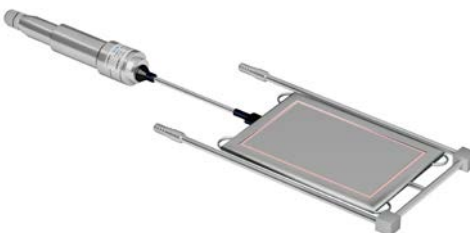


# PRESSURE CELL



## Model ESC-30V Shotcrete-Concrete Stress Cell

ESC-30V is a NATM style shotcrete-concrete stress cell designed for measurement of radial and tangential stresses in shotcrete tunnel lining. The cell consists of a rectangular pressure pad constructed from two stainless steel plates welded around the periphery. The pressure pad is connected to a vibrating wire pressure sensor through a 6 mm f x 165 mm long stainless steel tube. The cavity inside the pressure pad and the pressure sensor is filled with de-aired fluid. A pinch tube or regROUTABLE arrangement is provided to inflate the pressure pad after concrete around it has fully cured, to ensure proper contact between pressure pad and surrounding concrete.



### SPECIFICATIONS

Range (MPa)	1.0, 2.0, 3.5, 5.0, 10.0, 20.0, 30.0, specify
Accuracy <sup>1</sup>	± 0.5 % fs standard ± 0.1 % fs optional
Over range limit	150 % of range
Temperature limit	-20° to 80° C
Thermistor	YSI 44005 or equivalent
Pressure pad sizes l x b (mm)	100 x 200   150 x 250   200 x 300   300 x 300

Other sizes also available on request | <sup>1</sup>Calibrated accuracy of pressure sensor



### Model EPS-30V-S Earth Soil Pressure Cell

EPS-30V-S earth pressure cell is designed to measure total pressure in earth fills and embankments. The flexible, circular flat pressure pad is constructed from two stainless steel discs electron beam welded around the periphery. The pressure pad is connected to the vibrating wire pressure sensor through a 6 mm dia x 165 mm long stainless steel tube. The narrow cavity inside the pressure pad and the tube is filled with fluid. Pressure applied by earth on the capsule is transmitted through the fluid to the vibrating wire pressure sensor, which converts it into an electrical signal.



### Model EPS-30V-C Concrete Pressure Cell

EPS-30V-C concrete pressure cell is designed to be embedded in concrete. This sensor is similar to EPS-30V-S, excepting that it has a 600 mm long pinch tube. After the concrete is cured to ensure proper contact between the pressure pad and the surrounding concrete, the pinch tube is squeezed to push the fluid into the pressure pad to expand/inflate it.



### Model EPS-30V-I Soil and Rock-Concrete Interface Pressure Cell

EPS-30V-I interface pressure cell is designed to measure pressure between soil and rock or concrete interface. The construction is similar to EPS-30V-S, excepting that the diaphragm on rock/concrete side of the pressure pad is thicker to minimise point loading effects.

## SPECIFICATIONS

Range (MPa)	0.5, 1.0, 2.0, 3.5, 5.0, 10.0, specify
Accuracy <sup>1</sup>	± 0.5 % fs standard   ± 0.1 % fs optional
Over range limit	150 % of range
Temperature limit	-20° to 80° C
Thermistor	YSI 44005 or equivalent
Pressure pad sizes l x b (mm)	200 mm Ø x 7 mm thick (EPS-30V-S/EPS-30V-C) 200 mm Ø x 10 mm thick (EPS-30V-I)

<sup>1</sup>Calibrated accuracy of pressure sensor



### Model EPS-30V-J Jackout Pressure Cell

EPS-30V-J jackout pressure cell is designed to measure stress on base slabs, diaphragm/slurry walls, etc. It consists of a thin flexible stainless steel round flat diaphragm electron beam welded to a thick, rigid back plate around the periphery, leaving a narrow space between the two. A vibrating wire pressure sensor is an electron beam welded concentric with the back plate. The cavity inside the sensor is filled with de-aired fluid.

## SPECIFICATIONS

Range (MPa)	0.5, 1.0, 2.0, 3.5, 5.0, specify
Accuracy <sup>1</sup>	± 0.5 % fs standard   ± 0.1 % fs optional
Over range limit	150 % of range
Temperature limit	-20° to 80° C
Thermistor	YSI 44005 or equivalent
Pressure pad sizes l x b (mm)	125 Ø x 190 h 200 Ø x 190 h standard

<sup>1</sup>Calibrated accuracy of pressure sensor