

# Motion Control Valves

## 1CER90

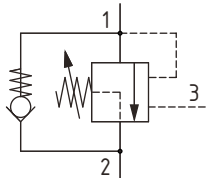
Overcenter Valve, Part Balanced, Direct Acting, Internal Drain, Port 3 Pilot

350 bar [5000 psi] • 90 l/min [24 US gpm]

### DESCRIPTION AND OPERATION

This is a direct acting 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 from port 2 to port 1 can take place freely 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. However, the balanced poppet design allows the relief valve to remain open provided the inlet pressure is higher than the setting. This is also available in a dual housing for bi-directional control.

### SCHEMATIC

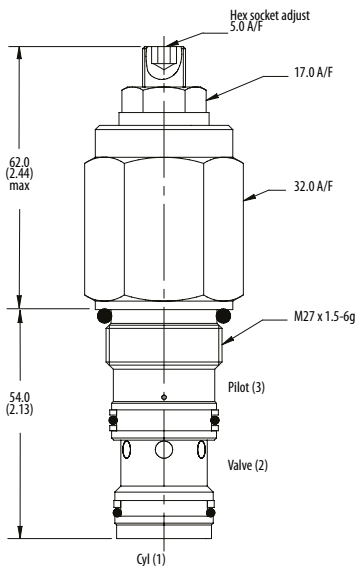


### PERFORMANCE DATA

|                                              |                          |
|----------------------------------------------|--------------------------|
| Rated pressure                               | 350 bar [5000 psi]       |
| Rated flow                                   | 90 l/min [24 US gpm]     |
| Max total relief pressure                    | 350 bar [5000 psi]       |
| Max recommended load pressure at max setting | 270 bar [3900 psi]       |
| Pilot Ratio                                  | 4:1                      |
| Leakage                                      | 0.3 ml/min [5 drops/min] |
| Weight                                       | 0.29 kg [0.63 lb]        |
| Cavity                                       | A12336                   |

### DIMENSIONS

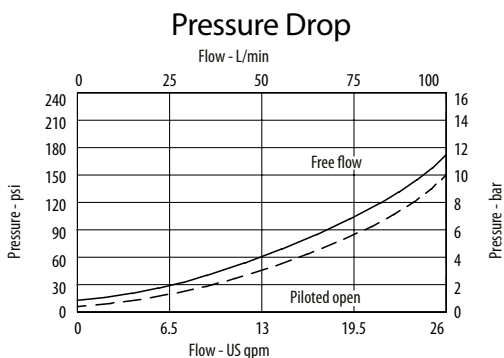
mm [in]



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  
60 Nm [44 ft. lbs]

### PERFORMANCE CURVES



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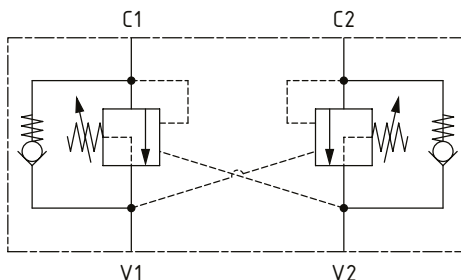
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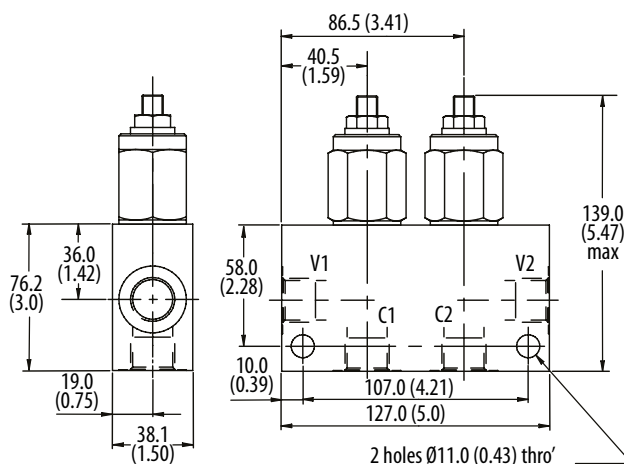
### ■ SCHEMATIC

1CEER95 (dual)



### ■ DIMENSIONS

mm [in]



### ■ MODEL CODE

**1CER95 - F - 4W - 35 - S - 4 - 377 - 210**

#### Basic Code

1CER90 - No housing  
1CER95 - Cartridge and housing  
1CEER95 - Cartridges and dual housing

#### Adjustment Option

F - External  
N - Non-adjustable option, contact technical support

#### Housing

| Code | Ports                                         | Aluminum single | Steel single | Aluminum dual | Steel dual |
|------|-----------------------------------------------|-----------------|--------------|---------------|------------|
| Omit | No housing                                    |                 |              |               |            |
| 4W   | 1/2" BSP Valve & Cyl Port 1/4" BSP Pilot Port | B13625          | B13626       | C13627        | C13628     |
| 8T   | 1/2" SAE Valve & Cyl Port 1/4" SAE Pilot Port | B10806          | B10922       | C10807        | C11561     |

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

#### 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] |

#### Housing Material

Omit - Aluminum/No housing  
377 - Steel

#### Pilot Ratio

4 - 4:1

#### Seal Option

| Code     | Seal kit |
|----------|----------|
| S-Buna-N | SK633    |
| SV-Viton | SK633V   |

#### Pressure Range

| Code             | Bar     | Psi         |
|------------------|---------|-------------|
| 20               | 70-225  | [1015-3260] |
| Standard Setting | 100     | [1450]      |
| 35               | 200-350 | [2900-5000] |
| Standard Setting | 210     | [3000]      |

Std setting made at 4.5 l/min