

P100

**CASAGRANDE
AND STANDIPIPE
PIEZOMETER**

PIEZOMETERS



CASAGRANDE AND STANDPIPE PIEZOMETERS

Casagrande piezometers are used to measure the pore water pressure in medium-low permeable soils. They are composed by a filter unit connected to the surface with single or twin tube.

Standpipe piezometers are used to monitor the ground water table level in high permeability soils. The standpipe filter unit consists of a Casagrande filter not sealed in the borehole with bentonite, or a slotted tube covered by geotechnical fabric in order to filter the water entry.

APPLICATIONS

- Control of ground water level
- Hydrological and water supply investigations
- Construction and stability control of rail and road embankments, earth dams and foundations
- Investigation of stability in natural and cut slopes
- Permeability tests for drainage and de-watering activities

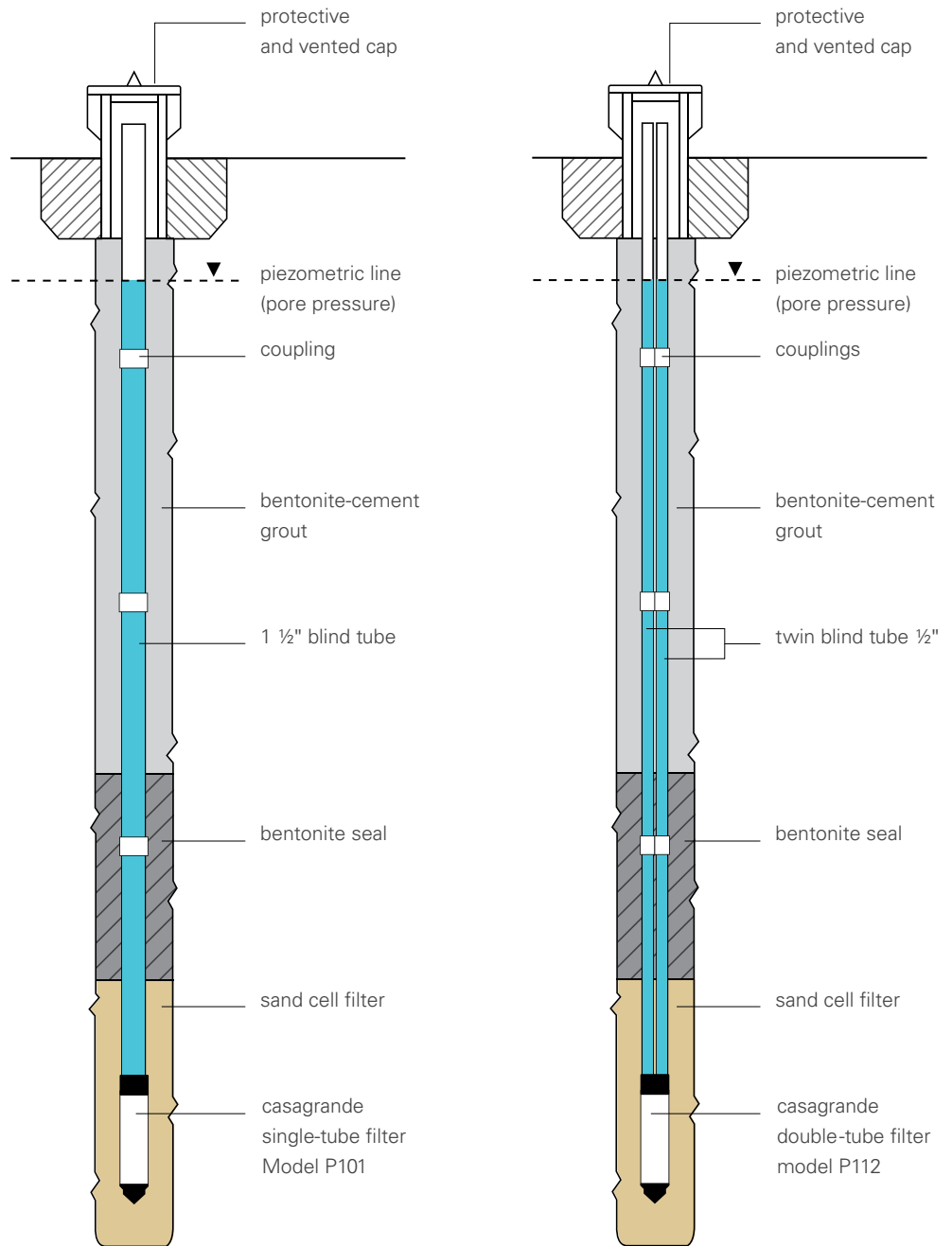
FEATURES

- Filters available in different models for both single and twin tube
- Simple automation with resistive or vibrating wire pressure transducers
- Available with conic-tip transducer that turns Casagrande piezometer in close circuit piezometer
- Wide range of accessories available in order to filter the water entry.

CASAGRANDE PIEZOMETERS

Casagrande piezometers are used to detect, measure and monitor water pressure in medium-low permeable soils or rocks specifically **at the installed depth of the filter tip**. Typically a bentonite seal is installed immediately above and sometimes below the filter. The filter is normally connected to the surface by a single or a pair of tubes. Pair of tubes provide a water inlet and outlet for internal flushing to clean the filter. The pore pressure can be read as water column by portable water level meter or automatically with a pressure transducer inserted in the standpipe (min. diam. 1 ½").

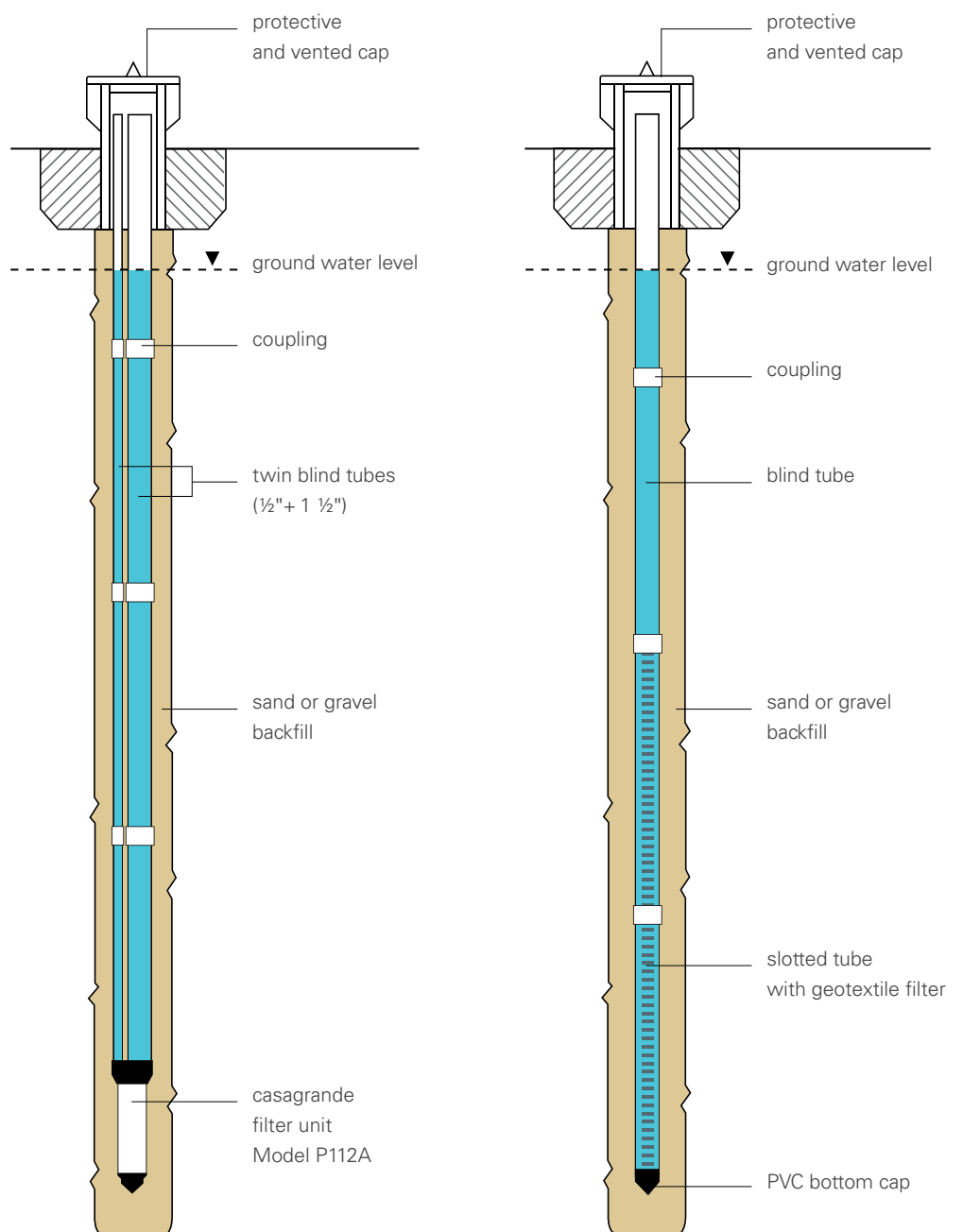
A special conical removable pressure transducer, having tip fitted with an 'O' ring, is designed to mate to the conical port of P101 Casagrande filter unit to form a closed circuit piezometer.



STANDPIPE PIEZOMETERS

The standpipe piezometers are used to detect, measure and monitor ground water level in permeable soils. The filter could be composed by a slotted PVC tube with external geotextile sock filter or a simple Casagrande filter unit. The filter unit and tube column(s) are installed to permit water, from the full length of the borehole, to enter the filter. Typically this is achieved by back filling the standpipe borehole with coarse grained sand or gravel. The water level can be read by portable acoustic water level meter or automatically with a pressure transducer inserted in the standpipe; relative pressure transducers do not need any barometric compensation, while vibrating wire absolute pressure transducers need compensation to balance fluctuations of the atmospheric pressure.

Standpipe piezometer with Casagrande filter having double tube (1 ½" + ½") could read ground water level in the same point with two methods: manually with a water level meter in the smaller tube and automatic with pressure transducer in the larger tube.



PVC BLIND TUBES

PRODUCT CODE	NOMINAL OD / PRESS. CLASS	OD / ID	COUPLING OD / THREADING	MATERIAL	LENGTH
OTCH0005000	½" / PN 12.5	21.1 mm / 15.9 mm	26 mm / Gas	PVC	3 m
OTCH0010000	1" / PN 12.5	33.3 mm / 26.7 mm	40 mm / Gas	PVC	3 m
OTCH0015000	1 ½" / PN 12.5	48.0 mm / 40.0 mm	55 mm / Gas	PVC	3 m
OTCH0020000	2" / PN 12.5	60.0 mm / 51.6 mm	65 mm / Gas	PVC	3 m
OTCH0030000	3" / PN 12.5	89.0 mm / 79.0 mm	95 mm / Gas	PVC	3 m

PVC SLOTTED TUBES

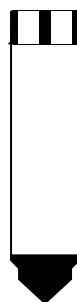
PRODUCT CODE	NOMINAL OD / PRESS. CLASS	OD / ID	COUPLING OD / THREADING	MATERIAL / LENGTH	SLOT / DISTANCE
OTFH0310000	1" / PN 12.5	33.3 mm / 26.7 mm	40 mm / Gas	PVC / 3 m	0.5 mm / 4.5 mm
OTFH0315000	1 ½" / PN 12.5	48.0 mm / 40.0 mm	55 mm / Gas	PVC / 3 m	0.5 mm / 4.5 mm
OTFH0320000	2" / PN 12.5	60.0 mm / 52 mm	65 mm / Gas	PVC / 3 m	0.5 mm / 4.5 mm
OTFH0330000	3" / PN 12.5	89.0 mm / 80 mm	94 mm / Gas	PVC / 3 m	0.5 mm / 4.5 mm

CASAGRANDE FILTER UNITS

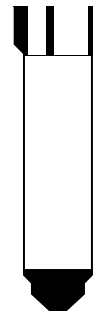
PRODUCT CODE	MODEL	FILTER DIAM. / POROSITY	MATERIAL	LENGTH/ OD	TUBE CONNECTION
OP101002000	P101	60 mm / 40 μ	polyethylene	275 mm / 61.5 mm	1 x 1 ½"
OP112002000	P112	60 mm / 40 μ	polyethylene	270 mm / 61.5 mm	2 x ½"
OP112A02000	P112A	60 mm / 40 μ	polyethylene	285 mm / 80.0 mm	1 x 1 ½" / 1 x ½"



P101



P112



P112A

ACCESSORIES AND SPARE PARTS

LOCKABLE TOP CAP OP100CH1000

Equipped with an identification plate and a topographic pin, the lockable cap ensures protection at the top end of Casagrande and standpipe piezometers.

BENTONITE PELLETS 1000BE20025K

Supplied in 25 Kg bags, it is used to form the seal and the backfill in Casagrande piezometers.

PVC BOTTOM CAP OTPVCO00000

Bottom cap for standpipe piezometers with slotted tube filter. Available for ½", 1", 1 ½", 2" and 3" tubes.

GEOTEXTILE FILTER 1000TNT000

Special sock made by geotextile, placed around slotted PVC tubes to prevent incoming of sand and other a small parts.

TRANSDUCER SUPPORT HEAD OP200CH1000

It is equipped with an identification plate, a topographic pin, a lockable cap and a hanging system for pressure transducers.

COUPLING FOR PVC TUBE OTJFF000000

Spare coupling with gas threading for PVC tubes, available in different size: ½", 1", 1 ½", 2" and 3".

WATER LEVEL METER OC112000000

It is used to take manual measurements in Casagrande and standpipe piezometers. Available also with temperature probe.

RELATIVE PRESS. TRANS. OP252R00000

Relative pressure transducer for automatic monitoring of water level in Casagrande and standpipe piezometers.



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ADDITIONAL SUPPORT

SISGEO offers on-line assistance service to the Customers in order to maximize the performance of the system and training on the correct use of the instrument/readout.

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