

# 2632 Series High Temperature Extensometers

## Catalog Number 2632-05X

### Features

- Provides measurement and closed-loop strain control for cyclic testing
- Simple, very lightweight design giving excellent dynamic performance
- Extremely low contact and operating force for optimum strain control
- High temperature operation from ambient up to +1000 °C (+1832 °F)
- Gauge length setting is achieved using a setting block
- Mechanical stops reduce the possibility of damaging the extensometer when extending the rods beyond the measuring tensile or compressive range
- Comes complete with adaptable ceramic cord attachment system for easy mounting to specimen. Optional leaf spring mounting available.
- Rugged triple flexure strain gauged design compatible with all Instron® strain gauged extensometer conditioners
- Auto recognition and electrical calibration enables the testing system to determine automatically the type and capacity of the extensometer being used, without operator input
- Designed to meet the requirements of ISO 9513 (Class 0.5) and ASTM E 83 (Grade B-2)

### Description

The 2632 series extensometer provides accurate measurement and closed-loop control at temperatures up to +1000 °C (+1832 °F) with resistance furnaces and is designed specifically to interface with Instron's controllers.

These extensometers are particularly suited to low cycle fatigue, creep and stress relaxation testing.

Mounting of the extensometer is achieved using ceramic cords that wrap around the specimen. This ensures rapid yet secure attachment of the extensometer onto the specimen enabling accurate, reliable and repeatable testing. An optional leaf spring mounting is available for use with furnaces.

This high temperature extensometer has been designed with absolute minimum body mass. By decreasing the mass of the extensometer, it has a high resonant frequency and therefore the gain of the strain control loop may be increased. With a high gain loop, optimum performance and sharp turn around is easily achieved.



▲  
2530-400 series load cell

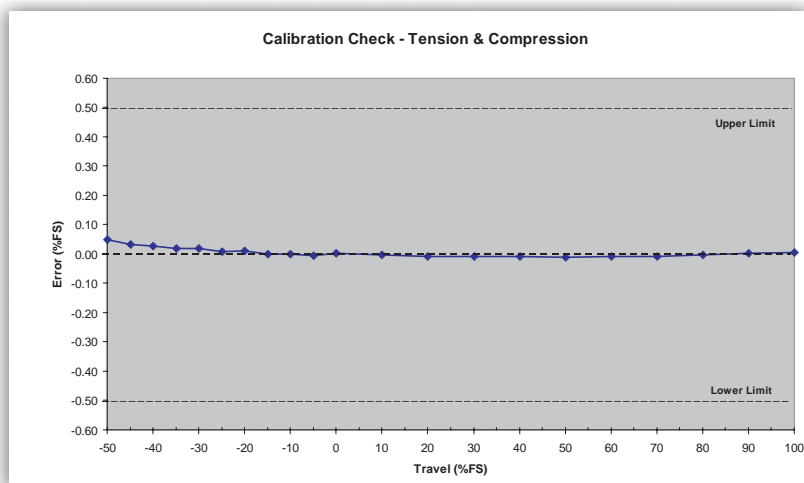
### Principle of Operation

The 2632 series of +1000 °C (+1832 °F) axial extensometers are designed to convert the mechanical displacement of a strained and heated specimen into an electrical signal. The conditioned signal permits monitoring or control of specimen strain.

The specimen displacement is transmitted by heat resistant rods through a side aperture in the furnace wall. Outside the furnace the rods are secured to the extensometer body. Strain gauges bonded to a flexural element are housed within the extensometer body. A cooling fan is supplied to maintain the extensometer body temperature below +150 °C (+302 °F).

### Accuracy

Instron extensometers have been tested for accuracy and repeatability on calibration apparatus to traceable international standards, with an uncertainty not exceeding one third of the permissible error of the extensometer.



▲  
Typical extensometer calibration test results

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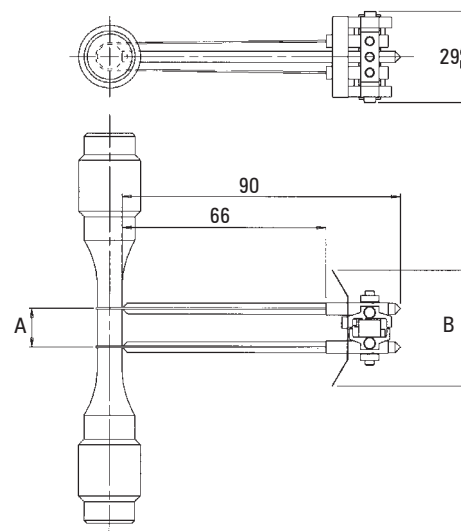
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### Specifications

Catalog Number	2632-054	2632-055	2632-056	2632-057
Gauge Length (A)	12.5 mm (0.5 in)	12.5 mm (0.5 in)	25 mm (1 in)	25 mm (1 in)
Travel (mm)	38 mm (1.5 in)	38 mm (1.5 in)	2.5 mm to -1.25 mm	2.5 mm to -1.25 mm
Width (B)	2.5 mm to -1.25 mm	2.5 mm to -1.25 mm	50 mm (2 in)	50 mm (2 in)
Rod Type	Quartz, chisel end	Alumina, chisel end	Quartz, chisel end	Alumina, chisel end

### Accessories

Catalog Number	2632-061	2632-060	2632-059	2632-058
Description	Leaf spring mounting option	Spare ceramic cords	Spare alumina rod set, chisel point	Spare quartz rod set, chisel point



▲ Dimensions

### Extensometers General Performance

Catalog Number	2632-05X
Gauge Length Accuracy	±0.5% of gauge length achieved using setting block
Maximum Recommended Frequency	1 Hz
Grade	ISO 9513 Class 0.5/ ASTM E 83 Grade B-2
Maximum Strain Error	Does not exceed ±0.5% of strain
Temperature Range	Ambient to 150 °C (302 °F) (body) Ambient to 1000 °C (1832 °F) (specimen)
Bridge Resistance	350 Ohms nominal
Sensitivity	2 mV/V nominal
Temperature Coefficient of Zero	±0.01% FSO/ °C
Repeatability	±0.1% FSO
Hysteresis	±0.3% FSO
Resolution	0.001 mm
Contact Force	0 to 300 g per rod
Operating Force	10 g/ mm deflection
Mass	20 g (0.7 oz) (including rods and cord)
Furnace Compatibility	3117-150 and 3117-152 resistance furnaces and all furnaces currently using an MTS® extensometer
Cooling Fan Power Supply Input	85-264 V AC, 47-440 Hz



**Corporate Headquarters**  
100 Royall Street, Canton, Massachusetts 02021-1089, USA  
Tel: +1 800 564 8378 or +1 781 575 5000 Fax: +1 781 575 5751

**Instron Industrial Products**  
900 Liberty Street, Grove City, PA 16127-9969, USA  
Tel: +1 724 458 9610 Fax: +1 724 478 9614

**European Headquarters**  
Coronation Road, High Wycombe, Bucks HP12 3SY, United Kingdom  
Tel: +44 1494 464646 Fax: +44 1494 456123

[www.instron.com](http://www.instron.com)

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