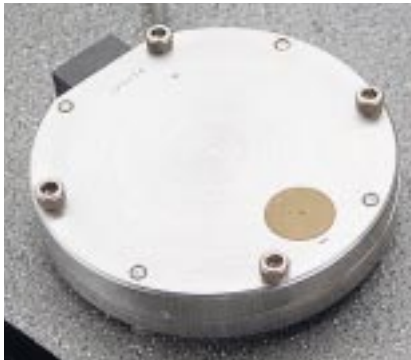


# Respiratory Mechanics



- For very low differential pressure measurements
- Suitable for applications in plethysmography, pneumotachography, mouth pressures, lung volumes, airway resistance, transdiaphragmatic pressures and esophageal pressures
- Highly resistant to mechanical shock and overpressure
- All exposed parts made from 410 stainless steel to prevent corrosion

## Differential Pressure Transducers

These Differential Pressure Transducers are for very low differential pressure measurements. They are especially suitable for applications in plethysmography, pneumotachography, mouth pressures, lung volumes, airway resistance, transdiaphragmatic pressures and esophageal pressures.

This Transducer has very small internal volume and volumetric displacement to achieve high frequency response. It is highly resistant to mechanical shock and over-pressure. A diaphragm of magnetically permeable material clamped between two symmetrical assemblies completes a magnetic circuit with each E-core. Application of pressure causes diaphragm deflection, increasing the gap in the magnetic flux path of one core and decreasing the gap equally in the other core. The magnetic reluctance

varies with the size of the gap, changing the inductance ratio. The inductance ratio is then measured by an AC bridge circuit in which an output voltage proportional to pressure is obtained. Demodulation is required to obtain a DC output signal. The Carrier Demodulators, provide the excitation voltage for the Transducer and demodulate its output.

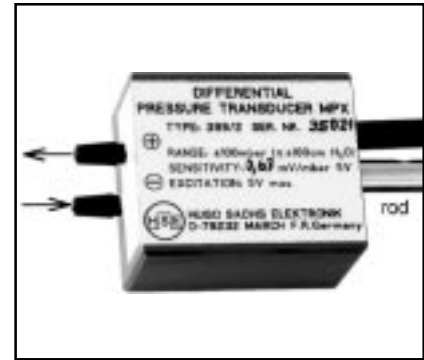
All exposed parts of these Transducers are made from 410 stainless steel to prevent corrosion. They have a 3.1 m (10 ft) cable and are supplied individually with two pieces of 4.8 mm (.31 in) ID hose for connection to a Pneumotachometer and a single diaphragm for a specific pressure range. Interchangeable Replacement Diaphragms are offered separately to change the Transducer's operating pressure range.

## Specifications

Accuracy	±0.5% full scale
Over Pressure	200% full scale up to 100 psi line pressure
Rated Excitation	5 V rms, 3 to 5 kHz
Output	20 mV/V full scale, nominal
Pressure	1/8-27 NPTF adapter fitting for 4.8 mm
Connection	(.31 in) ID hose
Pressure Range	±5.6 to ±140 mm H <sub>2</sub> O, full scale
Volumetric Displacement	0.057 cm <sup>3</sup> /full scale
Dimensions, D x H	101.6 x 19.1 mm (4 x .75 in)
Weight	1.12 kg (2.44 lb)

## Differential Pressure Transducer

Diaphragm Pressure Range	Transducer	Replacement Diaphragms
±5.6 to ±8.8 mm H <sub>2</sub> O	CGS-8193.69	CGS-8196.69
±8.9 to ±14.0 mm H <sub>2</sub> O	CGS-8194.69	CGS-8197.69
±14.1 to ±22.5 mm H <sub>2</sub> O	CGS-8195.69	CGS-8198.69



## HSE-Harvard\* Differential Pressure Transducer

- Ideal for measuring esophageal pressure with air-filled catheter
- For use with most research animals

This differential pressure transducer is used for measuring esophageal pressure using air filled catheter. It is ideal for use with hamster, rat, guinea pig, rabbit, ferret, cat, dog

## Specifications

Pressure Range	±100 cmH <sub>2</sub> O (±100 mbar)
Sensitivity	0.3 to 0.8 mV/mbar, excitation of 5 V
Linearity	±1.5%
Thermal Zero Shift	5 mbar (0° to 85°C)
Input Resistance	400 to 550 Ω
Output Resistance	600 to 1000 Ω
Offset Voltage	1 mV maximum
Excitation Voltage	0 to 5 Volts DC or AC
Overpressure	±1000 mbar (750 mmHg)
Inlet/Outlet Nozzle	2.0 x 4.7 x 9.0 mm, ID x OD x L
Housing Size, H x W x D	24 x 42 x 36 mm (0.9 x 1.7 x 1.4 in)
Weight	190 g (6.7 oz)
Application	Only for dry air

Catalog No.	Product
CGS 8199.69	Differential Pressure Transducer MPX, Type 399/2