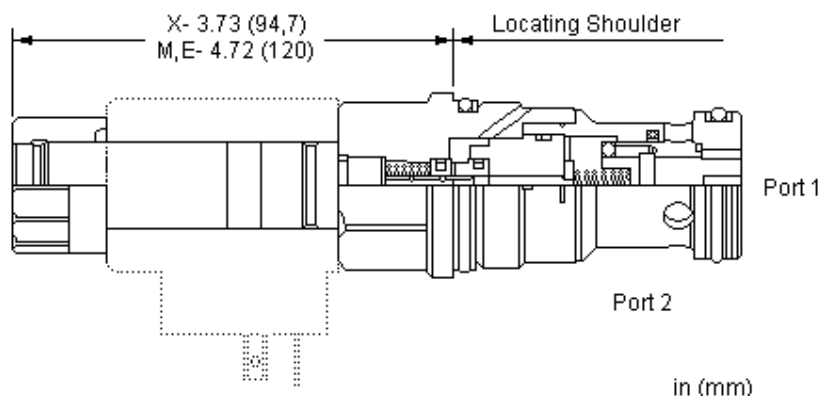
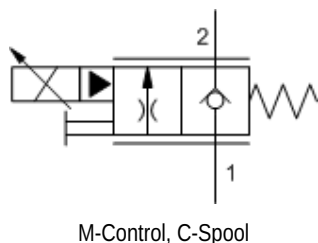
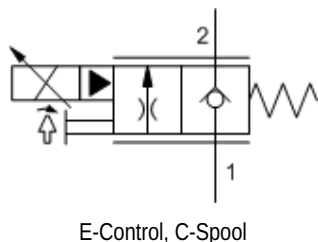
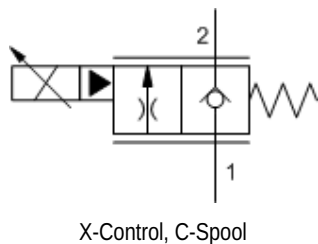




This valve is a pilot operated, normally closed, electro-proportional throttle with reverse free flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally. Metered flow is from port 1 to port 2 with reverse free flow from port 2 to port 1.

TECHNICAL DATA

Recommended dither frequency	100 Hz
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Deadband, nominal (as a percentage of input)	25%
Manual Override Stroke	1,50 mm
Seal kit - Cartridge	Buna: 990-016-007
Seal kit - Cartridge	Polyurethane: 990-016-002
Seal kit - Cartridge	Viton: 990-016-006

CONFIGURATION OPTIONS

Model Code Example: FPHKXCN

CONTROL	(X) FLOW RATE	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Nominal 40 gpm @ 200 psi (14 bar) differential (160 L/min.)	N Buna-N	No coil
E Twist (Extended) Manual Override	A Nominal 20 gpm @ 200 psi (14 bar) differential (80 L/min.)	E EPDM	212 DIN 43650 3 pin (Hirschman), 12 VDC
M Manual Override	E Nominal 60 gpm @ 200 psi (14 bar) differential (240 L/min.)	V Viton	224 DIN 43650 3 pin (Hirschman), 24 VDC
			712 Twin Lead, 12 VDC
			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC

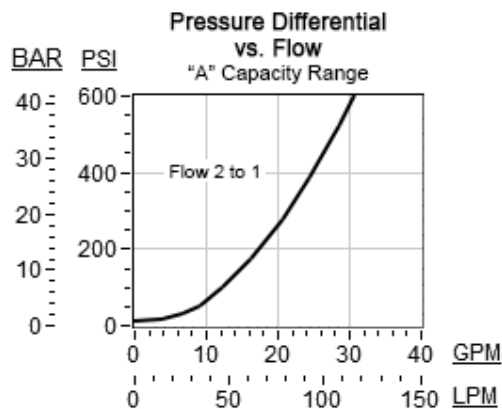
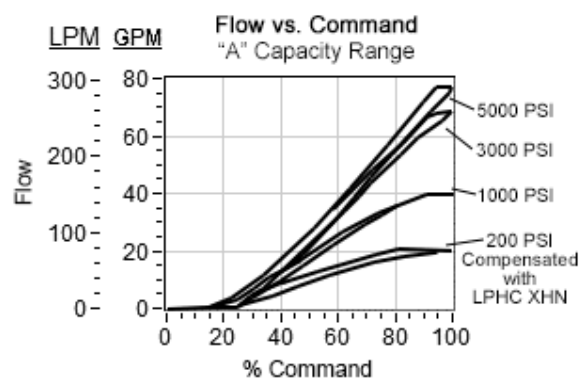
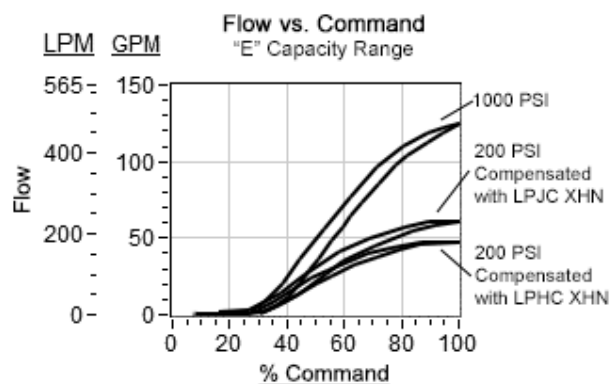
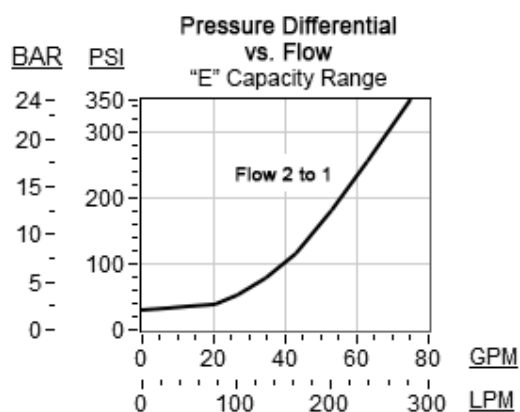
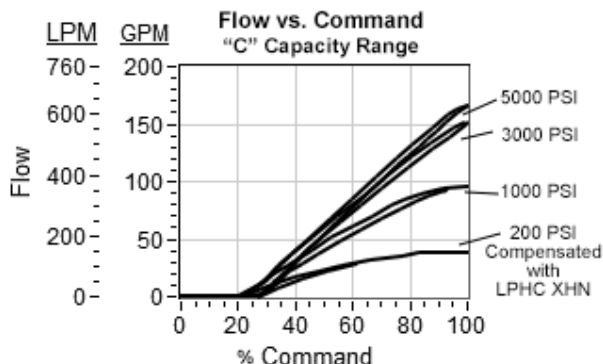
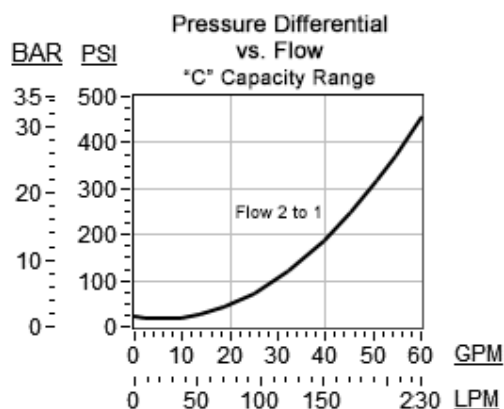
* Additional coil options are available

TECHNICAL FEATURES

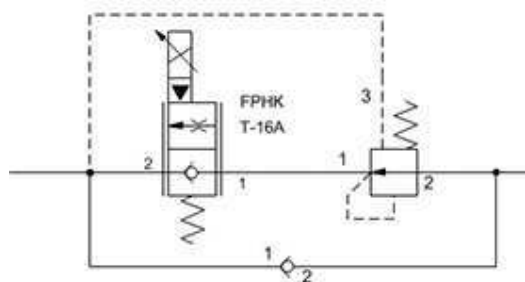
- Capable of operating with pressures up to 5000 psi.
- Coils are interchangeable with Sun's other full flow, solenoid-operated valves and can be mounted on the tube in either direction.
- This cartridge has several manual override choices, including no manual override. See Option Configuration.
- For optimum performance, an amplifier with current sensing and adjustable dither should be used. Dither should be adjustable between 100 - 250 Hz.
- The momentary/twist override option "E" allows the operator to shift the valve by twisting the manual override clockwise 90 degrees.
- Cartridges configured with EPDM seals are for use in systems with phosphate ester fluids. Exposure to petroleum based fluids, greases and lubricants will damage the seals.
- Spool capacities rated at 200 psi (14 bar) differential and maximum rated coil current.
- Maximum Deadband (as a percentage of command) A Flow Rate = 39% C Flow Rate = 30% E Flow Rate = 46%
- Maximum Hysteresis at 200 psid (14 bar) A Flow Rate = 5 gpm (20 L/min.) C Flow Rate = 6 gpm (23 L/min.) E Flow Rate = 13 gpm (49 L/min.)
- Minimum Capacity at 1000 psid (70 bar) A Flow Rate = 35 gpm (140 L/min.) C Flow Rate = 80 gpm (320 L/min.) E Flow Rate = 110 gpm (416 L/min.)

- Depending on circuit requirements, a reverse free flow check bypassing the compensator may be needed when using the FPHK with an external compensator.
- 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



Example Circuit Using External Compensator



RELATED ACCESSORIES

- [991-238](#) Momentary/twist operation, extended resolution, manual override control kit, E control

- [991-240](#) Red momentary/twist operation, manual override control kit, T control
- [991-241](#) Red detent/lock operation, manual override control kit, L control
- [991-242](#) Red dual twist/lock operation, manual override control kit, D control
- [991-243](#) Red momentary/twist operation, extended resolution, manual override control kit, E control