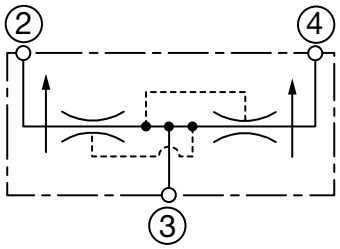
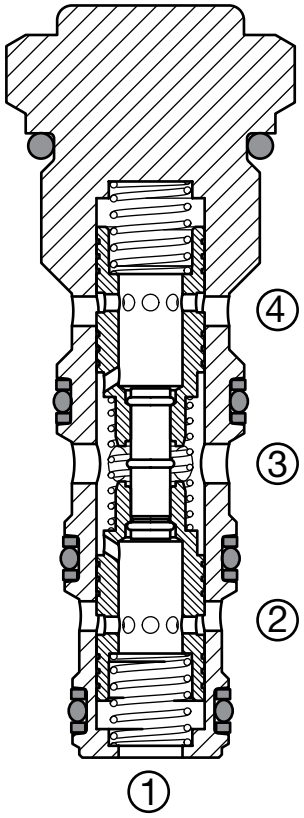
ST10-01

Flow Divider/Combiner, Spool Type

Up to 12 gpm (45 l/min) • 5000 psi (350 bar)

Hydraulic Symbol





Description

A screw-in cartridge, spool type, pressure compensated flow divider/combiner.

Operation

In the dividing mode, ST10-01 divides the input flow on port 3 between ports 2 and 4, based on the specified ratio, regardless of the operating pressure. In the combining mode, the flow from ports 2 and 4 will be combined into port 3. The division or combining will be maintained even if unequal loads are placed on ports 2 and 4.

The ST10-01 provides synchronizing flow in both combining and dividing modes at bottomed conditions in cylinder applications and at stalled conditions in motor applications. This feature is useful in hydraulic circuits that require cylinders to move at the same time. If one cylinder bottoms out first, the opposite cylinder is provided with a synchronizing flow to allow that cylinder to bottom before both cylinders start moving in the opposite direction.

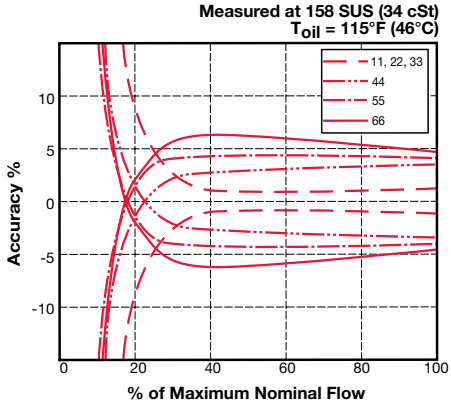
Features

- All external surfaces zinc-plated
- Hardened parts to ensure minimal wear and extend service life
- One piece body maximizes reliability and minimizes the effects of eccentricity
- High accuracy operation
- Wide flow range down to 25% of nominal flow rating
- Low pressure drop
- Provides re-synchronizing flow after completion of the actuator cycle
- Industry common cavity

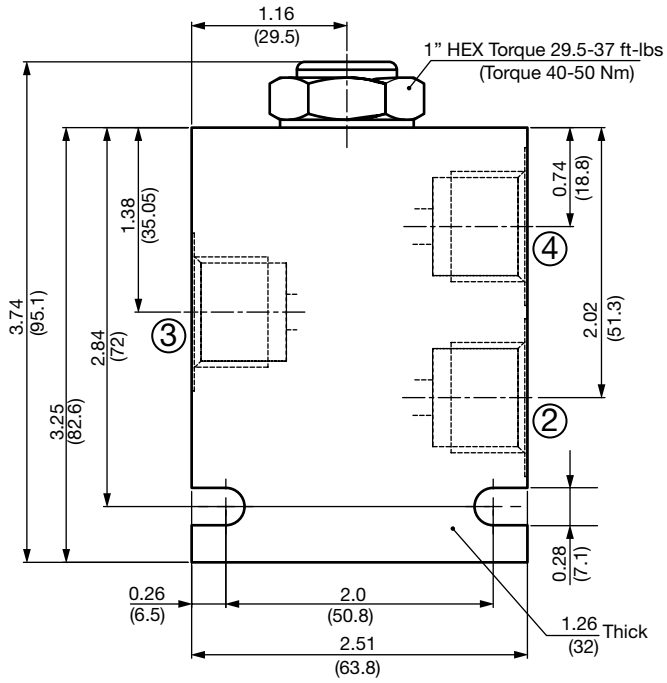
Specifications

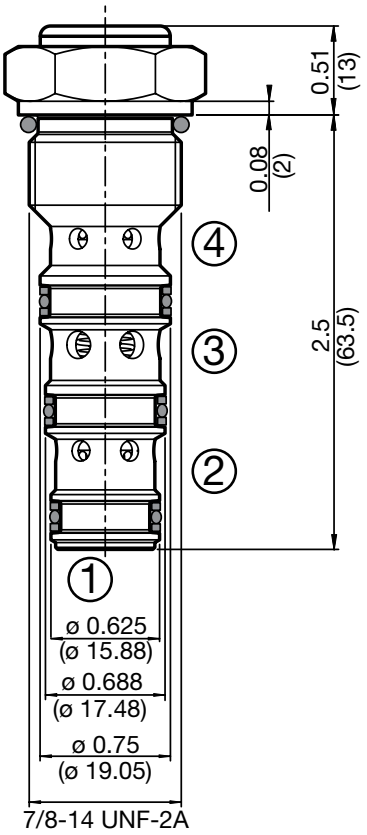
Operating Pressure	5000 psi (350 bar)
Max. Input Flow	12 gpm (45 l/min)
Inlet Flow Options	2 gpm (7.6 l/min) 4 gpm (15.2 l/min) 6 gpm (22.8 l/min) 8 gpm (30.4 l/min) 10 gpm (37.8 l/min) 12 gpm (45.6 l/min)
Minimum Input Flow	Not less than 25% of Nominal Input flow
Fluid Operating Temp. Range	-4° to 248°F (-20° to +120°C) *(Consult factory for usage at temp. outside range.)*
Fluid Compatibility	Mineral-Based or Synthetics with lubricating properties
Viscosity	50 to 2000 SUS (7.4 to 420 cSt)
Filtration	21/19/16 or cleaner (per ISO 4406). Use with filter rated ß10 ≥ 200.
Installation	No orientation restrictions
Cavity	FC10-4 *(see Line Bodies & Cavities section)*
Cavity Tools	Rougher: 02580249 Finisher: 02582048
Cartridge Weight	0.27 lb (.122 kg)
Cartridge Material	Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N or Viton® o-rings, and PTFE back-up rings.
Seal Kits Buna-N Viton®	FS104-N P/N: 03051912 FS104-V P/N: 03071275

Flow Division Accuracy



Dimensions





All measurements in inches (mm).
Subject to technical modifications

Model Code

ST10-01-C-N-22

Valve Model

Body & Ports
- C = No Line Body, cartridge only
- AS8 = SAE-8 ports, aluminum body
- SS8 = SAE-8 ports, steel body

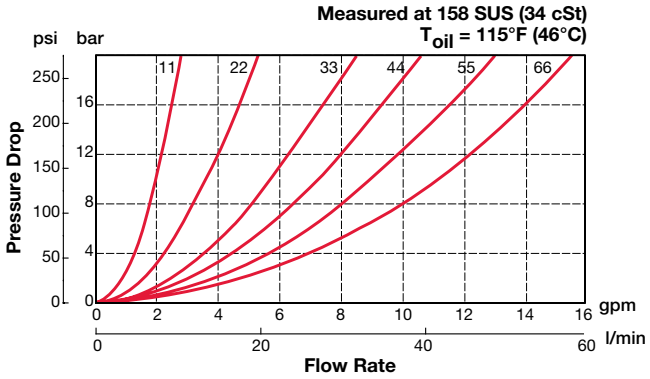
Seals
- N = Buna-N
- V = Viton®

Flow Rate & Range

Code	Ratio Port 3 (%)	Ratio Port 4 (%)	Max. inlet flow gpm (l/min)	*Synchronization flow rate	
				Combining gpm (l/min) 2 - 4	Dividing gpm (l/min) 2 - 4
11	50	50	2 (7.6)	0.18 (0.7)	0.18 (0.7)
22	50	50	4 (15.2)	0.34 (1.3)	0.30 (1.1)
33	50	50	6 (22.8)	0.60 (2.3)	0.55 (2.1)
44	50	50	8 (30.4)	0.68 (2.6)	0.74 (2.8)
55	50	50	10 (37.8)	0.79 (3.0)	0.89 (3.4)
66	50	50	12 (45.6)	1.37 (5.2)	0.82 (3.1)

**at 100 bar (1450 psi)*

Performance



Standard Line Bodies*

Code	Part No	Material	Pressure Rating	Weight
FH1041-AS8**	02593311	Aluminum, anodized	3500 psi (245 bar)	0.34 lbs (0.15 kg)
FH1041-SS8**	02593312	Steel, Zinc plated	6000 psi (420 bar)	1.00 lbs (0.45 kg)

**Please refer to Line Bodies & Cavities section for details*

***Standard line body (FH104) port 1 must be plugged when used with ST10. Use SAE-8 plug, HYDAC part #02580005*