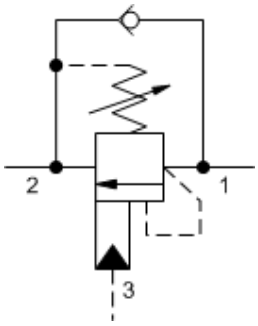
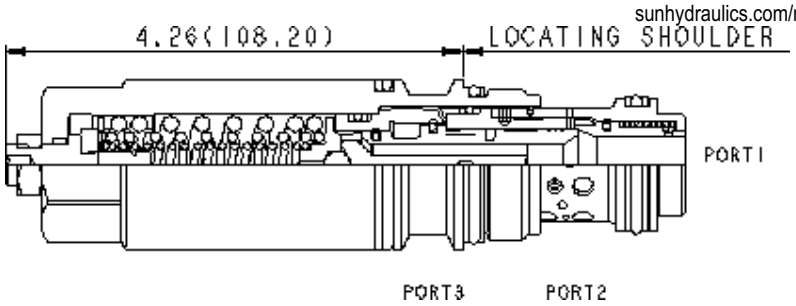
MODEL
MBGG

4.5:1 pilot ratio, load reactive, load control valve
SERIES 3 / CAPACITY: 60 gpm / CAVITY: T-17A

sunhydraulics.com/model/MBGG



3-Port Non-vented



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.

CONFIGURATION

L	Control	Standard Screw Adjustment
J	Functional Setting Range	2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting
N	Seal Material	Buna-N
(none)	Material/Coating	

TECHNICAL DATA

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

Cavity	T-17A
Series	3
Capacity	60 gpm
Maximum Operating Pressure	5000 psi
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in^3/min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	9
Reseat	≥77% of setting
Valve Hex Size	1 1/4 in.
Valve Installation Torque	150 - 160 lbf ft
Adjustment Screw Internal Hex Size	5/32 in.
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006
Model Weight	2.10 lb.

CONFIGURATION OPTIONS

Model Code Example: MBGGLJN

CONTROL (L)

L Standard Screw Adjustment

FUNCTIONAL SETTING RANGE (J)

J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting

H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting

SEAL MATERIAL (N)

N Buna-N

V Viton

MATERIAL/COATING

Standard Material/Coating

/AP Stainless Steel, Passivated

/LH Mild Steel, Zinc-Nickel

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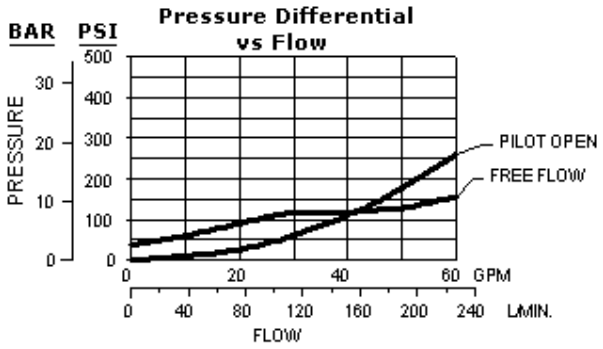
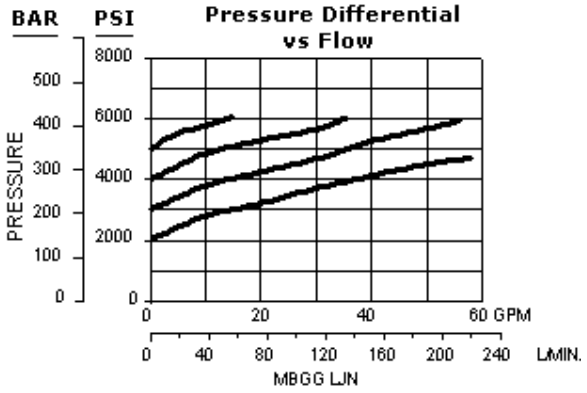
TECHNICAL FEATURES

- Set at least 1.3 times the maximum load induced pressure (1.5 times when the setting is less than 2000 psi or 140 bar).
- The maximum recommended load pressure for the H range is 3080 psi (212 bar).
- The maximum recommended load pressure for the J range is 3850 psi (265 bar).
- Turn adjustment clockwise to decrease setting and release load.
- Full clockwise setting is 1000 psi (70 bar) for the H range and 2000 psi (140 bar) for the J range.
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- 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 valve types.
- 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.
- Corrosion resistant cartridge valves are intended for use in corrosive environments and are identified by the model code suffix /AP for external stainless steel components, or /LH for external zinc-nickel plated components. See the CONFIGURATION section for all options. For further details, please see the Materials of Construction page located under TECH RESOURCES.
- 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.
- This valve has full relief capacity.
- 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





RELATED MODELS

- MBGGX Fixed setting, 4.5:1 pilot ratio, load reactive, load control valve

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