PRODUCT BULLETIN

Pressure Switches

(high pressure - piston style)

DESCRIPTION

The ZF Pressure Switches are designed specifically for use in hydraulic applications to monitor hydraulic pressure and either open or close an electrical contact at a predetermined pressure.

The piston style pressure switch can be wired for use in hydraulic applications where the electrical contacts are in the normally open (n/o) condition, normally closed (n/c) condition, or both. The three wire lead to the single pole double throw internal snap switch contains a black wire which is the common and always used, a green wire used for a normally open contact, and a red wire used for a normally closed contact. This switch can sense hydraulic pressure to 5000 psi.

FEATURES

- Rugged heavy-duty industrial construction
- Pressure setting range from 250 PSI to 3500 PSI
- Resistant to high pressure spikes
- 10 million mechanical cycle life
- Fluid compatibility to suit most applications
- Optional gold contacts, lead lengths, and port sizes

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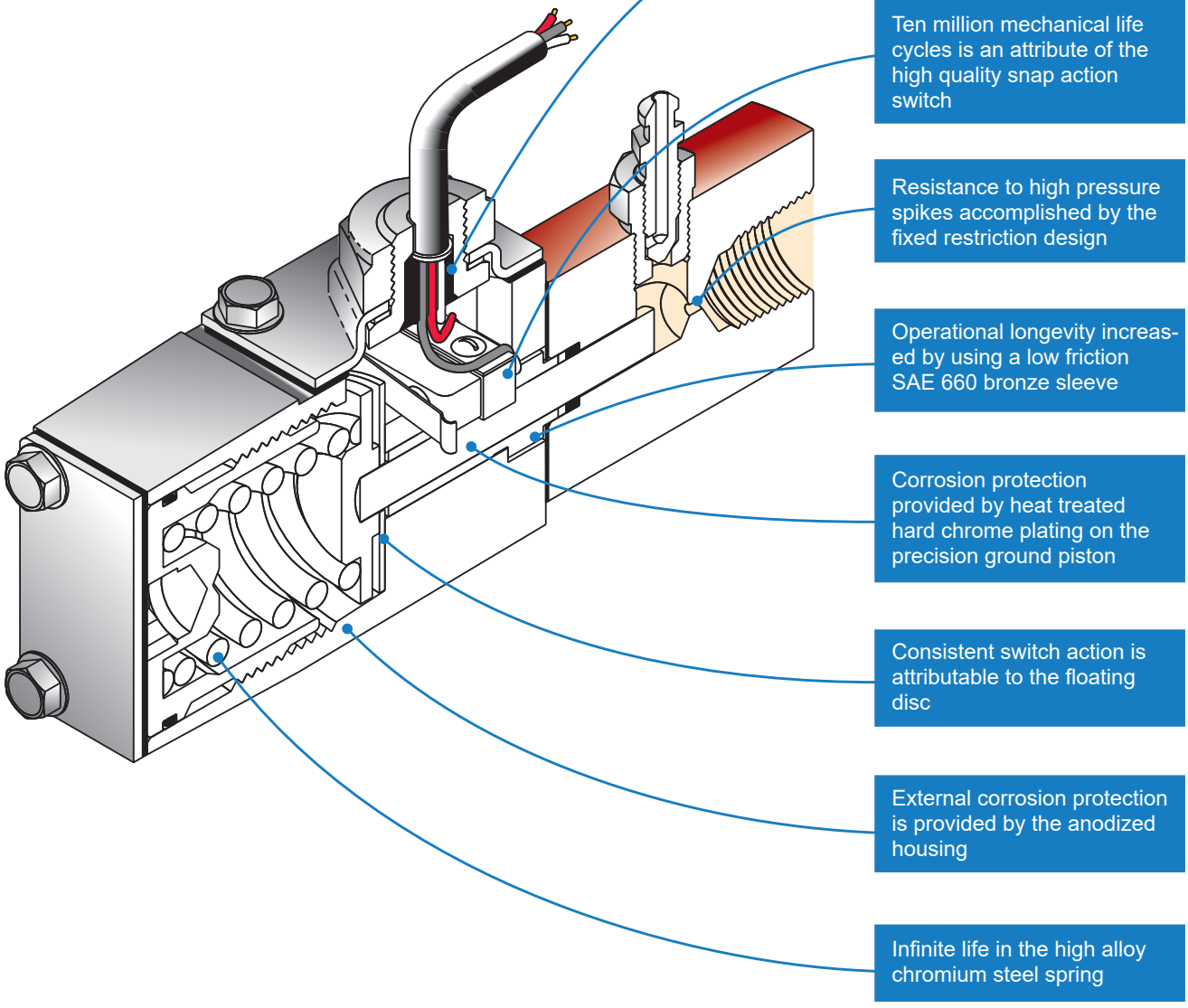
PRINCIPLES OF OPERATION

The ZF Pressure Switch is a high pressure surge resistant switch specially designed for hydraulic applications when an electrical connection or disconnection is desired at a predetemined pressure.

The pressure switch contains a single-pole, double-throw (SPDT) snap action switch that is controlled by a pressurized piston and counteracting spring.

Fluid pressure is used to actuate a piston, which in turn forces against a spring retainer. As the pressure increases the retainer compresses the spring. When this occurs the floating disc moves away from the spring lever of the snap action switch, thus, contact transfer results.

The factory adjusted preload on the spring determines the switch pressure set point.

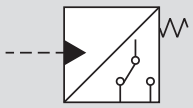


SPECIFICATIONS

Model Number	Seal Type	Pressure Set Point Range		Wire Lead Length	Inlet Port
		Rising Pressure (PSI)	Falling Pressure (PSI)		
20-580-038	NBR	250-1050	200-850	16 in	1/4-18NPTF
20-580-039	EPDM	750-1850	550-1650	16 in	1/4-18NPTF
20-580-040	NBR	750-1850	550-1650	16 in	1/4-18NPTF
20-580-041	EPDM	1100-3500	900-3300	16 in	1/4-18NPTF
20-580-042	NBR	1100-3500	900-3300	16 in	1/4-18NPTF
20-580-049	EPDM	250-1050	200-850	16 in	1/4-18NPTF
20-580-069	NBR	1100-3500	900-3300	16 in	#4 SAE
20-580-078	NBR	1100-3500	900-3300	60 in	1/4-18NPTF

NBR - compatible with most mineral base fluids
EPDM - compatible with most automotive brake fluids

Symbol

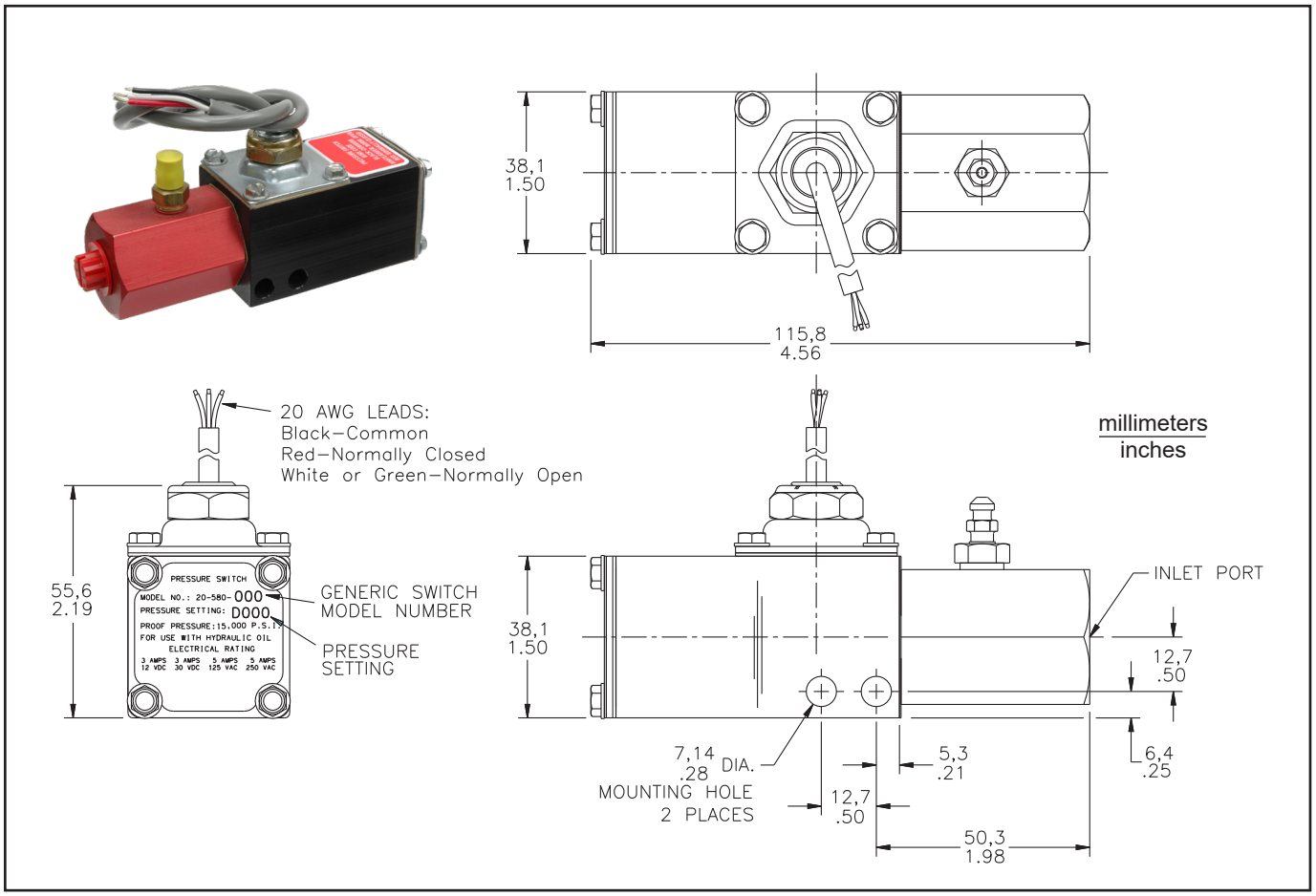


NOTE
Contact ZF for information regarding: other inlet port sizes, lead wire lengths, pressure set points higher than 3500 PSI, and gold flashing over silver contacts for low current applications.

GENERAL INFORMATION:

Pressure set point tolerance: ±7%
Dead band average: 8% to 22% of pressure set point, can vary depending on fluid media and temperature
Maximum recommended system pressure: 5000 PSI
Minimum proof pressure: 15,000 PSI
Minimum burst pressure: 25,000 PSI
Unit weight: Approximately 17 ounces
Wire code: Black-common, red-normally closed, white or green-normally open

Contact form and current rating: Snap action switch, SPDT contacts, UL listed, 5 A @ 125/250 Vac, 3 A @ 12/30 Vdc (inductive), 5 A @ 12/30 Vdc (resistive)
Fluid temperature range: NBR seal models -45 °F (-43 °C) to 220 °F (104 °C), EPDM seal models -70 °F (-57 °C) to 300 °F (149 °C)
Material exposed to fluid: Anodized aluminum, brass bleeder plug, hard chrome plated piston, seal ring and Hytrel® back-up ring



ADDITIONAL PRESSURE SWITCHES

The ZF Pressure Switches are available for hydraulic applications when an electrical connection or disconnection is desired at a predetermined pressure.

These switches are available with normally open or normally closed contacts.

GENERAL INFORMATION:

Pressure set point tolerance: ±7%
Dead band average: 10% to 20% of pressure set point
Maximum recommended system pressure: 2000 PSI
Minimum proof pressure: 2500 PSI
Minimum burst pressure: 4500 PSI
Unit weight: Approximately 6 ounces
Wiring connection: 1/4 inch quick connect
Contact form: SPST normally open or normally closed
Current rating: 5 A @ 125/250 Vac, 20 A @ 12 Vdc

Model Number	Seal Type	Pressure Set Point Range		Contacts	Inlet Port
		Rising Pressure (PSI)	Falling Pressure (PSI)		
20-580-009	EPDM	250-800	250-600	Normally Open	1/8-27NPTF
20-580-016	NBR	250-800	250-600	Normally Closed	1/8-27NPTF
20-580-021	NBR	800-1200	600-1000	Normally Open	1/8-27NPTF
20-580-023	NBR	800-1200	600-1000	Normally Closed	1/8-27NPTF
20-580-024	NBR	250-800	250-600	Normally Open	1/8-27NPTF

NBR - compatible with mineral base fluids
EPDM - compatible with most automotive brake fluids