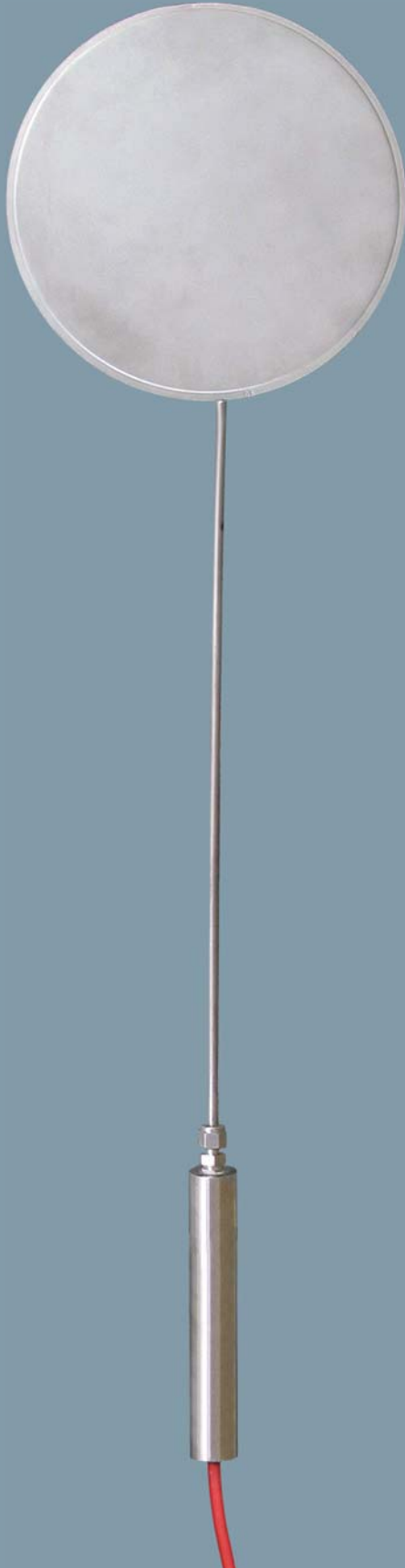




# Total Earth Pressure Cell



Total Earth Pressure Cells are designed to measure stress acting on plane surfaces. The TP-101 series Total Earth Pressure Cells are constructed from two circular stainless steel plates, welded together around their periphery. The annular space between these plates is filled with deaired glycol. The cell is connected via a stainless steel tube to a transducer forming a closed hydraulic system. The stress is then converted to a signal and may be remotely read on a variety of portable readout units or data loggers. Various types of transducers are employed dependent on site requirements.



An order of Total Earth Pressure Cells being prepared for shipment.



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## applications

- Earth embankments dams.
- Foundations, retaining walls, and piles.
- Pipelines and culverts.
- Railroad bases.
- Beneath raft foundations.
- Tunnel linings.
- Mine backfill monitoring.

## features

- Long term stability.
- High accuracy and sensitivity.
- Constant monitoring capability.
- Ease of data logging.
- Either pneumatic, strain gauge or vibrating wire transducers.
- The transducer is located 46 cm (18 in.) from the cell to avoid any influence from the transducer housing.
- Stainless steel construction.
- A 20:1 height to diameter ratio minimizes the effects of stress distribution on the mean plane.



specifications + ordering info

# Total Earth Pressure Cells



## specifications

DESCRIPTION	MODELS		
	LPTPC-P	LPTPC-S	LPTPC-V
Transducer Type	PETUR® Pneumatic	*Silicon Strain Gauge	Vibrating Wire
Range - Standard Calibration	Up to 2.0 MPa (300 psi)	Up to 2.0 MPa (300 psi)	Up to 2.0 MPa (300 psi)
Range - Max Available	n/a	20 MPa (3000 psi)	20 MPa (3000 psi)
Special Calibration	n/a	Up to 3.4 MPa 500 (psi)	Up to 3.4 MPa 500 (psi)
Calibrated Accuracy	.15% F.S.	.15% F.S.	.15% F.S.
Resolution	Equal to readout instrument	Infinite	0.025% F.S. minimum
Excitation Voltage	n/a	Dependent on sensor	5 V sq. Wave
Signal Output	n/a	0-100 mV 0-1 V 0-5 V	4-20 mA 1200 - 2000 Hz
Conductor	2 X 3/16 O.D. Pneumatic Tubes	4 X #22	2 X #22
Operating Temperature	-40° to +40°C -40° to +105°F	-40 to +120°C -40 to +250°F	-29° to +65°C -20° to +150°F

\*Various types of strain gauge transducers are available, as preferred.

## ordering info

TRANSDUCER	STANDARD CELL DIAMETER	PART #
Pneumatic	11.4 cm (4.5 in.)	LPTPC04-P
Pneumatic	24.1 cm (9.5 in.)	LPTPC09-P
Pneumatic	31.7 cm (12.5 in.)	LPTPC12-P
Silicon Strain Gauge	11.4 cm (4.5 in.)	LPTPC04-S
Silicon Strain Gauge	24.1 cm (9.5 in.)	LPTPC09-S
Silicon Strain Gauge	31.7 cm (12.5 in.)	LPTPC12-S
Vibrating Wire	11.4 cm (4.5 in.)	LPTPC04-V
Vibrating Wire	24.1 cm (9.5 in.)	LPTPC09-V
Vibrating Wire	31.7 cm (12.5 in.)	LPTPC12-V

## optional

- Total Earth Pressure Cell - Axial Mounted.
- Temperature measurement (requires 2 additional conductors).
- Integral pore pressure measurement.
- Special mounting modifications such mounting ears (3 or 4 tabs).
- Custom sizes and shapes.

## accessories

- Portable readout instruments.
- Single channel data acquisition systems.
- Multi channel data acquisition systems.
- Readout terminal stations.

## ordering info

- Part number.
- Pressure range requirements.
- Cable length.
- Optional equipment.



Total Earth Pressure Cell - Axial Mounted  
Model LPTPC06-V-M

GEOTECHNICAL . MINING . ENVIRONMENTAL . STRUCTURAL