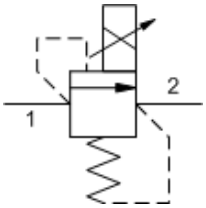
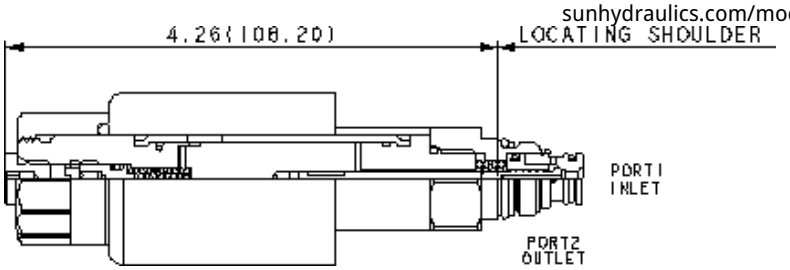
MODEL
RBAN

Electro-proportional relief valve - pilot capacity, high pressure setting with no command

SERIES P / CAPACITY: 1 L/min. / CAVITY: T-8A

sunhydraulics.com/model/RBAN





CONFIGURATION

X	Control	No Manual Override
A	Adjustment Range	3000 - 1500 psi (105 - 210 bar)
N	Seal Material	Buna-N
224	Coil	DIN 43650-Form A, 24 VDC

This 2-port, pilot-stage, direct-acting relief cartridge is an electro-proportionally controlled, normally-closed pressure regulating valve. The valve is spring biased closed to its highest setting (customer specified). Increasing current to the coil will proportionally decrease the pressure setting. When the pressure at port 1 (inlet) is sufficient to overcome the spring force minus the solenoid force, as determined by the analog input signal, the poppet lifts and allows flow from port 1 to port 2 (outlet). This pilot control cartridge utilizes the T-8A cavity so it can be used in conjunction with Sun's main stage, pressure control elements.

TECHNICAL DATA

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

Cavity	T-8A
Series	P
Capacity	1 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at Reseat	25 cc/min.
Reseat	>85% of setting
Solenoid Tube Diameter	19 mm
Valve Hex Size	22,2 mm
Valve Installation Torque	27 - 33 Nm
Model Weight (with coil)	0,45 kg
Seal kit - Cartridge	Buna: 990208007
Seal kit - Cartridge	Viton: 990208006
Seal and nut kit - Coil	Viton: 990770006
Model Weight	0.54 kg.

PROPORTIONAL PERFORMANCE DATA

Hysteresis (with dither)	<4%
Hysteresis with DC input	<8%
Linearity (with dither)	<2%
Repeatability (with dither)	<2%
Recommended dither frequency	140 Hz

CONFIGURATION OPTIONS

Model Code Example: RBANXAN224

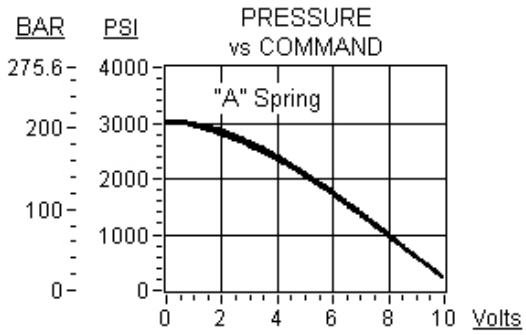
CONTROL (X)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	COIL * (224)
X No Manual Override	**A** 3000 - 1500 psi (105 - 210 bar)	**N** Buna-N	**224** DIN 43650-Form A, 24 VDC
	B 1500 - 800 psi (55 - 105 bar)	**V** Viton	No coil
	D 800 - 300 psi (20 - 55 bar)		**212** DIN 43650-Form A, 12 VDC
	W 5000 - 3000 psi (210 - 350 bar)		**224NX01** DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			224NX02 DIN 43650-Form A, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver
			912 Deutsch DT04-2P, 12 VDC
			912NX01 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			912NX02 Deutsch DT04-2P, 12 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver
			924 Deutsch DT04-2P, 24 VDC
			924NX01 Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-01 driver
			924NX02 Deutsch DT04-2P, 24 VDC, no transient voltage suppression (TVS) diodes, with XMD-02 driver

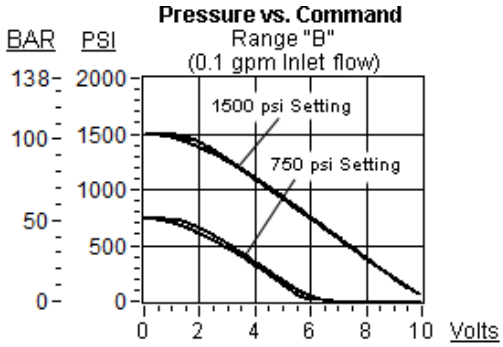
* Additional coil options are available

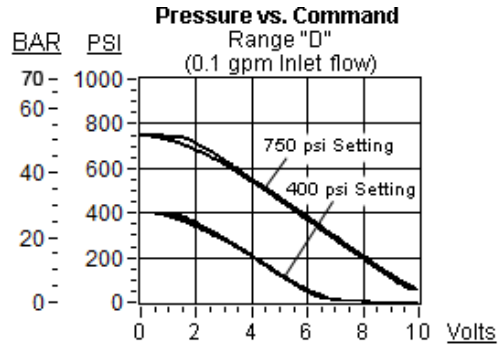
TECHNICAL FEATURES

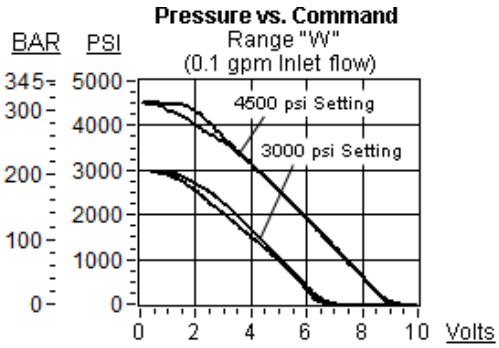
- Customer must specify a relief setting that falls within the selected pressure range. This setting represents the maximum relief pressure which the valve will default to with no command. As the command increases, the relief setting will decrease. See performance curves for selected pressure range. This setting is not adjustable in the field.
- Varying the analog input signal to the proportional solenoid provides a step-less control of pressure.
- This electro-proportional cartridge utilizes the Sun T-8A, 2-port cavity making it the ideal choice to use in conjunction with Sun's main stage cartridges. Separate pilot lines are eliminated and only one cavity needs to be machined to accommodate both the control and primary function. Note: All 2-port pilot stage control cartridges utilize the same cavity and are physically interchangeable. Functionality is the only consideration.
- High pilot capacity allows for operation of larger size main stage elements.
- Damped construction provides stable operation over a wide range of operating conditions.
- Low leakage levels in the closed position. (Reseat occurs at 85% of cracking pressure.)
- Coils are interchangeable with Sun's other full flow, solenoid operated valves and can be mounted on the tube in either direction.
- For optimum performance, an amplifier with current sensing and adjustable dither should be used. Dither should be adjustable between 100 - 250 Hz.
- Note: The main stage valve should first be installed to the correct torque value followed by the T-8A pilot control section into the main stage valve to its required torque value.
- 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.

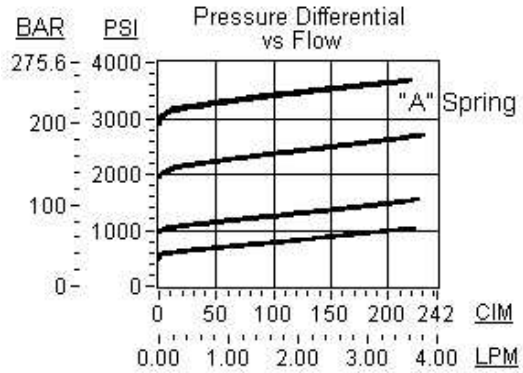
PERFORMANCE CURVES

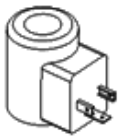




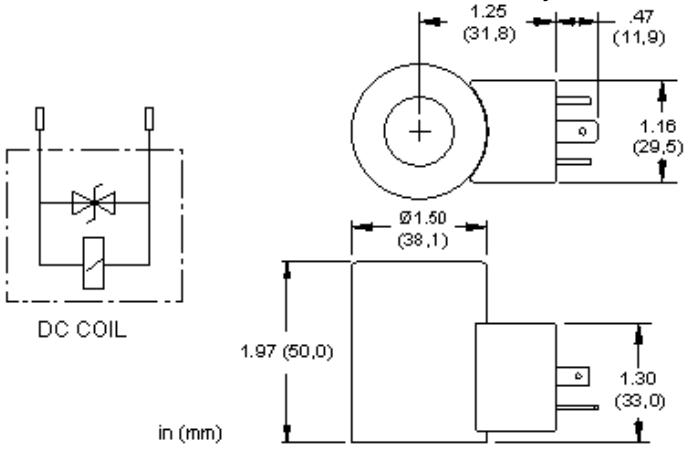








CONFIGURATION



TECHNICAL DATA

Maximum Coil Temperature at 68°F (20°C) Ambient	218°F (105°C)
Arc Suppression (TVS)	Included
Power Consumption (cold) - at rated voltage	22 watts
Maximum Ambient Temperature	50 °C
Voltage/Frequency	24 VDC
Operating Voltage Range	+/- 10% nominal
Duty Cycle Rating	100 %
Connector	ISO4400 - EN/DIN175301-803, Form A (ISO/DIN 43650) 3-pin
Connector Environment Rating	IP65/IP67
Solenoid Tube Diameter	19 mm
Coil Nut Torque	0,5 Nm
Model Weight	0.23 kg.

PROPORTIONAL PERFORMANCE DATA

Maximum Current	590 mA
Nominal Coil Resistance at 122°F (50°C) Stabilized	37.2 ±5% ohms
Nominal Coil Resistance at 68°F (20°C) Cold	26.2 ±5% ohms

USED WITH

DMDA DMDAS DNCA DNDA DNDAS DNDC DNDY DNDYS FMDA FMDB
FPCC FPCH FPFK FPHK HDDA PRDM PRDN PSDL PSDP RBAN
RBAP

TECHNICAL FEATURES

- Coil windings utilize Class N, (392° F [200 °C] rated) magnet wire.
- A TVS surge suppression diode is built into DC coils. Nominal breakdown voltage: 68V. Model code 1.5 KE68CA Steady state power dissipation @ 75°C is 6.5 W and peak pulse dissipation is 1500 W for 1 ms, nonrepetitive.
- Power cable with mating connector is required and is not included with product.
- The coil is magnetically symmetrical and can be mounted in either direction on the solenoid tube without affecting performance.
- For optimum proportional performance, an amplifier with current sensing and adjustable dither should be used. Dither should be adjustable between 100 - 250 Hz.
- This coil is CE compliant. It meets the requirements of the Low Voltage Directive (2006/95/EC) and EN 60204-1:2006.
- IP rating is dependent on the coil connector and the mating connector used.
- RoHS compliant. Restricted materials less than 0.1% total by weight.
- The external steel shell is plated with clear zinc trivalent.