



## Description:

Perseus range of pressure switches are manufactured from robust high quality housings with options of 1 or 2 sealed SPDT microswitches. The switch has been designed for use in environments where explosive gases can be present (e.g. gas fields, oil rigs & chemical plants).

One of the benefits of the Perseus 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

Black anodised aluminium switchcase to IP67 standards.

Internal adjustment scale.

SIL 2 – IEC61508 proven reliability

Single or dual microswitch option.

Settings from 4 Bar to 800 Bar

ATEX/IECEx Flameproof version  
CE II2G Exd IIC  
T6 Ta = - 50 to +74°C & T5 Ta = - 50 to +89°C. (with or without resistors)

### OPTIONS

ATEX/IECEx/AEx Intrinsically safe  
CE II1G Exia IIC  
T6 - 50 to +78°C, T5 +93°C, T4 +128°C  
(without resistors)

ATEX/IECEx/AEx Intrinsically safe  
CE II1G Exia IIC  
T5 - 50 to +72°C & T4 - 50 to +122°C  
Wetted parts NACE MR-01-75 compliant

## Exd Flameproof – Perseus High Pressure Switch

- Adjustment between 4 Bar to 800 Bar
- Black Anodised IP67 Aluminium Housing
- Internal adjustment Scale
- SIL 2 IEC61508
- Single or Dual Switching Option
- ATEX/IECEx certified Flameproof Exd
- ¼"-½" BSPP or NPT Process connection



### Description - Exd

Manufactured in the UK, the Perseus range of Exd pressure switches are designed to work in the most demanding of hazardous areas. Developed for low pressure switching and set points from 4 Bar – 800 Bar. Wetted parts are 316 stainless steel with process connections of ¼" & ½" BSPP or NPT. Seal options are offered in Viton or nitrile.



### Beschreibung -Exd

Die in Großbritannien hergestellten Perseus-Druckschalter sind für den Einsatz in den anspruchsvollsten Bereichen konzipiert. Entwickelt für Niederdruck-Schalt- und Schaltpunkte von 4 Bar – 800 Bar. Medienberührte Teile sind Edelstahl 316 mit Prozessanschlüssen ¼" & ½" BSPP oder NPT. Dichtungsoptionen werden in Viton oder Nitril angeboten.



### Descripción - Exd

Fabricadas en el Reino Unido, la gama de presostatos Perseus está diseñada para trabajar en las áreas más peligrosas y peligrosas. Desarrollado para conmutación a baja presión y puntos de ajuste de 4 Bar – 800 Bar. Las piezas húmedas son de acero inoxidable 316 con conexiones de proceso de ¼" & ½" BSPP o NPT. Las opciones de sellado se ofrecen en Viton o nitrilo.



### La description-Exd

Fabriqué au Royaume-Uni, la gamme de pressostats Perseus est conçue pour fonctionner dans les zones dangereuses les plus exigeantes. Développé pour la commutation basse pression et les points de consigne de 4 Bar – 800 Bar. Les pièces en contact avec le fluide sont en acier inoxydable 316 avec raccords process ¼" & ½" BSPP ou NPT. Les options d'étanchéité sont offertes en Viton ou en nitrile.



All information is sourced from our manufacturer's data and is intended for guidance only - ValvesOnline can accept no liability for changes, omissions or errors.

## HIGH PRESSURE RANGES

### Piston actuated with sealing ring

ADJUSTMENT RANGE BAR	ADJUSTMENT RANGE PSI	MAX. WORKING PRESSURE BAR	DEADBAND BAR	PISTON CODE	SPRING CODE
4 - 17.5	30 - 230	700	0.5 - 1.5	S6	B
10 - 36	140 - 540	700	1 - 3	S6	W
28 - 108	400 - 1600	700	2 - 8	S3	W
50 - 200	725 - 2825	700	3 - 15	S2	W
115 - 455	1600 - 6600	700	8 - 35	S1	W
200 - 800	2900 - 11600	1000*	15 - 60	S7	W

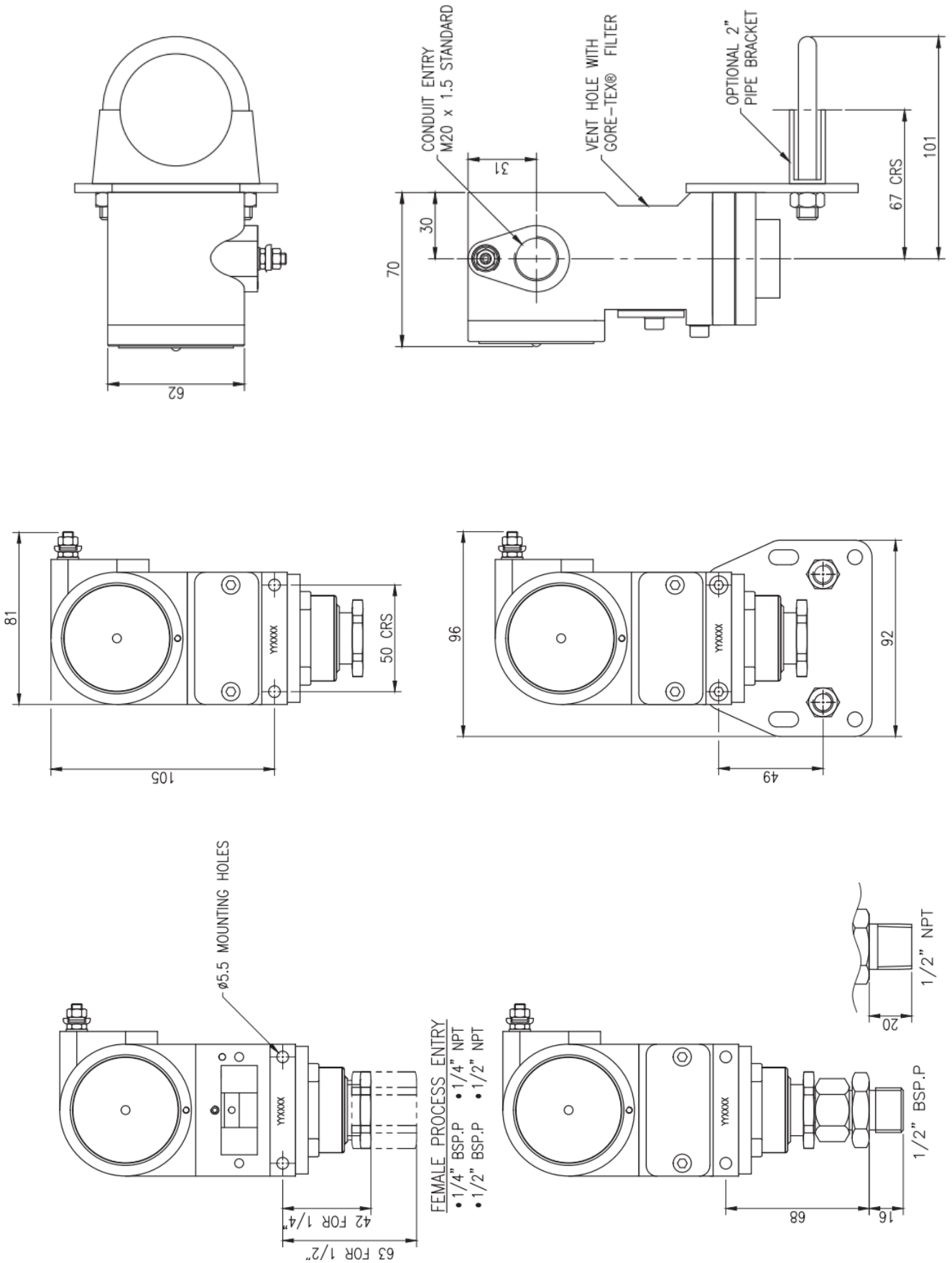
\*1/4" Process connection. Only 700 Bar if 1/2" conn. selected

Wetted parts : 316 stainless steel with either Viton (std), Nitrile, PTFE or EPDM dependant on selection.

PART NUMBER BREAKDOWN				ELECTRICAL CONNECTIONS	
				_ = M20 LEAVE BLANK C = 1/2" NPT ADAPTOR F = M25 ADAPTOR	
<b>SWITCHCASE</b> PF6 = STANDARD PR6 = RESISTOR OPTION	<b>MICROSWITCH OPTIONS</b> 1 = 1 X SPDT 2 = 2 X SPDT 9 = HIGH DEADBAND DUAL SWITCHES ARE MECHANICALLY LINKED TO PROVIDE DPDT	<b>SPRING CODE</b> PLEASE REFER TO RANGE TABLE	<b>BRACKET</b> X = STD - NO BRACKET H = 2" PIPE.R = XPB SPECIAL		
			<b>PISTON CODE</b> PLEASE REFER TO RANGE TABLE		
↓	↓	↓	↓	↓	↓
<b>P</b>	<b>F</b>	<b>6</b>	<b>1</b>	<b>A</b>	<b>B</b>
				↑	↑
			<b>/</b>	<b>B</b>	<b>W</b>
				↑	↑
			<b>B</b>	<b>W</b>	<b>3</b>
				↑	↑
			<b>2</b>	<b>/</b>	<b>S</b>
				↑	↑
			<b>7</b>	<b>X</b>	<b>B</b>
				↑	↑
				<b>-</b>	
<b>SWITCHCASE MATERIAL</b> A = BLACK ANODISED ALUMINIUM		<b>SEAL MATERIAL</b> A = NITRILE B = VITON D = PTFE E = EPDM FOR SETTINGS ABOVE 10 BAR MAX 100 BAR ** NOT AVAILABLE WITH STAINLESS PISTON * & ** FEMALE PROCESS CONNECTION ONLY		<b>PROCESS CONNECTION</b> 31 = 1/4" BSPP FEMALE 32 = 1/4" NPT FEMALE 33 = 1/2" BSPP FEMALE 34 = 1/2" NPT FEMALE 41 = 1/2" BSPP MALE 42 = 1/2" NPT MALE *100 BAR MAX PRESSURE ONLY AVAILABLE WITH 1/4" PROCESS CONNECTION.	
<b>CERTIFICATION</b>  B = ATEX/IECEx Exd FLAMEPROOF				<b>ELECTRICAL CONNECTION</b> B = RIGHT HAND SIDE	

DIMENSIONS IN MM UNLESS STATED

DRAWING FOR REFERENCE ONLY



BRACKET OPTIONS

# PERSEUS Exd

## INTRODUCTION

The Perseus pressure, vacuum, differential pressure, temperature, and level 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 (SIL2 - IEC61508 proven reliability).

These switches are manufactured from a high quality casting which offers robust construction and protection to IP67 for use within heavily polluted industrial 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.

Perseus Exd switches must be installed in accordance with BS EN 60079-14

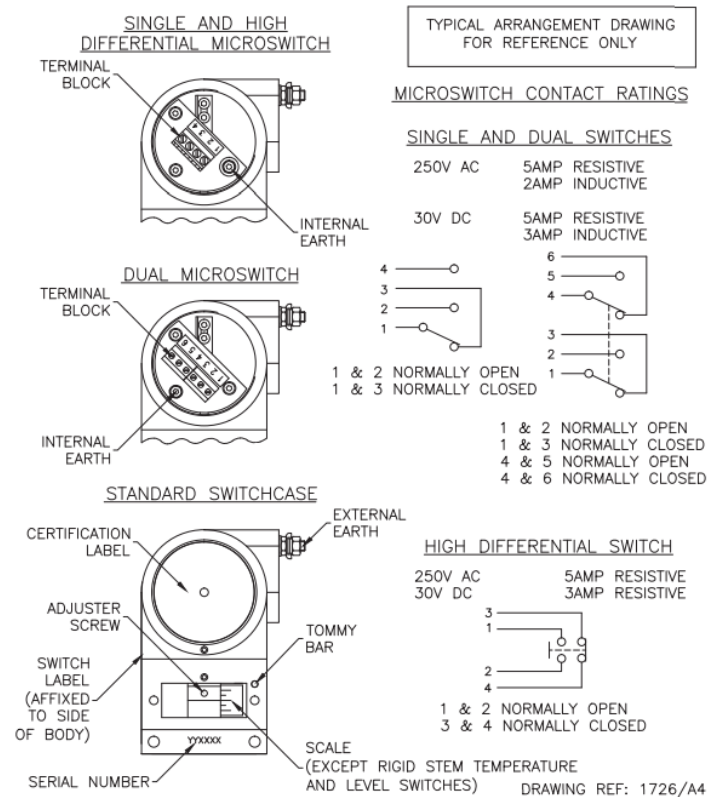
## CALIBRATION

The design features a simple form of adjustment against a calibrated scale. This enables a user to order switches set at a predetermined point or stock a mid range setting and adjust switches to suit the particular application.

The set point can be safely adjusted with the switch electrically live.

Adjustment is made by removing the access cover and rotating the set point adjuster using the supplied tommy bar stowed to the right of the scale plate.

The setting is read from the centre of the set point adjuster against the calibrated scale. Rotation to the left will increase the set point and to the right decrease it.



# TECHNICAL SPECIFICATION

**Switchcase** & covers: Black anodised aluminium case and 316 stainless steel adjustment cover.

**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 @ 250VAC inductive  
5 Amps @ 30VDC resistive, 3 Amps @ 30 VDC inductive

**Electrical Connections:** Terminals suitable for cable 0.5 - 2.5 mm<sup>2</sup>.  
(Max 1.5 mm<sup>2</sup> for dual microswitch version)

**Electrical Conduit Entry:** M20 x 1.5 ISO. ½" NPT via adaptors

**Environmental Protection:** IP67 in accordance with BS EN 60529 : 1992 & IEC 60529 : 2001.

**Vibration and shock parameters:** Switches were subjected 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).

**Temperature Limitations:** Pressure, Vacuum and Differential Pressure.

**Process:** Diaphragm actuated (unless otherwise stated) -30 to +90°C (Nitrile) or -20 to +150 Deg.C (Viton). Piston actuated -30 to 120°C (Nitrile), -20 to +150°C (Viton), -50 to +150°C (PTFE) or -30 to +125°C (EPDM).

**Ambient:** -50 to +85°C (standard). **Storage:** -50 to +85 Deg.C  
(For temperature, level and flow switches please refer to specific pages).

**Certification:** Switches can be supplied for gas environments.

**ATEX/IECEX certified Exd Flameproof** - Gas (with or without resistors)  
CE Ex II2G Exd IIC T\* Gb. T6 Tamb -50°C to +74°C, T5 Tamb -50°C to +89°C.  
Special conditions for safe use. 1) No modifications must be made to the flamepaths of the unit without consultation of the drawings. 2) When conduit is utilised it must be sealed in accordance with Clause 13.2.2 of EN 60079-1:2007 with a suitably approved (Ex d IIC Gb) conduit sealing device. 3) Suitably rated cable must be selected based on T Class shown above. 4) Only suitably certified Ex d IIC Gb cable glands 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°C or  
CE Ex II1G Exia IIC T5 Ta -50 to +72°C, T4 Ta +122°C (with resistors).  
Special conditions for safe use. 1) Aluminium may only be used when the ignition hazardous assessment shows there is no risk of ignition from incandive impact or abrasion sparks.

**AEX certification** is available on medium pressure, metal diaphragm and high pressure switches and rigid stem temperature switches.

**Accuracy:** +/-1% at 20°C.