

## OPERATION

PFD10-OD: Proportional Flow Divider, 10 Size, Normally Open, Divider

This is a proportional, compensated, normally open, flow dividing, pre-engineered HIC. When there is no current applied to the coils, the inlet flow is divided equally between ports A and B. As an example, if inlet flow is 40 LPM, the flow out Ports A and B will divide equally 20 LPM. The performance curve below shows input flow examples of 40, 20 and 10 LPM. Minimum inlet flow is 10 LPM (2.6 GPM). The flow ratio between ports A and B will proportionally vary as current is provided to coils S1 or S2. As current increases to coil S2, the flow to Port B will proportionally increase, while Port A decreases, as shown in the graph. Inversely, as current increases to coil S1, the flow to Port A will proportionally increase, while Port B decreases.

Note that this is not a combiner, the flow only exits Ports A and B. Connect the drain port DR to tank, limiting the pressure on this port to 50 bar (720 psi).



Shown with Deutsch Coils

## APPLICATIONS

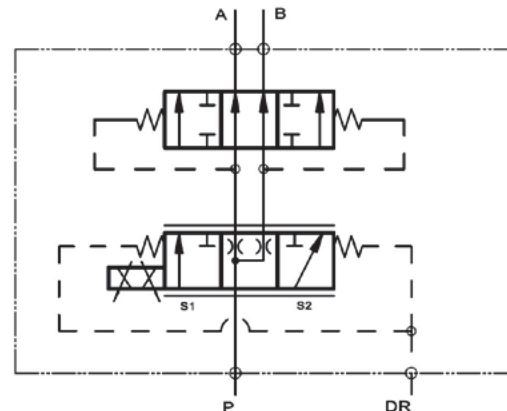
Proportionally divide the input flow between two motors or hydraulic circuits (like HICs). Circuits that can take advantage of this pre-engineered HIC include any function where the motors or the HICs continuously require flow, and you only need to proportionally manage the amount of flow between them. Achieve repeatable, load-independent flow dividing with the built-in pressure compensator. See performance curve below for compensation capabilities.

Note: For optimal performance, install with the solenoid valve in the horizontal position, reducing the chance for trapped air in the valve.

## SPECIFICATIONS

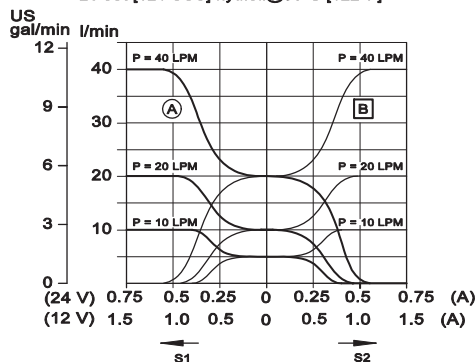
|                                    |                               |          |
|------------------------------------|-------------------------------|----------|
| <b>Rated Pressure</b>              | 230 bar [3335 psi]            |          |
| <b>Maximum Rated Flow</b>          | 40 l/min<br>[10.6 US gal/min] |          |
| <b>Maximum Pressure in Port DR</b> | 50 bar<br>[720 psi]           |          |
| <b>Minimum Inlet Flow</b>          | 10 l/min [2.6 US gal/min]     |          |
| <b>Weight including Coil</b>       | 1.15 kg [2.53 lb]             |          |
| <b>Coil</b>                        | M16                           | 26 Watts |
| <b>Coil Voltage</b>                | 12 V                          | 24 V     |
| <b>Max. Control Current</b>        | 1.5 Amp                       | 0.75 Amp |
| <b>Hysteresis</b>                  | < 4%                          |          |

## Schematic

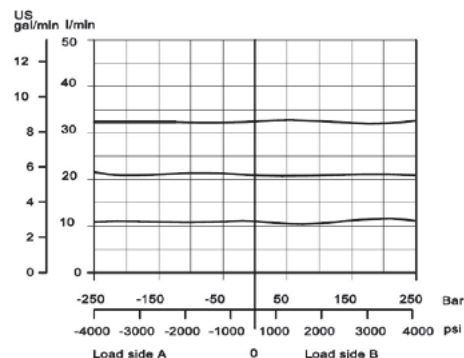


## Performance Curves

Flow dividing example curves showing the flow relationship between port A and B as the current varies between the S1 and S2 coils.  
26 cSt [121 SUS] hyd.oil@50°C [122°F]



Flow compensation from Inlet to port A and B with load.  
26 cSt [121 SUS] hyd.oil@50°C [122°F]





# Proportional Valves Catalog

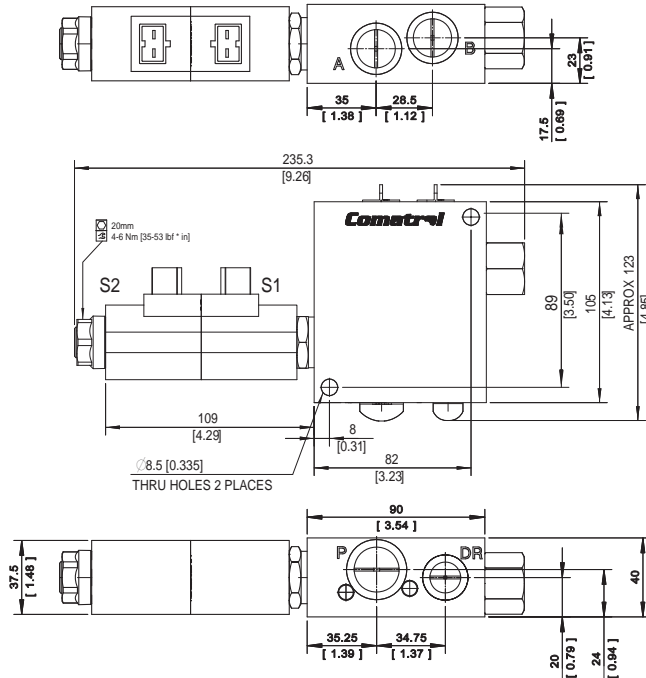
## Proportional Flow Divider

### PFD10-OD

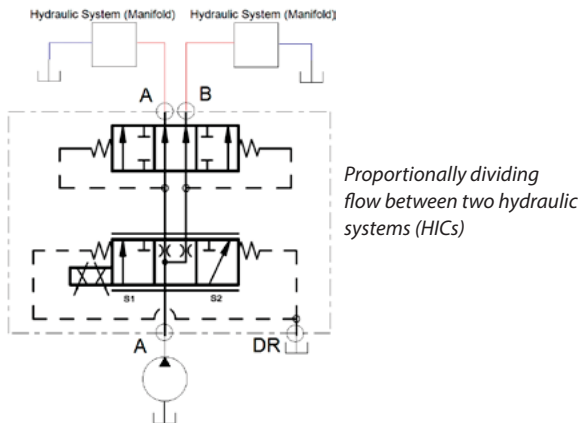
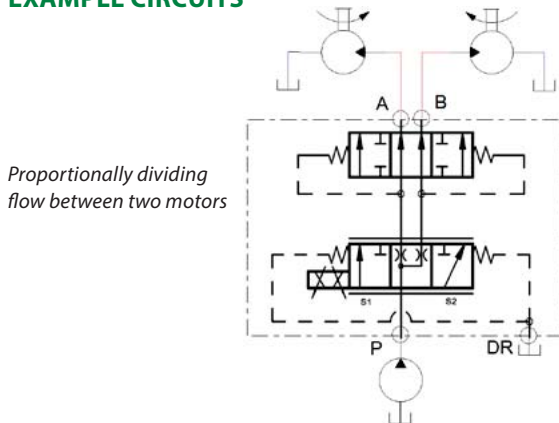


### DIMENSIONS

mm [in]



### EXAMPLE CIRCUITS



### ORDERING INFORMATION

**PFD10-OD-40-24D-AJ-B-4B**

Proportional Flow Divider, 10 Size, Normally Open, Dividing

Max inlet flow 40l/min

Coil voltage  
12D = 12V DC  
24D = 24V DC

Coil termination  
FL = Flying Lead  
DN = ISO 4400 (DIN 43650)

DE = Deutsch  
AJ = Amp Junior  
AS = Amp SuperSeal 1.5 and Metri-Pack 150 type 1

Body and Ports

4B = Aluminum, 1/2(P), 3/8(A,B), 1/4(D) BSPP  
10S = Aluminum, #10 (P), #8(A,B), #6 (D) SAE

Seals

B = Buna-N seals  
V = Viton seals

Seal Kit

35400191 For each valve in Manifold  
35400201 For each valve in Manifold

Proportional Valves  
PFD10-OD