

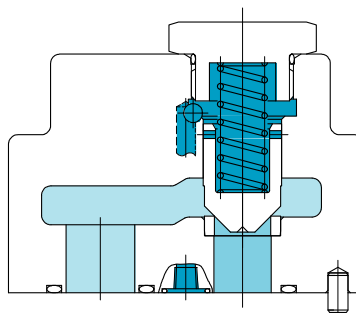
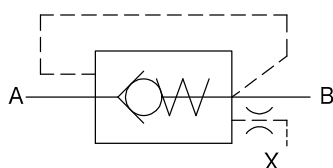
Pilot operated check valves C2PG/C5PG

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CHECK VALVES



Functional Symbols



- 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

- 1 Fluid
Omit for mineral oil, water glycol
F3: phosphate ester
- 2 Pilot operated check
- 3 Size
See 'Specifications'
- 4 Cracking pressure
See '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	Size	Max. Wkg. 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 (Std)	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

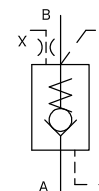
- Cracking pressure value indicated is from A to B, free flow. For cracking pressure from B to A, multiply values in the table by the coefficient in the table at right.
- | Model | Coefficient |
|----------|-------------|
| C2PG-805 | 1.1 |
| C5PG-815 | 1.1 |
| C5PG-825 | 1.3 |

- Cracking pressure for C2PG-805 per Omitted code and S3 only.

Pressure Required to Open and Close Valve

- Pilot pressure necessary to open valve and allow flow from B to A can be calculated from the following:

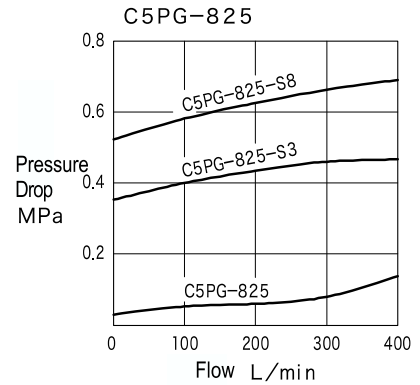
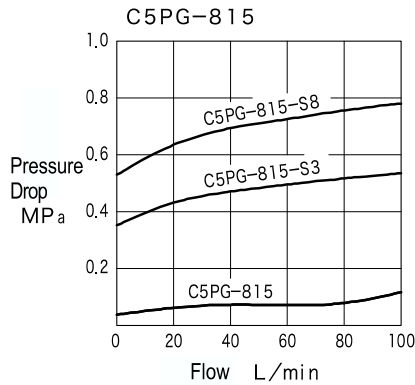
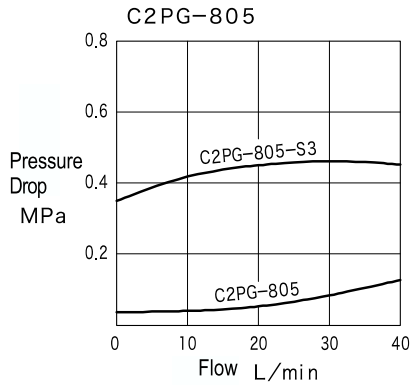
- P_x : pilot pressure
- P_A : A side pressure
- P_B : B side pressure
- P_C : cracking pressure



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

Performance Curves (at 20 mm²/s)

Pressure Drop Characteristics



Notes on Use

- 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 suffix "S1" type.

Mounting Bolts (JIS B1176, Strength Class 12.9)

Model	Hex Socket Bolts		Qty
	Metric	Unified	
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

- Order mounting bolts separately.
- Mounting bolt tightening torque:
 C2PG-805: 27~33 Nm
 C5PG-815: 90~110 Nm
 C5PG-825: 180~220 Nm

Subplate

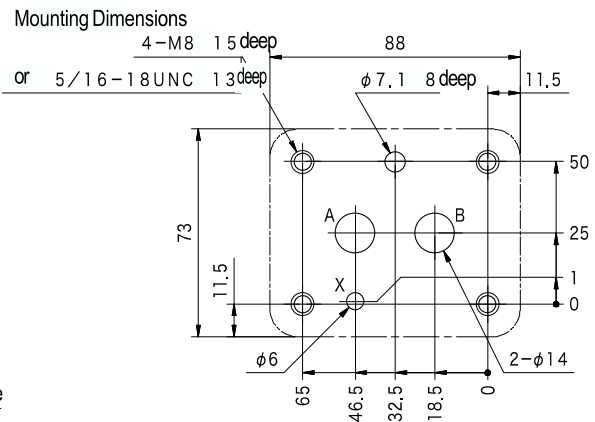
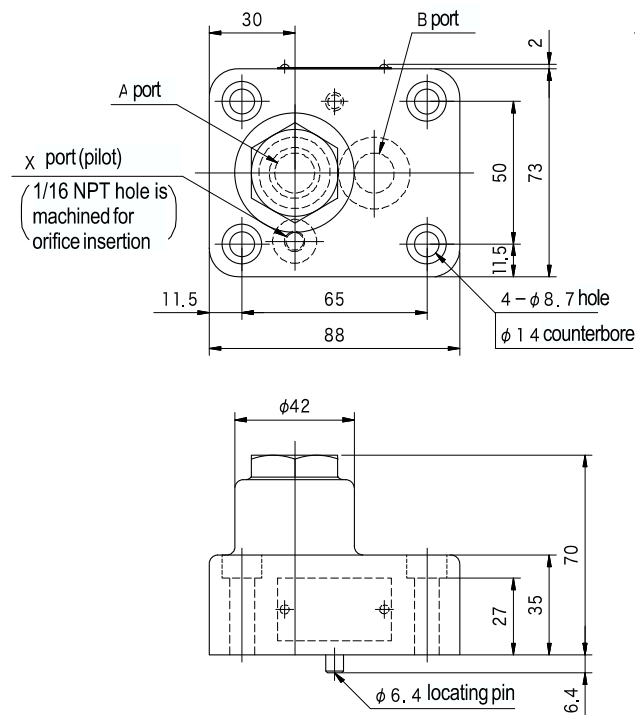
- Manifold block mounting (subplate not available).

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CHECK VALVES

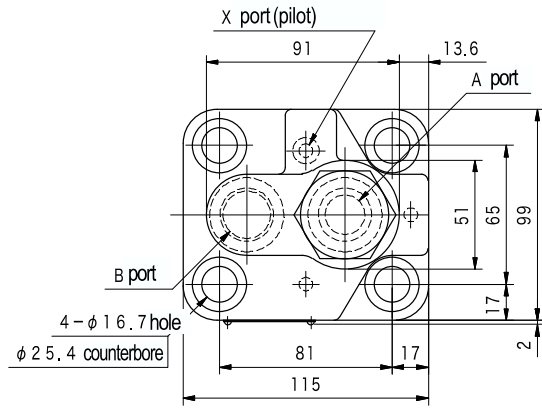
Dimensions

C2PG-805

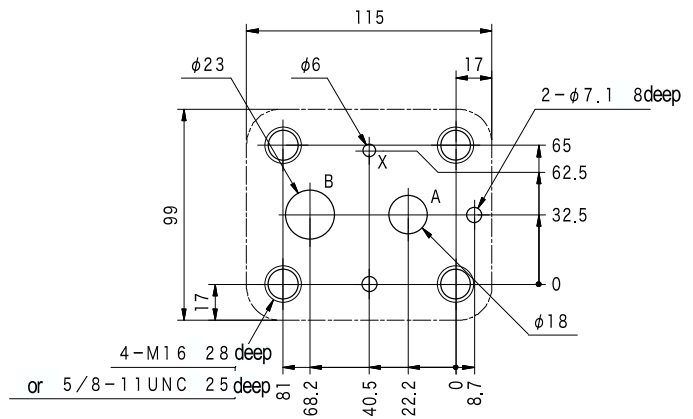


Dimensions

C5PG-815

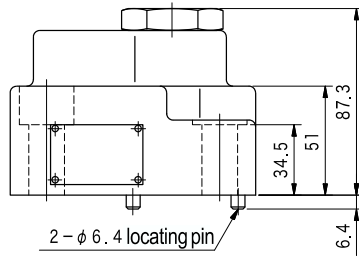


Mounting Dimensions

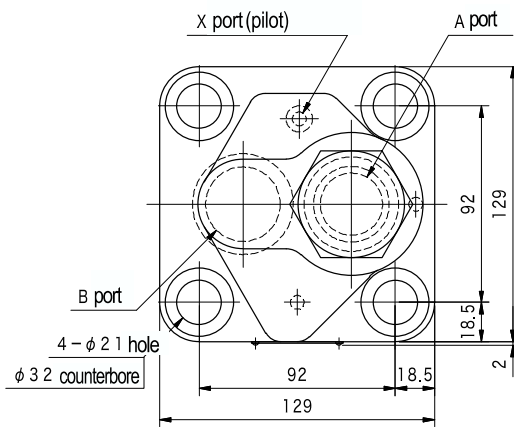


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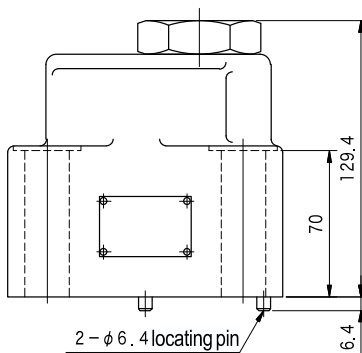
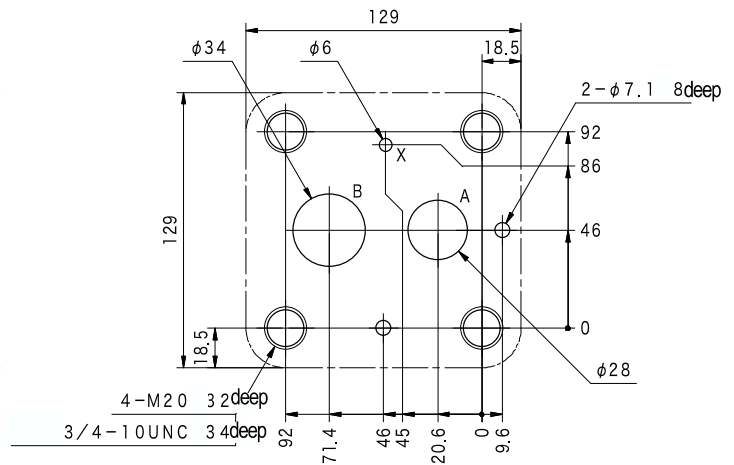
CHECK VALVES



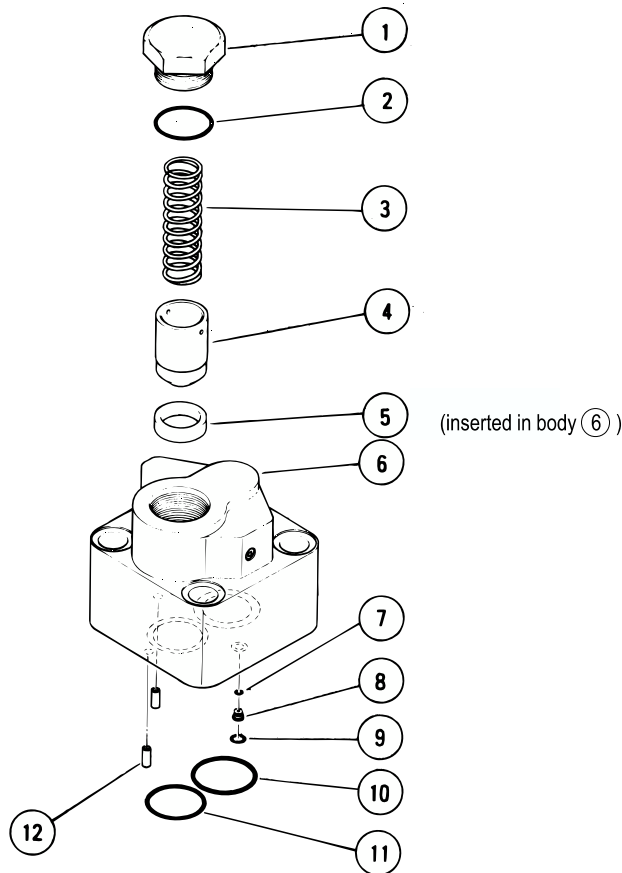
C5PG-825



Mounting Dimensions



or



③ Springs
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-Rings
C2PG-805

No.	Part No.	Standard	Qty
2	007991019	AS568-910 (NBR, Hs90)	1
9	007901419	AS568-014 (NBR, Hs90)	1
10	007911519	AS568-115 (NBR, Hs90)	1
11	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
10	007922319	AS568-223 (NBR, Hs90)	1
11	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
10	007921619	AS568-216 (NBR, Hs90)	1
11	007921619	AS568-216 (NBR, Hs90)	1