

# BPB-A/BPB-A-T

## Pore Pressure Transducer

- Water Pressure Measurement
- 200 kPa to 2 MPa
- With Temperature Measuring Function

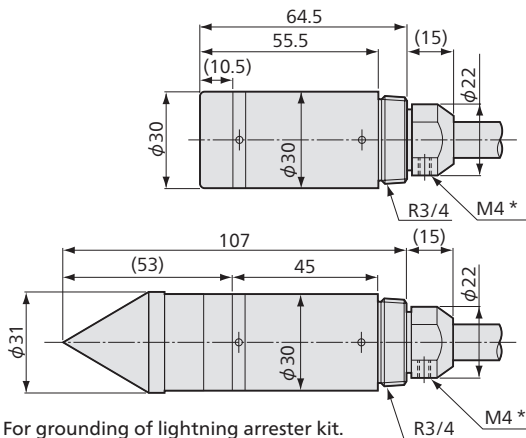


Embedded in a boring or together with a pile or steel sheet pile. These transducers measure pore water pressure

- Small-sized design, 30 mm in outer diameter, enables installation in borings of small diameters.
- Flat Filters (10  $\mu\text{m}$  mesh standard) are provided to prevent the sensing part from clogging.
- Stainless steel case (Including a FB-10SUS)

Embedded in a boring or together with a pile or steel sheet pile, BPB-A/BPB-A-T series transducers measure pore water pressures or pore pressures. If desired, they can be used as pressure-based underground water level transducers by installing in a well. The BPB-A-T series is provided with temperature measuring function for simultaneous measurement of pore pressure and temperature. The cable length may be changed as specified.

### Dimensions



\* For grounding of lightning arrester kit.

### BPF and FB Filters for Pore Pressure Transducers



BPF-B



FB

These filters are used to prevent the sensing portion of the pore pressure transducer which is embedded in clay soil or mud from clogging. The standard mesh size is 10  $\mu\text{m}$ . If grouting is made around the embedded site, use the 2  $\mu\text{m}$  mesh Filters.

| Cone Filters | Flat Filters | Mesh Size         |
|--------------|--------------|-------------------|
| BPF-2B       | FB-2         | 2 $\mu\text{m}$   |
| BPF-5B       | FB-5         | 5 $\mu\text{m}$   |
| BPF-10B      | FB-10SUS     | 10 $\mu\text{m}$  |
|              | FB-40        | 40 $\mu\text{m}$  |
|              | FB-100       | 100 $\mu\text{m}$ |

\*Filter section is made of brass, sintered metallic finish.

\*10  $\mu\text{m}$  flat filters only are made of stainless steel.

### Specifications

#### Performance

| Pore Pressure Measurement   |   |
|---|---|
| Rated Capacity  | See table below.  |
| Nonlinearity  | Within $\pm 2\%$ RO for 200 kPa<br>Within $\pm 1\%$ RO for 0.5 to 2 MPa |
| Hysteresis  | Within $\pm 1\%$ RO   |
| Rated Output  | 0.75 mV/V or more for 200 kPa<br>1 mV/V or more for 0.5 to 2 MPa        |
| Temperature Measurement (BPB-A-T)                                 |   |
| Rated Capacity  | -30 to 70°C   |
| Measurement Error   | $\pm 0.5^\circ\text{C}$ (-30 to 70°C)                                   |
| (See page 7-32 for Small-sized Temperature Transducer BTS-100AT.) |   |

#### Environmental Characteristics

|                              |  |
|------------------------------|--|
| Safe Temperature             | 0 to 80°C (BPB-A) (Non-freezing)<br>-30 to 80°C (BPB-A-T) (Non-freezing) |
| Compensated Temperature      | 0 to 60°C (Non-freezing)   |
| Temperature Effect on Zero   | Within $\pm 0.1\%$ RO/ $^\circ\text{C}$                                  |
| Temperature Effect on Output | Within $\pm 0.1\%$ / $^\circ\text{C}$                                    |

#### Electrical Characteristics

|                                  |  |
|----------------------------------|--|
| Safe Excitation                  | 10 V AC or DC  |
| Recommendable Excitation Voltage | 2 to 10 V AC or DC   |
| Input Resistance                 | 350 $\Omega \pm 1\%$ (BPB-A-T at 0°C)  |
| Output Resistance                | 350 $\Omega \pm 1\%$<br>But 450 $\Omega \pm 0.8\%$ at 0°C for BPB-A-T  |
| Cable                            | 4-conductor (0.5 mm <sup>2</sup> ) chloroprene shielded cable,<br>11.5 mm diameter by 1 m long, bared at the tip |

#### Mechanical Properties

|                |               |
|----------------|---------------|
| Safe Overloads | 150%          |
| Weight         | Approx. 320 g |

\*Double shielded cable can also be manufactured.

| Temperature Measuring Function |               | Rated Capacity |
|--------------------------------|---------------|----------------|
| No                             | Yes           |                |
| BPB-A-200KP                    |               | 200 kPa        |
| BPB-A-500KP                    | BPB-A-500KP-T | 500 kPa        |
| BPB-A-1MP                      | BPB-A-1MP-T   | 1 MPa          |
| BPB-A-2MP                      |               | 2 MPa          |

### Application Example

#### Wall Joint Reinforcing Bars

