

## VW rebar stressmeters



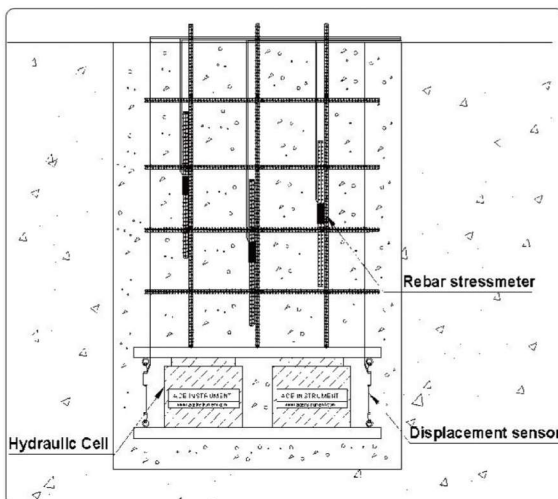
### Description

**VW rebar stressmeter** is also known as “**Sister bar strain gage**” has got the structure that reinforcing bars are attached and fixed at the both side of VW sensor. The gage installation can be welded to the existing rebar of tying it alongside with the existing length of rebar in the reinforcing cage. The cross section areas of VW sensor housing and the reinforcing bar are same. Therefore it helps us to measure the exact stress being applied to the reinforcing bar.

VW rebar stressmeter outputs the force strength and the change of the stress in frequency signal. This frequency signal is transferred to VW readout unit and it is displayed in the nominated engineering unit on VW readout units. And it makes us to exactly and easily measure the data as applying the elasticity coefficient and conversion coefficient of the reinforcing bar.

And the VW rebar stressmeter will be manufactured by sister bar of the various release that according to the size of reinforcing bar.

VW rebar stressmeters are designed for waterproof. Also a temperature device for compensating for temperature variations in the transducers is equipped.



[Installation of rebar stressmeter]

### Dimensions

(Unit : mm)

Model	1260	1290	1265
OD of sensor	Ø26	Ø34	Ø12.7
Overall length	900	900	900
Rebar spec.	D25	D32	D13

### Applications

The VW rebar stressmeters are designed and used in monitoring a stress of the reinforcing bars on a diaphragm wall or reinforced concrete structures.

### Features

- Possible to measure more than the yield point of rebar
- Stability and reliability in extreme environment
- Not affected by cable length and resistance change, reproducibility and repeatability are very excellence
- Easy to use and installation
- Built-in temperature device
- Possible to automatic measurement

### Produce ableness

No.	Diameter (mm)	Length of sensor
D10	Ø 9.53	900mm
D13	Ø 12.7	
D16	Ø 15.9	
D19	Ø 19.1	
D22	Ø 22.2	
D25	Ø 25.4	
D29	Ø 28.6	
D32	Ø 31.8	
D35	Ø 34.9	
D38	Ø 38.1	
D41	Ø 41.3	
D51	Ø 50.8	

## VW rebar stressmeters

### Specification

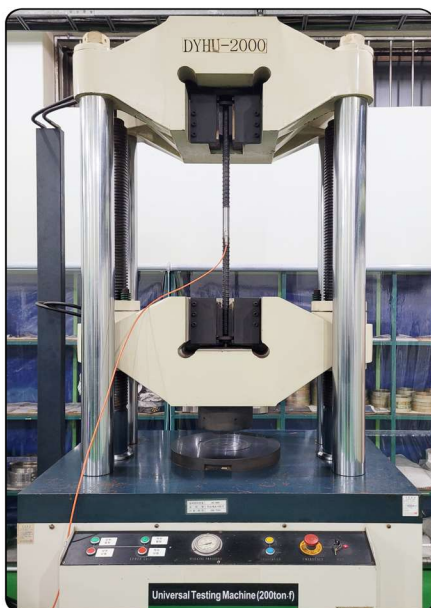
Model	1260	1290	1265
Nominal diameter of the rebar	Ø25.4mm	Ø31.8mm	Ø12.7mm
Sensor element	Vibrating wire sensor		
Range	3,300 microstrain		
Resolution	0.5 microstrain		
Accuracy	±0.1% FSR (Tensile with a tensile tester) ±0.5% FSR (Built in calibrated sensor)		
Thermal zero shift	Less than $10.8 \times 10^{-6}/^{\circ}\text{C}$		
Operating temperature	-40~80°C		
Built-in temperature device	Thermistor (3kΩ)		
Temperature device range	-40~105°C		
Temperature device accuracy	±0.5°C		
Yield point of the rebar / elastic coefficient	4,000kg/cm <sup>2</sup> / $2.04 \times 10^6$ kg/cm <sup>2</sup>		
Waterproof	105m H <sub>2</sub> O		
Materials	Stainless steel, high grade epoxy potting, reinforcing bar		
Weight (including rebar)	3.8kg	5.5kg	1.1kg
Signal cable	Ø4.5mm, 0.24mm <sup>2</sup> × 4C shielded PVC sheath cable		

Rebar = Reinforcing bar

### 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)



[Tension calibration by UTM]

### Ordering information

- Installation area(field) and application
- Dimension of the reinforcing bar
- Keeping VW readout unit
- Cable length

### Ancillary equipments

- Universal terminal box (model 7012/7024)
- Extension kit for rebar (reinforcing bar)

### Calibration method

The VW rebar stressmeter is provided with an individual calibration certificate, and you can choose one of the methods below.

#### (Standard : sensor calibration)

Before built in, the strain gage is calibrated by a digital calibrator and built in steel, then a reinforcing bar is mounted and sealed welded.

At this time, when performing a real tensile test on a tensile tester, the accuracy of the product becomes ±0.5% FSR.

#### (Optional : tension calibration)

The manufactured VW rebar stressmeter is tensile calibrated by an authorized tensile tester, and an individual calibration certificate is provided, and a separate calibration cost is incurred.

At this time, the accuracy of the product is ±0.1% FSR, and the calibration range is calibrated within about 30% of the yield strength of the reinforcing bar.