

# XHS411 Datasheet

## SINGLE-HEATED PRESSURE REGULATOR



● Gas ● Liquid ● Diaphragm ● Piston ● Self-Venting ● Non-Venting | Max Inlet: 414 bar (6,000 psi) | Max Outlet: 150 bar (2,175 psi) | Cv 0.06

### IN-LINE



### SIDE-ENTRY



### PRODUCT CERTIFICATIONS



### STANDARD MATERIALS OF CONSTRUCTION

| PART               | MATERIALS  |
|--------------------|--|
| Body and Bonnet    | ASTM A479 316/316L Stainless Steel (UNS S31600/S31603) |
| Main Valve Pin     | ASTM A479 316/316L Stainless Steel (UNS S31600/S31603) |
| Soft Seat          | PEEK™ (450G)   |
| Valve Spring       | Inconel® X750 (UNS N07750)                             |
| Piston             | ASTM A479 316/316L Stainless Steel (UNS S31600/S31603) |
| O-Rings            | FKM/FPM (Viton)  |
| Electric Enclosure | Aluminium  |
|                    | ASTM A479 316/316L Stainless Steel (UNS S31600/S31603) |

### INTRODUCING THE XHS411...

The XHS411 is a piston-sensed, economical single heated regulator, available in side-entry (SE) or in-line (IL) heat transfer options to maintain sample gases in their vapour state. The SE design can be used where heat transfer is less critical, and where installations have height restrictions. The IL design maximises the heat transfer area via a spiral machined heater sheath, which mixes the gas and ensures efficient heat transfer. The XHS411 is certified to ATEX, IECEx and CSA and its electrical enclosure meets the requirements of IP66 and NEMA 4X specifications.

### ATEX AND IECEx EQUIPMENT MARKINGS

Ex II 2 G  
Ex db IIC T3 Gb  
-40°C ≤ Ta ≤ 60°C  
CE 2183

### USA AND CANADA EQUIPMENT MARKINGS

US and CAN: CL I, D1 T3 Gps A-D  
US: CL1, Zone 1 AEx db IIC T3 Gb  
CAN: Ex db IIC T3 Gb (as IEXEx)  
Ta: -40°C to 59°C

### SPECIFICATION

|                            |                                  |
|----------------------------|----------------------------------|
| Max. Rated Inlet Pressure  | 414 bar (6,000 psi)              |
| Outlet Ranges              | Up to 150 bar (2,175 psi)        |
| Design Proof Pressure      | 150% max. working pressure       |
| Seat Leakage               | In accordance with ANSI/FCI 70-3 |
| Wattage: 110V @ 60 Hz      | 100 W                            |
| Wattage: 240V @ 50 Hz      | 100 W                            |
| Temperature Control Range  | 30°C to 180°C                    |
| Min. Ambient Temperature   | -40°C                            |
| Max. Enclosure Temperature | 65°C                             |
| Regulator Max. Body Temp   | 150°C                            |
| Weight                     | 4.1kg (9lbs)                     |

Note: Pressure regulator rating may be limited by connection type, Cv and/or seat material. Contact the office for specific pressure or temperature requirements.

### FEATURES AND BENEFITS

**1** ATEX, IECEx & CSA CERTIFIED

Certified for use in hazardous areas.

**2** ALTERNATIVE MATERIALS AVAILABLE

Manifold is available in aluminium or 316 stainless steel.

**3** DIGITAL TEMPERATURE READOUT

Digital display of set point or actual temperature (°C or °F).

**4** OPTIONAL POWER SUPPLY

110 or 230V AC.

**5** LOCAL OR REMOTE ADJUSTMENT

Local or remote temperature setpoint adjustment via analogue 4-20mA input signal.

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#### PRESSURE TECH LTD

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 ☒ Liquid 
 ☒ Diaphragm 
 ☒ Piston 
 ☒ Self-Venting 
 ☒ Non-Venting 
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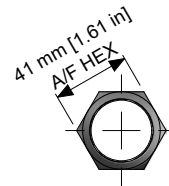
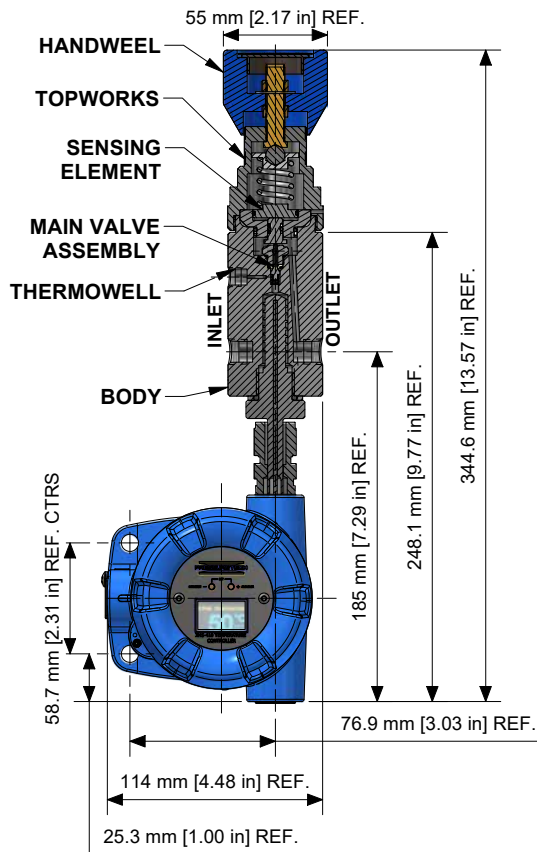
### DRAWINGS AND INSTALLATION DIMENSIONS

**Note:**

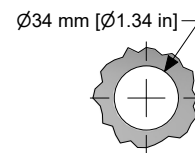
All gauge ports are 1/4" NPT as standard.

Dimensions shown for 1/4" NPT option and standard configurations only - please contact the office for other options.

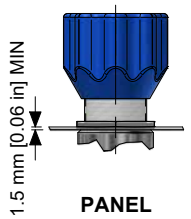
IN-LINE



**PANEL MOUNT NUT**  
(PT-C-024)  
STAINLESS STEEL

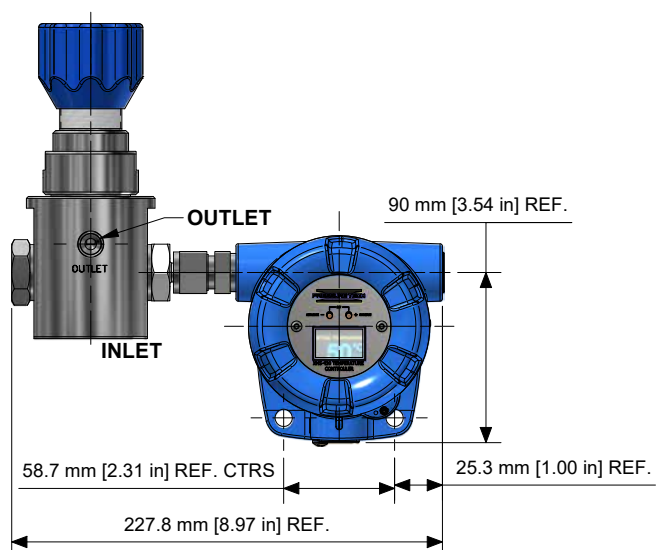
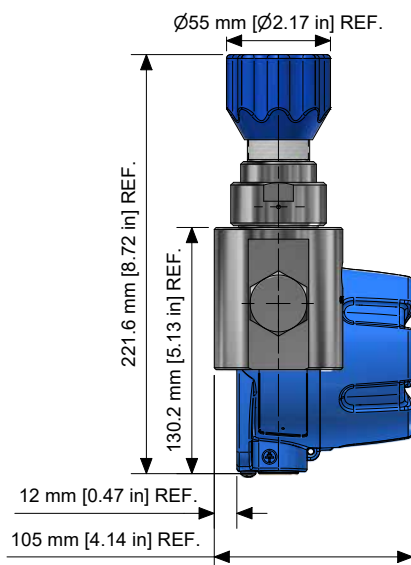


**PANEL CUTOUT**



**PANEL**

SIDE-ENTRY



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SINGLE-HEATED PRESSURE REGULATOR



Gas

Liquid

Diaphragm

Piston

Self-Venting

Non-Venting

Max Inlet: 414 bar (6,000 psi)

Max Outlet: 150 bar (2,175 psi)

Cv 0.06

## ENCLOSURE OPTIONS

| ENCLOSURE OPTIONS           |             |             |             |          |
|-----------------------------|-------------|-------------|-------------|----------|
| -                           | CONDUIT (A) | CONDUIT (B) | CONDUIT (C) |          |
| ALUMINIUM WITH WINDOW       | A           | 1/2" NPT    | 1/2" NPT    | 1/2" NPT |
|                             | B           | NONE        | 1/2" NPT    | 1/2" NPT |
|                             | C           | NONE        | M20         | M20      |
| ALUMINIUM SOLID COVER       | D           | 1/2" NPT    | 1/2" NPT    | 1/2" NPT |
|                             | E           | NONE        | 1/2" NPT    | 1/2" NPT |
|                             | F           | NONE        | M20         | M20      |
| STAINLESS STEEL WITH WINDOW | G           | 1/2" NPT    | 1/2" NPT    | 1/2" NPT |
|                             | H           | NONE        | 1/2" NPT    | 1/2" NPT |
|                             | J           | NONE        | M20         | M20      |
| STAINLESS STEEL SOLID COVER | K           | 1/2" NPT    | 1/2" NPT    | 1/2" NPT |
|                             | L           | NONE        | 1/2" NPT    | 1/2" NPT |
|                             | M           | NONE        | M20         | M20      |

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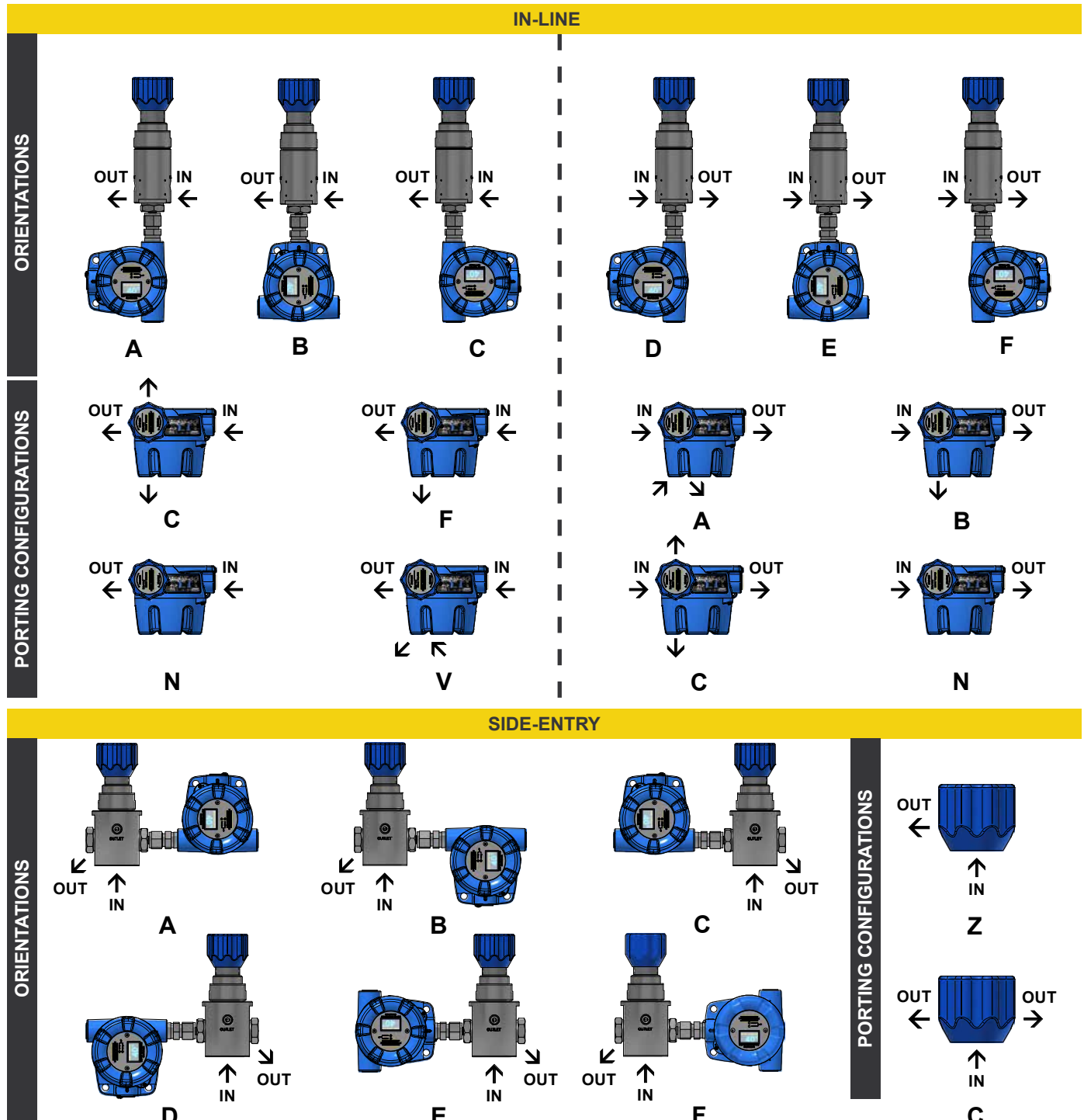
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### ASSEMBLY ORIENTATIONS

To select a valid assembly, choose your required orientation and then combine with a compatible porting configuration. Please note - gauge ports must be in a forward-facing position.



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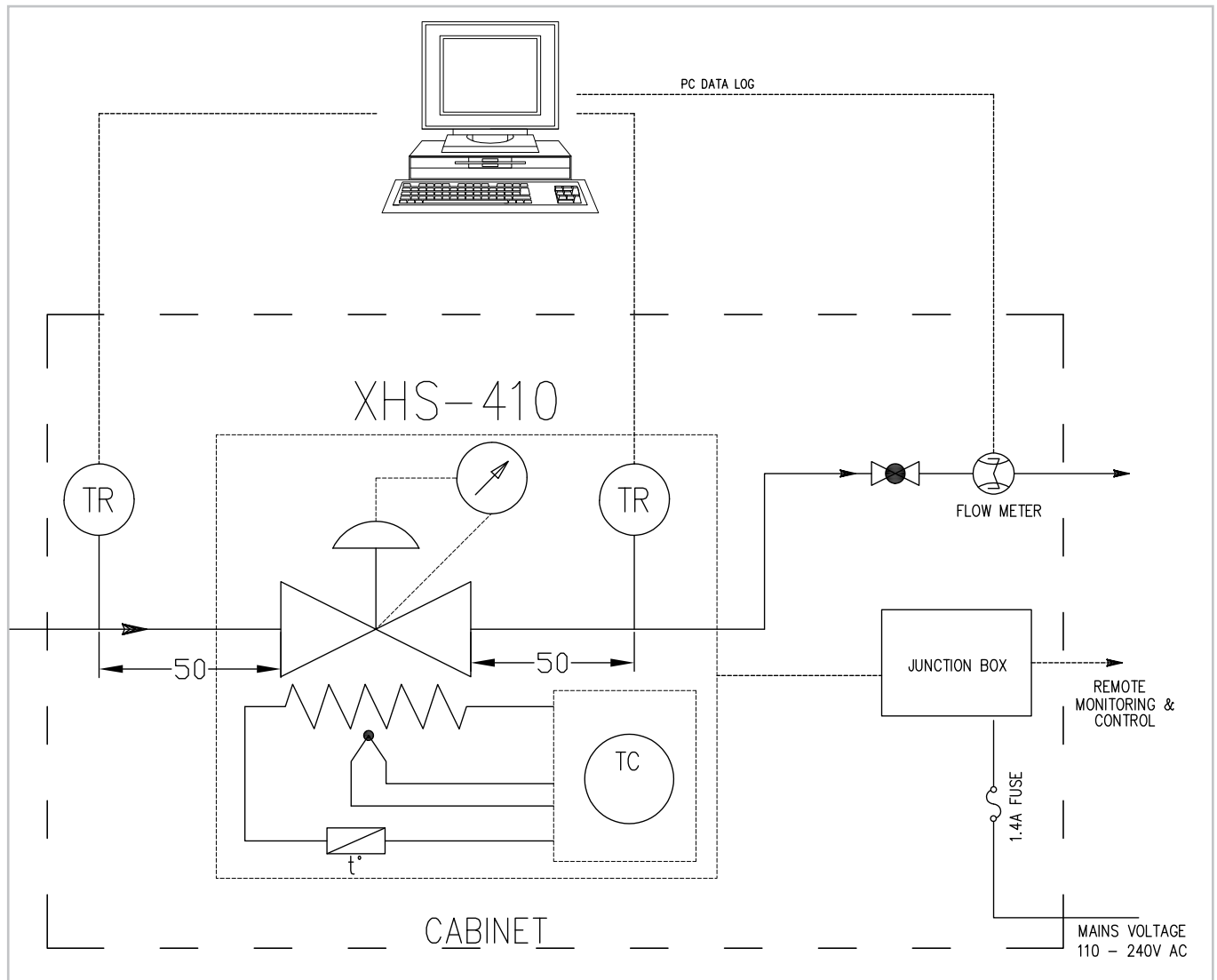
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### FLOW TEST LAYOUT



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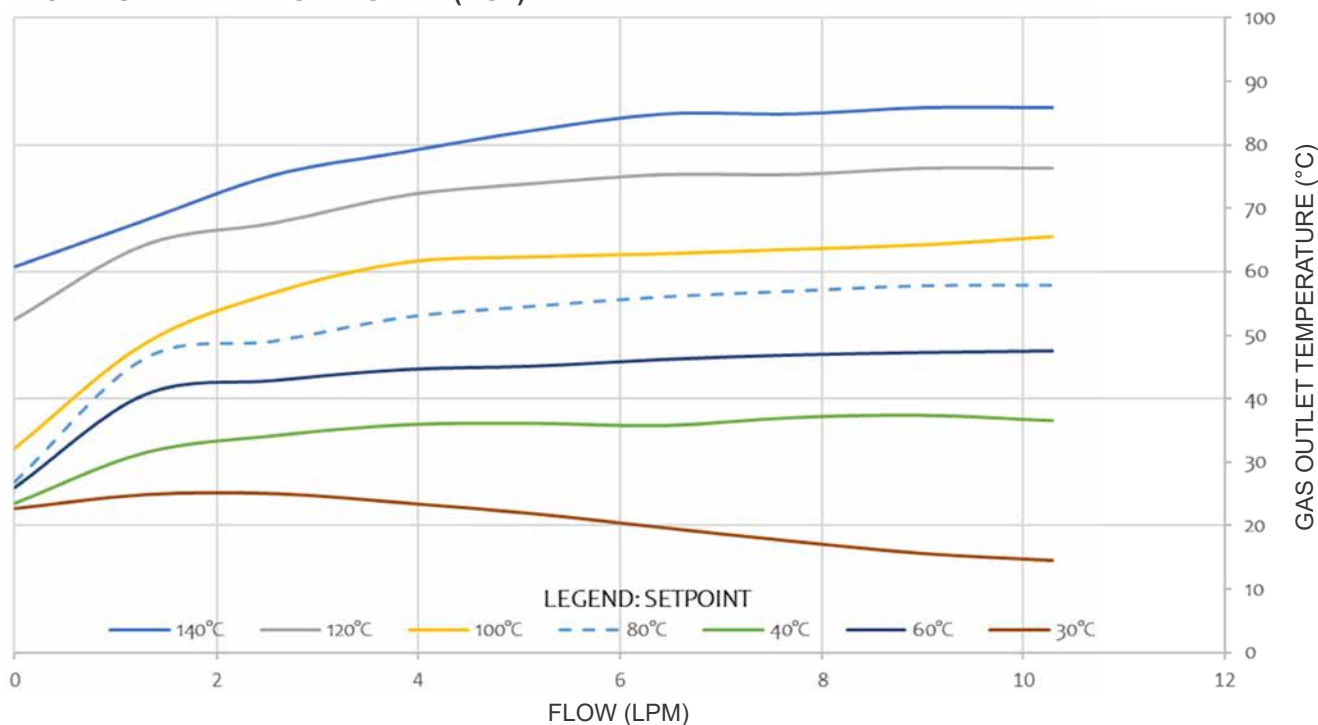
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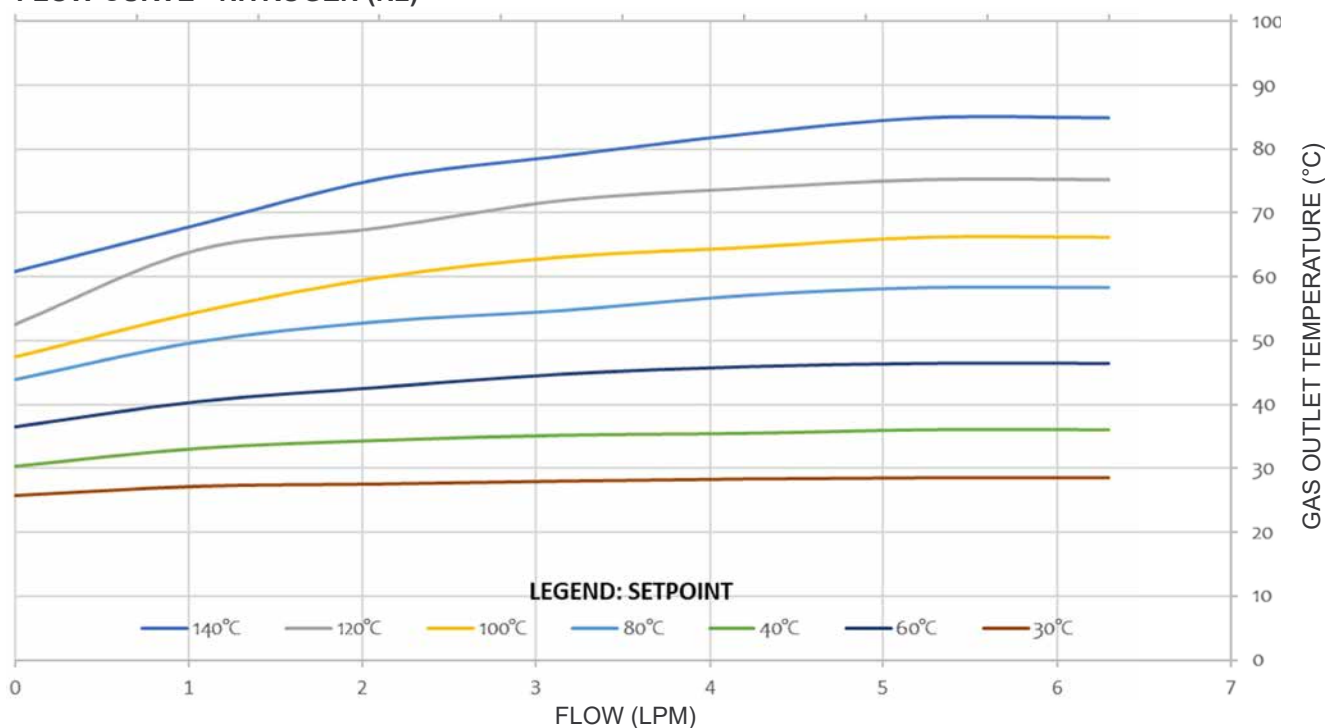


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## FLOW CURVE - CARBON DIOXIDE (CO<sub>2</sub>)



## FLOW CURVE - NITROGEN (N<sub>2</sub>)



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## ORDERING INFORMATION

To build a Pressure Tech part number, simply combine the characters identified below in sequence:

| XHS411                     | IL  | S  | 10   | P   | 2   | A  | B  | N  | XXX  |
|----------------------------|---|--|--|---|---|--|--|--|--|
| <b>REGULATOR</b><br>XHS411 | <b>HEATER CARTRIDGE POSITION</b><br>IL – In-Line<br>SE – Side-Entry | <b>BODY MATERIAL**</b><br>S – ASTM A479 316/316L Stainless Steel | <b>CONTROL PRESSURE</b><br>10 – Up to 10 bar (145 psi)<br>20 – Up to 20 bar (290 psi)<br>50 – Up to 50 bar (725 psi)<br>100 – Up to 100 bar (1,450 psi)<br>150 – Up to 150 bar (2,175 psi) | <b>SEAT MATERIAL**</b><br>K – PCTFE – max. in 300 bar/4,350 psi<br>M – Polysulfone (PSU) – max. in 414 bar/6,000 psi<br>P – PEEK™ – max. in 414 bar/6,000 psi | <b>POWER SUPPLY</b><br>1 – 110V AC<br>2 – 230V AC | <b>MODIFICATIONS*</b><br>Contact the office for information. | <b>PORTING CONFIGURATION</b><br>N - No gauge ports<br>Refer to page 4 for porting options. | <b>ORIENTATION</b><br>Refer to page 4 for orientation options. | <b>ENCLOSURE OPTIONS</b><br><b>Aluminium with Window</b><br>A - 1/2" NPT (A), 1/2" NPT (B), 1/2" NPT (C)<br>B - None (A), 1/2" NPT (B), 1/2" NPT (C)<br>C - None (A), M20 (B), M20 (C)<br><b>Aluminium with Solid Cover</b><br>D - 1/2" NPT (A), 1/2" NPT (B), 1/2" NPT (C)<br>E - None (A), 1/2" NPT (B), 1/2" NPT (C)<br>F - None (A), M20 (B), M20 (C)<br><b>Stainless Steel with Window</b><br>G - 1/2" NPT (A), 1/2" NPT (B), 1/2" NPT (C)<br>H - None (A), 1/2" NPT (B), 1/2" NPT (C)<br>J - None (A), M20 (B), M20 (C)<br><b>Stainless Steel with Solid Cover</b><br>K - 1/2" NPT (A), 1/2" NPT (B), 1/2" NPT (C)<br>L - None (A), 1/2" NPT (B), 1/2" NPT (C)<br>M - None (A), M20 (B), M20 (C)<br>Refer to page 3 for location of conduits A, B and C. |

## OPTIONAL EXTRAS

|                     | PART NUMBER  | DESCRIPTION               |
|---------------------|--------------|---------------------------|
| Service Kit         | SRK-LF311... | Various options available |
| Panel Mounting Ring | PT-C-024     | -                         |

Note: Ancillary Equipment also available

**TRADEMARKS:** PEEK™ is a trademark of Victrex PLC  
Inconel® is a registered trademark of Inco Alloys International

\* Where applicable  
\*\* Other materials may be available

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