

**Precision Universal Tester for polymers 50kn**  
**Brand: SHIMADZU**

**Code: AGS-50Knx (Autograph AGS-X Series)**



50 kN

Machine used to subject different materials to physical tests such as tensile and compression tests to measure the properties that these materials possess, The Shimadzu Autograph AGS-X series provides superior performance and practical testing solutions for a wide array of applications. Offering high-level control and intuitive operation, The AGS-X series sets a new standard for strength evaluations while providing the utmost in safety considerations in a modern, stylish design. The AGS-X comes standard with industry-leading TRAPEZIUM X data processing software. Offering comprehensive functions, TRAPEZIUM X offers an unparalleled level of operation. TRAPEZIUM LITE X, Shimadzu's entry-level data processing software, provides enhanced productivity and efficiency for quality control operations.

**Features:**

Easy Control of Stress and Strain

EIN 37-1939950

11300 NW 87 CT STE 150 Telephone: 786 816 7489 E-mail: [info@testglassware.com](mailto:info@testglassware.com)

HIALEAH, FL 33018

Website: <https://testglassware.com/>



Offers real-time auto tuning of control parameters, based on measured test force and strain data. Safely make comparisons to unknown sample data without the need for preliminary tests. In addition, the AUTOTUNING FUNCTION easily performs strain

control, an ISO 6892-2009 requirement.

#### Required Needs

##### IRON & STEEL

In addition to conventional stress control, tensile testing with strain control is increasingly in demand.

ISO 6892-2009 JIS Z2241-2010

##### PLASTICS & RESIN

Measuring the modulus of elasticity in the ultra-small strain domains proscribed by ISO and JIS standards has become a necessity.

ISO527, ISO178 JIS K7171

##### CERAMICS

Many samples are damaged by microscopic displacements, so accurate control is needed, right from the start of testing.

#### Achieve an Accurate S-S Curve with High-Precision Load Cells:

The wide, guaranteed load cell precision range of 1/500 to 1/1 improves testing efficiency and ensures that virtually all of your testing can be performed without switching the load cell or jig.

Furthermore, high-speed sampling of 1msec ensures no missed strength changes.

#### Improved Safety

##### SAFETY FUNCTION / ONE-TOUCH STROKE LIMIT

The safety function stops the testing machine if force changes exceed a certain level during specimen setting or return. In addition, setting stroke limits is easy with one touch of the switch.

##### SAFETY COVER

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Controls scattering of the test specimen during testing. The interlock improves safety: operators can open and close it easily

with the slide mechanism.

#### DUAL EMERGENCY-STOP SWITCHES

Features emergency-stop switches on both sides (20 kN–300 kN frame).

#### **Includes:**

AGS-50kNX STD Main Units with a Cover (English)

Load Cell Sets Class0.5 50kN

50k NUPPER JOINT FIX TYPE

50k NLOWER JOINT

TRAPEZIUM X Single English

Manual Wedge type Grip 50kN

DESK FOR AG-XD 20KN/50KN TABLE

Anti-topple attachment sets for AGS-XH Table Top type

Modular for easy expansion in the future.

Use in mono and bidirectional tests.

Change operation of different tests, either from tension to compression or vice versa without the need to change the heads.

Effective test or work width 600mm

Load frame stiffness: 120KN/mm

Measurement and control of the values of: Load, Travel and Deformation through software

Beam or bridge control: Simple control test, cyclic and manual control test.

Required Standard Functions:

Automatic reading of the characteristic values of the load cell

Force test on the screen

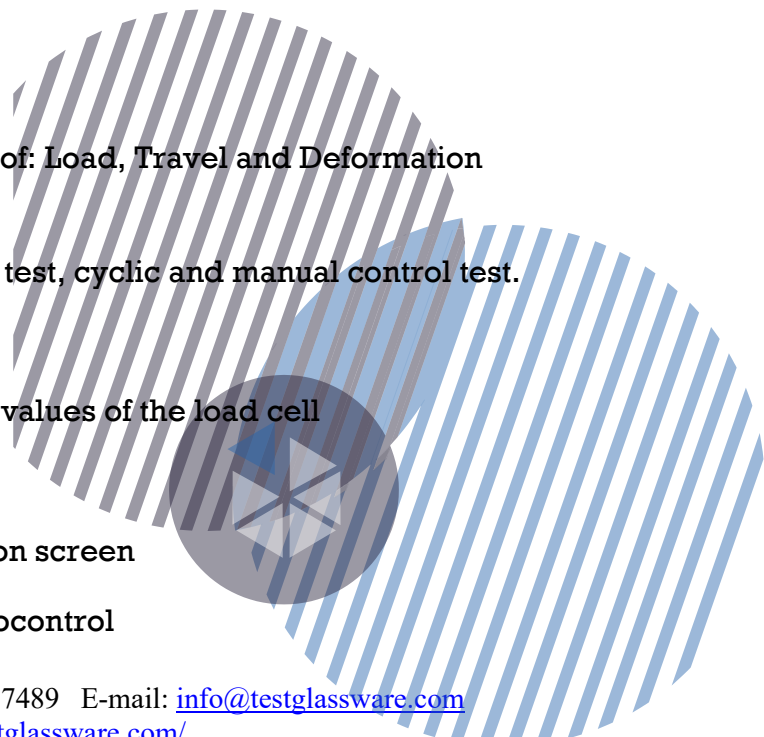
Tension tests, load on screen, position on screen

Automatic force test / load control (Autocontrol

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Automatic effort control (Autocontrol)

USB-interface

Possibility of expanding the certified load to 1/1000

Operating application

(Fixing Main unit and desk)

Configuration and Accessories required:

Possibility of immediate issuance of reports of the tests carried out: Tension, Compression, Flexion, Cyclical

Data control and administration.

Allows to obtain, breaking point, modulus of elasticity, maximum load, minimum load

Clamp faces for planes of:

Tooth type about 0-7mm,

7-14mm tooth type flat jaw faces,

14-21mm tooth type flat jaw faces,

Jaw faces for round tooth type  $\pm 04,-09$  mm in diameter,

Jaw faces for round tooth type  $\pm 9-14$ mm diameter,

Jaw faces for tooth-type rounds of  $\pm 1421$  mm diameter

Dubbing Test Set

Digital extensometer  $\pm 050$ m-100mm

Universal Joint for  $\pm 50$ KN Clamp

Spherical upper and lower plate for compression of  $\pm 210$  mm

$\pm 50$ kN Tension/Compression Cell with connection cables, fixing screws, calibration cables, factory calibrated for  $\pm 50$ kN

Class 0.5% Voltage

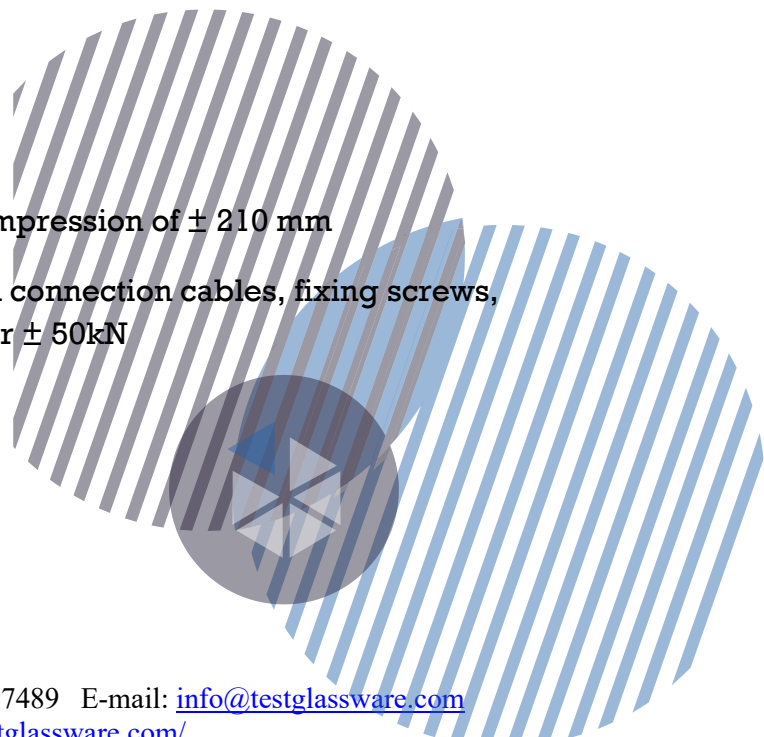
Compression 1/500.

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## **Full Specifications**

AGS-X Series Specifications

AGS-50kNX

50KN

50KN

Lineup of Models Differing by Load Cell Capacity 50 kN

Force Measurement

**Accuracy High-Precision Type (1/500,  $\pm 0.5\%$ ), Within  $\pm 0.5\%$  indicated test force (at 1/500 to 1/1 load cell rating), Conforms to EN 10002-2 Grade 0.5, ISO 7500-1 Class 0.5, BS 1610 Class 0.5, ASTM E4, and JIS B7721 Class 0.5. \*1**

**Standard-Precision Type (1/500,  $\pm 1\%$ ): Within  $\pm 1\%$  indicated test force (at 1/500 to 1/1 load cell rating). Conforms to EN 10002-2 Grade 1, ISO 7500-1 Class 1, BS 1610 Class 1, ASTM E4, and**

**JIS B7721 Class 1.**

**Calibration: Automatic test force calibration: select tensile, compression, or tensile and compression**

**Crosshead Speed Accuracy:  $\pm 0.1\%$**

**Crosshead Speed and Permitted Test Force: To load cell capacity across entire speed range**

**Effective Test Width 425 mm**

**Crosshead Position Detection, Measurement Method: Optical encoder**

**Display Method: Digital display (display resolution: 0.001 mm)**

**Positional Accuracy:  $\pm 0.1\%$  indicated value or  $\pm 0.01$  mm, whichever is larger**

**Data Capture Rate: 1000 Hz max**

**Test Method Files: 40 files (PC link: 20 files, standalone controller: 20 files)**

**Standard Functions:**

**Automatic reading of cell characterstc values**

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Test force display, stress display, stroke display, position display

External analog output (2 channels)

External analog input (2 channels)

External digital input (2 channels)

Analog Recorder (option) output

Dataletty (option) output

Automatic test force/stress control (Autotuning)

Automatic strain control (Autotuning)

Test Force auto-calibration

Break detection, auto return

Load cell overload detection

Touch-load detection function

Power Requirements: Single phase AC 200–230

50/60Hz 4.0kVA

Supply voltage fluctuations within  $\pm 10\%$  of the set value.

D-class (100  $\Omega$  max.) grounding resistance.

Operating Environment: Temperature: 5 °C to 40 °C; Humidity: 20% to 80% (no condensation) Floor vibrations: frequency 10 Hz max., amplitude 5  $\mu$ m max.

Within  $\pm 0.5\%$  indicated test force (at 1/500 to 1/1 load cell rating)

Conforms to EN 10002-2 Grade 0.5, ISO 7500-1 Class 0.5, BS 1610 Class 0.5, ASTM E4, and JIS B7721 Class 0.5

Within  $\pm 1\%$  indicated test force (at 1/500 to 1/1 load cell rating)

Conforms to EN 10002-2 Grade 1, ISO 7500-1 Class 1, BS 1610 Class 1, ASTM E4, and JIS B7721 Class 1.

Automatic test force calibration: select tensile, compression, or tensile and compression

0.001 to 800mm/min (stepless)

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1100mm/min

$\pm 0.1\%$

To load cell capacity across entire speed range

1210mm

(745mm, MWG)

425mm

optical encoder

Digital display (display resolution: 0.001 mm)  $\pm 0.1\%$  indicated value or  $\pm 0.01$  mm, whichever is larger 1000 Hz max. \*4

40 files (PC link: 20 files, standalone controller: 20 files)

Load Cell (with CAL cable), Power cable (5 m), turning rod, cable clamps, instruction manual

W718×D641×H1633mm

260kg

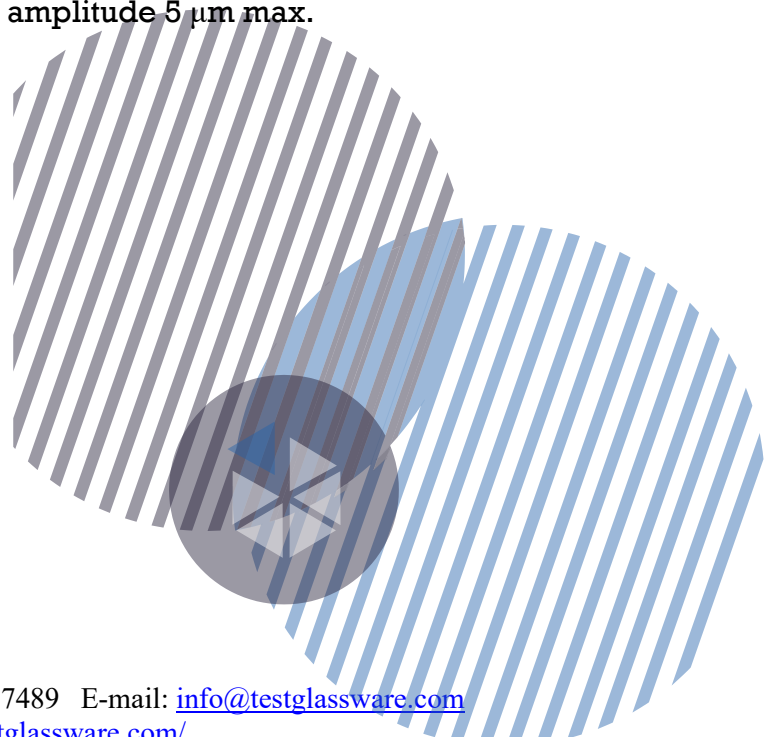
Single phase AC 200–230 V

50/60Hz 4.0kVA

D-class (100  $\Omega$  max.) grounding resistance.

Temperature: 5°C to 40°C; Humidity: 20% to 80% (no condensation)

Floor vibrations: frequency 10 Hz max., amplitude 5  $\mu$ m max.



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