

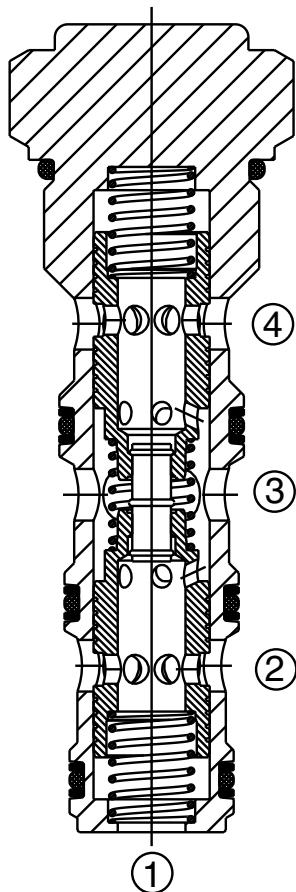
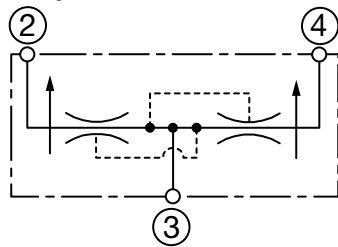
# FLOW CONTROL VALVES

## ST16-01

### Flow Divider/Combiner, Spool Type

Up to 40 gpm (150 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, ST16-01 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 ST16-01 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 the synchronizing flow to allow that cylinder to bottom before both cylinders start moving in the opposite direction.

#### Features

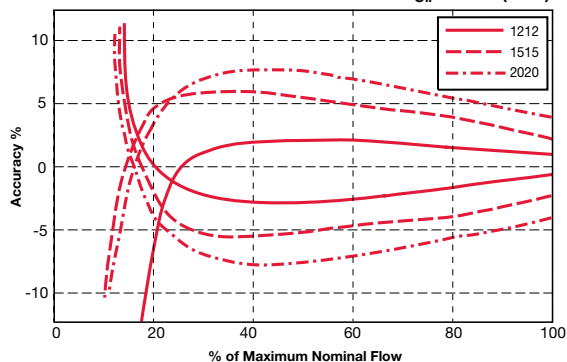
- High accuracy operation
- Low pressure drop
- Wide flow range down to 25% of nominal flow rating
- Provides re-synchronizing flow after completion of the actuator cycle
- All external surfaces zinc-plated
- Hardened parts to ensure minimal wear and extend service life
- One-piece body maximizes reliability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

#### Specifications

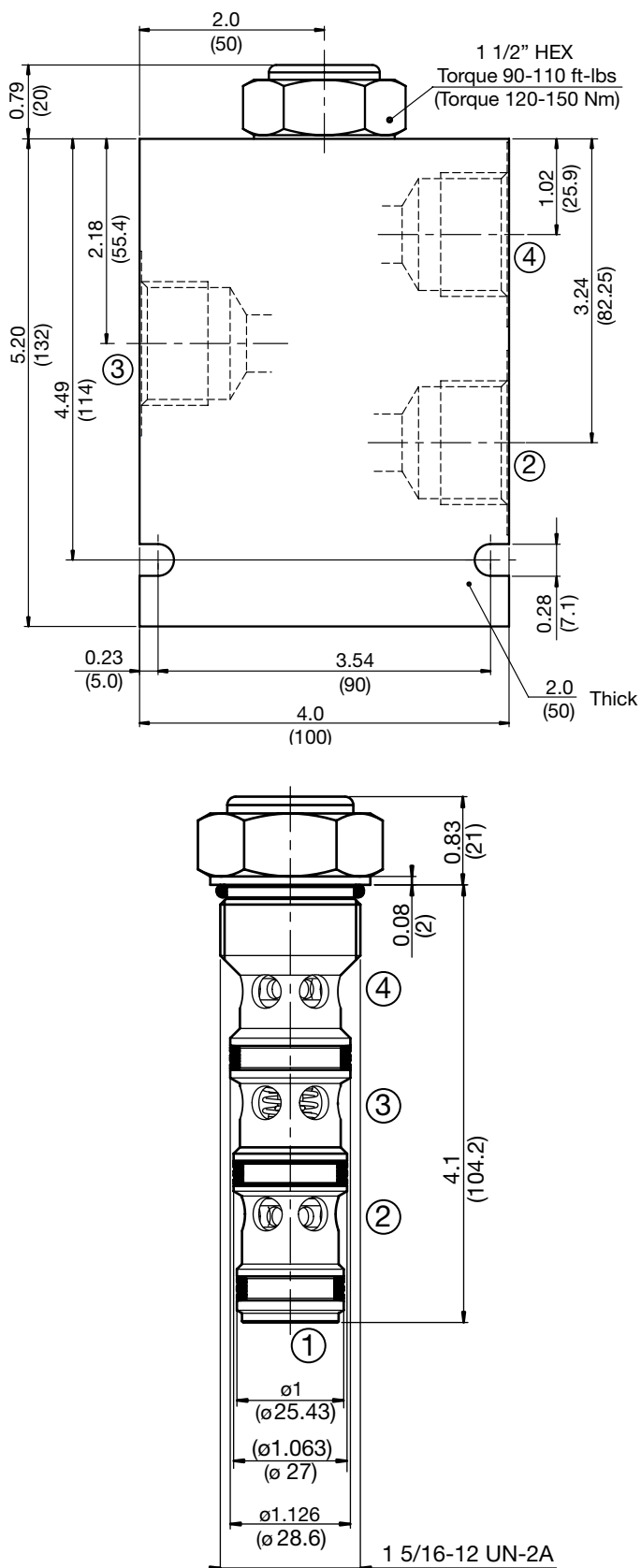
Operating Pressure	5000 psi (350 bar)	
Maximum Input Flow	40 gpm (150 l/min)	
Inlet Flow Options	24 gpm (90 l/min) 30 gpm (115 l/min) 40 gpm (150 l/min)	
Minimum Input Flow	Not less than 25% of Nominal Input flow	
Fluid Operating Temp. Range	-4° to 248°F (-20° to +120°C) <i>(Consult factory for usage at temp. outside range.)</i>	
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 $\beta_{10} \geq 200$ .	
Installation	No orientation restrictions	
Cavity	FC16-4 (see <i>Line Bodies &amp; Cavities</i> section)	
Cavity Tools	Rougher: 02580253 Finisher: 02580252	
Cartridge Weight	1.02 lb (.465 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	FS164-N P/N: 03181644
	Viton®	FS164-V P/N: 03181675

#### Flow Division Accuracy

Measured at 158 SUS (34 cSt)  
T<sub>oil</sub> = 115°F (46°C)



## Dimensions



## Model Code

**ST16-01-C-N-2020**

### Valve Model

### Body & Ports

- C = No Line Body, cartridge only
- AS16 = SAE-8 ports, aluminum body
- SS16 = SAE-8 ports, steel body

### Seals

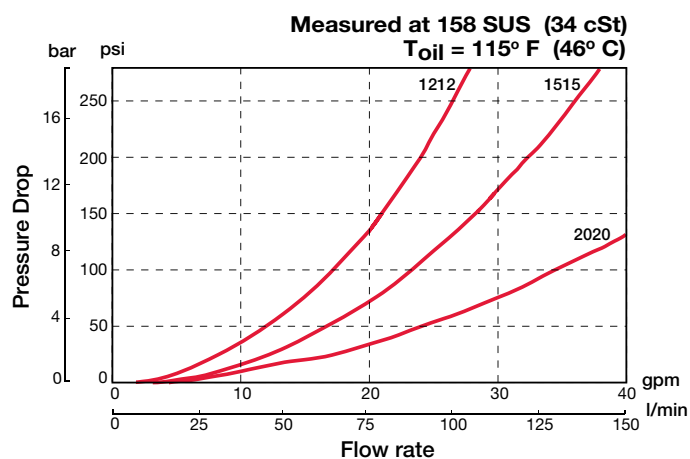
- N = Buna-N
- V = Viton®

### Flow Rate & Range

Code	Ratio Port 3 (%)	Ratio Port 4 (%)	Max. inlet flow gpm (l/min)	*Synchronization flow rate gpm (l/min)
1212	50	50	24 (90)	1.8 (6.7)
1515	50	50	30 (115)	2.2 (8.3)
2020	50	50	40 (22.8)	2.6 (9.8)

\*at 100 bar (1450 psi)

## Performance



## Standard Line Bodies\*

Code	Part No	Material	Pressure Rating	Weight
FH1641-AS16**	02593313	Aluminum, anodized	3500 psi (245 bar)	3.00 lb (1.36 kg)
FH1641-SS16**	02593314	Steel, Zinc plated	6000 psi (420 bar)	8.8 lb (4.00 kg)

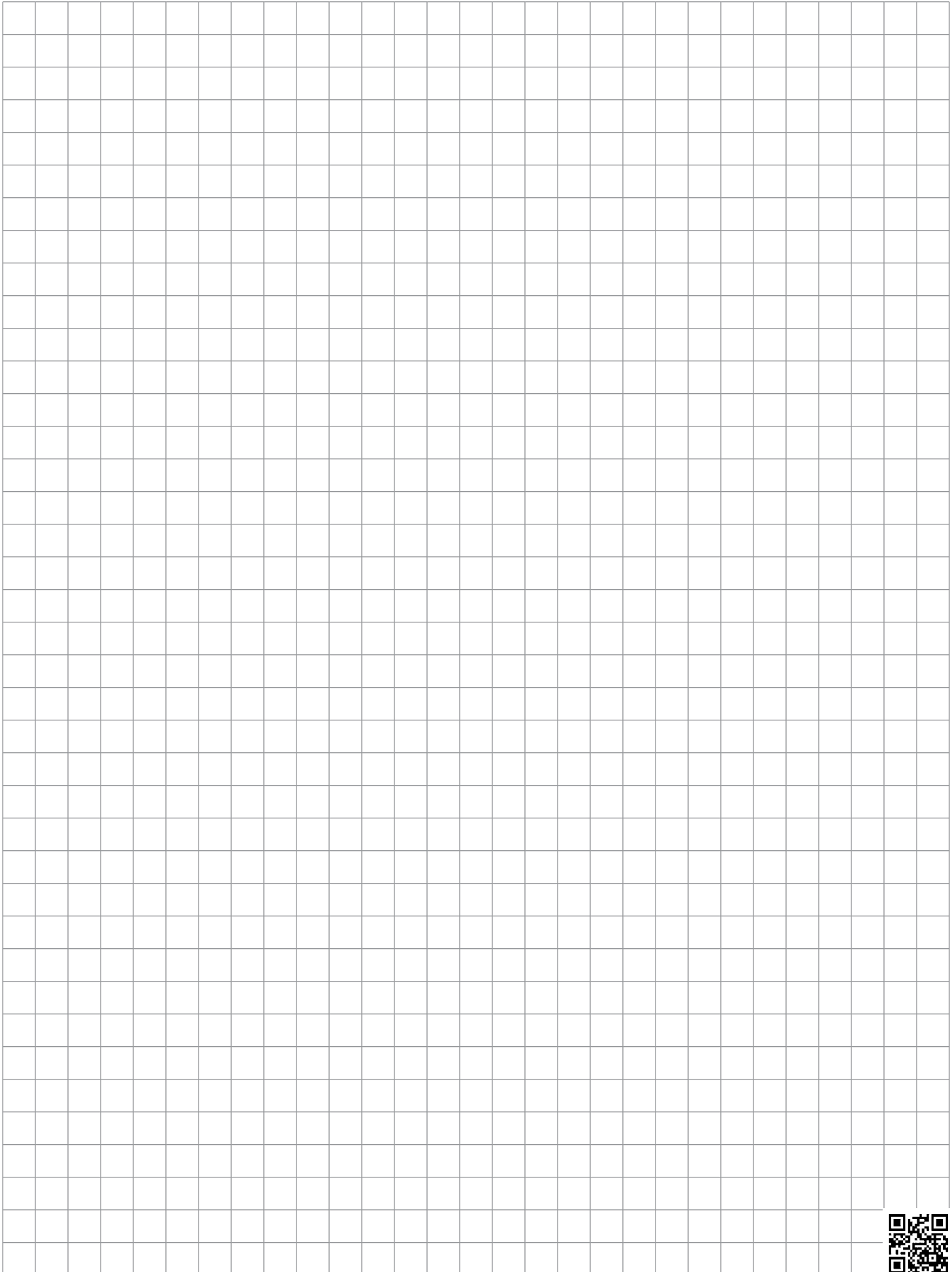
\*Please refer to Line Bodies & Cavities section for details

\*\*Standard line body (FH164) port 1 must be plugged when used with ST16. Use SAE-16 plug, HYDAC part #02581224.

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

# FLOW CONTROL VALVES

## Notes

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares. A solid red vertical bar is located on the left side of the page, partially overlapping the grid.