

Drive-in Piezometers, VWP-3400 & SGP-3500 Series

Drive-in piezometers for measurement of pore water pressure in soft soils



VWP-3400 & SGP-3500 Series



Overview



Drive-in piezometers, also referred to as push-in piezometers, are designed for installing in soft clays, organic or fine grained cohesionless soils typically with a SPT-N value less than 10. They are available with a CPT fitting or 1" BSP thread.

Depending on the depth and type of soil, they can either be pushed directly into the soil from ground level to the required depth or pushed into the base of a CPT test or drilled borehole.

Installation is carried out by using CPT or conventional drill rods onto which is fitted a special adaptor that fits onto the top of the piezometer allowing it to be pushed to depth and the rods retrieved. Adaptors are available to suit most sizes and thread types of rods used for Cone Penetrometer Testing including R32 and reverse threads.

Alternatively 1" BSP galvanised pipe connected directly onto the top of a piezometer with a 1" BSP thread can be used and is sometimes used as a sacrificial pipe left within the borehole.

APPLICATIONS

Pore water pressure in soft soils

Dams and fill embankments

Dewatering activities

Natural or cut slope sites

Deep excavations

Diaphragm walls

FEATURES

Vibrating wire or Strain Gauge options

Robust construction

Long term stability & reliability

Anti-smearing cone design

Creates a borehole seal at top of piezometer

Built-in temperature sensor

Dynamic pore pressure monitoring
(Strain Gauge version only)



Drive-in adaptors, pictured above, with 1" BSPM thread or plain ended can be used to connect to drill rods.

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Specification

MODEL	DESCRIPTION	PRESSURE RANGE	OVER RANGE PRESSURE ¹	RESOLUTION	ACCURACY	NON LINEARITY ²	CALIB. TEMP RANGE	THERMAL EFFECT	DIAMETER X LENGTH	WEIGHT
VWP-3400	Drive-in LAE CPT	345, 518, 690 kPa 1, 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	35 x 220mm	550g
VWP-3401	Drive-in LAE 1" BSPM	345, 518, 690 kPa 1, 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	35 x 238mm	560g
SGP-3500	Drive-in LAE CPT	100, 200, 350, 700 kPa 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	35 x 220mm	550g
SGP-3501	Drive-in LAE 1" BSPM	100, 200, 350, 700 kPa 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	35 x 238mm	560g

VIBRATING WIRE

STRAIN GAUGE

Signal output	Frequency & Ohms	4-20mA
Materials	316 Stainless Steel	316 Stainless Steel
Power supply	VW readout	12-24V DC
Over voltage protection	90V gas plasma arrester	-
Operating temperature range	0 to +80 °C	0 to +80 °C
Thermistor	3k Ohms @25°C	3k Ohms @25°C
Insulation	>100MΩ	>100MΩ

CABLE TYPE

Type 900 VW sensor cable with foil screen & drain wire

Type 710 heavy duty

FILTER TYPE

LAE (Low resistance to air entry) 50µ porous polyethylene

ADAPTORS

A range of drive-in adaptors, including R32, are available

ORDERING INFORMATION

Model

Cable length

Pressure Range

Cable Type

Adaptor Type

¹ The maximum pressure that may be applied continuously without causing damage and maintaining set point repeatability.

² ± 0.1% FS available on request.



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