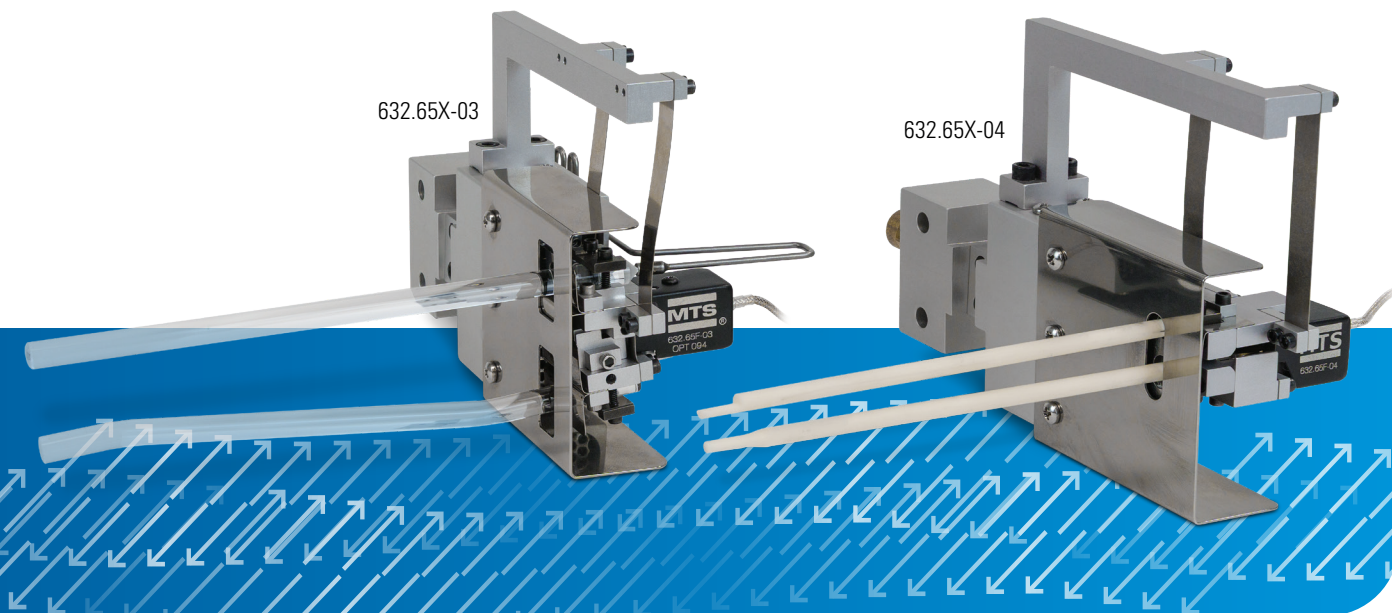




MTS 632.65 High-Temperature Clip-On Displacement Gage

Fracture mechanics testing up to 1200°C

Features

- » Solutions for KIC, JIC, and crack growth testing
- » Meets ISO 9513 Class 05 calibration requirements
- » Minimizes hysteresis

The 632.65 High Temperature Clip-On Displacement Gages provide a unique solution for hot fracture mechanics testing at temperatures up to 1200 °C (2200 °F).

These rod-based displacement gages are designed for demanding high-temperature applications including KIC, JIC, and crack growth testing. Replaceable high-temperature extension rods extend into the furnace and are designed to minimize rod creep, thermal expansion error, and conduction losses from the specimen.

All models in the 632.65 family meet or exceed ISO 9513 Class 0.5 calibration requirements and are designed for seamless integration with MTS systems, including compatibility with MTS 652 furnace.

632.65X-03

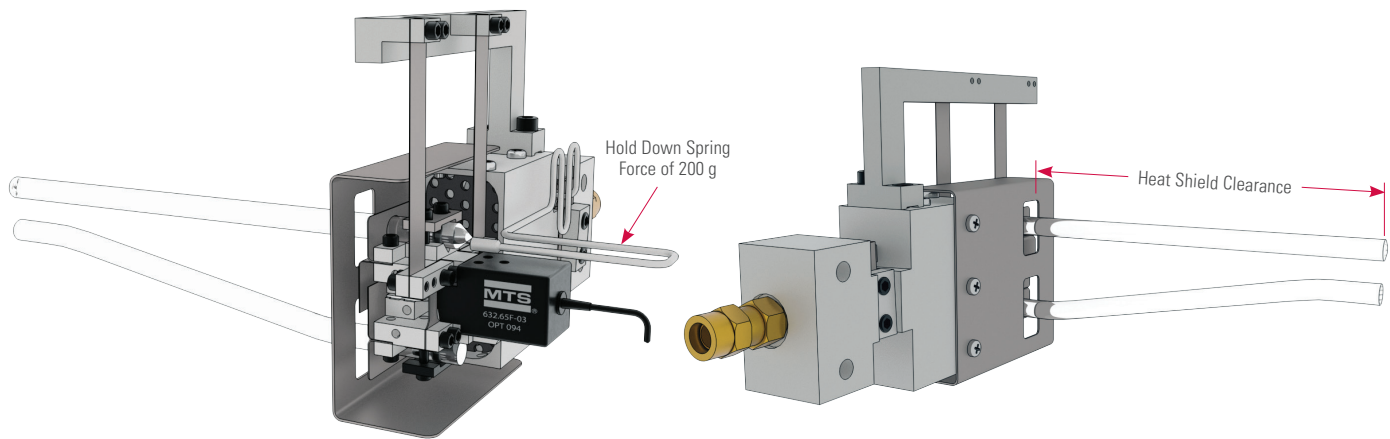
The 632.65X-03 is optimized for front face contact on CT specimens. It engages knife edges mounted on the front face of the specimen and applies a higher

seating force at the contact points, helping maintain secure engagement throughout the test.

The unit is designed for high-temperature KIC fracture toughness and crack growth testing at temperatures up to 1000 °C. This model uses quartz rods.

The 632.65X-03 is particularly well suited for KIC testing, where stable attachment and reliable displacement measurement are critical. Because KIC testing is typically performed under monotonic Mode I loading, the front face configuration and higher seating force make this model especially suitable for long duration KIC applications.

The design is intended to minimize hysteresis within the extensometer itself. However, as with any direct contact rod based system, some application dependent hysteresis may still be observed due to friction at the rod to knife edge interface during loading and unloading.



Units that Function up to 1000°C for KIC, Fracture Toughness and Crack Growth Testing

Model	Compressed Gage Length	Travel	Frequency*	Heat Shield Clearance	Extension Rods Included**	Part Number
632.65F-03 – OPT 92	15.24 mm	+10.0/-1.0 mm	10 Hz	160.0 mm	Qty 2 sets, Quartz rods	047-403-201
632.65E-03 – OPT 92	0.6 in	+0.400/-0.040 in	10 Hz	6.30 in	Qty 2 sets, Quartz rods	047-403-202
632.65F-03 – OPT 94	15.24 mm	+10.0/-1.0 mm	10 Hz	112.8 mm	Qty 2 sets, Quartz rods	047-403-203
632.65E-03 – OPT 94	0.6 in	+0.400/-0.040 in	10 Hz	4.44 in	Qty 2 sets, Quartz rods	047-403-204

*Highest frequency can be achieved with small displacement

**More rod sets available to purchase. (Quartz rods are easily damaged: More rods may be necessary.)

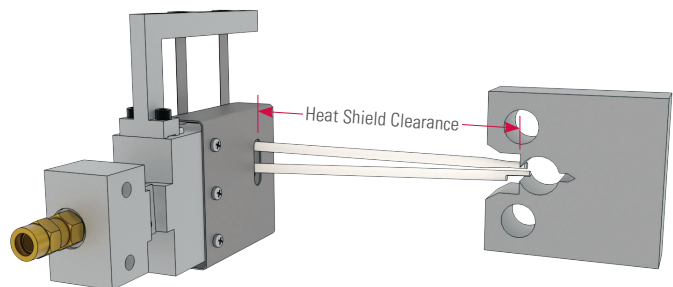
632.65X-04

The 632.65X-04 is designed for high-temperature KIC, JIC, fracture toughness, and crack growth testing at temperatures up to 1200 °C. This model uses alumina rods and can be used in both front face and load line configurations on CT specimens.

Its key differentiator is its ability to reach the load line directly, making it especially well suited for JIC and other J based fracture mechanics methods where load line displacement measurement is preferred or required. The unit is designed for applications with a minimum gage length of 5 mm (0.2 in.).

Like the 632.65X-03, the 632.65X-04 is designed to minimize internal hysteresis. However, because it is also a direct contact

rod-based system, some application dependent hysteresis may still occur due to friction at the rod to knife edge interface during loading and unloading.



Units that Function up to 1200°C for KIC, JIC, Fracture Toughness and Crack Growth Testing

Model	Compressed Gage Length	Travel	Frequency*	Heat Shield Clearance	Extension Rods Included**	Part Number
632.65F-04	5 mm	+12.0/-0.5 mm	30 Hz	113 mm	Qty 2 sets, Ceramic Rods	058-533-001
632.65E-04	0.200 in	+0.450/-0.020 in	30 Hz	4.48 in	Qty 2 sets, Ceramic Rods	058-533-002
632.65F-04	6.0 mm	+11.0/-1.0 mm	30 Hz	113 mm	Qty 2 sets, Ceramic Rods	058-533-003
632.65E-04	0.250 in	+0.400/-0.040 in	30 Hz	4.48 in	Qty 2 sets, Ceramic Rods	058-533-004

*Highest frequency can be achieved with small displacement

**More rod sets available to purchase. (Quartz rods are easily damaged: More rods may be necessary.)



MTS Systems Corporation
14000 Technology Drive
Eden Prairie, MN 55344-2290 USA
www.mts.com

Telephone: 1.952.937.4000
Toll Free: 1.800.328.2255
E-mail: info@mts.com
ISO 9001 Certified QMS

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