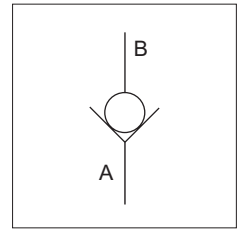


Veljan Direct operated Check Valve Series VC4V are poppet type and designed for a maximum pressure of 350 bar and a flow capacity ranging from 180 l/min for a 3/8" valve to 600 l/min for 1 1/2" valve. Mounting configuration of VC4V are in accordance with International standards such as CETOP, ISO, DIN or NFPA. Subplate mounting, L - body and T - body are standard. VC4V valves can be used as body type units or cartridges for manifold applications.



A zero-leak condition can be achieved for flow from port B to port A and free flow in the opposite direction. Due to a precise ratio between the main piston area and its mass, an exceptional fast response can be obtained. Only a small opening stroke of the poppet causes free flow from port A to port B.

## SPECIFICATIONS

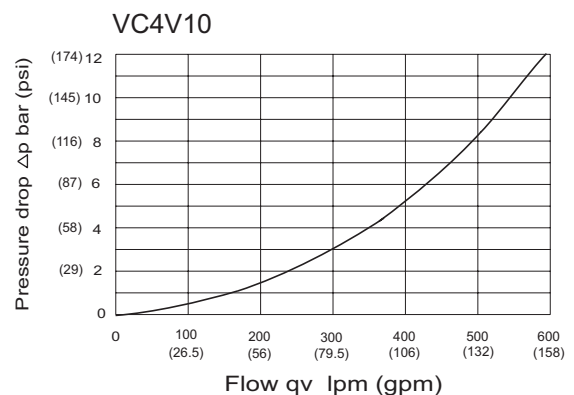
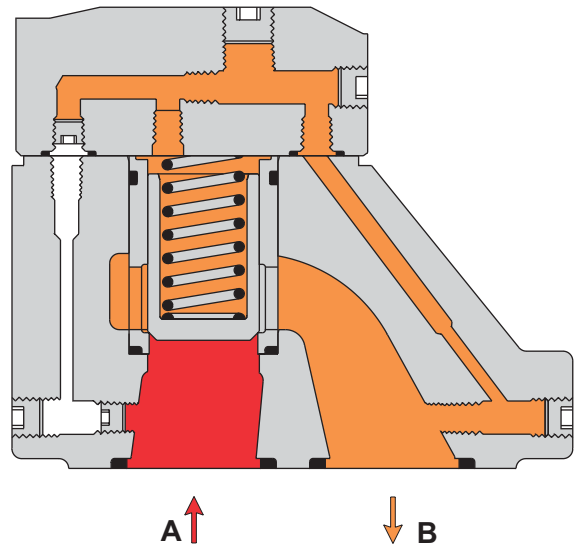
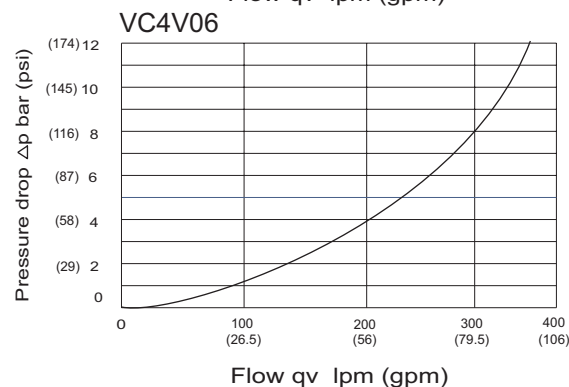
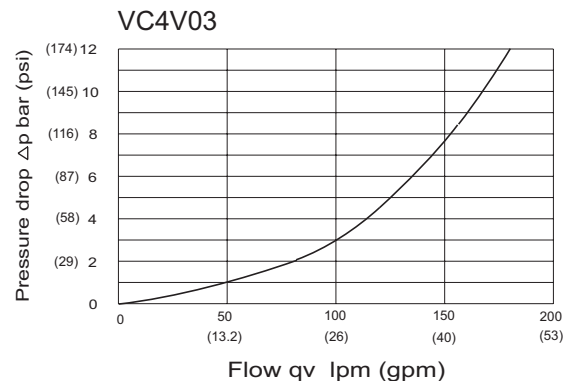
### General

|                            |  |
|----------------------------|--|
| Type                       | : Direct operated check valve                            |
| Design                     | : Poppet type  |
| Mounting                   | : VC4V03 : Threaded body/<br>Subplate mounting/Cartridge |
|                            | : VC4V06 : Threaded body/<br>Subplate mounting/Cartridge |
|                            | : VC4V10 : Threaded body/<br>Subplate mounting           |
| Mounting position          | : Optional   |
| Port sizes (nominal)       | : 3/8", 3/4", 1 1/2"                                     |
| Type of port               | : Threads  |
| Direction of flow          | : A → B  |
| Ambient temperature        | : -20°C...+60°C (-4°F...+140°F)                          |
| Special working conditions | : Consult <b>VELJAN</b>                                  |

### Hydraulics

|                          |   |           |           |
|--------------------------|---|-----------|-----------|
| Operating Pressure range | : 0 - 5000 psi (0 - 350bar)                                     |           |           |
| Cracking pressure        | : See model code  |           |           |
| Flow                     | gpm (lpm)   | : Maximum | Nominal   |
|                          | VC4V 03 ( 3/8" )  | 48 (180)  | 40 (150)  |
|                          | VC4V 06 ( 3/4" )  | 95 (360)  | 72 (270)  |
|                          | VC4V10 ( 1 1/2" )   | 59 (600)  | 120 (450) |
| Fluid                    | : Mineral oil as per DIN 51524/25<br>or other fluids on request |           |           |
| Fluid temperature range  | : -18°C...+80°C (0°F...+176°F)                                  |           |           |
| Viscosity recommended    | : 30 cSt (180 SSU)  |           |           |

## PERFORMANCE CURVES



**ORDERING CODE**

**VC4V 10 - 5 3 0 - 4 B 1 - \*\*\***

**Series** \_\_\_\_\_  
 VC4V - Check valve (direct operated)

**Size** \_\_\_\_\_  
 03 - 3/8"  
 06 - 3/4"  
 10 - 1 1/2"

**Max Pressure** \_\_\_\_\_  
 0 - for cartridges only } 5000 psi  
 5 - for body valves only } (350 bar)

**Body Mounting** \_\_\_\_\_  
 Cartridge  
 0 - Cartridge (VC4V03/VC4V06)  
 Threaded body  
 1 - Threaded body - VC4V03 = 1/2" NPTF ;  
 VC4V06 = 1" NPTF  
 ( 2 A - Ports, 1 B - Port )  
 A - Threaded body - VC4V06 = 3/4" NPTF ;  
 VC4V10 = 1 1/4" NPTF  
 (1 A - Port, 1 B - Port )  
 6 - Threaded body - VC4V03 = 1/2" B.S.P.P. ;  
 VC4V06 = 1" B.S.P.P.  
 ( 2 A - Ports, 1 B - Port )  
 D - Threaded body - VC4V06 = 3/4" B.S.P.P. ;  
 VC4V10 = 1 1/4" B.S.P.P.  
 (1 A - Port, 1 B - Port )

Subplate mounting  
 3 - Subplate mounting VC4V03/06/10

Flange body  
 2 - Flange body - VC4V06  
 ( 2 A - Ports, 1 B - Port )

**Modification**

**Seal Class**

1 - Buna N ( Standard)  
 5 - Viton

**Design letter**

**Cracking pressure (Approximate )**

|     | VC4V03<br>bar | VC4V06/10<br>bar |
|-----|---------------|------------------|
| 1 = | 2.8           | 3.5              |
| 2 = | 0.5           | 0.5              |
| 3 = | 0.3           | 0.3              |
| 4 = | 2.2           | 2.2              |
| 5 = | -             | 9.0              |
| 6 = | 1.2           | 1.2              |
| 7 = | 3.0           | -                |

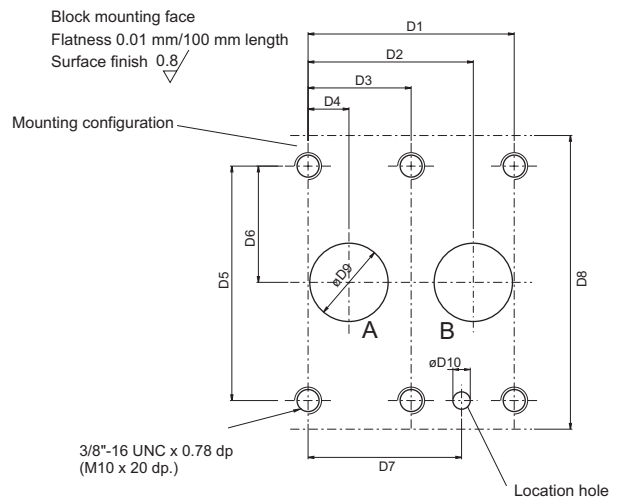
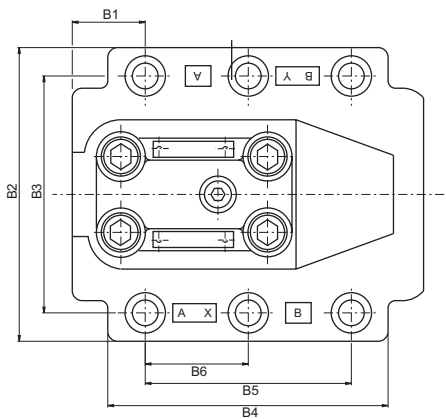
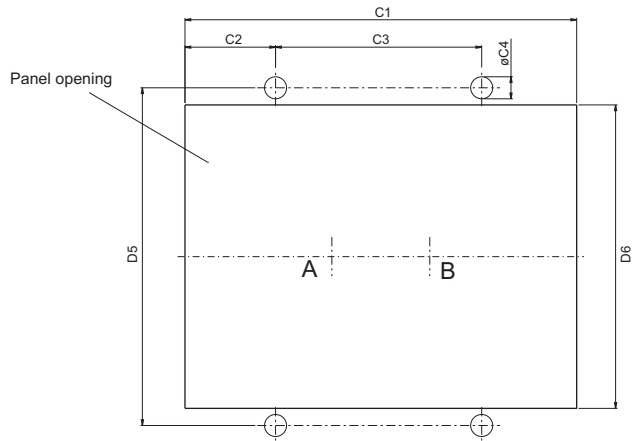
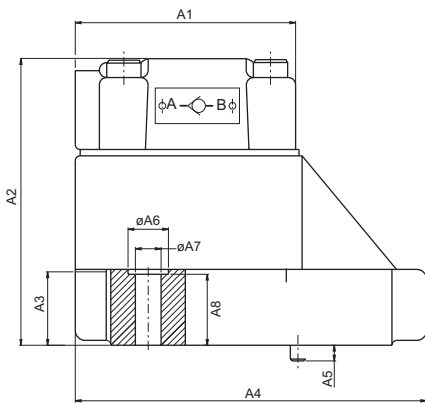
**Body Head**

0 - Cap



**VC4V10 (1 1/2") SUBPLATE MOUNTING ( #3 )**

Weight : 13.48 lbs (6.0 kg)



| Dimensions | in    | mm    |
|------------|-------|-------|
|            | A1    | 3.54  |
| A2         | 4.67  | 118.5 |
| A3         | 1.182 | 30.0  |
| A4         | 5.65  | 143.5 |
| A5         | 0.25  | 6.35  |
| A6         | ø0.65 | ø16.5 |
| A7         | ø0.41 | ø10.5 |
| A8         | 1.142 | 29.0  |

| Dimensions | in    | mm    |
|------------|-------|-------|
|            | B1    | 1.174 |
| B2         | 4.724 | 120.0 |
| B3         | 3.8   | 96.8  |
| B4         | 4.508 | 114.5 |
| B5         | 3.315 | 84.2  |
| B6         | 1.658 | 42.1  |

| Dimensions | in    | mm    |
|------------|-------|-------|
|            | C1    | 6.3   |
| C2         | 1.456 | 37.0  |
| C3         | 3.315 | 84.2  |
| C4         | ø0.35 | ø9.0  |
| C5         | 5.433 | 138.0 |
| C6         | 4.88  | 124.0 |

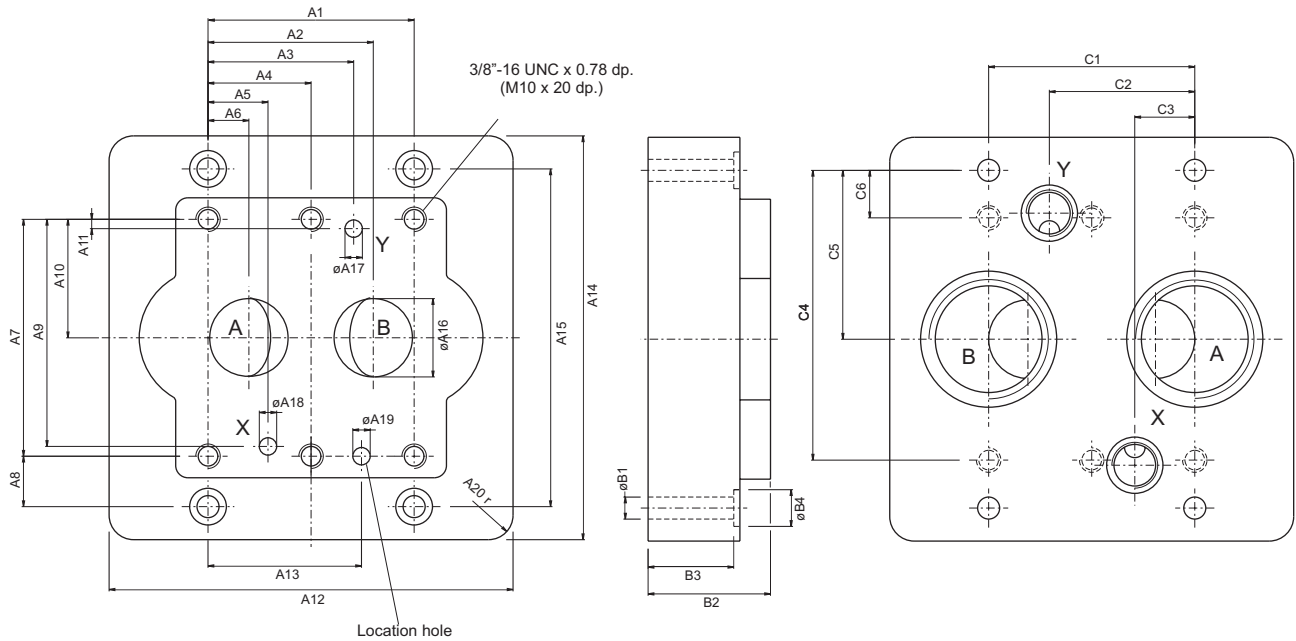
| Dimensions | in                | mm              |
|------------|-------------------|-----------------|
|            | D1                | 3.345           |
| D2         | 2.657             | 67.5            |
| D3         | 1.657             | 42.1            |
| D4         | 0.657             | 16.7            |
| D5         | 3.811             | 96.8            |
| D6         | 1.906             | 48.4            |
| D7         | 2.47              | 62.7            |
| D8         | 4.724             | 120.0           |
| D9         | ø1.26             | ø32.0           |
| D10        | ø0.28 x 0.433 dp. | ø7.1 x 11.0 dp. |

| Ports | Function |
|-------|----------|
| A     | Inlet    |
| B     | Outlet   |

Note : For details of Subplate & mtg. Screws please refer page 20

**VC4V10 (1 1/2") SUBPLATE**

Weight : 18.68 lbs (8.5 kg)



| Dimensions | Dimensions        |                 |
|------------|-------------------|-----------------|
|            | in                | mm              |
| A1         | 3.315             | 84.2            |
| A2         | 2.657             | 67.5            |
| A3         | 2.342             | 59.5            |
| A4         | 1.657             | 42.1            |
| A5         | 0.968             | 24.6            |
| A6         | 0.657             | 16.7            |
| A7         | 3.811             | 96.8            |
| A8         | 0.811             | 20.6            |
| A9         | 3.653             | 92.8            |
| A10        | 1.905             | 48.4            |
| A11        | 0.15              | 3.8             |
| A12        | 6.53              | 166.0           |
| A13        | 2.47              | 62.7            |
| A14        | 6.5               | 165.0           |
| A15        | 5.43              | 138.0           |
| A16        | ø1.26             | ø32.0           |
| A17        | ø0.28             | ø7.1            |
| A18        | ø0.28             | ø7.1            |
| A19        | ø0.28 x 0.433 dp. | ø7.1 x 11.0 dp. |
| A20        | 0.4r              | 10.0 r          |

| Dimensions | Dimensions |       |
|------------|------------|-------|
|            | in         | mm    |
| B1         | ø0.351     | ø9.0  |
| B2         | 1.97       | 50.0  |
| B3         | 1.38       | 35.0  |
| B4         | ø0.59      | ø15.0 |

| Dimensions | Dimensions |       |
|------------|------------|-------|
|            | in         | mm    |
| C1         | 3.315      | 84.2  |
| C2         | 2.342      | 59.5  |
| C3         | 0.97       | 24.5  |
| C4         | 4.66       | 118.4 |
| C5         | 2.716      | 69.0  |
| C6         | 0.764      | 19.4  |

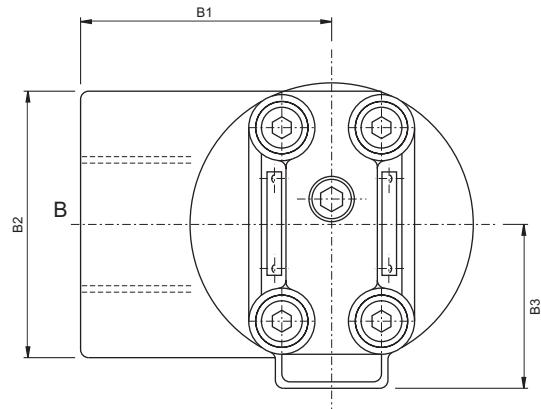
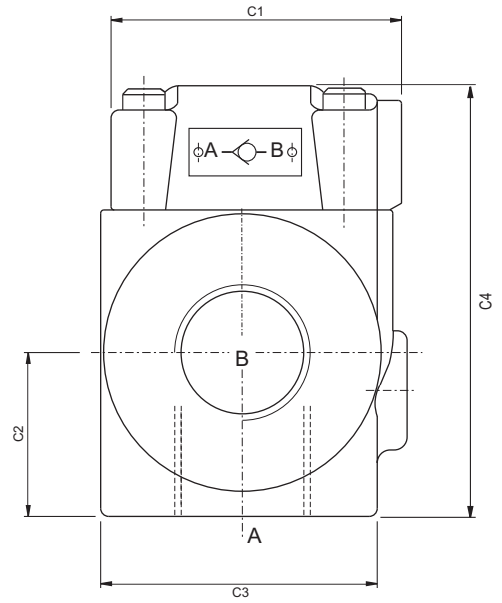
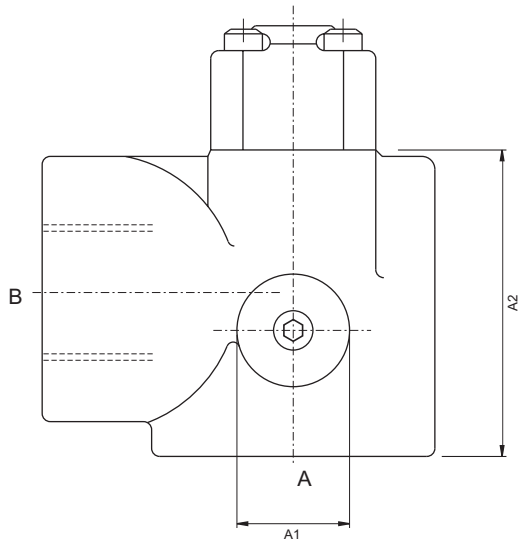
\*\*Note: Ports X and Y not required for direct operated check valve.

| Order No.            | Port sizes     |               | Dimensions                | 6 Mounting screws* |  |
|----------------------|----------------|---------------|---------------------------|--------------------|--|
|                      | A+B            | X+Y**         |                           | Order No.          | min.tensile strength                                       |
| VSS - P - 24 - G 116 | 1 1/2" NPTF    | 1/4" NPTF     | 3/8"- 16UNC1 3/4" lg.     | V358-16220         | at p ≤ 210 bar = 100 daN/mm <sup>2</sup><br>(Torque 68 Nm) |
| VSS - B - 24 - G 117 | 1 1/2" B.S.P.P | 1/4" B.S.P.P. | M 10 x 45<br>DIN 912-12.9 | V700-71602         | at p > 210 bar = 120 daN/mm <sup>2</sup><br>(Torque 82 Nm) |

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

VC4V10 (1 1/2") - THREADED BODY ( #A & #D )

Weight : 12.3 lbs (5.6 kg)



|    | Dimensions |      |
|----|------------|------|
|    | in         | mm   |
| A1 | 1.374      | 34.9 |
| A2 | 3.74       | 95.0 |

|    | Dimensions |       |
|----|------------|-------|
|    | in         | mm    |
| B1 | 3.063      | 77.8  |
| B2 | ø3.252     | ø82.6 |
| B3 | 2.0        | 50.8  |

|    | Dimensions |       |
|----|------------|-------|
|    | in         | mm    |
| C1 | 3.543      | 90.0  |
| C2 | 2.0        | 50.8  |
| C3 | ø3.374     | ø85.7 |
| C4 | 5.256      | 133.5 |

| Ports | Function | Port Sizes     |
|-------|----------|----------------|
| A     | Inlet    | 1 1/4" B.S.P.P |
| B     | Outlet   | 1 1/4" NPTF    |