



Precision Sensors

Teflon® Pressure Switches

For High Purity and Corrosive Applications

Precision Sensors line of fixed and adjustable pressure switches are designed specifically for use in high purity wet processing applications where 316L stainless steel is not acceptable.

Factory set or adjustable models available

PFA and PTFE or all PFA Teflon® wetted components

Techtron® PPS non-wetted external parts

Highly resistant to corrosive media

PFA Flaretek® type and PTFE pipe fittings

Compact size for easy installation



The P15M Series Pressure Switch with Teflon® wetted parts provides years of trouble-free service. Our design advantages include a crush seal for leak tight integrity plus external plastic parts that remain unaffected by chemical spills or splashes.

Typical applications include the monitoring and control of wet benches, chemical delivery systems, wafer cleaning equipment and deionized water systems. They are also well suited for activating high or low system pressure warning alarms to increase equipment safety.

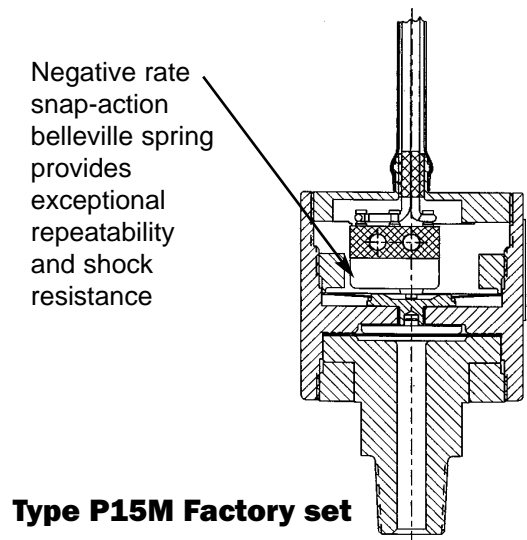
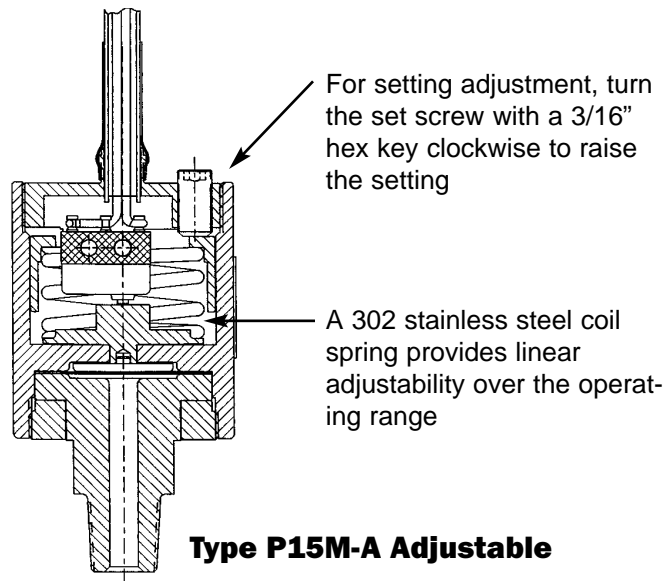
All products are manufactured in a quality environment that conforms to MIL-1-45208 and ANSI Z540. PSI's reputation for innovative, technical solutions guarantees a continuous supply of value-enhanced products to meet your needs.

Teflon® and Kapton® are registered trademarks of the E.I. DuPont Company
Techtron® is a registered trademark of the Polymer Corporation
Flaretek® is a registered trademark of Fluoroware, Inc.

Features

Both the P15M factory set version and the P15M -A adjustable version offer advanced features such as:

- Techtron® PPS (polyphenylene sulfide) non-wetted external parts that have no known solvents under 392°F (200°C)
- Pressure connections in PTFE or PFA Teflon®
- PFA Teflon® and Kapton® (polyimide) diaphragm construction for excellent chemical resistance with long life
- A crush seal that provides leak-tight integrity up to the rated



Performance	Model	Available Settings	Hysteresis (Deadband)	Repeatability	Proof Pressure
			PSIG	PSI	PSI
Factory Set					
	P15M	5 to 75	2 + 7% of setting	±0.5 + 2% of setting	100
Adjustable Range					
Adjustable Range					
	P15M-AL	5 to 40	3 + 9% of setting	±0.5 + 2% of setting	100
	P15M-AM	20 to 55	3 + 10% of setting	±0.75 + 2% of setting	100
	P15M-AH	35 to 75	3 + 12% of setting	±1 + 2% of setting	100

How To Specify

- Create a part by using the description system below. The description will follow this form:

Model - Setting - End Fitting - Electrical

MODEL	SETTING			END FITTING	ELECTRICAL			
Model P15M = 5 to 75 PSIG (Factory Set) P15M-AL = 5 to 40 PSIG (Adjustable) P15M-AM = 20 to 55 PSIG (Adjustable) P15M-AH = 35 to 75 PSIG (Adjustable)	Actuation I = Increasing D = Decreasing	Units P = PSIG	Setting Enter the setting * (P15M Models Only)	End Fitting 2P = 1/8 - 27 male NPT (PTFE) 4P = 1/4 - 18 male NPT (PTFE) 4FT = 1/4" Flaretek' type (PFA) with nut	Contact Position NC = Normally closed (@ 0 PSIG) NO = Normally open (@ 0 PSIG) DT = SPIDT (3 wires)	Contact Material G = Gold S = Silver	Lead Length Enter the lead length (24" standard)	Electrical Interface L = Free leads C = Crimp type connector; specify manufacturer and P/N [Amp MR 1-640507 (or 8) - 0 standard]
Example P15M-AH	D	P	63	4P	NO	S	24	L

*Note: All adjustable models will be set at 50% of range unless otherwise specified.

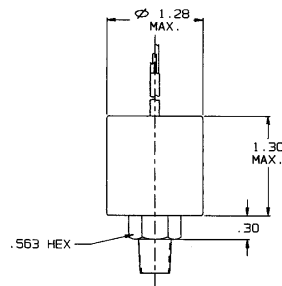
Example: The part described above is an adjustable Teflon® pressure switch that was set to open on decreasing pressure at 63 PSIG. The switch has 1/4 pipe fitting, silver contacts and 24" free leads.

A factory part number will be assigned upon completion of a drawing based on the part description. When ordering, use the factory part number.

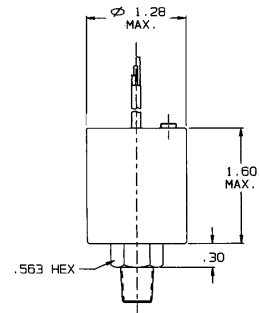
Specifications

Construction	PFA Teflon® wetted diaphragm and a Kapton® (polyimide) non-wetted diaphragm sensor P15M: Negative rate snap-action belleville spring. P15M-A: 302 stainless steel coil spring
Wetted Materials	PFA Teflon® diaphragm and PFA port fitting (Flaretek® connection) or PTFE port fitting (pipe connection)
Media	
Temperature	0 to 120°F (-18 to 49°C)
Ambient Temperature	20 to 1000 °F (-7 to 38°C)
Electrical	All units utilize a UL recognized and CSA listed electrical switch. Gold contacts: 1 amp resistive, 0.5 amp inductive @ 28VDC. Silver contacts: 5 amps resistive, 3 amps inductive @ 28 VDC, 5 amps @ 250 VAC
Enclosure	All units are vented to ambient conditions for sensing reference (ambient) pressure. Type P15M can be sealed and furnished as an approximate gauge pressure switch. Consult factory for more information.
Installation	Insensitive to mounting attitude
Life	500,000 cycles minimum under normal operating conditions

Dimensions



P15M



P15M-A

Recommended Practices

United Electric Controls recommends careful consideration of the following factors when specifying and installing UE pressure units. Before installing a unit, the Installation and Maintenance instructions provided with unit must be read and understood.

To avoid damaging unit, proof pressure limits stated in literature and on nameplates must never be exceeded, even by surges in the system. Operation of the unit up to proof pressure is acceptable on a limited basis (i.e.start-up, testing) but continuous operation must be restricted to the designated range. Excessive cycling at proof pressure limits could reduce sensor life.

A back-up unit is necessary for applications where damage to a primary unit could endanger life, limb or property. A high or low limit switch is necessary for applications where dangerous runaway condition could result.

The range must be selected so that incorrect, inadvertent or malicious setting at any range point can not result in an unsafe system condition.

Install unit where shock, vibration and ambient temperature fluctuations will not damage unit or affect operation. Orient unit so that moisture does not enter the enclosure via the electrical connection.

Unit must not be altered or modified after shipment. Consult UE if modification is necessary.

Monitor operation to observe warning signs of possible damage to unit, such as drift in set point. Check unit immediately.

Preventative maintenance and periodic testing is necessary for critical applications where damage to unit could endanger property or personnel.

For all applications, a factory set unit should be tested before use.

Electrical ratings stated in literature and on nameplate must not be exceeded. Overload on a switch can cause damage, possible on the first cycle. Wire unit according to local and national electrical codes, using wire size recommended in installation sheet.

Use only factory authorized replacement parts and procedures. Do not mount unit in ambient temperature exceeding published limits.

Limited Warranty

UE warrants that the product thereby purchased is, upon delivery, free from defects in material and workmanship and that any such product which is found to be defective in such workmanship or material will be repaired or replaced by UE (F.O.B. UE); provided, however, that this warranty applies only to equipment found to be so defective within a period of 12 months after installation by buyer but not to exceed 18 months after delivery by the seller. Except for the limited warranty of repair and replacement stated above, UE disclaims all warranties whatsoever with respect to the product, including all implied warranties of merchantability or fitness for any particular purpose.

Liability Limitation

The sole and exclusive remedy of buyer for any liability or seller for any claim, including incurred in connection with (I) breach of any warranty whatsoever expressed or implied, (II) a breach of contract, (III) a negligent act or acts (or negligent failure to act) committed by seller, or (IV) an act for which strict liability will be imputed to seller, is limited to the limited warranty or repair and replacement stated herein. In no event shall the seller be liable for any special, indirect, consequential or other damages or like general nature, including, without limitation, loss of profits or production, or loss or expenses of any nature, incurred by the buyer or any third party.



UNITED ELECTRIC CONTROLS PRECISION SENSORS DIVISION

50 Seeman's Lane, Milford, CT 06460 USA
Telephone 203 877-2795 FAX 203 877-8752