



# Budenberg



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## Model: CSE

The CSE is a high integrity Diaphragm Seal Gauge designed to withstand the high pressures and temperatures normally associated with Chemical and Oil / Gas applications.

The CSE has a diaphragm clamped between the upper and lower chambers thereby optimising the use of exotic materials for the wetted parts.

A unique feature of the unit is the ability to set the diaphragm to 'lock off' at set pressures thereby protecting the unit from major overload conditions up to and including 400 Bar. This eliminates the need for expensive overload protection valves.

Available in a wide range of options including a choice of dial sizes, connections, materials, filling fluids and options to permit operation at temperatures in excess of 440 Degrees Celsius.

### Applications

Designed for continuous operation on gases or liquids where the pressure element could become corroded or clogged by the process media. Versions are available to withstand pressure pulsations, vibrations and operation at very high temperatures.

### Dial Sizes

63mm, 100mm & 150mm are standard.

### Pressure Gauges

See separate Pressure Gauge Datasheets for suitable gauges for use on diaphragm seals.

### Accuracy Class

1.0% as EN837

### Pressure Range

The welded seal units is available in a range of configurations dependant upon the required Dial Size and Operating pressure range as follows:

Dial Size Seal Diameter Min Range Max Range

63/100 / 150mm Gauge with 69 mm Seal 1 Bar to 400 Bar

### Over range protection

All units will withstand 130% overload as standard up to 200 Bar. Optionally the diaphragm can be set to 'lock off' allowing the unit to withstand an overload up to the maximum pressure rating of the seal unit. This unique feature can be used to avoid the use and cost of additional overload protection valves.

### Materials of Construction

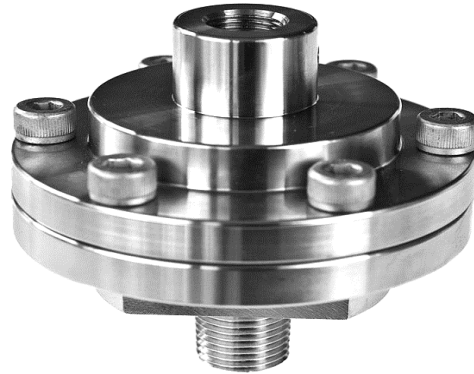
Due to the clamped construction, all materials including the diaphragm and connection can be the same material or a combination of several.

Standard - 316L Stainless Steel

Options (CSE-R) - Hastelloy C276, Titanium, tantalum or Monel 400. Teflon lined connection on BSP only.

Other materials available upon request

## DIAPHRAGM SEAL CLAMPED SCREWED CONNECTION



### Process connections

Model number **CSE** has male connections of:

1/4", 3/8", 1/2", 3/4", 1" BSP or NPT

Model number **CSI** has female connections of:

1/4", 3/8", 1/2", 3/4" BSP or NPT

Other connections are available

### Filling Fluids

A wide range of filling fluids are available to suit most applications including high temperature and pharmaceutical applications.

Standard Options are Mineral Oil, Silicon HT Oil, Medicinal Paraffin, Glycerine, Syltherm XLT & 400.

Inert Fluorine based fluids can be specified for oxygen and chlorine applications as well as a range of FDA approved fluids for food and pharmaceutical applications.

### Temperature

Normal process operating temperature range: -20 to +100 °C

Elevated temperature operation up to 450 °C can be achieved by the selection of an extended neck option and an associated high temperature filling fluid. See relevant datasheet.

Serial Number printed on the dial.

### Pulsation Damper

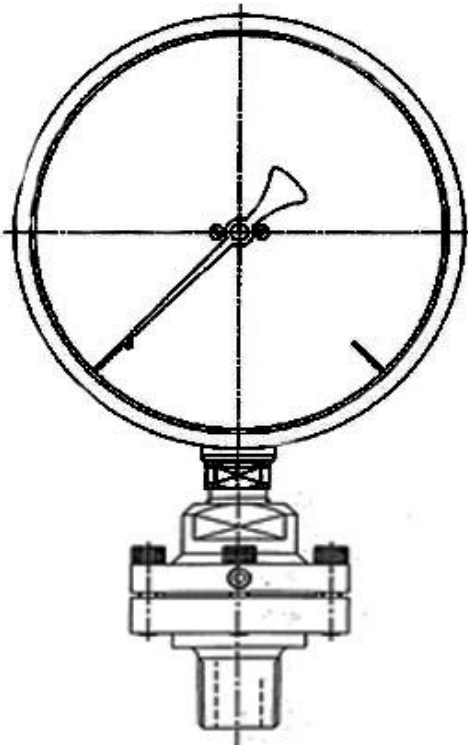
The clamped design allows us to offer a snubber internally to dampen pulsations and beneficially protect the Pressure Gauge.

### Certification

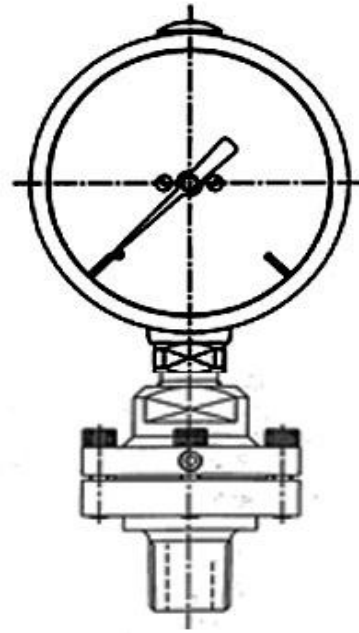
A Certificate of conformity traceable to National Standards is supplied free of charge.

### Safety

All units are manufactured to comply with EN 837-1 and other regulatory standards including P.E.D.



CSE with 150mm Gauge



CSE with 100mm Gauge

**CSE** Large Dial Gauges 100 and 150mm Pressure Gauges  
**CSE-P** Purge in lower chamber for cleaning and or venting.

### Options

#### Vent Port (CSE-P)

Units can be supplied with an additional integral connection port for use as either as a vent / drain or connection of a transmitter or used for in-situ calibration purposes

#### Extended Neck

For use in elevated temperatures up to 300 °C we can dissipate the effect of heat from the Pressure Gauge by inserting an extended neck between the CSE and the pressure gauge.

#### Anti Tamper

Designed to prevent disassembly

#### Remote Mounting

St/steel capillary can be fitted between gauge and seal to protect instrument from heat or vibration

#### Fitting Transmitters

We have a range of standard and 'Smart' Transmitters that can be used in combination with the WSE and WSI or we can fit customers own free issue transmitters to most diaphragm seal units

### Accessories

#### Valves and Adaptors

A full range of Needle and Ball Valves to fit the CSE - See separate Datasheets.

Specifications and dimensions in this leaflet, are subject to change without prior notice.

### Budenberg Gauge Co Ltd

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