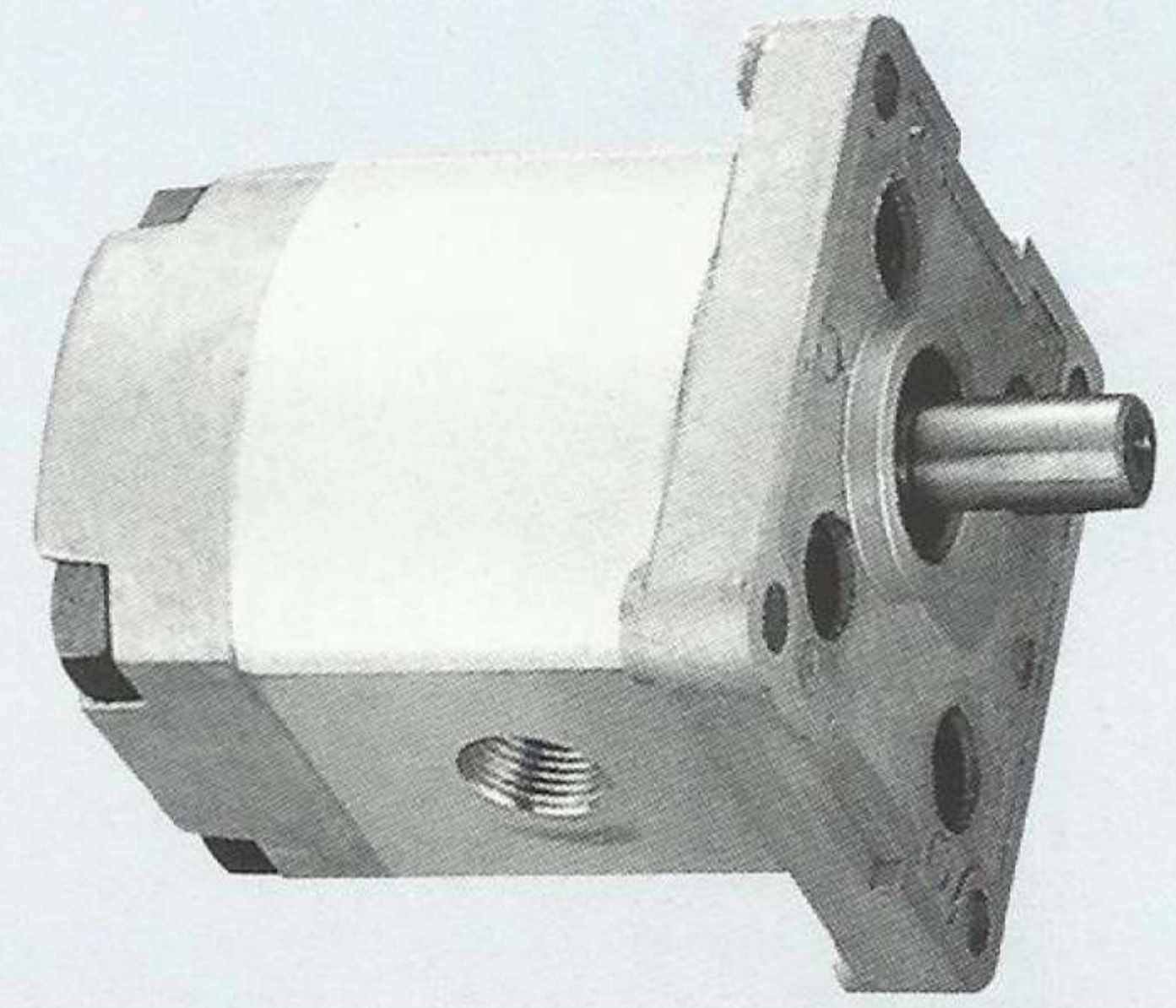
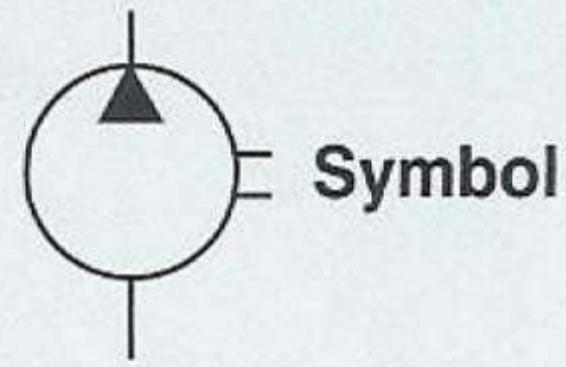


# GEAR PUMP



## How to order

**HGP - 1A - F - \* - R - X - 4-B**

1	Model	HGP: Gear pump only	PR2: Gear pump with relief (see page 133)
2	Series number		
3	Mounting type	F: Flange mounting	L: Foot mounting
4	Displacement cc/rev		
5	Rotation	R: Clockwise	L: Counter-clockwise
6	Shaft type	X: Straight shaft	Y: Spline shaft
7	Mounting flange	2B: SAE 2-Bolt	4B: European 4-Bolt

## Specifications

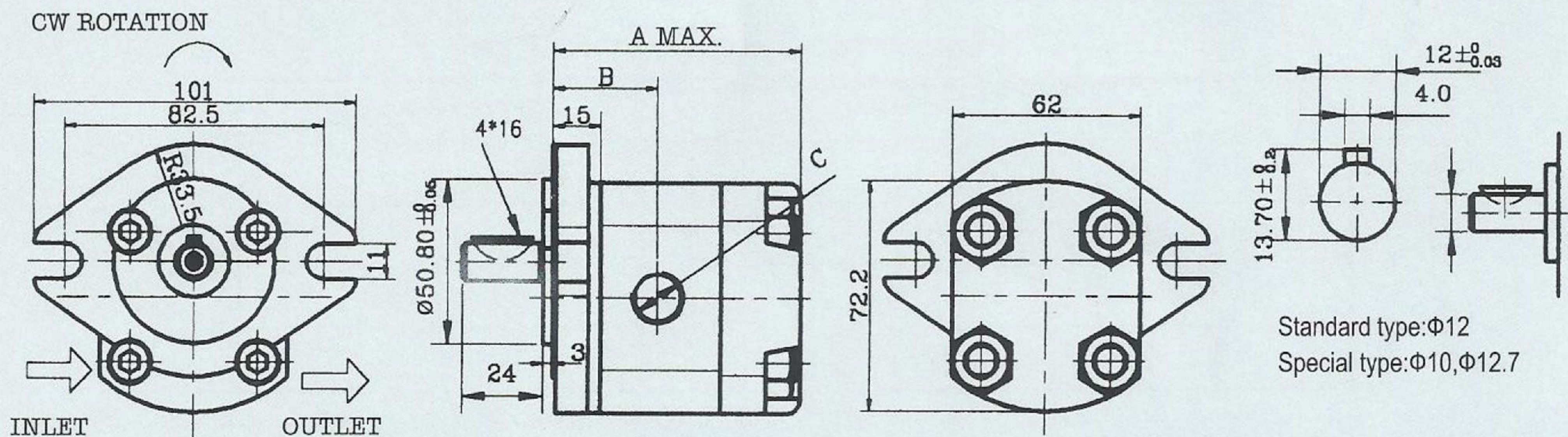
Model	Displacement (cc/rev)	Pressure bar (psi)		Runing Speed (rpm)			Weight (kg)
		Working	Max.	Rate	Max.	Min.	
HGP-1A-F1*	1	210 (3000)	250 (3500)	1800	4500	1000	1.0
HGP-1A-F2*	2				4500	600	1.05
HGP-1A-F3*	3				4500	600	1.15
HGP-1A-F4*	4				4000	600	1.18
HGP-1A-F5*	5				3200	600	1.2
HGP-1A-F6*	6				3200	600	1.3
HGP-1A-F8*	7.8				3200	600	1.4

Remark: HGP-1A-F08 (0.8 cc/rev) and F2.6 (2.6 cc/rev) are for special order.

## Dimensions

### HGP-1A-F-\*-\*-\*-2B(SAE 2-Bolt)

Unit:mm

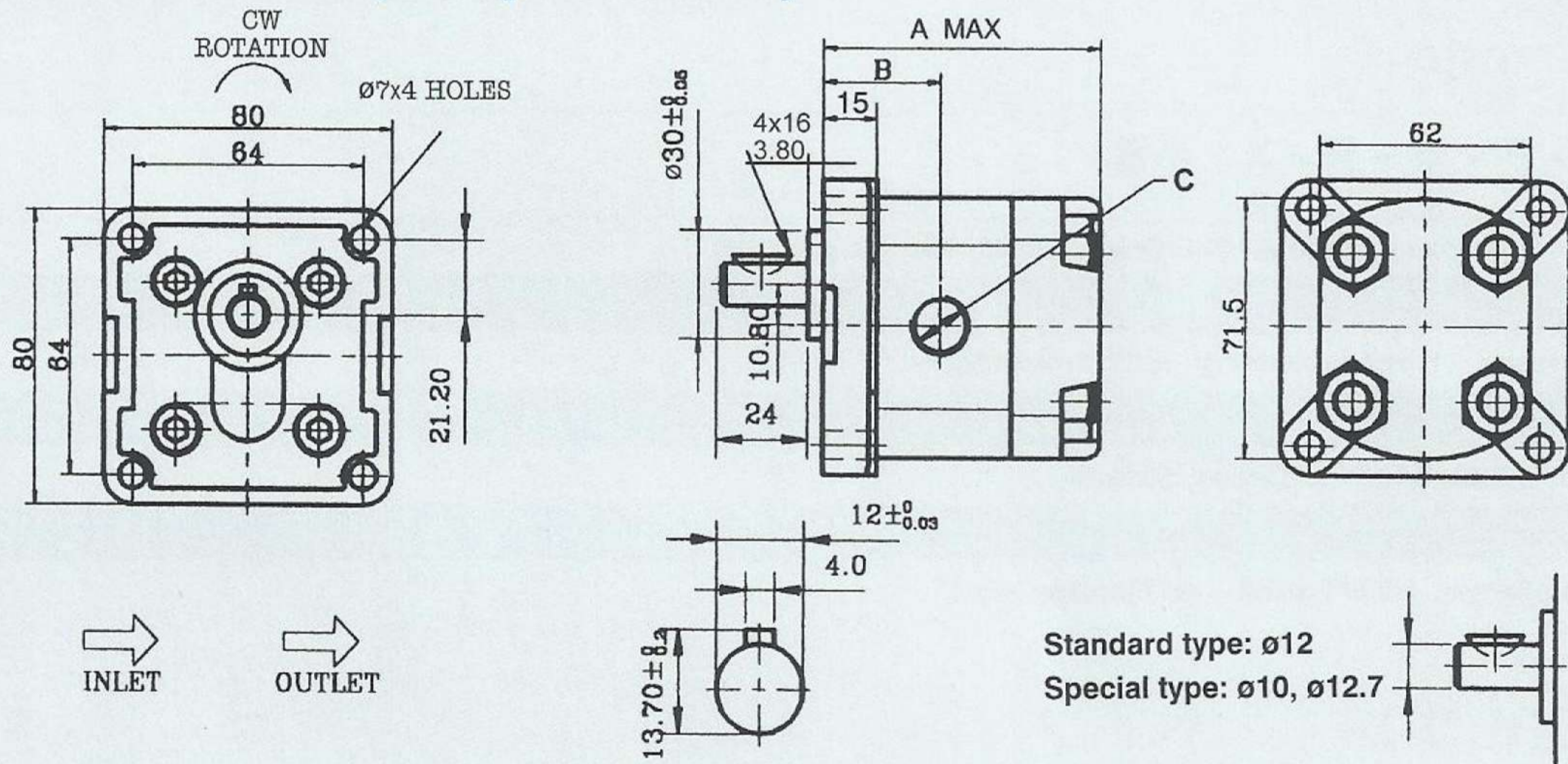


# GEAR PUMP

## Dimensions

### HGP-1A-F-\*\*-\*\*-\*\*-4B (European 4-Bolt)

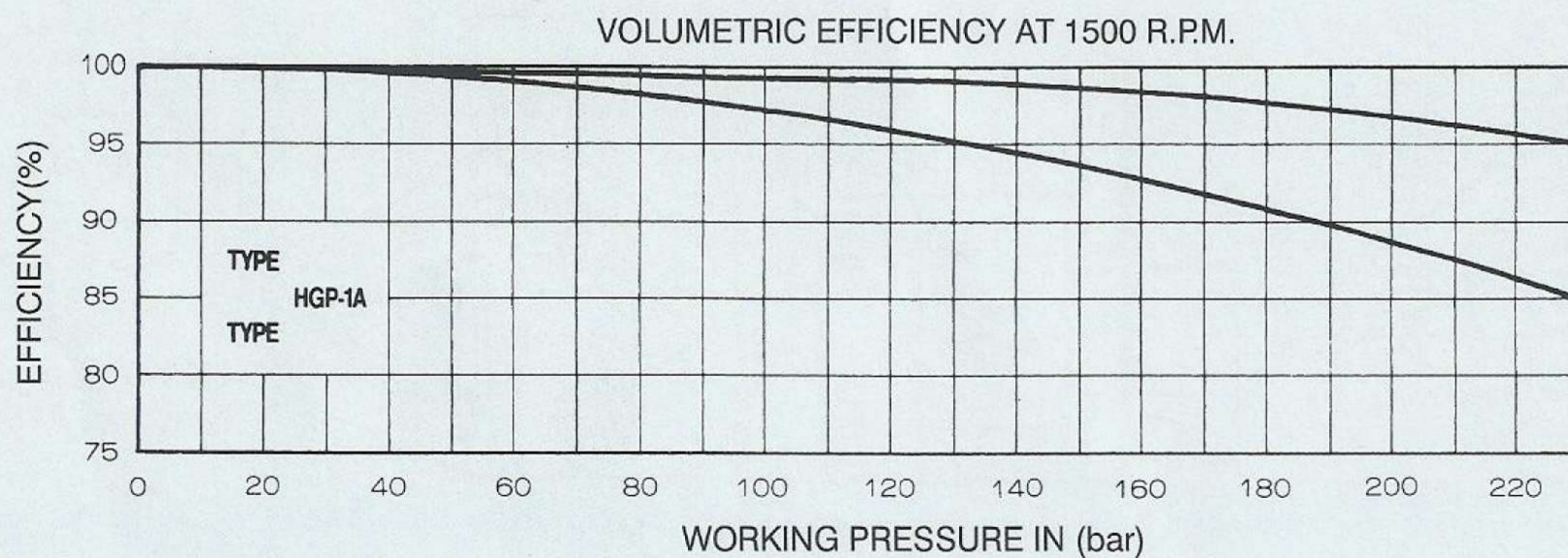
Unit:mm



## Specifications

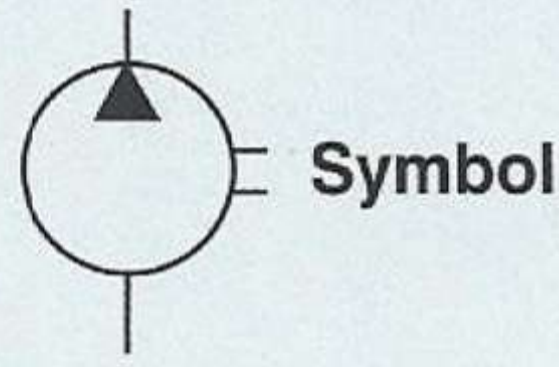
Model	Dimension A (mm)	Dimension B (mm)	C-inlet	D-outlet
HGP-1A-F08*	75.5	32.5	3/8" PT	3/8" PT
HGP-1A-F1*	77.5	33.5	3/8" PT	3/8" PT
HGP-1A-F2*	80.1	34.8	3/8" PT	3/8" PT
HGP-1A-F3*	85.5	37.5	3/8" PT	3/8" PT
HGP-1A-F4*	87.5	38.5	3/8" PT	3/8" PT
HGP-1A-F5*	91.5	40.5	3/8" PT	3/8" PT
HGP-1A-F6*	95.5	42.5	3/8" PT	3/8" PT
HGP-1A-F8*	101.50	45.5	1/2" PT	3/8" PT

## Performance curves

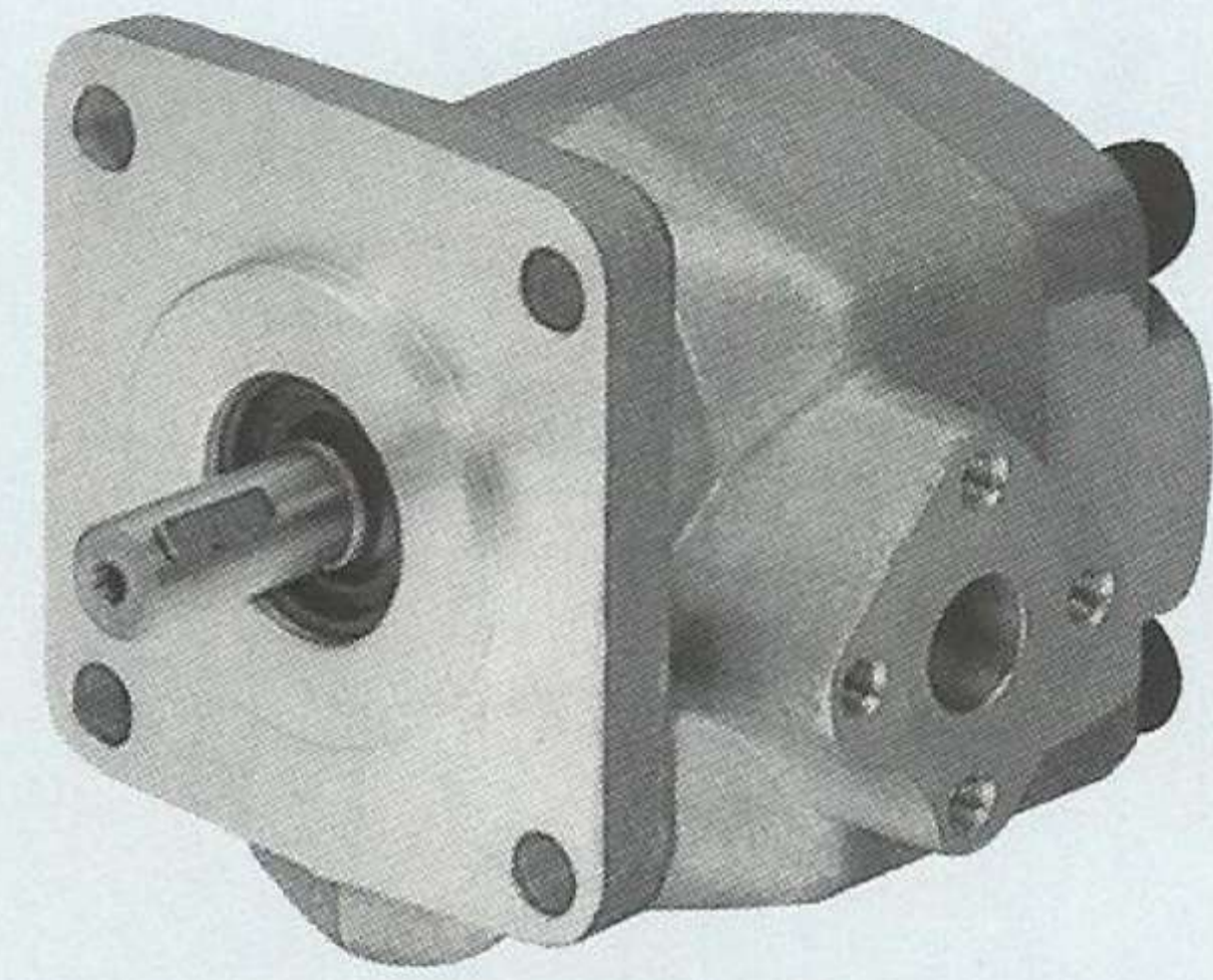
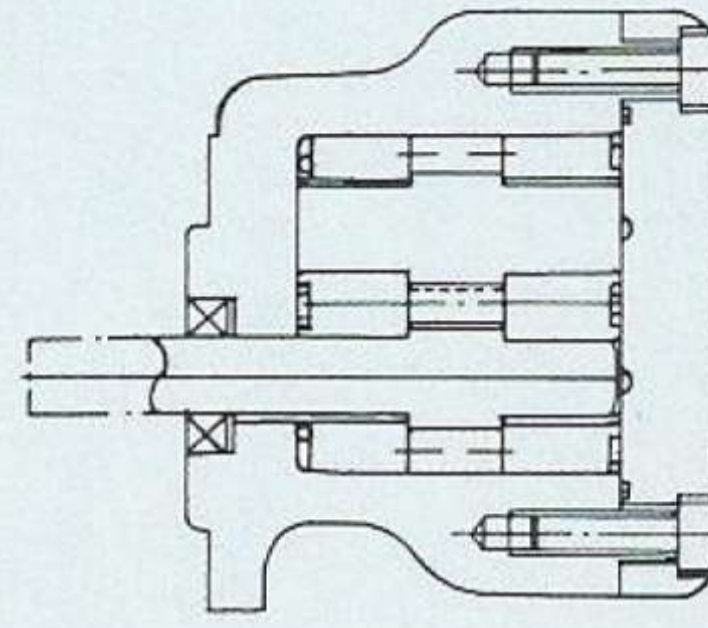


Test conditions: 1. Oil viscosity 45 cSt 2. Oil temperature 40°C 3. Speed 1500 rpm

# GEAR PUMP



Symbol



## How to order

### HGP - 2A - F - \* - R - X - 4BJ

1	2	3	4	5	6	7
1	Model	HGP: Gear pump only	PR1: Gear pump with relief (see page 132)			
2	Series number					
3	Mounting type	F: Flange type	L: Foot type			
4	Displacement cc/rev					
5	Rotation	R: clockwise	L: Counter-clockwise			
6	Shaft type	X: Straight shaft	Y: Spline shaft			
7	Mounting flange	4BJ: JIS 4-Bolt				

## Specifications

Model	Displacement (cc/rev)	pressure bar (psi)		Runing Speed (rpm)			Weight (kg)
		Working	Max.	Rate	Max.	Min.	
HGP-2A-*2*	2				5000	900	1.69
HGP-2A-*3*	3				5000	850	1.70
HGP-2A-*4*	4				4500	800	1.71
HGP-2A-*6*	6	210 (3000)	250 (3500)	1800	3500	700	1.72
HGP-2A-*8*	7.5				3000	600	1.74
HGP-2A-*9*	9				2500	550	1.74
HGP-2A-*11*	10.5				2000	500	1.74
HGP-2A-*12*	12	175 (2500)	210 (3000)		2000	550	1.76

REMARK: HGP-2A-F2.5 (2.5 cc/rev) and F5 (5 cc/rev) are for special order.

## FEATURES:

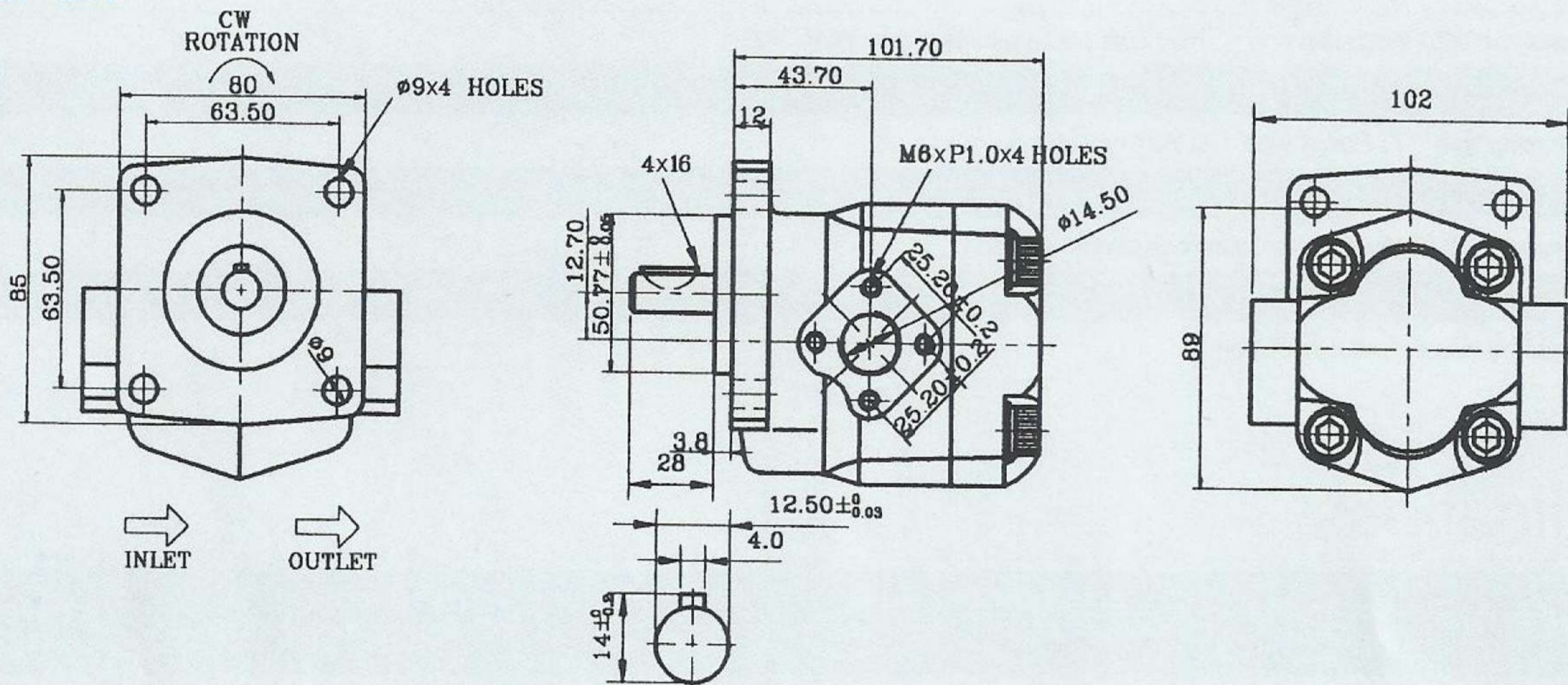
1. High-Tech aluminum alloy bushings and dry bearings are used to ensure wearing resistance and withstand extra high speed up to 5000 R.P.M.
2. The woodruff key used in this pump withstands much higher torque.
3. A special internal circuit design guarantees that the seal will not be pooped out in case of instant reverse.
4. Dual balanced plating with the bushings is designed such that pump is totally sealed for higher volume efficiency as well as durability.
5. Useful in various applications such as construction machines, Hydraulic elevator and other special purpose machinery.
6. Relief valve can be added on pump case and in connection with lifting valve for use in Hydraulic elevator.

# GEAR PUMP

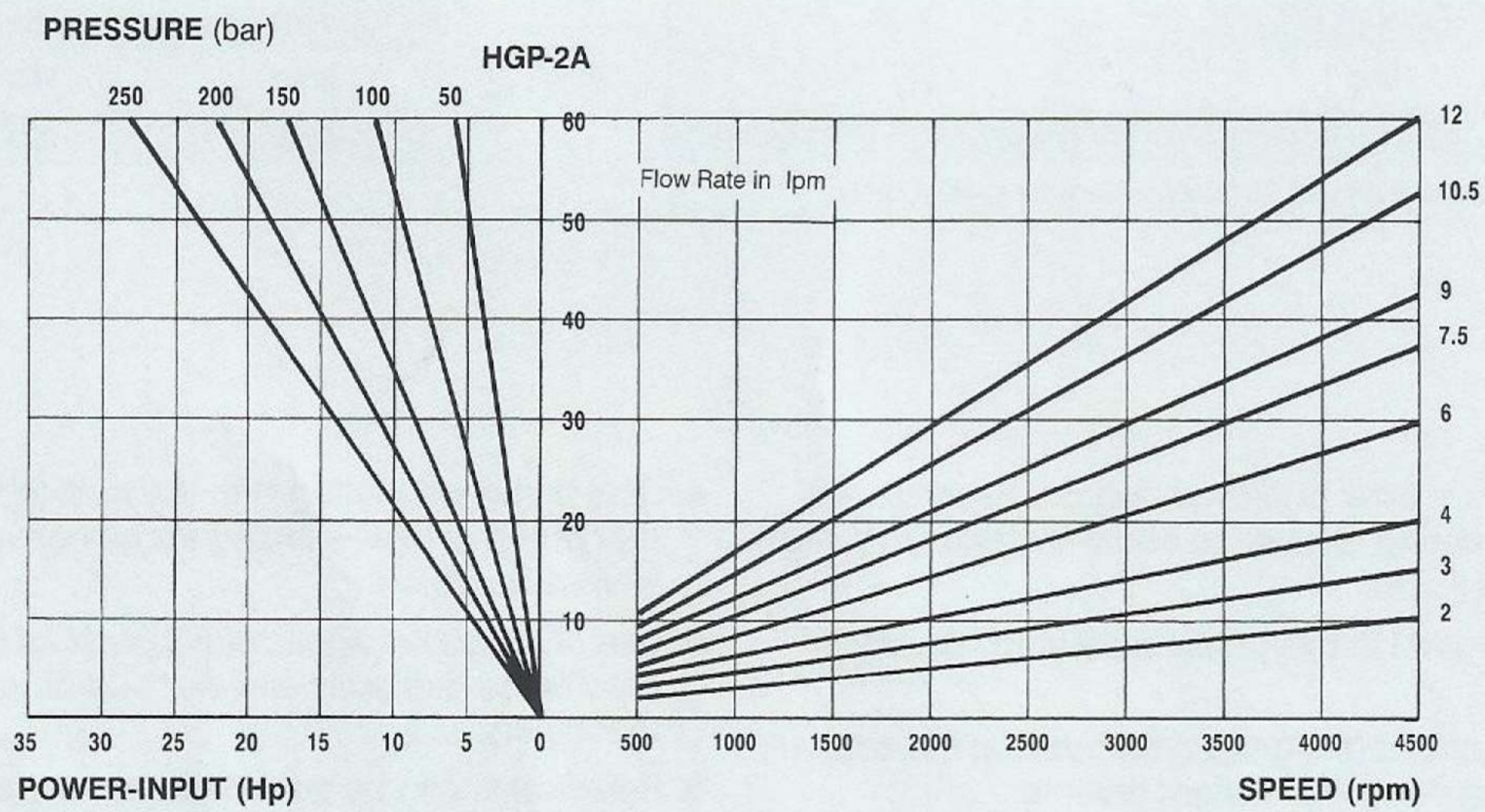
## Dimensions

HGP-2A

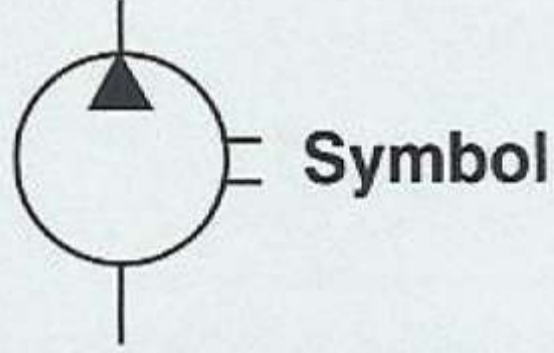
Unit:mm



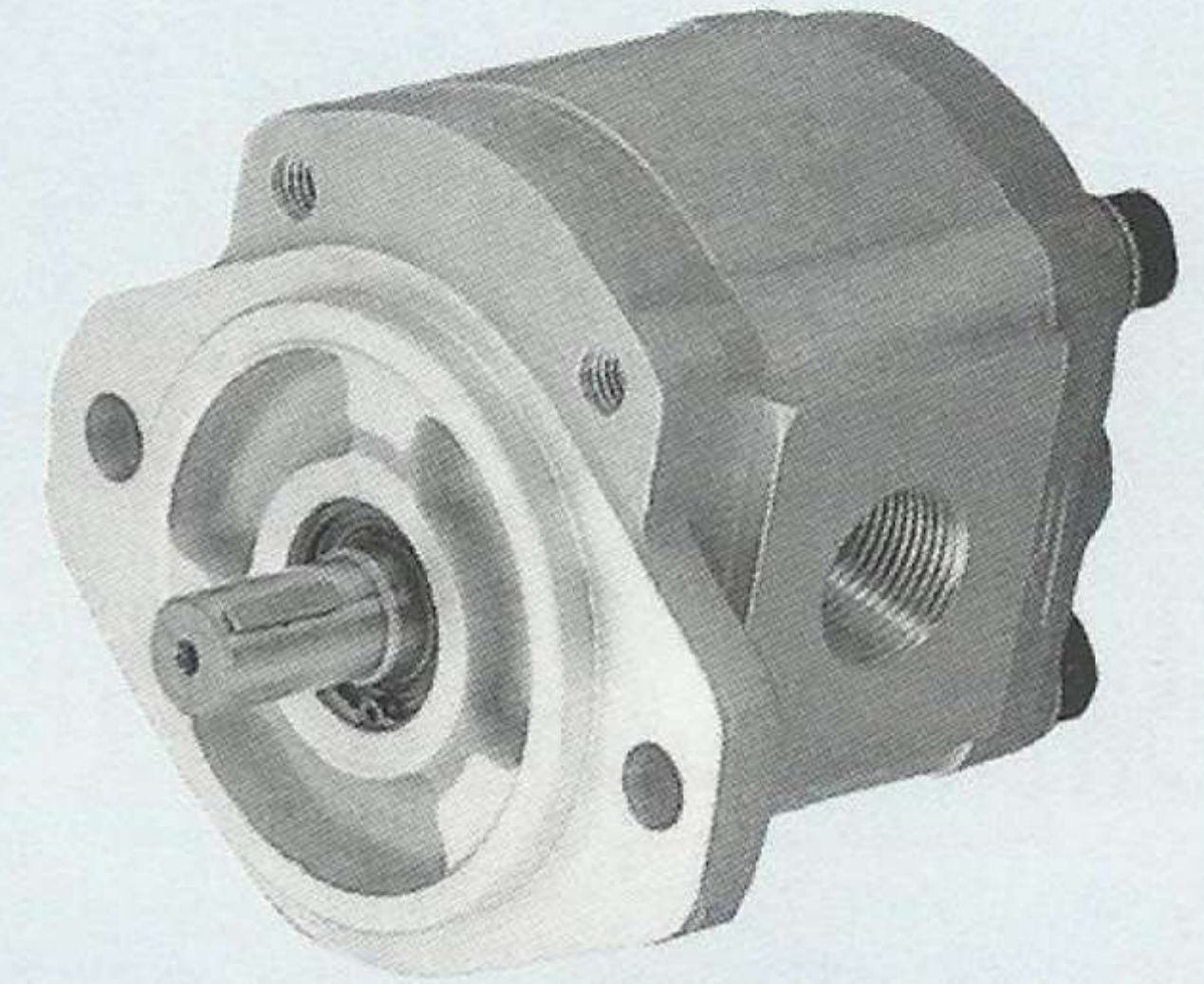
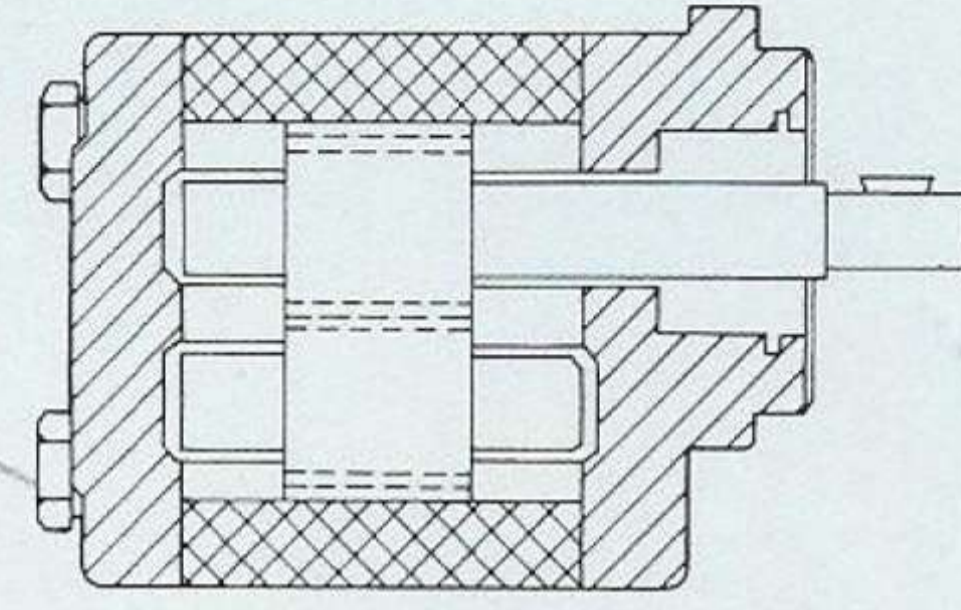
## Performance curves



# GEAR PUMP



Symbol



## How to order

**HGP - 3A - F - \* - R - X - 2B**

- 1 Model
- 2 Series number
- 3 Mounting type F: Flange type L: Foot type
- 4 Displacement cc/rev
- 5 Rotation R: Clockwise L: Counter-clockwise
- 6 Shaft type X: Straight shaft Y: Spline shaft Z: Taper shaft
- 7 Mounting flange 2B: SAE 2-Bolt 4BD: DIN 4-Bolt

## Specifications

Model	Displacement (cc/rev)	Pressure bar (psi)		Runing Speed (rpm)			A	B	C Port Size		Weight (kg)
		Working	Max.	Rate	Max.	Min.			Inlet	Outlet	
HGP-3A-*4*	4	210 (3000)	250 (3500)	1800	3000	700	91.9	45.8	3/4"	1/2"	2.24
HGP-3A-*6*	6						93.30	46.50			2.32
HGP-3A-*8*	8.4						97.30	48.50			2.4
HGP-3A-*11*	11						101.30	50.50			2.53
HGP-3A-*13*	13						105	52.35			2.6
HGP-3A-*14*	14.3						107.20	53.45			2.69
HGP-3A-*17*	16.5						110.90	55.30			2.81
HGP-3A-*19*	19.2						115.30	57.50			2.92
HGP-3A-*23*	23						121.76	60.70			3.11
HGP-3A-*25*	25						125.10	62.40			3.2
HGP-3A-*28*	28	175 (2500)	210 (3000)	400	131.10	64.90	131.10	64.90	1"	3/4"	3.29
HGP-3A-*30*	30	131.10	64.90						3.38		

### FEATURES:

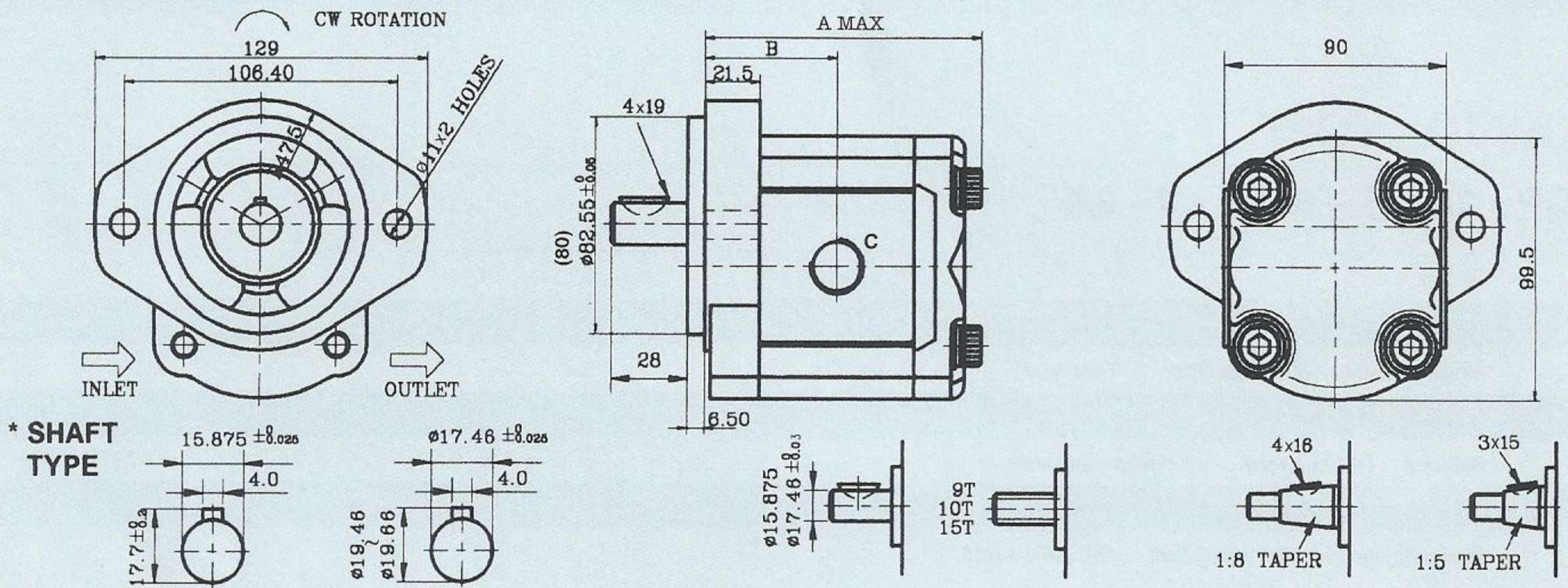
- Dual balanced plating and dry bearings used in this pump feature excellent resistance to wearing, thrust, impact, as well as extra high speed revolution.
- Dual balanced plating with the bushings is designed such that pump is totally sealed for higher volume efficiency as well as durability.
- The woodruff key used in this pump withstands much higher torque.
- A special internal circuit design guarantees that the seal will not be popped out in case of instant reverse.
- Withstands instant pressure up to 210 bar (3000 psi) and runs up to 2000000 cycles.
- Direction may be changed at any time.

# GEAR PUMP

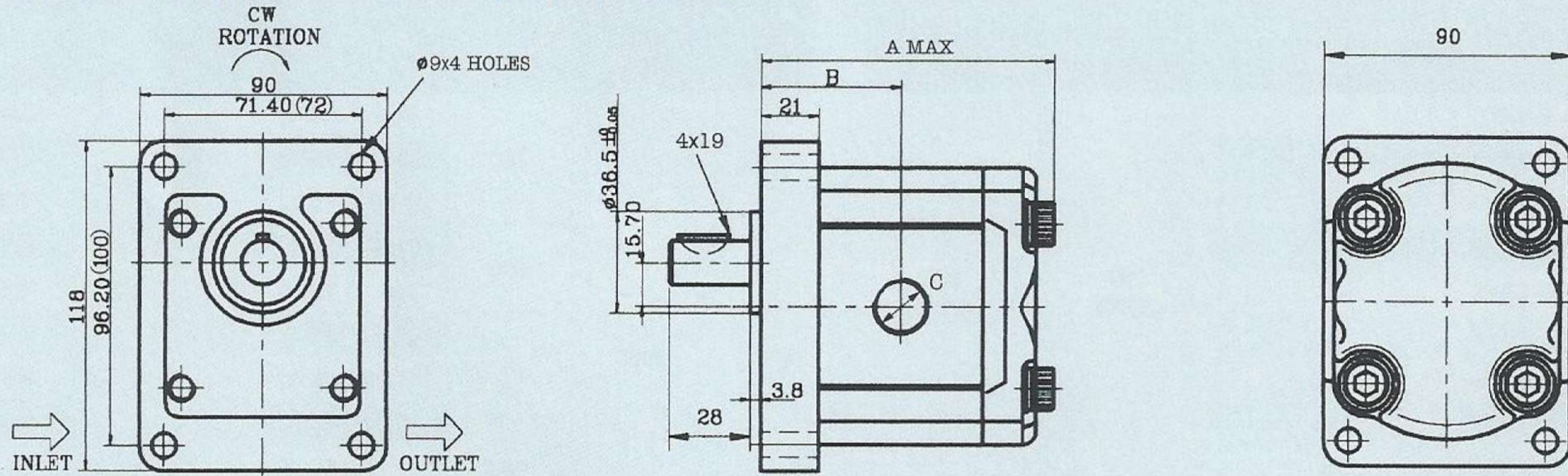
## Dimensions

### HGP-3A-F- $\times$ - $\times$ - $\times$ - 2B (SAE 2-Bolt)

Unit:mm

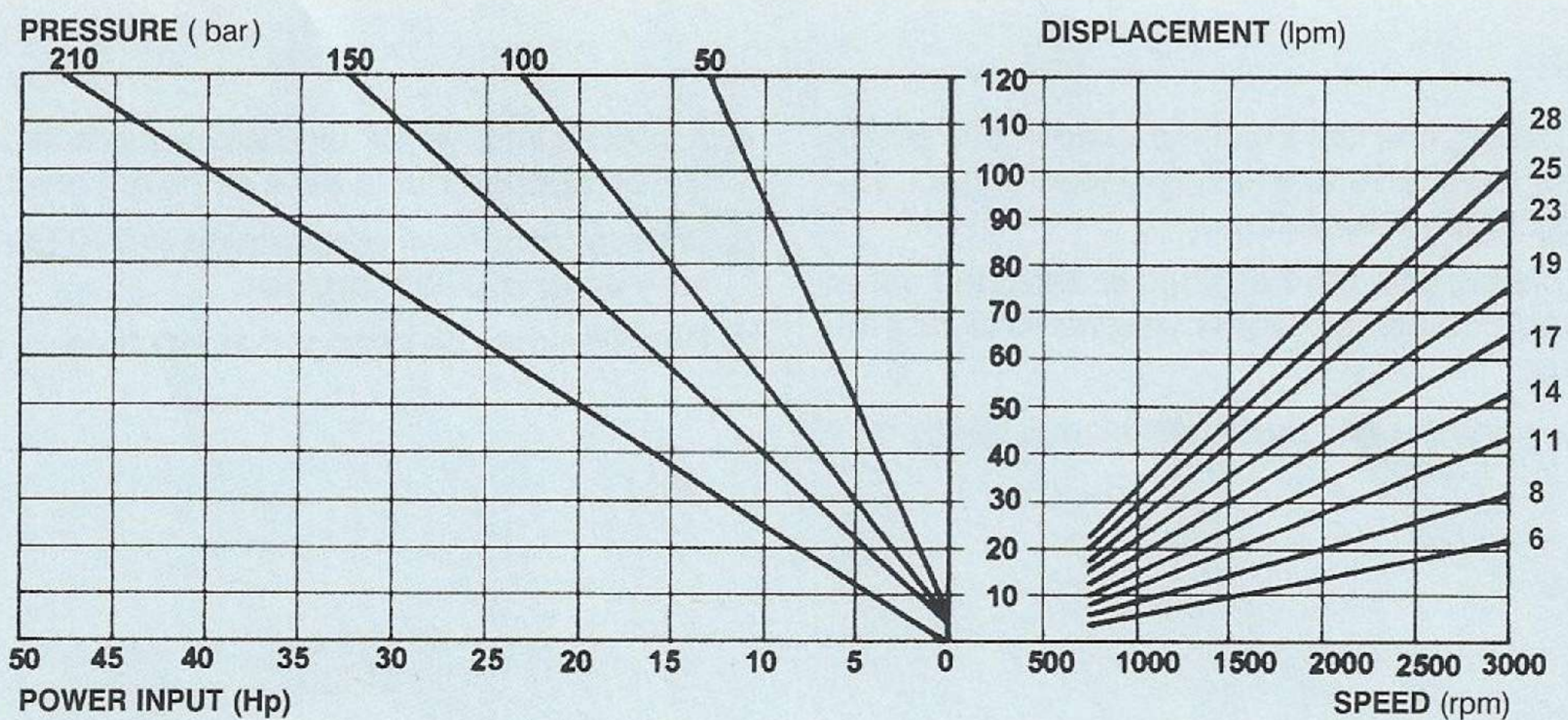


### HGP-3A-F- $\times$ - $\times$ - $\times$ - 4BD (DIN 4-Bolt)

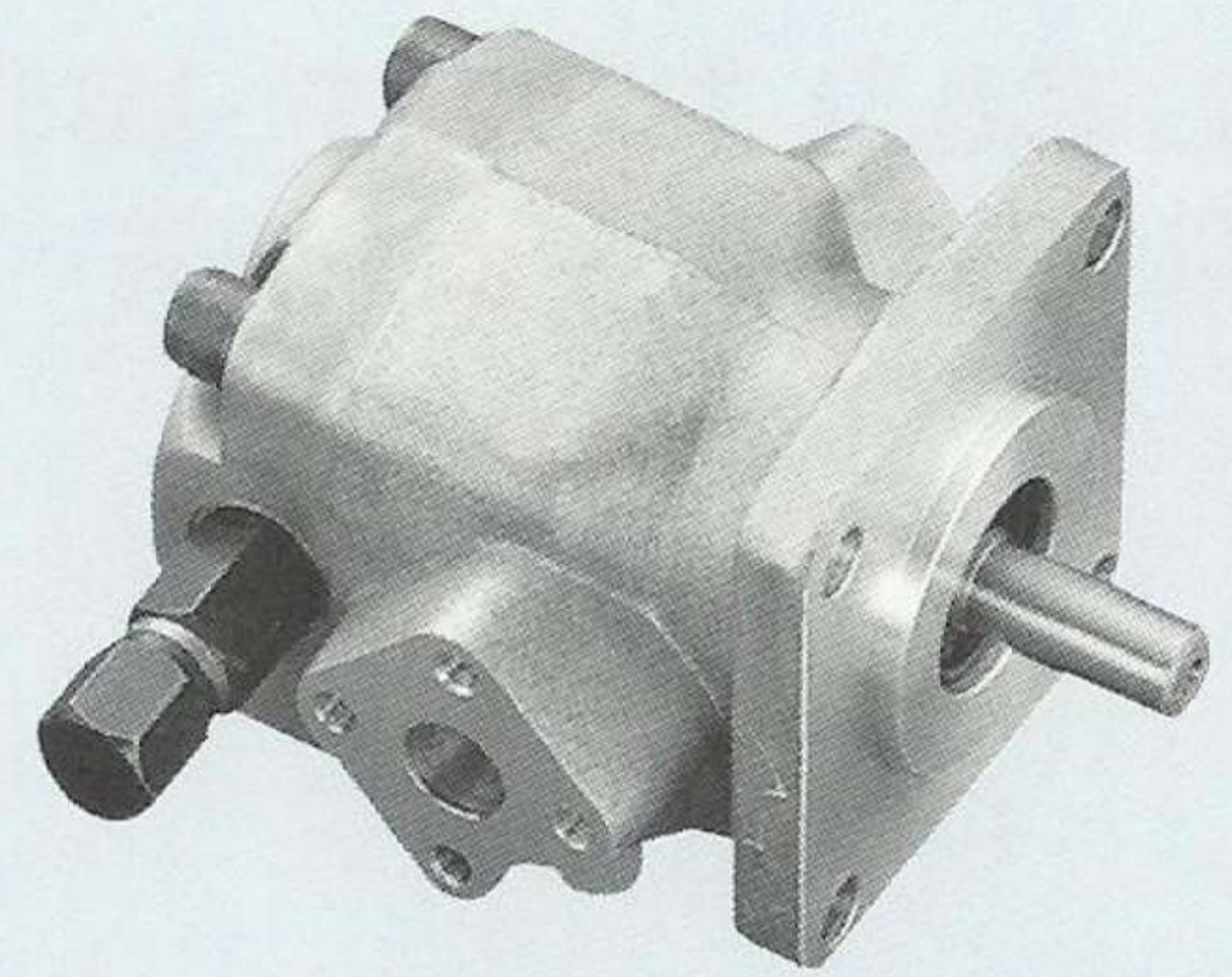
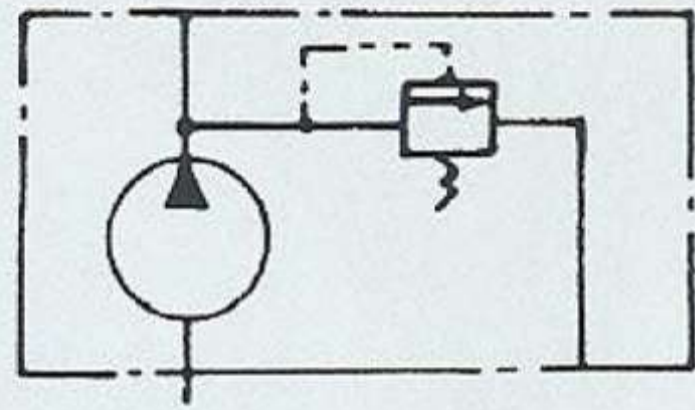


REMARK: The size in ( ) is for special order, see page 128 for the size of A, B and C port size.

## Performance curves



# GEAR PUMP WITH RELIEF VALVE



## How to order

**PR1 - F - ✖ - R - 4BJ**

- |   |  |
|---|--|
| 1 | Model (Refer to page 126, 127)             |
| 2 | Mounting type F: Flange type L: Foot type  |
| 3 | Displacement cc/rev                        |
| 4 | Rotation R: Clockwise L: Counter-clockwise |
| 5 | Mounting flange 4BJ: JIS 4-Bolt            |

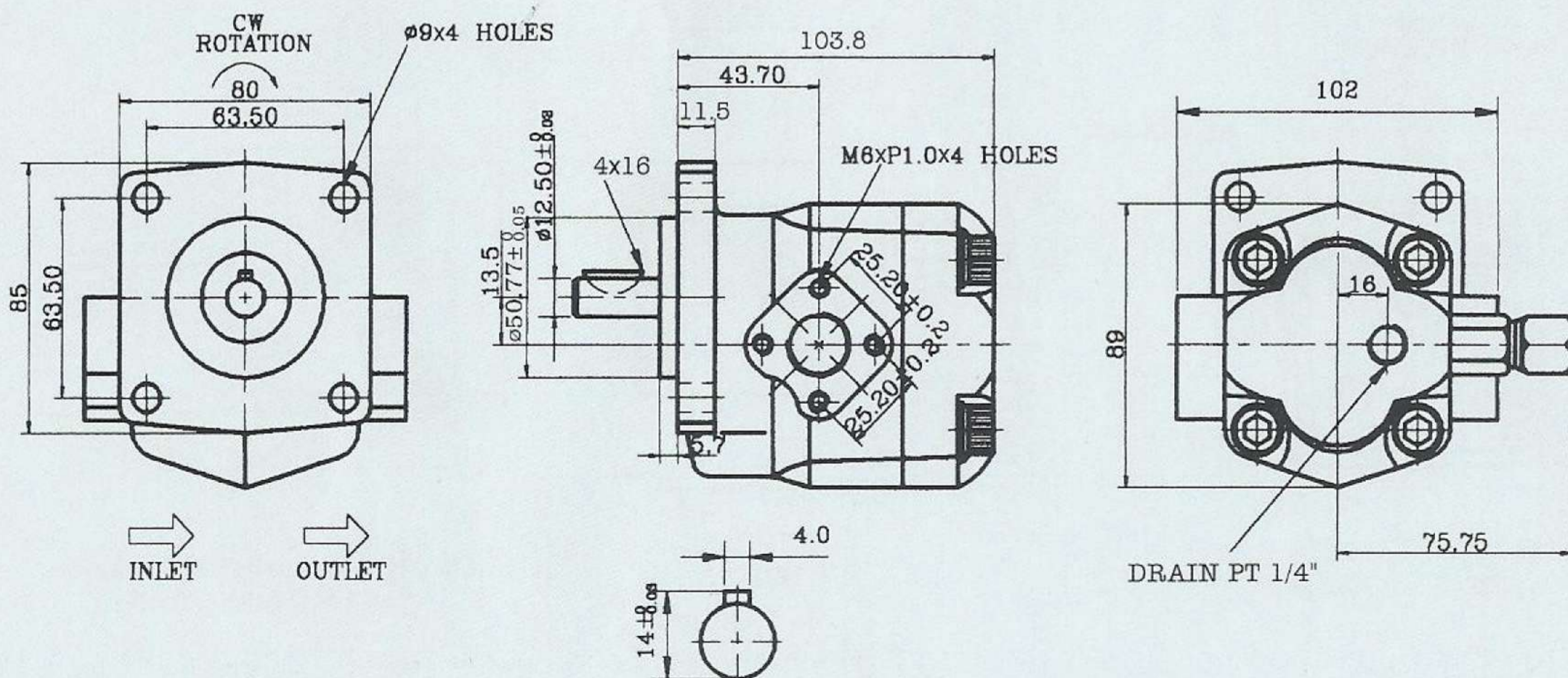
## Specifications

Model	Displacement (cc/rev)	Pressure (bar) (psi)		Runing Speed (rpm)			Weight (kg)
		Working	Max.	Rate	Max.	Min.	
PR1-020	2	210 (3000)	250 (3500)	1800	5000	900	1.69
PR1-030	3				5000	850	1.7
PR1-040	4				4500	800	1.71
PR1-060	6				3500	700	1.72
PR1-075	7.5				3000	600	1.74
PR1-090	9				2500	550	1.74
PR1-105	10.5				2000	500	1.74
PR1-120	12				2000	500	1.76

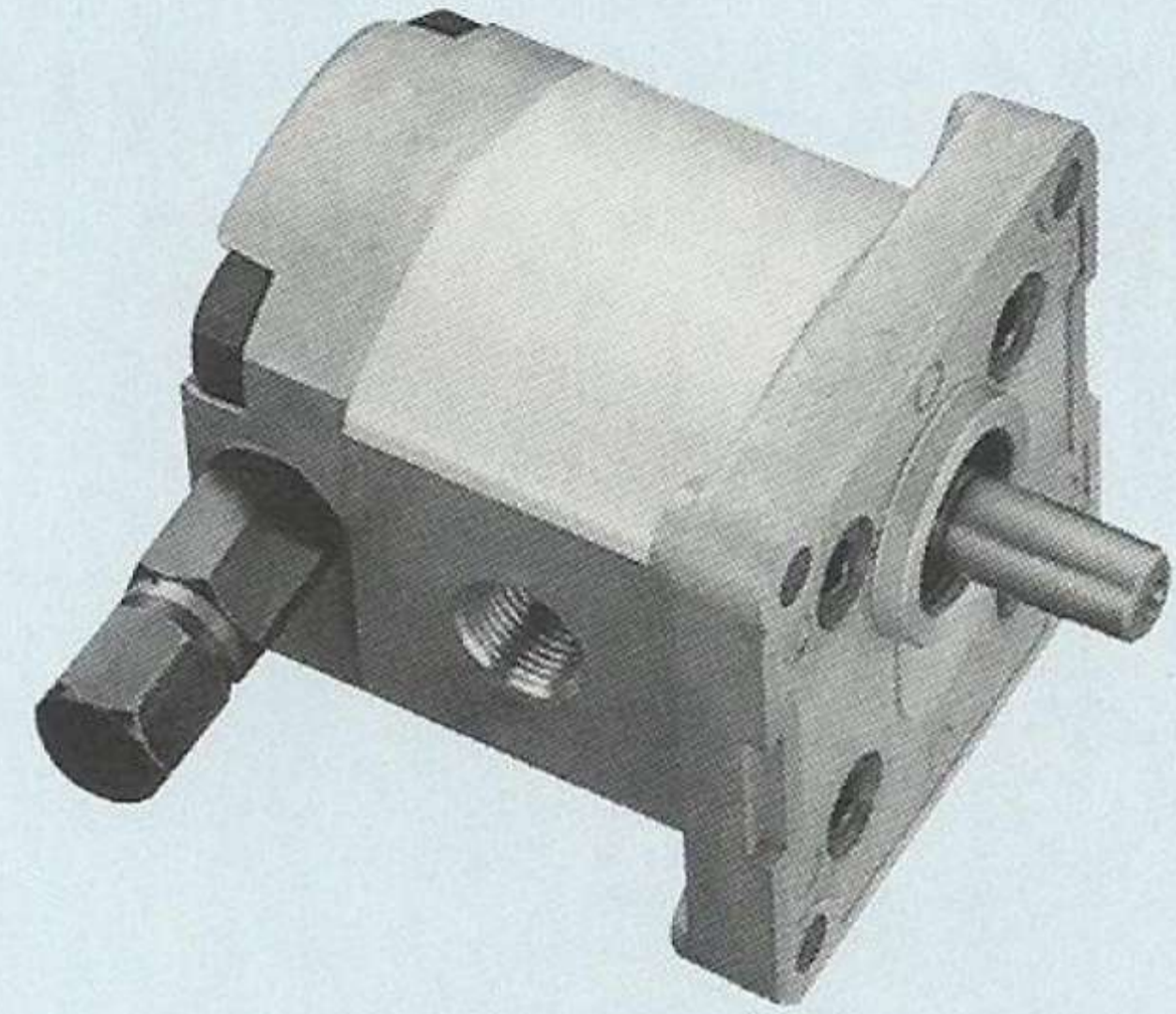
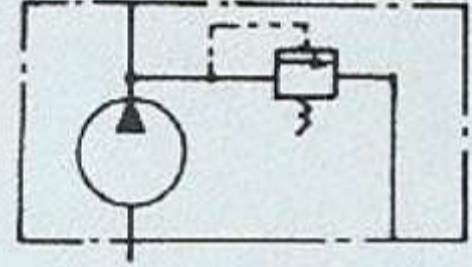
REMARK: PR1-F2.5 (2.5cc/rev) and F5 (5cc/rev) are for special order.

## Dimensions

Unit:mm



# GEAR PUMP WITH RELIEF VALVE



## How to order

**PR2 - F - ✖ - R - 4B**

1 2 3 4 5

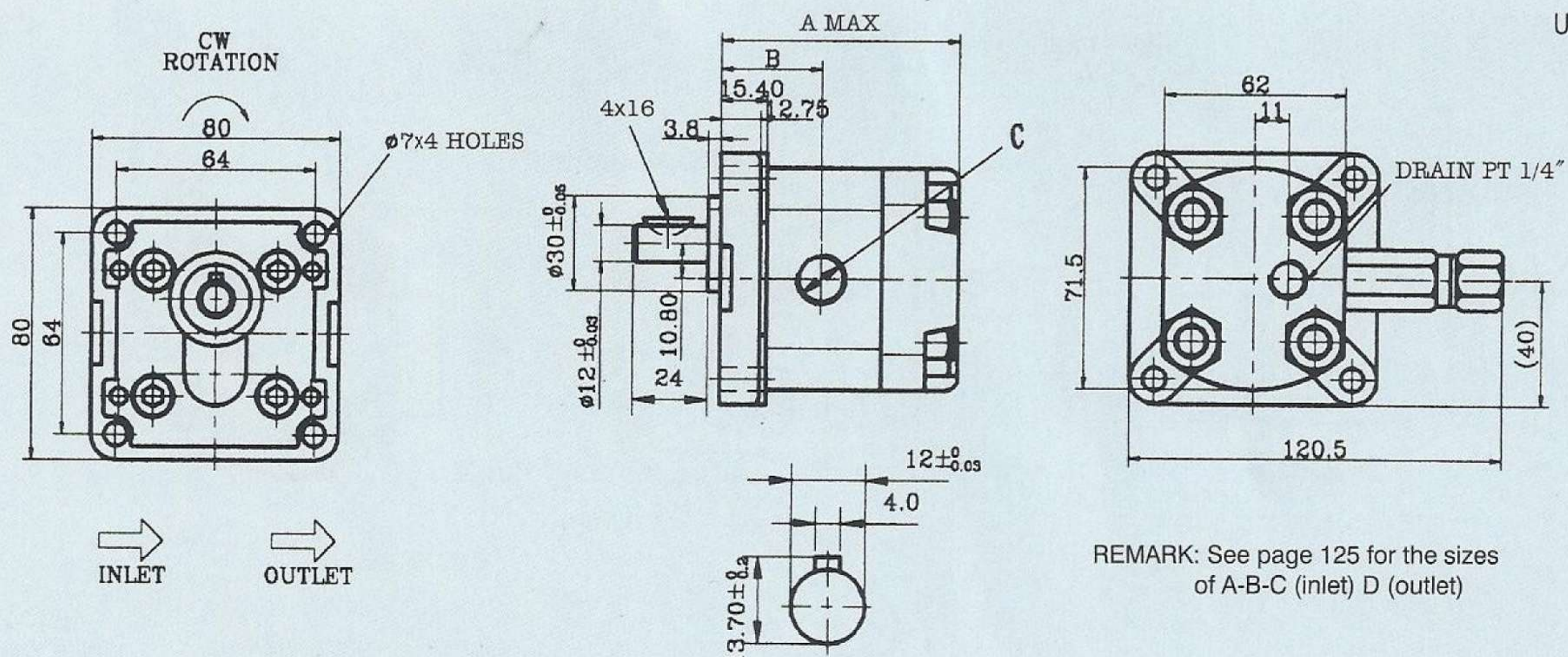
- 1 Model (Refer to page 124, 125)
- 2 Mounting type F: Flange type L: Foot type
- 3 Displacement cc/rev
- 4 Rotation R: Clockwise L: Counter-clockwise
- 5 Mounting flange 2B: SAE 2-Bolt 4B: European 4-Bolt

## Specifications

Model	Displacement (cc/rev)	Pressure bar (psi)		Rate	Runing Speed (rpm)		Weight (kg)
		Working	Max.		Max.	Min.	
PR2-010	1				4500	1000	1.0
PR2-020	2				4500	600	1.05
PR2-030	3				4500	600	1.15
PR2-040	4	210 (3000)	250 (3500)	1800	4000	600	1.18
PR2-050	5				3200	600	1.2
PR2-060	6				3200	600	1.3
PR2-080	7.8				3200	600	1.4

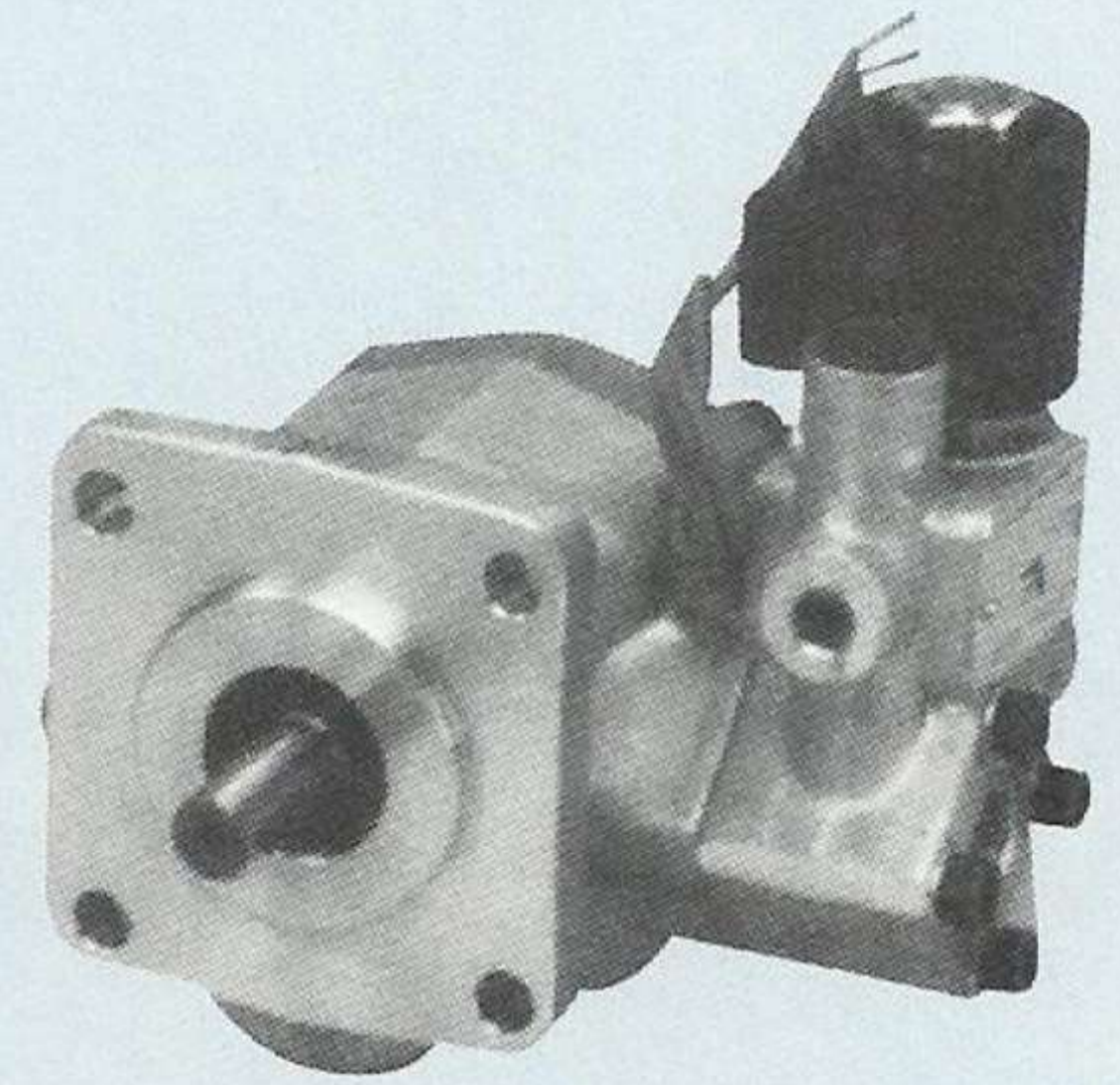
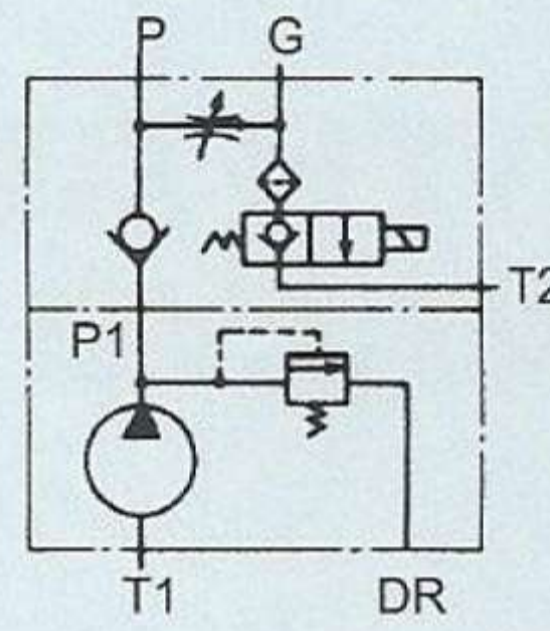
PEMARK: PR2-008 (0.8 cc/rev) and PR2-026 (2.6 cc/rev) are for special order.

## Dimensions





# GEAR PUMP WITH RELIEF VALVE + LIFT VALVE



## How to order

**PR1 - F - ✱ - R - 4BJ - V2064 - ✱**

1	Model
2	Mounting type F: Flange type L: Foot type
3	Displacement cc/rev
4	Rotation R: Clockwise L: Counter-clockwise
5	Mounting flange 4BJ: JIS 4-Bolt
6	V2064: Lift valve
7	Coil voltage A11: AC110V (50/60 Hz) A22: AC220V (50/60 Hz) D12: DC12V D24: DC24V

## Specifications

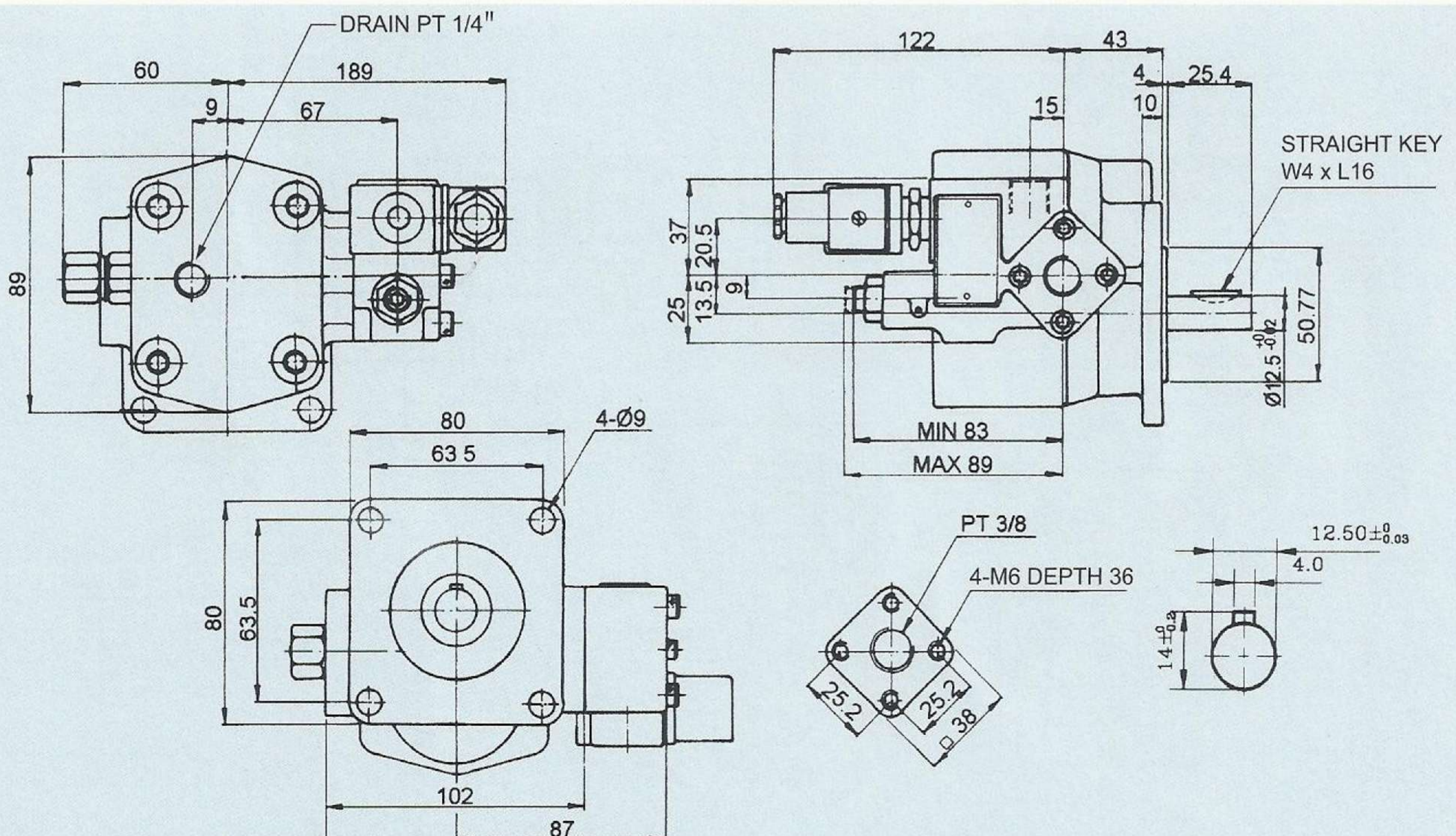
(Refer to page 132)

**Working pressure: 210 bar (3000 psi)**

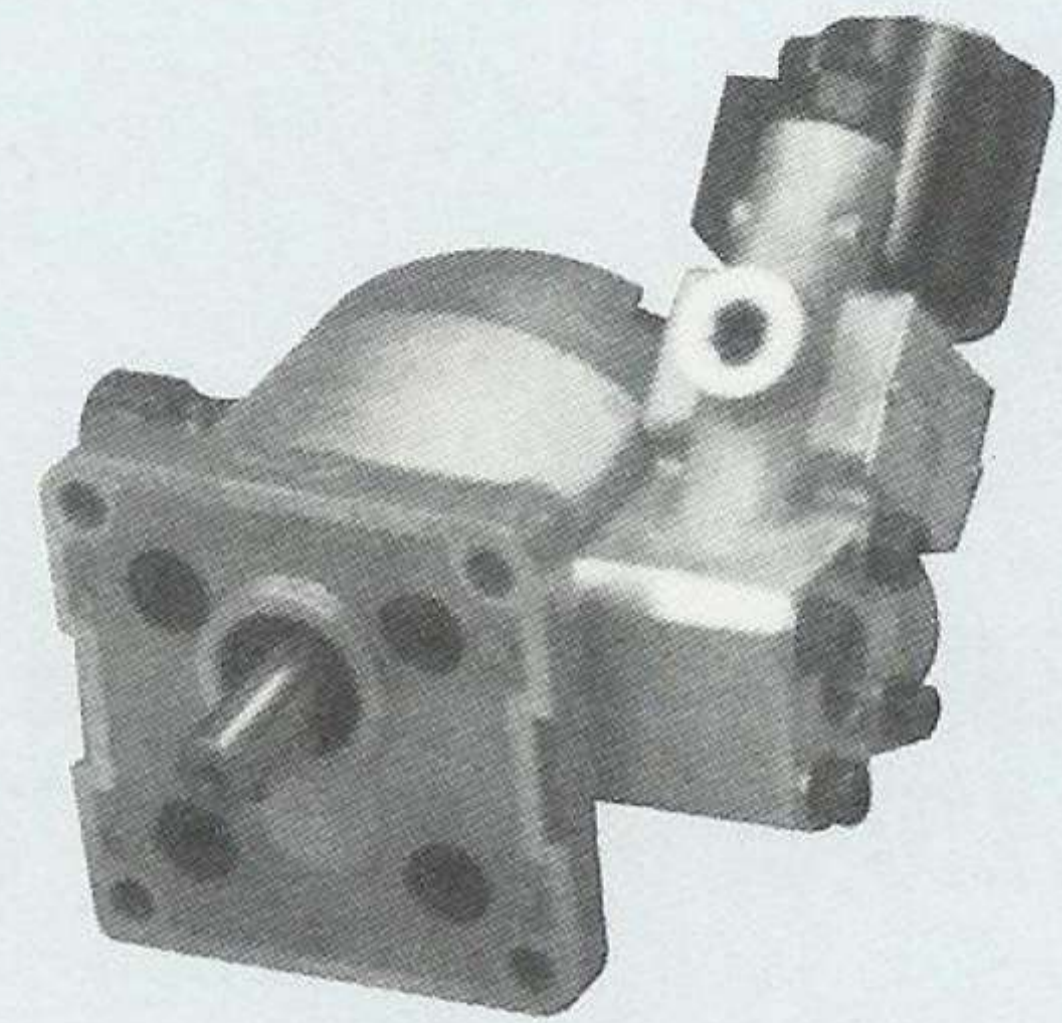
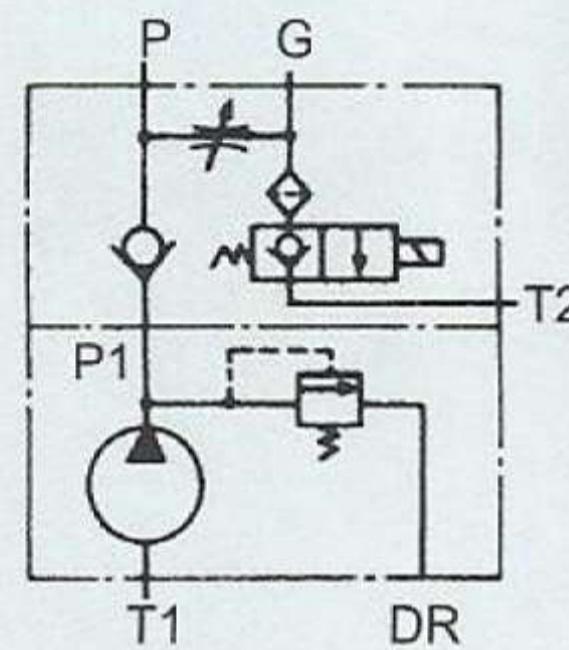
**Displacement: 2 cc/rev - 12 cc/rev**

**Mounting flange: JIS 4-bolt**

## Dimensions



# GEAR PUMP WITH RELIEF VALVE + LIFT VALVE



## How to order

**PR2 - F - ✖ - R - 4B - 2064 - ✖**

1	Model
2	Mounting type F: Flange type L: Foot type
3	Displacement cc/rev
4	Rotation R: Clockwise L: Counter-clockwise
5	Mounting flange 2B: SAE 2-Bolt 4B: European 4-Bolt
6	V2064: Lift valve
7	Coil voltage A11: AC110V(50/60 Hz) A22: AC220V(50/60 Hz) D12: DC12V D24: DC24V

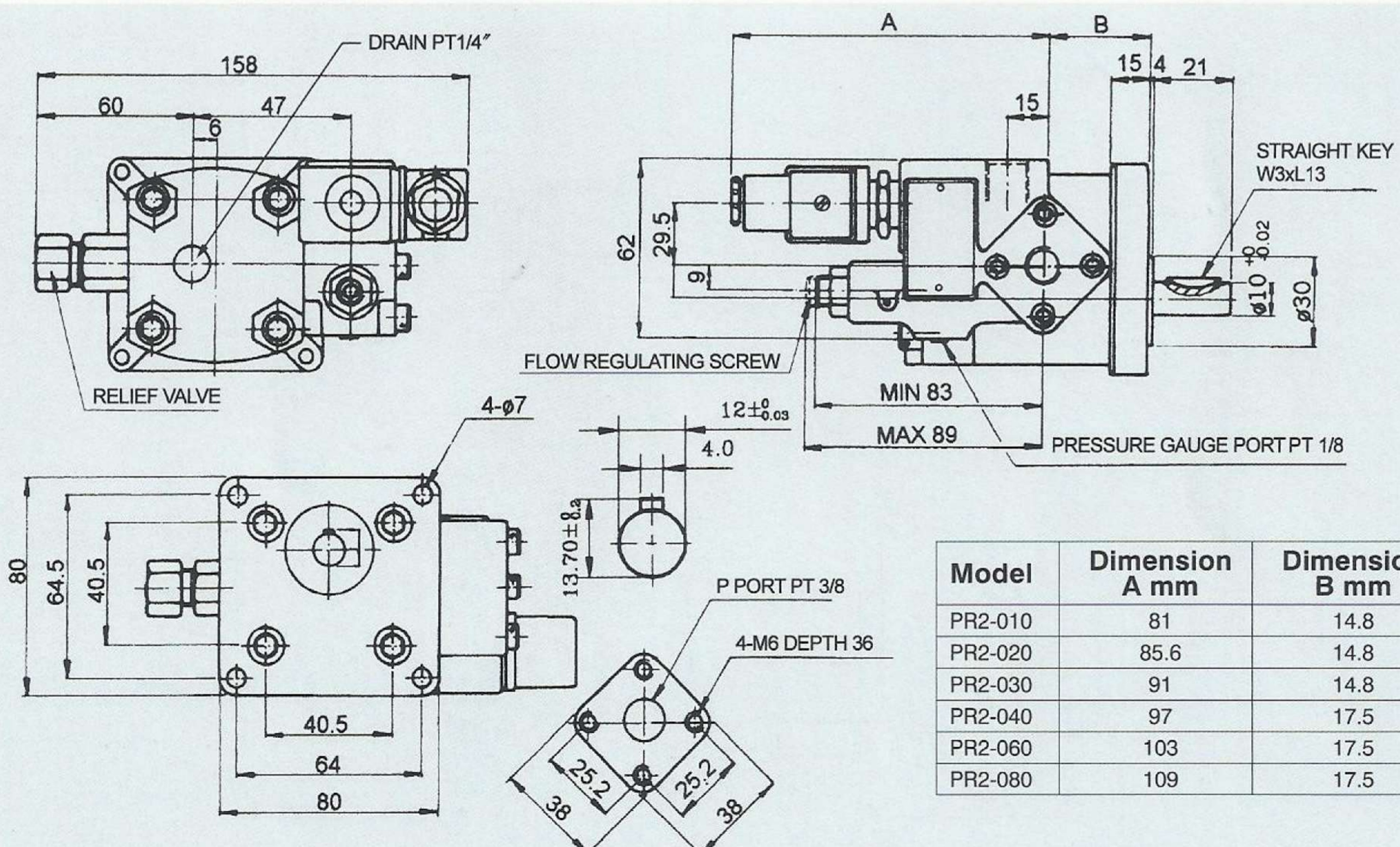
## Specifications

(Refer to page 133)

Working pressure: 210 bar (3000 psi)

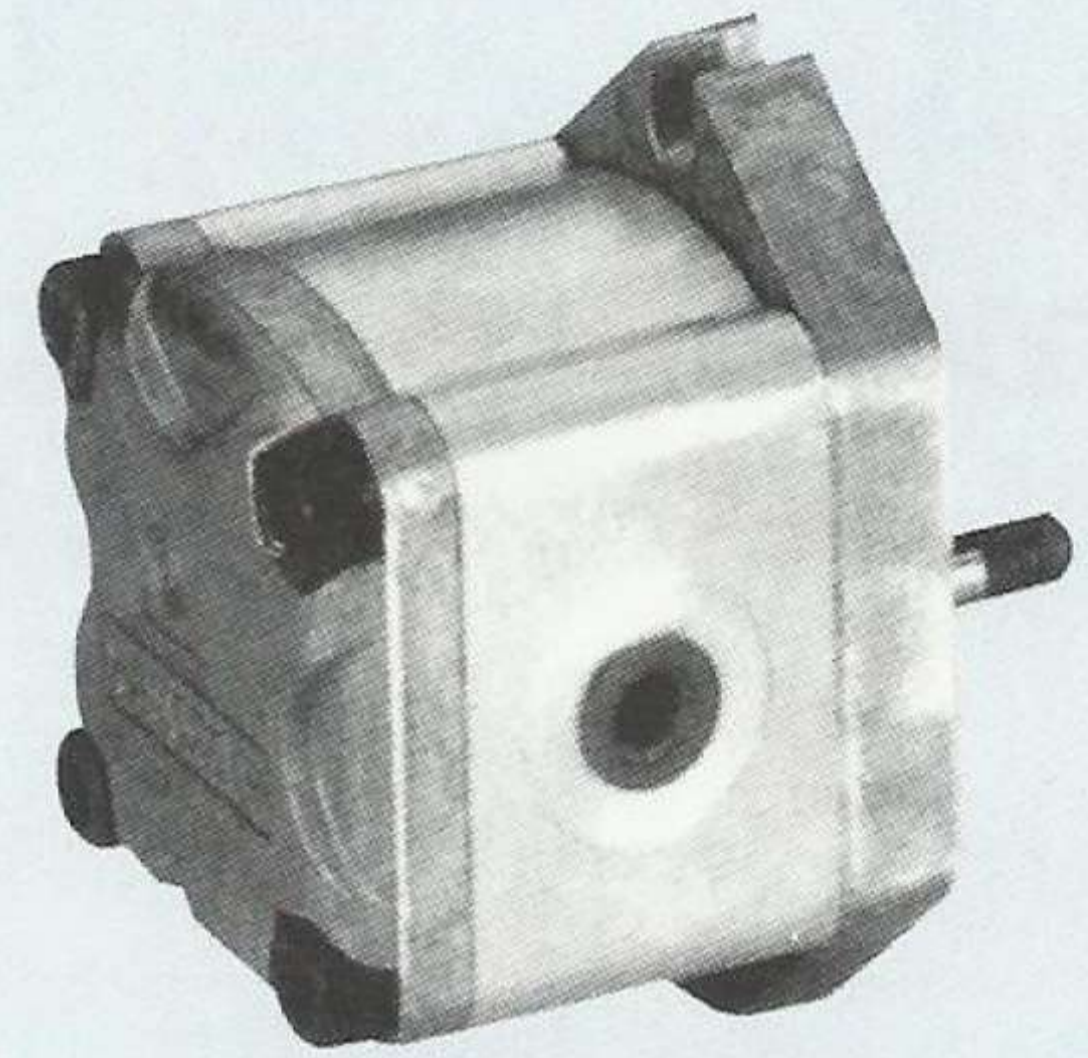
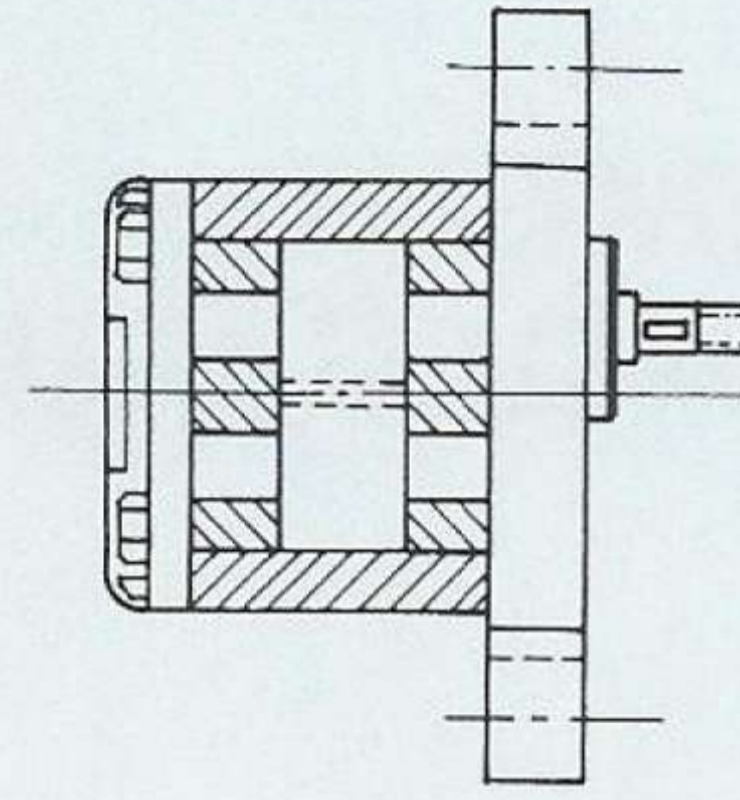
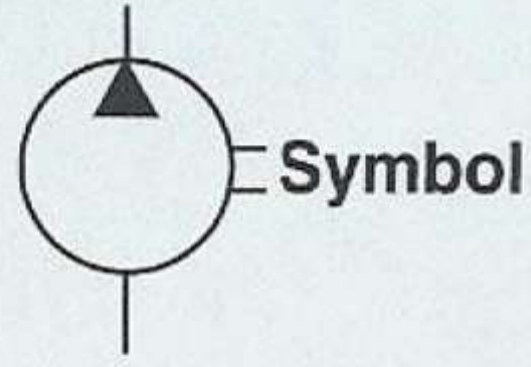
Displacement: 1 cc/rev ~ 7.8 cc/rev

## Dimensions



Model	Dimension A mm	Dimension B mm
PR2-010	81	14.8
PR2-020	85.6	14.8
PR2-030	91	14.8
PR2-040	97	17.5
PR2-060	103	17.5
PR2-080	109	17.5

# GEAR PUMP



## How to order

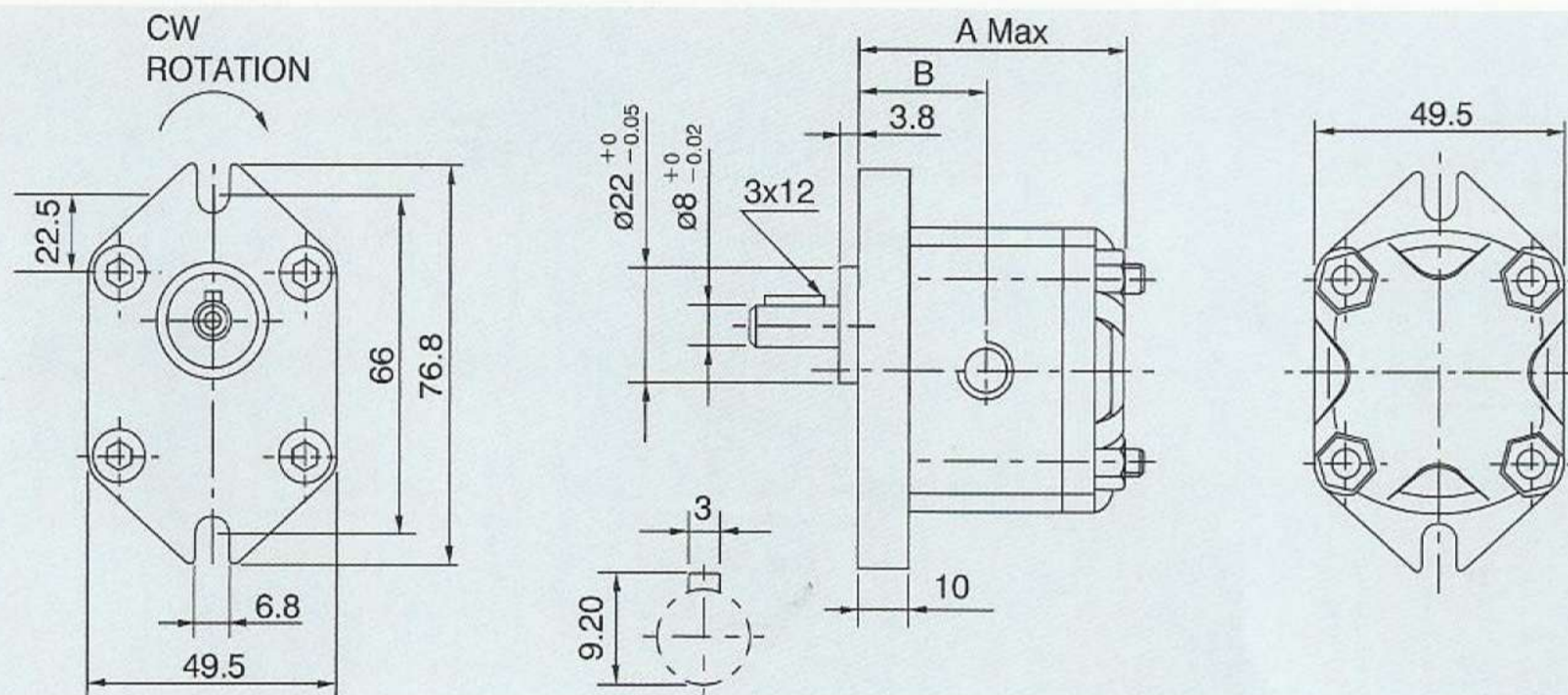
**HGP - 05A - F - \* - R - X**

- |   |  |
|---|--|
| 1 | Model  |
| 2 | Series number                                    |
| 3 | Mouning type F: Flange mounting L: Foot mounting |
| 4 | Displacement cc/rev                              |
| 5 | Rotation R:Clockwise L:Counter-clockwise         |
| 6 | Shaft type X: Straight shaft                     |

## Specifications

Model	Displacement (cc/rev)	Pressure bar (psi)		Runing Speed (rpm)			Inlet	Outlet	Weigth (kg)
		Working	Max.	Rate	Max.	Min.			
HGP-05A-*03*	0.35	210 (3000)	250 (3500)	1800	3500	800	1/8"	1/8"	0.40
HGP-05A-*05*	0.56								0.42
HGP-05A-*08*	0.85						1/4"	1/4"	0.43
HGP-05A-*1.1*	1.13								600

## Dimensions



Unit:mm

Model	Dimension A
HGP-05A-*03*	52
HGP-05A-*05*	54
HGP-05A-*08*	56
HGP-05A-*1.1*	58

Model	Dimension B
HGP-05A-*03*	25
HGP-05A-*05*	26
HGP-05A-*08*	27
HGP-05A-*1.1*	28

## Performance curves

