

TITAN DIFFERENTIAL

PRESSURE

DPF266 ATEX/IECEX Exd, Exia & INDUSTRIAL DIFFERENTIAL PRESSURE, SWITCH

This range has been used to monitor very small changes in vacuums and has been specified extensively for offshore applications.

Incorporating a diaphragm and two sealing Belloframs the switch offers reliable switching action when a differential pressure is required to be sensed. They can, by venting either the HP or LP connection, be used as a low pressure or vacuum switch. Resistors can be incorporated for 'end of line' and short circuit monitoring.



DIFFERENTIAL

FEATURES

- ✓ 316 stainless steel or black anodised aluminium switchcase to IP66 standards.
- ✓ Settings from 0.25 mbar to 8.5 bar.
- ✓ Wetted parts NACE MR-01-75 compliant.
- ✓ ATEX/IECEX Flameproof version
CE II2G Exd IIB + H2 T6...T2 Gb
Ta -60 to +75°C...90°C
- ✓ Internal adjustment scale.
- ✓ Single or dual microswitch option.
- ✓ SIL2 - IEC61508 proven reliability
- ✓ ATEX/IECEX Intrinsically safe version
CE II1G Exia IIC T6...T2 Ga
Ta -50 to +78°C...128°C

ADJUSTMENT RANGE (bar d)	MAXIMUM WORKING PRESSURE EQUALISED (bar d)	MAXIMUM WORKING PRESSURE ONE SIDED (bar g)	DEADBAND FIXED (mbar g)	SPRING CODE	DIAPHRAGM CODE
1.75 - 8.5	28	14	100 - 400	W	01SB
0.5 - 5.5	28	14	40 - 380	P	01SB
0.3 - 1.1	28	14	40 - 90	R	01SB
125 - 725mbar	10	7	10 - 75	G	02SB
50 - 250mBar	10	7	5.0 - 27.5	G	03SB
25 - 75mBar	10	7	4.2 - 7.5	T	03SB
15 - 55mBar	* 0.5	0.35	0.75 - 3.0	B	08SB
4 - 16mBar	* 0.5	0.35	0.75 - 2.0	R	08SB
1 - 5mBar	* 0.5	0.35	0.4 - 0.75	T	08SB
0.4 - 4.4mBar	Viton Diaphragm / 0.5	0.35	0.05 - 0.50	T	48SB
**0.25 - 4.25mBar	Nitrile Diaphragm / 0.5	0.35	0.05 - 0.50	T	28SB

* Max. equalised pressure on these ranges can be specified up to 3.5 Bar with diaphragm material options C & D.

** With dual microswitches range is 1.5 - 4.25 mbar.

Temperature Limitations

Diaphragm code : 01SB

Viton : -20 to +150°C

Nitrile : -30 to +100°C

Diaphragm code : 02SB, 03SB & 08SB

Viton : -20 to +150°C

Nitrile : -30 to +100°C

Wetted Parts - Metallic

316 stainless steel

Process Connections : Diaphragm codes 01SB, 02SB & 03SB : 1/4" OR 1/2" BSP.P or NPT Female

Diaphragm code 08SB as table overleaf

PART NUMBER BREAKDOWN - DPF266

B = ATEX/IECEX Exd CERTIFIED
O = ATEX/IECEX Exia CERTIFIED
A = INDUSTRIAL

A = ALUMINIUM CASE
S = ST. STEEL CASE

DPF266 DIFF. PRESS.

DIAPHRAGM MATERIAL

A = NITRILE
B = VITON
C = NITRILE*
D = VITON*
*(C & D FOR CODE 08 WITH 3.5 BAR EQUALISED)

SPRING CODE
 (SEE RANGE TABLE)

A = BRACKET FOR 01 DIAPHRAGM CODE
E = 2" PIPE BRCKT FOR 01 DIA CODE
G = BRACKET FOR 02 & 03 DIA CODE
P = 2" PIPE BRCKT FOR 02 & 03 DIA CODE
W = BRACKET FOR 08 DIA CODE
T = 2" PIPE BRCKT FOR 08 DIA CODE
M = DP286 REPLACEMENT FOR 01 DIA CODE

DPF266S1B/BRF01SB2/AA

ELECTRICAL ENTRY

A = M20 STRAIGHT
B = M20 ANGLED
C = 1/2" NPT STR.
F = M25 STRAIGHT

1 = 1 x SPDT SWITCH
2 = 2 x SPDT SWITCH

DUAL SWITCHES ARE MECHANICALLY LINKED TO PROVIDE DPDT SWITCHING ACTION

DIAPHRAGM CODE

F01SB = 01 DIAPHRAGM CODE
F02SB = 02 DIAPHRAGM CODE
F03SB = 03 DIAPHRAGM CODE
F08SB = 08 DIAPHRAGM CODE

SEE RANGE SHEET

PROCESS CONNECTIONS

DIAPHRAGM CODES 01, 02 & 03 (FEMALE)
1 = 1/4" BSP.P - DP **2** = 1/4" NPT - DP
A = 1/2" BSP.P - DP
C = 1/2" NPT - DP

PROCESS CONNECTIONS

DIAPHRAGM CODE 08, 28 AND 48

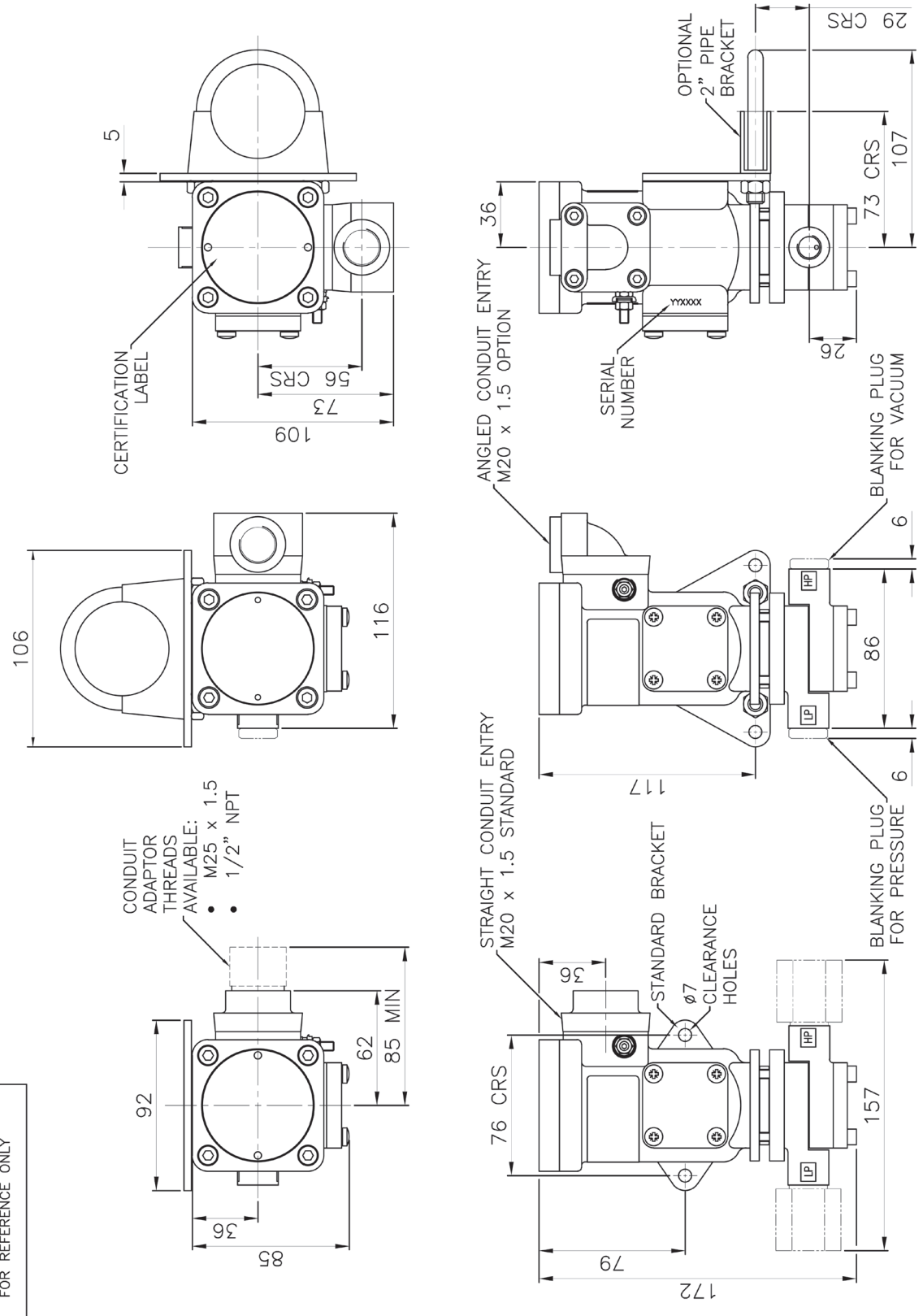
1 = 1/4" O/D TUBE POSI. ELBOW DP
2 = 1/4" O/D TUBE TEE DP
9 = SPECIAL
A = 6mm O/D TUBE DP
C = 8mm O/D TUBE DP
E = 10mm O/D TUBE DP
G = 12mm O/D TUBE DP

J = 1/4" BSP.P FEMALE STRAIGHT DP
L = 1/4" BSP.T FEMALE STRAIGHT DP
N = 1/4" BSP.P MALE STRAIGHT DP
Q = 1/4" NPT FEMALE STRAIGHT DP
S = 1/4" NPT MALE STRAIGHT DP
U = 1/2" NPT FEMALE STRAIGHT DP



DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED

TYPICAL ARRANGEMENT DRAWING FOR REFERENCE ONLY



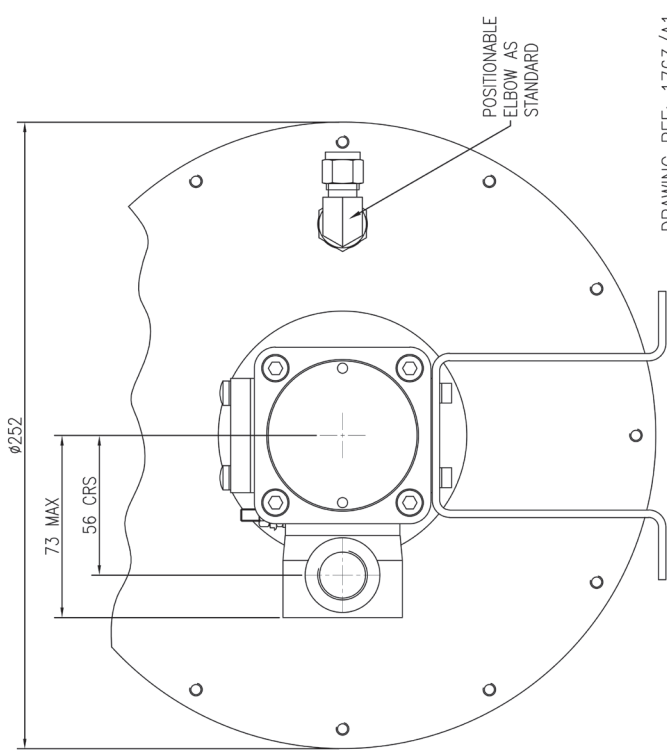
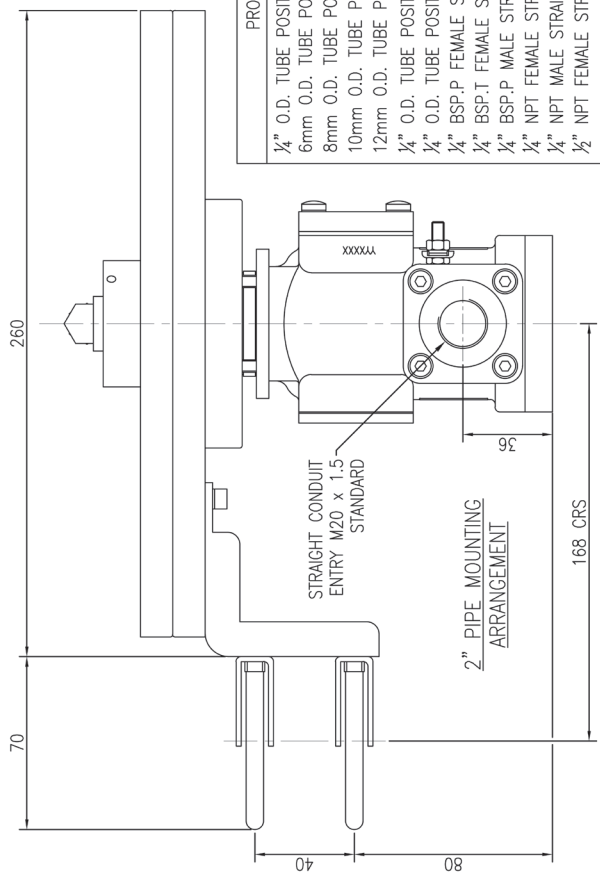
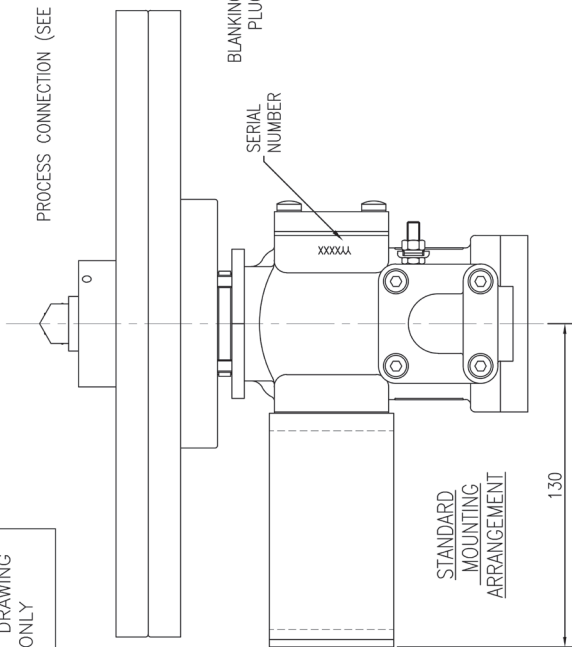
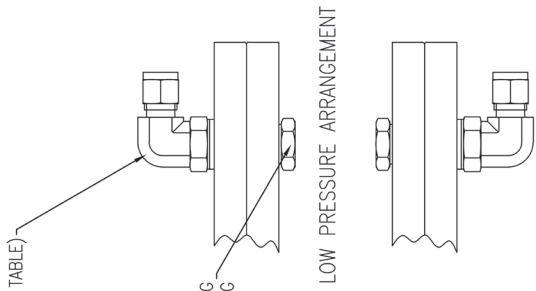
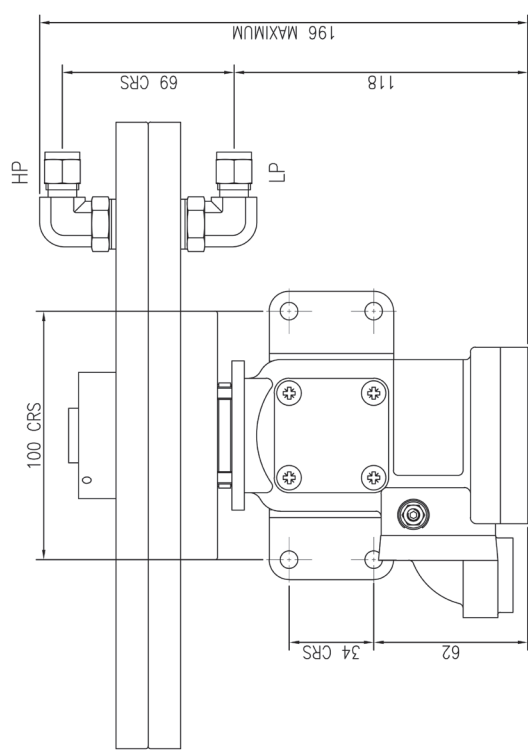
1" DIFFERENTIAL PRESSURE, LOW PRESSURE AND VACUUM

DRAWING REF: 1764/A1

DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED

TYPICAL ARRANGEMENT DRAWING FOR REFERENCE ONLY

PLEASE NOTE: SWITCHES MUST BE MOUNTED INVERTED AS SHOWN



PROCESS CONNECTIONS

1/4" O.D. TUBE POSITIONABLE ELBOW
6mm O.D. TUBE POSITIONABLE ELBOW
8mm O.D. TUBE POSITIONABLE ELBOW
10mm O.D. TUBE POSITIONABLE ELBOW
12mm O.D. TUBE POSITIONABLE ELBOW
1/4" O.D. TUBE POSITIONABLE BRANCH TEE
1/4" O.D. TUBE POSITIONABLE RUN TEE
1/4" BSP.P FEMALE STRAIGHT
1/4" BSP.T FEMALE STRAIGHT
1/4" BSP.P MALE STRAIGHT
1/4" NPT FEMALE STRAIGHT
1/4" NPT MALE STRAIGHT
1/2" NPT FEMALE STRAIGHT

NOT SHOWN: DETAILS ARE AVAILABLE UPON REQUEST

DRAWING REF: 1763/A1

TITAN (XPB) ATEX & IECEx Exd, Exia

INDUSTRIAL SWITCHES

INTRODUCTION

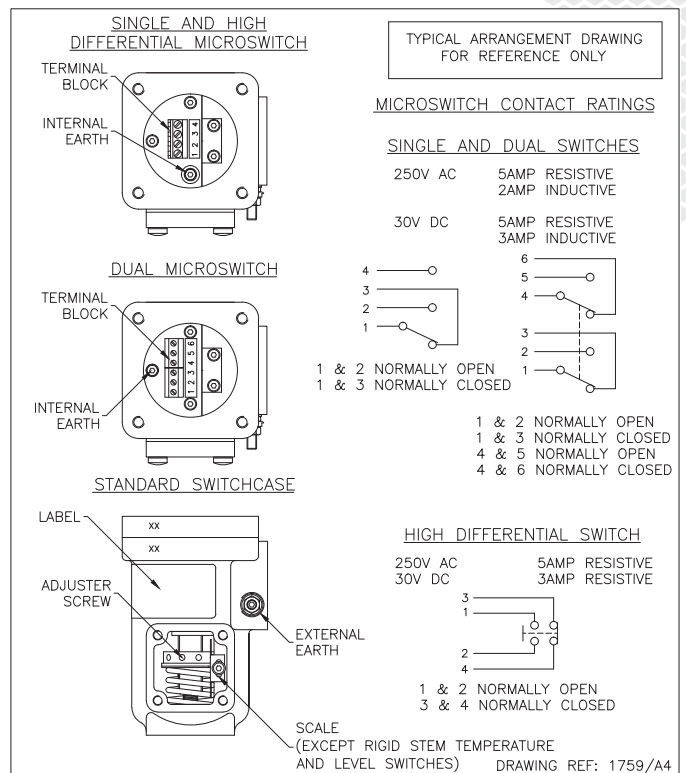
The Titan **pressure, differential pressure, temperature, level and flow** switches are designed for use in environments where explosive gases can be present (e.g. Gas fields, Oil rigs and Chemical plants etc.) and have been ATEX and IECEx certified as detailed overleaf. (SIL 2 - IEC61508 proven reliability).

These switches are manufactured from a high quality casting which offers robust construction and protection to IP66 for use within heavily polluted industrial and marine environments. A special feature of the instruments is the separation of the flameproof and adjustment compartments allowing for safe on-site adjustment of the set point with power on and the switch in operation.

The TITAN Exd certified switches must be installed in accordance with BS EN 60079-14. The certification allows for mounting against a wall or bulkhead with the minimum flamepath distances specified not being applicable.

CALIBRATION

The design features a simple form of calibration adjustment against a scale plate. This allows users to either order units with a specific setting, or stock a mid range setting and then adjust to suit the application. This can be set safely with the switch supply live. On removal of the adjustment cover the adjusting ring can be turned with a small Tommy bar or Allen key. The setting is read from the centre of the red pointer ring against the calibrated scale plate. Rotation to the left will increase the set point and to the right decrease the set point. The adjustment mechanism incorporates a friction device to ensure set point will not change under vibration conditions.



TECHNICAL SPECIFICATION

Switchcase and covers: 316 stainless steel or black anodised aluminium.

Microswitch: 1 x SPCO/SPDT or 2 x SPCO/SPDT gold flashed silver contacts. Dual switches are mechanically linked to provide DPDT switching action, reset of switches could be up to 3% apart. Dual microswitches may increase deadband by a factor of two.

Microswitch rating : 5 Amps @ 250 VAC resistive, 2 Amps @ 250 VAC inductive.
5 Amps @ 30 VDC resistive, 3 Amps @ 30 VDC inductive.

Electrical connections : Terminals suitable for cable 0.5 - 2.5 mm².
(Max 1.5mm² for dual microswitch version)

Electrical Conduit Entry: M20 x 1.5 straight or angled entry. ½" NPT via adaptors

Environmental Protection: IP66 in accordance with BS EN 60529

Vibration and shock parameters: Switches were subjected to Ministry of Defence Type Approval System Test Vibration DGS 350 Paras 0602 & 0603. Shock – BR3021

Temperature Limitations: Pressure, Vacuum and Differential Pressure.

Process: Diaphragm actuated (unless otherwise stated) -30 to +100°C (Nitrile) or -20 to +150°C (Viton). Piston actuated -30 to +100°C (Nitrile) or -20 to +150°C (Viton), -40 to 150°C (PTFE) or -35 to +100°C (EPDM).

Ambient: -50 to +85°C (standard). Storage : -60 to +85° Deg C.

(For temperature, level and flow switches please refer to specific pages).

Certification: Switches can be supplied for gas environments (dust must be specified at time of enquiry).

ATEX/IECEX certified Exd Flameproof - Gas (with or without resistors)

CE Ex II2G Exd IIB + H2T6 Ta -60 to +75°C, T5 Ta +90°C

Special conditions for safe use. 1) No modifications must be made to the flamepaths of the unit without consultation of the drawings listed on the certificate. 2) Suitably rated cable must be selected based on t Class shown above. 3) Fasteners of yield strength 240Nmm² or greater are to be utilised. 4) Only suitably certified Ex d IIC Gb cable glands are to be used.

ATEX/IECEX certified Exia Intrinsically Safe - Gas

CE Ex II1G Exia IIC T6 Ta -50 to +78°C, T5 Ta +93°C, T4 Ta +128°

CE Ex II1G Exia IIC T5 Ta -50 to +72°C, T4 Ta +122°C (with resistors)

Special conditions for safe use. (Category 1, Zone 0) Aluminium may only be used when the ignition hazardous assessment shows that there is no risk of ignition from incendive, impact or abraision sparks.

Accuracy: +/-1% at 20°C

Continuous development may result in changes to specifications without prior notice.

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.