

# FRE≈FLOW™

## PRESSURE SENSOR

### MODEL: PT-G3

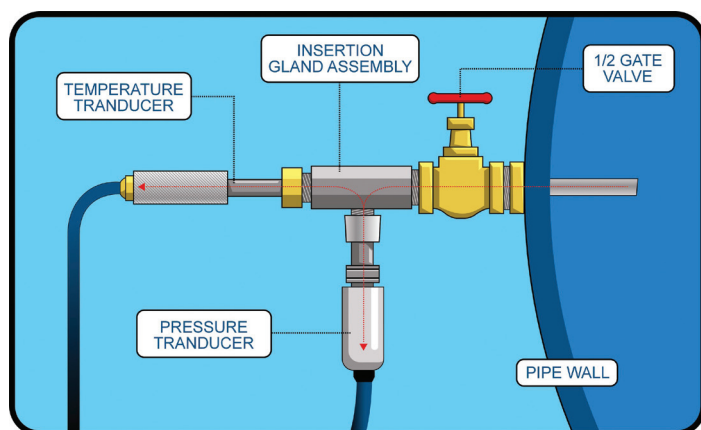
VERSION 1.5

A pressure transducer will be attached to the suction and delivery side of the pump. The pressure range of the transducer will be selected to suit the application, but will typically range from 1 to 50 barg.

Each FreeFlow Instrument (FFI) is designed to connect 2 pressure transducers to sample pressure readings on the suction and delivery side of the pump. A cable length of 20 meters is fitted to each transducer as standard, so that the FreeFlow Instrument can be placed beside the pump under test and both suction and delivery tapings can be reached.

Riventa provide customised pressure transducers which offer the best in class performance for Thermodynamic and Convention Pump performance measurement applications. These sensors are calibrated to meet the accuracy requirements of the FreeFlow Instrument. Riventa apply automatic calibration over the whole pressure range to give  $\pm 0.1\%$  accuracy.

The transducer core is a high integrity silicon diaphragm and titanium module – designed to give very high accuracy and durability. Advanced compensation techniques give excellent performance over extended temperature ranges.



### Key Features

- SILICON-ON-SAPPHIRE SENSOR TECHNOLOGY
- PRESSURE RANGES  
Standard Suction 0 - 10barg (1 - 2.5kgf/cm<sup>2</sup>)  
Standard Delivery 0 - 20barg (0 - 20kgf/cm<sup>2</sup>)
- SUPERB THERMAL PERFORMANCE
- STATE-OF-THE-ART TECHNOLOGY
- 0-100mV, 0-5V or 0-10V OUTPUT
- $\pm 0.1\%$  ACCURACY
- OUTSTANDING LONG TERM STABILITY  
ALL TITANIUM ALLOY WETTED PARTS  
HIGH OPERATING TEMPERATURE



RIVENTA™

Technical Specification	
Burst pressure	2 x rated pressure
Measurement Range	Discharge pressure 0~20kgf/cm <sup>2</sup> (20 barg) Suction pressure 1~2.5kgf/cm <sup>2</sup> (10 barg)
Positive pressure media	Fluids compatible with quartz and titanium.
Transduction principle	Integrated silicon strain gauge bridge.
Excitation voltage	10 Volts @ 5mA nominal.
Common mode voltage	Typically + 6.5 Volts with respect to the -Ve supply at 10 Volts excitation
Output impedance	2000 ohms nominal.
Load impedance	Greater than 100K ohms for quoted performance.
Pressure Measurement Accuracy	±0.1%
Zero offset	±3mV maximum.
Span setting	± 10mV maximum. Units of the same range are matched to closer than ± 3mV.
Operating temperature range	0°C to +80°F
Temperature effects	±0.25% total error band 0° to 40°C Typical thermal zero and span coefficients of ±0.015%/°C
Natural frequency	28 kHz for 0.3 psi increasing to 360 kHz for 30 bar.
Acceleration sensitivity	0.006% F.S./g for 0.3 bar decreasing to 0.0002% F.S./g for 30 bar.
Mechanical shock	1000g for 1ms half sine pulse in each of 3 mutually perpendicular axis will not affect calibration.
Vibration	Response less than 0.05% F.S./g at 30g peak 10Hz-2kHz, limited by 0.5 in. double amplitude (MIL-STD Proc 514.2-2 Curve L).
Cable Length	20m Standard
Weight	100g nominal.
Electrical Connection	6 pin XLR connector or Glanded Hard-wired
Fluid connection	Tapping 3/4" BSP gate valve Insertion gland; quick release hydraulic coupling

## Riventa Contact Details

For all enquires please email [info@riventa.co.uk](mailto:info@riventa.co.uk)

Visit our website for further details [www.riventa.com](http://www.riventa.com)

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