» load cells | pressure sensors | stress meters

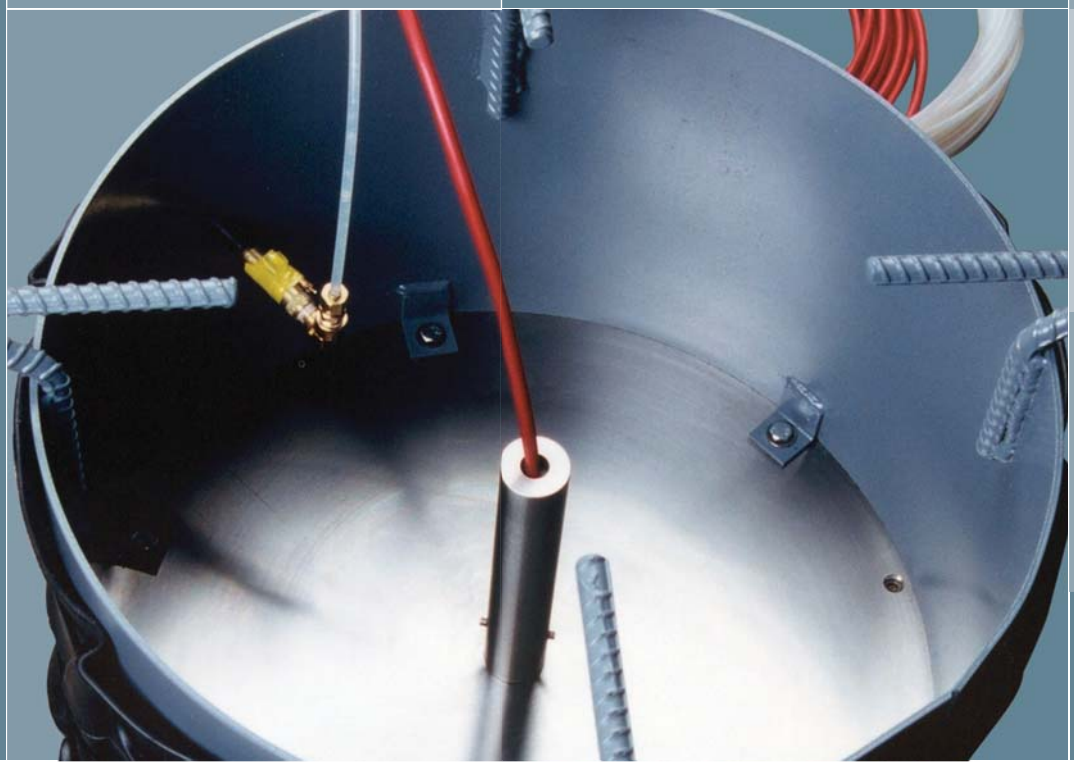
Pile Tip Load Cells

RST Instruments Pile Tip Load Cells are custom manufactured to suit site specific requirements. Cells can be any shape to suit different pile types and operate on principles similar to total earth pressure cells. The cell is comprised of two steel or stainless steel plates welded together around their periphery and the space between them filled with an incompressible fluid. This cell is typically divided into 1-4 independent sections, each connected to a pressure transducer (pneumatic, strain gauge, or vibrating wire). Each of these pressure transducers then reacts to the change in fluid pressure in each section. Total load on the pile tip is then simply the sum of the loads in each section.

Pressure transducers are mounted in a stainless steel compression fitting and are in direct contact with the liquid filled cell. Alternatively, hydraulic tubes are connected to the cell and run up the length of the pile for connection to transducers. Leads come up through the hollow center of the pile to a predetermined access port above ground surface where readings can be taken.

optional equipment

- Readout units.
- Pile tell tales.
- Strain gauges for measuring stress distribution.
- Dataloggers.
- Load cells.
- Sister bars.



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applications

Measurement of load at the tips of driven piles, cast-in place piles, and drilled shafts.

features

PNEUMATIC TRANSDUCER:

ADVANTAGES:

Able to withstand large dynamic driving stresses associated with pile driving.

Mechanically simple and reliable.

DISADVANTAGES:

Expensive to data log.

STRAIN GAUGE TRANSDUCER:

ADVANTAGES:

High speed data logging capability.

DISADVANTAGES:

May not withstand stresses associated with pile driving.

Susceptible to water.

VIBRATING WIRE TRANSDUCER:

ADVANTAGES:

Water resistant.

Can be data logged.

DISADVANTAGES:

May not withstand stresses associated with pile driving.