SHIMADZU
Excellence in Science

Differential Transformer Type Extensometers

DT Series

ISO Class 1 Compliant Differential Transformer Type Extensometers

UH-X/FX Series
Hydraulic Universal
Testing Machines
200 kN to 4,000 kN

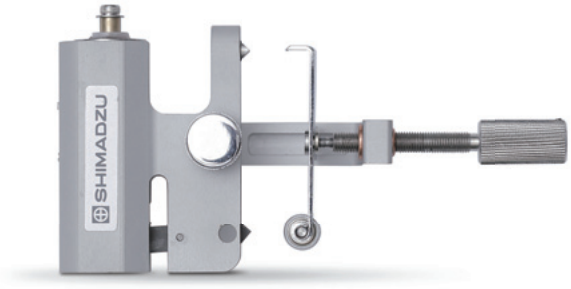
AG-X Series Floor Type
Precision Universal Testers
250 kN/300 kN

AGS-X Series Floor Type
Precision Universal Testers
300 kN

The ISO 6892-1 standard for tensile testing of metallic materials prescribes Class 1 or higher extensometers, and JIS Z 2241 prescribes Class 2 or higher extensometers when measuring withstanding pressure. The DT series includes Class 1 compliant differential transformer type extensometers, which can be used to implement test methods compliant with metal tensile test standards.

Extensometer Class 1 Compliant

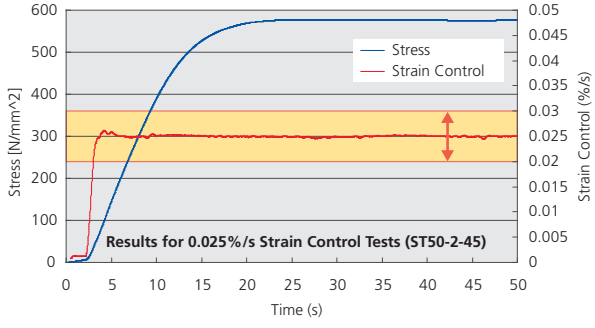
This instrument is compliant with Class 1 in ISO 9513 and JIS B 7741 (±3 µm or ±1 % of the specified value, whichever is larger).
It is also compliant with ASTM E83 Class C.



Compliant with Strain Rate Control Test Methods

ISO 6892 **JIS Z 2241**

Perform tests in compliance with "Test Rates by Strain Rate Control" from JIS B 7741 (Attachment JB (Reference)) and ISO 6892-1 (Method A).
Note: Requires an X type controller.



Compliance with Extensometer Class 1 and Strain Control

Please reference the table below when using DT series differential transformer type extensometers for Class 1 compliance and when implementing strain rate control.

	UH-X/FX/ AG-X / AGS-X Series	UH-I Series / AG-I Series	Previous Testing Machines
Class 1	Use the amp built into the UH-X/FX and AG-X, or an ESA amp.	Use an ESA amp. Precision: Class 1 corresponds to the following measurement ranges. • DT50-10: 0 mm to 1 mm • DT50-5: 0 mm to 1.25 mm • DT50-2: 0 mm to 1 mm • DT50-50 is not compatible.	Retrofit the X type controller, and then use the amp built into the UH-X/FX and AG-X, or an ESA amp.
Strain control		Retrofit the X type controller, and then use the amp built into the UH-X/FX and AG-X, or an ESA amp.	

Specifications

Measurement range: Max. 25 mm (4 types)

Gauge length: 50 mm

Precision: Extensometer Class 1
(Within ±3 µm or ±1 % of the specified value, whichever is larger)

*1) This Precision is the value when calibrated simultaneously with the amp. Existing amps will require on-site calibration.

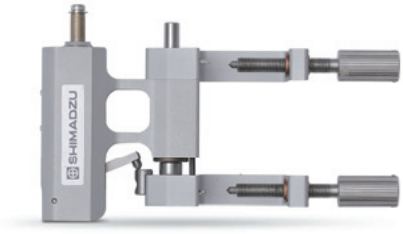
*2) The latest version of amp built into the UH-X/FX and AG-X, or the latest ESA amp, is required for compliance with these DT extensometers. Existing amps may not be compliant.

*3) These DT extensometers do not accommodate fractures.

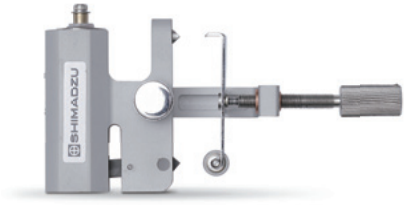
■ Size and Measurement Range for Applicable Samples

Model	Structure	Applicable Sample Note)		Measurement Range (mm)
		Rod Diameter (mm)	Flat Plate W × T (mm)	
DT50-50-45	A	ø23 to 45	W 40 (max.) × T 23 to 45	25
DT50-10-45	C			5
DT50-5-45	C			2.5
DT50-2-45	C			1
DT50-50-25	A	ø6 to 25	W 40 (max.) × T 6 to 25	25
DT50-10-25	C			5
DT50-5-25	C			2.5
DT50-2-25	C			1
DT50-10-10	B	ø3 to 10	W 40 (max.) × T 0.2 to 10	5
DT50-5-10	B			2.5
DT50-2-10	B			1

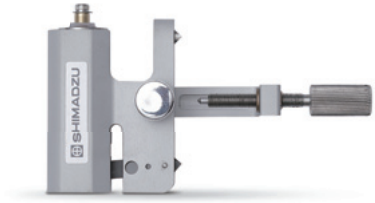
Note: Samples should have enough rigidity so they are not deformed when installing the extensometer.



DT50-50-45
(Structure A: 4-point holding system)



DT50-10-10
(Structure B: 4-point holding system)



DT50-2-25
(Structure C: 3-point holding system)

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