

This series of pressure switches can be used for all applications where an electrical circuit is required to close or open at a required pressure.

The robustness of this series of pressure switches enables all applications in all industries to be satisfied.

- Robust and Reliable
- Diaphragm Operated
- Proven Performance
- Stainless steel Housing
- Wetted parts for use with all Fluids
- Externally Adjustable
- Enclosure Rating IP65
- CE marked for all Directives that apply

Pressure Ranges

TYPE No.	PRESSURE RANGE	HYSTERESIS TYPICAL
3311	-1 to +1 bar	Adjustable
3311	0.2 to 3 bar	Adjustable
3311	0.6 to 8 bar	Adjustable
3311	1 to 20 bar	Adjustable
3311	2 to 30 bar	Adjustable
3311	2 to 40 bar	Adjustable
3411	10 to 160 mbar	Adjustable
3411	20 to 400 mbar	Adjustable
3511	2.5 to 40 mbar	1.5 mbar Fixed

Hysteresis

Where the hysteresis is shown as adjustable in the table above it can be adjustable over 5 to 95% of pressure range.

Maximum Pressure

To ensure long service life select the pressure range as follows:
 Dynamic pressure applications $P_{max} = 75%$ of Range
 Static pressure applications $P_{max} = 100%$ of Range
 Maximum pressure that can be applied is 125% of pressure range.

Electrical Ratings

10 amp at 250V 50Hz Inductive load
 1 amp at 30V dc Inductive load
 For other voltages and currents please consult our technical department.

Setting Accuracy $\pm 2\%$

Temperature Range -10 to $+85^{\circ}C$
 (Process fluids must not solidify)

Temperature Coefficient 0.05%
 of per $^{\circ}C$ from $20^{\circ}C$



Installation

These pressure switches can be mounted directly on the connecting thread. Sealing grooves are machined onto the end face of parallel threads for use with sealing washers. A mounting bracket is available if required.

Vacuum Setting

At ambient pressure the switches will be in the operated condition consequently the wiring should be reversed i.e. NO becomes NC.

Connecting Threads

All connecting threads used in industry are available including British, American and metric. Please state the connection thread when ordering.

Flanges and Hygienic Fittings

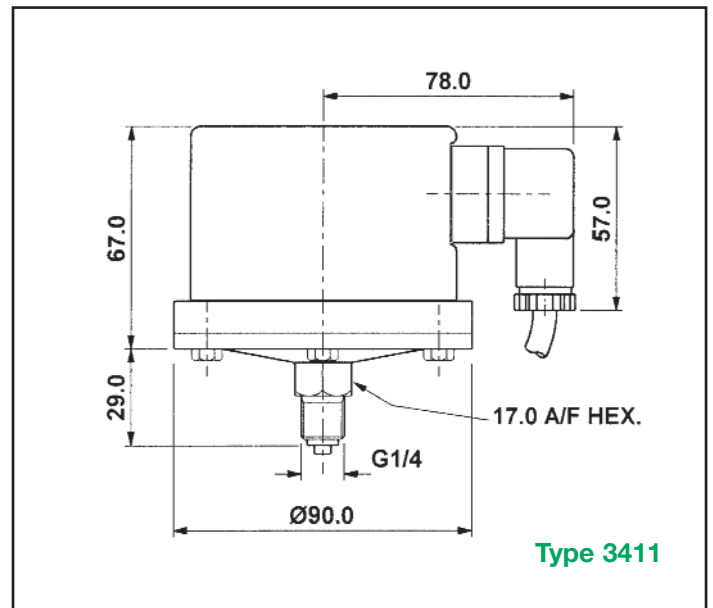
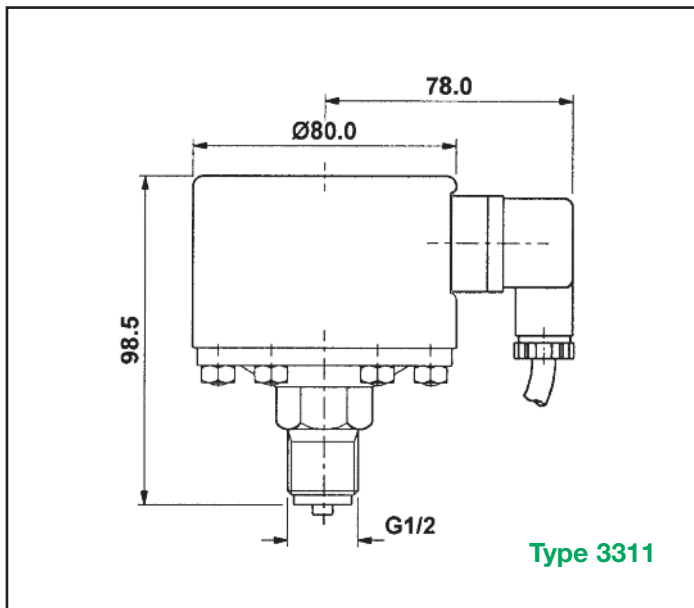
(See page 5 for alternative connections)
 Flanged fittings are available and all types of hygienic fittings can be supplied assembled directly onto the Pressure Switch. If flush diaphragms are required please consult our Technical Department.

Materials of Construction Types 3311 & 3411

Diaphragm.....17 / 7 PH Stainless Steel
 SealGlass filled PTFE < 11bar
 Nitrile rubber > 11 bar
 Base316 Stainless Steel
 Housing316 Stainless Steel

Materials of Construction Type 3511

Diaphragm.....Beryllium Copper
 SealNitrile rubber
 BaseBrass
 Housing316 Stainless Steel



Alternative Wetted Parts

(see page 9 for abbreviated chemical compatibility chart)

Switches with standard wetted parts above are suitable for applications using air, nitrogen, inert gasses, oils, water and steam.

Alternative wetted parts for use with fluids other than these are shown opposite.

Please contact our technical Department for further information.

TYPE	MATERIAL	BASE	DIAPHRAGM	PROTECTION DISC
3311	316 Stainless	Yes	No	Yes
3311	Carbon Steel	Yes	No	No
3311 & 3411	UPVC	Yes	No	No
3311 & 3411	PTFE	Yes	No	Yes
3311 & 3411	PVDF	Yes	No	No
3311	Halar Lined	Yes	No	No
3311	Rubber Lined	Yes	No	No
3311 & 3411	Chrome Plated	Yes	Yes	No
3311 & 3411	17/7 Stainless Steel	No	Yes	No
3311 & 3411	Silver Plate	Yes	Yes	No
3311	Pure Silver	No	No	Yes
3311 & 3411	PVDF (Dykor) coated	No	Yes	No

To make Series 3000 Pressure Switches more suitable for many applications there are several standard options available.

Option D – Degreased for oxygen use

Pressure switches for use on oxygen have to be free from all traces of oil or grease. Diaphragm pressure switches have the diaphragm, pressure chamber and seal specially cleaned and handled during assembly and are marked with the 'Use no oil' symbol.

Option G – Gold plate Micro-switches

Micro-switches with Gold plated contacts are used in low power circuits where the contact resistance of standard silver contact is too high. For electrical loads below 6V at 0.1A dc.

Option H – Low leak assembly

A modified design of pressure switch is available for use on extinguishers, switchgear, transformers or sealed pressure systems. Special machining and assembly gives freedom from leaks greater than 10^{-5} Nccs / sec.

Option M – For Mining Applications

No aluminium parts used

Option Q – overload Protection

Pressures above the adjustable range shown in the table should not be applied to the switches. Overload will strain the diaphragm, either causing distortion that will alter the set point of the pressure switch or reduce the diaphragm life through fatigue failure.

Normally, the pressure range should be chosen to cover the highest pressures likely to develop in the system; Series 3000 switches can be constructed to accept higher pressures than the adjustable range by fully supporting the diaphragm above its normal operating deflection.

Maximum temperature 60°C

MAXIMUM ADJUSTABLE RANGE	OVERLOAD PRESSURE ALT. 1	OVERLOAD PRESSURE ALT. 2
40 mbar	1 bar	-
20 to 400 bar	7 bar	-
1 bar	28 bar	200 bar
2 to 40 bar	70 bar	200 bar