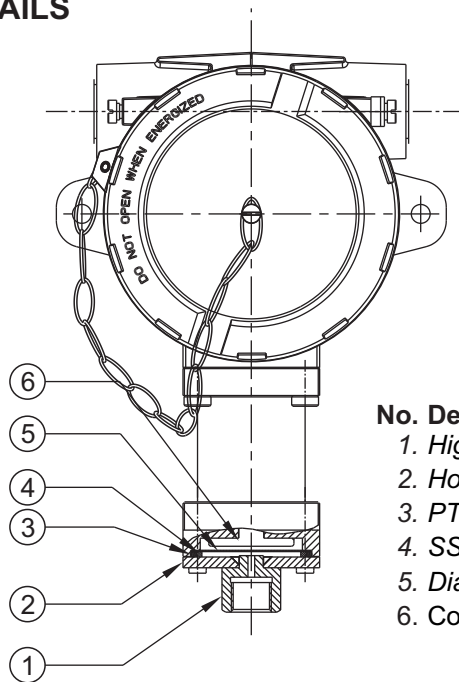


FR HIGH PRESSURE RANGES



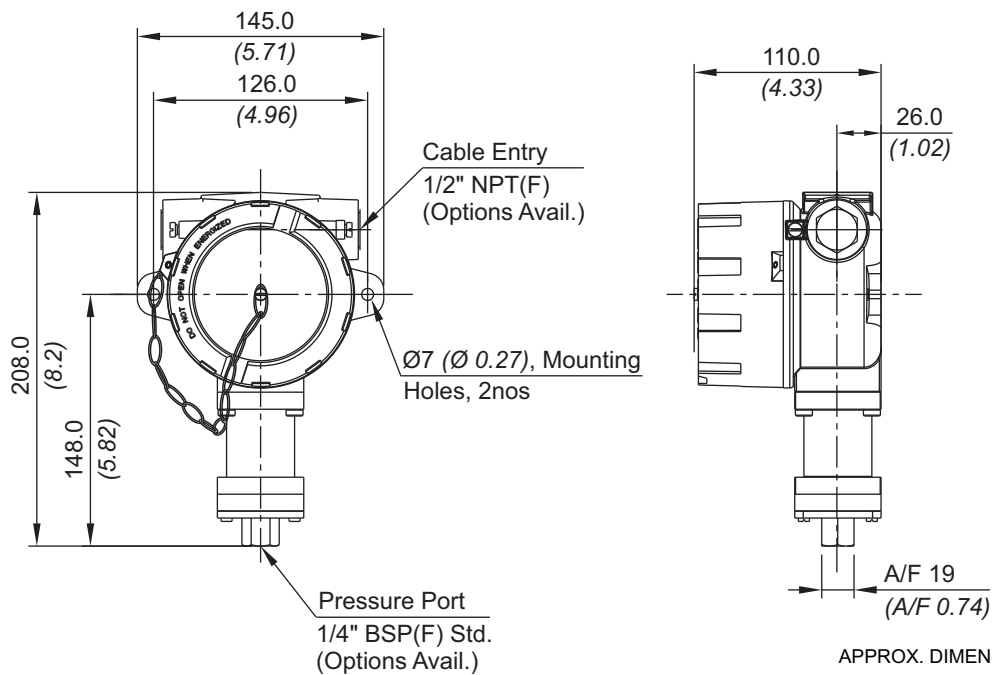
PRESSURE CAPSULE DETAILS



- No. Description**
1. High Pressure Port (SS316)
 2. Housing Plate (SS316)
 3. PTFE[®] O-Ring
 4. SS 316 Ring
 5. Diaphragm (PTFE[®])
 6. Conical Plunger

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



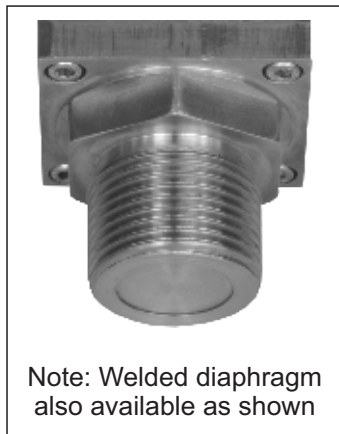
FR HIGH PRESSURE RANGES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
LP	0.067 - 0.213 (0.97 - 3.09)	0.02 (0.29)	5.0 (72.52)
LP5	0.1 - 0.5 (1.45 - 7.25)	0.08 (1.16)	5.0 (72.52)
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	12.0 (174.05)
H02	0.1 - 1.5 (1.45 - 21.76)	0.12 (1.74)	12.0 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.15 (2.17)	12.0 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	12.0 (174.05)
H07	0.5 - 7.0 (7.25 - 101.53)	0.20 (2.90)	12.0 (174.05)
H10	0.5 - 10.0 (7.25 - 145.038)	0.40 (5.80)	25.0 (362.60)
H15	1.0 - 15.0 (14.5 - 217.56)	0.80 (11.60)	25.0 (362.60)
H30	5.0 - 25.0 (72.52 - 362.60)	1.0 (14.5)	35.0 (507.63)

Note:

1. The minimum differential increases with the setpoint. The differential values mentioned in the above table are approximate maximum for FSR. The differential value will vary according to the pressure range selected and microswitch type. For actual values of differential please contact sales office.



Note: Welded diaphragm also available as shown

2. When using 2SPDT switching arrangement, both microswitches may not actuate and/or deactuate at the same point. A small stage gap, normally upto +/- 5% FSR (depending on range code) may be observed. The On-Off differential (hysteresis) typically tends to be atleast double of those published for 1SPDT pressure switches.

If actuation and/or deactuation at same point is critical part of operation, then it can be achieved by using a separate DPDT relay. This relay will need a separate power supply for it's coil.

Intrinsic Safety (Exia) : Pressure and temperature switches are classified as simple apparatus, as per IEC 60079-11, as they neither store or generate energy. Hence switches can be used in intrinsically safe systems provided the power source is IS certified. Because of low voltages and current it is recommended to use hermetically sealed microswitches / microswitches.

HOW TO ORDER FLAMEPROOF HIGH RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8							
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm							
<p>□ A prefix "N" is used in the model code in case of any non standard options / accessories that are provided with the switches. Will be given by manufacturer, only after agreement of supply details with customer.</p> <p>The prefix is subject to change as per specific requirement.</p> <p>Approx. switch weight in Kgs</p> <table border="1"> <tr> <td>Enclosure</td> <td>FR</td> </tr> <tr> <td>Aluminium</td> <td>1.870</td> </tr> <tr> <td>Grey CI</td> <td>4.270</td> </tr> <tr> <td>SS</td> <td>4.420</td> </tr> </table>	Enclosure	FR	Aluminium	1.870	Grey CI	4.270	SS	4.420	<p>FR = IP66 Flameproof pressure switch, EAC approved</p> <p>1 = Al. head 1/2" NPT threads 2 = Al. head 3/4" NPT threads 3 = Al. head M20 x 1.5 threads *4 = Grey CI head 1/2" NPT threads *5 = Grey CI head 3/4" NPT threads *6 = Grey CI head M20 x 1.5 threads 7 = SS head 1/2" NPT threads 8 = SS head 3/4" NPT threads 9 = SS head M20 x 1.5 threads</p>	<p>P 1 = pressure switch, fixed differential without scale P 2 = pressure switch, fixed differential with scale in bar P 3 = pressure switch, fixed differential with scale in psi</p> <p>For adjustable differential please select microswitch A6 in group 6</p>	<p>LP = (0.067 - 0.213) LP5 = (0.1 - 0.5) H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0)</p>	<p>A1 = General purpose microswitch rated at 15 A, 250 VAC *A6 = elements with adjustable deadband *A7 = 2SPDT switching elements A8 = General purpose microswitch rated at 5 A, 250 VAC; 5 A, 28 VDC B1 = Low differential microswitch rated at 15 A, 250 VAC; 5 A, 28 VDC</p> <p>Please refer to page nos. 120 & 121 for options and specifications of microswitches * Please contact sales office for additional information</p> <p>Please check the note under Range Selection Table for Exi applications.</p>	<p>S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F) S3 = SS316 / 1" BSP(M) Welded Diaphragm S4 = SS316 / 1/2" NPT(F) S5 = SS316 / 1/2" NPT(M) H1 = Hastelloy C / 1/4" BSP(F) H2 = Hastelloy C / 1/4" NPT(F) N1 = Monel / 1/4" BSP(F) N2 = Monel / 1/4" NPT(F)</p> <p>More options available, please contact sales office</p>	<p>*0 = Neoprene *1 = PTFE 2 = SS 316L 3 = Hastelloy C 4 = Monel 5 = Titanium 6 = Tantalum 7 = Inconel</p> <p>*In case of non-metallic diaphragms the ambient temperature range should be (-20° to 60° C.</p>
Enclosure	FR													
Aluminium	1.870													
Grey CI	4.270													
SS	4.420													

eg. A flameproof switch for gas group IIC, with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, having 0.1 bar to 1 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
□	FR	1	P1	H01	A1	S1	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, uncalibrated switches with standard wetted parts and enclosures will be supplied.