

Waters ElectroForce Apex 1 Instrument Offers Increased Versatility, Simplicity, and Speed to Mechanical Testing of Advanced Polymer Materials

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News Summary:

- Offers increased versatility and data-driven insights with 43% greater motor stroke range (100 mm),¹ expanding testing to more materials across diverse industries.
- Improved dynamic performance completes fatigue testing up to 30% faster than the competition,² increasing the speed of product development and validation.
- Designed to simplify testing workflows, with automated controls and fewer process steps to help reduce operator errors and enable safer, more confident testing.

ANAHEIM, Calif., and MILFORD, Mass., Feb. 4, 2025 /PRNewswire/ – MD&M West – Waters Corporation (NYSE:WAT) today announced the launch of the TA Instruments™ ElectroForce™ Apex 1 Mechanical Testing Instrument, specially designed for increased versatility, speed, and ease of use to support precise tensile and fatigue testing of high performance and lightweight polymers and composites.

ElectroForce™ Apex 1 Instrument is for precise, safe, and reliable testing to inform material selection and design.

"As an additive manufacturing company, we build 3D-printed polymer parts that are increasingly being used in highly demanding applications where strength and durability are essential. After one short training session, we were able to use the ElectroForce Apex 1 Instrument to easily conduct tensile and fatigue testing to characterize our new materials," said Javier Ramos, Chief

Technology Officer for Inkbit Corporation. "The ease of use and quick time to results have given us the confidence to explore a greater range of materials, testing the limit of our manufactured materials and processes."

Material strength and durability testing is increasingly important for accelerating the development of products in demanding applications such as those in the medical device, polymer, aerospace, automotive, and additive manufacturing industries. The ElectroForce Apex 1 Instrument's motor stroke range is at least 43% greater than the competition, providing laboratories and manufacturers the versatility to perform monotonic and fatigue testing across a greater variety of materials. The increased motor stroke range also speeds testing by up to 30%, which can reduce costs early in development by helping users to identify and eliminate weaknesses in material selection and design, before the validation or post-launch phase.

"As manufacturers pivot towards developing and using more high-quality sustainable materials, the need for simple, accurate, and affordable mechanical testing becomes increasingly important," said Yu Cheng, vice president of Research and Development and Product Solutions, TA Instruments Division of Waters. "The ElectroForce Apex 1 Instrument was designed for customers looking for precise, safe, and reliable testing to inform material selection and design, as well as component and product performance assessments."

Designed to reduce operator process steps and errors, the ElectroForce Apex 1 Instrument comes equipped with new software features, including TuneIQ™ Technology, which can automatically tune the instrument without operator intervention and without additional, invasive stress or strain applied to the sample. The new motor control system improves break-stop capabilities during mechanical testing, increasing workflow options and operator confidence to run longer experiments unsupervised, including overnight. The instrument also comes with intelligent data acquisition to help prevent computer hard drive overload by selecting test-specific data parameters and limiting collection to more critical and manageable data.

Waters ElectroForce™ Apex 1 Mechanical Testing Instrument is available for order today.

Additional Resources

- Learn more at **ElectroForce Apex 1 Instrument**
- **View our customer video here**
- Follow and connect with the Waters TA Instruments Division via **LinkedIn, Twitter/X, and Facebook**

About Waters Corporation (www.waters.com)

Waters Corporation (NYSE:WAT), a global leader in analytical instruments and software, has pioneered chromatography, mass spectrometry, and thermal analysis innovations serving the life, materials, food, and environmental sciences for more than 65 years. With approximately 7,500 employees worldwide, Waters operates directly in 35 countries, including 15 manufacturing facilities, and with products available in more than 100 countries.

TA Instruments, ElectroForce, and TuneIQ are trademarks of Waters Technologies Corporation.

¹ Motor stroke range compared to Competitor System 1 (70mm) and Competitor System 2 (60mm).

² Based on performance curves vs. competition, which show maximum of 23Hz vs. ElectroForce Apex 1 Instrument's 30Hz performance during a 5 mm sinusoidal amplitude fatigue test.

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