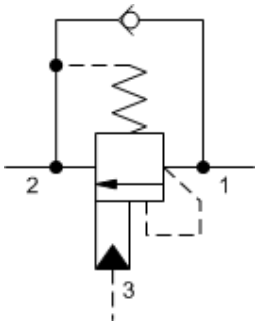
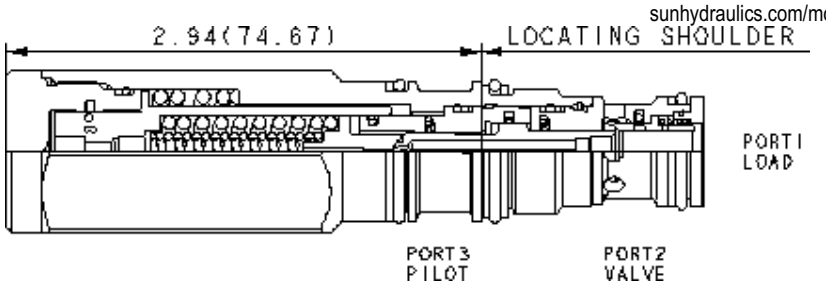
MODEL
MBDP

LoadMatch™ counterbalance valve
SERIES 1 / CAPACITY: 15 gpm / CAVITY: T-11A

sunhydraulics.com/model/MBDP



3-Port Non-vented, Fixed Setting



These valves are self-setting counterbalance valves which combine multiple functions in one package; reverse free flow, load, and thermal relief. The check allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting pilot function self adjusts to approximately 1.3 times the load induced pressure up to the thermal relief setting.

CONFIGURATION

D	Control	LoadMatch™
H	Factory Set	4000 psi (280 bar)
N	Seal Material	Buna-N
(none)	Material/Coating	

TECHNICAL DATA

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

Cavity	T-11A
Series	1
Capacity	15 gpm
Maximum Operating Pressure	5000 psi
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in³/min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Valve Hex Size	1.00 in.
Valve Installation Torque	30 - 35 lbf ft
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006
Model Weight	0.66 lb.

CONFIGURATION OPTIONS

Model Code Example: MBDPDHN

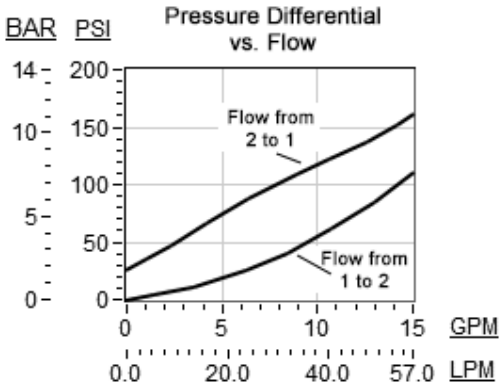
CONTROL (D)	FACTORY SET (H)	SEAL MATERIAL (N)	MATERIAL/COATING
D LoadMatch™	**H** 4000 psi (280 bar)	**N** Buna-N	Standard Material/Coating
	G 6000 psi (420 bar)	**V** Viton	**/AP** Stainless Steel, Passivated
	J 5000 psi (350 bar)		

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TECHNICAL FEATURES

- The LoadMatch™ control allows the setting of the valve to dynamically adjust in response to load pressure, while still providing a fixed thermal relief setting. The control creates a dynamic setting that is lower than the thermal relief setting, but is never more than necessary to provide safe, reliable load control. Also, since the dynamic setting is lower than the thermal relief setting, the pilot pressure required to open the valve is typically lower than other load control valves with similar thermal relief settings.
- LoadMatch™ control allows for lower pilot pressures under most loading conditions than other counterbalance valves with similar thermal relief settings.
- 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). Note: This valve has a larger hex size than what is typical for its cavity and special consideration should be given in existing applications.
- Backpressure at port 2 adds to the effective relief setting at a ratio of 2 times the backpressure.
- This valve is functionally a 3-port counterbalance valve. It seats as a poppet valve and modulates over a long stroke.
- 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.
- The maximum recommended load holding pressure for the G range is 4620 psi (319 bar). The cracking pressure for the G range will be 5800-6350 psi (400-438 bar).
- The maximum recommended load holding pressure for the H range is 3080 psi (212 bar). The cracking pressure for the H range will be 3850-4250 psi (265-293 bar).
- The maximum recommended load holding pressure for the J range is 3850 psi (265 bar). The cracking pressure for the J range will be 4800-5300 psi (331-365 bar).
- The percentage difference between the cracking and the reseat values for the LoadMatch™ versions are identical. The setting tolerance is as noted.
- 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



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