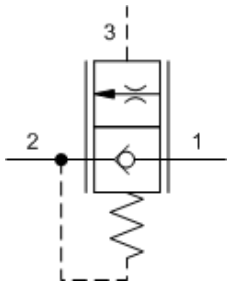
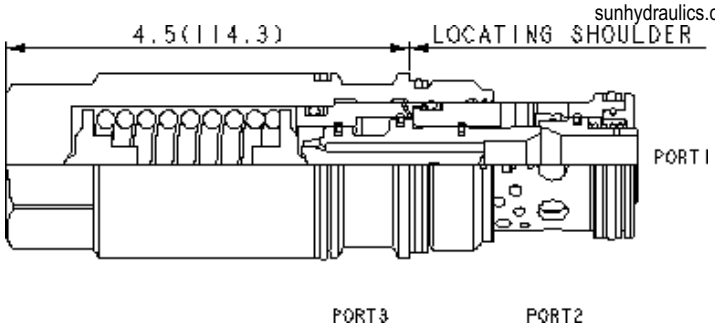
MODEL
MBIM

Balanced, load control valve
SERIES 4 / CAPACITY: 480 L/min. / CAVITY: T-19A

sunhydraulics.com/model/MBIM





CONFIGURATION

X	Control	Not Adjustable
K	Minimum Control Pressure	450 psi (33 bar)
N	Seal Material	Buna-N
(none)	Material/Coating	

Balanced load control valves combine a balanced modulating element with a reverse flow check. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while the pilot to open modulating element controls flow from port 1 to port 2. Pilot pressure at port 3 determines the flow setting.

TECHNICAL DATA

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

Cavity	T-19A
Series	4
Capacity	480 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at Reseat	See Technical Features
Check Cracking Pressure	1,7 bar
Valve Hex Size	41,3 mm
Valve Installation Torque	474 - 508 Nm
Model Weight	1.90 kg.

CONFIGURATION OPTIONS

Model Code Example: MBIMXKN

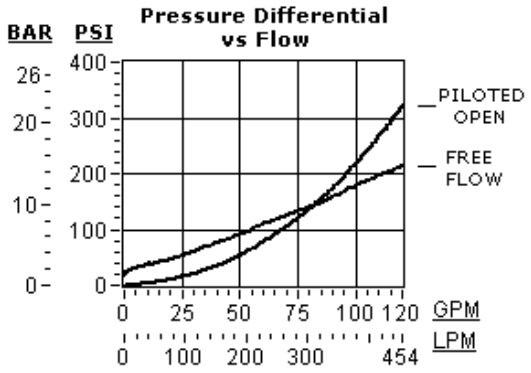
CONTROL (X)	MINIMUM CONTROL PRESSURE (K)	SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	**K** 450 psi (33 bar)	**N** Buna-N	Standard Material/Coating
	E 75 psi (5 bar)	**E** EPDM	**/AP** Stainless Steel, Passivated
	G 100 psi (7 bar)	**V** Viton	
	H 200 psi (14 bar)		
	I 300 psi (20 bar)		
	M 525 psi (36,7 bar)		

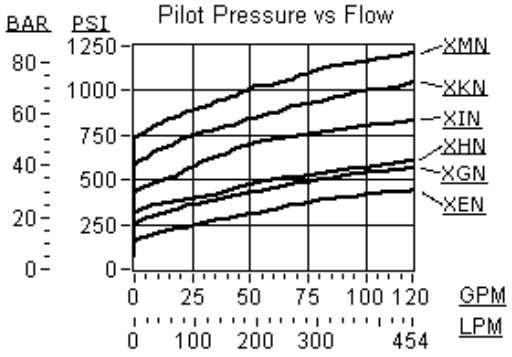
TECHNICAL FEATURES

- This valve has no relief function. Not even thermal expansion relief.
- Maximum valve leakage at reseat for I, K, M ranges is 5 drops/min. (0,3 cc/min.) at 200 psi (14 bar) below cracking pressure; E and G ranges is 3 cubic in/min. (50 cc/min.) at 50 psi (3,5 bar) below cracking pressure; H range is 3 cubic in/min. (50 cc/min.) at 75 psi (5 bar) below cracking pressure.
- E, G, H ranges are not meant for zero leak type applications.
- This valve is balanced against load pressures and therefore exhibits self-compensation. Flow is controlled by the pilot pressure. Because of dynamic seals, performance is best in the meter out mode with port 1 being the load and port 2 being tank.
- Backpressure at port 2 directly opposes pilot pressure at port 3.
- This valve is a physical replacement for a counterbalance valve but probably won't work well in a cross-piloted cylinder application. A low pilot ratio is needed for machine stability and a balanced load control has an infinitely high pilot ratio.
- Applications that use a separate pressure source to the pilot have been successful in providing smooth and stable load control.
- 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).
- Sun load control and counterbalance cartridges can be installed directly into a cavity machined in an actuator housing for added protection and improved stiffness in the circuit.
- This valve has positive seals between all ports.
- 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

© 2026 Sun Hydraulics





© 2026 Sun Hydraulics