

BER-S-SA

Wall-surface Soil Pressure Transducer

NEW

1
-236

Sensor



Suitable for measuring shield machine chamber wall soil pressure or backfill pressure

- Rated capacity: 500 kPa to 3 MPa
- With stopper (safe overloads 1000%)
- Wide range of normal pressure capacities

These devices are load cell type soil pressure transducers designed for resistance to structural bending, and are suitable for measuring wall surface soil pressure. It is robust due to its stopper function.

Models

Model	Rated Capacity	Calculated Loads	Weight (Approx.)*
BER-S-500KP12SA3Z30	500 kPa	2.1 kN	4.4 kg
BER-S-1MP12SA3Z30	1 MPa	4.2 kN	
BER-S-2MP12SA3Z30	2 MPa	8.4 kN	
BER-S-3MP12SA3Z30	3 MPa	12.6 kN	

Model	Rated Capacity	Calculated Loads	Weight (Approx.)*	
BER-S-500KP15SA1	500 kPa	230 N	150 g	
BER-S-1MP15SA1	1 MPa	460 N		
BER-S-2MP15SA1	2 MPa	910 N		
BER-S-3MP15SA1	3 MPa	1360 N	800 g	
BER-S-500KP17SA3Z30	500 kPa	230 N		
BER-S-1MP17SA3Z30	1 MPa	460 N		
BER-S-2MP17SA3Z30	2 MPa	910 N		
BER-S-3MP17SA3Z30	3 MPa	1360 N		
BER-S-500KP35SA3Z30	500 kPa	230 N		400 g
BER-S-1MP35SA3Z30	1 MPa	460 N		
BER-S-2MP35SA3Z30	2 MPa	910 N		
BER-S-3MP35SA3Z30	3 MPa	1360 N		
BER-S-500KP79SA3Z30	500 kPa	230 N	230 g	
BER-S-1MP79SA3Z30	1 MPa	460 N		
BER-S-2MP79SA3Z30	2 MPa	910 N		
BER-S-3MP79SA3Z30	3 MPa	1360 N		

*Excluding cable

*For pressure measurement of pulverulent bodies within $\phi 3$ mm (Powdered & pore pressure) (12SA3: within $\phi 10$ mm)

*The pore pressure (liquid & gas pressure) is 3 MPa. Only when the total stress is applied evenly to the pressure-receiving surface.

BER-S-12SA3 Specifications

Performance	
Rated Capacity	See table below.
Nonlinearity	Within $\pm 1\%$ RO
Hysteresis	Within $\pm 1\%$ RO
Rated Output	Approx. 1 mV/V

Environmental Characteristics

Safe Temperature	-20 to 60°C
Compensated Temperature	0 to 60°C
Temperature Effect on Zero	Within $\pm 0.1\%$ RO/°C

Electrical Characteristics

Safe Excitation	12 V AC or DC
Recommended Excitation	1 to 10 V AC or DC
Input Resistance	350 Ω $\pm 5\%$
Output Resistance	350 Ω $\pm 5\%$
Cable	4-conductor (0.5 mm ²) chloroprene shielded cable, 10 mm diameter by 30 m long, bared at the tip (Shield wire is not connected to the case.)

Mechanical Properties

Safe Overloads	1000% soil pressure (Soil Pressure is the sum of powdered pressure and pore pressure.)
Exterior	Pressure-sensing surface: Stainless steel metallic finish Flange and cable outlet: ZnC-plated MF
Water Pressure Resistance (Cable outlet)	600 kPa
Weight	See table below.

*Specifications and design are subject to change without notice.

*Please contact us for information on product warranties.

BER-S-15SA1/17SA3/35SA3/79SA3 Specifications

Performance	
Rated Capacity	See table below.
Nonlinearity	Within $\pm 2\%$ RO
Hysteresis	Within $\pm 2\%$ RO
Rated Output	Approx. 1.5 mV/V

Environmental Characteristics

Safe Temperature	-20 to 60°C (15SA1: -30 to 80°C)
Compensated Temperature	0 to 60°C (15SA1: 0 to 70°C)
Temperature Effect on Zero	Within $\pm 0.1\%$ RO/°C

Electrical Characteristics

Safe Excitation	12 V AC or DC
Recommended Excitation	1 to 10 V AC or DC
Input Resistance	350 Ω $\pm 5\%$
Output Resistance	350 Ω $\pm 5\%$
Cable	4-conductor (0.5 mm ²) chloroprene shielded cable, 10 mm diameter by 30 m long, bared at the tip (15SA1: 4-conductor (0.3 mm ²) chloroprene shielded cable, 8 mm diameter by 10 m long, bared at the tip (Shield wire is not connected to the case.)

Mechanical Properties

Safe Overloads	1000% soil pressure (Soil Pressure is the sum of powdered pressure and pore pressure.)
Exterior	Stainless steel metallic finish
Water Pressure Resistance (Cable outlet)	600 kPa
Weight	See table below.

*Specifications and design are subject to change without notice.

*Please contact us for information on product warranties.

Strain Gage

Load Cell

Pressure Sensor

Acceleration Sensor

Torque Sensor

Displacement Sensor

Component Force Sensor

Automotive Sensor

Civil Engineering Sensor



Strain Gage

Load Cell

Pressure Sensor

Acceleration Sensor

Torque Sensor

Displacement Sensor

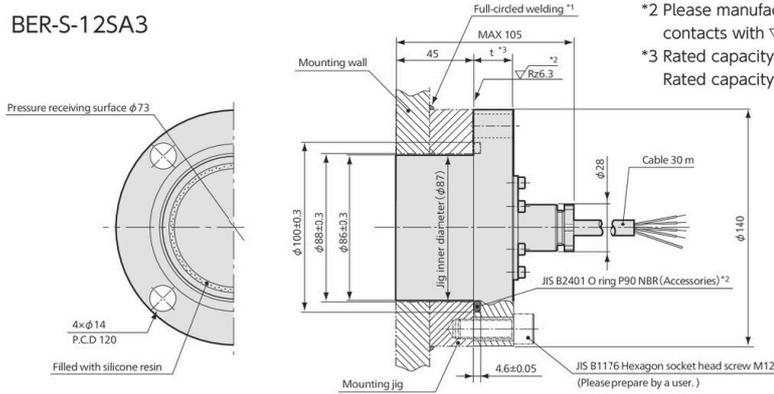
Component Force Sensor

Automotive Sensor

Civil Engineering Sensor

■ Dimensions

BER-S-12SA3

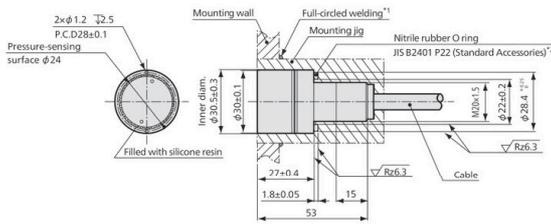


*1 Please don't weld the mounting jig with wall surface soil pressure transducer attached.

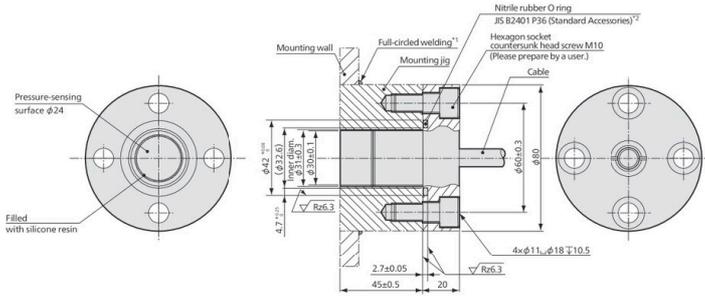
*2 Please manufacture the part where the O ring contacts with $\sqrt{Rr6.3}$.

*3 Rated capacity 500 kPa : $t=12$,
Rated capacity 1 MPa to 3 MPa : $t=24$

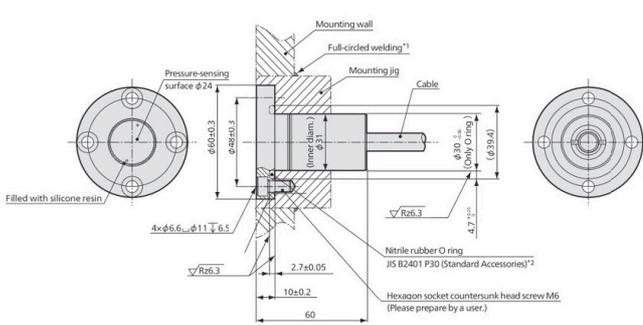
BER-S-15SA1



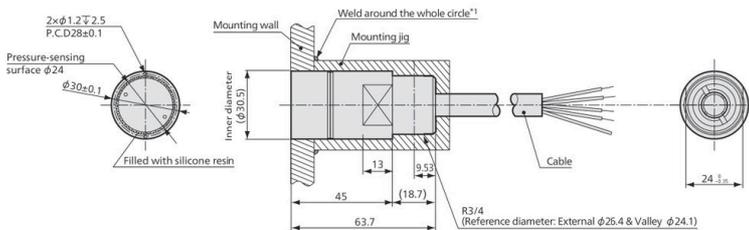
BER-S-17SA3



BER-S-35SA3



BER-S-79SA3



Bared at the tip (standard)

