



Model 3544

Designed for concrete and rock compression testing

or for compression tests on other large samples. The

Model 3544 may be used simultaneously with the

Model 3542RA axial extensometers.



3544 with optional horizontal configuration.



3542RA and 3544 in test.

Circumferential extensometers measure the change in circumference as the sample is compressed. This is considered by many researchers to be a more accurate way to determine diametral strain, since the measurement is taken over the entire material inside the circumference.

A high precision custom roller chain with special rollers mounts the extensometer to the specimen. As the specimen diameter enlarges during the test, the chain causes the extensometer to expand. The unit is self-supported on the sample with integral springs. Links are easily added or removed to adjust for different size specimens. A mechanical adjustment allows the output to be set to zero. A breakaway device protects the extensometer in the event of specimen rupture.

Often rock specimens are tested in tri-pressure cells. Versions of the Model 3544 are available to fit inside the vessel and operate in oil environments at up to 1360 bar at 200 °C (20,000 psi at 400 °F). These units were designed to fit inside small inner diameter vessels.

The Model 3544 is the best choice for large diametral strains in large compression samples. Epsilon's diametral rock and concrete extensometer, the Model 3975, is recommended for small strain measurements.

Features

- Full bridge, 350 ohm strain gaged design for compatibility with nearly any test system.
- Adapts to a wide range of specimen sizes by adding or removing chain links.
- Rugged, dual flexure design for strength and improved performance.
- Includes high quality foam lined case.
- Self-supporting on the specimen.
- May be used simultaneously with Model 3542RA axial extensometers.
- Versions available for use in tri-axial confining pressure cells, at high pressures and temperatures.

SPECIFICATIONS

- Excitation:* 5 to 10 VDC recommended, 12 VDC or VAC max.
- Output:* 2 to 4 mV/V nominal, depending on model
- Linearity:* 0.25% to 0.30% of full scale measuring range, depending on model
- Temperature Range:* Standard (-ST) is -40 °C to +100 °C (-40 °F to 210 °F)
- Cable:* Integral, ultra-flexible cable, 8 ft (2.5 m) standard

OPTIONS

- Connectors to interface to nearly any brand of test equipment
- Shunt calibration module (see page 96)
- Horizontal, vertical or user convertible orientations

ORDERING INFORMATION

Model 3544 Available Versions: Any combination of diameter range, measuring range and temperature range is available, except as noted.

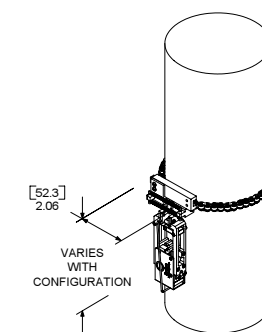
Diameter Range		Circumferential Measuring Range	
U.S.A.		DESIGNATION	LINEARITY
-0400	2.00" to 4.00"	-080T	+0.080" 0.25%
-0600	2.00" to 6.00"	-125T	+0.125" 0.25%
-0800	2.00" to 8.00"	-250T	+0.250" 0.25%
		-500T	+0.500" 0.30%
METRIC		-020M	+2.0 mm 0.25%
-100M	50 mm to 100 mm	-030M	+3.0 mm 0.25%
-150M	50 mm to 150 mm	-060M	+6.0 mm 0.25%
-200M	50 mm to 200 mm	-120M	+12.0 mm 0.30%

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Temperature Range	
-LT	-265 °C to 100 °C (-450 °F to 210 °F)
-ST	-40 °C to 100 °C (-40 °F to 210 °F)
-HT1	-40 °C to 150 °C (-40 °F to 300 °F) ¹
-HT2	-40 °C to 175 °C (-40 °F to 350 °F) ¹
-LHT	-265 °C to 175 °C (-450 °F to 350 °F) ¹

¹ Short term use to 200 °C (400 °F) acceptable.

Example: 3544-200M-120M-ST: 50 mm to 200 mm diameter range, +12 mm measuring range, standard temperature option (-40 °C to 100 °C)



TYPICAL 3544

DIMENSIONS: [mm] inches

Contact Epsilon for your special testing requirements.