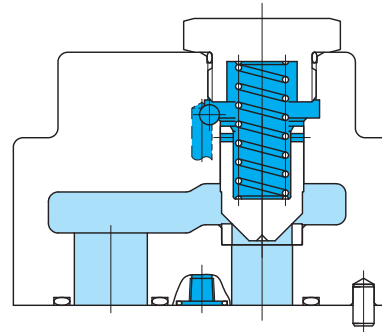
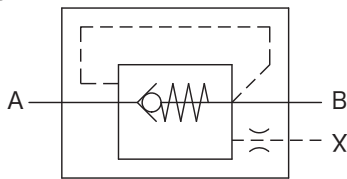


# Pilot operated check valves C2PG/C5PG



## Functional Symbol



- Normal free flow in both directions. External pilot pressure to close flow in both directions.

## Model Code

(F3)-C5PG-815-(S3)-10-(S1)

1	2	3	4	5	6
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- 1 Hydraulic fluid  
Omit: mineral oil based fluid, water-glycol based fluid  
F3: phosphate ester
- 2 Pilot operated check valves
- 3 Size  
Refer to "Specifications".
- 4 Cracking pressure  
Refer to "Specifications".

- 5 Design no.  
10: C5PG-815, C5PG-825  
11: C2PG-805
- 6 Special feature  
S1: O-ring seal against pilot pressure internal leakage  
S5: notched poppet to reduce shock  
(cracking pressure 0.035 MPa, 0.35 MPa)  
(excluding C2PG-805)

## Specifications

Model Code	Size	Max. Working Pressure MPa	Rated Flow L/min	Weight kg
C2PG-805	03	21	40	1.5
C5PG-815	06		80	4.5
C5PG-825	10		380	8.6

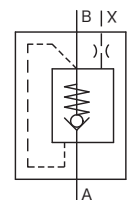
Code	Omitted (standard)	S19	S2	S3	S8	S17	S34	S22
Cracking Pressure MPa	0.035	0.14	0.25	0.35	0.53	0.88	1.05	No spring

- Cracking pressure value indicated is from A to B free flow. For cracking pressure from B to A, multiply values in the table by the coefficient in the table at right.
- Cracking pressure for C2PG-805 per Omitted code and S3 only.

Model Code	Coefficient
C2PG-805	1.1
C5PG-815	1.1
C5PG-825	1.3

## Pressure Required to Open and Close Valve

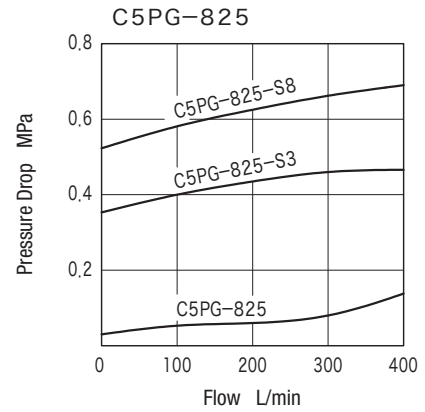
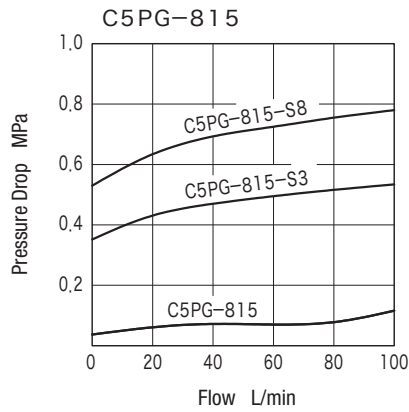
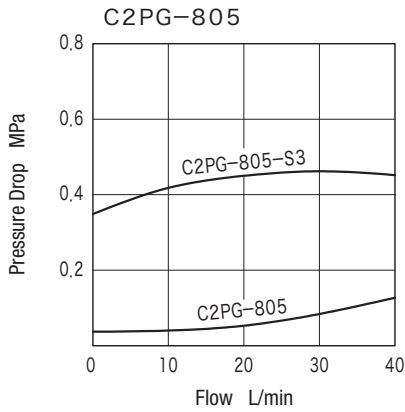
- Pilot pressure necessary to open and close valve can be calculated from the following:  
 $P_A$  = A side pressure  
 $P_B$  = B side pressure  
 $P_C$  = cracking pressure from A  
 $P_X$  = pilot port X pressure



C2PG-805	Required pressure to open (A→B)	$P_A > 1.89P_X - 0.89P_B + P_C$
	Required pressure to open (B→A)	$P_B > 2.13P_X + 1.13(P_C - P_A)$
	Required pressure to close	$P_X > 0.53(P_A - P_C) + 0.47P_B$
C5PG-815	Required pressure to open (A→B)	$P_A > 1.93P_X - 0.93P_B + P_C$
	Required pressure to open (B→A)	$P_B > 2.07P_X + 1.07(P_C - P_A)$
	Required pressure to close	$P_X > 0.52(P_A - P_C) + 0.48P_B$
C5PG-825	Required pressure to open (A→B)	$P_A > 1.77P_X - 0.77P_B + P_C$
	Required pressure to open (B→A)	$P_B > 2.29P_X + 1.29(P_C - P_A)$
	Required pressure to close	$P_X > 0.56(P_A - P_C) + 0.44P_B$

# Characteristics Curve (at 20 mm<sup>2</sup>/s) (typical examples)

## Pressure Drop Characteristics



## Notes on Operation

- S22 (no spring) type should be mounted horizontally with gasket surface down.
- When pilot pressure closes the valve, be careful as pilot pressure will leak to B port. If B port pressure is low because of such leakage, pilot pressure will fall and the closed A to B position may be unstable. If no leakage is necessary, use special feature "S1" type.

## Mounting Bolts (JIS B 1176, Strength Class 12.9)

Valve Model	Hex Socket Bolts		Qty
	Metric Threadbolts	Unified Thread	
C2PG-805	M8 × 40	5/16-18UNC × 38.1	4
C5PG-815	M16 × 60	5/8-11UNC × 57.1	4
C5PG-825	M20 × 100	3/4-10UNC × 101.6	4

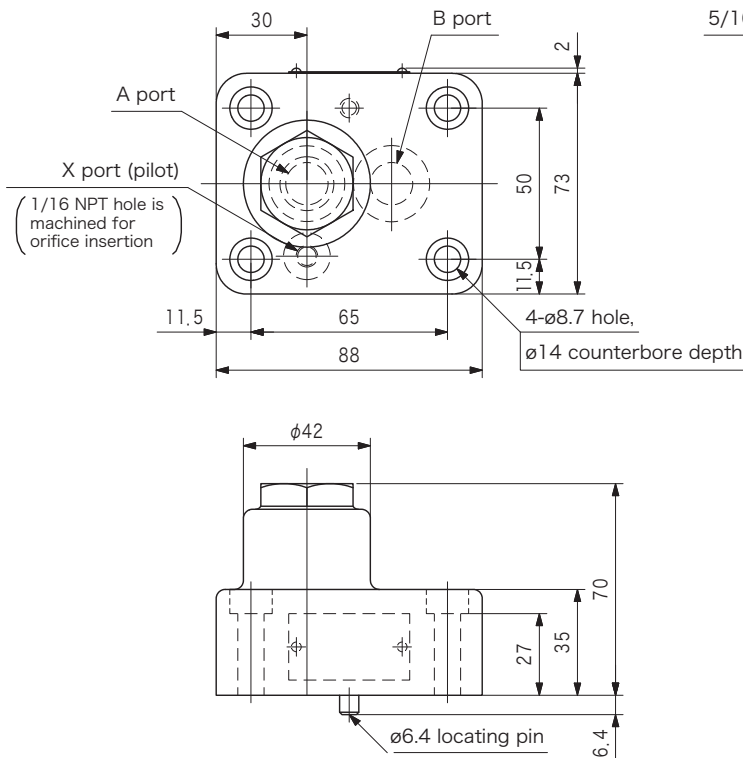
- Mounting bolts must be ordered separately.
- Mounting bolt tightening torque  
 C2PG-805: 27~33 N·m  
 C5PG-815: 90~110 N·m  
 C5PG-825: 180~220 N·m

## Subplate

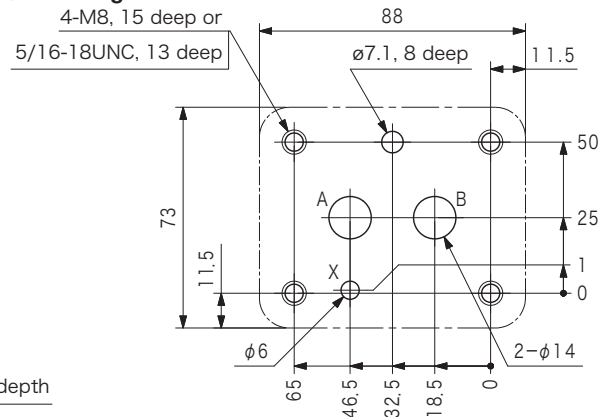
- No subplate is available. Mount on manifold block.

## Dimensions

### C2PG-805

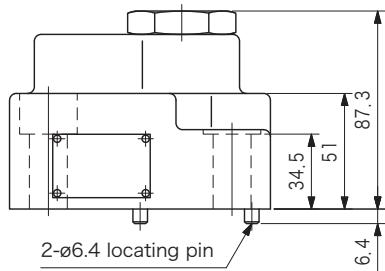
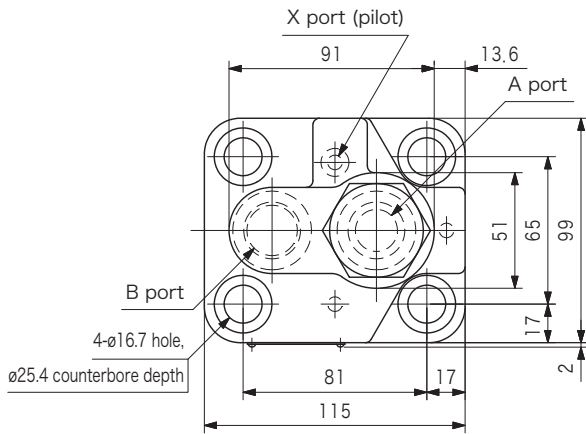


### ●Mounting dimensions

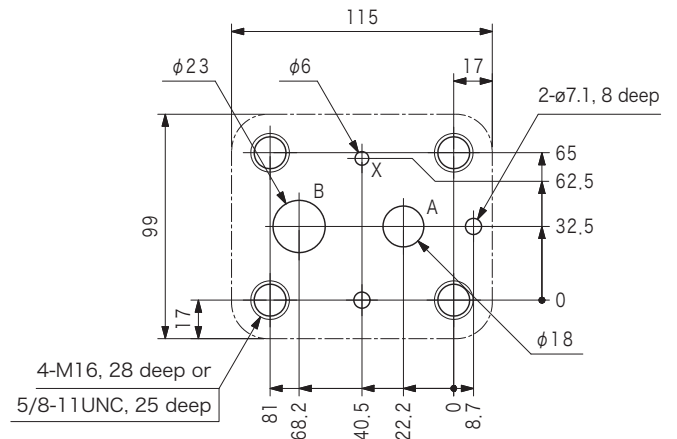


# Dimensions

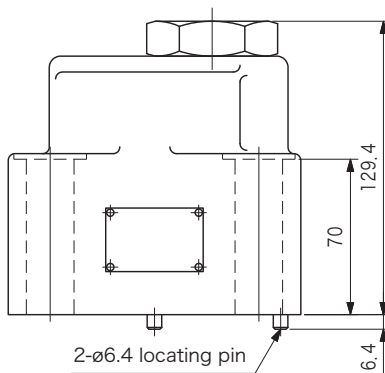
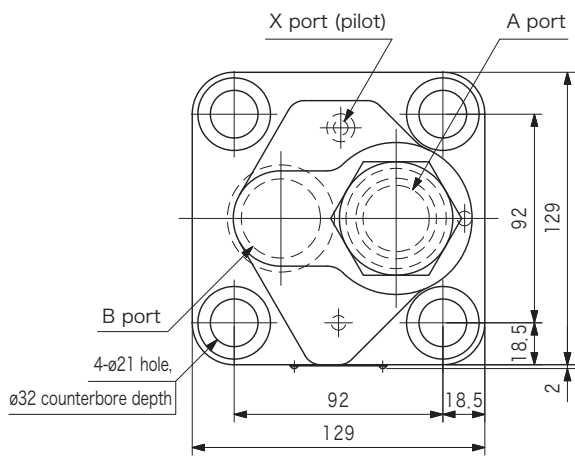
## C5PG-815



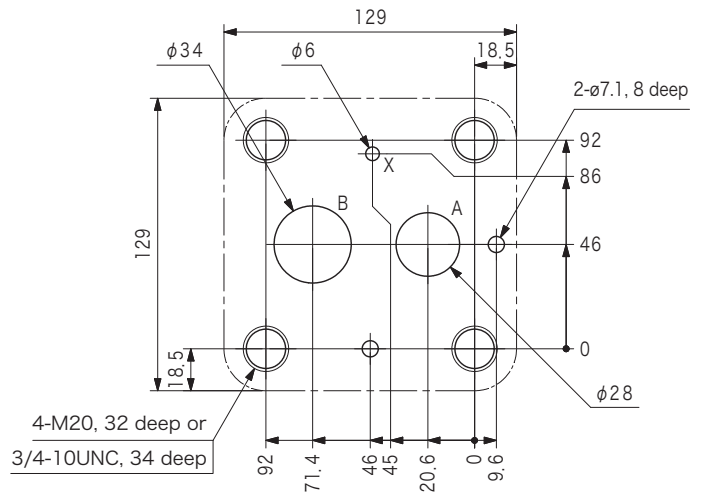
## ●Mounting dimensions

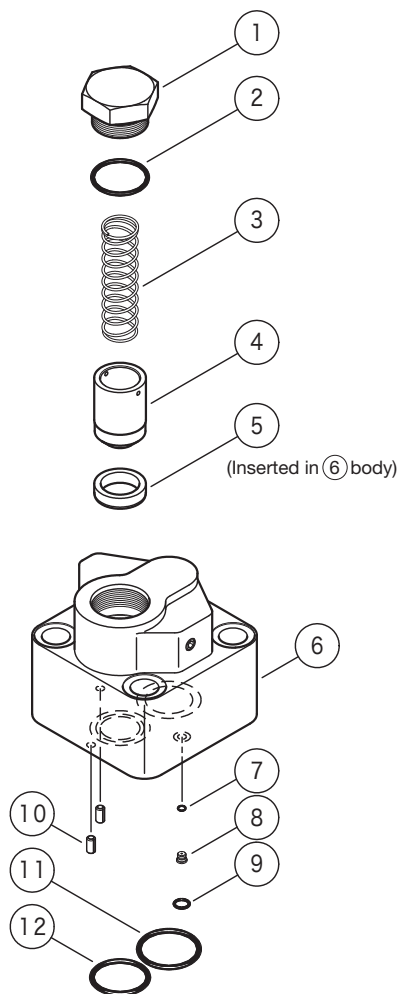


## C5PG-825



## ●Mounting dimensions





③ Spring  
C2PG-805

Code	Part No.
Omitted	VA23287
S3	VA28602

C5PG-815

Code	Part No.
Omitted	VP2943
S2	VA10075
S3	VP25896
S8	VP32999
S17	VP84235
S19	VP2287
S34	VA10716

C5PG-825

Code	Part No.
Omitted	VP2284
S2	VP2953
S3	VP29059
S8	VP39778
S17	VA13278
S19	VP106669
S34	VA10008

O-ring  
C2PG-805

No.	Part No.	Standard	Qty
2	007991019	AS568-910 (NBR, Hs90)	1
9	007901419	AS568-014 (NBR, Hs90)	1
11	007911519	AS568-115 (NBR, Hs90)	1
12	007911719	AS568-117 (NBR, Hs90)	1

C5PG-825

No.	Part No.	Standard	Qty
2	007992019	AS568-920 (NBR, Hs90)	1
7	40031170	(NBR, Hs70)	1
9	007901219	AS568-012 (NBR, Hs90)	1
11	007922319	AS568-223 (NBR, Hs90)	1
12	007922219	AS568-222 (NBR, Hs90)	1

C5PG-815

No.	Part No.	Standard	Qty
2	007991619	AS568-916 (NBR, Hs90)	1
9	007901219	AS568-012 (NBR, Hs90)	1
11	007921619	AS568-216 (NBR, Hs90)	1
12	007921619	AS568-216 (NBR, Hs90)	1