

Fixed setting, 3:1 pilot ratio, load reactive load control valve

Capacity:
120 gpm (480 L/min.)

Functional Group:

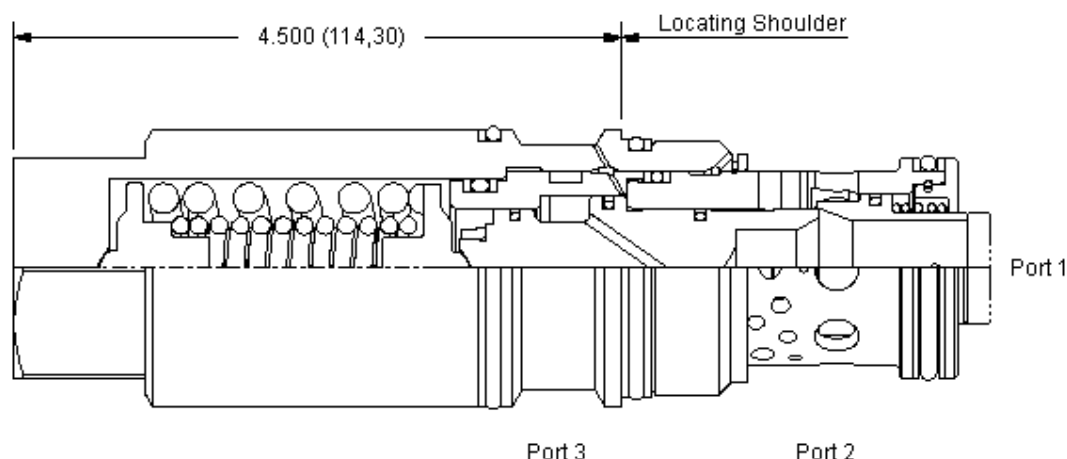
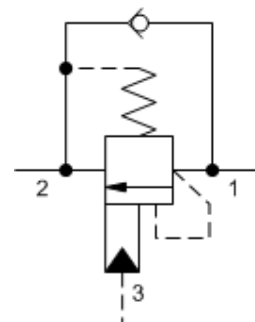
Products : Cartridges : Load Control Valve, Load Reactive : 3 Port, Non-Vented, Fixed Setting : 3:1 Pilot Ratio

Model:

MBIAX

Product Description

Fixed setting, load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.



Technical Features

- The maximum recommended load pressure for the K range is 2300 psi (154 bar). The highest cracking pressure for the K range will be less than 3350 psi (210 bar).
- The maximum recommended load pressure for the L range is 3075 psi (215 bar). The highest cracking pressure for the M range will be less than 4350 psi (300 bar).
- The maximum recommended load pressure for the M range is 3850 psi (270 bar). The highest cracking pressure for the M range will be less than 5350 psi (370 bar).
- Note: The pressures listed under RANGE are approximate, mean values and should not be used for inspection purposes.
- Note: The percentage difference between the cracking and reseal values for the fixed and adjustable versions are identical. However, the cracking point for the adjustable control can be set via the adjustment mechanism to within +/- 50 psi (3,5 bar) of the specified value. In the case of the fixed -version, the setting tolerance can only be maintained within a +/- 350 psi (20 bar) range.
- This valve is functionally a 3 port counterbalance valve. It seats as a poppet valve and modulates as a spool valve offering the best of both worlds.
- These valves are capable of modulating over a broader range of flows than the pure poppet designs. The longer stroke allows us to incorporate a uni-directional damping device that smooths the opening and lets the valve close quickly.
- This valve has full relief capacity.
- Fixed-setting load control valves offer a shorter cartridge extension than the adjustable version.
- Fixed-setting load control valves can be used to protect cylinder seals in outrigger circuits from damage due to thermal expansion, however, they probably should not be applied in circuits in which a matched valve setting may be required such as dual cylinder applications.

Thus for the 3000 psi (210 bar) fixed-setting model, with a rising pressure the valve will open below 3350 psi (230 bar) and with a

falling pressure will reseal above 2500 psi (170 bar).

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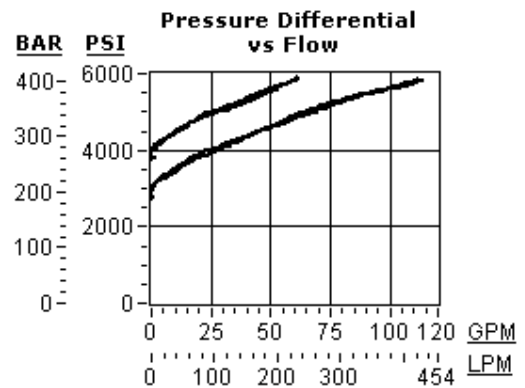
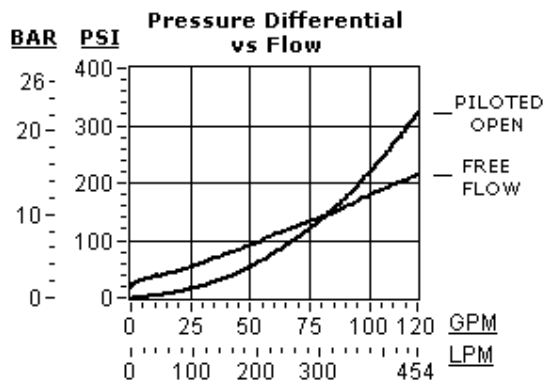
For the 4000 psi (275 bar) fixed-setting model, with a rising pressure the valve will open below 4350 psi (300 bar) and with a falling pressure will reseal above 3100 psi (215 bar).

For the 5000 psi (350 bar) fixed-setting model, with a rising pressure the valve will open below 5350 psi (370 bar) and with a falling pressure will reseal above 4000 psi (275 bar).

- All 3-port counterbalance, load control, and pilot-to-open check cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size).
- This valve has positive seals between all ports.
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Sun load control cartridges can be installed directly into a cavity machined in an actuator housing for added protection and improved stiffness in the circuit.
- 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.

Technical Data

	U.S. Units	Metric Units
Cavity	T-19A	
Capacity	120 gpm	480 L/min.
Pilot Ratio	3:1	
Check Cracking Pressure	25 psi	1,7 bar
Factory Pressure Settings Established at	2 in ³ /min.	30 cc/min.
Maximum Operating Pressure	5000 psi	350 bar
Maximum Valve Leakage at Reseat	5 drops/min.	0,3 cc/min.
Series (from Cavity)	Series 4	
Reseat	>85% of Set Pressure	
Valve Hex Size	1 5/8 in.	41,3 mm
Valve Installation Torque	350 - 375 lbf ft	475 - 500 Nm
Seal Kits - Cartridge	Buna: 990-019-007	
Seal Kits - Cartridge	Viton: 990-019-006	
Model Weight	4.24 lb.	1.92 kg.



MBIA-XLN

Factory Set

Standard Options

- K** 3000 psi (210 bar)
- L** 4000 psi (280 bar)
- M** 5000 psi (350 bar)

Seal Material

Standard Options

- N** Buna-N
- V** Viton