

## VW concrete stressmeter



### Description

Model 1250 VW concrete stressmeter consists of a load cell manufactured in the form of a flange, a plastic pore pipe forming a concrete cylinder, and a rebar screw cap for integration with the surrounding concrete. The small load cell has a built-in vibrating wire strain gage and individually calibrates the load, so it can be converted to stress by applying the cross-sectional area of the concrete cylinder.

The VW concrete stressmeter is a complementary product that can measure concrete stress very accurately, such as changes in elastic modulus, which are problems with commonly used embedment strain gage, and changes in strain caused by shrinkage and expansion due to changes in concrete moisture. Concrete poured on site is directly applied to a load cell to measure stress under the same conditions as the surrounding concrete, including temperature changes and changes in elastic modulus.

The VW concrete stressmeter has excellent response and reproducibility, enables semi-permanent measurement, and has a built-in high-accuracy resistance temperature sensor to measure internal temperature changes in concrete.

### Features

- Accurate stress measurement by applying a calibrated load cell
- Excellent reproducibility and response as it is not affected by changes in cable length or resistance
- Automated measurement possible

### Ordering information

- Application field
- Cable length
- Keeping VW readout unit

### Ancillary equipments

- Universal terminal box (model 7012/7024)

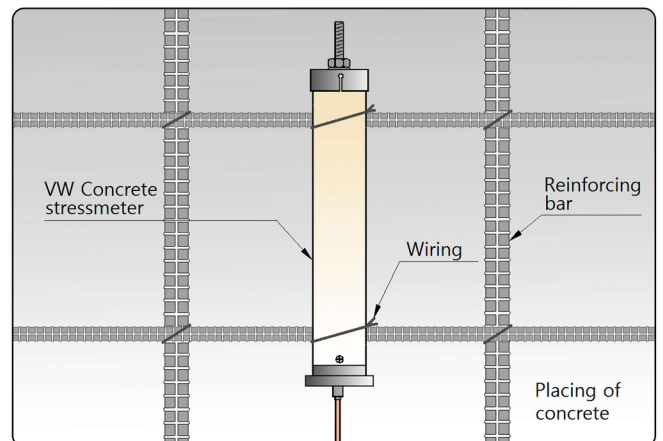
### Applications

Model 1250 VW concrete stressmeter directly measures the load applied by being buried in reinforced concrete or concrete structures, so it can measure the stress of concrete very accurately.

- Concrete stress measurement in bi-directional pile load test
- Stress measurement when pouring mass concrete

### Specification

Model	1250
Sensor element	Vibrating wire sensor
Range	-3~25MPa
Resolution	0.025% FSR
Accuracy	± 0.5% FSR
Nonlinearity	± 1.0% FSR
Operating temperature	-40~80°C
Built-in temperature device	Thermistor (3kΩ)
Temperature device range	-40~105°C
Temperature device accuracy	± 0.5°C
Applied area	32.17cm <sup>2</sup> (Porous pipe ID Ø64mm)
Waterproof	100m H <sub>2</sub> O
Materials	Alloy steel, plastic porous pipe(5μm)
Dimensions	Ø100 × 598mm
Weight	1.5kg
Signal cable	Ø6.4mm, 0.37mm <sup>2</sup> × 4C shielded PU cable



[VW concrete stressmeter installation]

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### How to install

Model 1250 VW concrete stressmeter must be fixed with a reinforcing bar cage while wrapping the entire pore pipe with non-woven fabric and tying it with a cable tie to prevent internal and external concrete integration.

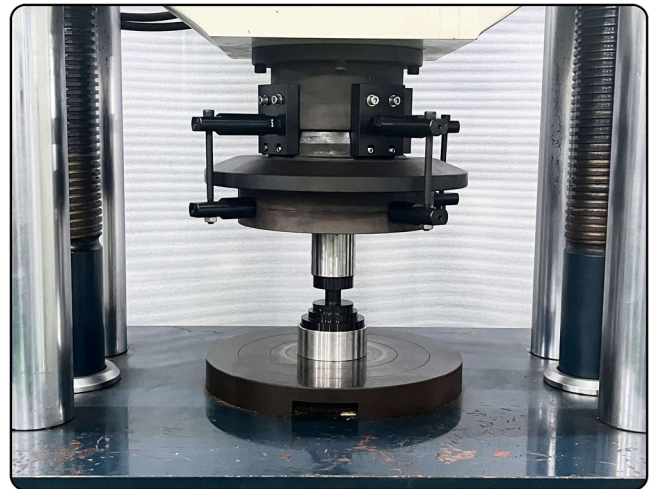
After placing the VW concrete stressmeter in the direction where you want to measure stress, install it by tying it in 2 to 3 places using a reinforcing bar cage, wire, and cable ties.

The rebar screw cap is left open and then closed and fixed after concrete is filled inside the pore pipe when pouring concrete.

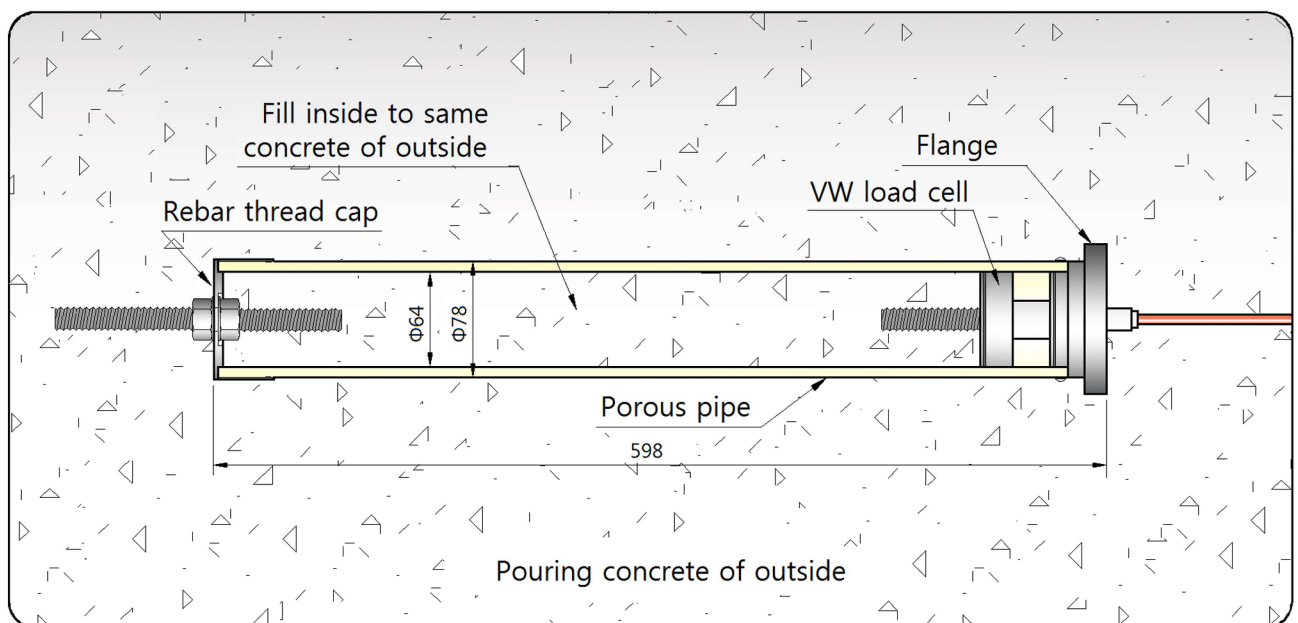
### The readout

It is connected to the system such as the VW readout units, data loggers to be data logging and data acquisition system to monitor readings. It is compatible with other company's readout unit.

- ACE-800 (VW readout)
- ACE-1000 (VW data recorder)
- ACE-1100 series (VW mini logger)
- ADL-16V (VW data logger)
- ADL-200A (Smart logger)
- VL Module (Smart LoRa system)



[Load calibration]



[Installation sectional view of VW concrete stressmeter]