



A Polyhydron Group Company

PILOT OPERATED CHECK VALVE

Model : C106 ***

700 bar

Ref. No. D 51100

Release: 02 / 2016

ENGINEERING - 1 of 2

Description

Pilot operated Check valves model C106*** allow free flow in the direction from Port A to Port B and offer leakage free closure in opposite direction.

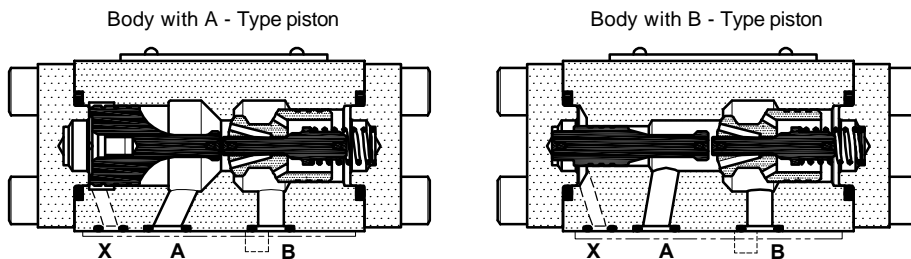
Reverse flow can be achieved by applying pilot pressure to their Port X.

The intensity of pilot pressure required to keep the valve open during reverse flow depends upon the valve model, pressure at Port A and pressure existing at the Port B when the reverse flow starts. Pilot pressure can be calculated using formulae given below.

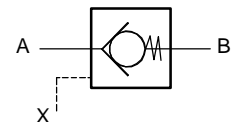
In most cases, smooth decompression and opening of the valve for flow from Port B to Port A can be effectively achieved by controlling pressure and flow to the Pilot Port X. However, in certain cases it is necessary to decompress the oil in the cylinder first before admitting the oil in the cylinder for the return stroke for smooth reversal.



Section



Hydraulic symbol



Technical specifications

Construction	:	Seat type valve, with decompression facility.		
Mounting style	:	Threaded port or subplate mounting.		
Mounting interface	:	Sub-plate mounting - Factory standard. Threaded port body - Factory standard.		
Mounting position	:	Optional.		
Flow direction	:	Free flow from A to B.		
	:	Piloted flow from B to A.		
Cracking pressure	:	1 bar.		
Working pressure	:	700 bar for Ports A, B and X.		
Area ratios	:		Type A	Type B
		Pilot piston : Decomp. poppet	16 : 1	4 : 1
		Pilot piston : Main poppet	2 : 1	1 : 2
Hydraulic medium	:	Mineral oil.		
Temperature range	:	-20°C to + 80°C.		
Viscosity range	:	10 cSt to 380 cSt.		
Fluid cleanliness required	:	ISO 4406 20/18/15 or better.		
Max. flow handling capacity	:	30 l/min.		
Mass approx.	:	2.5 kg.		

Formulae for Pilot pressure required to open the valve for flow from Port B to Port A

		Type A	Type B	where,
To open decompression spool	>	$P_A + P_B/16 + 0.5$	$P_A/1.5 + P_B/4 + 2$	$P_A =$ Pressure at Port A.
To open the main poppet	>	$P_A/2 + P_B/2 + 0.5$	$>2P_B - P_A + 2$	$P_B =$ Pressure at Port B when the flow occurs.

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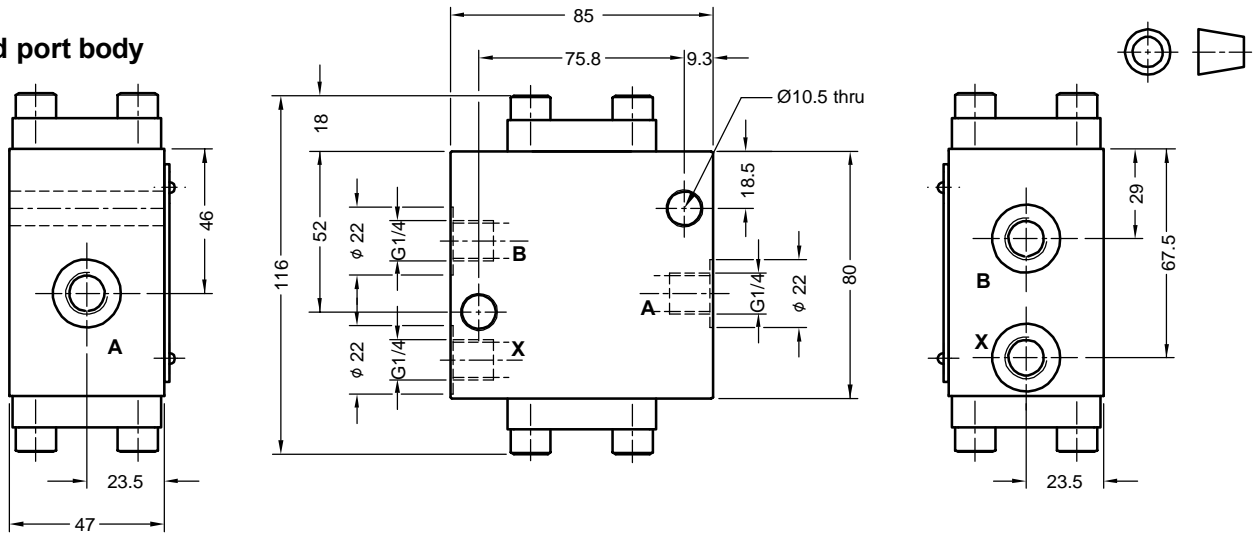
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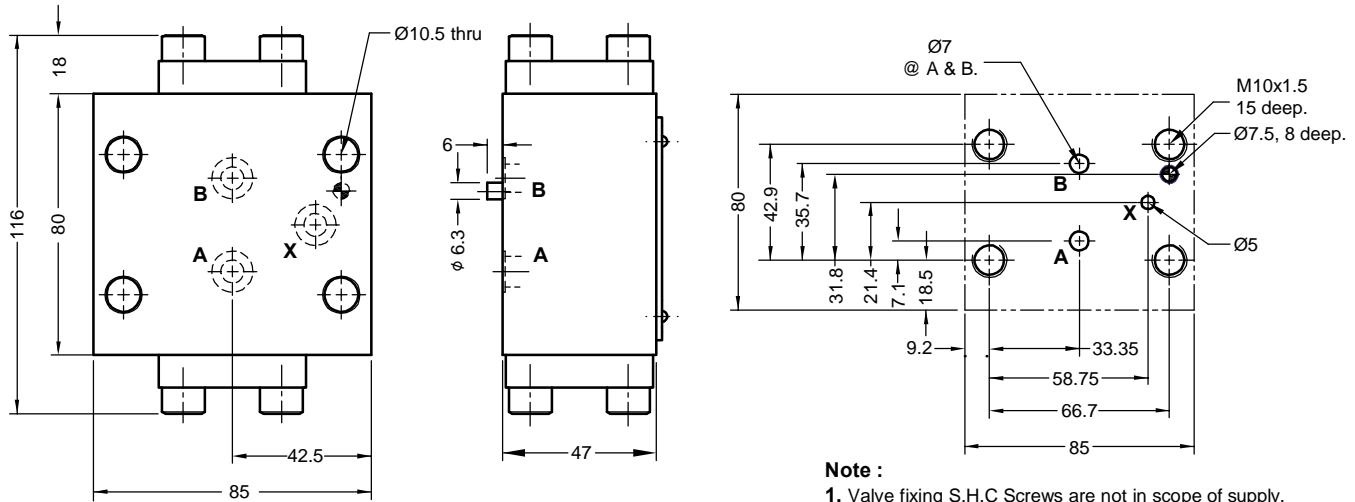
Unit dimensions

Dimensions in mm.

Threaded port body



Sub-plate mounting body



- Note :**
1. Valve fixing S.H.C Screws are not in scope of supply.
 2. Tightening torque for Valve fixing S.H.C Screw is 77 Nm.

Ordering code

CI 06 T A 12

Pilot operated check valve
internal drain

Port size		
Threaded body	Subplate mounting	Size
G1/4	Ø 7 max	06

Subplate mounting body	S
Threaded port body	T

Design code subjected to Change .
installation dimensions remain
same for design code 09 thru 19.

A	Pilot piston : Decomp poppet = 16:1 Pilot piston : Main poppet = 2:1
B	Pilot piston : Decomp poppet = 4:1 Pilot piston : Main poppet = 1:2