

Press Release

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World's highest performance levels

New AGX-V series Autograph universal testing machines /

Targeting new markets in industries which expect additional growth /

New functions of TrapeziumX-V software serves requirements of new materials testing

Shimadzu, one of the world leaders in analytical instrumentation and testing equipment, has released its AGX-V series of Autograph universal testing machines in Europe. This product series consists of two table-top types of 10 and 50 KiloNewton (KN), and four floortypes from 50 to 600 KN. The Autograph AGX-V series offers the highest level of measurement capacities in the industry along with significantly improved operability and safety.

Based on the wealth of 100 years of testing machines experience, the AGX series is the further evolution of the Autograph series. It offers exceptionally high core performance featuring the best sampling rate and strain rate control in the industry, newly introduced multi-joint connections for easy jig replacement, a new controller, and a self-diagnostic function that minimizes downtime, for example. Shimadzu intends to use the excellent performance of this series to develop new markets in industries where additional growth is anticipated, such as the aircraft industry, the composite and functionally engineered material industries, and the transport equipment industry.

Background to the Development

Strength testing, which involves applying a force to deform an object while measuring the relationship between the applied force and amount of deformation, is an essential type of testing used in a wide range of industries. Since manufacturing its first testing machine in 1917, Shimadzu has continued to make contributions to a wide variety of

R&D and quality control environments. Among its diverse line of testing machines, the Autograph series of precision universal testing machines, which can be used for tensile testing, compression testing, shear testing, and various other testing methods, is Shimadzu's strongest brand.

Performance requirements for testing machines have been increasing in recent years. Examples include steel industry requirements for strain rate control accuracy that meets international standards for tensile testing metal materials, and automotive, aircraft, and other industry requirements for shaft alignment accuracy, which is important for testing composite materials in the accelerating pace of research and development work in those industries. Furthermore, as the number of testing machine operators increases, regardless of the field, customers are requesting systems offering easier operation, higher safety, and functionality for ensuring data reliability.

New functions and various improvements

To satisfy customer requirements better, the Autograph AGX-V series incorporates many new functions and various improvements. These outstanding features make the series ideally suited for testing materials that require large test forces, such as metals and carbon fiber reinforced plastics, and for testing regular materials.

The Autograph AGX-V series features high level performance thanks to a high-rigidity frame, as well as high speed sampling and high accuracy automatic control achieved by dual CPUs. A revolutionary control technology achieves both high control responsiveness in real-time and control stability. Safety measures protect both operator and machine. This includes safety covers for the front and the rear of the test space, an intelligent crosshead that prevents jig impacts, and self-diagnostic functions supporting maintenance intervals.

The new TrapeziumX-V software provides improvements to the user interface, increased data reliability and new functionality such as a USB camera function to record the test results, and the high-speed return function for reducing longer test cycles. The new

software ensures high accuracy measurements of strengthened materials for the purpose of reducing weight of transportation equipment.

Special features of the AGX-V series include:

1. Highest measurement capacities in the industry

The 10 kHz sampling rate doubles the level of previous models, which were already among the fastest in the industry, enabling test force values to be acquired 10,000 times per second. For tests using the strain control method specified in ISO 6892, the control frequency increases ten-fold for an even higher level of responsiveness. In addition, the AGX-V series offers an outstanding measurement precision range, including a model that guarantees precision up to 1/2000. The series also offers high expandability, such as the ability to input up to 20 analog signal channels by adding an optional analog input unit. In terms of the testing machine's shaft alignment accuracy, class 10 accuracy has been confirmed from ASTM E1012-compliant inspections performed during the manufacturing process. That means forces can be applied even more vertically.

2. User-friendly operation

A new controller features a touch panel LCD screen, which makes it much easier to configure settings for various tests. When the instrument is running, operation sounds are emitted to communicate the instrument status to the operator. In addition, models with a testing capacity of 20 kN or more are equipped with multi-joints for connecting grips and other testing jigs. The multi-joints increase safety and working efficiency by eliminating the need to replace heavy joints.

3. New functionality prevents instrument problems

A new self-diagnostic function confirms the instrument status. In addition to automatically recording the operating hours and an operation log, the instrument automatically notifies the operator when to replace parts. Systems are also equipped with a wide variety of other functionality, such as a function that prevents operating errors from resulting in collisions between jigs.

Web summary

Shimadzu has released its AGX-V series of Autograph universal testing machines. This product series consists of two table-top types and four floor types from 10 to 600 KiloNewton (KN). The Autograph AGX-V series offers the highest level of measurement capacities in the industry along with significantly improved operability and safety. The Autograph AGX-V series incorporates many new functions and various improvements which make the series ideally suited for testing materials that require large test forces, such as metals and carbon fiber reinforced plastics, and for testing regular materials. The new TrapeziumX-V software provides improvements to the user interface, improved data reliability and new functionality for high accuracy measurements.



Figure 1: The Autograph AGX-V series consists of two table-top types and four floor types from 10 to 600 KiloNewton (KN) and offers the highest level of measurement capacities in the industry along with significantly improved operability and safety.

Web link: www.shimadzu.eu/frame-for-progress



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