



Testing machines

AG-X plus Series

Universal tensile testing machines for physical and mechanical testing of materials

Remote control

Easy execution of START, STOP and other basic operations via the control panel, and convenient high-precision adjustment of the crosshead position using the slow step-by-step disk.

Performing tests without a PC

Optional LCD touch screen allows quick selection of test method without PC connection. Displays tension/compression diagram.

Saving data to a USB flash drive

Test methods stored on a flash card are transferred to the testing machine. Tests are carried out without using a PC. The obtained data can also be easily copied and transferred to any PC for further processing.

Safety

- Protective screen
- Safety function (traverse stops when the set force value is exceeded)
- Two emergency stop buttons

Self-diagnosis function

Diagnostics based on 12 parameters.

Easy installation of the load element

Possibility of quick change of the load element for machines with a capacity of up to 10 kN, where the element change is required quite often. And also an additional option for machines with a capacity of 20 kN and more - the possibility of connecting an additional low-power load element without disconnecting the main load element.

High sampling speed of 0.2 ms

Ultra-high-speed sampling ensures the accuracy of the obtained stress-strain diagram. Any sudden changes in force that occur during the test are recorded. The ability to adjust the parameters of the sampling conditions allows for a detailed study of important areas of the stress-strain diagram.

Highly rigid frame with various dimensions

Increased frame rigidity ensures reliability and trouble-free operation of the equipment. Equipment with different frame heights can be supplied to increase the test working area.

Two accuracy classes 1 and 0.5

The equipment is available in two accuracy classes with an error of 1% and 0.5%.

AG-X plus desktop type

Technical specifications

1. Model name	AG-Xplus	AG-Xplus HS	AG-Xplus SC	AG-XDplus
2. Max. load capacity	10 kN	5 kN	10 kN	20 kN / 50 kN
3. Loading method	Direct, high-precision, constant strain control using precision ball screw drive			
4. Force measurement	High precision block 1/1000	Within $\pm 0.5\%$ of the force value (1/100 to 1/1000 of the rated capacity of the load cell). Complies with JIS B7721 class 0.5; EN 10002-2 class 0.5; ISO 7500-1 class 0.5; BS1610 class 0.5; DIN51221 class 1 and ASTM E4 *3		
	Accuracy 1/1000	Within $\pm 1\%$ of force value (1/1 to 1/1000 of rated load element capacity) Conforms to JIS B7721 class 1; EN 10002-2 class 1; ISO 7500-1 class 1; BS1610 class 1; DIN51221 class 1 and ASTM E4 *3		
	Standard Precision Block 1/500	Within $\pm 1\%$ of force value (1/1 to 1/500 of rated load element capacity) Conforms to JIS B7721 class 1; EN 10002-2 class 1; ISO 7500-1 class 1; BS1610 class 1; DIN51221 class 1 and ASTM E4 *3		
Calibration of force	Automatic calibration:	Standard accuracy unit: High accuracy unit:	force calibration (tension and compression) selectable: force calibration (tension), force calibration (compression) or force calibration (tension and compression)	
5. Traverse speed range	Free smooth installation			
	0.0005 to 1500 mm/min	0.001 to 3000 mm/min	0.0005 to 1500 mm/min	0.0005 to 1000 mm/min
Return speed max.	1650 mm/min	3000 mm/min	1650 mm/min	1200 mm/min
6. Traverse speed accuracy*1	$\pm 0.1\%$			
7. Traverse speed and permissible load	Maximum permissible load for all speeds			
8. Distance between crossbar and platform (mm) (Stretching stroke)*2	Maximum 1150 mm (MWG 600 mm)	Maximum 1150 mm (SCG 780 mm)	Maximum 700 mm (MWG 150 mm)	Maximum 1060 mm (MWG 655 mm): 20 kN (SCG 780 mm): 50 kN
9. Effective width for testing (mm)	420 mm			500 mm
10. Definition traverse positions	Measurement and display method	Optical coding device, digital display		
	Accuracy	Within $\pm 0.1\%$ of the displayed value, if the displayed value is less than 10mm, then $\pm 0.01\text{mm}$		
11. Data sampling rate	Maximum 0.2 ms			
12. Frame rigidity (kN/mm)	42 kN/mm			120 kN/mm
13. Standard functions	<ul style="list-style-type: none"> A range of models differing in maximum permissible load Automatic load element recognition Precise adjustment of the crosshead position Display of force and stroke External analog output (2 channels) External analog input (2 channels) External digital input (2 channels) Built-in amplifiers - 4 ports (one is used for force and the other for analog input) USB interface (for PC)/Host interface (for USB memory) Output for recorder (optional) Output for Dataletty integrator (optional) *4, *5 Pneumatic gripper control (optional) Automatic control of force and deformation (with auto-tuning) Automatic force zeroing/autocalibration Gap detection/auto return Free setting of traverse speed/display of cycle count Display of stress value/extensometer value Smooth Limit Detection/Self-diagnosis When using the LCD touch screen: Single test management/cyclic test management/standards compliant test management Display of maximum and failure points/presetting of traverse speed Saving files in memory (20 files) Display SS graph 			
14. Accessories	Load cell, 1 CAL (calibration) cable, tool kit and operating manual			
15. A range of models with different maximum permissible loads	10 N / 20 N / 50 N 100 N / 500 N / 1 kN 2 kN / 5 kN / 10 kN	50 N / 100 N / 500 N 1 kN / 2 kN / 5 kN	10 N / 20 N / 50 N 100 N / 500 N / 1 kN 2 kN / 5 kN / 10 kN	20 kN / 50 kN
16. Dimensions	Main block	777 x 510 x 1580 mm	777 x 510 x 1580 mm	777 x 510 x 1130 mm
	Measurement controller	Built into the body		
	Remote control	80 x 50 x 250 (attached to the right side of the main unit - removable)		

* 1: The accuracy of the crosshead speed is calculated by recalculating the amount of crosshead movement within a certain period of time at a crosshead speed of 0.5 mm/min to 500 mm/min under normal working conditions.

* 2: The tensile stroke is the value obtained under the condition of using MWG type clamps (without wedge type). The stroke can be increased. For a load of less than 5 kN, the tensile stroke is the value obtained under the condition of using SGG type clamps.

(flat screw type grips).

* 3: JIS B7721, EN 10002-2, ISO 7500-1 and ASTM E4 standards recommend re-verification after installing the testing machine.

* 4: LCD Touch Panel (optional) is required to use Dataletty Integrator (optional).

* 5: The Dataletty integrator (optional) and the TRAPEZIUM X operating software cannot be used together. The values presented in this leaflet have been measured based on harmonized test standards.

AG-X plus floor type

Technical specifications

1. Model name		Floor type		
		AG-20kN / 50kNXplus	AG-100kNXplus	AG-250kN / 300kNXplus
2. Max. load capacity				
3. Loading method		20 kN / 50 kN	100 kN	250 kN / 300 kN
Direct, high-precision, constant strain control using precision ball screw drive				
High precision block 1/1000(1/250 for models with load 250 kN and 300 kN) Accuracy _____		Within ±0.5% of the force value (from 1/100 to 1/1000 of the rated power of the load element)		Within ± 0.5% of the force value (from 1/1 to 1/250 of the rated power of the load cell)
		Within ±0.3% of the force value (from 1/1 to 1/100 of the rated power of the load element)		
Meets JIS B7721 class 0.5; EN 10002-2 class 0.5; ISO 7500-1 class 0.5; BS1610 class 0.5; DIN51221 class 1 and ASTM E4 *3				
4. Force measurement		Within ±1% of force value (1/1 to 1/1000 of rated load element capacity) Conforms to JIS B7721 class 1, EN 10002-2 class 1, ISO 7500-1 class 1, BS1610 class 1, DIN51221 class 1 and ASTM E4 *3		
Standard Precision Block _____		Within ±1% of force value (1/1 to 1/500 of rated load element capacity) Conforms to JIS B7721 class 1, EN 10002-2 class 1, ISO 7500-1 class 1, BS1610 class 1, DIN51221 class 1 and ASTM E4 *3		
Calibration of force		Automatic calibration:	Standard accuracy unit: High accuracy unit:	force calibration (tension and compression) selectable: force calibration (tension), force calibration (compression) or force calibration (tension and compression)
5. Traverse speed range		Free smooth installation		
Return speed max.		0.0005 to 1000 mm/min		0.0005 to 500 mm/min
		1200 mm/min		600 mm/min
6. Traverse speed accuracy*1		± 0.1%		
7. Traverse speed and permissible load		Maximum permissible load for all speeds		0.0005~250mm/min: Max. allowable load 250~500mm/min: 250kN
8. Distance between crossbar and platform (mm) (Stretching stroke)*2		Maximum 1265 mm (850 mm): 20 kN (800 mm): 50 kN	Maximum 1250mm (750mm)	Maximum 1440 mm (600 mm)
9. Effective width for testing (mm)		600 mm		
10. Definition traverse positions		Optical coding device, digital display		
Measurement and display method				
Accuracy		Within ±0.1% of the displayed value, if the displayed value is less than 10mm, then ±0.01mm		
11. Data sampling rate		Maximum 0.2 ms		
12. Frame rigidity (kN/mm)		Minimum 175 kN/mm	Minimum 300 kN/mm	Minimum 400 kN/mm
13. Standard functions		<ul style="list-style-type: none"> • Energy saving function during standby • Automatic recognition of load element • Fine adjustment of crosshead position • Force and stroke display • External analog output (2 channels) • External analog input (2 channels) • External digital input (2 channels) • Built-in amplifiers - 4 ports (one is used for power, the other for analog input) • USB interface (PC)/Host interface (for USB memory) • Output for recorder (optional) • Output for Dataletty integrator (optional) *4, *5 • Pneumatic gripper control (optional) • Automatic force and deformation control (with auto-tuning) • Automatic force zeroing/auto-calibration • Gap detection/auto return • Free setting of traverse speed/cycle count display • Display of stress value/extensometer value • Smooth limit detection/self-diagnosis • With LCD touch screen: Single test control/Cyclic test control/Standard test control • Display of maximum and failure points/Preset crosshead speed • Saving files in memory (20 files) Displaying SS graph 		
14. Accessories		Load cell, 1 CAL (calibration) cable, tool kit and operating manual		
15. A range of models with different maximum permissible loads		20 kN / 50 kNX	100 kNX	250 kN / 300 kN
16. Dimensions		1186 x 752 x 2173 mm		1186 x 752 x 2423 mm
Main block				
Measurement controller		Built into the body		
Remote control		80 x 50 x 250 mm (attached to the right side of the main unit - removable)		

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* 2: The tensile stroke is the value obtained under the condition of using MWG type (wedge type) grips. The stroke can be increased. For a load of less than 5 kN, the tensile stroke is the value obtained under the condition of using SGG type grips.

(flat screw type grips).

* 3: JIS B7721, EN 10002-2, ISO 7500-1 and ASTM E4 standards recommend re-verification after installing the testing machine.

* 4: LCD Touch Panel (optional) is required to use Dataletty Integrator (optional).

* 5: The Dataletty integrator (optional) and the TRAPEZIUM X operating software cannot be used together. The values presented in this leaflet have been measured based on harmonized test standards.

New TRAPEZIUM X software

Simple interface, ability to use standard testing methods, as well as create your own.

Preparation of test reports in various formats (Word, Excel, PDF, etc.).

Possibility of obtaining data from a test curve without performing a new test (re-analysis function of the chart).

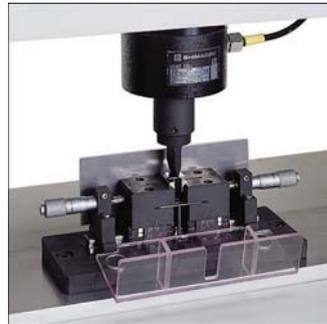


The software package includes four components:

- «Single»: performing basic one-time tests - tension, compression, bending, peeling.
- «Cycle»: Similar to strength tests, this software is used for tests where force is repeatedly applied and removed.
- «Control»: assignment of any test model, performs cyclic and compression tests.
- «Texture»: measures the texture of foods and pharmaceuticals, providing specific data results including abrasion, gel strength, adhesion.

Wide choice

- Captures
- Adhesive attachments
- Thermal chambers
- Compression and bending devices
- Extensometers, width gauges



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