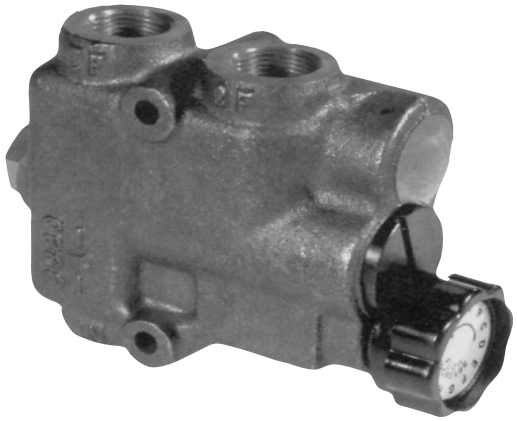
Bulletin HY14-2717-B1/US



# Series DC25 Priority-Type Flow Control Valve

Effective: February 1, 2004
Supersedes: Catalog No. GPA-1-200 dated 3/94

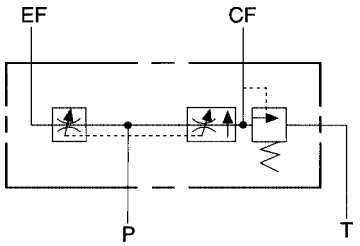
## Features

- Excess flow can be used in a secondary circuit.
- Differential poppet relief valve in the controlled-flow circuit.
- Adjustment offers 12 flow adjustment positions (positive detents) in 360° rotation of knob.
- Non-adjustable valve has an interchangeable orifice restrictor in the spool — to change flow, simply change orifice restrictor — not the spool.
- Hardened metering spool.
- 1- 26 GPM (3.8 - 76 LPM) capacity
- Up to 3500 PSI (242 Bar) operating pressure

## Description

The Parker Series DC25 Priority Flow Control is designed for applications where two separate hydraulic power circuits are to be served from a single pump. The Flow control provides priority flow to the primary circuit, and any excess flow to a secondary circuit or tank. With the excess flow port plugged, the valve will function as a restrictive-type, pressure compensated flow control.

An optional hand adjusting knob with 12 positive detent positions is available for readily adjusting the flow from 1 to 26 GPM (3.8 to 76 LPM) at the controlled flow port.




## Specifications

**Capacity (Nominal)**
Input Flow, up to 30GPM [113 litres/min]
Adjustable controlled-flow range, 1 to 26 GPM, [3,8 to 76 litres/min]
Non-adjustable controlled-flow Range, (14 orifice sizes available), 1-20 GPM, [3,8 to 62 litres/min]

**Operating Pressure:** 3500 PSI, (242 Bar) maximum.

**Minimum Operating Pressure Drop:** 70 PSI [4,8 Bar]

**Knob rotation** (full adjustment): 360°

**Accuracy of controlled-flow**: +/-10% (Accuracy of controlled-flows of less than 3 GPM [11 litres/min] will be slightly less)

**Temperature:** Under normal conditions of continuous operation, fluid temperature should not exceed 180°F (82°C). In no instance should the temperature exceed 200°F (93°C).

**Fluid Recommendations:** Premium grade hydraulic fluid with a viscosity of 60 SUS (10 CST) to 1000 SUS (216 CST) at operating temperature.

**Mounting Position:** Not restricted.

**Material:** High strength cast iron body.

**Filtration Recommended** (min): 33 micrometre

**Seals:** Buna-N is standard. For other seal compounds, consult factory.



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Elyria, Ohio, USA

## Operation

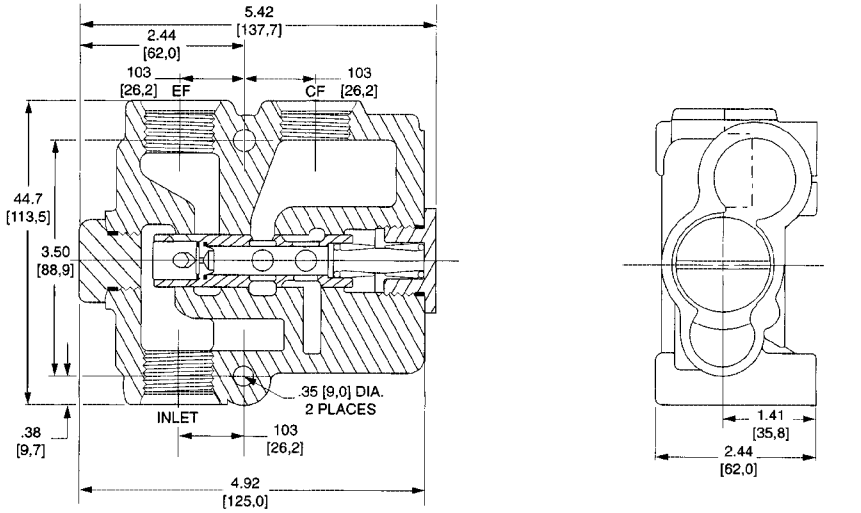
Flow enters the inlet port and passes through a control orifice. The control orifice is of fixed size in the non-adjustable unit or can be varied externally in the adjustable unit.

Flow through the control orifice causes a pressure drop, which is sensed across the compensator spool. Any tendency to exceed the flow setting increases this pressure drop causing the spool to shift and bypass the excess flow. If the secondary circuit (excess flow) pressure is greater than the controlled flow pressure, the spool will shift even farther and begin to throttle the controlled-flow to maintain the preset flow.

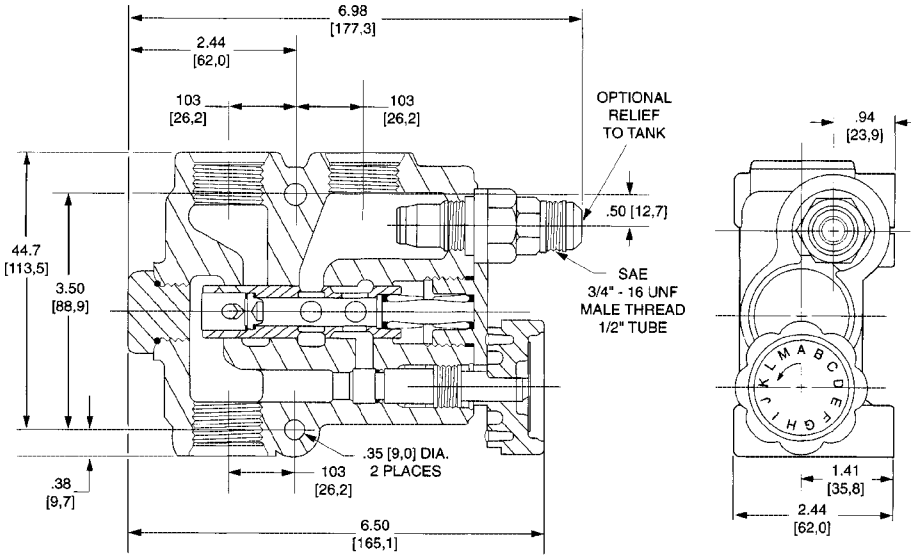
If the controlled-flow port is blocked, the compensator spool will return to the closed position allowing no flow through the valve. To protect the system, if this condition occurs, an optional differential poppet relief valve may be installed in the controlled-flow circuit to insure flow to the secondary circuit under all operating conditions.

## DIMENSIONS

**MODEL DC25**
**NON-ADJUSTABLE**
LESS RELIEF VALVE




**MODEL DC25**
**ADJUSTABLE**
WITH RELIEF VALVE




All dimensions are in inches (millimeters) and are for reference only.



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# ORDER CODE

## MODEL NO. DC25 N - 10 - 6 - R - 2000 PSI

| FLOW CONTROL | |
|---|---|
| **A** | Adjustable |
| **N** | Non-Adjustable |

| PORT SIZES* IN, CF and EF PORTS ONLY | |
|---|---|
| **10** | SAE 10 (7/8" – 14 UNF) |
| **12** | SAE 12 (1-1/16" – 12 UNF) |
| **50** | 1/2" – 14 NPT |
| **75** | 3/4" – 14 NPT |
| **51** | 1/2" – 14 BSP |
| **71** | 3/4" – 14 BSP |

*Relief tank port available only with SAE 8 (3/4" – 16 UNF Male Thread) 1/2" Tube.

NOTES:
1. NPT pipe ports are not recommended for pressures above 2000 PSI (1.38 bar).
2. All ports in the housing must be the same type. SAE, BSP and NPT cannot be intermixed.

| PRE-SET FLOW FROM CONTROLLED-FLOW WORK PORT | |
|---|---|
| **0** | Adjustable |
| **1** | 1 GPM [3,8 litres/min] |
| **1.5** | 1.5 GPM [5,7 litres/min] |
| **2** | 2 GPM [7,6 litres/min] |
| **3** | 3 GPM [11,3 litres/min] |
| **4** | 4 GPM [15,1 litres/min] |
| **5** | 5 GPM [18,8 litres/min] |
| **6** | 6 GPM [22,7 litres/min] |
| **7** | 7 GPM [26,5 litres/min] |
| **8** | 8 GPM [30,3 litres/min] |
| **9** | 9 GPM [34,0 litres/min] |
| **10** | 10 GPM [37,9 litres/min] |
| **12** | 12 GPM [45,4 litres/min] |
| **14** | 14 GPM [53,0 litres/min] |
| **16** | 16 GPM [60,6 litres/min] |
| 18 | 18 GPM |
| 20 | 20GPM |

Specify cracking pressure for relief valve setting

| RELIEF VALVE | |
|---|---|
| **R** | Relief* |
| **NR** | No Relief |

*Unless otherwise specified, relief valve will be set at 1500 PSI [103 bar] (Crack).



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3C, 3/04, PHD