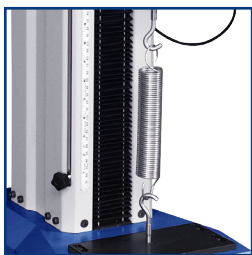


# Mecmesin

testing to perfection

## Force & Torque Testing Equipment

---



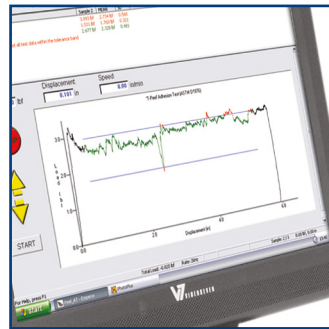
Providing quality testing solutions  
for all your application needs...

As a force & torque specialist, Mecmesin has supplied test measurement solutions to a variety of industries with a wide range of application requirements for over 35 years. We offer a tailor made service designing and manufacturing the ideal testing platform, which is robust, easy-to-use and guarantees top-level performance.

- **COST REDUCTIONS • COMPLY WITH STANDARDS • INCREASED PRODUCTION EFFICIENCY**
- **CONSISTENCY IN MANUFACTURE • MINIMIZED WASTAGE THROUGH EARLY PROBLEM DETECTION**

From simple instruments to powerful, comprehensive testing systems, Mecmesin provides the expertise to solve your application!

## FORCE TEST SYSTEMS



Spring tension test



Textile test

### Computer-controlled Test Systems

Our flagship series, the **MultiTest-i** test frames are our top of the line and most comprehensive systems, enabling the user to create sophisticated test programs using Mecmesin's Emperor™ Software, together with an advanced level of results analysis.

- **Control:** greater flexibility to create/develop programs to match exact test requirements
- **Visual:** test results displayed graphically in real time can be recorded, archived and replayed as required
- **User-friendly:** easy identification of Pass/Fail scenarios
- **Flexible:** 'plug-and-play' interchangeable load cells adapt to your needs
- **Comprehensive:** ability to perform in-depth calculations and analysis, maintain a library of test programs and archive test results
- **Choice:** 7 capacities available - single-column 0.5 kN (110 lbf), 1 kN (220 lbf), 2.5 kN (550 lbf), 5 kN (1100 lbf) or twin-column 10 kN (2200 lbf), 25 kN (5500 lbf) & 50 kN (11000 lbf) (shown opposite)

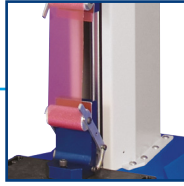
Please refer to the '**MultiTest-i**' brochure for more information

### Touch Screen Controlled Test Systems

Easy to operate, the **MultiTest-xt** range of affordable, stand-alone test systems are designed specifically for quick and easy tension and compression testing in production areas.

- **User-friendly:** easy-to-use with minimal training, "Simplicity itself" one button launches the test
- **Time saving:** fast access to 5 most commonly used tests
- **Cost-effective:** simple touch screen interface - no separate computer required
- **Control:** choice of 3 program modes and unlimited library storage of test methods
- **Secure:** password protected log-in - identifies operator for full traceability
- **Flexible:** select standard reports or customize your own using built-in templates
- **Choice:** 7 capacities available - single-column 0.5 kN (110 lbf), 1 kN (220 lbf), 2.5 kN (550 lbf), 5 kN (1100 lbf) or twin-column 10 kN (2200 lbf), 25 kN (5500 lbf) & 50 kN (11000 lbf) (shown opposite)

Please refer to the '**MultiTest-xt**' brochure for more information



Cork extraction test



Crush strength test

Top-load test

## Motorised Test Systems

The **MultiTest-d** range of digital motorized test frames, when combined with a force gauge and fixtures, are ideal entry-level test systems used for measuring both force and displacement.

- **Cost-effective:** budget-priced, suitable for businesses with limited resources
- **User-friendly:** easy-to-learn and operate even for infrequent users
- **Versatile:** option to run manual, single or continuous test cycles
- **Automated:** run tests continuously, less hands-on requirement by user
- **Efficient:** large LCD screen displays comprehensive test settings and results information
- **Comprehensive:** used with Emperor™ Lite software, evaluate results further and view graphical representations of each test to make comparisons
- **Choice:** 3 capacities available - 0.5 kN (110 lbf), 1 kN (220 lbf) or 2.5 kN (550 lbf)

Please refer to the 'MultiTest-d' brochure for more information

## High Capacity Test Frames

Twin-column test frames provide the opportunity to test physically larger specimens and apply loads of up to 10 kN (2200 lbf), 25 kN (5500 lbf) & 50 kN (11000 lbf).

- **Versatile:** tests samples up to 400 mm (15.7") wide and 950 mm (37.4") high (10 kN & 25 kN) and 420 mm (16.5") wide and 1100 mm (43.3") high (50 kN)
- **Enhanced:** combines the features and functions of the MultiTest-i and MultiTest-xt systems to provide you with a comprehensive and powerful testing platform in a choice of 2 operating modes - *computer-controlled & touch screen controlled*

### MultiTest 10-i, 25-i & 50-i

- Computer-controlled
- Limitless programming capability
- In-depth analysis

### MultiTest 10-xt, 25-xt & 50-xt

- Touch screen controlled
- Quick and easy to operate
- Stand-alone system - no PC required



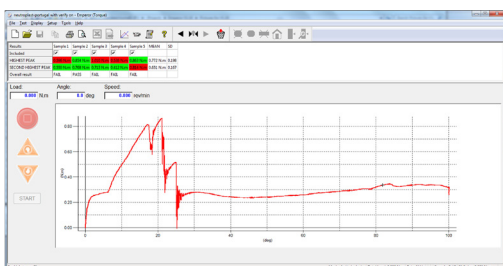




## Computer-controlled Torque Tester

Optimized for measuring static and rotary torque up to 10 N.m, the versatile **Vortex-i** is ideal for running sophisticated routines for more demanding product and material tests. With our top-of-the-range Vortex-i systems you gain fully programmable control and comprehensive evaluation tools for performing a vast array of torque tests.

- **Control:** used in conjunction with 'Emperor™' software you have complete control to develop your own test procedures to match your criteria
- **Visual:** test results displayed graphically in real time can be recorded, archived and replayed as required
- **Flexible:** tests a variety of sample sizes and shapes up to 17.6" (448 mm) in height
- **Comprehensive:** ability to perform in-depth calculations and analysis, maintain a library of test programs and archive test results
- **Versatile:** top-loading capability, particularly suited to child-resistant closure testing
- **Choice:** 5 capacities available - 0.3 N.m, 1.5 N.m, 3 N.m, 6 N.m & 10 N.m



Please refer to the 'Vortex-i' brochure for more information

## Touch Screen Controlled Torque Tester

The **Vortex-xt** is an easy-to-use modern torque tester, designed to cut costs by improving production line efficiency and reducing wastage. It can be used to quickly measure stripping torque, release torque, identify bridge breaks and help avoid spinners.

- **User-friendly:** easy-to-use with minimal training, press two buttons to recall a pre-set program and start the test
- **Time saving:** fast access to 5 most commonly used tests
- **Cost-effective:** simple touch screen interface - no separate PC required
- **Control:** choice of 3 program modes & unlimited library storage of test methods
- **Versatile:** test top-load and torque simultaneously for child-resistant closures
- **Secure:** password protected log-in - identifies operator for full traceability
- **Flexible:** select standard reports or customize your own using built-in templates
- **Choice:** 5 capacities available - 0.3 N.m, 1.5 N.m, 3 N.m, 6 N.m & 10 N.m

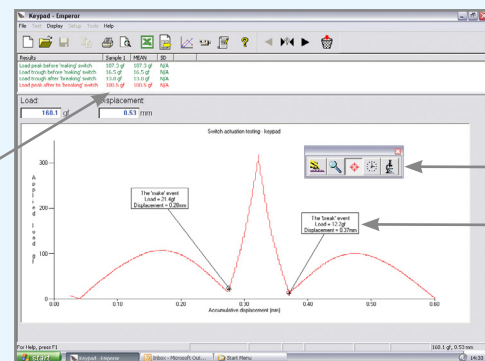


Please refer to the 'Vortex-xt' brochure for more information

## Emperor™

Created for ultimate force and torque test performance Emperor™, Mecmesin's flagship software is a fully featured programming environment for use with Mecmesin's top-of-the-range MultiTest-*i* and Vortex-*i* computer-controlled test systems.

- **Easy-to-use:** simple user-interface with powerful functionality
- **Programmable:** develop sophisticated programs
- **Visual:** see test 'live' on-screen
- **Control:** replay, analyze, archive, download data
- **Flexible:** customize settings and layout to suit your requirements
- **In-depth analysis:** visual representation shown on-screen, with easy-to-use diagnostic tools



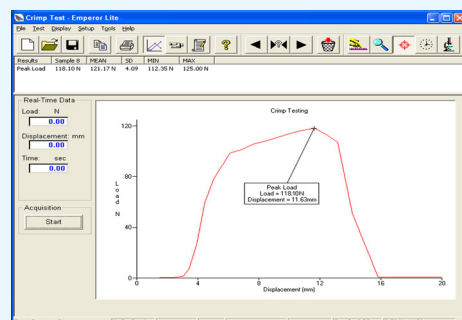
Easy-to-use interface with powerful functionality

Please refer to the 'MultiTest-*i*'/'Vortex-*i*' brochures for more information

## Emperor™ Lite

Emperor™ Lite is Mecmesin's powerful data-acquisition software, for use with its extensive range of force & torque measurement instruments. The software quickly and easily enables operators to perform in-depth analysis of measurements using a graphical trace of the test. User-selectable calculations provide instant results for key test parameters, allowing you to gain valuable quantitative information about the test samples.

- **Control:** perform multiple calculations e.g. peak, minimum and average
- **Visual:** view test 'live' in real time on PC screen
- **In-depth analysis:** easily identify and label critical measurement values and pass/fail points during the test
- **Flexible:** summary test report with graphical traces



Simple-to-use graphical interface

Please refer to the 'Emperor™ Lite' brochure for more information



Insulin pen test

## Motorized Torque Tester

The **Vortex-*d*** range is a basic motorized torque test system for measuring static and rotary torque up to 10 N.m, and combines with Mecmesin's universal display to ensure repeatable, accurate results. Though simple to operate, the Vortex-*d* range benefits from many advanced test features to meet common testing requirements.

- **Flexible:** accommodates a variety of samples up to 450 mm (17.7") in height
- **Versatile:** option to apply downward force by adding weights during test - particularly suited to child-resistant closure testing
- **User-friendly:** large, easy-to-read LCD screen
- **Cost-effective:** purchase the parts you require to custom build the test system best suited to your application - no money wasted on parts you do not need!
- **Comprehensive:** can be used in conjunction with Emperor™ Lite to evaluate results and view graphical representations of each test for comparison purposes
- **Choice:** 3 capacities available - 1.5 N.m, 6 N.m & 10 N.m



Please refer to the 'Vortex-*d*' brochure for more information

# FORCE TEST INSTRUMENTS

## Force Gauges

Mecmesin force gauges are specifically designed to measure force in tension and compression with outstanding accuracy, when used either handheld or mounted to a test stand.

All our gauges are compatible with a wide variety of grips & fixtures to suit your application testing requirements. *(Please see page 8 for further information)*



### Advanced Force Gauge (AFG)

The **Advanced Force Gauge (AFG)** is the most versatile, fully-featured and precise instrument produced by Mecmesin.

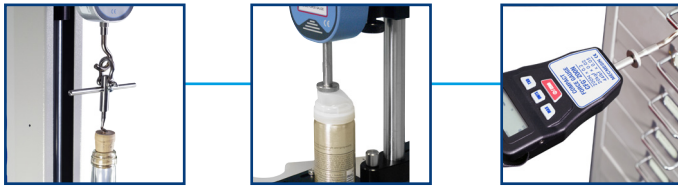
- **Versatile:** measures in a variety of units; N, kN, mN, gf, kgf, lbf, and ozf
- **Precise:** accuracy  $\pm 0.1\%$  of full scale sets the pace for a handheld gauge worldwide
- **Efficient:** extremely fast peak-memory capture, providing consistent measurements (2000 readings per second)
- **Easy analysis:** alarms make Pass/Fail scenarios easy to identify
- **Records:** stores 500 results ideal for 'roaming' tests in the factory - download via RS232
- **Flexible:** powered by mains adaptor or rechargeable batteries
- **Adaptable:** 'Plug and Play' connection to remote force & torque sensors (see page 8 for 'Smart' sensors)
- **Choice:** 10 capacities available - from 2.5 N up to 2500 N

### Basic Force Gauge (BFG)

The **Basic Force Gauge (BFG)** is a rugged, easy-to-use measurement instrument that offers value for money.

- **Efficient:** fast peak-memory capture (1000 readings per second)
- **Versatile:** 'single-click' conversion of displayed value to other units
- **Adaptable:** captures peak reading or displays 'live' reading where loads require continual monitoring
- **Time saving:** download results to PC via RS232
- **Robust:** rugged metal housing ideal for factory or outdoor use
- **Precise:** accuracy  $\pm 0.25\%$  of full scale
- **Flexible:** easy unit conversion N, kN, mN, lbf, ozf, kgf & gf
- **Choice:** 6 capacities available - from 10 N up to 2500 N





## Compact Force Gauge<sup>+</sup> (CFG<sup>+</sup>)

The **Compact Force Gauge<sup>+</sup> (CFG<sup>+</sup>)** is a low cost, lightweight gauge.

- **Time Saving:** download results to a PC via RS232
- **Simple:** designed for basic tension & compression tests
- **Versatile:** peak memory & easy unit conversion; N, mN, lbf, ozf, kgf and gf
- **Ergonomic:** housed in lightweight plastic case
- **Choice:** 3 capacities available - 50 N, 200 N & 500 N

Each Mecmesin gauge comes with a set of standard accessories to perform basic tension and compression tests.



Example of standard accessories

Please refer to the 'Digital Gauges' brochure for more information



Packaging seal release force test

## Manual Test Stands

Manual test stands when combined with a force gauge, provide a simple and affordable way of conducting basic tension and compression tests.

- **Easy-to-use**
- **Lightweight**
- **Economical for simple tests**
- **Robust**
- **Portable**

The **LCP/S** (left) lever-operated test stand is ideal for testing on a repetitive basis up to 500 N capacity.

The **MDD** (right) has 1000 N capacity and handwheel operation to allow fine positional control of the crosshead.



Please refer to the 'LCP/S' & 'MDD' datasheets for more information

## Manual Closure Torque Testers

The **Orbis & Tornado** manual closure torque testers enable you to manually test low level clockwise and counter-clockwise torques for a wide variety of objects, such as simple packaging closures and high-tech controls. Both capture data at a fast rate, thereby increasing accuracy and minimizing reading variability, caused by the inevitable difference in speed employed by the user to unscrew the sample.



## Closure Torque Tester

The **Orbis** enables you to manually test the release action of a screw type closure. It captures data at a fast rate, increasing accuracy and minimizing reading variability, caused by the inevitable difference in speed employed by the user to unscrew the sample.

- **Flexible:** tests many shapes and sizes of container, 10 -190 mm (0.4 - 7.5") in diameter
- **Precise:** load accuracy  $\pm 0.5\%$  of full scale
- **Protected:** water-resistant case rated to IP 54
- **User-friendly:** low-cost, lightweight & portable
- **Time saving:** quick, useful for production line testing export results to PC, printer etc via RS232 output socket
- **Versatile:** mains or battery-powered
- **Capacity:** 6 N.m

## Tamper-evident Closure Torque Tester

Externally, the **Tornado** features the same compact, rugged and portable design of the Orbis, and the same intuitive user interface and versatile fixturing. The Tornado's intelligent electronics, however, enable a broad variety of advanced **additional functions**, to offer enhanced practicality and versatility.

- **Flexible:** versatile mounting table, adjustable to accommodate a variety of forms
- **Precise:** load accuracy  $\pm 0.5\%$  of full scale
- **Advanced features:** 2000 Hz peak capture, stores up to 500 results in its internal memory
- **Easy analysis:** alarms make Pass/Fail scenarios easy to identify
- **Enhanced:** test tamper-evident closures, capturing both 'slip torque' and 'bridge torque'
- **Protected:** water-resistant rated to IP 54 with integrated drip tray to catch sample spillage
- **Time saving:** quick access to common functions and navigation
- **Choice:** 4 capacities available - 1.5 N.m, 3 N.m, 6 N.m & 10 N.m





## Universal Display & 'Smart' Sensors



Examples of 'Smart' transducers shown include; Static Torque Transducer, Static Torque Screwdriver & S-Beam

## Advanced Force & Torque Indicator

The **Advanced Force & Torque Indicator (AFTI)** is a high-specification display unit with similar features and benefits to the AFG, yet with the additional ability to test torque as well as force. The AFTI is used with Mecmesin **'Smart'** force and torque sensors, which plug into the AFTI enabling it to automatically register either force or torque readings for a variety of tests.

- **Comprehensive:** all the benefits of the Advanced Force Gauge (see page 5)
- **Intelligent:** automatic recognition of external sensors, just 'plug & play'
- **Flexible:** fully interchangeable range of force & torque sensors (no setup/re-calibration required)

With a wide variety of Mecmesin force and torque sensors available this versatile instrument covers a range of tests beyond the normal capability of a single instrument.

Please refer to the **'Digital Force & Torque Gauges'** brochure for more information

## ACCESSORIES

Grips and fixtures are integral components of our force testing systems, designed for testing a range of materials, such as adhesives, composites, glass, plastics, rubber, textiles, wood and components, for example crimped terminals, keypads, PCB's springs and switches. These include:

- **Cam grips**
- **Claw type grips**
- **Compression plates and probes**
- **Flat-faced jaw grips**
- **Roller/Bollard type grips**
- **Test hooks**
- **Textile attachment grips**
- **Wedge grips**

For specialized requirements, our team of experienced engineers can design customized fixtures to match your particular criteria specifications.



Wedge grip



Pull peel wheel



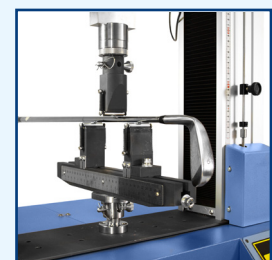
Flat-faced jaw grip



Vented compression plate



Diamante pull-off fixture



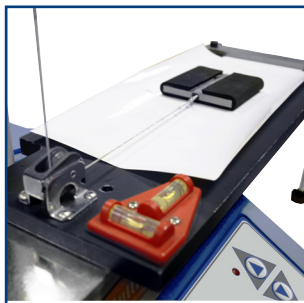
3-point bend fixture

Please refer to the **'Accessories'** catalogue for more information

## Dedicated Testers

Mecmesin's specialist capabilities means we are able to offer testers dedicated to specific applications, with all necessary accessories, grips and fixtures included, ensuring you obtain the best solution to meet the demands of the test involved.

### Coefficient of Friction Tester



Mecmesin's COF tester enables accurate measurement of both static and kinetic friction associated with surface friction within the production environment, resulting in enhanced specification of machinery settings.

Displayed graphically on a PC screen, this tester offers a range of diagnostic tools, enabling identification of anomalies, such as 'stiction', where the surface judders during dynamic slip.

Find out more in the **'Coefficient of Friction'** datasheet

### Manual Handling Test Kit



Mecmesin's manual handling kit tests the forces required to push, pull, lift and carry loads in the workplace. It ensures compliance to standards and minimizes risk of injury and damage.

Available in 2 variations, this portable kit is extremely versatile, capturing force and torque measurements by mimicking a person's actions.

Find out more in the **'Manual Handling'** brochure

## Testimonials

### British Airways, major airline

Use of the MultiTest 5-x (superceded by the MultiTest 5-xt) has simplified and accelerated the testing of aircraft brake unit springs. Having input the parameters per the CMM into the unit, we were able to test a spring at the touch of a button and have a near instantaneous result without ambiguity. The machine has not only simplified the testing procedure, it has helped to improve the process and flow through the shop.

### Esterform Packaging Ltd, suppliers of PET bottles

We have performed top-load tests on our PET bottle production line for nearly a decade with Mecmesin equipment, which has proved extremely robust and reliable. We plan to upgrade our QC test equipment soon and I will have no hesitation in sticking with Mecmesin, owing both to the longevity of their products and the broad range of advanced capabilities on offer.



Aerospace

Automotive

Construction

Cosmetics

Electronics

Engineering

Food

## Support Services

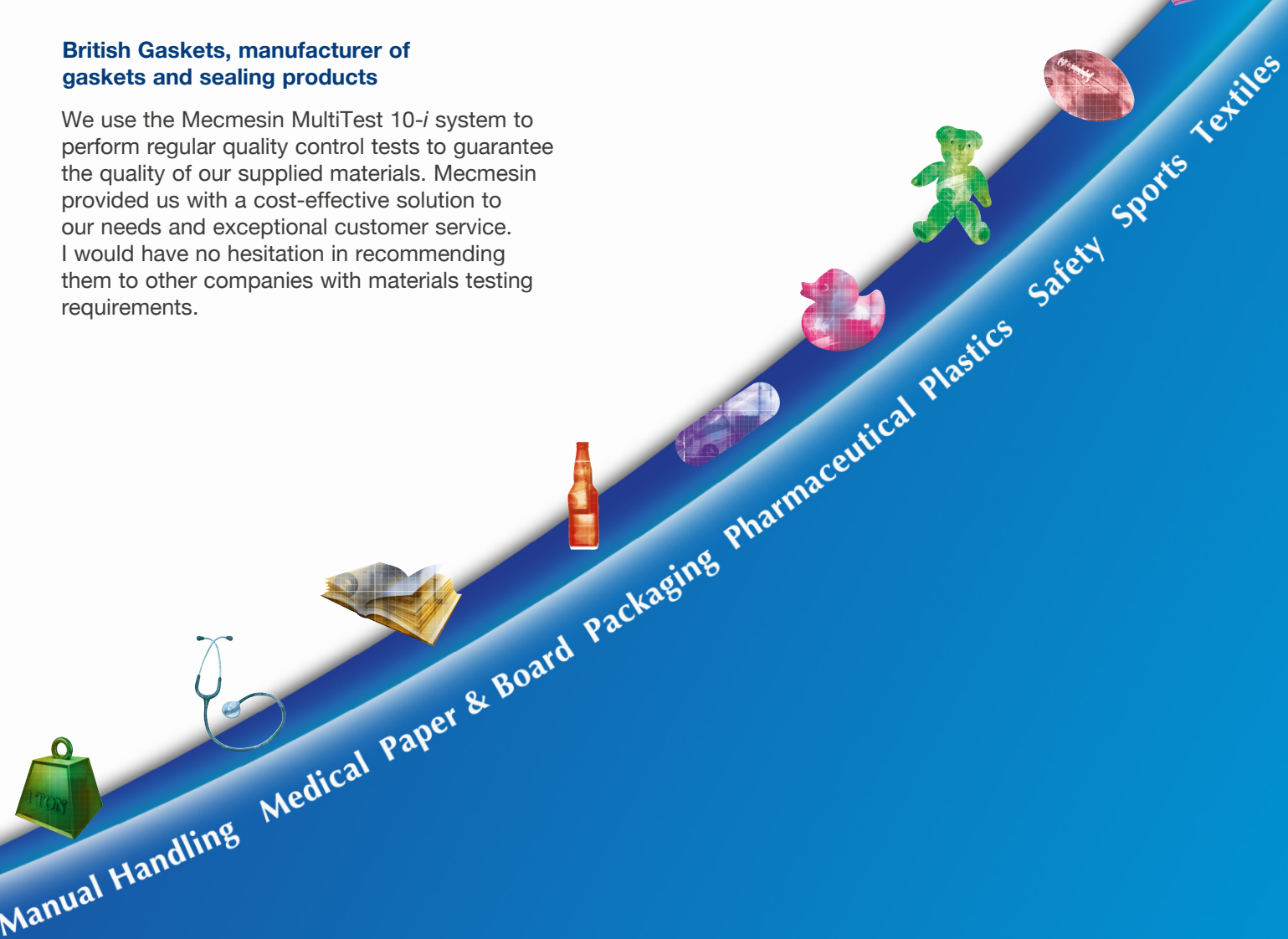
- Comprehensive network of international distributors
- 24 month warranty
- Application support
- Accessories
- On-site installation and training
- Calibration & service centre
- Website support

### Owen Mumford, designer and manufacturer of blood glucose monitoring and control devices

We have been using Mecmesin equipment to perform retention tests on our range of lancet needles for over 8 years. We find the system easy-to-use for regular in-process checks, and generally reliable with prompt servicing from Mecmesin when required.

### British Gaskets, manufacturer of gaskets and sealing products

We use the Mecmesin MultiTest 10-*i* system to perform regular quality control tests to guarantee the quality of our supplied materials. Mecmesin provided us with a cost-effective solution to our needs and exceptional customer service. I would have no hesitation in recommending them to other companies with materials testing requirements.



## More information...

To view any of our comprehensive range of literature:

- call us on +44 (0) 1403 799979
- email us at [info@mecmesin.com](mailto:info@mecmesin.com)
- download from our website [www.mecmesin.com](http://www.mecmesin.com) (Knowledge Centre)



# Mecmesin

testing to perfection

## Over 35 Years Experience in Force & Torque Technology

Formed in 1977, Mecmesin Limited is today widely regarded as a leader in force and torque technology for quality control testing in design and production. The Mecmesin brand stands for excellent levels of performance and reliability, guaranteeing high quality results. Quality control managers, designers and engineers working on production lines and in research laboratories worldwide rely upon Mecmesin force & torque measurement systems for a range of quality control testing applications, which is almost limitless.

Visit us on the web at  
**[www.mecmesin.com](http://www.mecmesin.com)**



Algeria	Hong Kong	Portugal
Argentina	Hungary	Romania
Australia	India	Russia
Austria	Indonesia	Saudi Arabia
Bangladesh	Iran	Singapore
Belgium	Ireland	South Africa
Brazil	Israel	Slovenia
Canada	Italy	Slovakia
Chile	Japan	Spain
China	Korea	Sri Lanka
Colombia	Lebanon	Sweden
Costa Rica	Malaysia	Switzerland
Czech Republic	Morocco	Taiwan
Denmark	Mexico	Tunisia
Egypt	Netherlands	Thailand
Finland	New Zealand	Turkey
France	Norway	USA
Germany	Philippines	Venezuela
Greece	Poland	Vietnam

Wherever you are in the world Mecmesin can help you through its global distribution network



FS 58553

DISTRIBUTOR STAMP

### Head Office - UK Mecmesin Limited

w: [www.mecmesin.com](http://www.mecmesin.com)  
e: [sales@mecmesin.com](mailto:sales@mecmesin.com)

### North America Mecmesin Corporation

w: [www.mecmesincorp.com](http://www.mecmesincorp.com)  
e: [info@mecmesincorp.com](mailto:info@mecmesincorp.com)

### France Mecmesin France

w: [www.mecmesin.fr](http://www.mecmesin.fr)  
e: [contact@mecmesin.fr](mailto:contact@mecmesin.fr)

### Asia Mecmesin Asia Co. Ltd

w: [www.mecmesinasia.com](http://www.mecmesinasia.com)  
e: [sales@mecmesinasia.com](mailto:sales@mecmesinasia.com)

### Germany Mecmesin GmbH

w: [www.mecmesin.de](http://www.mecmesin.de)  
e: [info@mecmesin.de](mailto:info@mecmesin.de)

### China Mecmesin (Shanghai) Pte Ltd

w: [www.mecmesin.cn](http://www.mecmesin.cn)  
e: [sales@mecmesin.cn](mailto:sales@mecmesin.cn)