

## HERMES PRESSURE

### PF41 & PF42 HERMES ATEX/IECEX FLAMEPROOF Ex db PRESSURE SWITCH

The latest innovation to our range of switches features a robust high quality housing with 1 or 2 sealed SPDT microswitches and has been designed for use in environments where explosive gases can be present (e.g. gas fields, oil rigs & chemical plants etc).

The Hermes range has separate flameproof and adjustment chambers allowing the set point to be changed with power on and the switch in operation.



## PRESSURE

## FEATURES

- ✓ Compact 316 stainless steel construction to IP66 & IP67 standards
- ✓ Up to 1000 bar working pressure
- ✓ 1 metre of cable standard (alternative lengths available on request)
- ✓ Hermetically sealed switching
- ✓ ATEX/IECEX Flameproof version (Gas) II 2 G Ex db IIC Gb T6 -50 to +71°C, T5 -50 to +86°C, T4 -50 to +100°C
- ✓ Pressure settings from 1 to 800 bar
- ✓ Wetted parts traceable to NACE MR 0175
- ✓ ATEX IECEX Certified Ex db
- ✓ Shock and vibration tested

MEDIUM PRESSURE RANGES - DIAPHRAGM ACTUATED					
ADJUSTMENT RANGE (bar)	ADJUSTMENT RANGE (psi)	WORKING PRESSURE (bar)	DEADBAND (bar) NITRILE VITON	DIAPHRAGM CODE	SPRING CODE
1.0 - 3.0	15 - 45	50	<0.6 <0.95	A	D
2.0 - 12.0	30 - 170	50	<1.25 <1.9	A	F
8.0 - 24.0	115 - 345	50	<2.2 <5.0	B	F

HIGH PRESSURE RANGES - STAINLESS STEEL PISTON ACTUATED					
ADJUSTMENT RANGE (bar)	ADJUSTMENT RANGE (psi)	WORKING PRESSURE (bar)	DEADBAND (bar)	PISTON CODE	SPRING CODE
5.0 - 25	75 - 365	700	2-3	S3	D
20 - 90	300 - 1300	700	3 - 8	S3	F
40 - 160	600 - 2300	700	6 - 16	S2	F
80 - 360	1200 - 5200	700	12 - 36	S1	F
150 - 650*	2100 - 9400	1000*	30 - 55	S7	F
500 - 800*	7250 - 11600	1000*	55 - 85	S7	E

PLEASE NOTE: \* 1/2" process connections are limited to 700 bar working pressure. The highest range will change to 500 - 700 bar. If required the 700 bar max. pressures can be increased to 1000 bar upon request. This is only applicable to 1/4" process connections.

## PART NUMBER BREAKDOWN - ELASTOMER DIAPHRAGM ACTUATED

<b>CASE CERTIFICATION</b> PF4XXF = Exd CERTIFICATION	<b>CABLE LENGTH</b> 01 = 1 METRE (STD) 02 = 2 METRES ETC XX = CABLE LENGTH OVER 10 METRES	<b>SPRING CODE</b> PLEASE REFER TO RANGE TABLE	<b>DIAPHRAGM CODE</b> PLEASE REFER TO RANGE TABLE
<b>P F 4 1 R F 0 1 / 2 F 1 0 A / S 1 X</b>			
<b>MICROSWITCH</b> 1 = SPDT MICROSWITCH 2 = SPDT MICROSWITCHES LINKED TO GIVE DPDT	<b>DIAPHRAGM</b> 1 = NITRILE 2 = VITON	<b>PROCESS CONNECTION</b> 10 = FEMALE PROCESS 22 = 1/2" BSP.P MALE 24 = 1/2" NPT MALE	<b>PROCESS CONNECTION</b> S1X = 1/4" BSP.P FEMALE - 316SS M1X = 1/4" BSP.P FEMALE - MONEL 400 S2X = 1/4" NPT FEMALE - 316SS M2X = 1/4" NPT FEMALE - MONEL 400 S5X = 1/2" BSP.P FEMALE - 316SS M5X = 1/2" BSP.P FEMALE - MONEL 400 S6X = 1/2" NPT FEMALE - 316SS M6X = 1/2" NPT FEMALE - MONEL 400 FOR MALE CONNECTION USE S1X
<b>ELECTRICAL CONNECTION</b> R = M20 x 1.5 ISO MALE S = 1/2" NPT MALE			

# PART NUMBER BREAKDOWN - PISTON ACTUATED

CASE CERTIFICATION PF4XXF = Exd CERTIFICATION		CABLE LENGTH 01 = 1 METRE (STD) 02 = 2 METRES ETC XX = CABLE LENGTH OVER 10 METRES	PROCESS CONNECTION 31 = 1/4" BSP.P FEMALE      41 = 1/2" BSP.P MALE 32 = 1/4" NPT FEMALE        42 = 1/2" NPT MALE 33 = 1/2" BSP.P FEMALE 34 = 1/2" NPT FEMALE	
P F 4 1 R F 0 1 / A F 3 2 / S 1 X				
<b>MICROSWITCH</b> 1 = SPDT MICROSWITCH 2 = SPDT MICROSWITCHES LINKED TO GIVE DPDT ACTION		<b>SEAL</b> A = NITRILE B = VITON		<b>SPRING CODE</b> PLEASE REFER TO RANGE TABLE
<b>ELECTRICAL</b> R = M20 x 1.5 ISO MALE S = 1/2" NPT				<b>PISTON CODE</b> PLEASE REFER TO RANGE TABLE

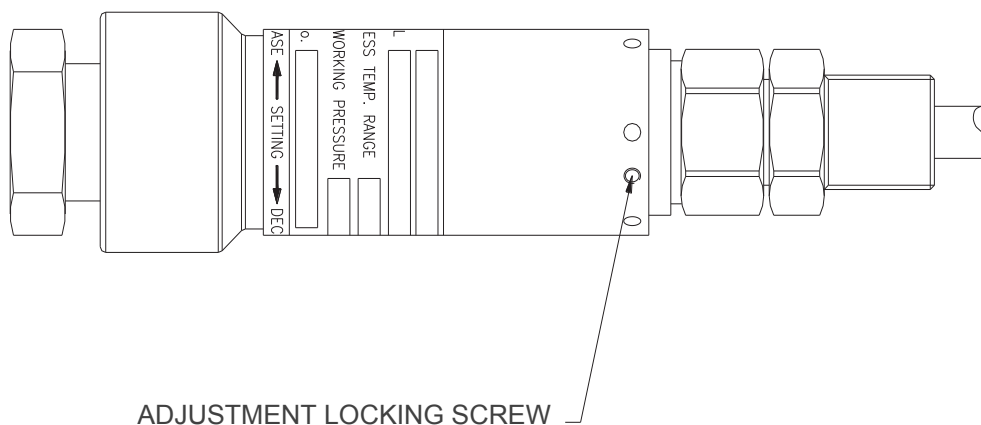
Certification: All switches are ATEX / IECEx certified for gas hazardous areas and are CE marked.

Exd Flameproof: Ex II 2 G Ex db IIC Gb T6 Tamb -50 to +71°C, T5 +86°C, T4 +100°C

Special conditions for safe use:

- 1) Flameproof joints not intended for repair. 2) External earthing is facilitated by the electrical continuity between the enclosure and the process connection. End-users must take this into consideration during installation.
- 3) Microswitches must only be accessed by Pyropress approved personnel and only when no explosive atmosphere is present. 4) Pyropress must supply the Hermes pre-wired with suitably rated cable.

The connected cable must be at least 300mm long. This figure has been obtained via Notified Body conducted tests and overrides the 3m minimum specified in sub-clause 10.6.2 of IEC/EN 60079-14.

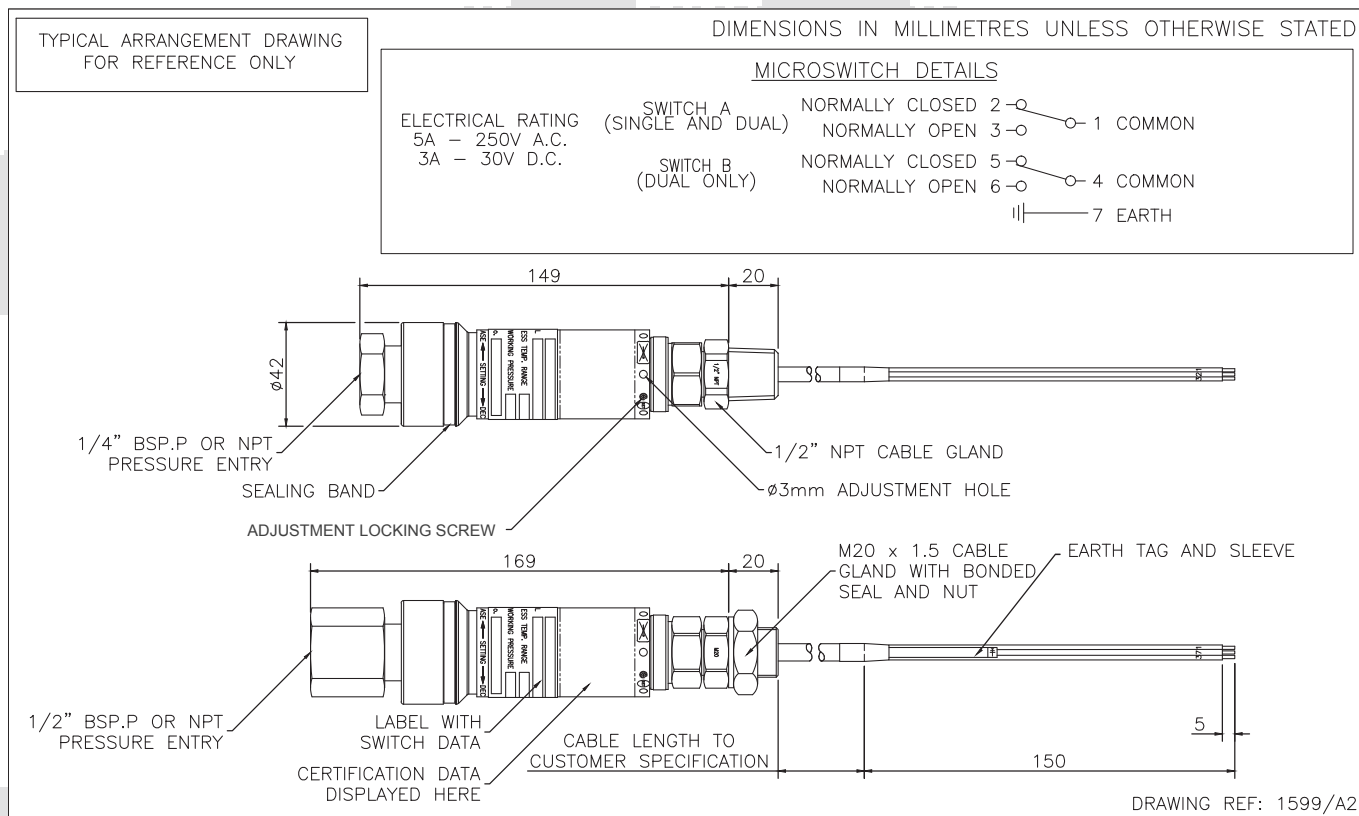


The design features a simple form of adjustment. This enables users to order switches set at a predetermined point or stock a mid range setting and adjust switches to suit the particular application. Rotating the outer tube compresses the discsprings. Rotation clockwise will increase the set point and conversely rotating anti-clockwise will decrease the set point.

# TECHNICAL SPECIFICATION

The Hermes range of pressure switches are designed for use in environments where explosive gases can be present (e.g. gas fields, oil rigs, and chemical plants etc)

<b>Switchcase :</b>	316 stainless steel to IP66 & IP67 standards of protection.	
<b>Wetted parts:</b>	316 stainless steel or Monel 400 with choice of diaphragms and seals. All stainless steel wetted parts traceable to NACE MR 0175.	
<b>Microswitch:</b>	Contacts SPCO/SPDT. Contact material is gold plated silver and they are contained within a hermetically sealed capsule.	
	Dual switches are mechanically linked and will operate within 2% of each other at the set point.	
	Resetting levels may differ	
<b>Microswitch rating:</b>	5 amps @ 250Vac resistive	
	3 amps @ 30Vdc resistive	
<b>Electrical fitting:</b>	M20 x 1.5 ISO male or 1/2" NPT male connection	
<b>Flying lead:</b>	4 core cable for single microswitch & 7 core cable for dual microswitch	
<b>Environmental protection:</b>	Switches have been tested and certified by an external test house to IP67 in accordance with BS EN 60529:1992 & IEC 60529:2001	
<b>Vibration and shock:</b>	Switches have been tested and certified by an external test house to Lloyds Register Specification 1, section 13	
	BS EN 60068-2-6:1996 (test Fc vibration) and	
	BS EN 60068-2-27:1995 (test Ea shock)	
<b>Temperature limitations:</b>		
Ambient:	-40 to 85°C	
Process:	Viton diaphragm and seal	: -20 to +150°C
	Nitrile diaphragm and seal	: -30 to +100°C
	316 stainless steel piston with Viton o'ring seal	: -20 to +150°C
	316 stainless steel piston with Nitrile o'ring seal	: -30 to +100°C
Storage:	-40 to +85°C	
<b>Accuracy:</b>	+/- 1% @ 20°C	



## ABOUT PYROPRESS

Our products are designed to work in demanding and hazardous environments which require fast and cost effective solutions in instrumentation and control.

Pyropress control sensors provide safe and reliable electrical switching of alarm or control circuits in response to changes in temperature, pressure, differential pressure, vacuum, flow and level conditions.

## QUALITY

To support the design of state of the art products the company has invested heavily in the latest CNC technology.

We are able to produce our own components to a high degree of accuracy assuring a reliable and consistent quality product.