# Motion Control Valves

# 1CE120

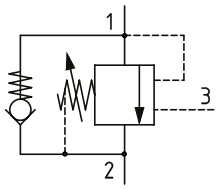
Overcenter Valve, Standard, Differential Area, Internal Drain, Port 3 Pilot

**350 bar [5000 psi] • 120 l/min [32 US gpm]**

## DESCRIPTION AND OPERATION

This is a differential area overcenter valve, which is a pilot assisted relief with a free flow check. With the relief valve set at around 1.3 times the maximum load induced pressure, the valve will prevent flow from taking place between ports 1 and 2. When pilot pressure is applied to port 3, the valve will meter the flow from port 1 to 2, compensating for any change in pilot pressure due to over-running or unstable loads. Free flow takes place from port 2 to port 1 through the check portion of the valve. These valves are ideal in most applications bringing stability, load holding, and hose failure protection when the valve is mounted onto or into the actuator. The spring chamber is connected to the valve port 2 so any back pressure will increase the pilot pressure required to keep the valve open and the pressure at which the valve will open as a relief valve. This is also available in a dual housing for bi-directional control.

## SCHEMATIC

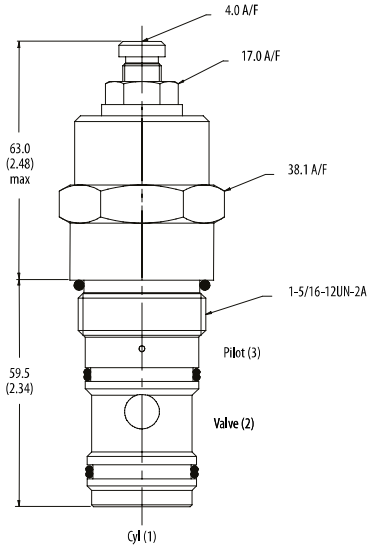



## PERFORMANCE DATA

| | |
|---|---|
| **Rated pressure** | **350 bar [5000 psi]** |
| **Rated flow** | **120 l/min [32 US gpm]** |
| Max total relief pressure | 350 bar [5000 psi] |
| Max recommended load pressure at max setting | 270 bar [3900 psi] |
| Pilot Ratio | 3.5:1 |
| Leakage | 0.3 ml/min nominal [5 drops/min] |
| Weight | 0.59 kg [1.30 lb] |
| Cavity | A877 |

## DIMENSIONS

mm [in]



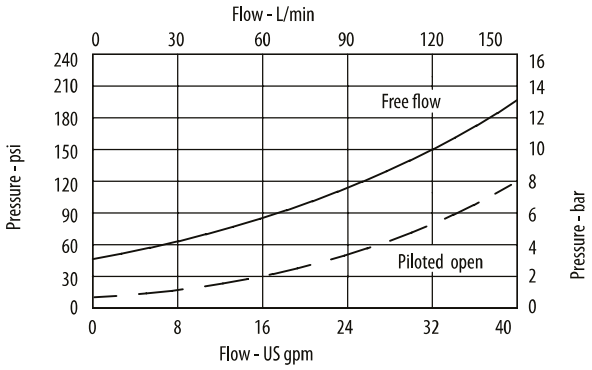

Turn CW to increase pressure setting and CCW to decrease pressure setting.

Torque lock nut to 20-25 Nm [15-18 ft lbs]

**Installation Torque**
100 Nm [74 ft. lbs]

## PERFORMANCE CURVES

Pressure Drop



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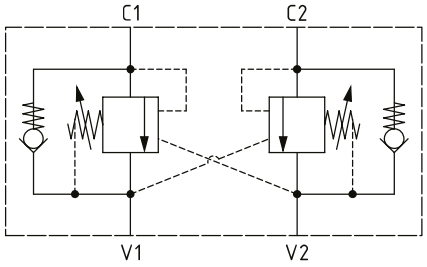
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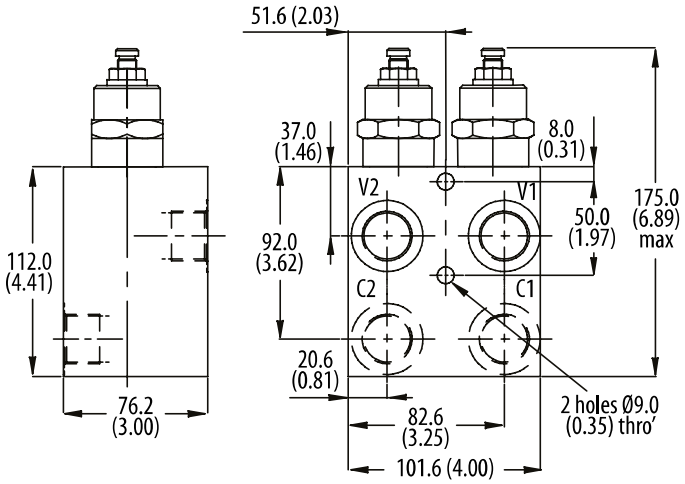
## SCHEMATIC

1CEE150 (dual)




## DIMENSIONS

mm [in]




## MODEL CODE

**1CE150 - F - 6W - 35 - S - 3 - 377 - 210**

**Basic Code**

**1CE120 -** No housing
**1CE150 -** Cartridge and housing
**1CEE150 -** Cartridges and dual housing

**Adjustment Option**

**F -** External

**Housing**

| Code | Ports | Aluminum single | Steel single | Aluminum dual | Steel dual |
|---|---|---|---|---|---|
| **Omit** | No housing | | | | |
| **6W** | 3/4" BSP Valve & Cyl Port. 1/4" BSP Pilot Port | B6898 | B5544 | C2543 | C1200 |
| **12T** | 3/4" SAE Valve & Cyl Port. 1/4" SAE Pilot Port | B8200 | | C10629 | C16434 |
| **16T** | 1" SAE Valve & Cyl Port. 1/4" SAE Pilot Port | B10708 | B11814 | | |

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

**Pressure Range**

| Code | Bar | Psi |
|---|---|---|
| **35** | 70-350 | [3015-5000] |
| Standard Setting | 210 | [3000] |

Std. setting made at 4.5 l/min

**Seal Option**

| Code | Seal kit |
|---|---|
| **S-**Buna-N | SK417 |
| **SV-**Viton | SK417V |

**Pilot Ratio**

**3 -** 3.5:1

**Housing Material**

**Omit -** Aluminum/No housing
**377 -** Steel

**Pressure Setting**

**Code** Pressure setting in bar (10 bar increments within specified Pressure Range)
**XXX-**Standard setting (see Pressure Range for value)
Example:

| Code | Bar | Psi |
|---|---|---|
| **210** | 210 | [3000] |