



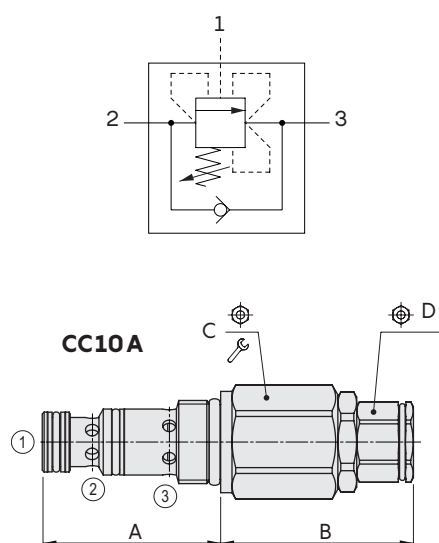
## CC..A type counterbalance valves – 3 way

- For closed center
- Line mounting
- Not affected by back pressure
- From SAE10 to SAE16 cavities

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

|                                               |                                       | CC10A                                                                    | CC12A                                                     | CC16A                                                     |
|-----------------------------------------------|---------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|
| Nominal flow                                  |                                       | 30 l/min<br>(7.9 US gpm)                                                 | 60 l/min<br>(16 US gpm)                                   | 90 l/min<br>(24 US gpm)                                   |
| Max. pressure                                 |                                       | 350 bar (5100 psi)                                                       |                                                           |                                                           |
| Oil leakage                                   | at 80% of max.<br>pressure setting    | 0.25 cm <sup>3</sup> /min<br>(0.015 in <sup>3</sup> /min)                | 0.25 cm <sup>3</sup> /min<br>(0.015 in <sup>3</sup> /min) | 0.25 cm <sup>3</sup> /min<br>(0.015 in <sup>3</sup> /min) |
| Fluid                                         |                                       | mineral based or synthetic hydraulic fluid with lubricating properties   |                                                           |                                                           |
| Viscosity                                     |                                       | 10–200 cSt                                                               |                                                           |                                                           |
| Max level of contamination                    |                                       | 20/18/14 ISO4406                                                         |                                                           |                                                           |
| Fluid temperature                             | with NBR seals+PTFE<br>with FPM seals | from -25°C (-13°F) to 90°C (194°F)<br>from -20°C (-4°F) to 110°C (230°F) |                                                           |                                                           |
| Environmental temp. for<br>working conditions |                                       | from -20°C (-4°F) to 60°C (140°F)                                        |                                                           |                                                           |
| Cavity                                        |                                       | SAE 10/3                                                                 | SAE 12/3                                                  | SAE 16/3                                                  |
| Weight                                        |                                       | 0.280 kg (0.62 lb)                                                       | 0.380 kg (0.84 lb)                                        | 0.720 kg (1.59 lb)                                        |

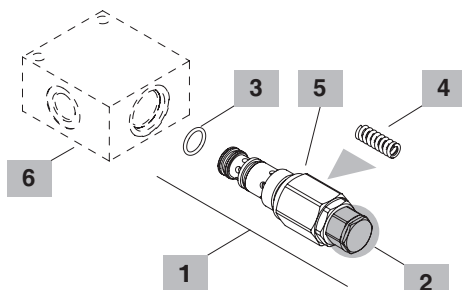
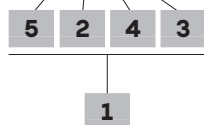
NOTE – For different conditions, please contact Walvoil Sales Dpt.



| Valve type |    | A    |      | B    |      | C  |        | D  |        |
|------------|----|------|------|------|------|----|--------|----|--------|
|            |    | mm   | in   | mm   | in   | Nm | lbf·ft | Nm | lbf·ft |
| CC10A/     | 4S | 47.2 | 1.86 | 51   | 2.01 | 27 | 50     | 37 | 19     |
|            | W  | 47.2 | 1.86 | 51   | 2.01 | 27 | 50     | 37 | 19     |
| CC12A/     | 4S | 73.5 | 2.89 | 58.5 | 2.30 | 32 | 80     | 59 | 24     |
|            | 4W | 73.5 | 2.89 | 58.5 | 2.30 | 32 | 80     | 59 | 24     |
| CC16A/     | 4S | 75   | 2.95 | 69   | 2.72 | 41 | 100    | 74 | 27     |
|            | 4W | 75   | 2.95 | 69   | 2.72 | 41 | 100    | 74 | 27     |

### Ordering codes and description composition

#### CC10A/4S2B



#### 1 Cartridges

| TYPE                   | CODE        | DESCRIPTION                                                    |
|------------------------|-------------|----------------------------------------------------------------|
| <b>SAE cavity 10/3</b> |             |                                                                |
| <b>CC10A/4S2B</b>      | 0CC10002001 | Screw type adjustment, pilot ratio 1:4 pressure range <b>2</b> |
| <b>SAE cavity 12/3</b> |             |                                                                |
| <b>CC12A/4S2B</b>      | 0CC12002000 | Screw type adjustment, pilot ratio 1:4 pressure range <b>2</b> |
| <b>SAE cavity 16/3</b> |             |                                                                |
| <b>CC16A/4S2B</b>      | 0CC16002001 | Screw type adjustment, pilot ratio 1:4 pressure range <b>2</b> |

#### 2 Adjustments

| TYPE     | DESCRIPTION       |
|----------|-------------------|
| <b>S</b> | Screw             |
| <b>W</b> | Copped adjustment |

#### 3 Seals

| TYPE     | DESCRIPTION                                            |
|----------|--------------------------------------------------------|
| <b>B</b> | <b>NBR (Buna)+PTFE</b> o-ring seals, std configuration |
| <b>V</b> | <b>FPM (Viton)</b> o-ring seals, contact Sales Dept    |

#### 4 Pressure setting springs

Standard setting is referred to 5 l/min (1.32 Us gpm) flow

| TYPE                   | CODE       | DESCRIPTION                                         |
|------------------------|------------|-----------------------------------------------------|
| <b>For CC10A valve</b> |            |                                                     |
| <b>1</b>               | 3ML1092502 | Setting range 50-220 bar (725-3200 psi) red band    |
| <b>2</b>               | 3ML1092300 | Setting range 180-350 bar (2600-5100 psi) red band  |
| <b>3</b>               | 3ML1102800 | Setting range 300-700 bar (4350-10150 psi) red band |

#### For CC12A valve

|          |            |                                                        |
|----------|------------|--------------------------------------------------------|
| <b>1</b> | 3ML1133201 | Setting range 50-220 bar (725-3200 psi) blue band      |
| <b>2</b> | 3ML1133200 | Setting range 180-350 bar (2600-5100 psi) red band     |
| <b>3</b> | 3ML1133500 | Setting range 300-700 bar (4350-10150 psi) yellow band |

#### For CC16A valve

|          |            |                                                        |
|----------|------------|--------------------------------------------------------|
| <b>1</b> | 3ML1164000 | Setting range 50-220 bar (725-3200 psi) blue band      |
| <b>2</b> | 3ML1164001 | Setting range 180-350 bar (2600-5100 psi) red band     |
| <b>3</b> | 3ML1164002 | Setting range 300-700 bar (4350-10150 psi) yellow band |

#### 5 Pilot ratio

| TYPE     | DESCRIPTION |
|----------|-------------|
| <b>4</b> | 1:4         |

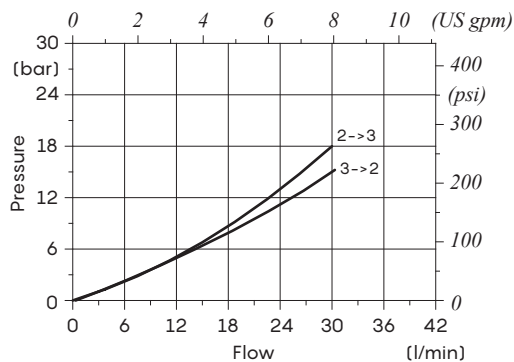
#### 6 Valve body

| TYPE                 | CODE       | DESCRIPTION                                          |
|----------------------|------------|------------------------------------------------------|
| <b>SAE10/3-G 3/8</b> | 3CC1030C11 | Aluminium body for cavity 10 valve, G 3/8 std thread |
| <b>SAE12/3-G 1/2</b> | 3CC1230D11 | Aluminium body for cavity 12 valve, G 1/2 std thread |
| <b>SAE16/3-G 3/4</b> | 3CC1630E11 | Aluminium body for cavity 16 valve, G 3/4 std thread |

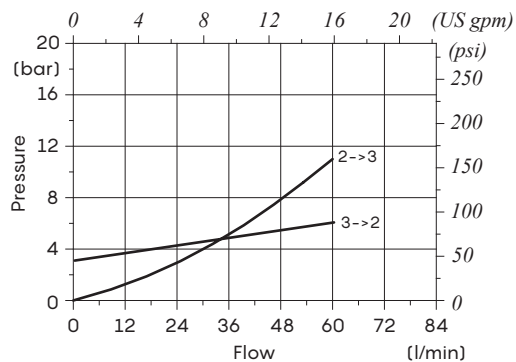
Note: aluminium body can stand up to 210 bar (3050 psi)  
For steel bodies or different threading see from page 210

**Rating diagrams**

**CC10A pressure drop vs. flow**



**CC12A pressure drop vs. flow**



**CC16A pressure drop vs. flow**

