100V 50/60Hz
- M : 1 Phase AC 110V 50/60Hz
- E : 3 Phase AC 200/200 • 220V 50/60Hz
- F : 1 Phase AC 200/200 • 220V 50/60Hz
- D : DC24V

#### Grease Capacity & Container Type

- 3 : 300cm<sup>3</sup> Grease Cup
- 4 : 400cm<sup>3</sup> Cartridge
- 7 : 700cm<sup>3</sup> Cartridge
- 8 : 800cm<sup>3</sup> Grease Cup
- 0 : 1000cm<sup>3</sup> Cartridge

#### Discharge Pressure

- 1 : 14MPa
- 2 : 21MPa

#### Discharge Volume

- 10 : 10cm<sup>3</sup>/min - 12cm<sup>3</sup>/min (50 - 60Hz)

#### Base Code

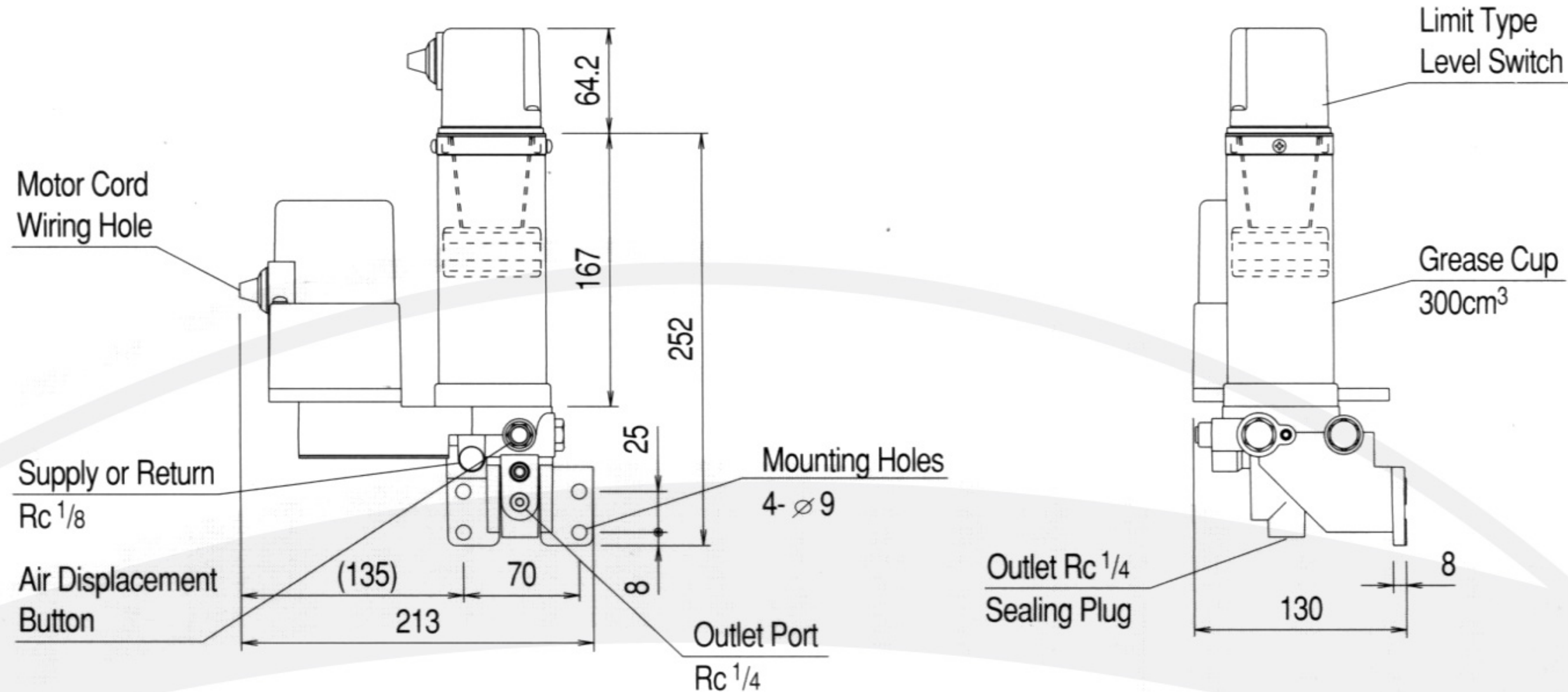
### POWER SPECIFICATION

Power Code	C	M	E	F	D
Phase Motor	1	1	3	1	-
Voltage (V)	100	110	200 / 200•220	200 / 200•220	DC24
Frequency (Hz)	50 / 60	50 / 60	50 / 60	50 / 60	-
Current (A)	0.7	0.6	0.26 / 0.27	0.35	0.6
Output & Poles	25W x 4P				15W x 2P
Rating	Continuous				

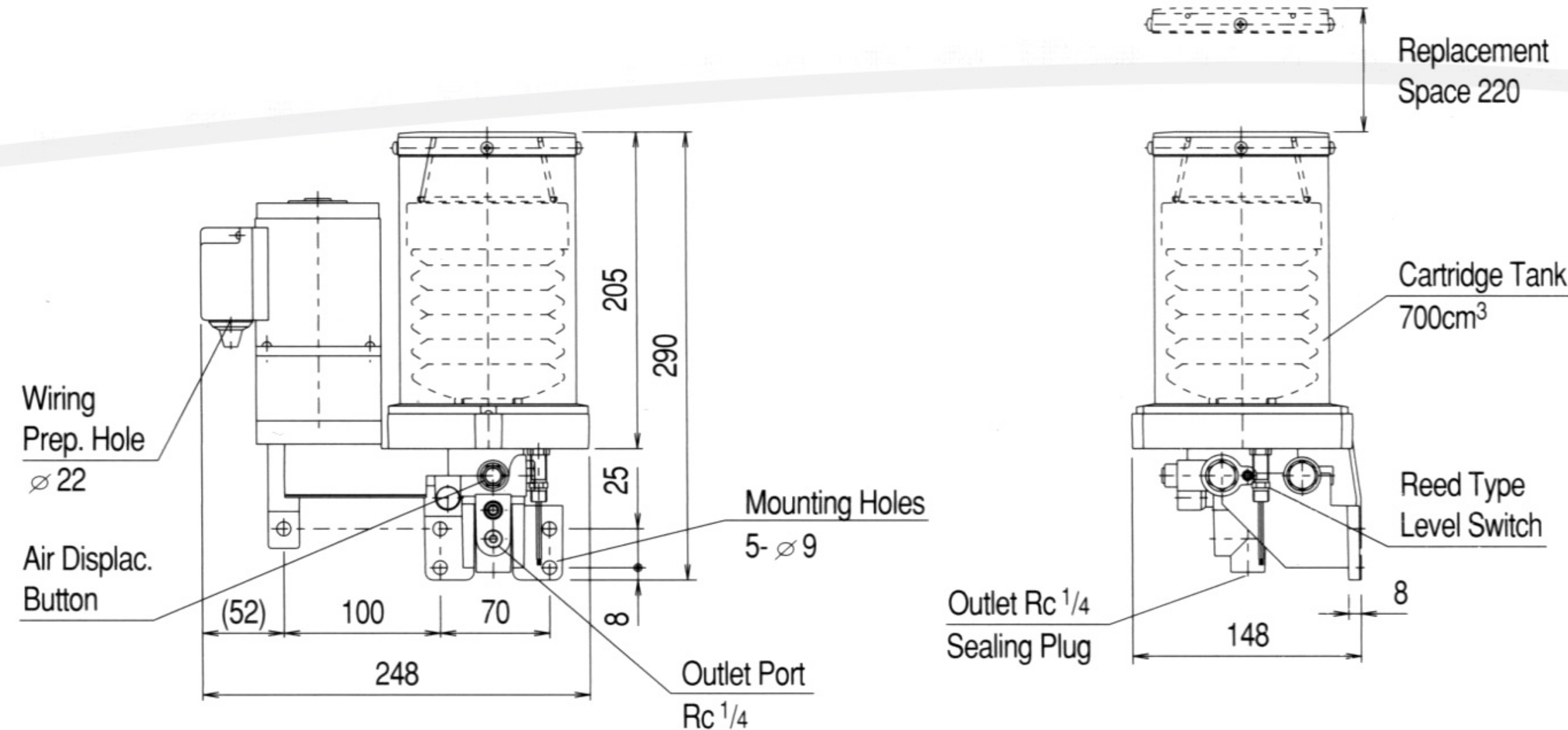
### LEVEL SWITCH (OPTION) SPECIFICATION

LIMIT SWITCH TYPE		
Operation	LOW ON or OFF C Contact Point	
Contact Rating	AC125V 3A • AC250V 2A (Resist. Load) DC30V 3A (Resist. Load)	
Minimum Load	DC5V 160mA	
Applicable Pumps	Grease Cup Units	
REED SWITCH TYPE		
Operation	LOW ON	
Max. O/C Capacity	AC30VA DC50W	
Max. O/C Current	AC0.33A DC1.0A	
Applicable Pump	Cartridge Type Units	

GPM1013DL



GPM1017EL



### SPECIFICATION

MODEL CODE	Discharge Volume (cm <sup>3</sup> /min)	Maximum Discharge (MPa)	Outlet Port Size	Grease Capacity		Grease Container Type	Operating Temp. Range	Applicable Grease Grade
				Nominal (cm <sup>3</sup> )	Effective (cm <sup>3</sup> )			
GPM1013	10 @ 50Hz 12 @ 60Hz 10 @ DC24V	14	2 - Rc 1/4 (Select 1 Port)	300	300	Grease Cup	0 ~ 40 °C	NLGI No.000 ~ 2
GPM1018				800	800			
GPM1014				400	400 (368g)	Cartridge		
GPM1017				700	700 (644g)			
GPM1010				1000	1087 (1000g)			
GPM1023	10 @ 50Hz 12 @ 60Hz 10 @ DC24V	21	2 - Rc 1/4 (Select 1 Port)	300	300	Grease Cup	0 ~ 40 °C	NLGI No.000 ~ 2
GPM1028				800	800			
GPM1024				400	400 (368g)	Cartridge		
GPM1027				700	700 (644g)			
GPM1020				1000	1087 (1000g)			

\* Contact SHOWA if NLGI #2 grease is to be utilized.

\* Please use our recommended greases or one of SHOWA's system specific greases.

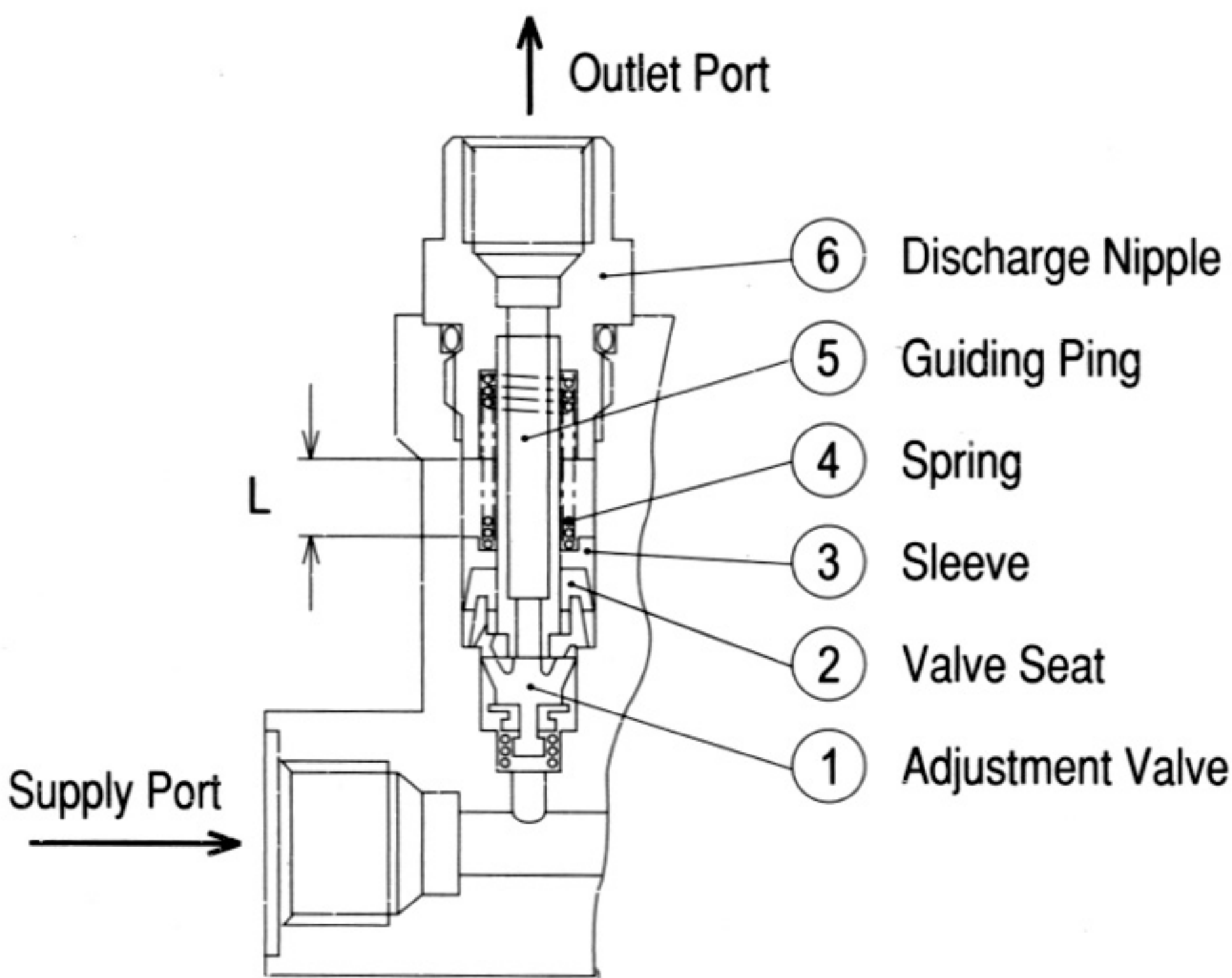
\* Avoid using different types of greases together. Do not mix greases.

\* An optional terminal board is available for the DC motor units. AC motor units are supplied with terminal boards installed.



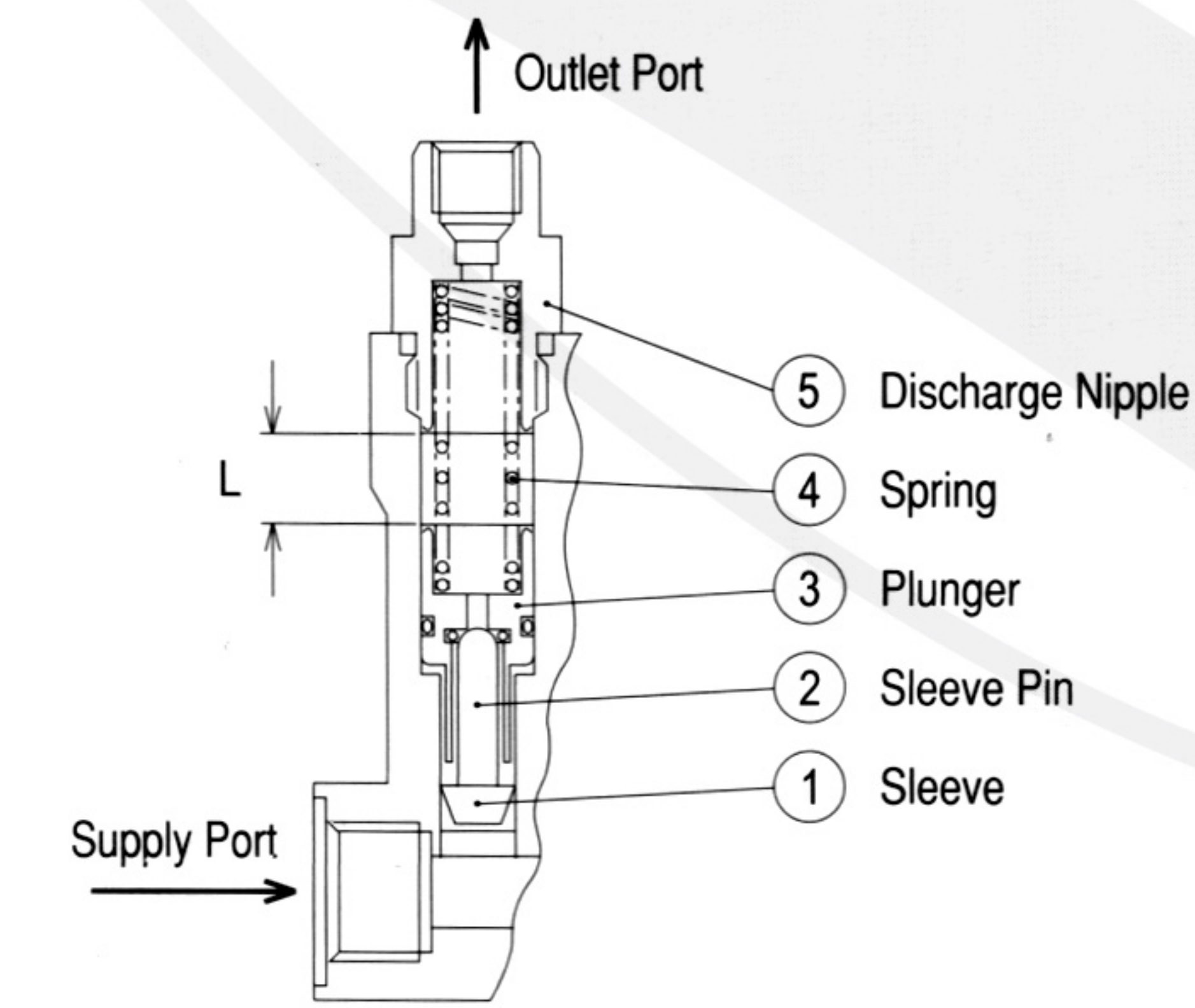
OPERATION (Internal Mechanism)

DPB 0 Type & 10 Type



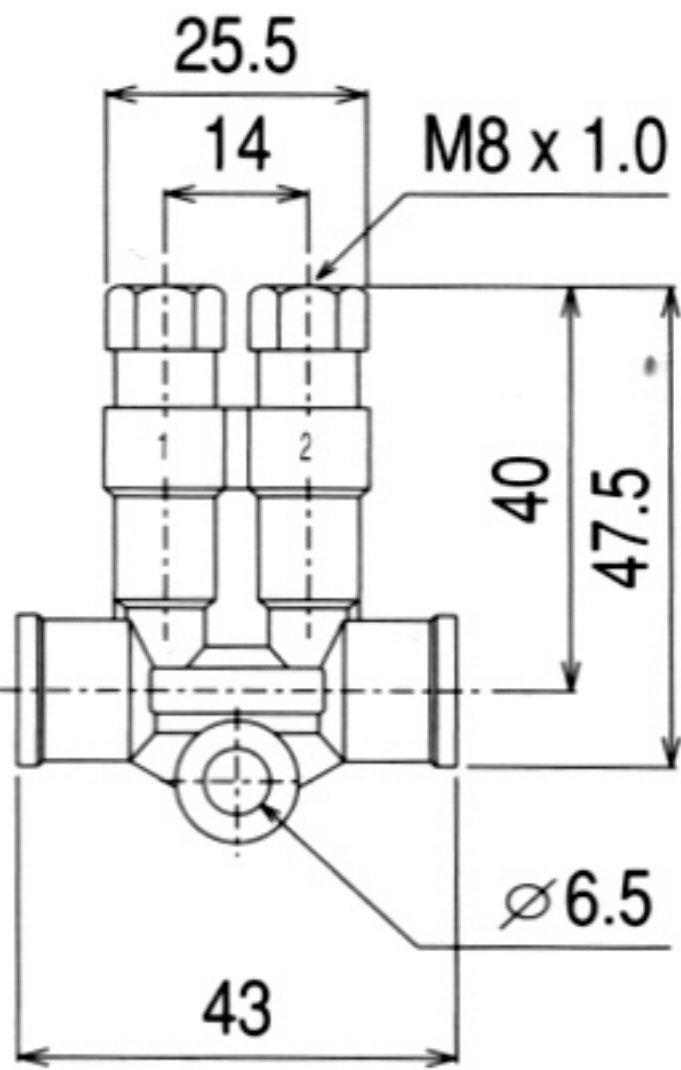
- ① The oil pressure from below compresses the outer section of the valve, allowing oil to pass. The valve also (check valve) prevents oil to pass back through.
- ② The valve seat and sleeve are pushed upwards by the oil pressure below, forcing the pre-measured and stored oil in the cylinder to be distributed through the outlet port.
- ④ Once the pump has stopped and the pressure displacement mechanism activates to relieve pressure in the main supply pipe, the spring forces the valve seat and sleeve back to their original positions.
- ⑤ Oil situated below the cylinder, passes through the pin's hole to fill the storage area in the cylinder, ready to be discharge at the next cycle.
- ⑥ The discharge volume is set by the stroke length "L" between the nipple and sleeve. By changing the discharge nipple, the discharge volume can be altered.

DPB 20 Type & 30 Type

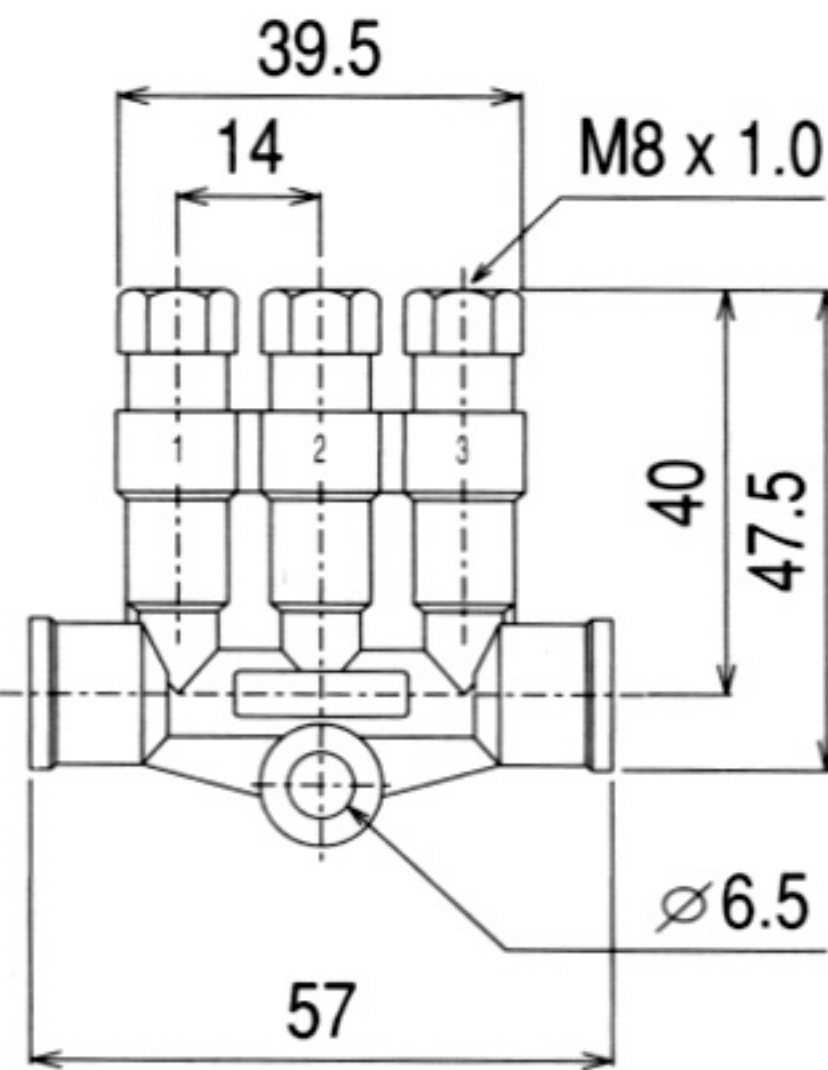


- ① Utilizing oil pressure from the main supply pipe, the sleeve component forces the plunger upwards. The sleeve also acts as a check valve upon de-pressurization, preventing oil from flowing back.
- ③ As the plunger is forced upwards by the sleeve component, oil which had been pre-measured and stored above the plunger is forced out through the outlet port.
- ④ Once the pump has stopped and the pressure displacement mechanism activates to relieve pressure in the main supply pipe, the spring forces the plunger back down to its original position. During this process, the oil situated below the plunger is forced through the plunger hole and passed above to be stored and discharged at the next cycle.
- ⑤ The discharge volume is set by the stroke length "L" between the nipple and plunger.

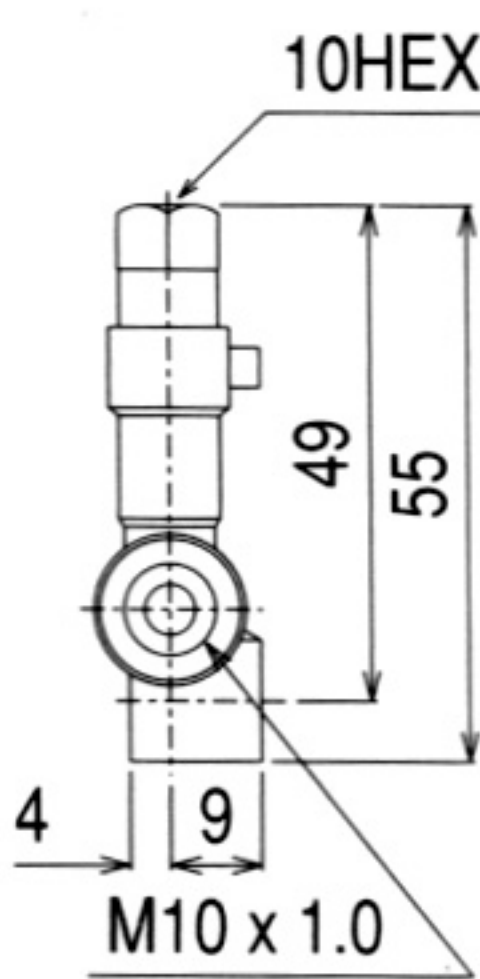
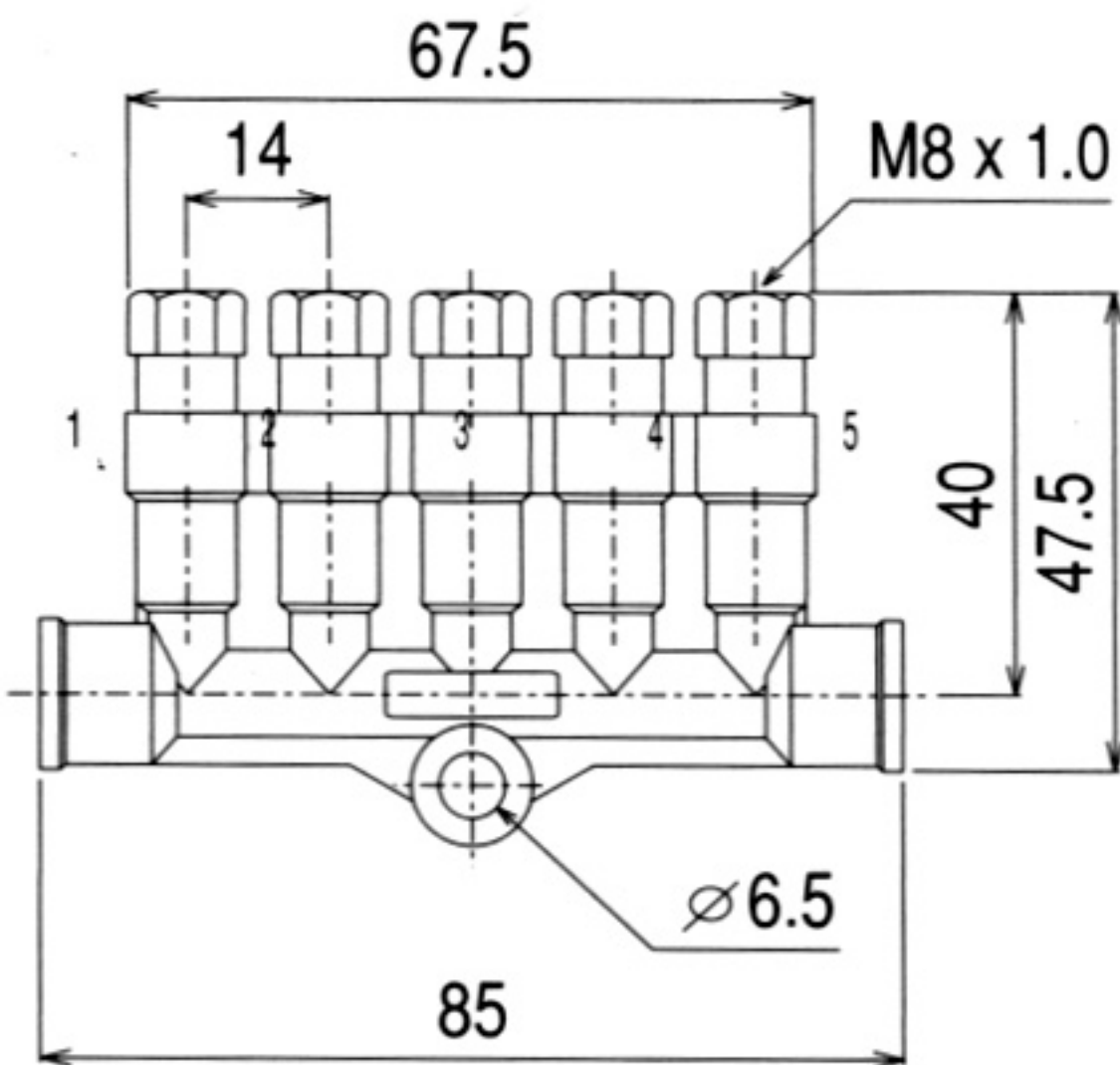
DPB02



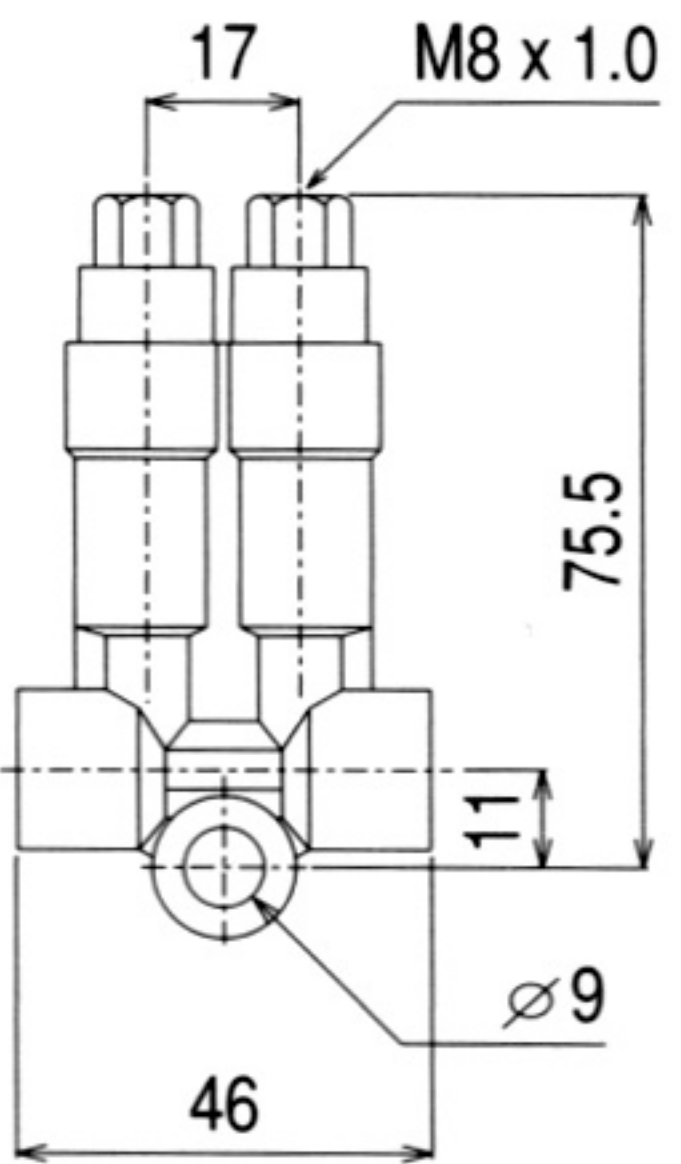
DPB03



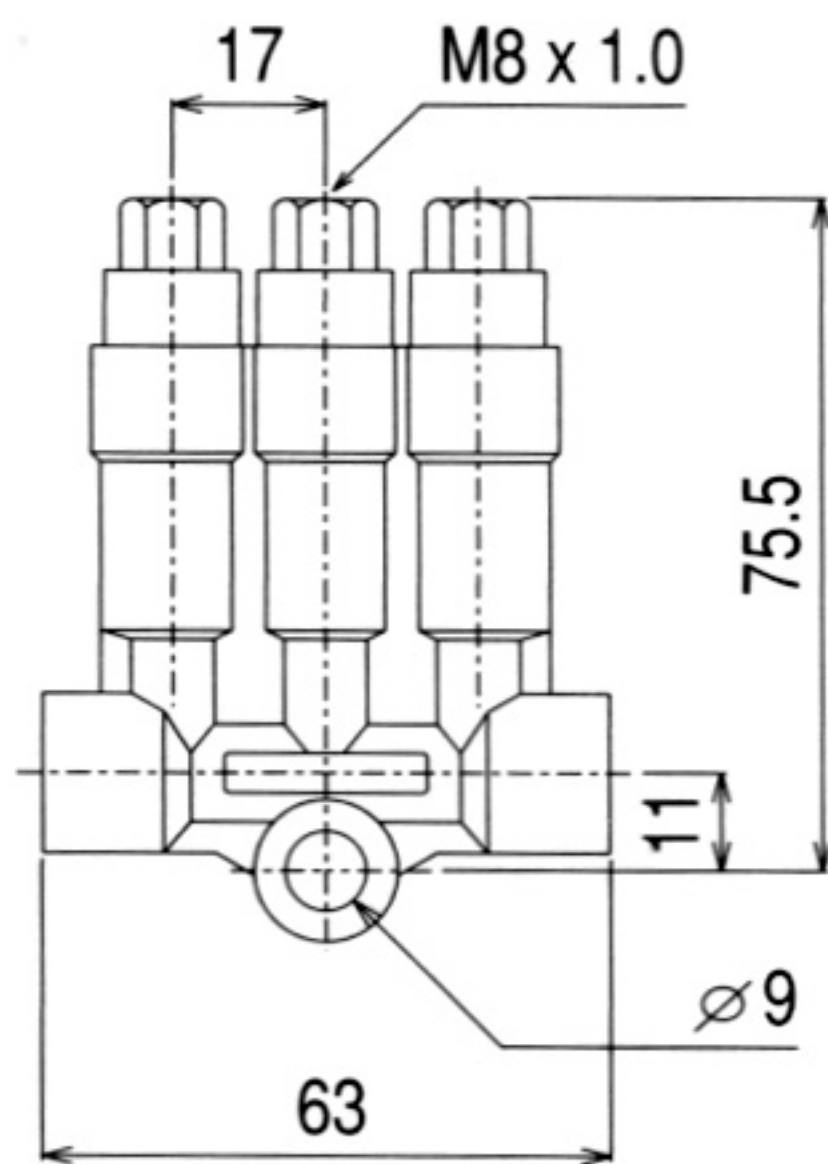
DPB05



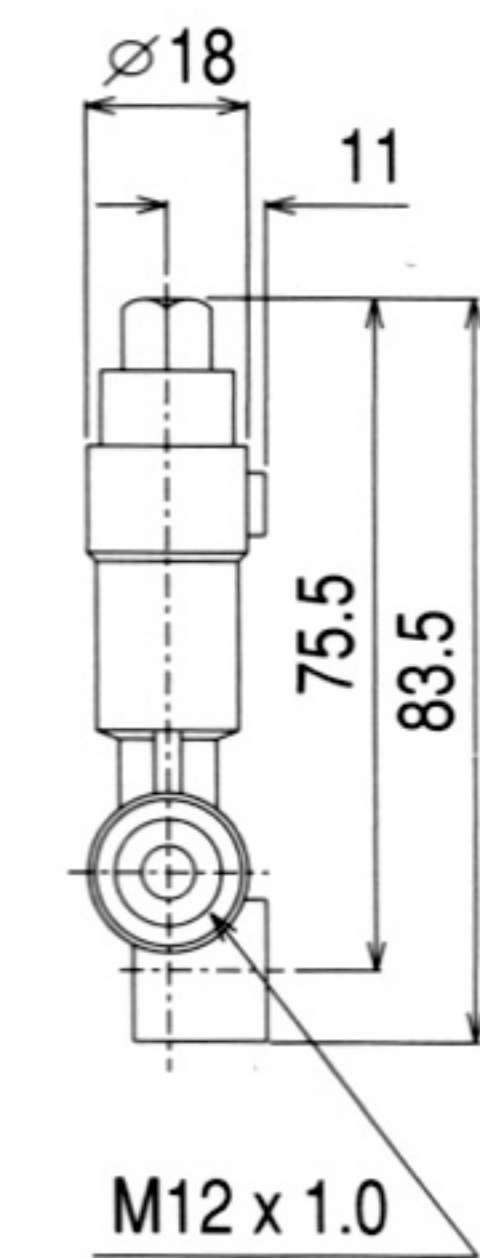
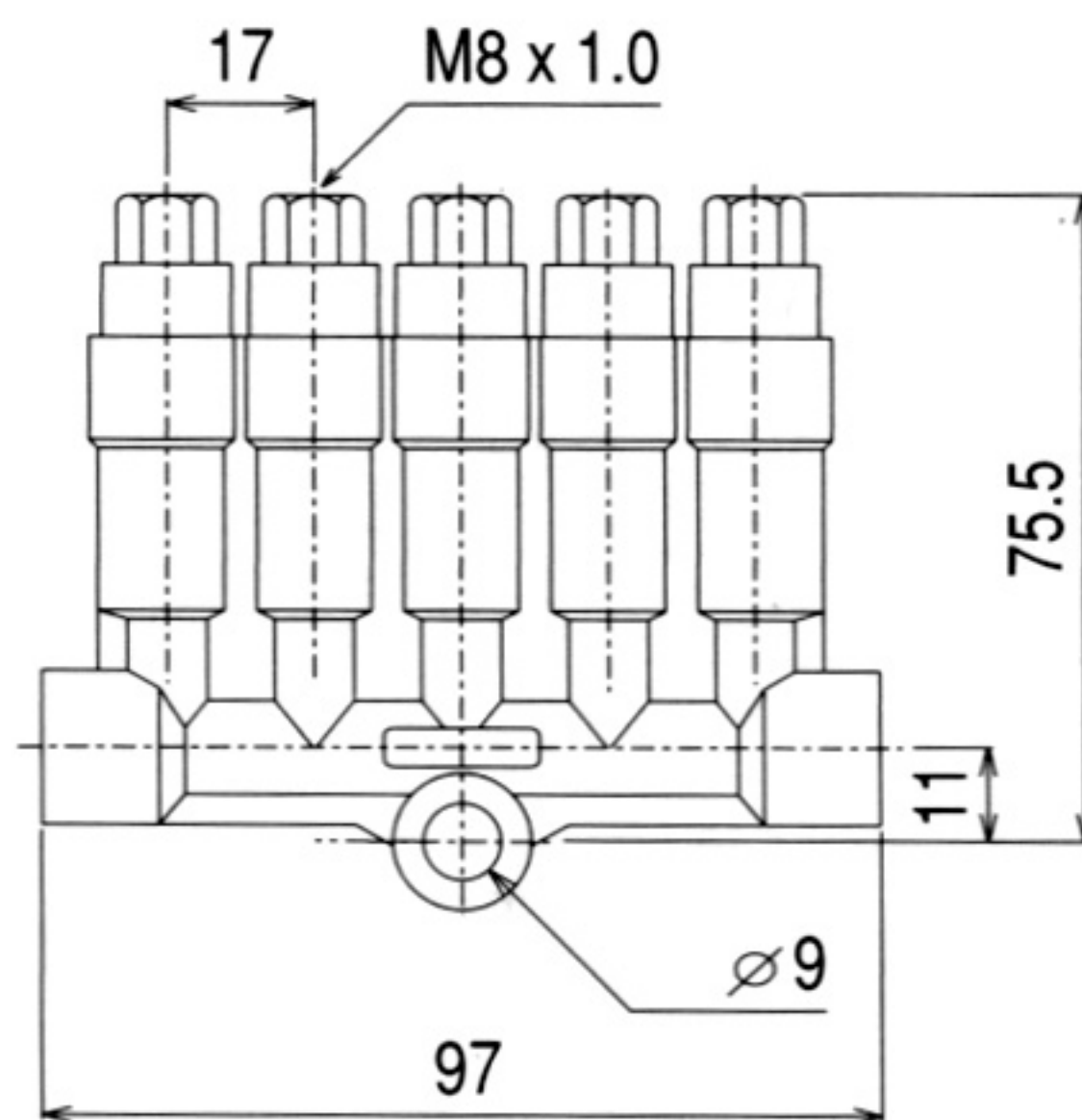
DPF22



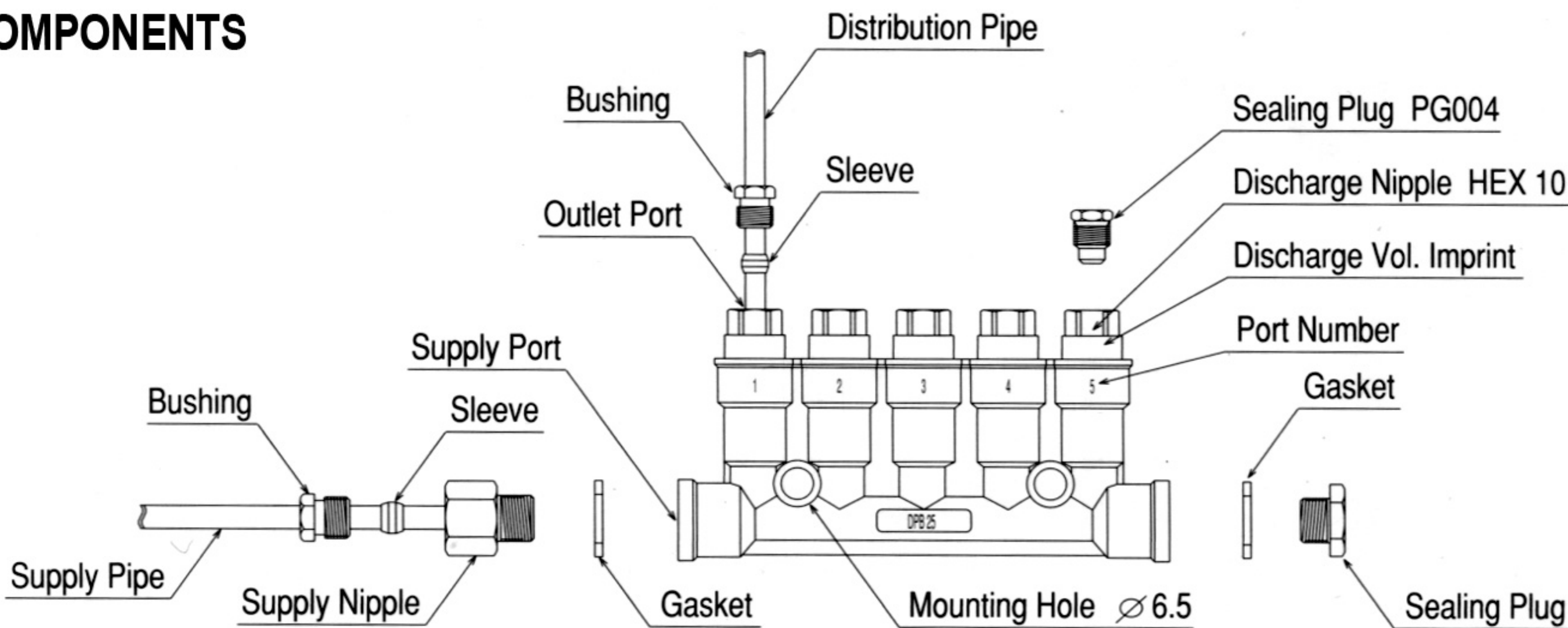
DPF23



DPF25



COMPONENTS



MODEL CODE	Supply Connection						Outlet Connection		
	Supply Nipple	Copper Gasket	Rubber Packing	Bushing	Sleeve	Sealing Plugs	Bushing	Sleeve	Sealing Plugs
DPB 0Type	-	-	-	PA6	PB6	PG10C, PG10N or PG006	Ø 3.2 PA3.2	Ø 3.2 PB3.2	PG8C
DPB 10Type	-	-	-	PA6	PB6	PG10C, PG10N or PG006	PA4	PB4	PG8C, PG004 or PG104
DPB 20Type	Ø 6	PD612	311-0394	3-5885	PA6	PB6	PA4	PB4	PG8C, PG004 or PG104
	Ø 8	PD812	311-0394	3-5885	PA8	PB8			
DPB 30Type	Ø 6	PD612	311-0394	3-5885	PA6	PB6	PA4	PB4	PG8C, PG004 or PG104
	Ø 8	PD812	311-0394	3-5885	PA8	PB8			

SPECIFICATIONS

MODEL CODE	Number of Outlet Ports	Discharge Vol. (cm <sup>3</sup> /st)	Discharge Nipple Code	Operating Pressure	Connection Size	
					Inlet Port	Outlet Ports
DPB0	2, 3, 5	0.015	3-5460	0.9 ~ 3MPa	M10 x 1.0	M8 x 1.0
		0.03	3-5461			
		0.05	3-5462			
		0.08	3-5463			
DPB10	1, 2, 3, 5, 6, 8, 10	0.03	3-6819	0.8 ~ 3MPa	M10 x 1.0	M8 x 1.0
		0.06	3-6820			
		0.1	3-6821			
		0.16	3-6822			
DPB20 (DPF20)	1, 2, 3, 5, 6, 8, 10 (2, 3, 5)	0.1	3-1456	0.8 ~ 3MPa	M12 x 1.0	M8 x 1.0
		0.2	3-1457			
		0.4	3-1458			
		0.6	3-1459			
DPB30	1, 2, 3	0.2	3-1443	0.8 ~ 3MPa	M12 x 1.0	M8 x 1.0
		0.4	3-1444			
		0.6	3-1445			
		1.0	3-1446			
		1.5	3-1447			

\* Recommended Viscosity: 20 to 500mm<sup>2</sup>/S