

aSURE™ Instrument Tees

Single Use Pressure Sensing Made Simple.

- Sterile barrier
- Superior accuracy
- Compatibility and flexibility
- Smaller environmental footprint and compliance



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The Functional Design Provides a Fused Protective Barrier for Aseptic Applications

aSURE™ Instrument Tees utilize a unique approach that incorporates an elastomeric sanitary diaphragm fused into a singular sanitary fitting. The result is a gendered connection point that accepts any standard sanitary pressure well connection. It provides superior ergonomics, exacting alignment and no risk of bio egress.

aSURE™ fittings have been developed for single-use connectivity applications where the most stringent practices are required. They are manufactured from medical-grade materials

Key Features

- Maintains a Sterile Barrier
- Industry Leading accuracy
- RoHS and WEEE Compliance
- Expansive Instrument options with autonomy of manufacturer selection
- Lower cost of overall ownership
- Industry-standard wiring interface
- Improves measurement reliability due to no signal drift
- Fits standard and established calibration programs

Applications

- Tangential Flow Filtration-Feed, retentate, and permeate streams
- Multi-stage depth filtration
- Bioreactor Pressure monitoring
- Materials compatible with Dimethyl Sulfoxide (DMSO)
- Liquid Chromatography
- Centrifugation/ Down Stream Filtration
- Perfusion

Quality

- Manufactured in Controlled Environment and Packaged in ISO Class 7 Cleanroom Environment
- 100% Integrity Test to Ensure Barrier Properties
- Medical Grade Materials Pass USP Class VI Testing and are Animal-Derivative Ingredient Free (ADCF), REACH compliant

Superior Accuracy and Performance

Mechanical Properties	ASTM Test Method	Value English (SI)
Random Copolymer (Polypropylene) Tee		
Maximum Service Temperature	-----	275° (135° Celcius)
Tensile Yield Strength	D 638	4450 psi (31 Mpa)
Cellgyn Diaphragm		
Hardness(Shore A, at 10 Seconds)	ASTM D 2240	68
Maximum Service Temperature	-----	275° (135° Celcius)
Low Temperature Embrittlement	ASTM D 746	-112° (-80° Celsius)
Tensile Strength -Break at 73°F (23°C)	ASTM D 412	870 psi (6.0 Mpa)
Tensile Elongation- Across Break 73°F (23°C)	ASTM D 412	510% (510%)
Pharma-Line I Diaphragm		
Hardness (Shore A, at 10 Seconds)	ASTM 2240	70
Maximum Service Temperature	-----	275° (135° Celcius)
Low Temperature Embrittlement	ASTM D 746	-112° (-80° Celsius)
Tensile Strength -Break at 73°F (23°C)	ASTM D 412	697 psi (491 Mpa)

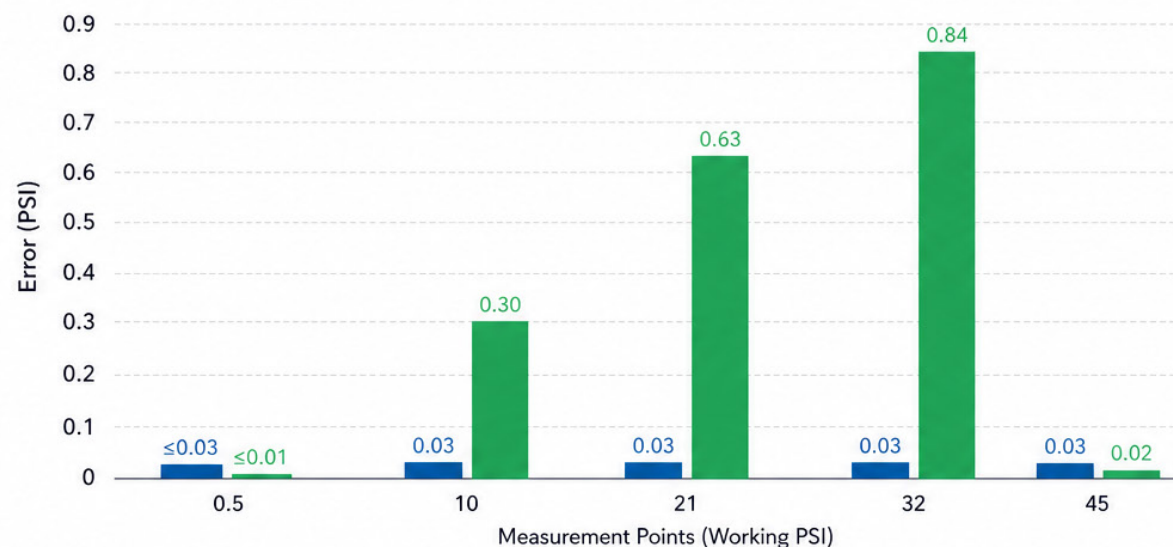
Caution: This product is not recommended for autoclave sterilization in the presence of aqueous solutions.

Pressure Measurement Accuracy Across Bioprocess Ranges

Comparative evaluation of aSURE Instrument Tees with Ashcroft pressure transmitter versus leader MEMS-based single-use pressure sensors across a typical bioprocess operating range.

MEASUREMENT ERROR vs. PRESSURE

- aSURE™ Instrument Tee (Ashcroft pressure transmitter, gamma-irradiated)
- Leading MEMS-Based Single-Use Pressure Sensor (published specifications)



KEY TAKEAWAYS



Stable Accuracy Across Range

aSURE™ Instrument Tees maintain low measurement error (≤ 0.03 PSI) across the full 0.5–45 PSI range.



Rising Error with MEMS Sensors

MEMS-based sensors show increasing error as pressure increases, reaching >0.8 PSI at 32 PSI.



Process Confidence

Lower, more consistent error supports reliable pressure monitoring, process control, and product quality.



Engineered for Bioprocessing

aSURE™ delivers accuracy without signal drift, using a hermetically sealed diaphragm and compatible process instrumentation.



Consistent accuracy where it matters. aSURE™ Instrument Tees deliver stable, reliable pressure measurement across typical bioprocess operating ranges—reducing variability and supporting process performance.

aSURE™ Instrument Tees

Single Use Pressure Sensing Made Simple.

Choose Your Instrument

The aSURE™ instrument fitting was developed as a means to maintain a sterile barrier where disposable manifolds are used on hybrid single-use process equipment. Fixed or tethered pressure-monitoring devices provide extremely high accuracy and are often hard wired into a central control panel.

The aSURE™ instrument fitting provides a practical means of maintaining a sterile barrier on a complex manifold set, and provides a barrier without the need to have a gauge present during the sterilization process.



The aSURE™ Tee is compatible with all common styles of sensors.

Features

High-precision pressure sensing design

Standardized ISO and ASTM calibration interface

Universal plug-and-play design adaptable to discrete pressure gauges and sensors

Industry-standard wiring interface connections (420 mA, RS 232 and others)

Sustainable materials in a one-piece design with fused diaphragm (RoHS compliant)

No solvents or adhesives

Meets USP Class VI and ISO 10993, USP 665, and ADIF

Gamma stable (50 kGy)/autoclavable

Integrated fused sterile barrier technology diaphragm

Benefits

Provides industry-leading measurement accuracy

Supports efficient scheduled calibrations

Enables quick installation without process disruption. Adapts to any standard sanitary pressure gauge or sensor

Simplifies wiring and eliminates signal drift

Smaller footprint for sustainability initiatives. One-piece design creates a consistent sterile barrier and ensures precise alignment

Reduces contamination risks and ensures product integrity (BPOG compliance)

Full regulatory compliance

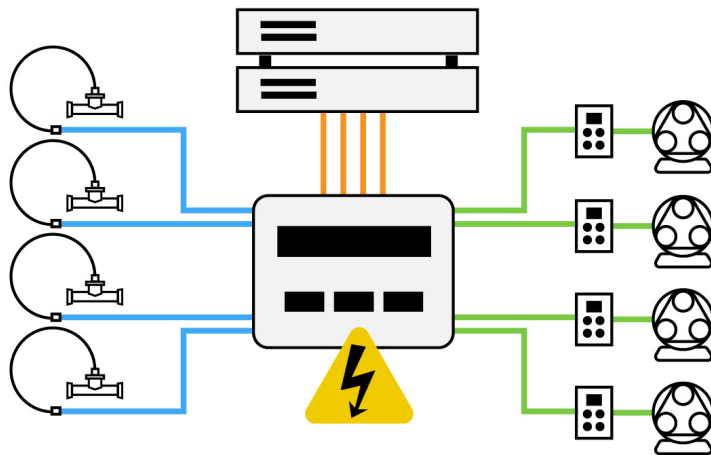
Multiple sterilization options

Maintains barrier integrity throughout operations

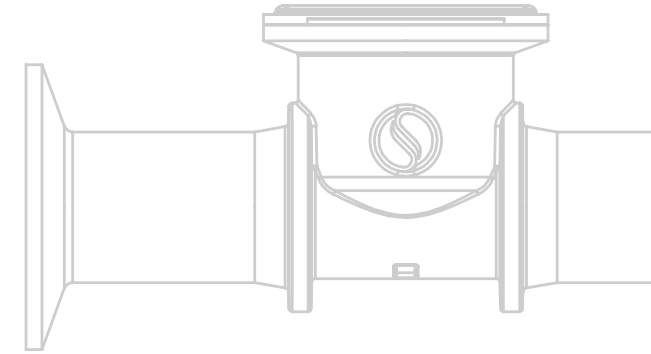
Simpler and More Universal Configuration

Standard Single Use Sensor

- Sensor Output 0.2584 mV/psi/Volt
- Drift is Common
- Proprietary Control
- Interface Required
- No Other Options, UNTIL NOW!

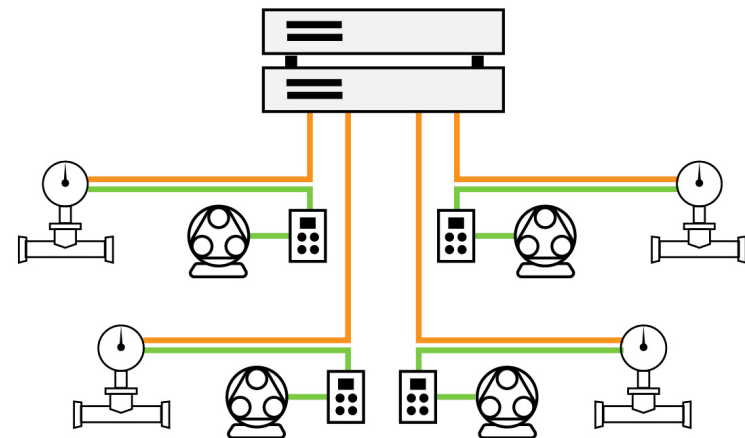


- 4 Wire proprietary data and cable
- 2 4-20mA loop
- Switch output



aSURE™ Instrument Tee

- Robust 4-20m
- A Loop Proven Line Stability
- No Proprietary Interface Required
- Choose Your Instrument!



- 2 4-20mA loop
- Switch output

aSURE™ Instrument Tees

Single Use Pressure Sensing Made Simple.

Part Numbers

Description

Part Number

aSURE™ Instrument Tee/ Cellgyn Trim ① ⑩

aSURE Instrument Tee polypropylene W/Cellgyn Diaphragm 1/2" mono barb each end	IT24-CGN-08M08M
aSURE Instrument Tee polypropylene W/Cellgyn Diaphragm 1/2" mono barb X mini TC	IT24-CGN-08M08T
aSURE Instrument Tee polypropylene W/Cellgyn Diaphragm 1/2" mini TC each end	IT24-CGN-08T08T
aSURE Instrument Tee polypropylene W/Cellgyn Diaphragm 1" mono barb each end	IT24-CGN-16M16M
aSURE Instrument Tee polypropylene W/ Cellgyn Diaphragm 1" mono barb X 1" TC	IT24-CGN-16M16T
aSURE Instrument Tee polypropylene W/ Cellgyn Diaphragm 1" TC each end	IT24-CGN-16T16T

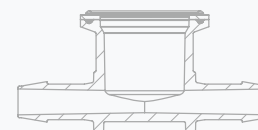
aSURE™ Instrument Tee/ Pharma-Line I Trim ① ⑧

aSURE Instrument Tee polypropylene W/ PHI Diaphragm 1/2" mono barb each end	IT24-PHI-08M08M
aSURE Instrument Tee polypropylene W/ PHI Diaphragm 1/2" mono barb X mini TC	IT24-PHI-08M08T
aSURE Instrument Tee polypropylene W/ PHI Diaphragm 1/2" mini TC each end	IT24-PHI-08T08T
aSURE Instrument Tee polypropylene W/ PHI Diaphragm 1" mono barb each end	IT24-PHI-16M16M
aSURE Instrument Tee polypropylene W/ PHI Diaphragm mono barb X 1" TC	IT24-PHI-16M16T
aSURE Instrument Tee polypropylene W/ PHI Diaphragm 1" TC each end	IT24-PHI-16T16T

Maximum operating pressure: 100 PSI at 70°F

How To Specify Your Part Number

Example IIT24-PHI-08T08M

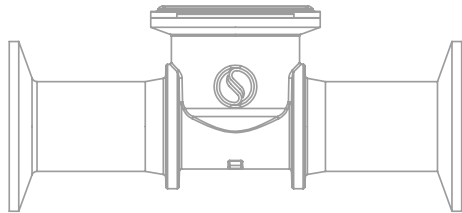


1/2" Monbarb X 1/2" Monbarb

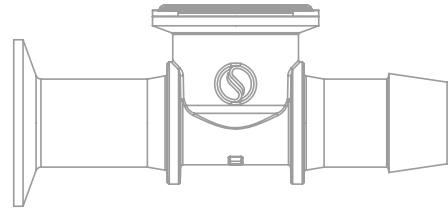
Part Number Code

IT	Polypropylene Instrument Tee
CGN	Cellgyn (TPE) Diaphragm
PHI	Pharmaline I (TPV) Diaphragm
24	1-1/2"
16	1"
08	1/2"
T	Tri Clamp
M	Monobarb

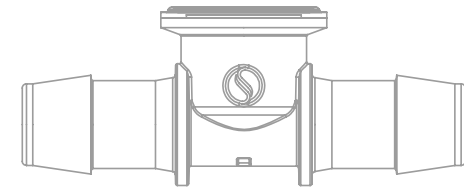
A Broad Range of Configurations



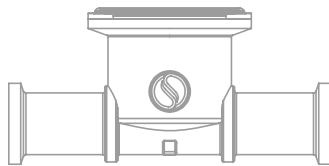
1" TC X 1" TC



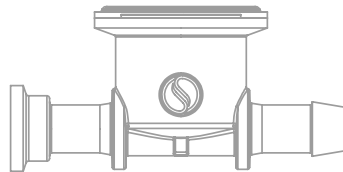
1" TC X 1" Monbarb



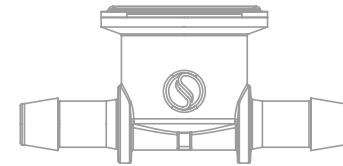
1" Monbarb X 1" Monbarb



3/4" (MINI) TC X 3/4" (MINI) TC



1 3/4" (MINI) TC X 1/2" Monbarb



1/2" Monbarb X 1/2" Monbarb



aSURE™ Tee features two trim options
• Pharma-Line
• Cellgyn

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Regulatory Information

Resin Name	Material	Material Ref#	Product Contact	DMF Listed	USP Class VI	ISO 10993	E&L Profile available	Animal Derived Ingredient /component Free (ADIF / ADCF)	TSE/BSE Compliant*
Random Copolymer (PP) FH P5M6K-80	Random copolymer (PP)	①	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Pharma-Line I®	TPV	⑧	Yes	No	Yes	Yes	Yes	No	Yes
Cellgyn® (TPE)	TPE	⑪	Yes	No	Yes	Yes	Yes	Yes	N/A

Sterilization

Resin Name	Material	Material Ref#	Autoclave	Gamma Irradiation	X Ray	ETO
Random Copolymer® (PP) FH P5M6K-80	Random copolymer (PP)	①	Yes	Yes	NT	Yes
Pharma-Line I	TPV	⑧	Yes	Yes	NT	Yes
Cellgyn® (TPE)	TPE	⑪	Yes	Yes	NT	Yes

Resin Properties

Resin Name	Material	Material Ref#	Transparency	Max Use Temp (°C)	Brittleness Temp (°C)	Recycling Symbol
Random Copolymer® (PP) FH P5M6K-80	Random copolymer (PP)	①	Translucent	135	0	
Pharma-Line I®	TPV	⑧	Opaque	135	-59	
Cellgyn® (TPE)	TPE	⑪	Translucent	135	NT	

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