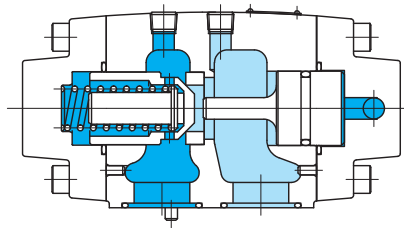
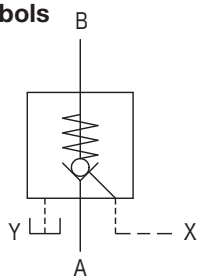


Pilot operated check valves 4CG

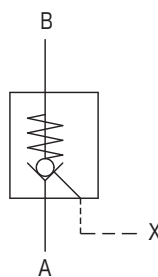


- Valve can function to provide free flow in one direction and also flow in reverse direction with external pilot pressure.
- Decompression type with poppet opening before main valve available.

Functional Symbols



External drain type



Internal drain type

Model Code

(F3)-4CG-03-(D)A-20-(GE5)-JA-(S100)-J

1

2

3

4

5

6

7

8

1 Hydraulic fluid

Omit: mineral oil based fluid, water-glycol based fluid
F3: phosphate ester

2 Pilot operated check valves

4CG: gasket mounting

3 Size

Refer to "Specifications".

4 Decompression function

Omit: standard

D: decompression type

5 Cracking pressure

A: 0.21 MPa

C: 0.53 MPa

F: 1.05 MPa

6 Design no.

See the right table.

7 Drain

Omit: internal drain

GE5: external drain

8 Control code

See the right table.

Model Code	Design No.	Control Code
4CG-03	20	S100
4CG-03-D	20	S100
4CG-03-GE5	21	Omitted
4CG-03-D-GE5	21	Omitted
4CG-06	20	S100
4CG-06-D	20	S100
4CG-06-GE5	21	Omitted
4CG-06-D-GE5	21	Omitted
4CG-10	20	Omitted
4CG-10-D	20	Omitted
4CG-10-GE5	20	Omitted
4CG-10-D-GE5	20	S2

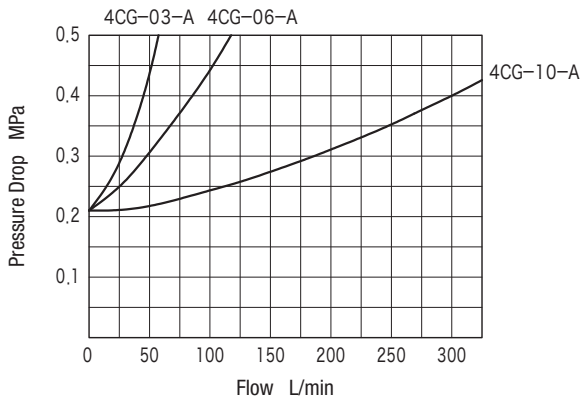
Specifications

Model Code	Size	Max. Working Pressure MPa	Rated Flow L/min	Cracking Pressure MPa	Weight kg
4CG-03	03	21	50	See Model Code	3.5
4CG-06	06		125		7.0
4CG-10	10		315		12

Characteristics Curve (at 20 mm²/s) (typical examples)

Pressure Drop Characteristics (free flow direction, cracking pressure 0.21 MPa)

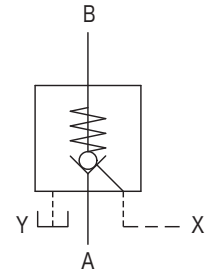
4CG-03-A
4CG-06-A
4CG-10-A



Pilot Pressure

Pilot pressure (for decompression type, pressure to actuate the small poppet) necessary to open valve and allow flow from B to A can be calculated from the following:

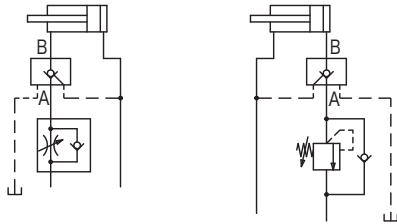
P_X : pilot pressure
 P_A : A side pressure
 P_B : B side pressure
 P_C : cracking pressure



Model Code	Formula
4CG-03	$P_X > 0.28(P_B + P_C) + 0.72P_A$
4CG-03-D	$P_X > 0.03P_B + 0.97P_A + 0.28P_C$
4CG-03-GE5	$P_X > 0.28(P_B + P_C) - 0.03P_A$
4CG-03-D-GE5	$P_X > 0.03P_B + 0.22P_A + 0.28P_C$
4CG-06	$P_X > 0.29(P_B + P_C) + 0.71P_A$
4CG-06-D	$P_X > 0.02P_B + 0.98P_A + 0.29P_C$
4CG-06-GE5	$P_X > 0.29(P_B + P_C) - 0.04P_A$
4CG-06-D-GE5	$P_X > 0.02P_B + 0.23P_A + 0.29P_C$
4CG-10	$P_X > 0.39(P_B + P_C) + 0.61P_A$
4CG-10-D	$P_X > 0.01P_B + 0.99P_A + 0.39P_C$
4CG-10-GE5	$P_X > 0.39(P_B + P_C) - 0.14P_A$
4CG-10-D-GE5	$P_X > 0.01P_B + 0.24P_A + 0.39P_C$

Notes on Operation

- In case of back pressure in A port caused by counterbalance valve or flow control valve, high pilot pressure will be necessary to open the valve. If the high pilot pressure P_X as calculated from the equation cannot be achieved, use external drain type.



- Sudden opening of actuator line pressure may result in shock. In this case use decompression type valve where the small poppet opens before the main valve to bleed B port pressure.

Mounting Bolts (JIS B 1176, Strength Class 12.9)

Valve Model	Hex Socket Bolts		Qty
	Metric Threadbolts	Unified Thread	
4CG-03	M10 × 70	3/8-16UNC × 69.8	4
4CG-06	M10 × 85	3/8-16UNC × 82.5	4
4CG-10	M10 × 110	3/8-16UNC × 107.9	6

- Mounting bolts must be ordered separately.
- Mounting bolt tightening torque
4CG-03/06/10: 54~66 N·m

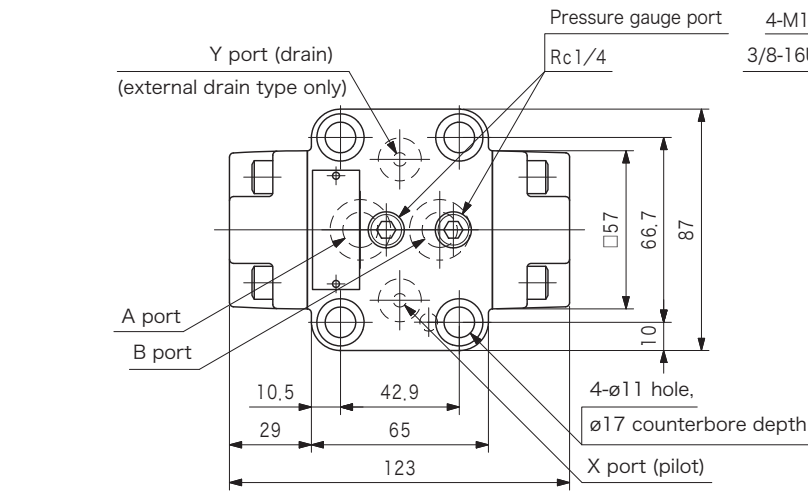
Subplate

Valve Model	Subplate	Connection Port Diameter Rc
4CG-03	RXGM-03-20-JA-J	3/8
	RXGM-03X-20-JA-J	1/2
4CG-06	RXGM-06-20-JA-J	3/4
	RXGM-06X-20-JA-J	1
4CG-10	RXGM-10-20-JA-J	1-1/4
	RXGM-10X-20-JA-J	1-1/2

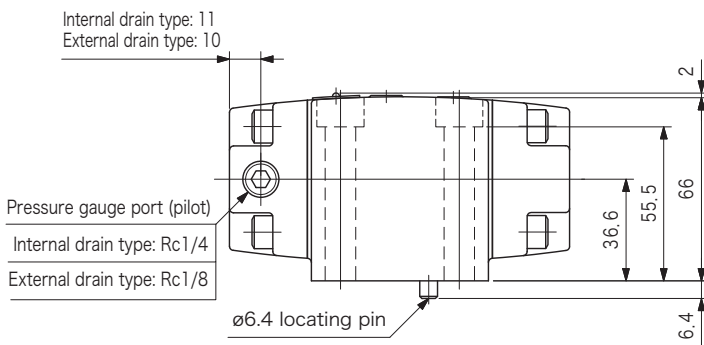
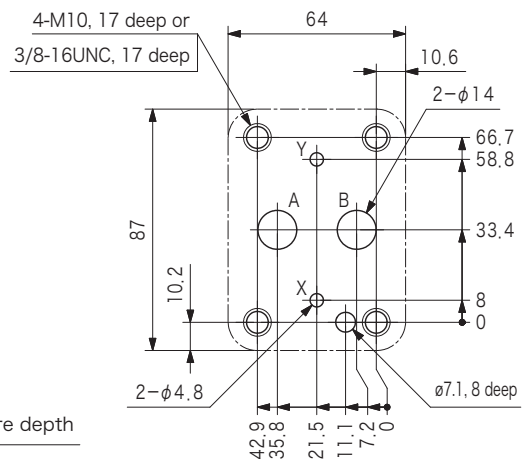
- Subplate must be ordered separately.
- Hex socket bolts for mounting valve included. (Unified thread)
- See page R6-3 for dimensions.

Dimensions

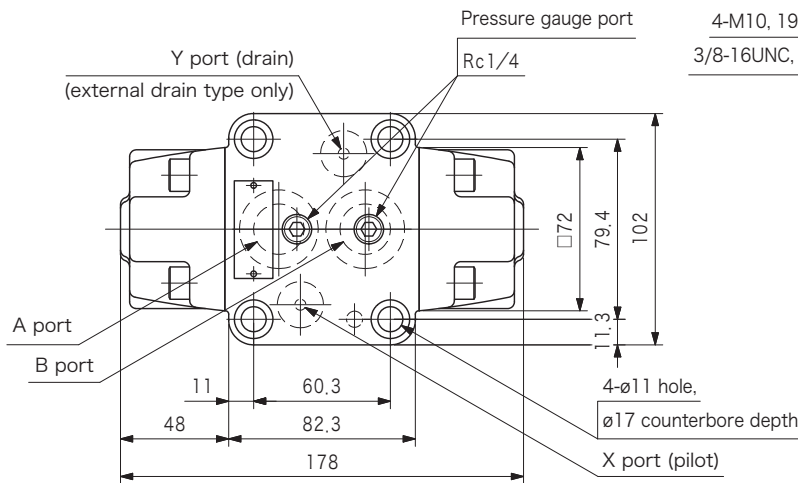
4CG-03



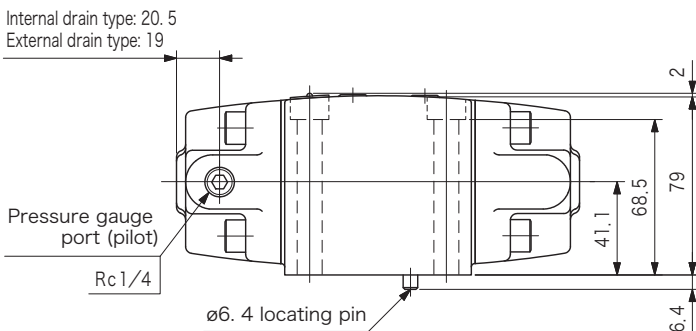
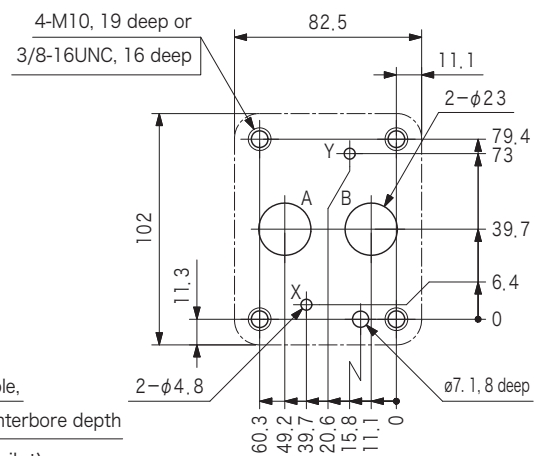
●Mounting dimensions



4CG-06

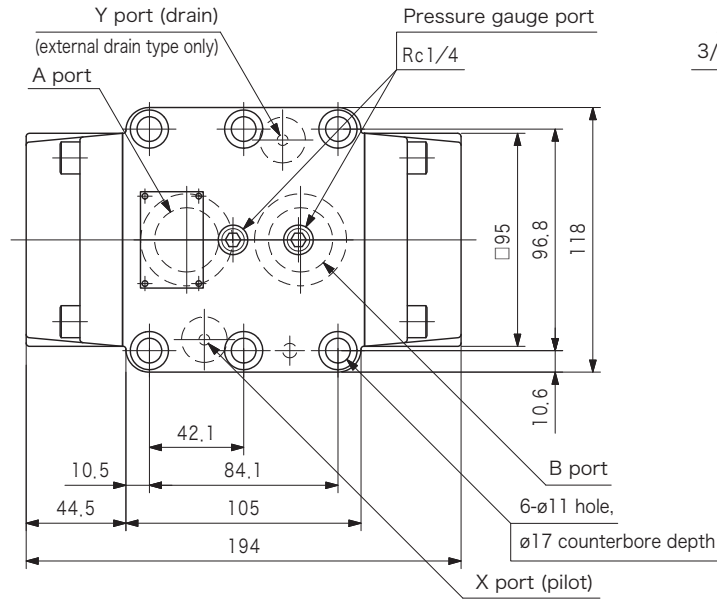


●Mounting dimensions

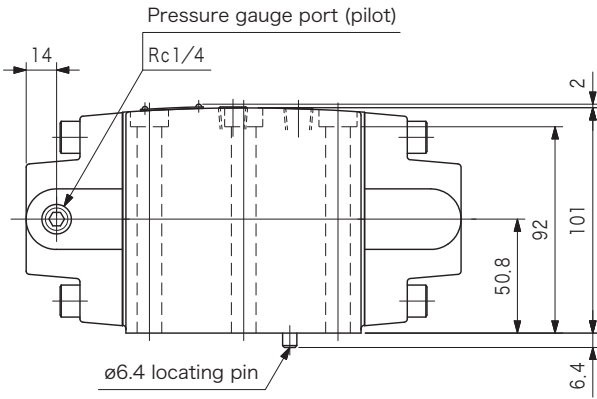
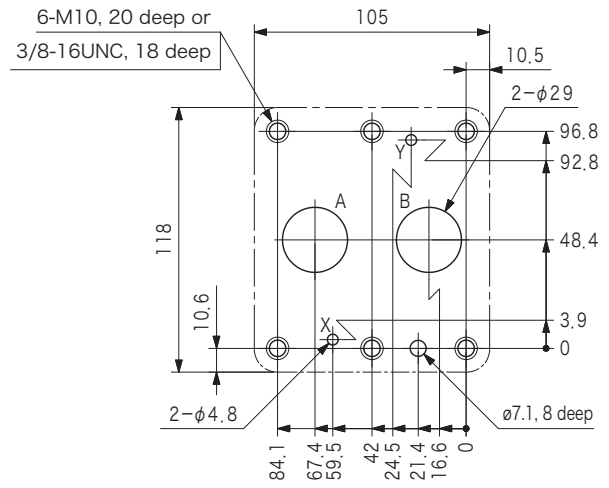


Dimensions

4CG-10

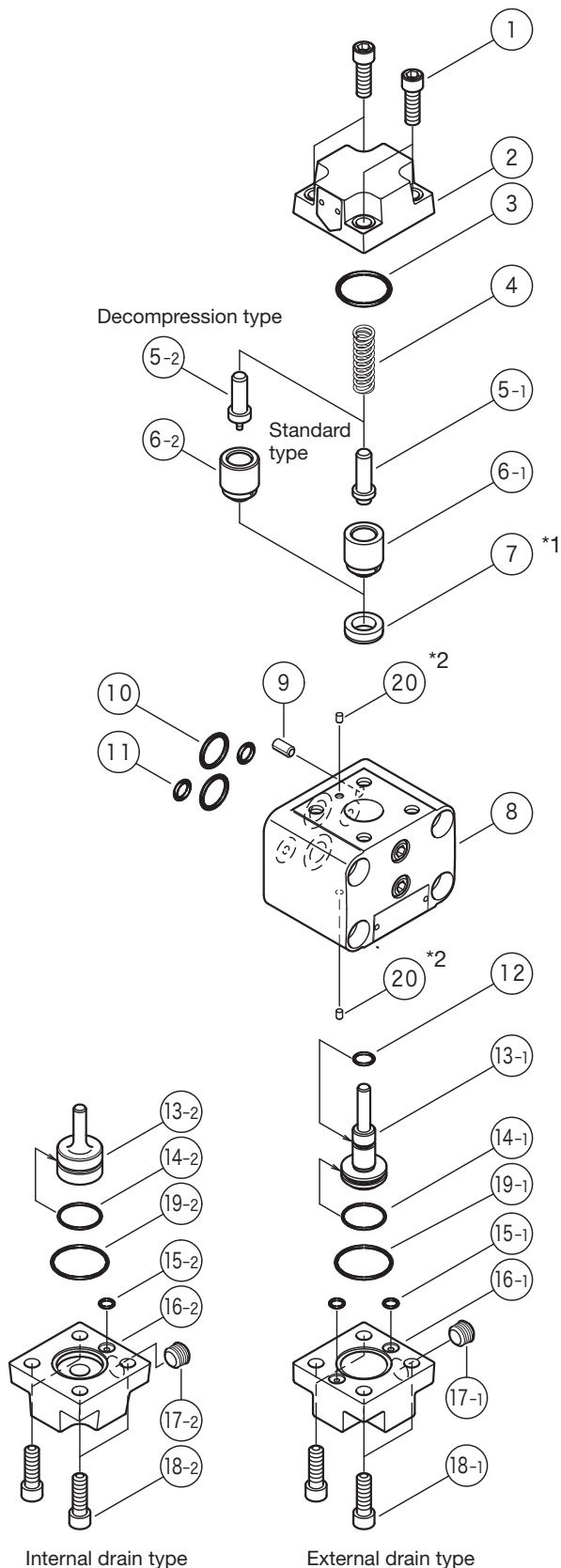


●Mounting dimensions



6-4

Directional Control Valves



Note:

*1 (7) seat inserted in (8) body

*2 (20) plug is used only in the 4CG-10 valve.

O-ring
4CG-03

No.	Part No.	Standard	Qty	
			Internal Drain	External Drain
3	007912119	AS568-121 (NBR, Hs90)	1	1
10	007911519	AS568-115 (NBR, Hs90)	2	2
11	007911119	AS568-111 (NBR, Hs90)	1	2
14	007902017	AS568-020 (NBR, Hs70)	1	—
15	007901019	AS568-010 (NBR, Hs90)	1	2
19	007902419	AS568-024 (NBR, Hs90)	1	1

4CG-06

No.	Part No.	Standard	Qty	
			Internal Drain	External Drain
3	007912519	AS568-125 (NBR, Hs90)	1	1
10	007921619	AS568-216 (NBR, Hs90)	2	2
11	007911419	AS568-114 (NBR, Hs90)	1	2
14	007902417	AS568-024 (NBR, Hs70)	1	—
15	007901119	AS568-011 (NBR, Hs90)	1	2
19	007902819	AS568-028 (NBR, Hs90)	1	1

4CG-10

No.	Part No.	Standard	Qty	
			Internal Drain	External Drain
3	007922319	AS568-223 (NBR, Hs90)	1	1
10	007922019	AS568-220 (NBR, Hs90)	2	2
11	007911419	AS568-114 (NBR, Hs90)	1	2
12	007911317	AS568-113 (NBR, Hs70)	—	1
14	007921817	AS568-218 (NBR, Hs70)	1	1
15	007901519	AS568-015 (NBR, Hs90)	1	1
19	007922319	AS568-223 (NBR, Hs90)	1	1