

# GLÖTZL Baumeßtechnik

## CONCRETE STRESS TRANSDUCER Type: BT ..

Art.-No.: 05. . .

### With direct reading

The concrete stress transducer, type BT, is used for observation of stress in concrete. Principally, it is applied as an indicator for observation of stress changes. For direct measurement of total stresses in concrete, cells with compensation valves should be used which have an unchangeable filling volume of pressure pad.

### Function

The surrounding concrete is charging the pressure pad. The filling fluid in the pressure pad is compressed and the pressure is indicated by the installed manometer. The quantity of filling fluid of the pressure pad and manometer is very small in order to keep temperature influences as small as possible. Influences caused by installation temperature are compensated by means of the repressurizing tube. Furthermore, an eventually arising shrinking gap in the concrete is overcome by this repressurizing tube. By expansion of the Bourdon tube in the manometer and the thus arising loss in volume it is necessary to prestress the cell by the repressurizing tube.

### Type BT 10/20 Q 100 N 20

Concrete stress transducer with pressure pad 100 x 200 mm, repressurizing tube, measuring range 0 – 100 bars and manometer protection cap



For fixing at the reinforcement, the pressure pad is equipped with mounting lugs at its ends.

<b>Pressure pad dimensions:</b>	100 x 200, 150 x 250 und 200 x 300 mm
<b>Load ranges:</b>	Models BT for concrete stress and FT for joint pressure 0 – 10 / 25 / 40 / 60 / 100 / 160 / 250 und 400 bars
<b>Manometer:</b>	Ø 63 mm, cl. 1.6 of rust- and acid-proof material
<b>Pressure pad:</b>	Material sheet steel 1203



Concrete stress transducer installed in shotcrete in a tunnel

Visible:  
Manometer for stress indication and repressurizing tube

During construction works and installation time the manometers are protected by a plastic protecting cap.

## Installation

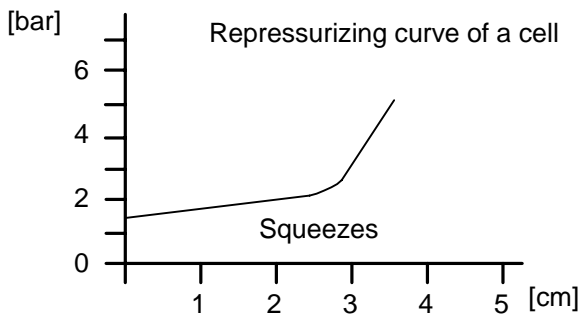
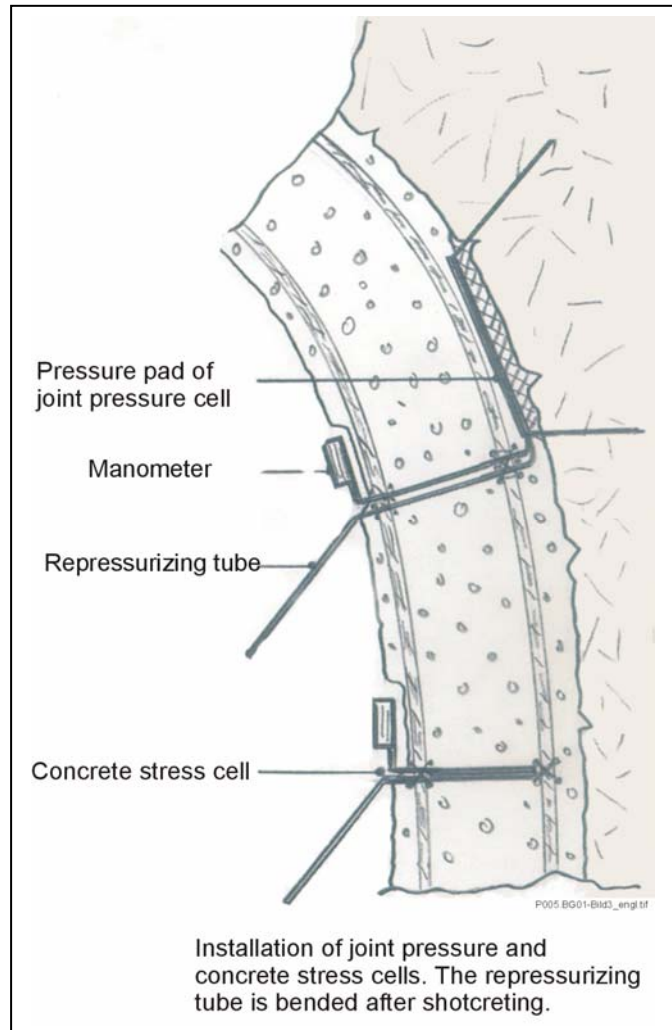
The concrete stress transducers with direct reading are installed in the same way as the cells with valve, system Glötzl.

### Type FT for joint pressure

- Fixing of pressure pad by lugs, at the rock with nails and plugs
- Intermediate layer of mortar for complete contact
- Fix connection tube of manometer and repressurizing tube at the reinforcement.

### Type BT for concrete stress

- Fixing of pressure pad at the reinforcement by lugs
- Fix connection tube of manometer and repressurizing tube at the reinforcement.
- Prestress all parts firmly with binding wire so that no vibration of cell is given during injection.
- During injection of the cell please have attention that the injection jet does not directly meet the cell. Slowly inject the cells till the concrete is filled up.
- Approx. 3 days after installation, the cell is restressed. The procedure can be abandoned if the pressure indication is largely increasing. During squeezing of repressurizing tube, filling fluid is pressed into the pressure pad which results in a complete contact between concrete and cell.



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## Models and type keys

