

# PRESSURE CELLS NATM

**NATM pressure cells are applicable for the measurement of tension in:**

- *TUNNEL* linings during construction and service life
- *ROCKS*
- *DIAPHRAGM, RETAINING WALLS*

**NATM pressure cells are hydraulic cells equipped with electric transducer.**



The cell consists of a rectangular flat jack formed from two plates of steel welded around the periphery. The narrow gap between the plates is filled with de-aired oil. The cell is connected to a pressure transducer by a short hydraulic tube and equipped with a re-pressurizing valve. Cells can be embedded in concrete and they are suitable for monitoring by NATM method.

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## APPLICATIONS

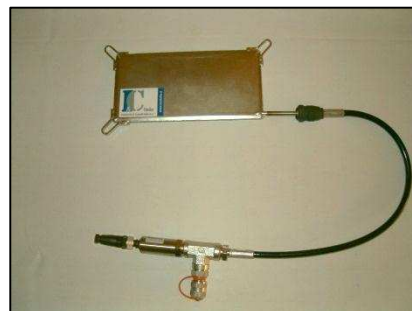
- Monitoring tangential and radial stresses between arch steel tunnel supports and tunnel's wall
- Monitoring tangential and radial stresses at concrete-rock interface in tunnels
- Monitoring tangential and radial stresses in concrete and shotcrete tunnel linings
- Monitoring the stress distribution within the rock



## TECHNICAL SPECIFICATIONS

### RADIAL STRESS PRESSURE CELL

### TANGENTIAL STRESS PRESSURE CELL



**Product code** *CPR10MA00000 (10 MPa)*  
*CPR50MA00000 (50 MPa)*

**Product code** *CPT200MA00000*

<b>Range</b>	<i>10-50 MPa</i>	<i>200 MPa</i>
<b>Resolution</b>	<i>0.025% FS</i>	<i>0.025% FS</i>
<b>Accuracy</b>	<i>0.3% FS</i>	<i>0.3% FS</i>
<b>Dimensions</b>	<i>150 x 150 mm</i>	<i>100 x 200 mm</i>
<b>Thickness</b>	<i>6 mm</i>	<i>6 mm</i>
<b>Operating temperature range</b>	<i>-20 °C to +80 °C</i>	<i>-20 °C to +80 °C</i>
<b>Material</b>	<i>Steel</i>	<i>Steel</i>
<b>Weight</b>	<i>1.0 kg</i>	<i>1.0 kg</i>

*Other dimensions available on request.*

### ACCESSORIES

#### **PMPCP0000000**

*Hydraulic handpump (cells re-pressurizing). Stainless steel body and oil filled.*

While the concrete cures, on cooling, the concrete contracts and leaves a gap between the cell and itself, preventing the stresses from reaching the cell. This situation may be overcome using a handpump for re-pressurizing the cell. (**product code PMPCP0000000**).

*Product specifications described herein are subject to change without notification.*

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