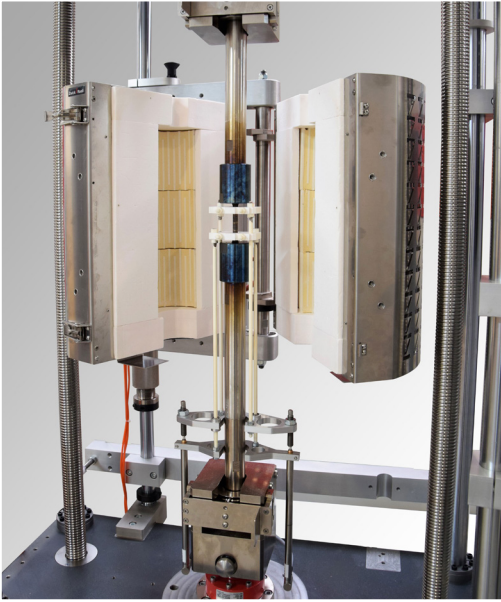


Product Information

Extensometer for High-temperature and Creep Testing Tensile on Metals



MP-4rod-extensometer ceramic (parts exposed to heat are made of ceramic)

4-Rod-Extensometer with axial entry in ceramic or metal version

Application

- Tensile creep testing
- Designed for use with high-temperature furnaces
- Determination of creep strain according to ISO 204 and ASTM E139
- Metal version: temperature up to 850°C
- Ceramic version: temperature up to 1,200°C

Specimen Shapes

- Round specimen with threaded head and collars in parallel length
- Flat pin loaded dumbbell specimen with collars in parallel length
- Pipe-segment specimen with pin and collars in parallel length



Round specimen with collars in parallel length



Pipe-segment specimen with collars in parallel length

Advantages/features

- 2-side measurement according to ISO 204 and ASTM E139 with 2 analogue (LVDT) or digital (incremental) gauges outside the furnace
- Electronic averaging of the 2 sensor signals
- Axial entry from bottom side of furnace
- Flexible gauge length L_0
- Extensometer requires specimen with collars

Accessories

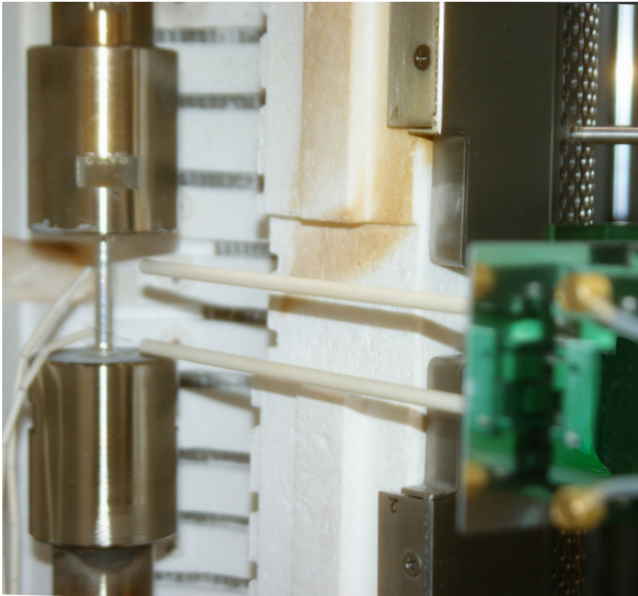
Inserts for round, flat and pipe-segment specimen shapes necessary and available.

Description

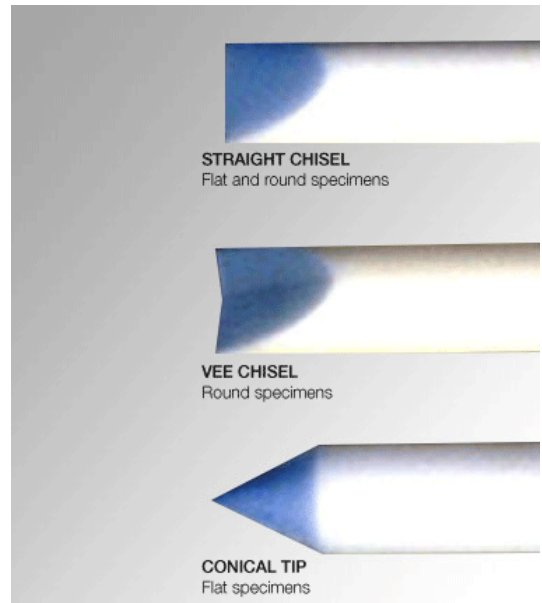
Max. temperature metal ceramic	850°C 1,200°C
Accuracy Class: analogue digital	class 1 according to ISO 9513 and class C according to ASTM E83 class 0.5 according to ISO 9513 and class B-2 according to ASTM E83
Axial gauge length metal ceramic	adjustable from 10 - 50 mm adjustable from 18 - 50 mm (optional: extension up to 100 mm available)
Measurement Range: analogue digital	5, 10, 25, 50 mm 12, 30 mm
Resolution	< 0.1 μm

Product Information

Extensometer for High-temperatures and Creep Testing Tensile on Metals



High-Temperature Extensometer with side entry



Feeler Arms

High-Temperature Extensometer with side entry

Application

- Tensile creep testing
- Tensile testing
- Designed for use with high-temperature furnaces and induction heating systems
- Determination of creep strain according to ISO 204 and ASTM E139
- Determination of tensile strain according to ISO 6892-2
- Temperature up to 1.200°C/1.600°C

Specimen Shapes

- Round specimen with threaded head
- Round specimen with shoulder head
- Flat specimen with pin
- Pipe-segment specimen with pin

Advantages/features

- Single-side measurement with DMS outside the furnace
- Side entry due to furnace slot
- Gauge length adjustable in steps (spacers required), measurement range fixed to basic gauge length
- Mount with load frame mounting brackets
- Hot mounting on samples possible
- May be left on through to specimen failure
- High purity alumina ceramic rods

Accessories

- Feeler arms for different specimen shapes
- Spacers for different gauge lengths

Description

Max. temperature	1,200°C / 1,600°C
Accuracy Class:	class 0.5 according to ISO 9513 and class B-2 according to ASTM E83
Initial gauge length	10 - 50 mm in steps
Measurement Range:	+/-10% ⁽¹⁾ or +20%/-10% or +50%/-10% or +100%/-5% ⁽²⁾
Resolution	< 0.1 µm

⁽¹⁾ Not available with 10 mm and 12.5 mm initial gauge length

⁽²⁾ Not available with 50 mm initial gauge length

Product Information

High-Temperature Extensometer for Creep Testing Creep Crack Growth on Metals



Rod-in-Tube Extensometer with axial entry

Rod-in-Tube Extensometer with axial entry

Application

- Creep Crack Growth (CCG)
- Determination of creep crack growth in metals according to ASTM E1457
- Displacement measurement of force-line deflection (FLD) during the test

Specimen Shapes

CT-specimen according to ASTM E1457

Advantages/features

- Adapted for use with CT-specimen
- Rod-tube design
- Materials: ceramics (rods)
MAR-246 2.4676
(replaceable inserts)



CT-specimen

Description

Max. temperature	ambient up to 1,200°C
Accuracy Class:	class 0.5 according to ASTM E1457
Gauge length	3 - 10 mm
Measurement Range:	typically 5 mm
Resolution	0.1 µm



DCPD-Extensometer

Crack Growth Measurement System DCPD

Application

- Creep Crack Growth (CCG)
- Determination of creep crack growth in metals according to ASTM E1457
- Measurement of crack size/length during the test

Specimen Shapes

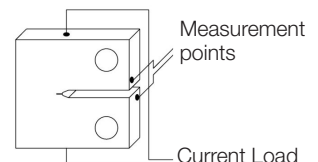
CT-specimen according to ASTM E1457

Advantages/features

- Software-modul with full integration in testXpert II and testXpert III
- Continuous and pulsed mode of operation
- Set of HT-resistant connecting cables



DCPD Connetion

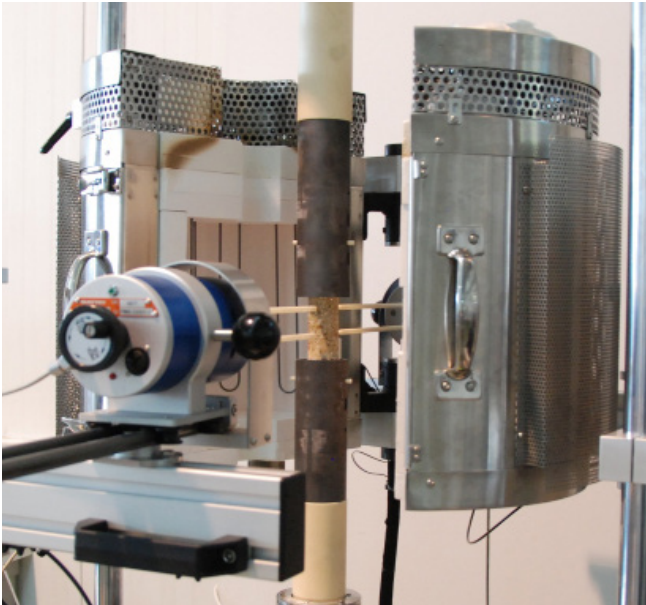


Description

Max. temperature	up to 1,100°C
Power source	adjustable from 0 - 20 A
Analogue output	0 - 10 V
Resolution	< 0.1 mV

Product Information

Extensometer for High-temperature and Creep Testing
Tensile, Compression and Bending on Ceramics and Metal



HT-Extensometer with side entry

HT-Extensometer with side entry

Application

- Tensile test on metal
- Compression test on ceramic material/refractory
- Determination of tensile strain according to ISO 6892-2

Advantages/features

- Easy operation due to swivel-sledge mechanics and adjustment wheel for the high-temperature feeler arms
- Rapidly ready for testing
- Easy contacting of the high-temperature sensor arms
- No need for specimen with collars
- Gauge length is adjustable steplessly

Specimen Shapes

- Round specimen with threaded head
- Round specimen with shoulder head
- Flat specimen with pin
- Pipe-segment specimen with pin

Description

Max. temperature	up to 1,500°C
Accuracy Class:	class 0.5 according to ISO 9513
Gauge length	6 - 50 mm
Measurement Range:	± 10 mm
Resolution	< 0.1 µm

All data at ambient temperature.



HT-Deflection Measuring Device with axial entry

HT-Deflection Measuring Device with axial entry

Application

- Compression test on ceramic material
- Flexure test on ceramic material
- Measurement of compression and deflection from bottom side

Advantages/features

- Easy setting of sensor arms by the use of adjustment wheel
- Rapidly ready for testing
- Measuring of compression and deflection by means of axially placed feeler arms

Specimen Shapes

- Compression test: cylindrical or rectangular specimen with \varnothing or edge length of 14 mm and max. height $2 \times \varnothing$ or edge length
- Bending test: rectangular specimen (3 x 4 x 45 mm) according to ASTM C1211 Form B

Description

Max. temperature	up to 1,500°C
Accuracy Class:	class 1 according to ISO 9513
Measurement Range:	1 / 5 mm
Resolution	< 0.15 µm

We reserve the right to make technical changes in the course of ongoing development.