



Flow dividers are sliding-spool, pressure-compensated devices used to split oil flow to two different branches of a circuit in a designated ratio. These valves are suitable for applications that use the following: unidirectional hydraulic motors, hydraulic cylinders where flow division in one direction only is required, and multiple circuits that are serviced from one pump supply.

TECHNICAL DATA NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Cavity	T-31A
Series	1
Capacity	.6 - 3 gpm
Maximum Operating Pressure	5000 psi
Divisional Accuracy at Max Input Flow	±2.5%
Divisional Accuracy at Minimum Input Flow	±4.5%
Pressure Drop at Maximum Rated Input Flow	250 psi
Pressure Drop at Minimum Rated Input Flow	30 psi
Rated Input Flow with 33/67 Split	.45 - 2.2 gpm
Rated Input Flow with 40/60 Split	.5 - 2.5 gpm
Rated Input Flow with 50/50 Split	.6 - 3 gpm
Valve Hex Size	7/8 in.
Valve Installation Torque	30 - 35 lbf ft
Model Weight	0.34 lb.
Seal kit - Cartridge	Buna: 990-031-007
Seal kit - Cartridge	Polyurethane: 990-031-002
Seal kit - Cartridge	Viton: 990-031-006

OPTION SELECTION EXAMPLE: FSBDXAN

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A 50/50 B 40/60 C 33/67	N Buna-N V Viton	Standard Material/Coating IAP Stainless Steel, Passivated

TECHNICAL FEATURES

- All flow divider and divider/combiner cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size).
- Operating characteristics cause the leg of the circuit with the greatest load to receive the higher percentage of flow in dividing mode. If a rigid mechanism is used to tie actuators together, the lead actuator may pull the lagging actuator and cause it to cavitate.
- In applications involving rigid mechanisms between multiple actuators, operating inaccuracy will cause the eventual lock-up of the system. If the mechanical structure is not designed to allow for the operating inaccuracy inherent in the valve, damage may occur.
- In motor circuits, rigid frames or mechanisms that tie motors together, and/or complete mechanical synchronized motion of the output shaft of the motors, either by wheels to the pavement or sprockets to conveyors, will contribute to cavitation, lock-up and/or pressure intensification.
- Variations in speed and lock-up can be attributed to differences in motor displacement, motor leakage, wheel diameter variance and friction of wheels on the driving surface.
- This valve is a divider only; any attempt to flow backwards through the valve is not advised.
- Dividers with unequal ratios have the higher flow at port 4.
- Below the minimum flow rating there is not enough flow for the valve to modulate. It is effectively a tee. If flow starts at zero and rises, there will be no dividing control until the flow reaches the minimum rating.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

PERFORMANCE CURVES

Split	Input Flow		Rated Accuracy	Maximum Possible Flow Variations	
				High Flow Leg	Low Flow Leg
50:50	Max Rated	3 gpm 11 L/min	±2.5%	1.42 - 1.58 gpm	
	Min rated	6 gpm 2.5 L/min		27 - 33 gpm 1.1 - 1.4 L/min	
40:60	Max Rated	2.5 gpm 9.5 L/min	±2.5%	1.44 - 1.56 gpm	.94 - 1.06 gpm
	Min rated	5 gpm 2.8 L/min		28 - 32 gpm 1.6 - 1.8 L/min	.18 - .22 gpm 1.0 - 1.2 L/min
33:67	Max Rated	2.2 gpm 8.5 L/min	±2.5%	1.42 - 1.53 gpm	.67 - .78 gpm
	Min rated	4.5 gpm 1.7 L/min		28 - 32 gpm 1.06 - 1.22 L/min	.13 - .17 gpm 0.48 - 0.64 L/min

The maximum variation is at 5000 psi (350 bar) differential between legs with the high pressure leg being the higher flow.