

DENISON HYDRAULICS

Direct Operated Check Valves

Series C4V



Publ. 6-EN 4550-A, replaces 6-EN 455-B

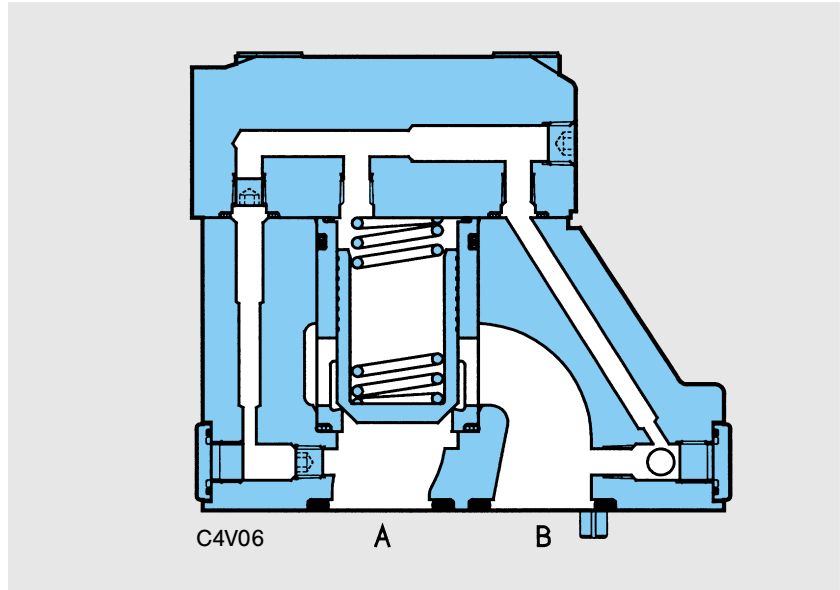
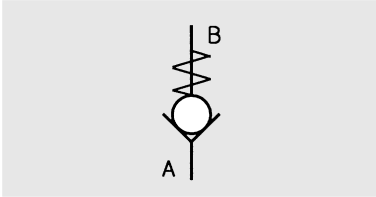
DENISON Hydraulics

FEATURES, SYMBOL, OPERATION

FEATURES

- **Outstanding Design:** DENISON check valves, series C4V, are exceptional – both in function and design.
- **High Performance:** C4V valves are designed for a maximum pressure of 350 bar and a flow capacity up to 600 l/min.
- **Standardized Mounting:** Mounting configuration of check valves C4V are in accordance to international standards, such as CETOP-RP 121 H, ISO 6264. Cartridge type, subplate mounting, L-body or T-body are standard.

SYMBOL



OPERATION

At zero pressure conditions the poppet is held on its seat by a spring. The free-flow condition from A to B requires only a small opening stroke of the poppet, resulting in a fast response time.

A leakproof condition is achieved from port B to A by both system pressure and spring force.

The proper function of the C4V is not influenced by its mounting position.

TECHNICAL DATA

GENERAL

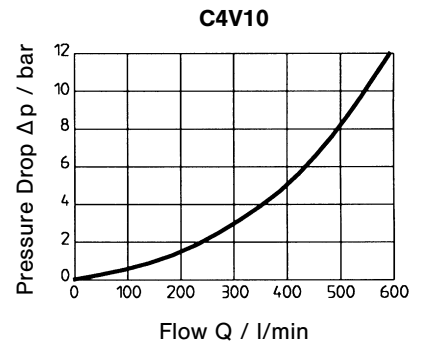
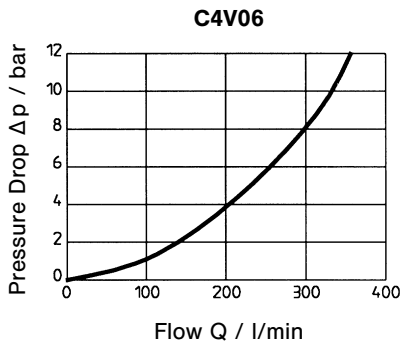
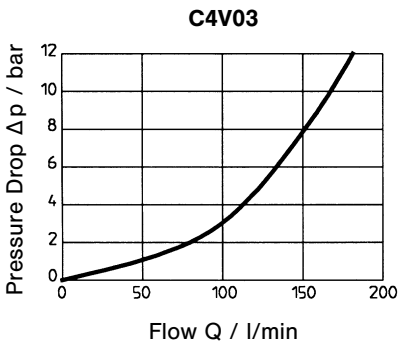
- | | |
|---|---|
| <ul style="list-style-type: none"> • Type of unit • Design • Type of mounting | Direct Operated Check Valve
Poppet type
Subplate mounting
Threaded body
Cartridge |
| <ul style="list-style-type: none"> • Port sizes • Mounting position • Direction of flow • Ambient temperature range • Suitability for special working conditions | 3/8", 3/4", 1 1/2"
Optional
A→B
-20...+60 °C
Consult DENISON |

HYDRAULIC CHARACTERISTICS

- | | | | | | | | | | | |
|---|---|----------------|--------------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| <ul style="list-style-type: none"> • Operating pressure range
– ports A and B • Fluid temperature range • Viscosity range • Recommended operating viscosity | 0...350 bar
-18 °C...+80 °C
10...650 cSt
30 cSt | | | | | | | | | |
| <ul style="list-style-type: none"> • Nominal flow • Max. flow | <table border="0" style="width: 100%;"> <tr> <td style="text-align: left;">C4V03 (3/8")</td> <td style="text-align: left;">C4V06 (3/4")</td> <td style="text-align: left;">C4V10 (1 1/2")</td> </tr> <tr> <td>150 l/min</td> <td>270 l/min</td> <td>450 l/min</td> </tr> <tr> <td>180 l/min</td> <td>360 l/min</td> <td>600 l/min</td> </tr> </table> | C4V03 (3/8") | C4V06 (3/4") | C4V10 (1 1/2") | 150 l/min | 270 l/min | 450 l/min | 180 l/min | 360 l/min | 600 l/min |
| C4V03 (3/8") | C4V06 (3/4") | C4V10 (1 1/2") | | | | | | | | |
| 150 l/min | 270 l/min | 450 l/min | | | | | | | | |
| 180 l/min | 360 l/min | 600 l/min | | | | | | | | |

Δp-Q-CHARACTERISTICS

(without spring)



ORDERING CODE

Model Number:

C4V

..

-

.

.

0

-

-

B

1

-

1

-

1 Series _____
C4V = Check Valve, direct operated

2 Size _____
03 = 3/8"
06 = 3/4"
10 = 1 1/2"

3 Max. Pressure _____
0 = for cartridges only } 350 bar
5 = for body valves only }

4 Body Mounting (with plain cap) _____
0 = Cartridge (not for C4V10)
3 = Subplate mounting

Threaded body:

6 = C4V03 = G 1/2" T-body
= C4V06 = G 1" T-body
D = C4V06 = G 3/4" L-body
= C4V10 = G 1 1/4" L-body
4 = C4V03 = SAE-8 T-body
= C4V06 = SAE-16 T-body
B = C4V06 = SAE-12 L-body
= C4V10 = SAE-20 L-body

5 Approx. Cracking Pressure _____

	C4V03	C4V06/10
1 =	2.8 bar	3.5 bar
2 =	0.5 bar	0.5 bar
3 =	0.3 bar	0.3 bar
4 =	2.2 bar	2.2 bar
5 =	-	9.0 bar
6 =	1.2 bar	1.2 bar
7 =	3.0 bar	-

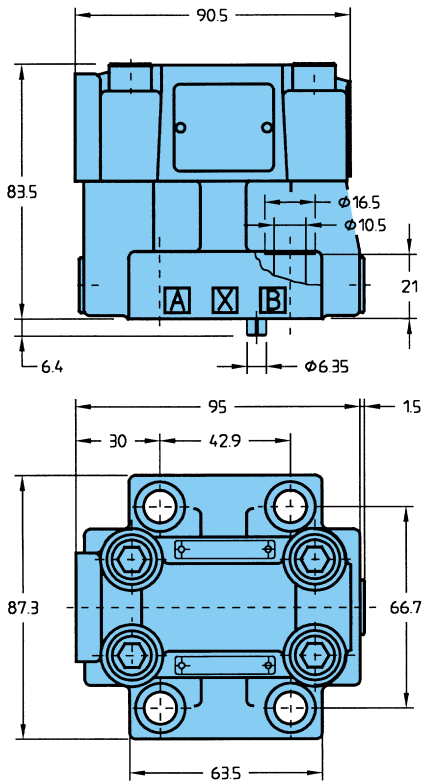
6 Design Letter _____

7 Seal Class _____
1 = NBR (Buna N) Standard
4 = EPDM
5 = VITON®

8 Modifications _____

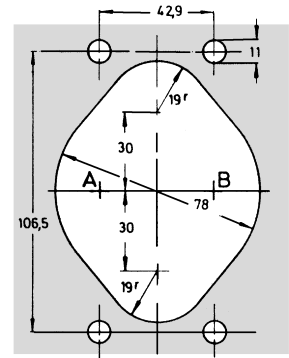
C4V03 (3/8") SUBPLATE MOUNTING

Weight: 2.7 kg

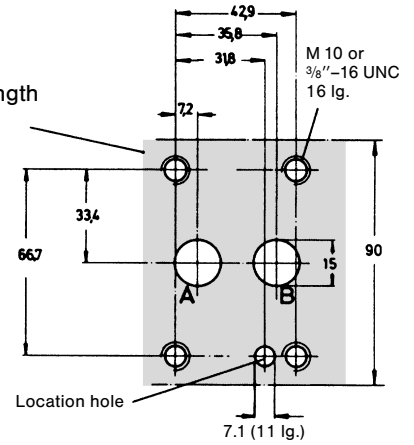


Ports	Function
A	Inlet
B	Outlet

Panel opening

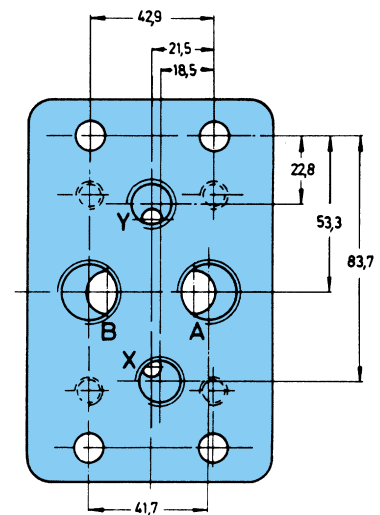
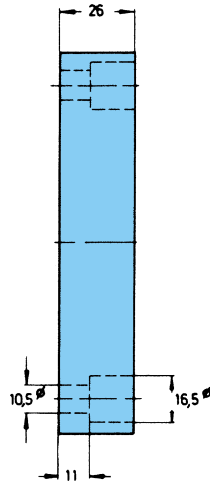
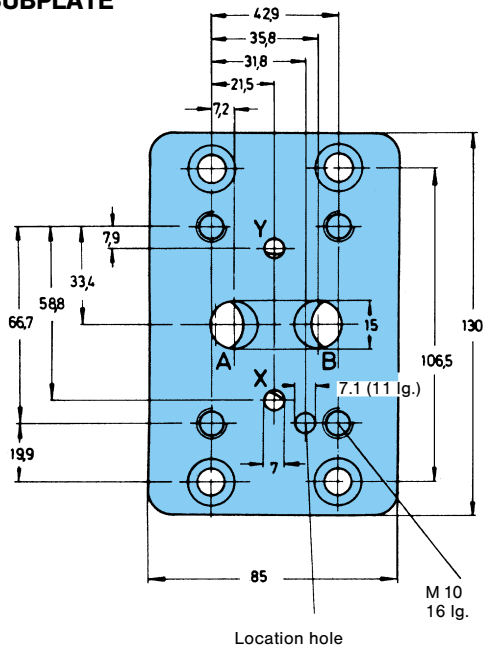


Block mounting face
 Flatness 0.01 mm / 100 mm length
 Surface finish CLA 1.27 µm



SUBPLATE

Weight: 2 kg



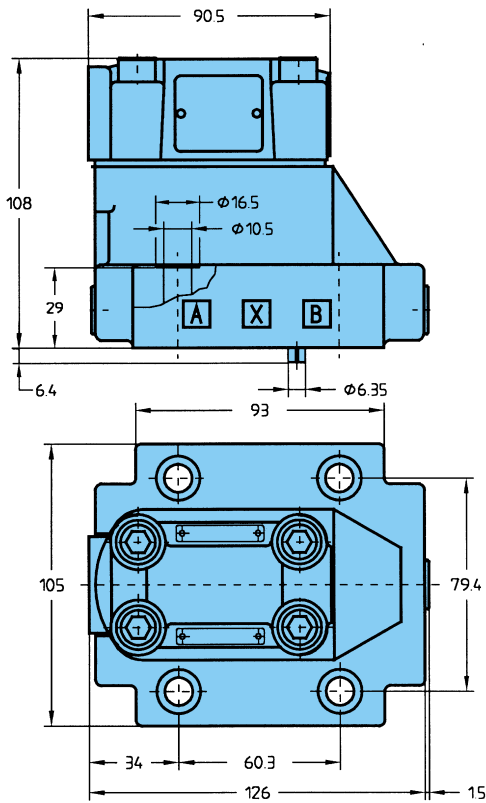
**** Note:** Ports X and Y not required for direct operated check valve.

Model No.	Order No.	Port sizes		4 Mounting screws*		
		A + B	X + Y**	Dimension	Order No.	min. tensile strength
SS-B-08-G 113	S16-63124-0	G 1/2"	G 1/4"	M 10 x 35 DIN 912-12.9	700-70039-8	at p ≤ 210 bar = 100 daN/mm ² at p > 210 bar = 120 daN/mm ²

* Mounting screws are included in subplate order.
 For valves ordered without subplate, mounting screws must be ordered separately.

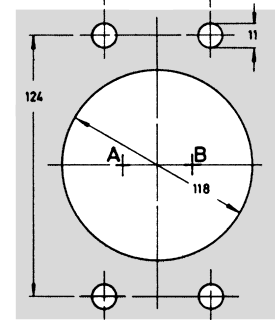
C4V06 (3/4") SUBPLATE MOUNTING

Weight: 4.5 kg

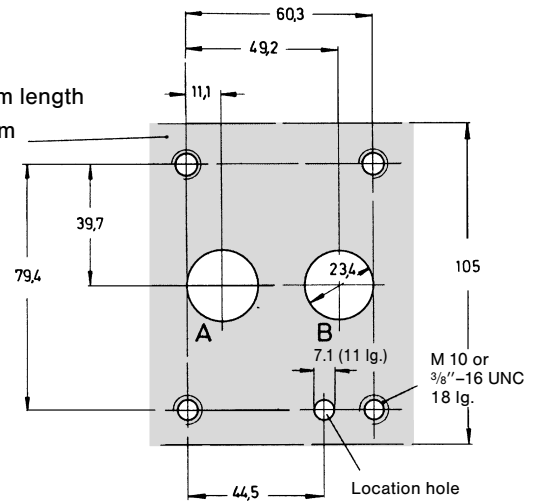


Ports	Function
A	Inlet
B	Outlet

Panel opening

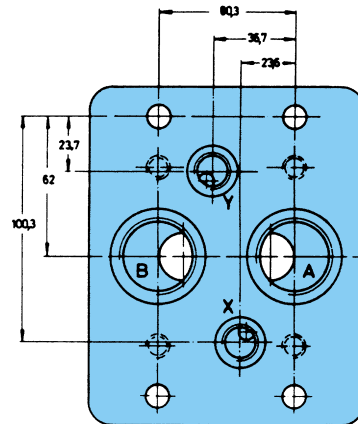
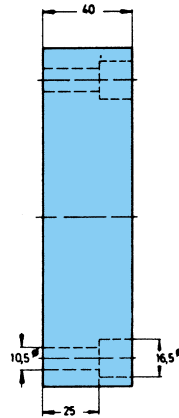
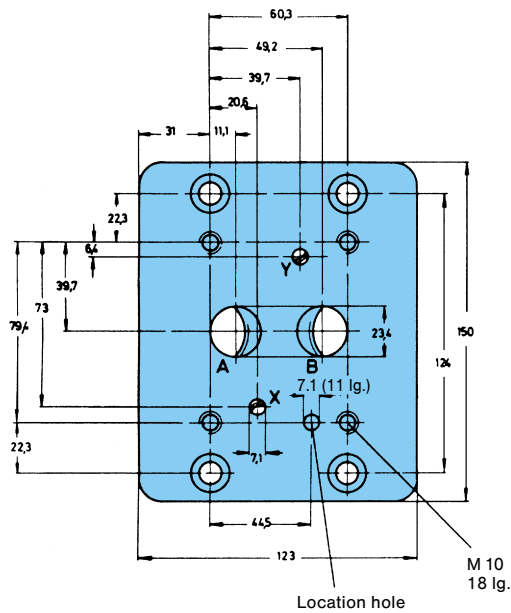


Block mounting face
 Flatness 0.01 mm / 100 mm length
 Surface finish CLA 1.27 µm



SUBPLATE

Weight: 4.8 kg



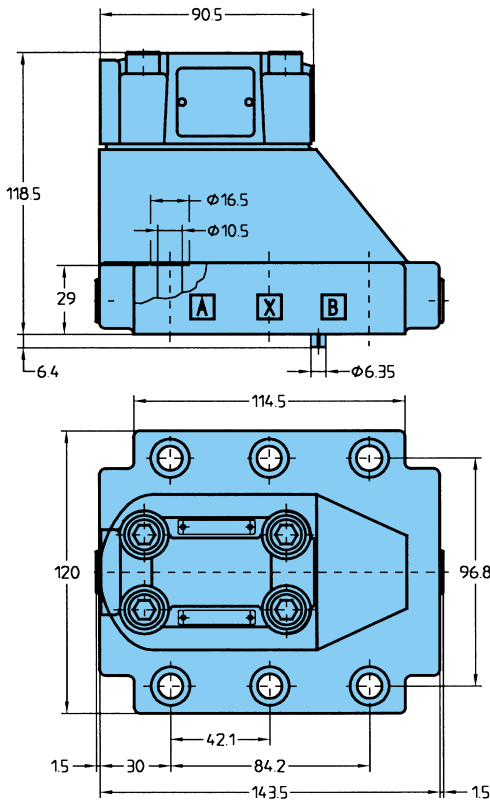
**** Note:** Ports X and Y not required for direct operated check valve.

Model No.	Order No.	Port sizes		4 Mounting screws*		
		A + B	X + Y**	Dimension	Order No.	min. tensile strength
SS-B-16-G 115	S16-39168-0	G 1"	G 1/4"	M 10 x 45 DIN 912-12.9	700-71602-8	at p ≤ 210 bar = 100 daN/mm ² at p > 210 bar = 120 daN/mm ²

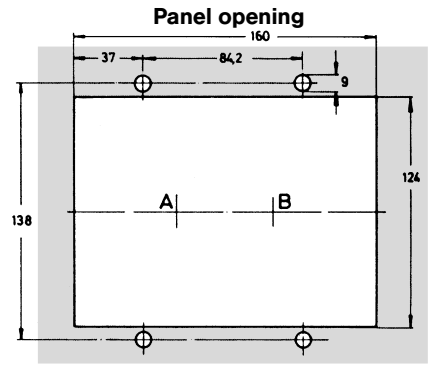
* Mounting screws are included in subplate order.
 For valves ordered without subplate, mounting screws must be ordered separately.

C4V10 (1½") SUBPLATE MOUNTING

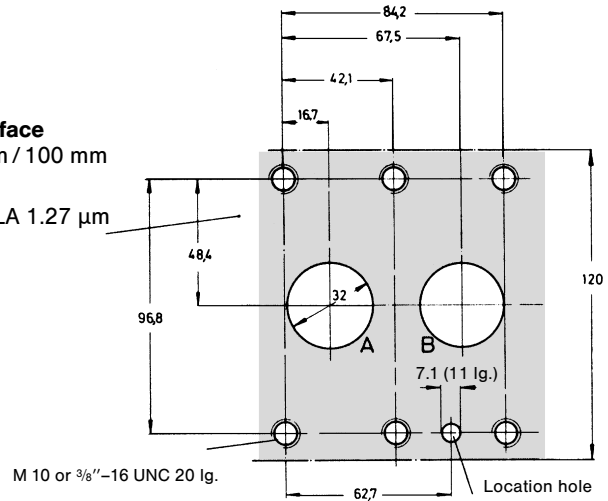
Weight: 6 kg



Ports	Function
A	Inlet
B	Outlet

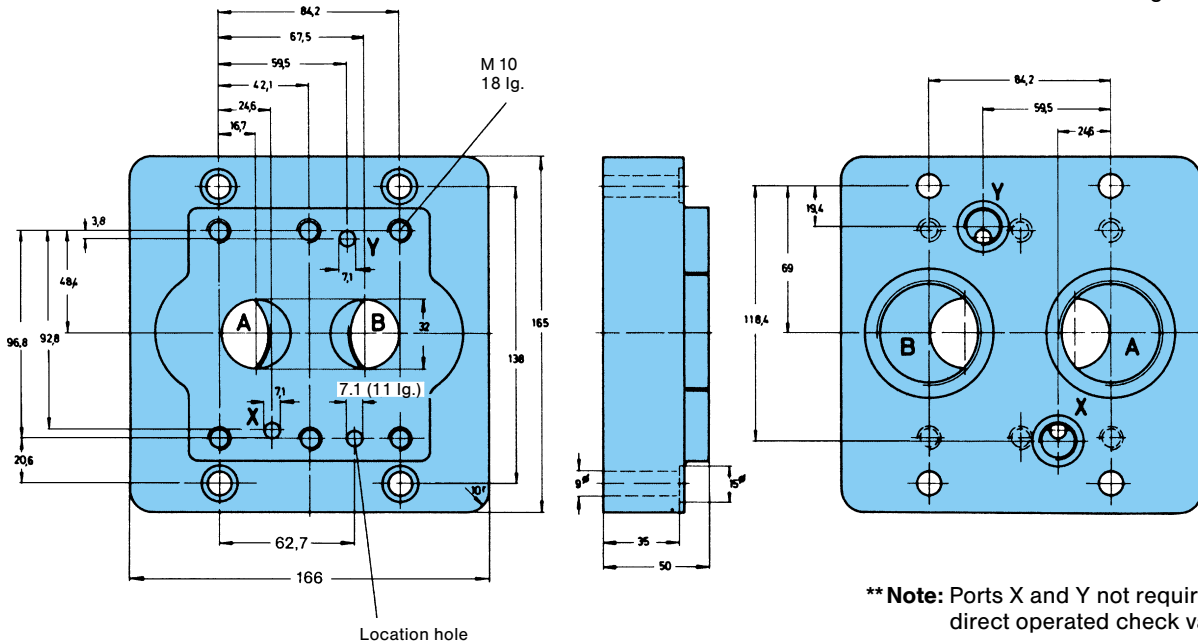


Block mounting face
 Flatness 0.01 mm / 100 mm length
 Surface finish CLA 1.27 μm



SUBPLATE

Weight: 8.5 kg



**** Note:** Ports X and Y not required for direct operated check valve.

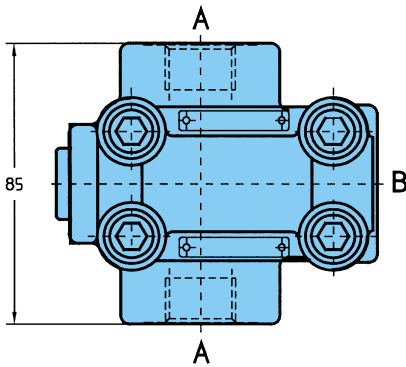
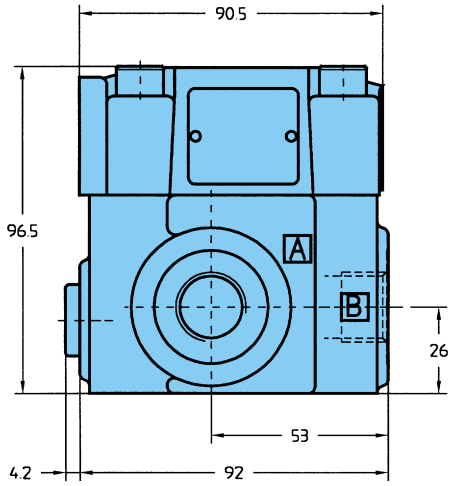
Model No.	Order No.	Port sizes		6 Mounting screws*		
		A + B	X + Y**	Dimension	Order No.	min. tensile strength
SS-B-24-G 117	S16-39197-0	G 1½"	G ¼"	M 10 x 45 DIN 912-12.9	700-71602-8	at p ≤ 210 bar = 100 daN/mm² at p > 210 bar = 120 daN/mm²

* Mounting screws are included in subplate order.
 For valves ordered without subplate, mounting screws must be ordered separately.

C4V03 (3/8") – C4V06 (3/4") THREADED BODY

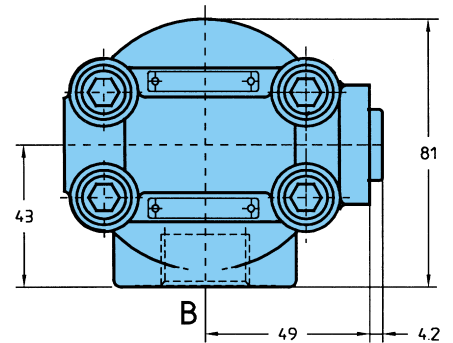
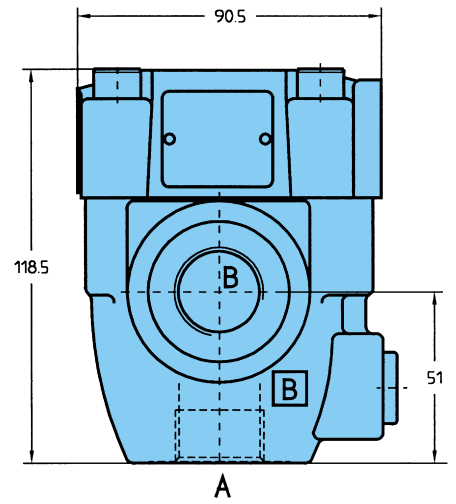
C4V03

Weight: 3.2 kg



C4V06

Weight: 3.3 kg



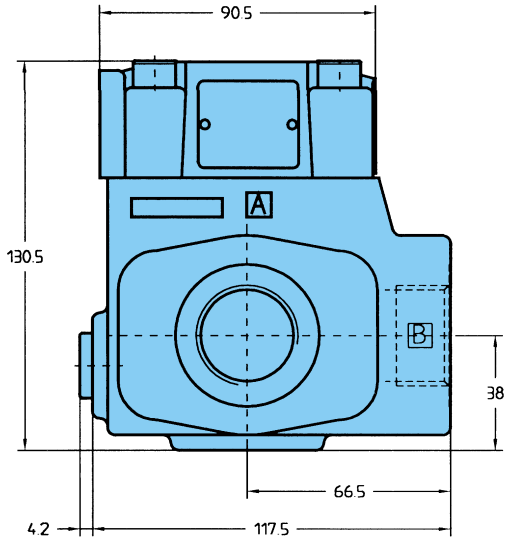
Ports	Function	Port Sizes
A (2)	Pressure (inlet)	G 1/2" or SAE-8 (3/4"-16 UNF)
B	Tank (outlet)	G 1/2" or SAE-8 (3/4"-16 UNF)

Ports	Function	Port Sizes
A	Pressure (inlet)	G 3/4" or SAE-12 (1 1/16"-12 UN)
B	Tank (outlet)	G 3/4" or SAE-12 (1 1/16"-12 UN)

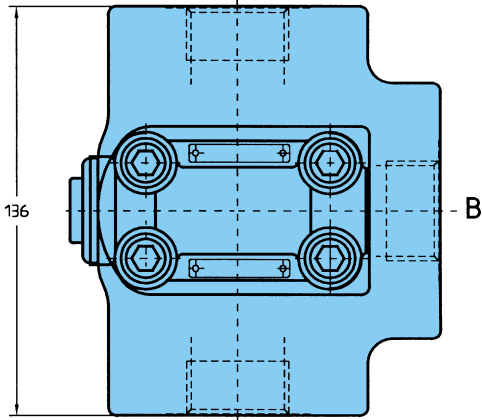
C4V06 (3/4") – C4V10 (1 1/2") THREADED BODY

C4V06

Weight: 6.6 kg



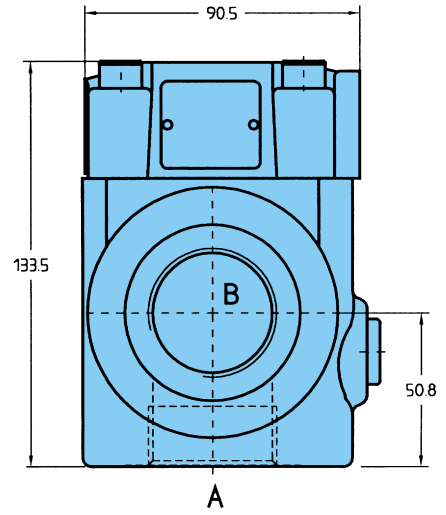
A



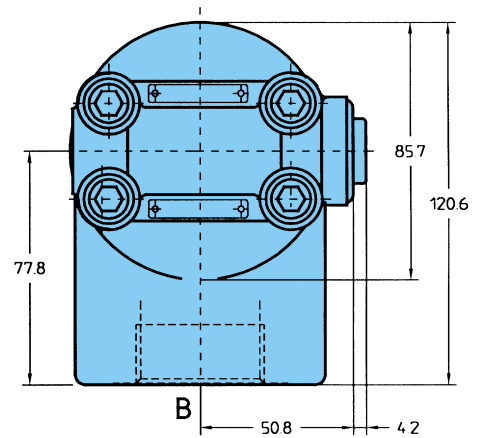
A

C4V10

Weight: 5.6 kg



A



B

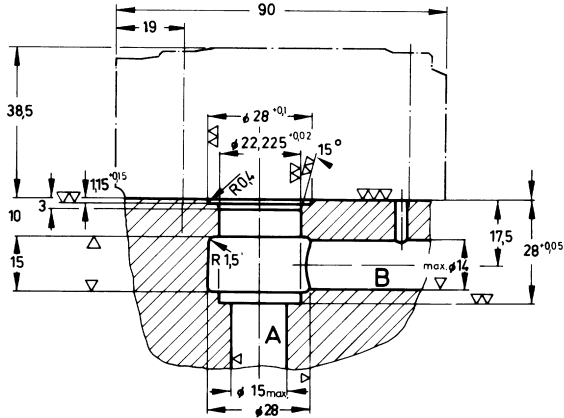
Ports	Function	Port Sizes
A (2)	Pressure (inlet)	G 1" or SAE-16 (1 5/16"–12 UN)
B	Tank (outlet)	G 1" or SAE-16 (1 5/16"–12 UN)

Ports	Function	Port Sizes
A	Pressure (inlet)	G1 1/4" or SAE-20 (1 5/8"–12 UN)
B	Tank (outlet)	G 1 1/4" or SAE-20 (1 5/8"–12 UN)

CARTRIDGES WITH CAP

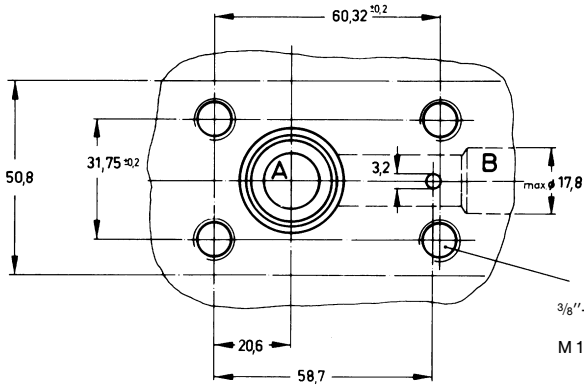
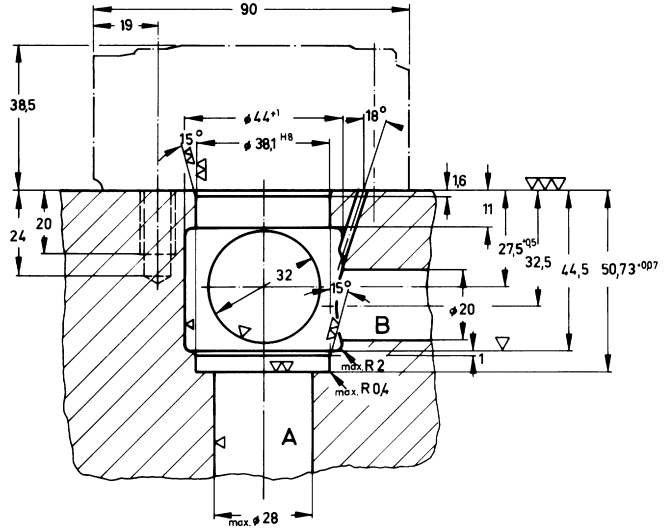
C4V03

Weight: 1 kg

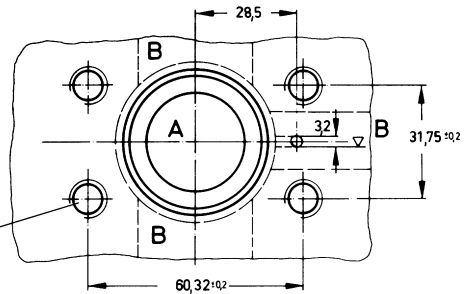


C4V06

Weight: 1.1 kg



3/8"-24 UNF
or
M 10, 20 lg.



Ports	Function
A	Pressure (Inlet)
B*	Tank (Outlet)

* arrangement optional for C4V06

4 Mounting screws	
Dimension	Order-No.
3/8"-24 UNF x 1 3/4" lg.	359-15220-0
or M10 x 45 mm, DIN 912-12.9	700-71602-8

(mounting screws must be ordered separately)

The product described is subject to continual development and the manufacturer reserves the right to change the specifications without notice.