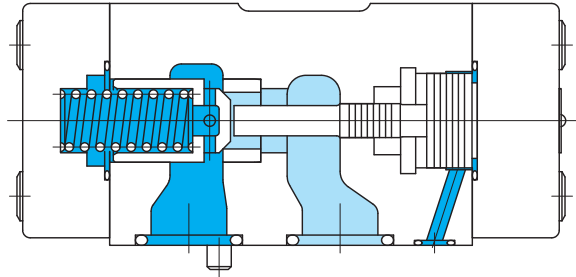


# Pilot operated check valves THPCG

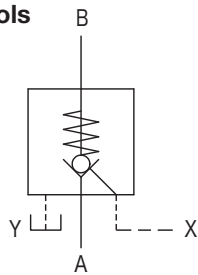


- Valve can function to provide free flow in one direction and also flow in reverse direction with external pilot pressure.

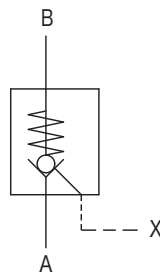
F  
7-1

Directional Control Valves

## Functional Symbols



External drain type



Internal drain type

## Model Code

(F3)-THPCG-06-C-(E)-10

1 2 3 4 5 6

- 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 Drain  
Omit: internal drain  
E: external drain
- 6 Design no.

## Specifications

Model Code	Size	Max. Working Pressure MPa	Rated Flow L/min	Weight kg
THPCG-03	03	35	50	1.6
THPCG-06	06		140	3.6

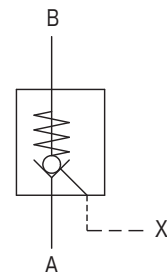
  

Code	A	C	F
Cracking Pressure MPa	0.21	0.52	1.02

## Pilot Pressure

Pilot pressure necessary to open valve and allow reverse free flow can be calculated from the following:

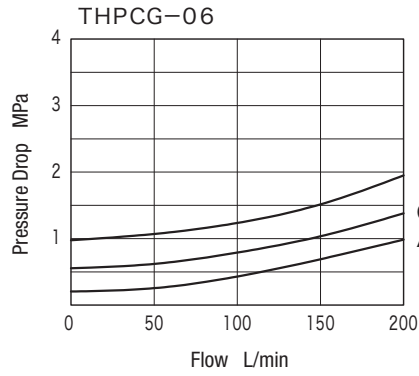
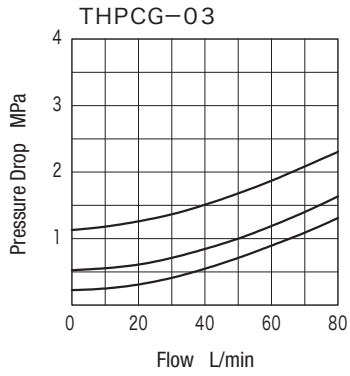
$P_X$  : pilot pressure  
 $P_A$  : A side pressure  
 $P_B$  : B side pressure  
 $P_C$  : cracking pressure



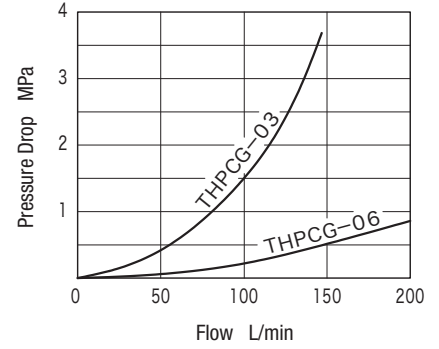
Model Code	Formula
THPCG-03	$P_X > 0.36 (P_B + P_C) + 0.64P_A$
THPCG-03-E	$P_X > 0.36 (P_B + P_C) - 0.18P_A$
THPCG-06	$P_X > 0.36 (P_B + P_C) + 0.64P_A$
THPCG-06-E	$P_X > 0.36 (P_B + P_C) - 0.23P_A$

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

## Pressure Drop Characteristics (free flow)

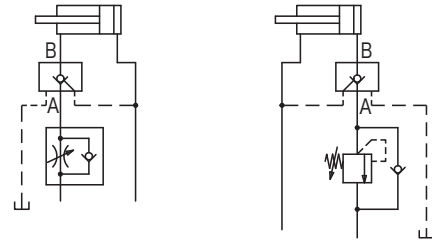


## Pressure Drop Characteristics (pilot operation)



## 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.



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

Model Code	Mounting Bolt	Qty
THPCG-03	M8 × 40	4
THPCG-06	M10 × 45	4

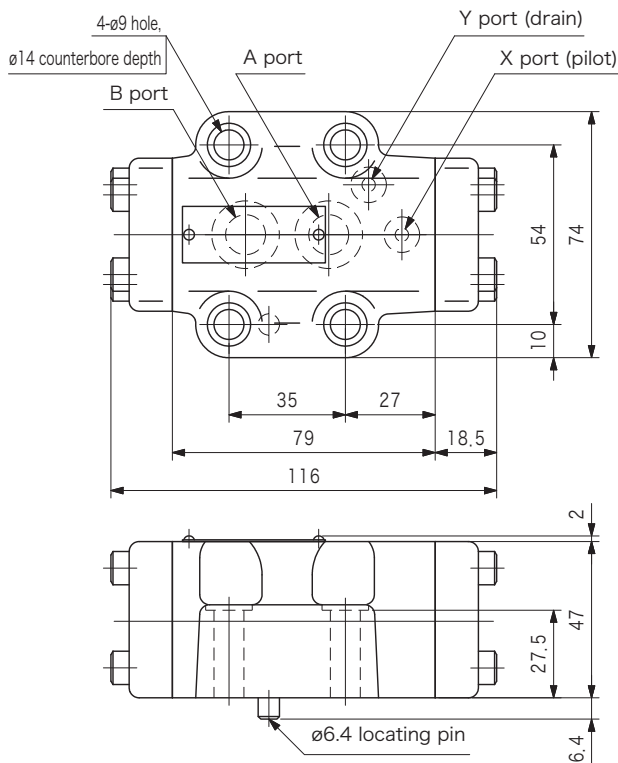
- Mounting bolts must be ordered separately.
- Mounting bolt tightening torque  
 THPCG-03: 27~33 N·m  
 THPCG-06: 54~66 N·m

## Subplate

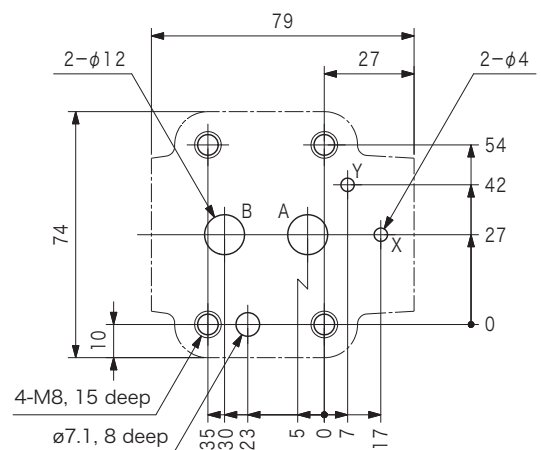
- No subplate is available. Mount on manifold block.

## Dimensions

### THPCG-03

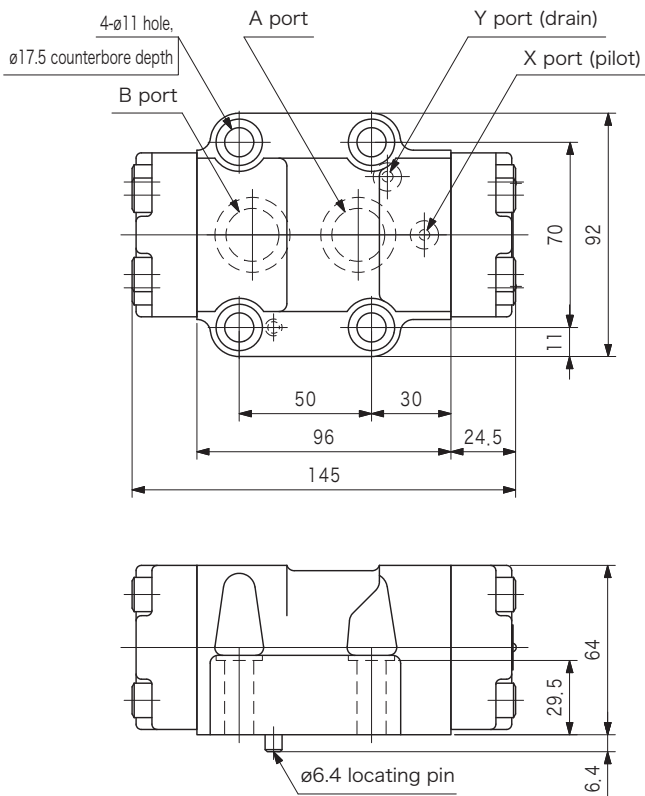


### ●Mounting dimensions

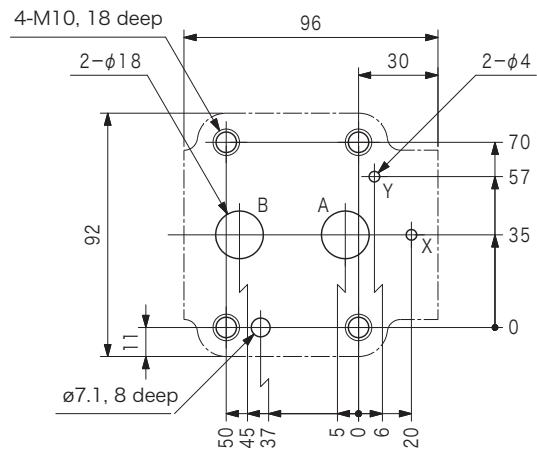


# Dimensions

## THPCG-06



## ●Mounting dimensions



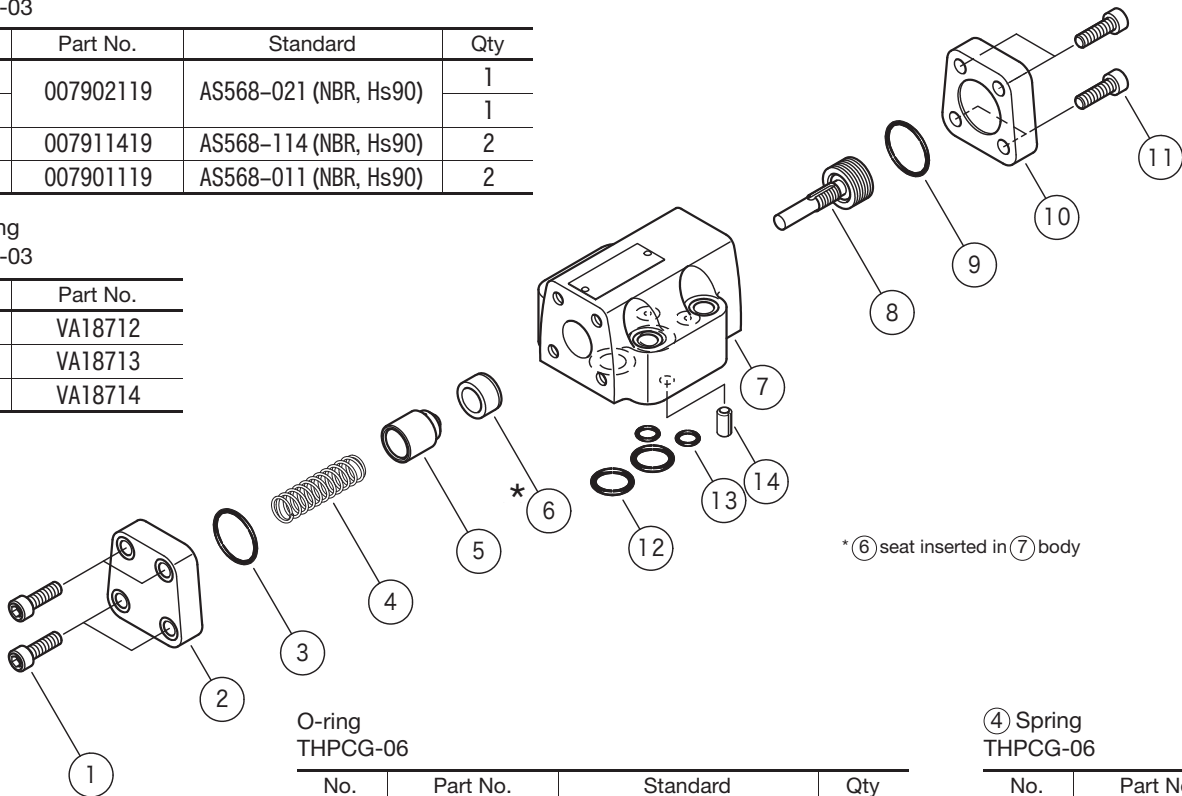
# Construction

## O-ring THPCG-03

No.	Part No.	Standard	Qty
3	007902119	AS568-021 (NBR, Hs90)	1
9			1
12	007911419	AS568-114 (NBR, Hs90)	2
13	007901119	AS568-011 (NBR, Hs90)	2

## ④ Spring THPCG-03

No.	Part No.
A	VA18712
C	VA18713
F	VA18714



## O-ring THPCG-06

No.	Part No.	Standard	Qty
3	007902419	AS568-024 (NBR, Hs90)	1
9			1
12	007921219	AS568-212 (NBR, Hs90)	2
13	007901119	AS568-011 (NBR, Hs90)	2

## ④ Spring THPCG-06

No.	Part No.
A	VA18723
C	VA18724
F	VA18725