

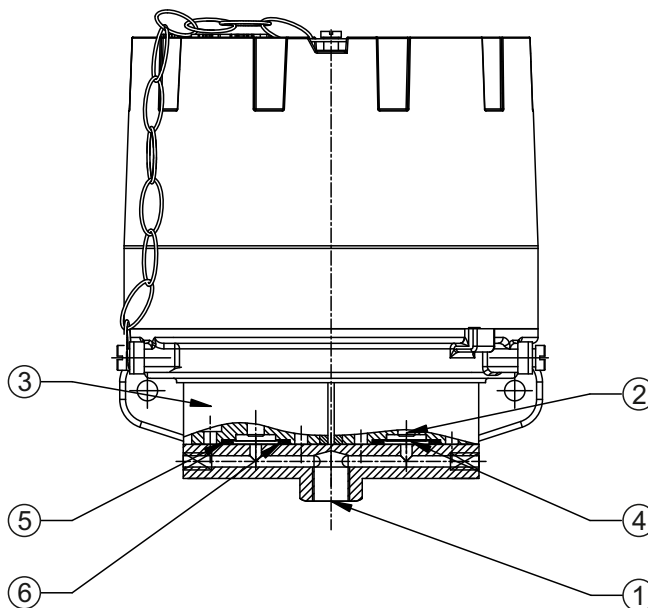
# DS HYDRAULIC DIAPHRAGM PRESSURE SWITCHES



Pressure Ranges from 1 bar to 400 bar



## PRESSURE CAPSULE DETAILS



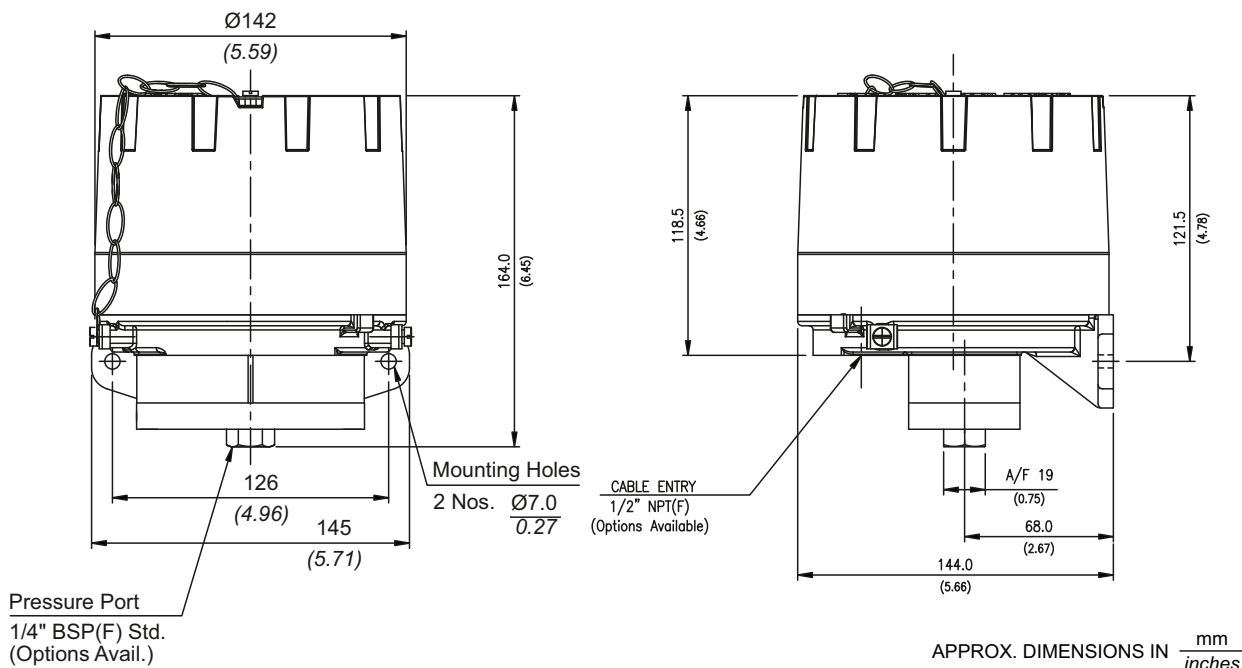
### No. Description

1. Pressure Port (SS)
2. Plunger (SS)
3. Housing Plate (SS)
4. Diaphragm (SS)
5. O-Ring (PTFE®)
6. Backup Ring (SS316)  
(Options Available)

Note : *wetted parts* are mentioned in italics.

\*Pressure ports are brazed with flange

## INSTALLATION DRAWING



# DS HYDRAULIC DIAPHRAGM PRESSURE SWITCHES

## RANGE SELECTION TABLE

| Range Code | Range bar (psi)                | Differential* bar (psi)                  | Maximum Working Pressure bar (psi) |
|------------|--------------------------------|------------------------------------------|------------------------------------|
|            |                                | Approximate Maximum for "A8" microswitch |                                    |
| H1T        | 1 - 10<br>(14.50 - 145.04)     | 1<br>(14.50)                             | 150<br>(2175.51)                   |
| H2T        | 2 - 20<br>(29.00 - 290.07)     | 2<br>(29.00)                             | 200<br>(2900.76)                   |
| H4T        | 5 - 40<br>(72.52 - 580.15)     | 5<br>(72.52)                             | 200<br>(2900.76)                   |
| H1H        | 10 - 100<br>(146.04 - 1450.38) | 12<br>(174.05)                           | 200<br>(2900.76)                   |
| H2H        | 10 - 200<br>(145.03 - 2900.76) | 24<br>(348.09)                           | 400<br>(5801.52)                   |
| H4H        | 40 - 400<br>(580.15 - 5801.52) | 70<br>(1015.27)                          | 500<br>(7251.88)                   |

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.

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.

## HOW TO ORDER PROCESS HYDRAULIC DIAPHRAGM 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 and Material of Enclosure                                                                                                                                                                                                                                   | Switch Type                                                                                                                                                                                                                                                                                      | Range Code (values in bar)                                                                                                                                | Microswitch Type                                                                                                                                                                                                                                                                                       | Pressure Port Material / Size                                      | Diaphragm                                                      |
| <input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer. | <b>DS</b> = Process pressure switch with IP66 rated enclosure as per IS/IEC 60529 | <b>1</b> = Al. enclosure 1/2" NPT threads<br><b>2</b> = Al. enclosure 3/4" NPT threads<br><b>3</b> = Al. enclosure M20 X 1.5 threads<br><b>7</b> = SS enclosure, 1/2" NPT threads<br><b>8</b> = SS enclosure, 3/4" NPT threads<br><b>9</b> = SS enclosure, M20 X 1.5 threads | <b>PF2</b> = pressure switch, fixed differential with scale in bar<br><b>PF3</b> = pressure switch, fixed differential with scale in psi<br><b>*PA2</b> = pressure switch, adjustable differential with scale in bar<br><b>*PA3</b> = pressure switch, adjustable differential with scale in psi | <b>H1T</b> = (0.5 - 10)<br><b>H2T</b> = (2 - 20)<br><b>H4T</b> = (5 - 40)<br><b>H1H</b> = (10 - 100)<br><b>H2H</b> = (7 - 200)<br><b>H4H</b> = (40 - 400) | <b>A1</b> = General purpose microswitch, rated at 15 A; 250 VAC<br><b>*A6</b> = Adjustable deadband<br><b>*A7</b> = 2SPDT switching elements<br><b>*A9</b> = General purpose microswitch<br><b>*B7</b> = 2SPDT Switching Elements<br><b>*B9</b> = 2SPDT Switching Elements for adjustable differential | <b>S1</b> = SS316 / 1/4" BSP(F)<br><b>S2</b> = SS316 / 1/4" NPT(F) | <b>2</b> = SS316<br><b>3</b> = Hastelloy C<br><b>4</b> = Monel |

eg. A industrial pressure switch with fixed differential having 5 bar to 40 bar pressure range, with 5 Amp. m icroswitch, 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 |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|
| <input type="checkbox"/> | DS      | 3       | PF2     | H1T     | A1      | S1      | 2       |

Please specify full model number to avoid ambiguity.

## HYDRAULIC DIAPHRAGM PRESSURE SWITCHES

# DS