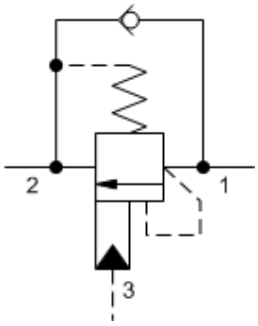
MODEL
CBABX

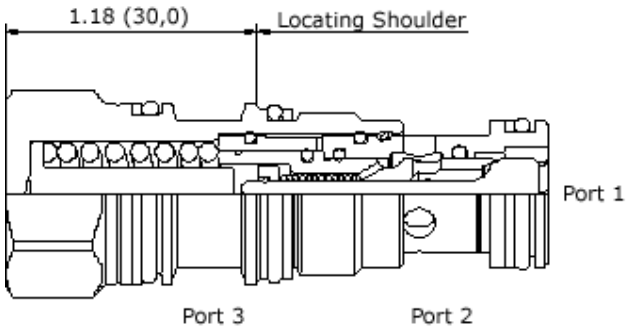
Fixed setting, 1.5:1 pilot ratio, ultra-restrictive counterbalance valve

SERIES 1 / CAPACITY: 2.5 gpm / CAVITY: T-11A

sunhydraulics.com/model/CBABX



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. 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.

Other names for this valve include motion control valve and over-center valve.

CONFIGURATION

N	Fixed Pressure Range	2900 - 3500 psi (200 - 245 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	2.5 gpm
Pilot Ratio	1.5:1
Maximum Recommended Load Pressure	See Technical Features
Pilot Configuration	Sealed
Factory Pressure Settings Established at	2 in³/min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Operating Characteristic	Ultra-restrictive
Valve Hex Size	7/8 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	0.28 lb.

CONFIGURATION OPTIONS

Model Code Example: CBABXArray

FIXED PRESSURE RANGE (N)	SEAL MATERIAL (N)	MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)	**N** Buna-N	Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)	**E** EPDM	**/LH** Mild Steel, Zinc-Nickel
	V Viton	

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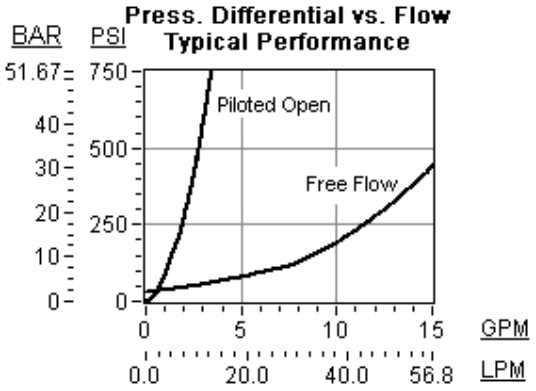
TECHNICAL FEATURES

- Restrictive valves have no relief capacity other than as a thermal relief.
- The maximum recommended load pressure for the N range is 2200 psi (150 bar). The highest cracking pressure for the N range will be less than 3500 psi (245 bar).
- The maximum recommended load pressure for the P range is 1700 psi (120 bar). The highest cracking pressure for the P range will be less than 2680 psi (185 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 reseat values for the fixed and adjustable versions of this valve 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-setting version, the setting tolerance can only be maintained within a several hundred psi span, depending on the range. The maximum recommended load pressure for any given range is the minimum possible setting divided by 1.3.
- Fixed-setting counterbalance valves offer a shorter cartridge extension than the adjustable version.
- Fixed-setting counterbalance 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.
- 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.
- 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).
- 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

- CBAB 1.5:1 pilot ratio, ultra-restrictive counterbalance valve

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