



CUSTOM SENSORS & TECHNOLOGY

A DIVISION OF CUSTOM SAMPLE SYSTEMS

PROCESS PRESSURE SENSORS

SINGLE-USE & REUSABLE PRESSURE SENSORS FOR BIOPROCESSING APPLICATIONS

Process Pressure Sensors are designed for accurate measurement of dynamic and static pressures of liquids and gases in bioprocessing applications including tangential flow filtration (TFF), chromatography, bioreactor pressure monitoring, and depth filtration.

Available in single-use and reusable configurations, these sensors provide reliable, repeatable performance while supporting cGMP requirements and sustainability goals.

KEY FEATURES

Pressure range: -10 to 100 PSI

High accuracy across full measurement range

M12 sensor interface for easy integration

Designed without glue or epoxy to reduce contamination risk

Gamma sterilization compatible

Available in multiple hose barb and sanitary fitting options

Ambient pressure compensated

SINGLE-USE PROCESS PRESSURE SENSOR

Single-Use Process Pressure Sensors are intended for disposable and continuous-use bioprocessing applications. Sensors are gamma compatible and supplied double-bagged for clean deployment.

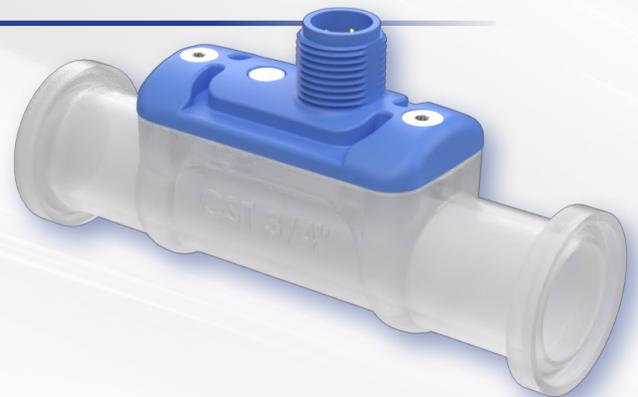
BIOPROCESS-READY CONSTRUCTION

Gamma sterilization compatible

USP Class VI materials

Manufactured in ISO-7 cleanroom

100% accuracy tested



REUSABLE PROCESS PRESSURE SENSOR

The Reusable Process Pressure Sensor is designed to be cleaned, autoclaved, and reused, reducing overall single-use costs while maintaining measurement performance. The stainless steel or PEEK body is paired with a replaceable M12 cap and internal sensor assembly.

SUSTAINABILITY-FOCUSED DESIGN

Autoclavable for a minimum of five (5) cycles

Rebuildable design with replaceable M12 cap and sensor assembly

Durable construction for repeated & process use



GENERAL SPECIFICATIONS

PARAMETER	SPECIFICATION
Pressure Range	-10 to 100 PSI
Accuracy (0–50 PSI)	±2%
Accuracy (51–80 PSI)	±2.5%
Accuracy (81–100 PSI)	±3%
Accuracy (-10–0 PSI)	±4%
Operating Temperature	5°C to 40°C
Sensor Input Voltage	6 VDC
Seal Type	USP Class VI O-Ring
Internal Sensor Material	Polycarbonate & Dielectric Gel
Assembly Criteria	ISO Class 7 Cleanroom (Single-Use) ISO Class 7 Cleanhood (Reusable)

MATERIALS OF CONSTRUCTION

SINGLE-USE SENSOR

Body Material: Polypropylene (USP Class VI)
Connector Cap Material: Polycarbonate (USP Class VI)

REUSABLE SENSOR

Body Material: 316 Stainless Steel or PEEK
Connector Cap Material: Nylon 12, SLS Printed (ISO 10993)

PROCESS CONNECTIONS

SINGLE-USE OPTIONS

Hose Barb: 1/4", 3/8", 1/2", 3/4"
Tri-Clamp: 1/2", 3/4"

REUSABLE OPTIONS

Hose Barb: 1/8", 1/4", 3/8", 1/2", 3/4"
Tri-Clamp: 3/8", 1/2", 3/4", 1"
Custom sizes available upon request

ELECTRICAL CONNECTION

Sensor Interface: M12 4-pin Key-A

CLEANING, STERILIZATION & PACKAGING

SINGLE-USE SENSOR

Sterilization Compatibility: Gamma
Packaging: Standard double-bag pack

REUSABLE SENSOR

Sterilization: Autoclave (minimum 5 cycles) or Gamma
Packaging: Standard double-bag pack

REGULATORY & COMPLIANCE

USP CLASS VI

SO 10993-5
USP 661, 161, 88
Endotoxin USP 85
Bioburden

SENSOR ORDERING INFORMATION

SINGLE-USE PROCESS PRESSURE SENSORS

Part number	Description
CPPS-030-025-025-00-M12	1/4", Hose Barb PP Pressure Sensor
CPPS-030-037-037-00-M12	3/8", Hose Barb PP Pressure Sensor
CPPS-030-050-050-00-M12	1/2", Hose Barb PP Pressure Sensor
CPPS-030-075-075-00-M12	3/4", Hose Barb PP Pressure Sensor
CPPS-130-050-050-00-M12	1/2", TC PP Pressure Sensor
CPPS-130-075-075-00-M12	3/4", TC PP Pressure Sensor

REUSABLE PROCESS PRESSURE SENSORS

Part number	Description
CPPS-040-012-012-00-M12	1/8" Hose Barb PEEK Pressure Sensor
CPPS-040-025-025-00-M12	1/4" Hose Barb PEEK Pressure Sensor
CPPS-040-037-037-00-M12	3/8" Hose Barb PEEK Pressure Sensor
CPPS-040-050-050-00-M12	1/2" Hose Barb PEEK Pressure Sensor
CPPS-040-075-075-00-M12	3/4" Hose Barb PEEK Pressure Sensor
CPPS-040-031-000-00-M12	5/16" Hose Barb PEEK Pressure Sensor - vessel/bag/line
CPPS-140-037-037-00-M12	3/8" TC PEEK Pressure Sensor
CPPS-140-050-050-00-M12	1/2" TC PEEK Pressure Sensor
CPPS-140-075-075-00-M12	3/4" TC PEEK Pressure Sensor
CPPS-140-100-100-00-M12	1" TC PEEK Pressure Sensor
CPPS-140-075-000-00-M12	3/4" TC PEEK Pressure Sensor - vessel/bag/line
CPPS-020-012-012-00-M12	1/8" Hose Barb 316SS Pressure Sensor
CPPS-020-025-025-00-M12	1/4" Hose Barb 316SS Pressure Sensor
CPPS-020-037-037-00-M12	3/8" Hose Barb 316SS Pressure Sensor
CPPS-020-050-050-00-M12	1/2" Hose Barb 316SS Pressure Sensor
CPPS-020-075-075-00-M12	3/4" Hose Barb 316SS Pressure Sensor
CPPS-120-050-050-00-M12	1/2" TC 316SS Pressure Sensor
CPPS-120-075-075-00-M12	3/4" TC 316SS Pressure Sensor
CPPS-120-075-000-00-M12	3/4" TC 316SS Pressure Sensor - vessel/bag/line
CPPS-120-100-100-00-M12	1" TC 316SS Pressure Sensor
CPPS-CAPCB-000-000	Replacement M12 Sensor Cap Assembly

CABLE ACCESSORIES ORDERING INFORMATION

Part number	Description
CPPS-CB-140-1500	M12 female to M12 male - 1.5m length
CPPS-CB-140-3000	M12 female to M12 male - 3m length
CPPS-CB-140-5000	M12 female to M12 male - 5m length

ADAPTER CABLES

Part number	Description
CPPS-CB-120-0500	M12 4-pin Female to Female (Process Pressure Sensor to PMAT)
CPPS-CB-150-1000	M12 4-pin Female to LCO Series
CPPS-CB-150-2000	M12 4-pin Female to LCO Series