

# GLÖTZL Baumeßtechnik

## PRESS-IN CELL for EARTH PRESSURE and combined with POREWATER PRESSURE

Type: PE . . .

Art. No.: 16. . .

With the earth pressure cell to press in, also in combination with a water or porewater pressure cell, it is possible to carry out subsequent measurements at or in constructions or in possibly undisturbed underground.

The robust model enables an application of pressing powers of up to 2 tons. The cells are available in two pressure pad dimensions, material stainless steel and with load ranges of up to 50 bars.

### Some application fields:

- Subsequent installation in or at constructions
- Investigation and control of landfills
- Installation behind supporting walls, e.g. port installations
- Earth pressure and porewater pressure in dams
- Pressing into soft, binding soils for control of consolidation at backfills
- Horizontal and vertical earth pressure measurements in connection with porewater pressure around tunnels



### Operating principle:

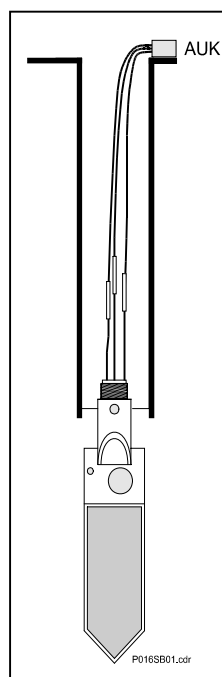
The pressure pad is of a very flat and spade-formed construction and only contains a small oil filling which is effecting at the diaphragm of the Glötzl compensation valve.

The total earth pressure is thus transferred proportionally as hydraulic pressure and is measured pneumatically and in special cases also hydraulically at the compensation valve.

This combination of both measuring types has been constructed to enable a measurement of total stress and porewater pressure under the same installation conditions.

The cells have the following special advantages:

- Insensitive up to 300% overpressure during injection
- Extremely high zero point stability
- No range drifting possible
- Robust, approved and reliable system
- Measuring device, function controllable
- Absolutely insensitive against overstresses



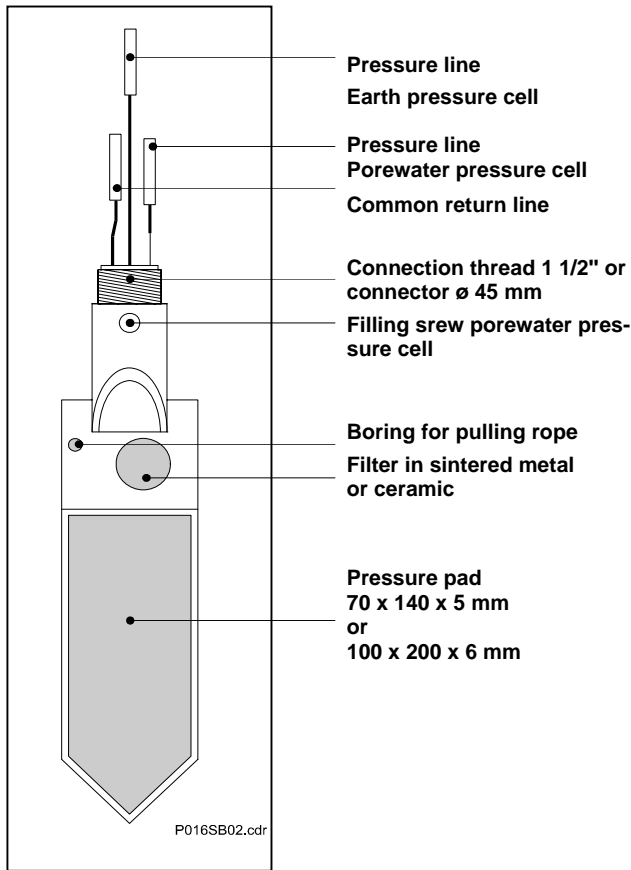
### Installation in borings:

Normally, a boring is done till approx. 0.5 m before the installation point of the cell. From this position, the cell is injected into the surrounding material by means of rods. In soft soils, also an injection is possible without rough-boring.

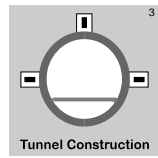
Injection procedure is done with rods. For this, a thread G 1 ½" or optionally a connection pivot with diameter 45 mm is fitted at the cell.

After installation, the borehole is backfilled and sealed according to the respective requirements.

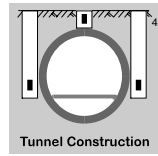
## Construction of the cell



## Installation at and in tunnels

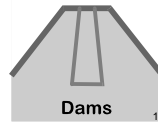


After excavation of tunnel, the cells are injected into the surrounding material from borings.



Installation from surface before excavation of tunnel. Recording of stress changes during excavation.

## Instrumentation of dams



Subsequent installation for control of stresses and porewater pressure in packing core and supporting material.

## Supporting walls, security of excavation



Installation behind supporting walls and excavation securities for recording of the really existing earth pressure.

### Models:

Art. No.:	
16.01	PE = Earth pressure cell
16.02	PE/P= Combined model earth and porewater pressure cell
16.xx.01	KF 50, load limit 50 bars control accuracy $\pm$ 0.05 bar
16.xx.02	KF 20, load limit 20 bars control accuracy $\pm$ 0.02 bars
16.xx.03	KF 10, load limit 10 bars control accuracy $\pm$ 0.02 bar
16.xx.04	KF 5, load limit 5 bars control accuracy $\pm$ 0.01 bar
16.xx.xx.01	70/140, press. pad size in mm
16.xx.xx.11	100/200, press. pad size in mm
16.xx.xx.xx.1	R = rods connection G 1 1/2"
16.xx.xx.xx.2	Z = thread connection $\varnothing$ 45mm

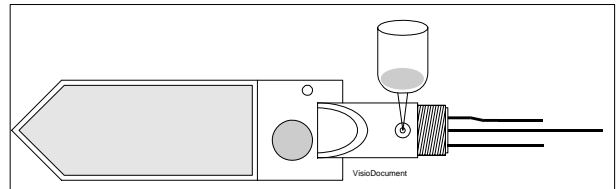
### Example:

16.02.04.01 = PE/P 7/14 KF5 Z S

- pad size 7/14, model
- sintered metal filter
- type KF5, meas. range up to 5 bars
- model PE/P
- sintered metal filter
- thread connection

## Filling of pressure filter of porewater cell

Remove filling screw, screw in water bottle and press the water in. After pressing-in procedure, close again the filling connection with the screw.



## Accessories:

Article number resp. article group see price pages and separate description

30.10.05	Triple line of Polyamid-11, semi-rigid, consisting of 2 pressure lines $\varnothing$ 6/3 mm transparent, 1 return line $\varnothing$ 6/3 mm black, load limit 75 bars for pneumatic operation
31.01	Connection boxes
31.10	Change-over connection boxes
32	Change-over groups
35 and 36	Manual measuring devices
38	Assembly material
50	Automatic measuring devices and remote control

Subject to technical alternations