



MTS Advantage™ Mini Grips

Fast, accurate specimen gripping for small specimen testing

Benefits

FAST TEST EXECUTION

- » Takes just a few minutes to install specimen and complete the test

EASY SPECIMEN INSTALLATION

- » Specimen is installed in grips with a set-up jig, away from the load frame

ACCURATE & REPEATABLE SOLUTION

- » Jig enables proper specimen positioning within the grips to help ensure accurate and consistent alignment and test results

The first-of-a-kind, patent-pending MTS Advantage Mini Grip solution is designed for the safe and accurate testing of extremely small specimens. These miniature mechanical grips are ideal for testing the subscale specimens that are used in additive manufacturing materials testing applications.

Small-sized specimens present several challenges—safely inserting them into the grips, preventing slippage and maintaining proper alignment so that test results are reliable and repeatable from one test to the next. The MTS Advantage Mini Grip solution addresses all of these issues.

Made for tension testing or tension-tension fatigue testing of miniature and subscale specimens that can be smaller than a fingernail, these grips provide the reliability and ease-of-use needed to perform fast, safe and accurate testing of small specimens.

How to Set Up & Use

Using the MTS Advantage Mini Grips Specimen Insertion Jig, you can install the specimen in the grips, place the grips in the load frame and complete the test in just a few minutes:

1. Safely insert specimen into grips

- » Place specimen insertion jig on a flat surface away from the load frame
- » Insert grips into the jig
- » Insert specimen into grips
- » Apply initial gripping force

2. Install jig assembly with grips in the load frame

- » Add strain measurement device if desired
- » Remove the jig from the grips

3. Conduct test

be certain.

The MTS Advantage Mini Grips can be configured to work with servohydraulic or electromechanical test systems.

Servohydraulic Systems

A common servohydraulic system configuration includes a smaller load cell and the MTS Advantage Mini Grip in line with an existing load train with a Model 646 hydraulic grip for standardized specimens.



Other configurations are available on request.

Electromechanical Systems

The MTS Advantage Mini Grips can be attached to the load frame using standard E/M 5/8 inch (Type C) female clevis mounts. Adapters are available for other configurations.

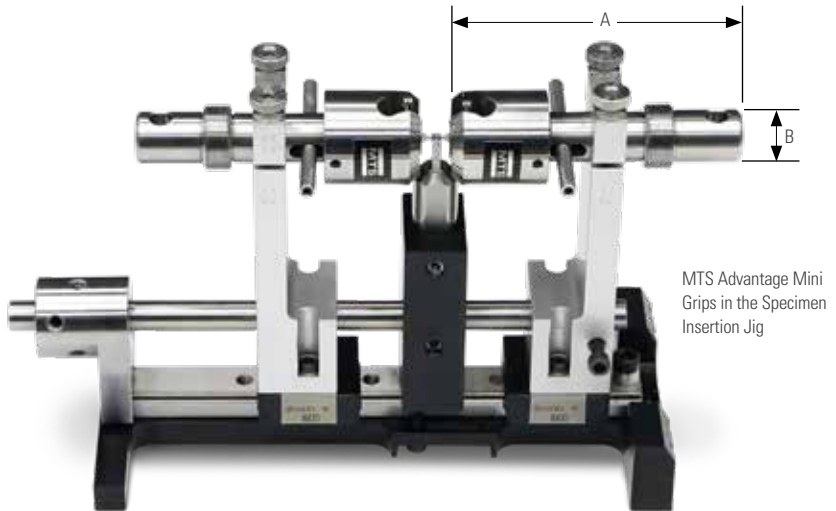
Strain Measurement Options

The MTS Advantage Mini Grips can be used with both contacting and non-contacting strain measurement devices.

The Model 632.58 axial extensometer is designed for small specimen testing, or the MTS Advantage Optical Extensometer (AOX) or Advantage Video Extensometer (AVX) are compatible non-contacting strain measurement options.

Specifications

| | |
|---|--|
| Force Capacity | 2.2 kN (500 lbf) Static 1.1 kN (250 lbf) Dynamic |
| Wedge Specimen Size Range | Flat Surfallo: 0-2 mm (0-.080 in) 10 mm (.394 in) Max Width 7 mm (.275 in) Max Insertion Depth |
| | Round Straight Serrations: 3-5 mm (.118-.197 in) 7 mm (.275 in) Max Insertion Depth |
| Activation Force <i>(force required to manually open the grip wedges for specimen insertion in the jig)</i> | Initial Force: 16.7 N (3.75 lbf) Max Force: 63.6 N (14.3 lbf) |
| Preload Torque - Monotonic <i>(force applied to clamp the specimen in the grip for testing)</i> | Minimum: .565 N-m (5 in-lbs) Maximum: 1.19 N-m (10.5 in-lbs) Torque wrench and bit is included with the jig assembly |
| Preload Torque - Dynamic <i>(force applied to clamp the specimen in the grip for testing)</i> | Maximum: 19.7 in-lbs (2.2 Nm) Torque wrench is not included |
| Temperature Rating | Ambient Temperatures |
| Grip Weight (each) | .226 kg (.5 lbs) |
| Jig Weight | .95 kg (2.1 lbs) |
| Grip Dimensions (A / B) | 85.6 mm (3.37 in) / Ø15.88 mm (.625 in) |



PROPER ALIGNMENT EVERY TIME

- » Adjustable Specimen Holder Pin helps align the grip centerline with the specimen centerline for a variety of specimen dimensions
- » Jig bearing system allows grips to move linearly relative to each other without changing the alignment
- » Grips are rotationally constrained in the jig to prevent specimen twisting during clamping



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100-645-129 AdvantageMiniGrips • Printed in U.S.A. • 09/21