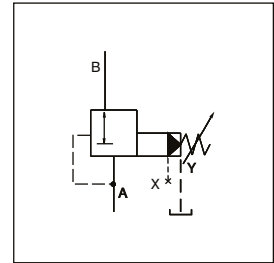


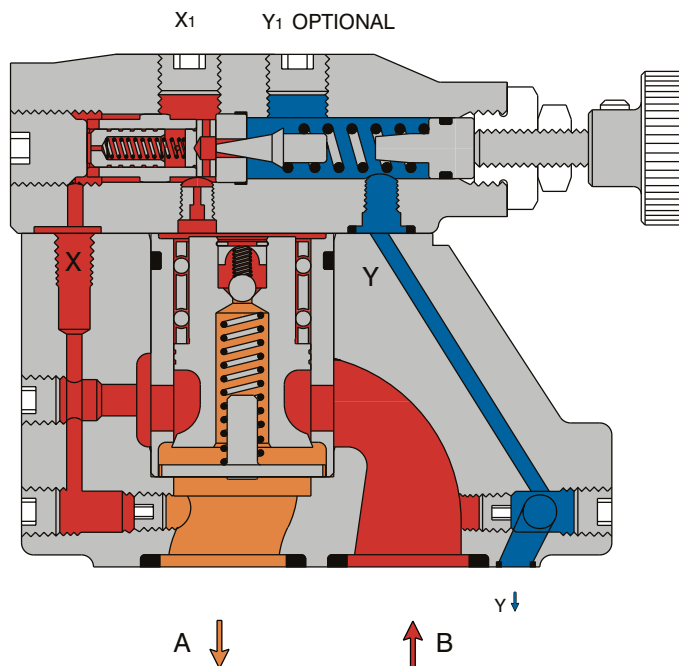
Veljan Pressure Reducer Valve Series VR4R are pilot operated controls used to control pressure in a secondary part of a hydraulic circuit. Pressure is maintained as set by control knob on the pilot or by an external pilot source. In some application, VR4R is used to maintain a lower pressure in the secondary circuit to limit the force available from certain actuators.

VR4R consists of a high flow poppet type seat valve section controlled by the low flow, adjustable pilot section mounted on top. Pressure setting is achieved by means of a knurled knob. For tamper proof setting, acorn nut with lead seal is available as an option. Optional vent valve VVVO1 sandwiched between pilot section and main body can be used for venting the VR4R valves.

Extremely accurate settings can be obtained due to the precise construction of control components. The design of poppet allows for the minimum of friction and hysteresis giving a sensitive response to conditional changes.



PC



Normally, port A is connected to the secondary part of the hydraulic circuit and port B to the primary part. When the secondary port A is unpressurised, the main poppet opens downwards against a spring by the pressure at primary Port B. Flow passes from primary port B to secondary port A. Pressure at port B passes to the pilot section and to the top of main poppet through an orifice. No flow takes place in this section until the pressure demand exceeds the setting of the pilot head, as determined/set by the control knob. The pilot cone lifts from its seat against the setting spring and allows a maintained pilot flow to pass to external drain. The effect of this is to limit the pressure available on top of the main poppet. In this condition the main poppet moves up and floats allowing enough flow to the secondary circuit (port A) to maintain the set pressure. If the secondary circuit exceeds the pilot head setting, the main poppet moves up further and closes preventing flow to a secondary circuit.

Possibilities of any pressure intensification in the secondary part is eliminated by the small check valve when it opens and allows flow to pilot drain.

**SPECIFICATIONS**

PC

**General**

|                            |   |                                       |
|----------------------------|---|---------------------------------------|
| Type                       | : | Pilot operated Pressure reducer Valve |
| Design                     | : | Poppet type                           |
| Mounting                   | : | Threaded/Subplate/Cartridge           |
| Mounting position          | : | Optional                              |
| Port sizes (nominal)       | : | 3/8", 3/4", 1 1/4"                    |
| Direction of flow          | : | B → A                                 |
| Ambient temperature        | : | --20° C...+60° C (--4° F...+140° F)   |
| Special working conditions | : | Consult VELJAN                        |

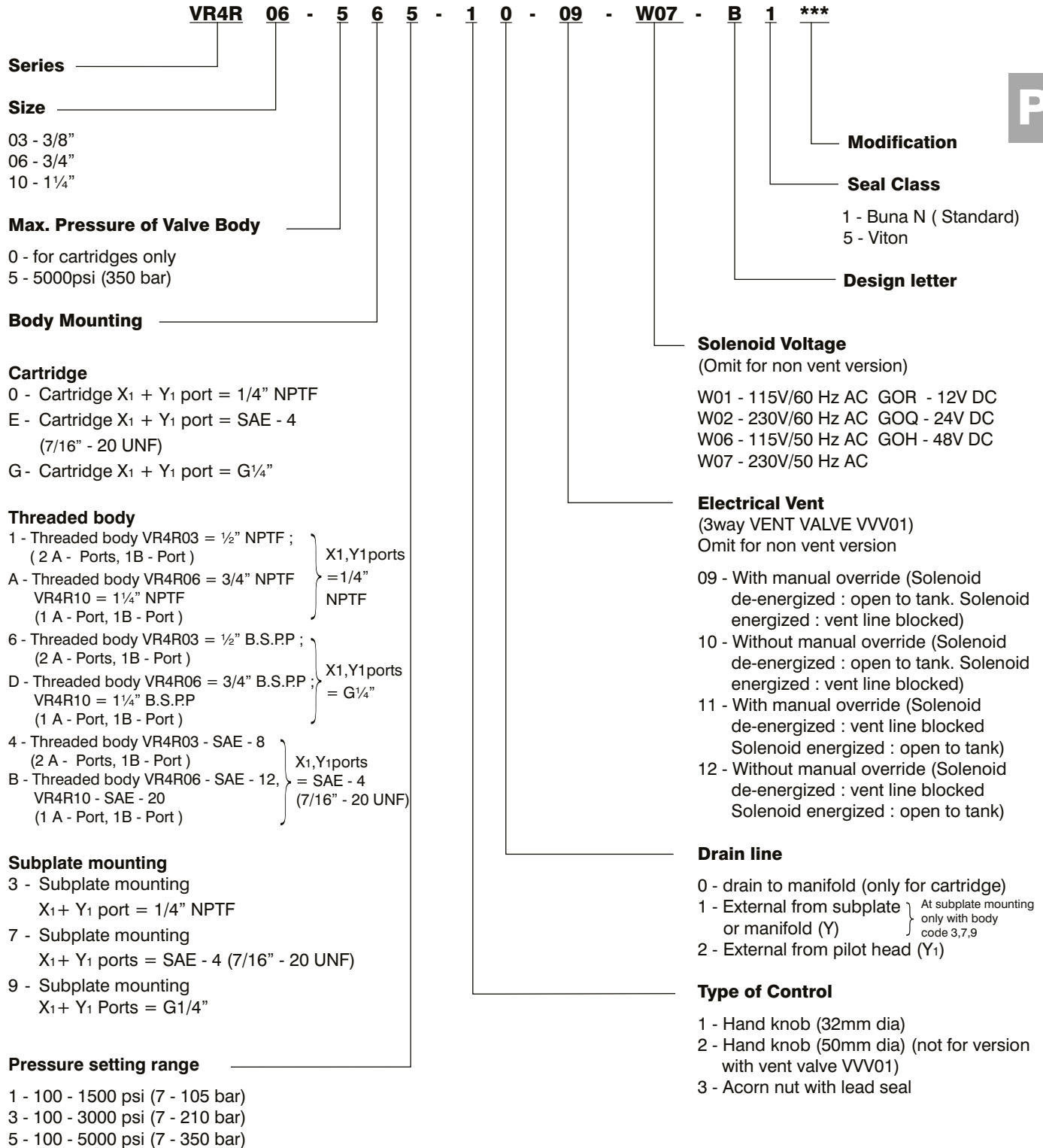
**Hydraulics**

|                                       |   |   |
|---------------------------------------|---|---|
| Pressure control range                | : | Minimum - depends on flow<br>Maximum - 5000 psi (350 bar)   |
| Maximum operating pressure            | : |   |
| Port B ( primary )                    |   | 5000 psi (350 bar)  |
| Port A ( secondary )                  |   | 5000 psi (350 bar)  |
| Port X (pilot)                        |   | 5000 psi (350 bar)  |
| Port Y, Y <sub>1</sub> (Pilot drain ) |   | Without pressure to tank  |
| Nominal flow gpm (lpm)                | : | VR4R 03 (3/8")    VR4R 06 (3/4")    VR4R 10 (1¼")<br>15.8 (60)            52.9 (200)            119.0 (450) |
| Maximum flow gpm (lpm)                | : | 23.8 (90)            79.4 (300)            158.7 (600)  |
| Fluid                                 | : | Mineral oil as per DIN 51524/25 or other fluids on request  |
| Fluid Temperature Range               | : | -18° C...+ 80° C    (0° F...+176° F)  |
| Viscosity Range                       | : | 10 to 650 cSt (60 to 3900 SSU)  |
| Optimum operating viscosity           | : | 30 cSt (180 SSU)  |
| Seal compatibility                    | : | Code 1 (Buna N) or Code 5 (Viton)<br>(contact Veljan with specific oil details)                             |
| Cleanliness recommended               | : | Better than NAS 1638 Class 8 or ISO 17/14   |

**Adjustment**

|                                 |   |  |
|---------------------------------|---|--|
| Manual                          | : | Handwheel                                    |
| Rotation                        | : | 3.75 rev.                                    |
| Operating torque                | : | 0.72 Nm                                      |
| Electricals ( Vent Valve VVV01) | : | Solenoid                                     |
| Nominal voltage                 | : | Refer to Ordering Code                       |
| Permissible voltage fluctuation | : | +5%...-10%                                   |
| Max. coil temperature           | : | +155° C (311° F)                             |
| Type of current                 | : | Alternating Current (AC)/Direct Current (DC) |
| Input power                     | : | 31 W   |
| Holding                         | : | 78 VA  |
| Inrush                          | : | 264 VA                                       |
| Relative operating period       | : | 100%   |
| Type of protection              | : | I P 65                                       |

ORDERING CODE



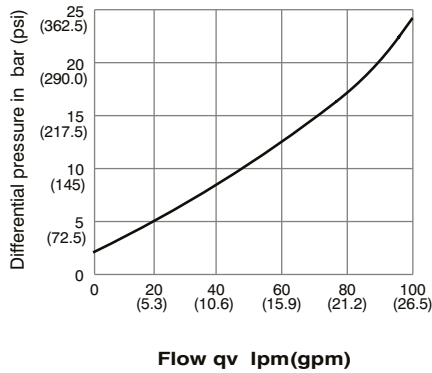
PERFORMANCE CURVES

ps min - qv characteristics

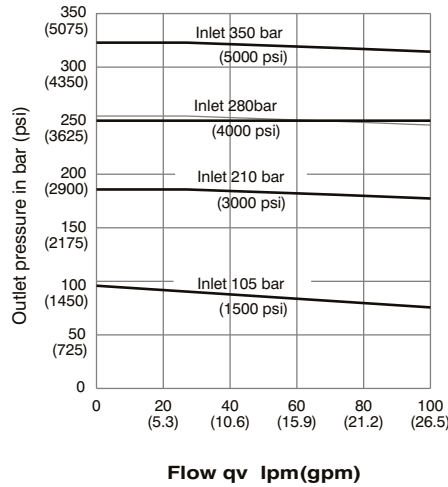
PC

VR4R03

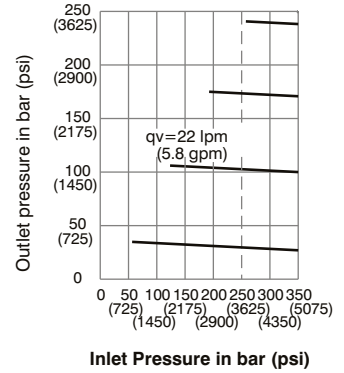
Minimum Differential Pressure between Inlet & Outlet Pressure at Various Flow Rates



Variation in Outlet Pressure for variation in Flow Rate

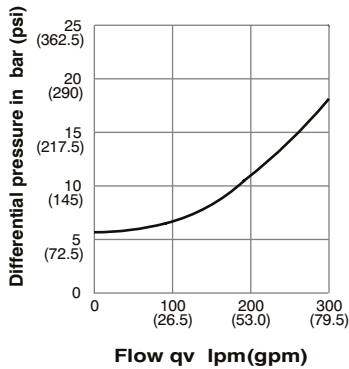


The effect of increase of Inlet Pressure on Outlet Pressure setting

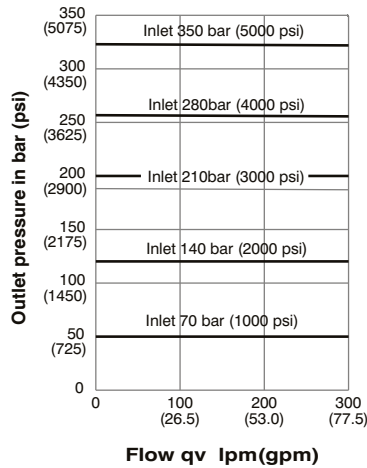


VR4R06 & VR4R10

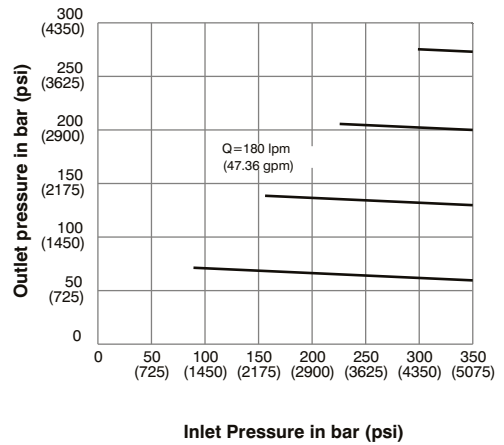
Minimum Differential Pressure between Inlet & Outlet Pressure at Various flow Rates



Variation in Outlet Pressure for variation in Flow Rate



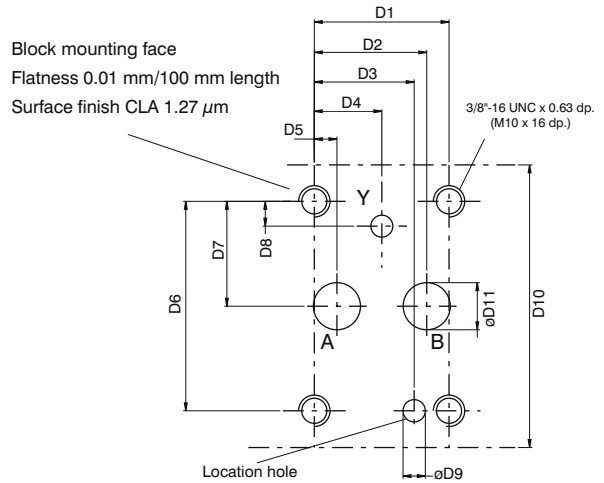
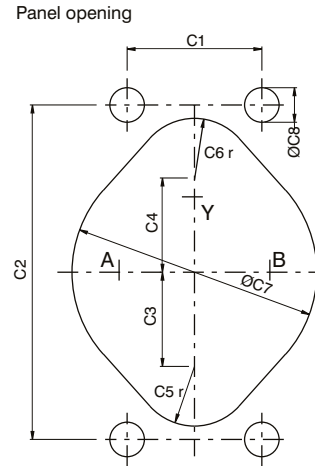
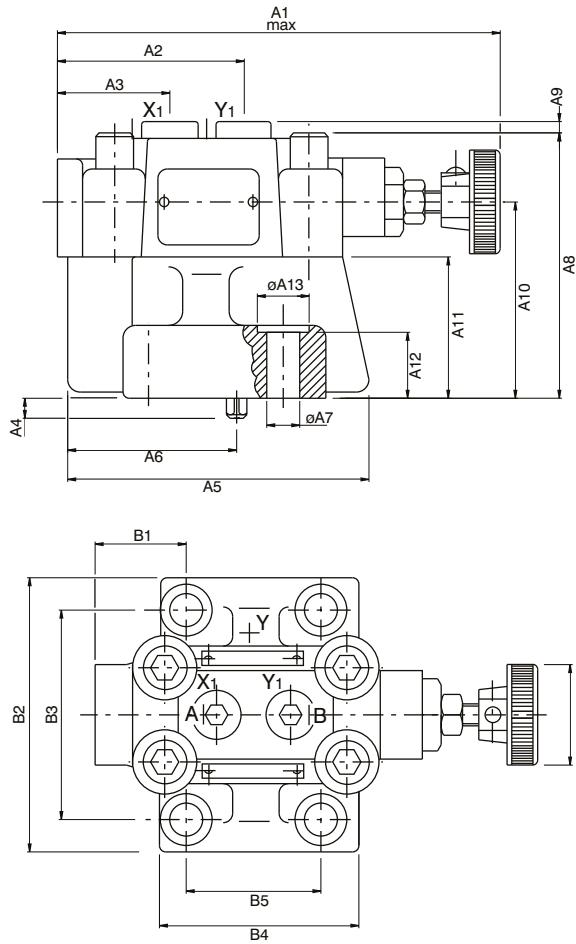
The effect of increase of Inlet Pressure on Outlet Pressure setting



Note : All Performance Data given is typical and can be influenced by application. Oil Temperature = 45°C (113°F) ; Oil Viscosity = 40cSt (240SSU).

VR4R03 (3/8") SUBPLATE MOUNTING BODY ( #3, #7 & #9 )

Weight : 5.93 lbs (2.7 kg)



| Dimensions |             |             |
|------------|-------------|-------------|
|            | in          | mm          |
| A1         | 5.55        | 141.0       |
| A2         | 2.34        | 59.5        |
| A3         | 1.41        | 35.8        |
| A4         | 0.25        | 6.4         |
| A5         | 3.62        | 92.0        |
| A6         | 2.12        | 53.8        |
| A7         | $\phi$ 0.4  | $\phi$ 10.5 |
| A8         | 3.33        | 84.5        |
| A9         | 0.14        | 3.6         |
| A10        | 2.46        | 62.5        |
| A11        | 1.77        | 45.0        |
| A12        | 0.826       | 21.0        |
| A13        | $\phi$ 0.65 | $\phi$ 16.5 |

| Dimensions |             |             |
|------------|-------------|-------------|
|            | in          | mm          |
| B1         | 1.14        | 29.0        |
| B2         | 3.437       | 87.3        |
| B3         | 2.626       | 66.7        |
| B4         | 2.5         | 63.5        |
| B5         | 1.69        | 42.9        |
| B6         | $\phi$ 1.26 | $\phi$ 32.0 |

| Dimensions |             |             |
|------------|-------------|-------------|
|            | in          | mm          |
| C1         | 1.69        | 42.9        |
| C2         | 4.19        | 106.5       |
| C3         | 1.18        | 30.0        |
| C4         | 1.18        | 30.0        |
| C5         | 0.75 r      | 19.0 r      |
| C6         | 0.75 r      | 19.0 r      |
| C7         | $\phi$ 3.07 | $\phi$ 78.0 |
| C8         | $\phi$ 0.43 | $\phi$ 11.0 |

| Dimensions |                         |                      |
|------------|-------------------------|----------------------|
|            | in                      | mm                   |
| D1         | 1.69                    | 42.9                 |
| D2         | 1.41                    | 35.8                 |
| D3         | 1.253                   | 31.8                 |
| D4         | 0.846                   | 21.5                 |
| D5         | 0.283                   | 7.2                  |
| D6         | 2.626                   | 66.7                 |
| D7         | 1.315                   | 33.4                 |
| D8         | 0.311                   | 7.9                  |
| D9         | $\phi$ 0.28 x 0.315 dp. | $\phi$ 7.1 x 8.0 dp. |
| D10        | 3.543                   | 90.0                 |
| D11        | $\phi$ 0.59             | $\phi$ 15.0          |

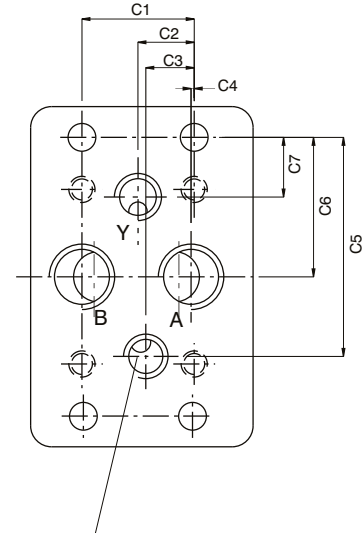
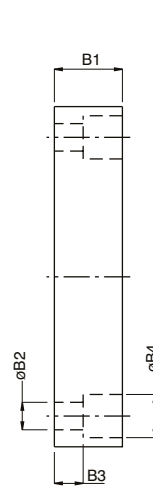
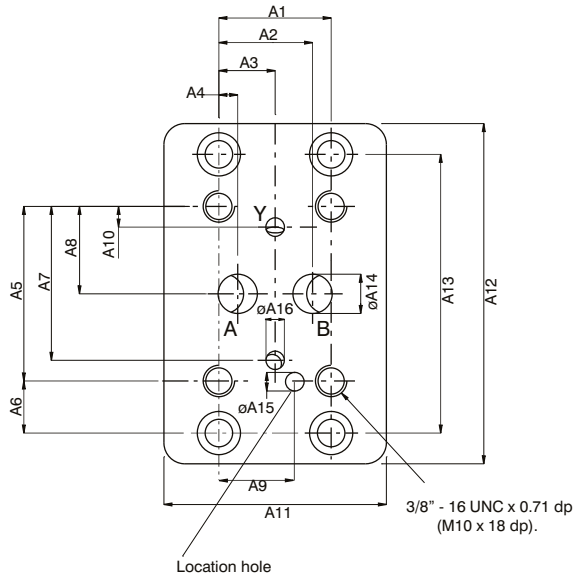
| Ports             | Function                          |
|-------------------|-----------------------------------|
| B                 | Primary (inlet)                   |
| A                 | Secondary (outlet)                |
| X <sub>i</sub>    | Remote control or vent connection |
| Y, Y <sub>i</sub> | External drain                    |

Note : For details of Subplate & mtg. screws please refer page 66

VR4R03 (3/8") SUBPLATE

Weight : 4.4 lbs (2.0 kg)

PC



Note: Not used, must be plugged before installation (1/4" NPTF or G1/4")

|     | Dimensions            |                    |
|-----|-----------------------|--------------------|
|     | in                    | mm                 |
| A1  | 1.69                  | 42.9               |
| A2  | 1.41                  | 35.8               |
| A3  | 0.846                 | 21.5               |
| A4  | 0.283                 | 7.2                |
| A5  | 2.626                 | 66.7               |
| A6  | 0.783                 | 19.9               |
| A7  | 2.315                 | 58.8               |
| A8  | 1.315                 | 33.4               |
| A9  | 1.25                  | 31.8               |
| A10 | 0.311                 | 7.9                |
| A11 | 3.346                 | 85.0               |
| A12 | 5.12                  | 130.0              |
| A13 | 4.19                  | 106.5              |
| A14 | ø 0.59                | ø 15.0             |
| A15 | ø 0.28 x<br>0.315 dp. | ø 7.1 x<br>8.0 dp. |
| A16 | ø 0.275               | ø 7.0              |

|    | Dimensions |        |
|----|------------|--------|
|    | in         | mm     |
| B1 | 1.024      | 26.0   |
| B2 | ø 0.41     | ø 10.5 |
| B3 | 0.433      | 11.0   |
| B4 | ø 0.65     | ø 16.5 |

|    | Dimensions |      |
|----|------------|------|
|    | in         | mm   |
| C1 | 1.69       | 42.9 |
| C2 | 0.846      | 21.5 |
| C3 | 0.73       | 18.5 |
| C4 | 0.047      | 1.2  |
| C5 | 3.295      | 83.7 |
| C6 | 2.1        | 53.3 |
| C7 | 0.9        | 22.8 |

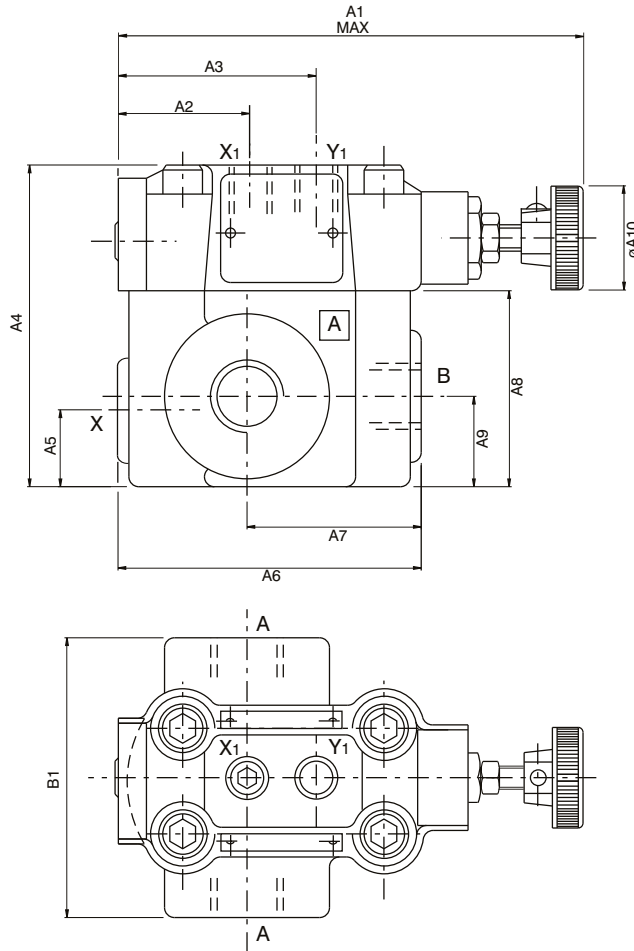
| Order No.            | Port sizes |               | 4 Mounting screws*           |              |  |
|----------------------|------------|---------------|------------------------------|--------------|--|
|                      | A+B        | X+Y           | Dimension                    | Order no     | min.tensile strength   |
| VSS - P - 08 - G 112 | ½" NPTF    | 1/4" NPTF     | 3/8" - 16UNC<br>1¼" lg.      | V358 - 16180 | at p ≤ 210 bar = 100 daN/mm <sup>2</sup><br>(Torque 68 Nm)<br>at p > 210 bar = 120 daN/mm <sup>2</sup><br>(Torque 82 Nm) |
| VSS - B - 08 - G 113 | ½" B.S.P.P | 1/4" B.S.P.P. | M 10 x 35 mm<br>DIN 912-12.9 | V700 - 70039 |  |

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

VR4R03 (3/8") - THREADED BODY ( #1, #4 & #6 )

Weight : 7.03 lbs (3.2 kg)

PC



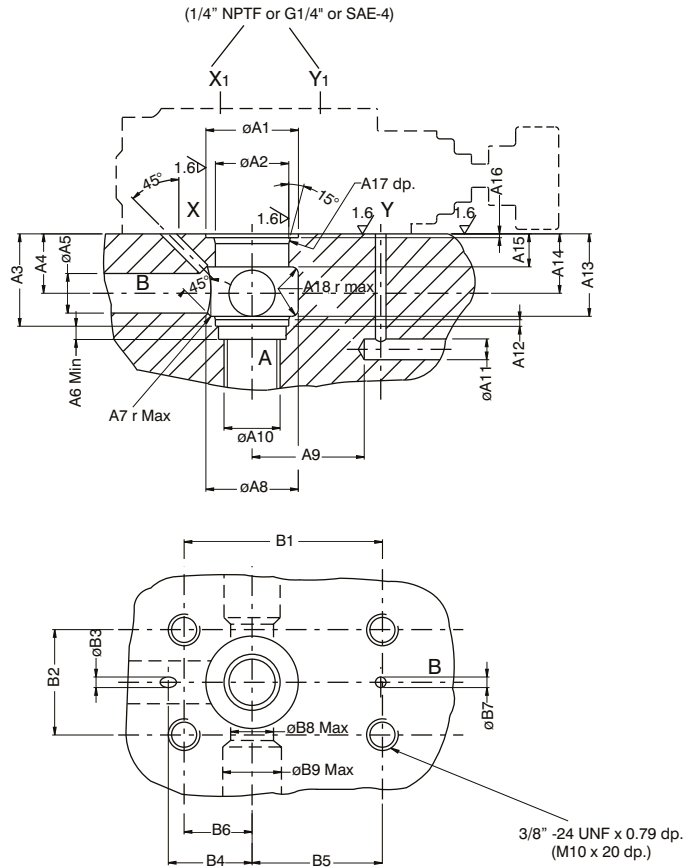
| Dimensions |        |        |
|------------|--------|--------|
|            | in     | mm     |
| A1         | 5.55   | 141.0  |
| A2         | 2.34   | 59.5   |
| A3         | 1.46   | 37.3   |
| A4         | 3.84   | 97.5   |
| A5         | 0.92   | 23.3   |
| A6         | 3.62   | 92.0   |
| A7         | 2.08   | 53.0   |
| A8         | 2.34   | 59.4   |
| A9         | 1.02   | 26.0   |
| A10        | ∅ 1.26 | ∅ 32.0 |

| Dimensions |      |      |
|------------|------|------|
|            | in   | mm   |
| B1         | 3.34 | 84.8 |

| Ports             | Function                          | Port Sizes                                      |
|-------------------|-----------------------------------|---|
| A(2)              | Secondary port (outlet)           | 1/2" NPTF or G 1/2" or SAE - 8 (3/4" - 16 UNF)  |
| B                 | Primary (inlet)                   | 1/2" NPTF or G 1/2" or SAE - 8 (3/4" - 16 UNF)  |
| X, X <sub>i</sub> | Remote control or vent connection | 1/4" NPTF or G 1/4" or SAE - 4 (7/16" - 20 UNF) |
| Y <sub>i</sub>    | External drain                    | 1/4" NPTF or G 1/4" or SAE - 4 (7/16" - 20 UNF) |

CARTRIDGE WITH PILOT VALVE VR4R03 (3/8") (#0, #E & #G)

Weight : 1.31 lbs (0.6 kg)



| Dimensions | in    |       | mm     |       |
|------------|-------|-------|--------|-------|
|            | min   | max   | min    | max   |
| A1         | 1.11  | 1.10  | 28.1   | 28.0  |
| A2         | 0.876 |       | 22.245 |       |
|            | 0.875 |       | 22.225 |       |
| A3         | 1.105 | 1.103 | 28.07  | 28.02 |
| A4         | 0.71  |       | 18.0   |       |
| A5         | 0.48  |       | 12.0   |       |
| A6         | 0.16  |       | 4.0    |       |
| A7         | 0.016 | r     | 0.4    | r     |
| A8         | 1.1   |       | 28.0   |       |
| A9         | 1.34  |       | 34.0   |       |
| A10        | 0.60  | 0.61  | 15.2   | 15.4  |
| A11        | 0.25  |       | 6.3    |       |
| A12        | 0.08  |       | 2.0    |       |
| A13        | 0.98  |       | 25.0   |       |
| A14        | 0.70  | 0.68  | 17.8   | 17.3  |
| A15        | 0.4   |       | 10.0   |       |
| A16        | 0.045 | 0.050 | 1.14   | 1.27  |
| A17        | 0.071 | r     | 1.8    | r     |
| A18        | 0.08  | r     | 2.0    | r     |

| Dimensions | in    |       | mm    |       |
|------------|-------|-------|-------|-------|
|            | min   | max   | min   | max   |
| B1         | 2.367 | 2.383 | 60.12 | 60.52 |
| B2         | 1.24  | 1.26  | 31.55 | 31.95 |
| B3         | 0.126 |       | 3.2   |       |
| B4         | 1.0   |       | 25.4  |       |
| B5         | 1.496 |       | 38.0  |       |
| B6         | 0.81  |       | 20.6  |       |
| B7         | 0.126 |       | 3.2   |       |
|            | 0.236 |       | 6.0   |       |
| B8         | 0.51  |       | 13.0  |       |
| B9         | 0.7   |       | 17.8  |       |

| Ports             | Function                          |
|-------------------|-----------------------------------|
| B                 | Primary (inlet)                   |
| A                 | Secondary (outlet)                |
| X                 | Internal pilot pressure           |
| X <sub>i</sub>    | Remote control or vent connection |
| Y, Y <sub>i</sub> | External drain                    |

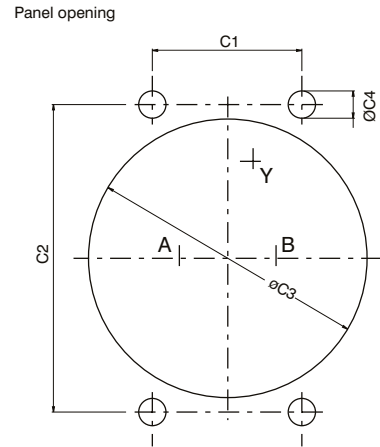
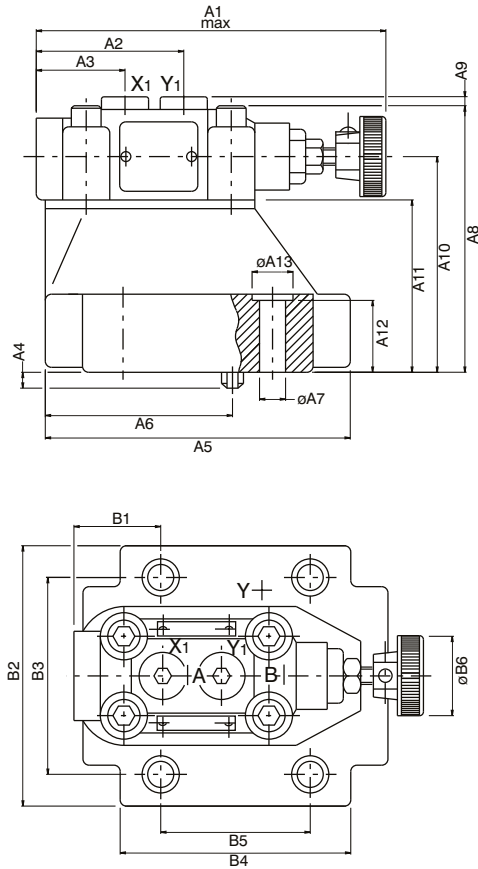
| 4 Mounting screws*   |                                    |
|--|------------------------------------|
| Dimensions   | Order No.                          |
| 3/8" - 24 UNF x 1/4" lg.<br>or<br>M10 x 45mm, DIN 912 - 12.9 | V359 - 15220<br>or<br>V700 - 71602 |

\* Mounting screws must be ordered separately

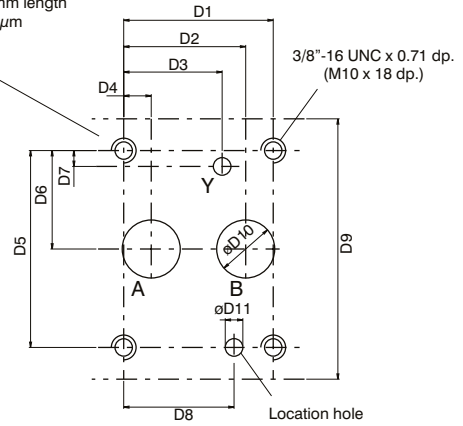
PC

VR4R06 (3/4") SUBPLATE MOUNTING BODY ( #3, #7 & #9 )

Weight : 9.89 lbs (4.5 kg)



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



| Dimensions |        |        |
|------------|--------|--------|
|            | in     | mm     |
| A1         | 5.55   | 141.0  |
| A2         | 2.34   | 59.5   |
| A3         | 1.41   | 35.8   |
| A4         | 0.25   | 6.4    |
| A5         | 4.842  | 123.0  |
| A6         | 2.97   | 75.5   |
| A7         | ø 0.41 | ø 10.5 |
| A8         | 4.232  | 107.5  |
| A9         | 3.425  | 3.6    |
| A10        | 2.736  | 87.0   |
| A11        | 1.142  | 69.5   |
| A12        | 1.142  | 29.0   |
| A13        | ø 0.65 | ø 16.5 |

| Dimensions |        |        |
|------------|--------|--------|
|            | in     | mm     |
| B1         | 1.38   | 35.0   |
| B2         | 4.134  | 105.0  |
| B3         | 3.126  | 79.4   |
| B4         | 3.66   | 93.0   |
| B5         | 2.374  | 60.3   |
| B6         | ø 1.26 | ø 32.0 |

| Dimensions |         |         |
|------------|---------|---------|
|            | in      | mm      |
| C1         | 2.374   | 60.3    |
| C2         | 4.88    | 124.0   |
| C3         | ø 4.645 | ø 118.0 |
| C4         | ø 0.433 | ø 11.0  |

| Dimensions |                    |                 |
|------------|--------------------|-----------------|
|            | in                 | mm              |
| D1         | 2.374              | 60.3            |
| D2         | 1.937              | 49.2            |
| D3         | 1.563              | 39.7            |
| D4         | 0.437              | 11.1            |
| D5         | 3.126              | 79.4            |
| D6         | 1.563              | 39.7            |
| D7         | 0.25               | 6.4             |
| D8         | 1.75               | 44.5            |
| D9         | 4.134              | 105.0           |
| D10        | ø 0.92             | ø 23.4          |
| D11        | ø 0.28 x 0.315 dp. | ø 7.1 x 8.0 dp. |

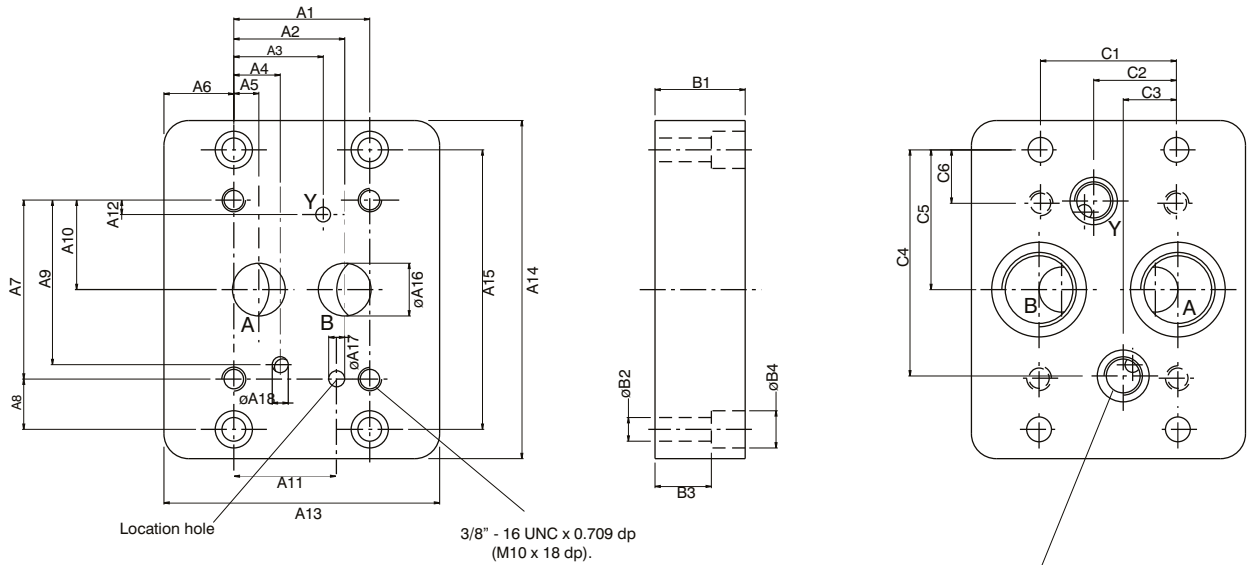
| Ports             | Function                          |
|-------------------|-----------------------------------|
| B                 | Primary (inlet)                   |
| A                 | Secondary (outlet)                |
| X <sub>1</sub>    | Remote control or vent connection |
| Y, Y <sub>1</sub> | External drain                    |

Note : For details of Subplate & mtg. screws please refer page 70

SUBPLATE FOR VR4R06 (3/4")

Weight : 10.54 lbs (4.8 kg)

PC



Note: Not used, must be plugged before installation (1/4"NPTF or G1/4")

| Dimensions | in                 |                 | mm |  |
|------------|--------------------|-----------------|----|--|
|            |                    |                 |    |  |
| A1         | 2.374              | 60.3            |    |  |
| A2         | 1.937              | 49.2            |    |  |
| A3         | 1.563              | 39.7            |    |  |
| A4         | 0.811              | 20.6            |    |  |
| A5         | 0.437              | 11.1            |    |  |
| A6         | 1.22               | 31.0            |    |  |
| A7         | 3.126              | 79.4            |    |  |
| A8         | 0.88               | 22.3            |    |  |
| A9         | 2.874              | 73.0            |    |  |
| A10        | 1.563              | 39.7            |    |  |
| A11        | 1.75               | 44.5            |    |  |
| A12        | 0.25               | 6.4             |    |  |
| A13        | 4.843              | 123.0           |    |  |
| A14        | 5.905              | 150.0           |    |  |
| A15        | 4.882              | 124.0           |    |  |
| A16        | ø 0.92             | ø 23.4          |    |  |
| A17        | ø 0.28 x 0.315 dp. | ø 7.1 x 8.0 dp. |    |  |
| A18        | ø 0.28             | ø 7.1           |    |  |

| Dimensions | in     |        | mm |  |
|------------|--------|--------|----|--|
|            |        |        |    |  |
| B1         | 1.575  | 40.0   |    |  |
| B2         | ø 0.41 | ø 10.5 |    |  |
| B3         | 0.984  | 25.0   |    |  |
| B4         | ø 0.65 | ø 16.5 |    |  |

| Dimensions | in    |       | mm |  |
|------------|-------|-------|----|--|
|            |       |       |    |  |
| C1         | 2.374 | 60.3  |    |  |
| C2         | 1.445 | 36.7  |    |  |
| C3         | 0.93  | 23.6  |    |  |
| C4         | 3.949 | 100.3 |    |  |
| C5         | 2.44  | 62.0  |    |  |
| C6         | 0.933 | 23.7  |    |  |

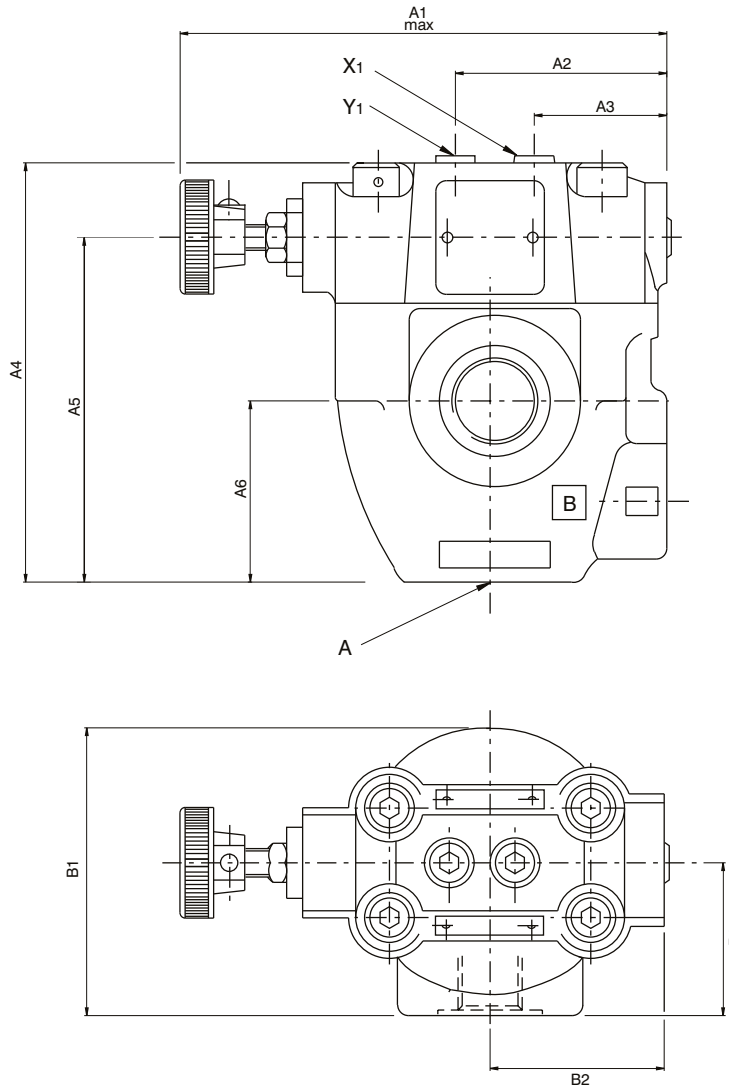
| Order No.            | Port sizes    |               | 4 Mounting screws*           |              |  |
|----------------------|---------------|---------------|------------------------------|--------------|--|
|                      | A+B           | Y             | Dimension                    | Order no     | min.tensile strength   |
| VSS - P - 16 - G 114 | 1" NPTF       | 1/4" NPTF     | 3/8"-16UNC<br>1 3/4" lg      | V359-16220   | at p ≤ 210 bar = 100 daN/mm <sup>2</sup><br>(Torque 68 Nm)<br>at p > 210 bar = 120 daN/mm <sup>2</sup><br>(Torque 82 Nm) |
| VSS - B - 12 - G 115 | 3/4" B.S.P.P. | 1/4" B.S.P.P. | M10 x 45mm<br>DIN 912 - 12.9 | V700 - 71602 |  |
| VSS - B - 16 - G 115 | 1" B.S.P.P.   |               |                              |              |  |

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

VR4R06 (3/4") - THREADED BODY ( #A, #B & #D )

Weight : 7.4 lbs (3.3 kg)

PC



|    | Dimensions |       |
|----|------------|-------|
|    | in         | mm    |
| A1 | 5.55       | 141.0 |
| A2 | 2.34       | 59.5  |
| A3 | 1.47       | 37.3  |
| A4 | 4.645      | 118.0 |
| A5 | 3.82       | 97.0  |
| A6 | 2.01       | 51.0  |

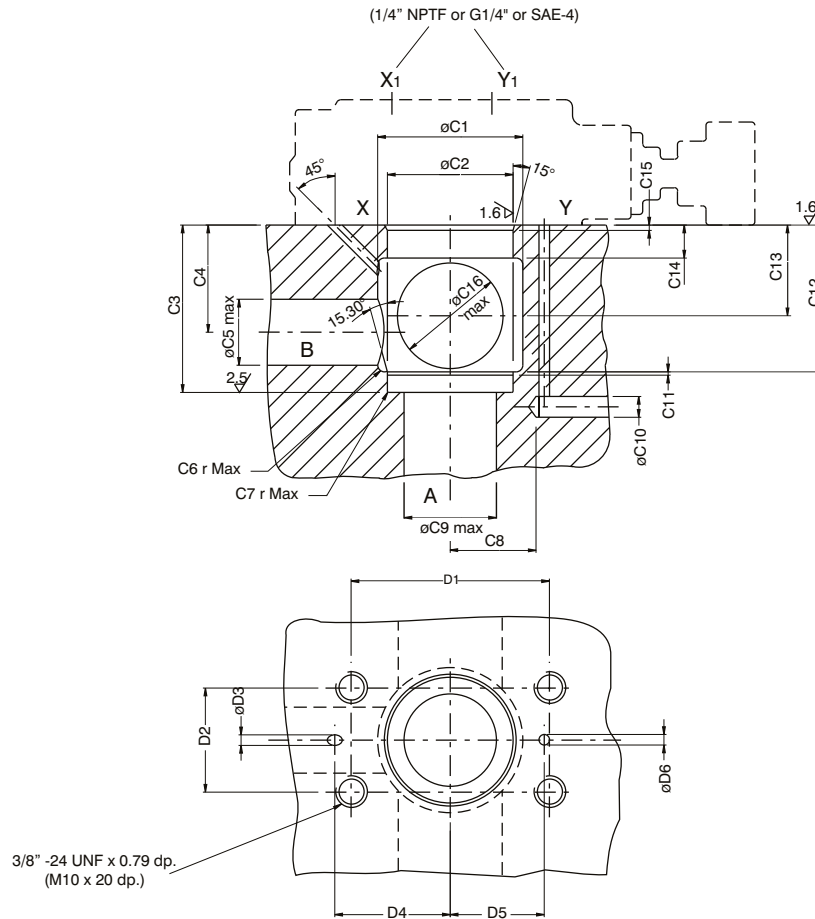
|    | Dimensions |      |
|----|------------|------|
|    | in         | mm   |
| B1 | 3.2        | 81.0 |
| B2 | 1.93       | 49.0 |
| B3 | 1.7        | 43.0 |

| Ports          | Function                          | Port Sizes  |
|----------------|-----------------------------------|---|
| B              | Primary (inlet)                   | 3/4" NPTF or G 3/4" or SAE - 12 (1 <sup>1</sup> / <sub>16</sub> " - 12 UNF) |
| A              | Secondary (outlet)                | 3/4" NPTF or G 3/4" or SAE - 12 (1 <sup>1</sup> / <sub>16</sub> " - 12 UNF) |
| X <sub>1</sub> | Remote control or vent connection | 1/4" NPTF or G 1/4" or SAE - 4 (7/16" - 20 UNF)                             |
| Y <sub>1</sub> | External drain                    | 1/4" NPTF or G 1/4" or SAE - 4 (7/16" - 20 UNF)                             |

CARTRIDGES WITH PILOT VALVES VR4R06/VR4R10 (#0, #E & #G)

Weight : 2.64 lbs (1.2 kg)

PC



| Dimensions | in          |             | mm |  |
|------------|-------------|-------------|----|--|
|            |             |             |    |  |
| C1         | ø 1.73/1.77 | ø 44.0/45.0 |    |  |
| C2         | ø 1.500     | ø 38.100    |    |  |
|            | ø 1.502     | ø 38.139    |    |  |
| C3         | 1.99/2.00   | 50.73/50.80 |    |  |
| C4         | 1.28        | 32.5        |    |  |
| C5         | 0.8         | 20.0        |    |  |
| C6         | 0.08 r      | 2.0 r       |    |  |
| C7         | 0.016 r     | 0.4 r       |    |  |
| C8         | 1.02        | 26.0        |    |  |
| C9         | ø 1.1       | ø 28.0      |    |  |
| C10        | ø 0.25      | ø 6.3       |    |  |
| C11        | 0.4         | 1.0         |    |  |
| C12        | 1.75        | 44.5        |    |  |
| C13        | 1.08/1.10   | 27.5/28.0   |    |  |
| C14        | 0.4         | 11.0        |    |  |
| C15        | 0.06        | 1.6         |    |  |
| C16        | ø 1.26      | ø 32.0      |    |  |

| Dimensions | in          |             | mm |  |
|------------|-------------|-------------|----|--|
|            |             |             |    |  |
| D1         | 2.367/2.383 | 60.12/60.52 |    |  |
| D2         | 1.24/1.26   | 31.55/31.95 |    |  |
| D3         | ø 0.126     | ø 3.2       |    |  |
|            |             |             |    |  |
| D4         | 1.38        | 35.0        |    |  |
| D5         | 1.12        | 28.5        |    |  |
| D6         | ø 0.126     | ø 3.2       |    |  |
|            | ø 0.236     | ø 6.0       |    |  |

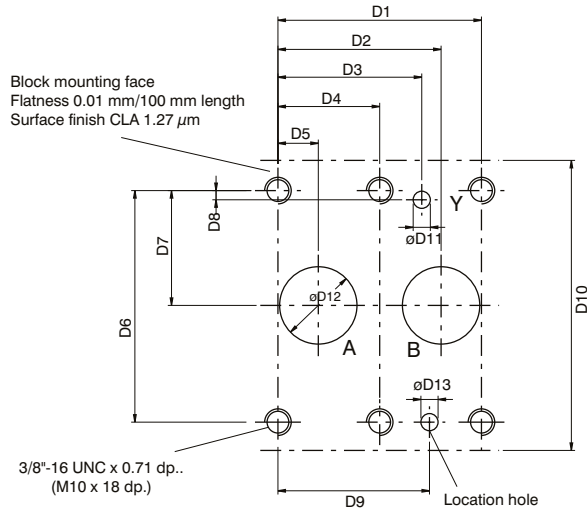
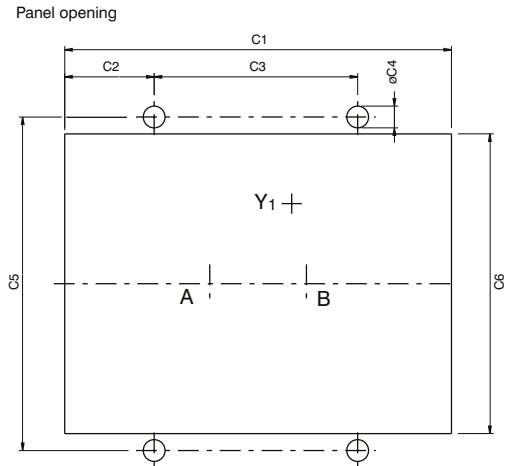
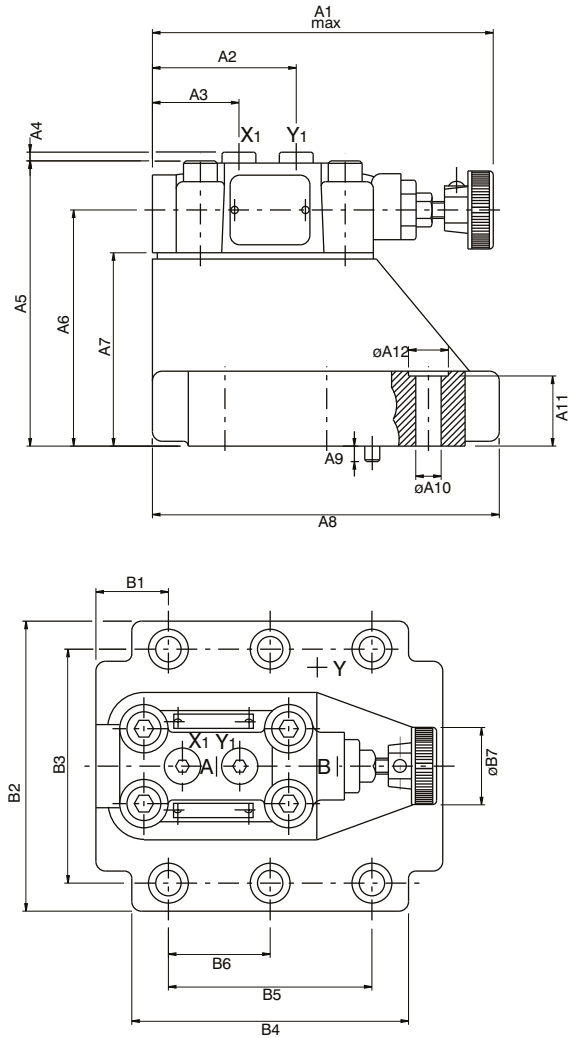
| Ports             | Function                          |
|-------------------|-----------------------------------|
| B                 | Primary (inlet)                   |
| A                 | Secondary (outlet)                |
| X                 | Internal pilot pressure           |
| X <sub>1</sub>    | Remote control or vent connection |
| Y, Y <sub>1</sub> | External drain                    |

| 4 Mounting screws*   |                                    |
|--|------------------------------------|
| Dimensions   | Order No.                          |
| 3/8" - 24 UNF x 1 3/4" lg.<br>or<br>M10 x 45mm, DIN 912 - 12.9 | V359 - 15220<br>or<br>V700 - 71602 |

\* Mounting screws must be ordered separately

VR4R10 (1 1/4") SUBPLATE MOUNTING BODY ( #3, #7 & #9 )

Weight : 13.18 lbs (6.0 kg)



PC

| Dimensions |        |        |
|------------|--------|--------|
|            | in     | mm     |
| A1         | 5.55   | 141.0  |
| A2         | 2.34   | 59.5   |
| A3         | 1.41   | 35.8   |
| A4         | 0.14   | 3.6    |
| A5         | 4.645  | 118.0  |
| A6         | 3.846  | 97.7   |
| A7         | 3.15   | 80.0   |
| A8         | 5.645  | 143.5  |
| A9         | 0.25   | 6.4    |
| A10        | ø 0.41 | ø 10.5 |
| A11        | 1.14   | 29.0   |
| A12        | ø 0.65 | ø 16.5 |

| Dimensions |        |        |
|------------|--------|--------|
|            | in     | mm     |
| B1         | 1.181  | 30.0   |
| B2         | 4.72   | 120.0  |
| B3         | 3.8    | 96.52  |
| B4         | 4.51   | 114.5  |
| B5         | 3.315  | 84.2   |
| B6         | 1.657  | 42.1   |
| B7         | ø 1.26 | ø 32.0 |

| Dimensions |        |       |
|------------|--------|-------|
|            | in     | mm    |
| C1         | 6.3    | 160.0 |
| C2         | 1.456  | 37.0  |
| C3         | 3.315  | 84.2  |
| C4         | ø 0.35 | ø 9.0 |
| C5         | 5.433  | 138.0 |
| C6         | 4.88   | 124.0 |

| Dimensions |                    |                 |
|------------|--------------------|-----------------|
|            | in                 | mm              |
| D1         | 3.315              | 84.2            |
| D2         | 2.657              | 67.5            |
| D3         | 2.342              | 59.5            |
| D4         | 1.657              | 42.1            |
| D5         | 0.657              | 16.7            |
| D6         | 3.81               | 96.8            |
| D7         | 1.906              | 48.4            |
| D8         | 0.15               | 3.8             |
| D9         | 2.468              | 62.7            |
| D10        | 4.724              | 120.0           |
| D11        | ø 0.28             | ø 7.1           |
| D12        | ø 1.26             | ø 32.0          |
| D13        | ø 0.28 x 0.315 dp. | ø 7.1 x 8.0 dp. |

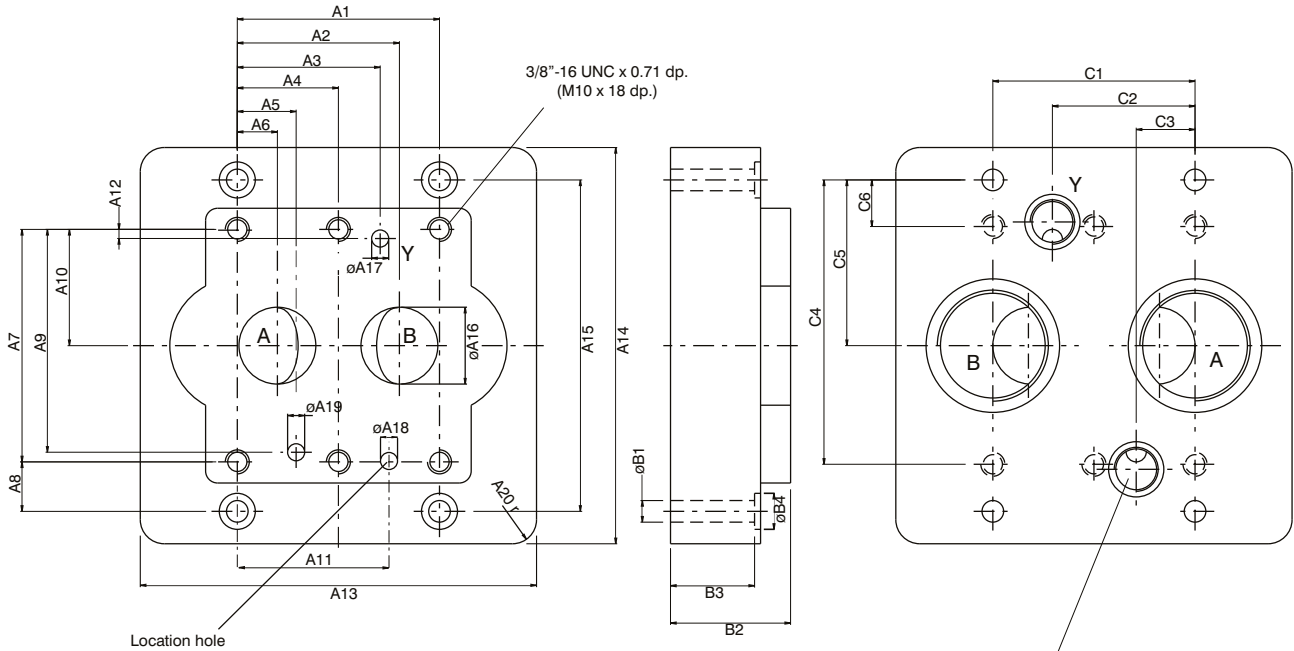
| Ports               | Function                          |
|---------------------|-----------------------------------|
| B                   | Primary (inlet)                   |
| A                   | Secondary (outlet)                |
| X <sub>i</sub>      | Remote control or vent connection |
| Y,(Y <sub>i</sub> ) | External drain                    |

Note : For details of Subplate & mtg.screws please refer page 74

Subplate for VR4R10

Weight : 19.1 lbs (8.5 kg)

PC



| 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        | 2.468                 | 62.7               |
| A12        | 0.15                  | 3.8                |
| A13        | 6.535                 | 166.0              |
| A14        | 6.5                   | 165.0              |
| A15        | 5.43                  | 138.0              |
| A16        | 1.26                  | 32.0               |
| A17        | ø 0.28                | ø 7.1              |
| A18        | ø 0.28 x<br>0.315 dp. | ø 7.1 x<br>8.0 dp. |
| A19        | ø 0.28                | ø 7.1              |
| A20        | 0.4 r                 | 10.0 r             |

| Dimensions |         |        |
|------------|---------|--------|
|            | in      | mm     |
| B1         | ø 0.351 | ø 9.0  |
| B2         | 1.97    | 50.0   |
| B3         | 1.38    | 35.0   |
| B4         | ø 0.59  | ø 15.0 |

| Dimensions |       |       |
|------------|-------|-------|
|            | in    | mm    |
| C1         | 3.315 | 84.2  |
| C2         | 2.342 | 59.5  |
| C3         | 0.97  | 24.6  |
| C4         | 4.66  | 118.4 |
| C5         | 2.716 | 69.0  |
| C6         | 0.764 | 19.4  |

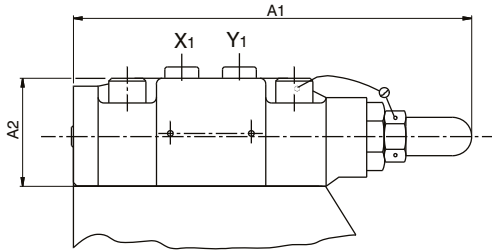
| Order No.            | Port sizes   |              | 4 Mounting screws*           |              |  |
|----------------------|--------------|--------------|------------------------------|--------------|--|
|                      | A+B          | Y            | Dimension                    | Order no     | min.tensile strength   |
| VSS - P -16 - G 114  | 1" NPTF      | 1/4" NPTF    | 3/8"-16UNC<br>1 3/4" lg      | V359-16220   | at p ≤ 210 bar = 100 daN/mm <sup>2</sup><br>(Torque 68 Nm)<br>at p > 210 bar = 120 daN/mm <sup>2</sup><br>(Torque 82 Nm) |
| VSS - B -12 - G 115  | 3/4" B.S.PP. | 1/4" B.S.PP. | M10 x 45mm<br>DIN 912 - 12.9 | V700 - 71602 |  |
| VSS - B - 16 - G 115 | 1" B.S.PP.   |              |                              |              |  |

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

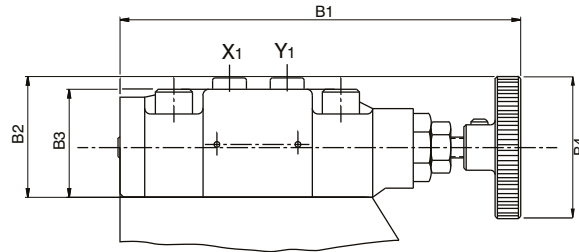
OPTIONAL CONTROL

Type of control - Code 3  
Acron nut with lead seal

Type of control - Code 2  
Hand knob 50mm dia  
(not for version with vent valve VVV01)



|    | Dimensions |       |
|----|------------|-------|
|    | in         | mm    |
| A1 | 5.51       | 140.0 |
| A2 | 1.49       | 38.0  |

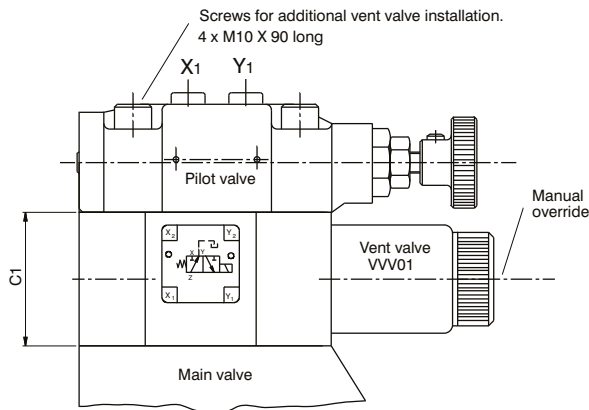


|    | Dimensions |        |
|----|------------|--------|
|    | in         | mm     |
| B1 | 5.55       | 141.0  |
| B2 | 1.67       | 42.5   |
| B3 | 1.49       | 38.0   |
| B4 | ø 1.96     | ø 50.0 |

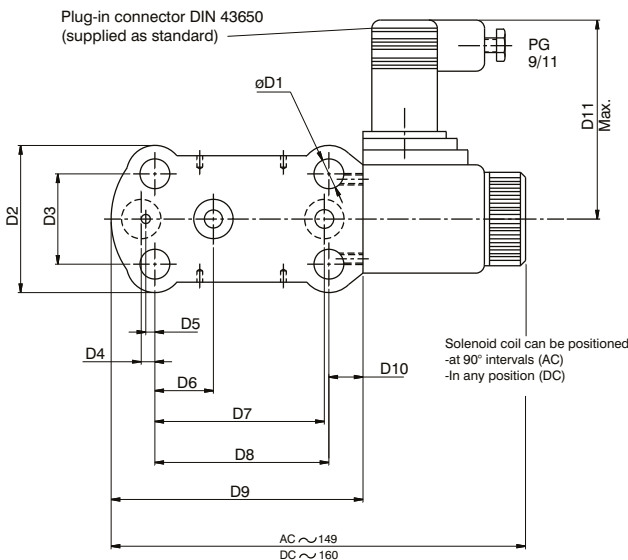
PC

Version with Vent Valve VVV01

Weight (VVV01) : 3.73 lbs (1.7 kg)



| Code     | External Drain |
|----------|----------------|
| 11 or 12 |                |
| 09 or 10 |                |



|    | Dimensions |      |
|----|------------|------|
|    | in         | mm   |
| C1 | 1.85       | 47.0 |

|     | Dimensions |        |
|-----|------------|--------|
|     | in         | mm     |
| D1  | ø 0.41     | ø 10.5 |
| D2  | 2.03       | 51.8   |
| D3  | 1.25       | 31.8   |
| D4  | 0.18       | 4.8    |
| D5  | 0.12       | 3.2    |
| D6  | 0.81       | 20.6   |
| D7  | 2.31       | 58.7   |
| D8  | 2.37       | 60.3   |
| D9  | 3.49       | 88.7   |
| D10 | 0.51       | 13.0   |
| D11 | 2.75       | 70.0   |