STG700 SmartLine Gauge Pressure Specification 34-ST-03-102, April 2023

Introduction

Part of the SmartLine® family of products, the STG700 and STG70L are suitable for monitoring, control and data acquisition featuring piezoresistive sensor technology combining pressure sensing with on chip temperature compensation capabilities providing high accuracy, stability and performance over a wide range of application pressures and temperatures. The SmartLine family is also fully tested and compliant with Experion® PKS providing the highest level of compatibility assurance and integration capabilities. SmartLine easily meets the most demanding application needs for pressure measurement applications.

Best in Class Features:

- Accuracies up to 0.055% of span standard & 0.04% of span optional
- Stability up to 0.02% of URL per year for 10 years
- Automatic temperature compensation
- Rangeability up to 100:1
- Response times as fast as 100ms
- Alphanumeric display capabilities
- External zero, span, & configuration capability
- Polarity insensitive electrical connections
- Comprehensive on-board diagnostic capabilities
- Integral Dual Seal design for safety based on ANSI/NFPA 70-202 and ANSI/ISA 12.27.0
- Full compliance to SIL 2/3 requirements as a standard.
- Modular design characteristics
- Available additional with 4-year warranty

Figure 1 – STG700 Gauge Pressure Transmitters feature field-proven piezoresistive sensor technology

Communications/Output Options:

- Honeywell Digitally Enhanced (DE)
- HART ® (version 7.0)
- FOUNDATION™ Fieldbus

All transmitters are available with the above listed communications protocols.

Span & Range Limits:

Model	URL psi (bar)	LRL psi (bar)	Min Span psi (bar)
STG730/STG73L	50 (3.5)	-14.7 (-1.0)	0.5 (0.035)
STG740/STG74L	500 (35)	-14.7 (-1.0)	5 (.35)
STG770/STG77L	3000 (210)	-14.7 (-1.0)	30 (2.1)
STG78L	6000 (420)	-14.7 (-1.0)	60 (2.06)
STG79L	10000 (690)	-14.7 (-1.0)	100 (6.9)

Materials Specifications (see model selection guide for availability/restrictions with various models)

Parameter	Description
Barrier Diaphragms Material	**STG700**: 316L SS, Hastelloy® C-276[2], Monel® 400 [3], Tantalum **STG70L**: 316L SS, Hastelloy C-276
Process Head Material	**STG700**: Carbon Steel (Zinc Plated)[5], 316 SS[4], Hastelloy® C-276[6], Monel® 400 [7] **STG70L:** 316L SS, Hastelloy® C-276[6]
Vent/Drain Valves & Plugs [1]	**STG700:**316 SS[4], Hastelloy C-276[2], Monel 400 [7] **STG70L:** N/A
Head Gaskets	**STG700:** Glass-filled PTFE standard. Viton® and graphite are optional. **STG70L:** N/A
Meter Body Bolting	**STG700:** Carbon Steel (Zinc plated) standard. Options include 316 SS, NACE A286 SS bolts and nuts or NACE A286 SS bolts and 304 SS nuts **STG70L:** N/A
Mounting Bracket	Carbon Steel (Zinc-plated) or 304 Stainless Steel or 316 Stainless Steel. See Figure 3 and Figure 5
Fill Fluid	Silicone, CTFE, NEOBEE M-20, Silicone 704.
Electronic Housing	Pure Polyester Powder Coated Low Copper (<0.4%)-Aluminum. Meets NEMA 4X, IP66, IP67 and NEMA 7 (explosion proof). All stainless steel housing is optional.
Process Connections	**STG700:** ½ -inch NPT(female), DIN 19213 (standard) **STG70L:** ½ -inch NPT(female), ½ -inch NPT male, 9/16 Aminco, DIN19213 (except STG79L), G½ -B Male Thread
Wiring	Accepts up to 16 AWG (1.5 mm diameter).
Dimensions	See Figure 4 and Figure 6
Net Weight	**STG700:** 8.3 pounds (3.8 Kg). **STG70L:** 3.6 pounds (1.6 Kg) with Aluminum Housing

[1] Vent/Drains are sealed with Teflon®   [2] Hastelloy® C-276 or UNS N10276
[3] Monel® 400 or UNS N04400   [4] Supplied as 316 SS or as Grade CF8M, the casting equivalent of 316 SS.
[5] Carbon Steel heads are zinc-plated and not recommended for water service due to hydrogen migration. For that service, use 316 stainless steel wetted Process Heads.
[6] Hastelloy® C-276 or UNS N10276. Supplied as indicated or as Grade CW12MW, the casting equivalent of Hastelloy® C-276
[7] Monel® 400 or UNS N04400. Supplied as indicated or as Grade M30C, the casting equivalent of Monel® 400

Reference Dimensions: $\frac{\text{millimeters}}{\text{inches}}$

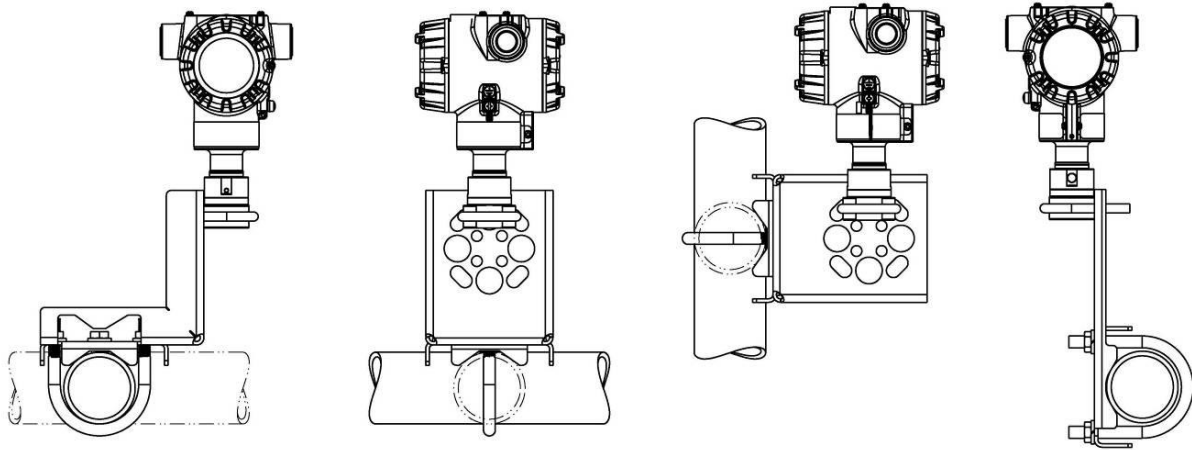## Mounting Configurations (Inline Designs)

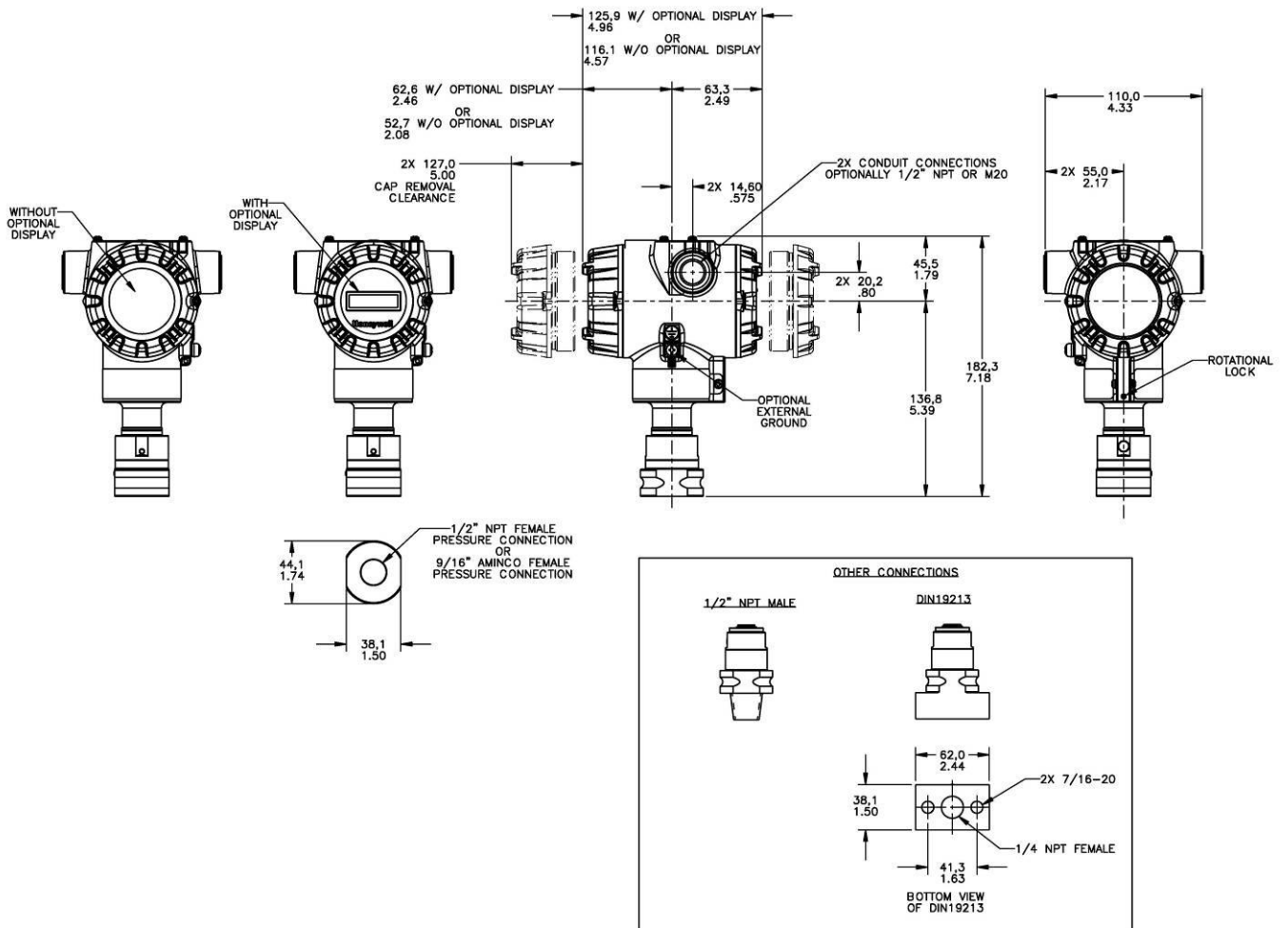**Figure 5 – Mounting Options (Inline Design)**

Figure 6 – Typical dimensions of STG74L, STG77L, STG78L, & STG79L for reference