

## HERMES PRESSURE

### PF41 & PF42 HERMES ATEX/IECEX FLAMEPROOF Exd 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).

One of the benefits of the Hermes range is the separation of the flameproof and adjustment chambers allowing adjustment of the set point with power on and the switch in operation.



## FEATURES

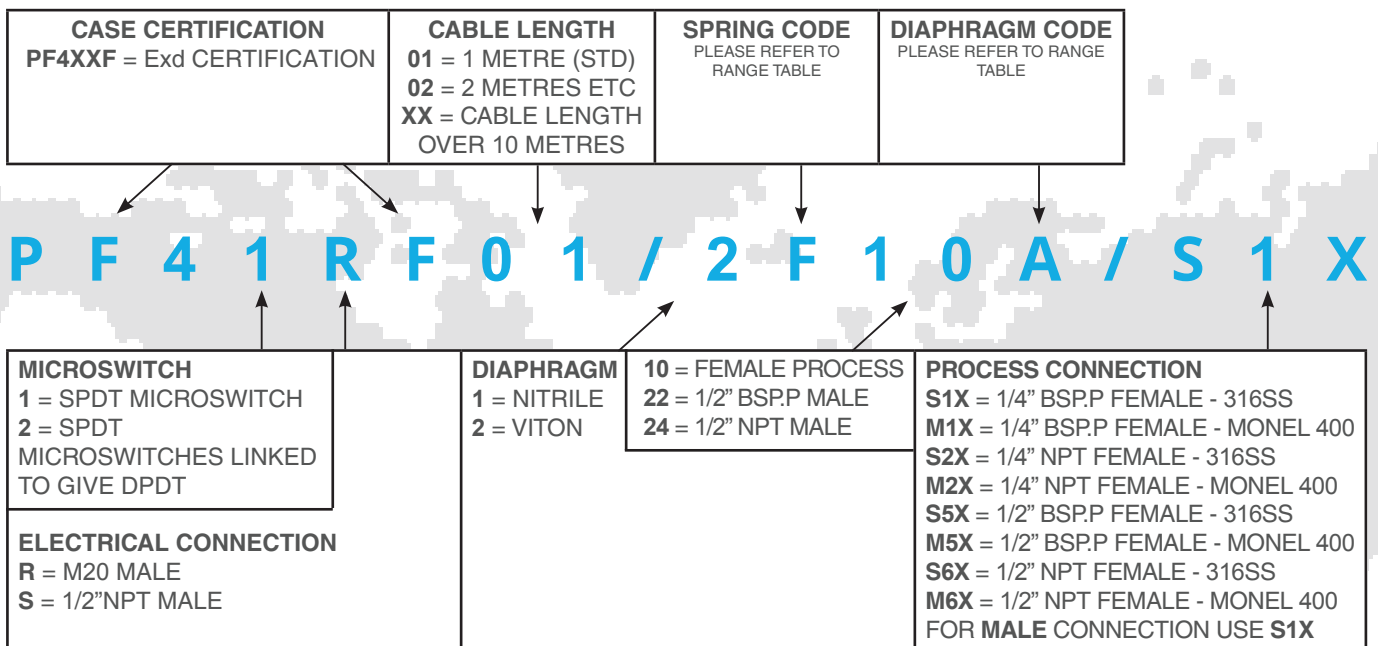
- ✓ Compact 316 stainless steel construction to IP66 & IP67 standards
- ✓ Up to 1000 Bar working pressure
- ✓ 1 metre of cable standard (alternative lengths available on request)
- ✓ Hermetically sealed switching
- ✓ ATEX/IECEX Flameproof version (Gas)  
CE II2G Exd IIC T6 - 50 to +71°C,  
T5 - 50 to +86°C, T4 - 50 to +100°C
- ✓ Pressure settings from 1 to 800 Bar
- ✓ Wetted parts traceable to NACE MR-01-75
- ✓ ATEX IECEX Certified Exd
- ✓ Shock and vibration tested

MEDIUM PRESSURE RANGES - DIAPHRAGM ACTUATED						
ADJUSTMENT RANGE (BAR)	ADJUSTMENT RANGE (PSI)	WORKING PRESSURE (BAR)	DEADBAND (BAR)		DIAPHRAGM CODE	SPRING CODE
			NITRILE	VITON		
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.

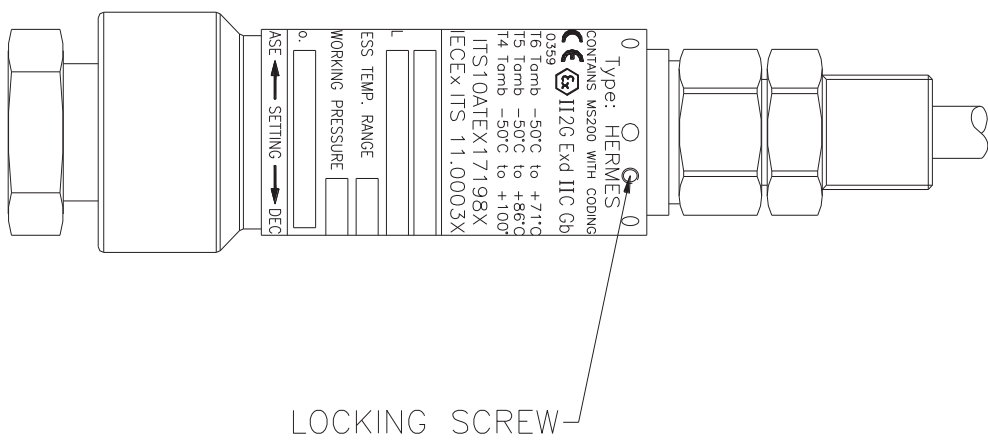
## PART NUMBER BREAKDOWN - ELASTOMER DIAPHRAGM ACTUATED



# PART NUMBER BREAKDOWN - PISTON 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>PROCESS CONNECTION</b> 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>ELECTRICAL CONNECTION</b> R = M20 MALE S = 1/2" NPT MALE	<b>SEAL</b> A = NITRILE B = VITON	<b>SPRING CODE</b> PLEASE REFER TO RANGE TABLE	<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: CE Ex II 2 G Ex D IIC Gb T6 Tamb -50 to +71°C, T5 +86°C, T4 +100°C  
 Special conditions for safe use: 1) No modifications must be made to the flamepath of the unit without consultation of the drawings listed within the certification. 2) The actuation rods and threaded end cap of the MS200 must always be fitted within a certified enclosure named in the schedule (Hermes) to protect from impacts. 3) The microswitches within the enclosure must only be accessed by Pyropress engineers and only when no explosive atmosphere is present. 4) External earthing is provided by the mechanical connection between the MS200 outer housing and the process connection and must be ensured when installed. 5) Equipment must be installed in accordance with the requirements of EN 60079-14:2008



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 body directly compresses the disc springs, rotation to the right will decrease the set point and conversely moving to the left will increase 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 and cover:</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-01-75.	
<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 @ 250V.AC resistive and inductive 3 Amps @ 30V.DC resistive and inductive	
<b>Electrical fitting:</b>	M20 x 1.5 ISO male or 1/2" NPT male connection	
<b>Flying lead:</b>	3 & 6 core cable for Exia certification 4 & 7 core cable for Exd certification	
<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 Test 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 86°C	
Process:	Viton diaphragm and seal	:-20 to +150°C
	Nitrile diaphragm and seal	:-30 to +100°C
	316 st. steel piston with Viton o'ring seal	:-20 to +150°C
	316 st. steel piston with Nitrile o'ring seal	:-30 to +100°C
Storage:	-40 to +85°C	
<b>Accuracy:</b>	+/- 1% at 20°C	

TYPICAL ARRANGEMENT DRAWING FOR REFERENCE ONLY

DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

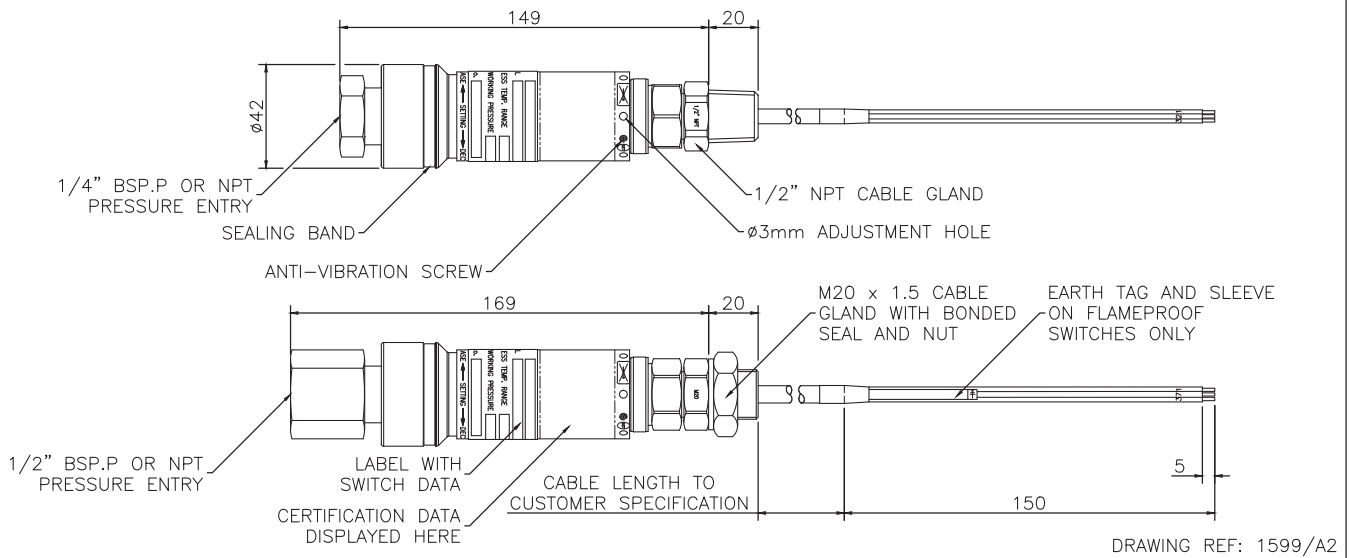
MICROSWITCH DETAILS

ELECTRICAL RATING  
 5A - 250V A.C.  
 3A - 30V D.C.

SWITCH A  
 (SINGLE AND DUAL)  
 NORMALLY CLOSED 2-  
 NORMALLY OPEN 3- 1 COMMON

SWITCH B  
 (DUAL ONLY)  
 NORMALLY CLOSED 5-  
 NORMALLY OPEN 6- 4 COMMON

7 EARTH (NOT REQUIRED ON Exia VERSION)



DRAWING REF: 1599/A2

## 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.