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<td>Index</td>
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</tbody>
</table>
How to use this catalogue

This catalogue contains a very broad range of accessories and you should find exactly what you want. For most fixture types all you will need is a part number, which is indicated in a specification table associated with the accessory:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
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<tbody>
<tr>
<td>432-346</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>13 mm</td>
<td>50 g</td>
</tr>
<tr>
<td></td>
<td>500 kgf</td>
<td></td>
<td>1 lbf</td>
<td>0.51&quot;</td>
<td>0.11 lb</td>
</tr>
</tbody>
</table>

Select the part number from the specification table

Note: All accessories are sold individually unless specified otherwise.

Catalogue Listing

The catalogue is divided into two main sections. At the front is a concise listing of the accessories with a description, photograph, schematic drawing indicating the fundamental dimensions and the specification table:

Slotted Compression Plates

Slotted compression plates allow for escape of air from containers under top-load testing where a centring cone is unsuitable.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-346</td>
<td>5 kN</td>
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<td>50 mm</td>
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<td>50 g</td>
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<tr>
<td></td>
<td>500 kgf</td>
<td></td>
<td>1 lbf</td>
<td>0.51&quot;</td>
<td>0.11 lb</td>
</tr>
</tbody>
</table>

Catalogue listing entry

Datasheets

The second section contains datasheets for those accessories where further details are relevant. The electronic version of this catalogue will have a hyperlink to the datasheet in the listing entry.

More complex fixtures, such as bend jigs, can be built from user specification, comprising a number of parts. These accessories have their specification table in the datasheet which provides more detail for selecting the correct part. The catalogue listing will show the following information with the datasheet link:

Refer to the datasheet for selecting part numbers for complex fixtures

If you cannot easily find what you want, or you are unsure, please call us, and we will be able to advise you. We also have a custom fixture design and manufacture capability, with expert engineers.

QC Fittings

Accessories with Quick Change QC fitting will have a hyperlink labelled ‘QC’ to jump to the appropriate section within the catalogue. Please see table above for example of QC Hyperlink button.
About Mecmesin

Mecmesin has been a specialist designer and manufacturer of force and torque testing equipment since 1977. Based in the UK, we have offices in six countries and distributors in over 50 more. Our aim has always been to provide cost-effective solutions to in-house product testing, from hand-held instruments to custom-built automation systems. Mecmesin is an established, leading, and trusted brand worldwide.

The systems and instruments we provide combine accuracy, reliability and affordability, in a range to suit all kinds of product testing. They are widely used in quality assurance situations, frequently on the production line or shop floor, where their robust design is ideal for continuous use with low training requirement. Design laboratories also represent a large part of our client base, where the computing power of our top-range systems is essential. Our gauges and instruments are market leaders, for their accuracy, reliability and sheer ruggedness.

Users of Mecmesin systems can be found across a very wide range of industries for an extremely diverse spread of applications. We frequently meet these needs by combining our standard products with customised solutions. Our highly talented and experienced engineers design bespoke systems, grips and fixtures to ensure optimal testing of any product presented to us.

The importance of force and torque testing

The testing of products in-house brings control to engineering processes, guaranteeing fit-for-purpose functionality and allowing design optimisation. Mecmesin equipment provides the capability to meet quality standards for both internally manufactured and externally-sourced products and materials from suppliers.

Further benefits of testing include:

- Quality assurance protects your brand reputation and market position.
- Quality assurance demands standardised testing, whether to ASTM, BS, DIN, ISO, an industry body, or an internal corporate standard.
- Standards require systems that ensure repeatability from day to day and from site to site, anywhere in the world.
- Design frequently includes materials content optimisation; testing designs for strength and fitness for purpose are an essential component.
- Testing to detect problems before they affect production, minimises wastage.

Your choice of grips and fixtures

Mecmesin supplies a full range of approved grips and fixtures for use with all our systems and instruments.

However, in testing flexible, moulded or asymmetric items, custom grips are often required. We have an expert in-house design and manufacturing facility for these specific needs.
Comprehensive product range

Our modular product range includes test systems, instruments and accessories designed and manufactured to suit all force and torque test applications and environments.

Test systems have three distinct designs to meet different user-interface requirements, computer-controlled, touch screen controlled and motorised systems. Our systems measure force from 0.5 kN to 50 kN and torque from a few mN.m to 10 N.m.

For less exacting applications we have a range of force and torque gauges and table top manually operated instruments measuring up to 2.5 KN and 10 N.m respectively.

Support and services

Our team of expert applications and service engineers are there to support you with a range of professional services. We can help you select the right test solution, including grips and fixtures, provide demonstrations, pre-program your system, install and train users, followed by full after-sales service.

- Comprehensive global network of international distributors
- 24 month warranty
- On-site installation and training
- Application support
- Online helpdesk live web chat
- Calibration and service centre
- Custom built systems
- Bespoke grips and fixtures
Glossary

Selecting the Most Appropriate Grips

Holding specimens in the most uniform manner is one of the basic requirements for obtaining reliable and repeatable test results. When selecting the best grips for a particular application there are a number of considerations. The specimen must be held in such a way that it does not slip within the grips nor should the specimen break at the jaw. Alignment of the grips is essential to ensure the forces are applied ‘in axis’ between the loadcell and the test frame. International test standards often define a type of grip to be used, which makes selection straightforward. However in most cases the choice of grip is often affected by the need to test a wide variety of different specimen shapes and materials. This situation lends itself to more ‘general purpose’ grips which can be tailored to several applications by choosing from a number of jaw faces to suit the material or component being held.

Other factors such as throughput of testing and ease-of-use play an important role in deciding which grip to choose. Whilst ‘general purpose’ grips have advantages in terms of flexibility, it can be time-consuming, particularly when testing small batches of differing specimen geometries, to have to change over jaw faces. In the long run it may be more cost-effective to select dedicated grips for certain applications and use the ‘QC’ (quick-change) connection to swiftly exchange complete grips.

The following Glossary section provides an overview of the various types of grips and fixtures available from Mecmesin. Each grip-type is listed in its own category under a summary-section. Within the summary you will see a link to the datasheet for each individual grip which provides comprehensive technical details and drawings to aid you in your selection.

If your application requirements are very specific to your product or component and you do not see a ‘standard’ grip, please consult our team of application-engineers who will be happy to use their vast experience to work with you to design and manufacture a custom grip.

Compression tests are performed to evaluate the performance of a material or component under gradually increasing compressive load. This usually involves compressing a specimen to a pre-defined load limit and measuring its deformation or alternatively compressing the specimen until it breaks or cracks.

Specimens can be compressed between two uniform compression fixtures (e.g. plates) or alternatively the specimen can be placed on the base of a testing machine and compressed from above by a single compression fixture (e.g. probe).

The selection of compression fixtures should be determined by the variety of different shapes and sizes of the specimens you need to test plus the surface finish best suited to the application.

Compression Plates

Compression Fixtures should be selected to suit the contact area of the sample which is to be tested. They are typically available as round, square or rectangular plates with either a threaded connection or a quick-change (QC) fixing.

A variety of surface finishes and configurations are provided:

- Nickel plated compression plates have a coating, which helps to prevent rust.
- Hardened and ground compression plates have a smooth, scratch-proof surface ideal for compression testing on samples such as tempered springs which could damage a standard compression plate.
- Rubber-faced compression plates have a protective layer, which helps to prevent damage from metal-to-metal contact during a compression test.
- Self-levelling compression plates are ideal for precise compression testing on a range of materials and finished products. Self-levelling allows exact parallelism to be set between the upper and lower plates—ideal for those applications where it is critical to accurately measure the deformation of a sample.
- Vented compression plates are ideal for top-load/crush testing of materials or products which contain air (e.g. empty PET bottles, foam, etc.). It allows for release of air from within the container whilst it is being compressed thereby avoiding potential measurement errors caused by measuring the force to compress the internal air.
Probes
Probes are designed primarily for penetration and puncture resistance testing. There are a variety of tip profiles and sizes available (e.g. cone, chisel, radiused) to simulate the real-world conditions under which a specimen may be compressed.

Load buttons or extension rods can also perform the same function as a probe to measure the compressive strength of small components such as push-button switches.

Flexure/Bend Jigs
Flexural load tests are popular since they closely characterise how a material or component may perform during its lifetime. As such they are often used to determine the mechanical properties of a whole range of materials including plastics, metals, wood, paper & board, ceramics.

‘Flexure bend’ tests usually draw upon loading at 3 or 4 points

• The **3-point bend test** uses a jig which has 2 parallel ‘lower’ anvils to support the specimen. A single ‘upper’ anvil positioned exactly half-way between the 2 ‘lower’ anvils is used to apply compressive load to the specimen to determine its material characteristics. The 3-point test is used mainly for elastic and ductile materials.

• The **4-point bend test** differs in so far as there are 2 ‘upper’ anvils which apply compressive load to the specimen and are positioned symmetrically around the 2 ‘lower’ anvils. The 4-point test is used mainly for determining the properties of brittle materials.

In both 3-point and 4-point bend tests the ‘upper’ and ‘lower’ anvils can be fixed, rotating or tilting according to the requirements of the test standard. Rotating anvils help minimize the effects of friction by allowing longitudinal movement. Tilting anvils ensure parallel contact with the specimen throughout the test.

Anvils can be radius-type or roller-type and may be held in a fixed position or be free to move. In addition the ‘lower’ anvils can be selected to make contact with the specimen at a single point or dual points.

The span of the anvils is set by manual positioning against a ruler-tape which indicates the span distance and using an allen key to secure. Alternatively support beams are available with leadscrews whereby anvil positions can be adjusted by using a hand-wheel.

Dedicated Compression fixtures
Dedicated compression fixtures are purposely designed to meet the challenges of a specific application. The requirements for the fixture may be outlined in an international test standard (e.g. ISO, ASTM standards for compressive shear testing..) or they may come from industry requests to provide an appropriate attachment for holding specific components (e.g. long flexible springs).

Mecmesin offers a range of dedicated compression fixtures to suit common requirements. For non-standard applications a team of design-engineers is available to work with you to find a suitable solution to meet your technical and budgetary requirements.
Glossary

Tension

There are in essence two types of tensile grips:

a) ‘Self-tightening’ whereby the clamping force to hold the specimen increases as tensile load is applied. This is achieved by the action of wedges, levers, eccentric cams /rollers and pincer-scissors, which all move to tighten their hold as tensile load is applied during the test thereby reducing the risk of slippage.

b) ‘Side-action’ whereby the clamping force to hold the specimen is independent of the tensile load applied. The clamping force is achieved by parallel jaw faces which are set to a certain position by a screw-action or via pre-loaded springs. As the specimen decreases in thickness when it is stretched during the test there is a commensurate reduction in clamping force exerted by the ‘fixed position’ parallel jaw faces potentially increasing the risk of slippage. Such grips are ‘screw-action’ Vice Grips, Pinch Grips, Toggle Grips, Claw and Chuck Grips.

Self-tightening Tensile Grips

Wedge Grips - consisting of 2 interchangeable or fixed jaws in the shape of a wedge which are secured in a metal body. Designed such that, when under tension, the two jaw faces are drawn tighter together in a firmer hold upon the specimen. For specimen removal /insertion the wedge-jaws are quickly and easily opened/closed by using a lever to move them up and down within the body. The initial clamping force to hold the specimen before the test begins is achieved by tension springs acting to bring the wedge-jaws together.

An ideal ‘general-purpose’ grip for testing plastic and metal dumbbells, sheets, strips and other flat or round specimens.

Cam Grips - operate by virtue of one or two opposing eccentric cams increasing their clamping force upon the specimen as tensile load is applied. The initial clamping is achieved by the cam being spring-loaded or having a lever-action to facilitate quick insertion and removal by the operator.

Suitable for soft and flexible plastics, rubbers and textiles.

Scissor Grips - self-tightening and self-aligning with the specimen initially being held by spring tension. The ratio of clamping force to tensile force changes in proportion to the opening width … therefore the wider the opening, the stronger the clamping force exerted upon the specimen. Available with locking function to facilitate removal of the specimen after testing.

Suitable for highly ductile plastics and elastomers.

Belt and Strap Grips - typically of a split-roller type in order to provide a rounded, smooth-surface around which a belt or strap can be looped several times. As the tensile load is applied the belt self-tightens around the roller providing excellent clamping force.

Suitable for flexible belts, straps and webbing of textile and plastic materials.

Side-action Tensile Grips

Vice Grips (Single-action) - having one fixed jaw against which a second parallel jaw is tightened. The position of the fixed face may be adjustable to accommodate differing specimen thickness. They may be manually screw-operated, or pneumatic.

Vice Grips (Double-action) - having two adjustable parallel jaws to enable in-axis alignment of the test specimen. They may be manually screw-operated, or pneumatic.

Vice grips are typically used in pairs and are available with an extensive selection of interchangeable jaw faces and sizes.

Vice Grips are an ideal ‘general-purpose’ grip for testing thin sheets, films, foils, tapes and various plastic, metal and textile fabrics.

Pinch Grips - designed for small-area contact to grip a specimen. Hinged with a screw-action mechanism to simultaneously open/close both jaws.
Suitable for low force pull-off tests of components, adhesive bonds, etc.

**Bollard Grips** - provide a rounded surface around which a specimen is curved or wound several times before its end is clamped between jaws. Contact with a greater surface area provides increased friction which reduces the risk of specimen slippage. Also helps avoid ‘point contact’ which can cause cutting, indentation or tearing of delicate specimens.

Suitable for strings, wires, filaments and yams.

**Claw Grips and Chucks** - designed to either grip a cylindrical test specimen directly, or to grip a thin probe, such as a needle for penetration testing. Often used to help grip irregular shaped objects.

Suitable for low force pull-off tests of round components or joints.

**Hooks** - Round hooks are suitable for samples with loops, such as some springs, O-rings and seals. Peg hooks can engage smaller attachment holes in thinner and stiffer samples than round hooks.

**Flexible Links** - added into tension fixtures to allow a certain amount of lateral movement for maintaining natural axial alignment. This is particularly useful to allow a specimen with an off-centre connecting piece or tab to straighten, peel or tear.

### Selecting Jaws for Tensile Grips

Choosing the most appropriate jaw type for a tensile grip can be tricky. It is a balance between having sufficient hold of the specimen to prevent it slipping and not having too ‘aggressive’ a hold which damages the specimen. Below is a simple guide with tips on jaw selection to assist you:

- **Blank Jaws** - for smooth surfaced materials. Allows user to machine or affix own surface (e.g. emery paper)
- **Pyramid or Diamond Jaws** - for materials which need a “bite” to secure a good grip (e.g. soft metals [aluminium, copper, soft steel], paper and board)
- **Rubber Jaws** - for fragile samples, which may get weakened by pinching at the contact-edge of the grip. (e.g. thin films, filaments, fibres and thin aluminium)
- **V Jaws** - for round samples where flat jaws do not provide enough surface contact (e.g. wires, rods, tubes)
- **Wave Jaws** - for slippery materials which need more surface contact to secure a good grip (e.g. textiles, fabrics and tissues)

**Specialised Jaws**

- **Line-contact Jaws** - for thin materials, requiring a point contact to determine the true gauge length of the specimen between the grips (e.g. rubber, textiles or paper). These jaws have a radiused contact face and are supplied with the equivalent rubber coated flat-faced jaw for the opposing jaw surface. Only to be used where specified in international standards. Available for several side-action grips, please contact Mecmesin with your requirements.
Torque grips are designed to hold a sample vertically and precisely about its rotational axis. The choice of grip depends on the symmetry and shape of the sample. Since there are far fewer international testing standards relating to torque which define specimen forms and dimensions, it is often the case that a suitable ‘standard’ grip cannot be found. In this situation a custom grip will be needed - these can be designed and made by Mecmesin engineers to suit your exact requirements.

Fixing Tables
Torque Fixing Tables typically comprise 2 threaded carriers whose position is controlled by a stainless-steel leadscrew. 4 rubber-coated pegs are affixed to the carriers and adjusted for holding and centring test specimens about the rotating axis. Fixing Tables attach either directly to the torque sensor or to the motor-spindle of a Motorised Torque Stand.

Saddle Plates
Saddle Plates are an additional accessory to fit onto Fixing Tables for specimens with irregular underside on their base, which are not best suited to positioning on carriers/leadscrews. The Saddle Plate provides a stable flat base for placing such specimens perpendicular to the torque sensor thereby improving accuracy and repeatability of testing.

V-Blocks
V-blocks are available in 2 versions.

a) They can be provided as an additional accessory for use with standard Fixing Tables where they act as a substitute for the rubber-coated pegs. They consist of 2 V-shaped, rubber-coated jaws at a desired angle to maximise the contact area with the specimen and thereby minimise the risk of slippage.

b) They can be provided affixed to their own dedicated fixing table with jaw profiles and coatings to suit the specimens being tested.

Chucks
Chucks are designed to grip a cylindrical test sample directly. They are available in 3-jaw or 4-jaw versions with various jaw profiles.

Mandrels
There are two versions of mandrels available to grip closures for torque testing.

a) “Split-mandrels” - this comprises 2 mandrel halves which have been machined to suit a narrow span of closure diameters and profiles. The closure is located between the halves and is gripped by tightening the mandrels using a leadscrew.

b) “Dedicated mandrels” - machined specifically as an exact fit to match the profile of a single closure type. The mandrel is placed upon the closure and the mandrel is then ‘driven’ by a holder to apply the required torque. The mandrel can then move vertically which is essential for testing screw-type closures. ‘Dedicated mandrels’ are made to the user’s specific design requirement.

Calibration Check Rig
A calibration check rig will give an indication whether a torque sensor lies within acceptable tolerance limits of its calibration … often used to make a simple verification check of accuracy between recalibration periods. It is not a substitute for official calibration and adjustment by an approved calibration laboratory.
Quick Change QC fittings

How QC fittings work

QC fittings are mainly to standard post diameters of 20 mm or 32 mm. Smaller fixtures may have a QC diameter of 15.9 mm, for which you will require a QC converter.

The fixture is presented to the post, and a pin inserted through holes in the fixture sleeve and post, and secured with a clip.

Lighter QC fixtures can be mounted on a simple post (Type A or J) attached directly to either a loadcell or stand anvil by means of a grub screw. Whilst this is simpler, the orientation of the securing pin may not be ideal.

Larger fixtures are mounted onto a post with a broader base (Type C or L). This base is screw-mounted onto the anvil or stand base, and requires an additional single-screw mounting plate for attachment to a loadcell. These QC mounts also have a screw collar for tightening the fixture against the locking pin.

To convert a non QC type grip to a QC type, attach a female sleeve (Type B or K) to the grip.

*Take great care when selecting grips for use with loadcells below 50 N to avoid risk of overload.
Loadcell QC fitting

<table>
<thead>
<tr>
<th>Loadcell</th>
<th>Capacity</th>
<th>Thread</th>
<th>Mounting plate</th>
<th>Part no.</th>
<th>Post &amp; pin</th>
<th>Post Ø</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILC/gauge</td>
<td>0.5–5 kN*</td>
<td>5/16 UNC</td>
<td>N/A</td>
<td>N/A</td>
<td>Type A</td>
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<tr>
<td>ILC/gauge</td>
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<td>10-32 UNF</td>
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<tr>
<td>ILC-S</td>
<td>100 N, 200 N</td>
<td>M6</td>
<td>Type M</td>
<td>432-452</td>
<td>Type C</td>
<td>20 mm</td>
<td>432-284</td>
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<td>II C-S</td>
<td>500 N</td>
<td>M6</td>
<td>Type D</td>
<td>432-285</td>
<td>Type C</td>
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<tr>
<td>ILC-S</td>
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QC Converters

<table>
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</tr>
<tr>
<td>32 mm</td>
<td>20 mm</td>
<td>N/A</td>
<td>432-623</td>
</tr>
</tbody>
</table>

(please ask if you need other size converters)

Stand QC fitting

<table>
<thead>
<tr>
<th>Stand capacity</th>
<th>Post &amp; pin</th>
<th>Post Ø</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MultiTest 0.5 kN to 5 kN</td>
<td>Type A (or J)</td>
<td>20 mm</td>
<td>432-282 (418)</td>
</tr>
<tr>
<td>MultiTest 0.5 kN to 25 kN</td>
<td>Type C</td>
<td>20 mm</td>
<td>432-284</td>
</tr>
<tr>
<td>MultiTest 50 kN</td>
<td>Type C</td>
<td>20 mm</td>
<td>432-622</td>
</tr>
<tr>
<td>MultiTest 50 kN</td>
<td>Type L</td>
<td>32 mm</td>
<td>432-451</td>
</tr>
</tbody>
</table>
Compression

Compression testing takes many forms, from testing the hardness or compressive strength of a material or manufactured product, to how it deforms and/or recovers, or its resistance to penetration. Compression testing can be used to test an insertion force or sharpness of a needle, or the strength of an adhesive bond under shear. Measuring these forces requires test systems and fixtures that ensure precise repeatability through correct alignment and gripping.

Types of compression test for which we can supply fixtures

- ultimate compressive strength
- break stress
- single pellet crush
- top-load (column) crush
- box crush (BCT)
- edge crush (ECT)
- ring crush (RCT)
- compressibility and recovery
- top load, glass containers
- lap shear under compression
- double sandwich shear

- compressive shear
- laminates compressive shear stress
- puncture shear
- three-point bend
- four-point bend
- cantilever bend
- ball burst
- short span compression
- short beam shear strength
- needle penetration
- cone penetration
- compressive hardness

- compressive hardness
- penetration resistance
- circular bend
- compressive strength
- five point bend
- flat crush (FCT)
- compressive deformation
- pinch
- bursting strength (sheet rupture)
- puncture resistance
- compressive burst
Nickel-Plated Compression Plates

Nickel plated compression plates are resistant to rusting.

Applications:
- metals
- cylinders
- cubes
- mortar
- cement
- plaster

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-119</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>12 mm</td>
<td>12 mm</td>
<td>6 g</td>
</tr>
<tr>
<td>432-188-F95</td>
<td>5 kN</td>
<td>M6</td>
<td>12 mm</td>
<td>12 mm</td>
<td>5 g</td>
</tr>
<tr>
<td>432-121</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>19 mm</td>
<td>16 mm</td>
<td>12 g</td>
</tr>
<tr>
<td>432-125</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>19 mm</td>
<td>19 mm</td>
<td>17 g</td>
</tr>
<tr>
<td>432-005</td>
<td>5 kN</td>
<td>M6</td>
<td>19 mm</td>
<td>16 mm</td>
<td>10 g</td>
</tr>
<tr>
<td>432-343</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>13 mm</td>
<td>79 g</td>
</tr>
<tr>
<td>432-344</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>50 mm</td>
<td>16 mm</td>
<td>84 g</td>
</tr>
</tbody>
</table>
**Compression plates: fixed Compression**

**Rubber-Faced Compression Plates**

The rubber-faced compression plate has a rubber layer which helps to prevent damage to the sample that would occur from metal contact during a compression test. Also increases grip at the point of force application on low friction or curved specimens.

**Applications:**
- metals
- glass
- slippery or curved samples

**Hardened and Ground Compression Plates**

Hardened and ground compression plates have a smooth, scratch-proof surface ideal for compression testing on samples that could damage a standard compression plate, such as metal springs.

**Applications:**
- springs
- cans
- polymer foams

---

**DATASHEET**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (⌀A)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-219</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>50 mm</td>
<td>1.97&quot;</td>
<td>84 g</td>
</tr>
<tr>
<td>432-220</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>1.97&quot;</td>
<td>—</td>
</tr>
</tbody>
</table>

---

**DATASHEET**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (⌀A)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-197</td>
<td>5 kN</td>
<td>M6</td>
<td>50 mm</td>
<td>1.97&quot;</td>
<td>—</td>
</tr>
<tr>
<td>432-336</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>12 mm</td>
<td>0.47&quot;</td>
<td>6 g</td>
</tr>
<tr>
<td>432-337</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>19 mm</td>
<td>0.75&quot;</td>
<td>12 g</td>
</tr>
<tr>
<td>432-338</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>70 mm</td>
<td>2.76&quot;</td>
<td>301 g</td>
</tr>
<tr>
<td>432-341</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>100 mm</td>
<td>3.94&quot;</td>
<td>624 g</td>
</tr>
<tr>
<td>432-446</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>175 mm</td>
<td>6.89&quot;</td>
<td>2 kg</td>
</tr>
<tr>
<td>432-172-F95</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>1.97&quot;</td>
<td>—</td>
</tr>
</tbody>
</table>
Phosphated Compression Plates, QC fitting

Phosphate-coated hardened steel compression plates are available in a range of diameters, and with male or female QC-fittings. They can also be combined with self-levelling plates.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec23</td>
<td></td>
</tr>
</tbody>
</table>

Aluminium Compression Plates, QC fitting

Anodised aluminium compression plates are available in a range of diameters, and with male or female QC-fittings. They can also be combined with self-levelling plates.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec23</td>
<td></td>
</tr>
</tbody>
</table>
Phosphated Rectangular Compression Plates, QC fitting

Phosphate-coated hardened steel compression plates are available in a range of dimensions, square and rectangular, and with male or female QC-fittings. They can also be combined with self-levelling plates.

Aluminium Rectangular Compression Plates, QC fitting

Anodised aluminium compression plates are available in a range of dimensions, square and rectangular, and with male or female QC-fittings. They can also be combined with self-levelling plates.

Perforated Compression Plates, QC fitting

Perforated aluminium compression plates are used for compressing porous materials such as polymer foams. Supplied singly they can be paired with rigid or self-levelling plates. QC fitting.
**Compression plates: fixed & vented**

### Slotted Compression Plates

Slotted compression plates allow for escape of air from containers under top-load testing where a centring cone is unsuitable.

![Slotted Compression Plate Diagram](image-url)

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-346</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>13 mm</td>
<td>50 g</td>
</tr>
</tbody>
</table>

### Vented Compression Plates

Vented compression plates are ideal for top-load/crush testing of containers such as PET bottles. Two circular vents allow air to escape from the container during compression and an integrated nose cone helps to position containers centrally.

![Vented Compression Plate Diagram](image-url)

**Applications:**
- plastic bottles
- PET containers

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-347</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>10 mm</td>
<td>50 g</td>
</tr>
<tr>
<td>432-348</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>50 mm</td>
<td>10 mm</td>
<td>50 g</td>
</tr>
</tbody>
</table>
Self-levelling Compression Plate

Self-levelling compression plates are ideal for general compression testing on a range of materials and finished products. Self-levelling allows parallelism to be set for those applications where it is critical to accurately measure the deformation of a sample, or where the sample has faces that are not exactly parallel and conventional plates would put an undue load on a very small area, causing a premature failure.

Applications:
- metals
- springs
- polymer foams
- cylinders
- cans
- curved-face samples

Spherically-Seated Self-levelling Compression Plate, QC fitting

Spherically-seated self-levelling compression plates are ideal for general compression testing on a range of materials and finished products. Self-levelling allows parallelism to be set for those applications where it is critical to accurately measure the deformation of a sample, or where the sample has faces that are not exactly parallel and conventional plates would put an undue load on a very small area, causing a premature failure. QC fitting.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-349</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>38 mm</td>
<td>450 g</td>
</tr>
<tr>
<td>432-350</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>70 mm</td>
<td>50 mm</td>
<td>—</td>
</tr>
<tr>
<td>432-351</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>100 mm</td>
<td>50 mm</td>
<td>2.2 kg</td>
</tr>
<tr>
<td>432-352</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>175 mm</td>
<td>50 mm</td>
<td>4.9 lb</td>
</tr>
</tbody>
</table>
**Compression Probes**

**Radiused Probes**

Radiused probes are used to perform penetration or puncture tests on a wide range for texture products. The radiused tip is specifically designed for penetrometry tests, including the determination of the firmness and ripeness of foods. Also used for cosmetics and similar products with measured texture attributes.

**Applications:**
- Baked goods
- Dairy products
- Fruit and vegetables
- Confectionery
- Cosmetics
- Gels

**DATASHEET**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Diameter (ØB)</th>
<th>Length (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-354</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>6 mm</td>
<td>8 mm</td>
<td>60 mm 2.36&quot;</td>
</tr>
<tr>
<td>432-355</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>11 mm</td>
<td>60 mm 2.36&quot;</td>
</tr>
</tbody>
</table>

**Cone Points**

Cone points are designed for puncturing, spreading and compressing samples.

**Applications:**
- Packaging
- Food products
- Cosmetics

**DATASHEET**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Length (B)</th>
<th>Diameter (ØC)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-358</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>14 mm</td>
<td>0.5 mm</td>
<td>2 g</td>
</tr>
<tr>
<td>432-359</td>
<td>250 kgf</td>
<td>5/16 UNC</td>
<td>12.7 mm</td>
<td>21 mm</td>
<td>0.83 mm</td>
<td>12 g</td>
</tr>
</tbody>
</table>
Chisel Points

Chisel points are used for puncturing and splitting samples, e.g. a typical application would be a ‘cleave test’ on eye liner pencils.

Applications:
• Packaging
• Food products
• Cosmetics

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Length (B)</th>
<th>Tip Width (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-360</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>14 mm</td>
<td>0.55 mm</td>
<td>0.5 mm</td>
</tr>
<tr>
<td>432-361</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>12 mm</td>
<td>21 mm</td>
<td>0.83 mm</td>
<td>2 mm</td>
</tr>
</tbody>
</table>

Inverted Chisel Points

The inverted chisel is designed for compression testing of samples of a curved or rounded shape in cross-section.

Applications:
• Pipes
• Tubes

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Length (B)</th>
<th>Width (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-356</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>14 mm</td>
<td>7 mm</td>
<td>0.31&quot;</td>
</tr>
<tr>
<td>432-357</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>12 mm</td>
<td>21 mm</td>
<td>10 mm</td>
<td>0.47&quot;</td>
</tr>
</tbody>
</table>
Set of 15 needle points

For use with the Mecmesin shotcrete penetrometer to test sprayed or poured concrete during the first few hours of development as a reliable indication of compressive strength.

Applications:
• sprayed concrete

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Needle Diameter (A)</th>
<th>Exposed Needle Length (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-519</td>
<td>3 mm</td>
<td>0.118&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mm 0.59&quot;</td>
</tr>
</tbody>
</table>

Compression Probes Compression
Bend Jigs
Compression

10 kN 3-Point Bend Jig, QC fitting

The 10 kN 3-point bend jig is ideal for performing a variety of flexure tests on medium-stiffness samples. It includes two lower support-anvils, which are adjustable and one upper anvil to apply load to the sample. The support beam is graduated lengthways in metric and imperial units for accurate positioning of the anvils.

Applications:
- ceramics
- glass
- films
- composites
- plastics
- wood
- flexible sheet materials

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Anvil Width</th>
<th>Anvil Radius</th>
<th>Bending Span</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-266</td>
<td>10 kN</td>
<td>QC 20 mm</td>
<td>58 mm</td>
<td>2.28&quot;</td>
<td>24 mm - 300 mm</td>
<td>380 mm</td>
<td>12.4 kg</td>
</tr>
</tbody>
</table>

2.5 kN 3-Point Bend Jig

The 2.5 kN 3-point bend jig is an easy-to-use fixture that relies on the test machine to maintain alignment between the top and bottom parts.

Applications:
- composites
- wood
- plastics
- films
- flexible sheet materials

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Anvil Width</th>
<th>Anvil Radius</th>
<th>Bending Span</th>
<th>Length</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>432-151</td>
<td>2.5 kN</td>
<td>10-32 UNF</td>
<td>45 mm</td>
<td>1.77&quot;</td>
<td>10 mm - 300 mm</td>
<td>405 mm</td>
<td>15.9&quot;</td>
</tr>
</tbody>
</table>

1 kN 3-Point Bend Jig

The 1 kN 3-point bend jig is a lightweight three-point bend assembly with 60 mm high arms and 120 mm support span ideal for most snapping applications including food texture applications. Recommended for use with ‘S’ Beam type load cells where forces are below 1 kN.

Applications:
- food products
- circuit boards

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Anvil Width</th>
<th>Anvil Radius</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-248</td>
<td>1 kN</td>
<td>120 mm</td>
<td>1.5 mm</td>
<td>653 g</td>
</tr>
<tr>
<td>432-294</td>
<td>Base plate to attach bend jig to test stand</td>
<td>792 g</td>
<td>1.75 lb</td>
<td></td>
</tr>
</tbody>
</table>
Bend Jigs
Compression

Mec22 50 kN Bend Jig (Aluminium), QC fitting

A 50 kN bending fixture in aluminium, with a bending span of 330 mm and a beam width of 100 mm. The main support bears two Type AX anvils, and an upper OX anvil, with 10 mm, 20 mm and 30 mm diameter rollers as standard. The addition of an upper anvil support converts this to a 4-point or 5-point bend jig. Attaches to QC adapter mounts.

**DATASHEET**  **QC**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec22</td>
<td></td>
</tr>
</tbody>
</table>

Mec103 50 kN Bend Jig (Steel), QC fitting

A 50 kN bending fixture in steel, with a bending span of 120 mm and beam width of 50 mm. The main support bears two Type A nickel-plated steel anvils, each with two milled radii of 3 mm and 5 mm. The upper anvil is radius 10 mm. The addition of an upper anvil support converts this to a 4-point bend jig. The jig fits 20 mm QC adapters.

**DATASHEET**  **QC**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec103</td>
<td></td>
</tr>
</tbody>
</table>

Mec238 2.5 kN Bend Jig (Aluminium), QC fitting

A 2.5 kN small bending system in aluminium, with a bending span of 4 mm – 150 mm and a beam width of 30 mm. Supplied with Type A anvils with a radius pair of 2 mm and 3 mm, and an upper anvil of radius 2 mm. The addition of an upper anvil support converts this to a 4-point bend jig. Fits QC 15.9 mm adapters.

**DATASHEET**  **QC**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec238</td>
<td></td>
</tr>
</tbody>
</table>
Bend Jigs
Compression

Bend jigs to your own specification

Bend jigs can be assembled to user specification to meet test requirements:

- load rating
- bending span width
- anvil edge type
- anvil movement type
- anvil height
- 3 or 4-point bend capability
- individual positioning of anvils, or by centric gearing using a leadscrew / handle.

Certain anvil types allow a rocking movement, adjustable angle (articulated), or flat sideways movement. For sharp angle bending (e.g. to 160°) long-fin anvils are available, along with other specialised anvils. Standard anvil types are shown below. (Roller size is denoted by diameter, milled edges are denoted by radius.)

Lower Anvils

Type A: dual-radius

A: milled edge
AX: v-notch roller bearings

Type C: single radius

C: milled edge
CX: v-notch roller
CL: captive roller
CM: roller free to traverse

Type CW, carrier style

CW: milled edge
CWX: v-notch roller
CWL: captive roller
CWN: roller traverses to stop

Upper Anvils

Type O

O: milled edge
OX: v-notch roller bearing
OWX: carrier-style v-notch

How to specify your particular bend jig requirement

Let us know your requirement by:

- beam model: Mec238, Mec103, Mec22 and length (long versions available)
- aluminium or steel, and finish (where available)
- anvil mount type as above (A, C, CW, O, with extra designation of W, X, L, M or N where appropriate)
- the upper and lower anvil radii type (milled or rollers) with diamensions
- any special requirements such as anvil height or width, or movement
- if you require centric gearing (Mec103 only)
- if you require an upper support for two anvils for 4-point testing
- the QC coupling size (20 mm or 32 mm)

For full details and examples, refer to the datasheets for the three base models: Mec238, Mec103 and Mec22.
Perpex 45° Cone Probe with Extension Rod

The perspex cone probe has a 45° angle, and is used for texture testing to assess characteristics such as hardness and spreadability.

Applications:
- food products
- cosmetics

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Thread 2</th>
<th>Height (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-081</td>
<td>200 N</td>
<td>M3</td>
<td>-</td>
<td>38.6 mm</td>
<td>1.52&quot;</td>
</tr>
<tr>
<td>432-100</td>
<td>200 N</td>
<td>10-32 UNF</td>
<td>M3</td>
<td>110 mm</td>
<td>4.33&quot;</td>
</tr>
</tbody>
</table>

2 mm Needle Probe with Extension Rod

The needle probe is made from stainless steel and is designed for surface puncture and penetration tests.

Applications:
- food products

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Thread 2</th>
<th>Length (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-087</td>
<td>100 N</td>
<td>M3</td>
<td>-</td>
<td>36.5 mm</td>
<td>1.44&quot;</td>
</tr>
<tr>
<td>432-100</td>
<td>100 N</td>
<td>10-32 UNF</td>
<td>M3</td>
<td>110 mm</td>
<td>4.33&quot;</td>
</tr>
</tbody>
</table>

Puncture Test Jig

This jig is designed also to accommodate spherical or irregular samples. Three sizes of holding plate are supplied.

Applications:
- films
- food products

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Max. Sample (Ø)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-243</td>
<td>200 N</td>
<td>-</td>
<td>757 g</td>
</tr>
<tr>
<td>432-244</td>
<td>200 N</td>
<td>47 mm</td>
<td>693 g</td>
</tr>
</tbody>
</table>

Puncture Resistance Test Jig, QC fitting

A puncture resistance fixture designed for tests based on European standard EN 14477: “Flexible packaging material—Determination of puncture resistance”; also known as the ‘Parker Pen’ or ‘Parker Ball-Point’ test.

Consult Mecmesin for test jigs to specifically conform to similiar puncture tests for barrier films and laminates or for textiles.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Thread 1</th>
<th>Post Ø</th>
<th>Probe Ø (D)</th>
<th>Probe Radius (A)</th>
<th>Width (B)</th>
<th>Height (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MecS511</td>
<td>M2</td>
<td>QC 20 mm</td>
<td>0.8 mm</td>
<td>0.4 mm</td>
<td>194 mm</td>
<td>87 mm</td>
</tr>
</tbody>
</table>
### 25 kN Wood Shear Test Jig, QC fitting

Wood shear test grips are used to maintain alignment in wood adhesive bonds, for testing to DIN 52367, ISO 6238, EN 392, EN 392, and BS 373. QC fitting. ASTM D143 version also available.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Mec17</th>
</tr>
</thead>
</table>

![Image of the 25 kN Wood Shear Test Jig](image-url)
Tension

Tension testing is used to measure the tensile strength of a material or manufactured product, to how it deforms and/or recovers under elongation, or the strength of an adhesive bond under shear or pull-off. Tension testing can be used to test the removal force for a crimped joint, the peel strength of flexible adhesive joints, resistance of sheet materials to tearing, or the coefficient of friction between surfaces. Measuring these forces requires test systems and fixtures that ensure precise repeatability through correct alignment and gripping.

Types of tension test for which we can supply fixtures

- ultimate tensile strength
- tensile strength
- elongation at break
- yield point
- shear in tension
- laminates tensile shear stress
- T-peel
- 90 degree peel
- 180 degree peel
- moving table peel
- friction, static and kinetic
- pull-off / pull-out
- butt joint
- parallel plate adhesion
- Delft tear
- tensile deformation
- 135 degree peel
- push-off / push-out
- grab method (fabrics)
- strip method (fabrics)
Round Hooks

Round hooks are general purpose, suitable for any sample with a loop, eyelet or similar feature. Often used with a digital force gauge to perform tensile tests on tension springs.

Applications:
- tension springs
- any sample with a loop or eyelet

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØB)</th>
<th>Max. Specimen Diameter (ØC)</th>
<th>Length (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-118</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>3 mm</td>
<td>8 mm</td>
<td>39 mm</td>
<td>20 g</td>
</tr>
<tr>
<td>432-171</td>
<td>50 N</td>
<td>M6</td>
<td>3 mm</td>
<td>8 mm</td>
<td>38 mm</td>
<td>8 g</td>
</tr>
<tr>
<td>432-120</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>6 mm</td>
<td>14 mm</td>
<td>66 mm</td>
<td>30 g</td>
</tr>
<tr>
<td>432-169</td>
<td>500 N</td>
<td>M6</td>
<td>6 mm</td>
<td>14 mm</td>
<td>66 mm</td>
<td>20 g</td>
</tr>
<tr>
<td>432-122</td>
<td>2.5 kN</td>
<td>5-16 UNC</td>
<td>6 mm</td>
<td>14 mm</td>
<td>66 mm</td>
<td>30 g</td>
</tr>
</tbody>
</table>

Swivel Test Hooks

Swivel hooks are specifically designed to align samples when testing tension springs. They are usually used in conjunction with fixed test hooks.

Applications:
- tension springs

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØB)</th>
<th>Max. Specimen Diameter (ØC)</th>
<th>Length (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-392</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>3 mm</td>
<td>50 mm</td>
<td>28 g</td>
</tr>
<tr>
<td>432-391</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>14 mm</td>
<td>6 mm</td>
<td>83 mm</td>
<td>50 g</td>
</tr>
</tbody>
</table>

Peg Hook

Peg hooks are designed for easy mounting of small and miniature tension springs. The extended peg hook is supplied with a flexible link.

Used for securely attaching samples of decorations when carrying out test-to-failure tests on textiles and clothing.

Applications:
- tension springs
- clothing
- textiles

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Length (A)</th>
<th>Peg Length</th>
<th>Peg Ø</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-399</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>30 mm</td>
<td>6 mm</td>
<td>1.5 mm</td>
<td>30 g</td>
</tr>
<tr>
<td>432-181</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>97 mm</td>
<td>9 mm</td>
<td>2 mm</td>
<td>42 g</td>
</tr>
</tbody>
</table>
**Adjustable Test Hook**

Used for securely holding smaller crimp terminals for tests to BSI spec. BS 5G 178 PART 1 and equivalent international standards.

**Applications:**
- crimp terminals

**Flip Cap Accessory**

Designed to easily fit under bottle flip caps when testing their opening force.

**Applications:**
- flip caps used in packaging

**Clevis Fastener**

Used for testing heavy duty tension springs or for securing odd-shaped parts

**Applications:**
- tension springs

---

**DATASHEET**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Hook Depth (B)</th>
<th>Jaw Capacity (C)</th>
<th>Length (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-380</td>
<td>50 N</td>
<td>10–32 UNF</td>
<td>5.5 mm</td>
<td>2 mm</td>
<td>48 mm</td>
<td>13 g</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Hook Depth (B)</th>
<th>Hook Width (C)</th>
<th>Length (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-419</td>
<td>100 N</td>
<td>10–32 UNF</td>
<td>9 mm</td>
<td>4 mm</td>
<td>25.5 mm</td>
<td>17 g</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Width (B)</th>
<th>Pin Diameter (ØD)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-403</td>
<td>500 N</td>
<td>10–32 UNF</td>
<td>5 mm</td>
<td>5 mm</td>
<td>26 mm</td>
<td>13 g</td>
</tr>
<tr>
<td>432-216</td>
<td>500 N</td>
<td>M6</td>
<td>6 mm</td>
<td>6 mm</td>
<td>31 mm</td>
<td>13 g</td>
</tr>
<tr>
<td>432-400</td>
<td>2.5 kN</td>
<td>M8</td>
<td>8 mm</td>
<td>8 mm</td>
<td>42 mm</td>
<td>90 g</td>
</tr>
<tr>
<td>432-443</td>
<td>5 kN</td>
<td>M12</td>
<td>12 mm</td>
<td>12 mm</td>
<td>62 mm</td>
<td>250 g</td>
</tr>
</tbody>
</table>
Chain Link Assembly

The chain link assembly is used for flexible alignment and connection of other accessories, in particular manual handling test applications. The 500 N capacity version is often used for ease of sample loading with lightweight vice grips, vice clamps and wedge grips.

Applications:
- manual handling

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Length (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-259</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>68 mm</td>
<td>32 g</td>
</tr>
<tr>
<td>PSV8057</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>130 mm</td>
<td>158 g</td>
</tr>
</tbody>
</table>
Lever-operated Cam Grip

Lever-operated cam grips are designed to self-tighten as load is applied, and spread the load evenly. The lever also allows for quick insertion and release of samples.

Applications:
- dumbbells
- elastomers

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Maximum Sample Size (A x B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-383</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>30 mm x 5 mm</td>
<td>29 mm</td>
<td>100 g</td>
</tr>
<tr>
<td>432-047</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>70 mm x 5 mm</td>
<td>29 mm</td>
<td>100 g</td>
</tr>
</tbody>
</table>

Eccentric Roller Grip, QC fitting

Eccentric roller grips are easy to apply, and self-tighten under load. They are used for soft, flat and flexible samples such as foils, plastic and rubber. Roller faces can be smooth or pyramidal. QC fitting, from 1 to 10 kN.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec7</td>
<td></td>
</tr>
</tbody>
</table>
**Cable Cam Grip**

Cable cam grips are designed for holding insulated cables and wire. The sample is secured by the cam, which self-tightens as load is applied and spreads the load evenly. Serrated or smooth cam. Supplied with socket-cap bolt for stand fixing.

**Applications:**
- crimp terminals
- foils
- tapes
- wires

**Double Cam Grip**

Double cam grips are designed for holding insulated cables and wire. The sample is secured by the cam, which self-tightens as load is applied, minimising slippage during testing.

**Applications:**
- crimp terminals
- wires

**Rotating Crimp Receptacle**

The rotating crimp receptacle is a versatile crimp termination holder that accommodates a wide range of terminals. The inner slotted ring rotates to adjust to fit 8 different-sized crimp terminals. Used for BS 5G 178-1 and equivalent international standard test methods.

**Applications:**
- crimp terminals
- welded or bonded connectors

---

### DATASHEET

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Max. Sample Thickness (A)</th>
<th>Max. Sample Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-390</td>
<td>1 kN 100 kgf 225 lbf 10-32 UNF Serrated</td>
<td>13 mm 0.51&quot; 10 mm 0.39&quot;</td>
<td>75 mm 2.95&quot; 230 g 0.51 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>432-404</td>
<td>1 kN 100 kgf 225 lbf 10-32 UNF Smooth</td>
<td>13 mm 0.51&quot; 10 mm 0.39&quot;</td>
<td>75 mm 2.95&quot; 230 g 0.51 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>432-108</td>
<td>5 kN 500 kgf 1100 lbf M10 Serrated</td>
<td>40 mm 1.57&quot; 26 mm 1.02&quot;</td>
<td>152 mm 5.98&quot; 2.3 kg 5.10 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Max. Sample Thickness (A)</th>
<th>Max. Sample Width (B)</th>
<th>Length (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-387</td>
<td>500 N 50 kgf 110 lbf 10-32 UNF</td>
<td>3 mm 0.12&quot; 10 mm 0.40&quot;</td>
<td>36 mm 1.42&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>432-378</td>
<td>500 N 50 kgf 110 lbf 10-32 UNF</td>
<td>10 mm 0.39&quot; 12.7 mm 0.50&quot;</td>
<td>62 mm 2.44&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (OD)</th>
<th>Sample Diameter Range</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-379</td>
<td>1 kN 100 kgf 225 lbf 5/16 UNC 10-32 UNF</td>
<td>55 mm 2.16&quot;</td>
<td>1.5 mm - 5 mm 0.06&quot; - 0.20&quot;</td>
<td>200 g 0.44 lb</td>
<td></td>
</tr>
</tbody>
</table>
Wire/Filament Grip

The wire/filament grip is equipped with a grooved capstan and precision-machined swivel plate, which are designed to ensure centre break within the sample and specimen alignment when force is applied.

Applications:
- thin wires
- cords
- filaments
- yarns

Large Circular Bollard Grip, QC fitting

Large circular bollard grips are designed for testing flexible wire-type samples up to a maximum load of 2 kN. The sample is wrapped around the bollard and the free end is clamped tightly in place.

Applications:
- cord
- filaments
- wire
- yarn

Film Grips

These grips are used for flexible samples such as films, where conventional grips create stress points so reducing tensile strength. Samples are wrapped around the drum, spreading the load and avoiding breakage. Grips are supplied in pairs.

Applications:
- thin films
- polymers
- elastomers

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Pulley Diameter (ØB)</th>
<th>Max. Wire Diameter (ØC)</th>
<th>Length (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-363</td>
<td>250 N</td>
<td>10-32 UNF</td>
<td>13 mm</td>
<td>0.5&quot;</td>
<td>78 mm</td>
<td>-</td>
</tr>
<tr>
<td>432-397</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>19 mm</td>
<td>0.75&quot;</td>
<td>97 mm</td>
<td>117 g</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Sample Width (A)</th>
<th>Diameter (ØD)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-271</td>
<td>2 kN</td>
<td>10-32 UNF</td>
<td>20 mm</td>
<td>0.08&quot;</td>
<td>140 mm</td>
<td>1.3 kg</td>
</tr>
<tr>
<td>432-157</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>20 mm</td>
<td>0.79&quot;</td>
<td>58.8 mm</td>
<td>2.9 lb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Post Ø</th>
<th>Max. Specimen Thickness</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-271</td>
<td>2 kN</td>
<td>10-32 UNF</td>
<td>440 lbf</td>
<td>2 mm</td>
<td>140 mm</td>
<td>1.3 kg</td>
</tr>
<tr>
<td>432-157</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>QC 20 mm</td>
<td>0.08&quot;</td>
<td>58.8 mm</td>
<td>2.9 lb</td>
</tr>
</tbody>
</table>
Spring-Loaded Fold Grip, QC fitting

The Spring-loaded fold grip is a self-tightening grip with a spring-loaded roller for holding flexible samples firmly as load is applied. Sample material is wound around the cross hatch knurl of the 10 mm (0.39”) diameter roller and held in contact with the serrated rear body, preventing slippage within the grip.

Applications:
- elastomers
- rubber
- films
- fabrics
- polymers
- leather

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Sample Thickness (A)</th>
<th>Max. Specimen Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-262</td>
<td>2 kN</td>
<td>20 mm</td>
<td>5 mm 0.20'</td>
<td>44 mm 1.73”</td>
<td>97 mm 3.81”</td>
<td>680 g 1.5 lb</td>
</tr>
</tbody>
</table>

Small Circular Bollard Grip, QC fitting

Small circular bollard grips are made from aluminium and are designed for testing delicate, flexible samples such as fine threads, wires and yarns, which may break easily when clamped. The maximum capacity is 100 N. The sample is wrapped around the bollard and the free end is held tightly in place using a pair of friction washers and a thumbscrew.

Applications:
- fibres
- yarns
- filaments
- twines
- threads
- fine wires

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Load (to maintain tension)</th>
<th>Max. Filament Diameter (ØD)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-270</td>
<td>100 N</td>
<td>20 mm</td>
<td>0.5 N</td>
<td>5 mm 0.20”</td>
<td>102 mm 4.02”</td>
<td>210 g 0.46 lb</td>
</tr>
</tbody>
</table>
Heavy-duty Belt Grips, QC fitting

Heavy-duty belt grips are designed for testing high-strength belts and straps such as conveyor belts, which require specialised grips to prevent sample slippage. By winding the sample around the split bodies the stresses in the specimen are distributed. Self-tightening for effective tensile testing up to 10 kN. Grips are supplied in pairs.

Applications:
- conveyor belts
- plastic and metal strapping
- webbing

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Sample Thickness (A)</th>
<th>Max. Specimen Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-269</td>
<td>20 kN</td>
<td>QC 20 mm</td>
<td>11 mm</td>
<td>50 mm</td>
<td>113 mm</td>
<td>1.1 kg</td>
</tr>
<tr>
<td></td>
<td>2000 kgf</td>
<td></td>
<td>0.43&quot;</td>
<td>1.97&quot;</td>
<td>4.45&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4400 lbf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Webbing Grip, QC fitting

Webbing grips are easy to use and designed for rapid testing of high-strength belts and tapes. The sample is wound around the knurled roller and then around the smooth roller. As load is applied, the smooth roller moves in the slot to secure tightly against the knurled surface ensuring maximum gripping strength.

Applications:
- fabrics
- webbing
- textiles

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Sample Thickness (A)</th>
<th>Max. Specimen Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-269</td>
<td>20 kN</td>
<td>QC 20 mm</td>
<td>11 mm</td>
<td>50 mm</td>
<td>113 mm</td>
<td>1.1 kg</td>
</tr>
<tr>
<td></td>
<td>2000 kgf</td>
<td></td>
<td>0.43&quot;</td>
<td>1.97&quot;</td>
<td>4.45&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4400 lbf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heavy-duty Textile Grips, QC fitting

Heavy-duty textile grips are ideally suited to tension testing of fabrics, textiles and webbing. The grips are very easy to load, and the self-tightening action ensures that the sample does not slip. Grips are supplied in pairs.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Sample Thickness Min./Max. (A)</th>
<th>Max. Specimen Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-277</td>
<td>10 kN</td>
<td>QC 32 mm</td>
<td>14 mm</td>
<td>50 mm</td>
<td>153 mm</td>
<td>5 kg</td>
</tr>
<tr>
<td></td>
<td>1000 kgf</td>
<td></td>
<td>0.55&quot;</td>
<td>1.97&quot;</td>
<td>6.02&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2200 lbf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Sample Thickness Min./Max. (A)</th>
<th>Max. Specimen Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-434</td>
<td>50 kN</td>
<td>QC 32 mm</td>
<td>0.5 mm - 3 mm</td>
<td>81 mm</td>
<td>224 mm</td>
<td>11 lb</td>
</tr>
<tr>
<td></td>
<td>5000 kgf</td>
<td></td>
<td>0.02&quot; - 0.118&quot;</td>
<td>3.18&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11000 lbf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Sample Thickness Min./Max. (A)</th>
<th>Max. Specimen Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-434</td>
<td>50 kN</td>
<td>QC 32 mm</td>
<td>0.5 mm - 3 mm</td>
<td>81 mm</td>
<td>224 mm</td>
<td>11 lb</td>
</tr>
<tr>
<td></td>
<td>5000 kgf</td>
<td></td>
<td>0.02&quot; - 0.118&quot;</td>
<td>3.18&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11000 lbf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Scissor grips are self-tightening and self-aligning, the sample initially being held by light spring tension. The ratio of clamping force to tensile force changes in proportion to opening width. The wider the opening, the stronger the grip on the sample. A range of jaw profiles and types is available. QC fitting.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec11</td>
<td></td>
</tr>
</tbody>
</table>
Pinch grips
Tension

**Small Pinch Grip**

Pinch grips are lightweight miniature vice grips, which use a hinge action to initially grab a sample, with a wing nut to tighten the jaw faces. Each 10 mm x 10 mm (0.39” x 0.39”) jaw face has a slight groove to hold the sample securely, yet avoid inducing a break within the grip. Pinch grips are particularly well suited for peel testing of thin plastic films.

**Applications:**
- woven yarn
- tissue
- thin films

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-280</td>
<td>200 N</td>
<td>M6</td>
<td>9 mm 0.35”</td>
<td>12 mm 0.47”</td>
<td>95 mm 3.74”</td>
<td>70 g 0.15 lb</td>
</tr>
</tbody>
</table>

**Large Pinch Grip**

The large pinch grip has cross-hatched jaw faces to ensure samples are held securely for tensile tests. Fast installation and release of samples is achieved by initially grabbing by hinge action, and manually tightening the wing nut.

**Applications:**
- small components
- welded tags
- textile attachments
- paper and tissue strips

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-278</td>
<td>500 N</td>
<td>M6</td>
<td>9 mm 0.35”</td>
<td>25 mm 0.98”</td>
<td>100 mm 3.94”</td>
<td>300 g 0.66 lb</td>
</tr>
</tbody>
</table>

**2 kN pinch grip, QC fitting**

Pinch grips are designed for small-area contact to grip a sample, and are hinged with a screw-adjustable mechanism. QC fitting.
**Pinch grips**

**Tension**

**20 N Spring-loaded Pinch Grip with chain link, QC fitting**

Pinch grips are designed for small-area contact to grip a sample, and are hinged with a screw-adjustable mechanism. Available with the adapter mounted directly on the grip or on a chain for ease of positioning. QC fitting.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mecs205k</td>
<td></td>
</tr>
</tbody>
</table>

**ALL DIMENSIONS ARE IN MILLIMETRES FOLLOWED BY INCHES: MM ( IN" )**

**DRAWING APPLIES TO PT NO:** TH205k & TH205k-F

Please see datasheet for full details
Lightweight Mini Vice Grip

Lightweight mini vice grips are ideal for testing extremely low forces by virtue of their spring-loaded clamping action. Samples are held without the need to tighten a thread which may damage very light loadcells or the sample itself. Supplied with a chain link for ease of alignment.

Applications:
- sub-miniature components
- thin films
- tissue and cotton yarns
- delicate fine wires

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-281</td>
<td>5N</td>
<td>M6</td>
<td>0.197&quot;</td>
<td>9 mm</td>
<td>154 mm</td>
<td>30 g</td>
</tr>
</tbody>
</table>

100 N Miniature Vice-Grip with integral pyramid jaws, QC fitting

Miniature vice grips with jaw sizes from 5 mm (h) x 6 mm (w), are used for small samples and components. Their parallel faces achieve a better hold than a pinch grip. QC fitting. Supplied with chain for improved alignment or for post-mounting, and with pneumatic option.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Tensile Force</th>
<th>Opening</th>
<th>Jaws</th>
<th>Clamping Surface</th>
<th>Body</th>
<th>Temperature Range</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>THS341</td>
<td>100 N</td>
<td>0 – 4 mm</td>
<td>Pyramid jaws (serrated), 0.6x45°</td>
<td>HxW 5 x 6 mm</td>
<td>Hardened steel, phosphate coated</td>
<td>0 to +130°C</td>
<td>95 gram</td>
</tr>
</tbody>
</table>

Spring-action Vice Clamp

Spring-action vice clamps are lightweight clamps designed for gripping film, paper, labels, tape and other thin materials for tensile and peel testing. Ideal for testing at low forces, the clamps are fitted with adjustable serrated interlocking jaws. Often used with the chain link assembly for ease of sample loading and for alignment.

Applications:
- films
- flexible sheet materials
- paper
- laminates
- textiles
- rubber
- woven fabrics
- tissue
- tape

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Length (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-381</td>
<td>200 N</td>
<td>10-32 UNF</td>
<td>0.12&quot;</td>
<td>16 mm</td>
<td>66 mm</td>
</tr>
</tbody>
</table>

Please see datasheet for full details
**Small Single-action Vice Grip, QC fitting**

Small single-action vice grips are ideal for testing low force applications on flat samples. These general purpose vice grips are fitted with 30 mm x 30 mm (1.2” x 1.2”) flat-faced jaws.

**Applications:**
- films
- flexible sheet materials
- laminates
- films
- rubber-coated
- woven fabrics
- tape
- textiles

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-264</td>
<td>200 N</td>
<td>QC 20 mm</td>
<td>8 mm</td>
<td>0.32”</td>
<td>30 mm</td>
<td>1.18”</td>
</tr>
</tbody>
</table>

**Medium Single-action Vice Grip, QC fitting**

Medium single-action vice grips are suitable for tensile testing a wide range of samples. Available fitted with one of three different types of jaw face: diamond-faced, rubber-coated and wave-form, to securely grip most materials. Jaws may be ordered separately.

**Applications:**
- films
- woven fabrics
- laminates
- flexible sheet materials

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Jaw Type</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-267</td>
<td>Diamond-faced</td>
<td>9.0 mm</td>
<td>78 mm</td>
<td>3.07&quot;</td>
<td>1.5 kg</td>
</tr>
<tr>
<td>432-267-V01</td>
<td>Rubber-coated</td>
<td>9.0 mm</td>
<td>78 mm</td>
<td>3.07&quot;</td>
<td>1.5 kg</td>
</tr>
<tr>
<td>432-267-V02</td>
<td>Wave-form</td>
<td>6.5 mm</td>
<td>78 mm</td>
<td>3.07&quot;</td>
<td>1.5 kg</td>
</tr>
</tbody>
</table>

**Large Single-action Vice Grip, QC fitting**

Large single-action vice grips are suitable for tensile testing a wide range of samples. Available fitted with one of three different types of jaw face: diamond-faced, rubber-coated and wave-form, to securely grip most materials.

**Applications:**
- metallic foils
- paper and card
- plastic sheet
- textiles
- woven fabrics
- tape

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Jaw Type</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-267-V01</td>
<td>2 kN</td>
<td>Rubber-coated</td>
<td>9.0 mm</td>
<td>78 mm</td>
<td>3.07&quot;</td>
<td>1.5 kg</td>
</tr>
<tr>
<td>432-267-V02</td>
<td>2 kN</td>
<td>Wave-form</td>
<td>6.5 mm</td>
<td>78 mm</td>
<td>3.07&quot;</td>
<td>1.5 kg</td>
</tr>
</tbody>
</table>

Please see datasheet for full details
Vice grips: Single-action Tension

Heavy-duty Single-action Vice Grip, QC fitting

Heavy-duty single-action vice grips are suitable for tensile testing a wide range of samples to higher loads. Available fitted with one of three different types of jaw face: diamond-faced, rubber-coated and wave-form, to securely grip most materials. Jaws may be ordered separately.

2.5 kN Screw-action Thin Wire Grip, QC fitting

Wire grips are designed to hold fine wires, cords or ropes, between flat faces. They are double-action vice grips, with alternative diamond or smooth jaw faces. QC fitting.

Fabric Grip

Fabric grips are designed for tensile and elongation testing of fabric to a number of international strength standards. Two locking nuts at either side of the grip ensure the sample is clamped securely across its entire width during testing.

Applications:
• fabric
• textiles

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Clamp Capacity (D)</th>
<th>Max. Sample Width (A)</th>
<th>Max. Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-384</td>
<td>100 N</td>
<td>10-32 UNF</td>
<td>4 mm</td>
<td>50 mm</td>
<td>1.97&quot;</td>
<td>81 g</td>
</tr>
<tr>
<td>432-386</td>
<td>200 N</td>
<td>10-32 UNF</td>
<td>4 mm</td>
<td>100 mm</td>
<td>3.97&quot;</td>
<td>—</td>
</tr>
</tbody>
</table>

Please see datasheet for full details.
Vice grips: Double-action Tension

Large Double-action Vice Grip, QC fitting

The large double-action vice grip is rated to 5 kN and can grip specimens with a thickness from 0.5 mm to 25 mm. It has a tommy-bar handle on one side for rapid tightening and a fine-action thumb-screw on the other for accurate sample positioning. An engraved millimetre scale on one jaw can be used to align the sample accurately.

Applications:
• leather
• thin metal sheets
• plastics
• textiles
• paper & card
• thin films

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-433</td>
<td>5 kN</td>
<td>QC 20 mm</td>
<td>25 mm</td>
<td>50 mm</td>
<td>92 mm</td>
<td>2.8 kg</td>
</tr>
<tr>
<td></td>
<td>500 kgf</td>
<td></td>
<td>0.98”</td>
<td>1.97”</td>
<td>3.62”</td>
<td>6.2 lb</td>
</tr>
</tbody>
</table>

U-Form Vice Grip, QC fitting

U-form vice grips have dual side-action screw grips to enable wide specimens to be clamped quickly and securely. Available fitted with one of five different types of jaw faces: smooth, rubber-coated, pyramidal-faced, wave-form and diamond-faced to securely grip most materials. Jaws may be ordered separately.

Applications:
• thick films
• polymers
• leather
• foam
• light metal/alloys

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec240g</td>
<td></td>
</tr>
</tbody>
</table>

Parallel Jaw Grips

Parallel jaw grips are fitted with individually adjustable serrated interlocking jaws.

Applications:
• films
• flexible sheet materials
• paper and card
• laminates
• rubber
• tape
• textiles
• woven fabrics

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-396</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>6 mm</td>
<td>32 mm</td>
<td>60 mm</td>
<td>300 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td>0.24”</td>
<td>1.26”</td>
<td>2.35”</td>
<td>0.66 lb</td>
</tr>
</tbody>
</table>

Please see datasheet for full details
Vice grips: Double-action Tension

Lightweight Double-action Vice Grip

Lightweight double-action vice grips are suitable for holding small, delicate samples, particularly when using low capacity loadcells. Available fitted with one of two different types of jaw faces: rubber-coated or pyramidal-faced, to securely grip most materials. Often used with the chain link assembly for ease of sample loading.

Applications:
- light fabrics
- plastic films
- packaging materials
- yarns
- foils
- card & tissue
- paper
- wire

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-394</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>12 mm</td>
<td>20 mm</td>
<td>70.5 mm</td>
<td>126 g</td>
</tr>
<tr>
<td>432-211</td>
<td>500 N</td>
<td>M6</td>
<td>12 mm</td>
<td>20 mm</td>
<td>70.5 mm</td>
<td>126 g</td>
</tr>
</tbody>
</table>

Small Parallel Grip

The small parallel grip has a rigid body with individually controlled serrated jaws. A floating ball screw attachment ensures central loading with correct alignment during tensile testing, and wing screws are used to easily adjust grip faces.

Applications:
- flexible sheet materials
- textiles
- tape
- laminates
- paper
- wire

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-394</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>12 mm</td>
<td>20 mm</td>
<td>70.5 mm</td>
<td>126 g</td>
</tr>
<tr>
<td>432-211</td>
<td>500 N</td>
<td>M6</td>
<td>12 mm</td>
<td>20 mm</td>
<td>70.5 mm</td>
<td>126 g</td>
</tr>
</tbody>
</table>
Vice grips: Double-action Tension

Toggle Clamps

Toggle clamps are fitted with a lever to allow rapid, easy loading of specimens. They are available fitted with either flat or serrated jaw faces to securely grip most materials.

Applications:
• fabric
• woven fabrics
• tapes
• polymers

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Type</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-177</td>
<td>500 N 50 kgf</td>
<td>10-32 UNF</td>
<td>Flat</td>
<td>6 mm 0.24&quot;</td>
<td>50 mm 1.97&quot;</td>
<td>74 mm 2.19&quot;</td>
<td>400 g 0.88 lb</td>
</tr>
<tr>
<td>432-176</td>
<td>500 N 50 kgf</td>
<td>10-32 UNF</td>
<td>Serrated</td>
<td>7 mm 0.28&quot;</td>
<td>50 mm 1.97&quot;</td>
<td>74 mm 2.19&quot;</td>
<td>400 g 0.88 lb</td>
</tr>
</tbody>
</table>
Pneumatic grips
Tension

U-Form Pneumatic Vice Grip

A highly versatile pneumatic grip for use in applications where material is sensitive to damage or slippage when clamped and the tensile force is significant.

Available in single and double actuation versions.

Applications:
• plastics

Large Pneumatic Plane Grip, QC fitting

Large pneumatic plane grips have pyramidal-faced jaws and use a pneumatically-operated parallel vice action to firmly hold flat samples in place. Designed for fast loading and rapid testing of a large number of specimens. Supplied in pairs complete with 3 m long tube and footswitch for convenient operation.

Applications:
• plastics
• heavy-duty film
• paper and card
• rubber
• textiles
• light metals / alloys
• laminates
• insulating materials

### DATASHEET QC

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-276</td>
<td>1 kN 100 kgf 225 lbf</td>
<td>QC 20 mm</td>
<td>14 mm 0.55&quot;</td>
<td>51 mm 2.01&quot;</td>
<td>165 mm 6.50&quot;</td>
<td>4 kg 8.8 lb</td>
</tr>
</tbody>
</table>

See datasheet for detailed drawing

Please see datasheet for full details

Mecmesin www.mecmesin.com
Heavy-duty Pneumatic Plane Grip, QC fitting

Heavy-duty pneumatic plane grips are made from steel, have pyramidal-face jaws and use a pneumatically-operated parallel vice action to firmly hold flat samples in place. Designed for fast loading and rapid testing of a large number of specimens. Supplied in pairs complete with 3 m long tube and footswitch for convenient operation.

Applications:
- elastomers
- textiles
- plastics
- tapes
- films
- rubber

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Height (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-374</td>
<td>5 kN</td>
<td>QC 20 mm</td>
<td>20 mm</td>
<td>78 mm</td>
<td>220 mm</td>
</tr>
</tbody>
</table>

Pneumatic thin wire grip, QC fitting

Wire grips are designed to hold fine wires, cords or ropes, between flat faces. They are double action vice grips, with a pneumatic option, and alternative jaw faces. QC fitting.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec9+Ko</td>
<td></td>
</tr>
</tbody>
</table>

Dual Footswitches

Dual footswitches are used to operate the lightweight and medium pneumatic plane grips. Available in locking or non-locking types, including tubes and fittings.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec205</td>
<td></td>
</tr>
</tbody>
</table>
Lightweight Pneumatic Plane Grip, QC fitting

Lightweight pneumatic plane grips are made from aluminium and use a pneumatically-operated parallel vice action to firmly hold flat samples in place. Designed for fast loading and rapid testing of a large number of specimens. Supplied in pairs, smooth pyramid, rubber, or diamond-faced jaws are ordered separately. Suitable for use with ILC fitted with 10-32 UNF thread or 20 mm Ø QC. The dual footswitch (locking or non-locking types available) including tubes and fittings, must be ordered separately.

Applications:
- film
- plastic sheet
- paper
- rubber
- laminates
- textiles
- woven fibre strips
- elastomers

Part No. Load Capacity Post Ø Jaw Capacity (A) Jaw Width (B) Height (C) Weight
432-275 200 N 20 kgf 45 lbf QC 20 mm 11 mm 0.43” 30 mm 1.18” 113 mm 4.45” 600 g 1.3 lb

Small Pneumatic Plane Grip, QC fitting

Small pneumatic plane grips are made from aluminium, have rubber-faced jaws and use a pneumatically-operated parallel vice action to firmly hold flat samples in place. Designed for fast loading and rapid testing of a large number of specimens. Supplied in pairs complete with 3 m long tube and footswitch for convenient operation.

Applications:
- film
- plastic sheet
- paper
- rubber
- laminates
- textiles
- woven fibre strips
- elastomers

‘Universal’ Pneumatic Vice Grips, single & dual actuators, QC fitting

The most versatile and flexible model of pneumatic grip for use in applications where material is sensitive to damage or slippage when clamped and the tensile force is significant.

Available in single and double actuation versions.

Applications:
- plastics
- medium-duty film
- paper and card
- rubber
- textiles
- very light metals / alloys
- laminates
- insulating materials
Claw type grips
Tension

Multi-Jaw Grip

The multi-jaw grip is for grasping round or irregularly shaped items. By rotating the sleeve of the grip, the jaws can be opened and closed to achieve a secure grasp on a sample.

Applications:
• fasteners
• small components
• textiles

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Sample Min./Max. Ø</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-215</td>
<td>500 N</td>
<td>M6</td>
<td>11 mm / 42 mm</td>
<td>105 mm</td>
<td>173 g</td>
</tr>
<tr>
<td>432-420</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>11 mm / 42 mm</td>
<td>105 mm</td>
<td>173 g</td>
</tr>
</tbody>
</table>

DATASHEET
Wedge grips
Tension

500 N and 200 N Wedge Grips
The 200 N / 500 N wedge grip is a small, lightweight grip designed for tensile testing. As load is applied, the wedge action of the jaws increases the grip on the sample. A spring-loaded lever allows the serrated jaws to open and close easily for the fast securing and release of samples. The 200 N grip includes the chain link assembly for ease of loading samples. A slot in the back accommodates samples wider than the jaws.

Applications:
- crimp and welded joints
- laminates
- films
- wires
- flexible sheet materials
- textiles

5 kN Wedge Grip
The 5 kN wedge grip is designed for tensile testing of flat and rigid materials including plastics, rubber and light metals. As load is applied, the wedge action of the jaws increases the grip on the sample. A spring-loaded lever allows the serrated jaws to open and close easily for the fast securing and release of samples.

Applications:
- adhesive joints
- plastics
- cables
- polymer
- composites
- rubber
- crimp and welded joints
- wood
- metals

**DATASHEET**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Width (A)</th>
<th>Jaw Capacity (B)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-415</td>
<td>200 N</td>
<td>10-32 UNF</td>
<td>25 mm</td>
<td>5 mm</td>
<td>53 mm</td>
<td>120 g</td>
</tr>
<tr>
<td></td>
<td>20 kgf</td>
<td></td>
<td>0.98&quot;</td>
<td>0.20&quot;</td>
<td>2.09&quot;</td>
<td>0.26 lb</td>
</tr>
<tr>
<td>432-385</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>16 mm</td>
<td>5 mm</td>
<td>53 mm</td>
<td>132 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td>0.63&quot;</td>
<td>0.20&quot;</td>
<td>2.09&quot;</td>
<td>0.29 lb</td>
</tr>
</tbody>
</table>

**DATASHEET**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Width (B)</th>
<th>Jaw Capacity (A)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-398</td>
<td>5kN</td>
<td>5/16 UNC</td>
<td>25 mm</td>
<td>8 mm</td>
<td>80 mm</td>
<td>550 g</td>
</tr>
<tr>
<td></td>
<td>500 kgf</td>
<td></td>
<td>0.98&quot;</td>
<td>0.31&quot;</td>
<td>3.15&quot;</td>
<td>1.21 lb</td>
</tr>
</tbody>
</table>
10 kN Wedge Grip, Lever-action, 
QC fitting

The 10 kN wedge grip is designed for tensile testing. As load is applied, the wedge action of the jaws. The open back allows wider samples to be fitted although still held across the central 34 mm width. Supplied as body only - choose from either pyramidal-faced jaws for holding flat samples or toothed V-jaws for holding round samples.

Applications:
- welded joints
- leather
- cardboard
- adhesive joints
- cables
- plastics
- flat or round metals
- composites
- polymers
- wood

20 kN and 50 kN Wedge Grips, 
Lever-action

The 20 kN / 50 kN wedge grip is designed for multi-purpose tensile testing of metal, plastic and other specimens. As load is applied, the wedge action of the jaws increases the grip on the sample. The grip features a lever arm for the fast securing and release of samples. Supplied as body only - choose from two sizes of pyramidal-faced jaws for holding flat samples, or two sizes of toothed V-jaws for holding round samples.

Applications:
- rigid wire
- board

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MecS622</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec243</td>
<td></td>
</tr>
</tbody>
</table>
Peel and friction jigs

Assisted-Pull Peel Table

The assisted-pull peel table is fixed to the anvil plate and the crosshead of a test stand. The carriage of the peel table is directly driven horizontally by the vertical movement of the test stand crosshead, maintaining a constant 90 degree peel angle for the specimen.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Length (A)</th>
<th>Width (B)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC008-208</td>
<td>1 kN</td>
<td>397 mm</td>
<td>100 mm</td>
<td>58 mm</td>
<td>3.5 kg</td>
</tr>
</tbody>
</table>

Floating Peel Jig

The floating peel jig is used to test flat samples with a flexible layer and a rigid or semi-rigid substrate, such as credit cards, and enables the card to move smoothly under the rollers while delamination tests are carried out. The fixture maintains a constant 90 degree peel angle for the specimen.

Applications:
- films
- tapes
- laminates
- labels
- decals

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Height (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-413</td>
<td>500 N</td>
<td>72 mm</td>
</tr>
</tbody>
</table>

Coefficient of Friction Fixture

The coefficient of friction fixture is designed to measure the coefficient of friction (COF) between two pieces of material. The COF test determines the kinetic and static resistance of one surface being dragged across another. Two versions available to test to the BS 2782 or ASTM D1894.

Applications:
- plastic
- paper
- film
- foil

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Standard</th>
<th>Sled Dimensions</th>
<th>Length (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-144</td>
<td>ASTM D1894</td>
<td>63.5 x 63.5 mm</td>
<td>370 mm</td>
</tr>
<tr>
<td>432-501</td>
<td>ISO 8295</td>
<td>150 x 100 mm</td>
<td>614 mm</td>
</tr>
</tbody>
</table>
Peel and friction jigs
Tension

Peel Jigs for test standards (FINAT, ASTM, AFERA, PSTC)

A number of test methods and standards employed by various industry bodies call upon specific peel jigs and associated accessories to be used in conjunction with a tensile tester. Mecmesin has developed a range of peel jigs and accessories to meet the demands of the most commonly used standards.

Applications:
- Seal strength of flexible film barrier materials
- Pressure sensitive adhesive tapes

Dedicated Peel Jigs
For use with Mecmesin Tensile Testers

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>QC connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDV13016-C</td>
<td>180 degree Peel Jig - lower (FINAT 1 &amp; FINAT 3)</td>
<td>Yes - QC 20</td>
</tr>
<tr>
<td>PDV15031</td>
<td>90 degree Assisted Peel Table incl. rails for fixing Float Glass - lower (FINAT 2)</td>
<td>Yes - QC 20</td>
</tr>
<tr>
<td>PSV15030</td>
<td>Float Glass 2&quot; wide x 8&quot; long for use with above Assisted Peel Table</td>
<td>N/A</td>
</tr>
<tr>
<td>PSV14155</td>
<td>Standard FINAT Roller - 2kg</td>
<td>N/A</td>
</tr>
<tr>
<td>PSV13007</td>
<td>Sample cutter (15mm wide) + Protective Mat</td>
<td>N/A</td>
</tr>
<tr>
<td>PSV13143</td>
<td>Sample cutter (25mm wide) + Protective Mat</td>
<td>N/A</td>
</tr>
<tr>
<td>PDV13016-A</td>
<td>Tack Test Jig - lower (FINAT 9)</td>
<td>Yes - QC 20</td>
</tr>
</tbody>
</table>

Note: There are several upper tensile grips suitable for holding specimens. The most popular is the MEC227 used in conjunction with 50mm wide rubber-coated jaws .. See page 223

Pull Peel Wheel Fixture, QC fitting

The pull peel wheel fixture is designed for mounting to the base of a motorised test stand to test the peel strength of flexible adhesive-backed materials. Samples are wound around the wheel and the free end is clamped in a suitable upper grip connected to a loadcell.

Applications:
- adhesive-backed tape
- adhesive-backed films and foils

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Rim Width (A)</th>
<th>Wheel Diameter (ØD)</th>
<th>Height (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-265</td>
<td>200 N</td>
<td>M8</td>
<td>25.4 mm</td>
<td>152.4 mm</td>
<td>6.0&quot;</td>
<td>212 mm</td>
</tr>
</tbody>
</table>
The coefficients of friction of plastic films change with temperature. Testing at elevated temperatures can therefore be useful to establish hot-running machine settings. This heated plane has a control box and attaches to the FTP-H1 for use with its standard friction fixtures. With an operating temperature maintained to within 3 °C, this unit will enable repeatability in the testing of plastic films, in accordance with ASTM D1894, or your own requirements.

FTP-H1 Coefficient of Friction Sleds

The FTP-H1 Coefficient of Friction tester can be fitted with sample sleds of the correct weight, size and facings for a wide variety of international standard test methods. Sleds can be drawn from either end, and have magnetic catches for quickly and cleanly securing film samples. Sleds for the FTP-H1 include the recommended linkages for the tests shown, to avoid slip-stick in kinetic friction testing.

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Face Length (A)</th>
<th>Face Width (B)</th>
<th>Mass</th>
<th>Face Material</th>
<th>Suitable for standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-633</td>
<td>63.5 mm</td>
<td>63.5 mm</td>
<td>200 g</td>
<td>neoprene</td>
<td>TAPPI T 549</td>
</tr>
<tr>
<td>432-638</td>
<td>63.5 mm</td>
<td>63.5 mm</td>
<td>200 g</td>
<td>rubber foam</td>
<td>ASTM D1894, ISO 8295</td>
</tr>
<tr>
<td>432-639</td>
<td>63.5 mm</td>
<td>63.5 mm</td>
<td>800 g</td>
<td>neoprene</td>
<td>ISO 15359</td>
</tr>
</tbody>
</table>

FTP-H1 Coefficient of Friction Heated Plane

The coefficients of friction of plastic films change with temperature. Testing at elevated temperatures can therefore be useful to establish hot-running machine settings. This heated plane has a control box and attaches to the FTP-H1 for use with its standard friction fixtures. With an operating temperature maintained to within 3 °C, this unit will enable repeatability in the testing of plastic films, in accordance with ASTM D1894, or your own requirements.

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Heated area length</th>
<th>Heated area width</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-640</td>
<td>318 mm</td>
<td>148 mm</td>
<td>24.5 mm</td>
</tr>
</tbody>
</table>
FTP-H1 Friction, peel and tear fixtures

FPT-H1 90° Peel Fixture Kit

The 90° fixture features an assisted sliding table to ensure constant alignment with the draw hook. The table accepts float glass and stainless steel sample plates, to comply with the requirements of a range of standard test methods, including Afera 5001, ASTM D3330, BS EN 1939, FINAT FTM2 and PSTC 101 Method F.

Applications:
• pressure-sensitive adhesive tapes and labels

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Available travel</th>
<th>Max. sample length</th>
<th>Max. sample width</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-620</td>
<td>125 mm</td>
<td>125 mm</td>
<td>50 mm</td>
</tr>
</tbody>
</table>

FPT-H1 180° Peel Fixture Kit

The 180° fixture features a raised bed to ensure accurate alignment with the draw hook. The bed itself accepts float glass and stainless steel sample plates, to comply with the requirements of a range of standard test methods, including Afera 5001, ASTM D3330, BS EN 1939, FINAT FTM1 and PSTC 101.

Applications:
• pressure-sensitive adhesive tapes and labels

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Length</th>
<th>Width</th>
<th>Height</th>
<th>Max. sample width</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-636</td>
<td>173 mm</td>
<td>90 mm</td>
<td>26 mm</td>
<td>50 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-651</td>
<td>Float glass</td>
</tr>
<tr>
<td>432-652</td>
<td>Stainless steel</td>
</tr>
</tbody>
</table>

FPT-H1 50 mm Peel Grip (FINAT 3), QC fitting

This peel grip can be used in conjunction with the FPT-H1 90 degree fixture kit (part no. 432-620) or the FPT-H1 180 degree peel fixture kit (part no. 432-636) where the drawn part of the sample is non-adhesive, in place of the standard hook fixture.

This single-action grip has rubber-faced jaws for securely gripping backing layers, plastic film, paper and card. Supplied as a single grip.

Suitable for test standards FINAT FTM1, 2 & 3; ASTM D3330, D6252, TLMI L-IA1 & 2

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Jaw capacity (A)</th>
<th>Jaw width (B)</th>
<th>QC Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-654</td>
<td>4 mm</td>
<td>50 mm</td>
<td>8 mm</td>
</tr>
</tbody>
</table>
FTP-H1 Friction, peel and tear fixtures

**FPT-H1 T-Peel Jig, QC fitting**

The Mecmesin FPT-H1 horizontal coefficient of friction tester can also be used for specific standard peel and tear test methods. For T-peel, two 25 mm vice grips are used.

Sold as a pair, these small vice grips have both jaws adjustable, and are rubber-faced for securely gripping plastic films, paper and card.

**Applications:**
- packaging seals and seams

**DATASHEET**

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Jaw capacity (A)</th>
<th>Jaw width (B)</th>
<th>QC Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-642</td>
<td>6 mm</td>
<td>25 mm</td>
<td>8 mm</td>
</tr>
</tbody>
</table>

**FPT-H1 Lightweight Tear Grips, QC fitting**

The Mecmesin FPT-H1 horizontal coefficient of friction tester can also be used for specific standard peel and tear test methods. For tear testing, two 100 mm vice grips are used.

Sold as a pair, these small vice grips have both jaws adjustable, and are rubber-faced for securely gripping plastic films, paper and card.

**Applications:**
- paper
- textiles
- plastic films and foils

**DATASHEET**

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Jaw capacity (A)</th>
<th>Jaw width (B)</th>
<th>QC Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-625</td>
<td>4 mm</td>
<td>100 mm</td>
<td>8 mm</td>
</tr>
</tbody>
</table>

**FPT-H1 Loadcell Calibration Check Rig and Masses**

The Loadcell Calibration Check Rig is a bench-top pulley jig and cord which allows the on-site verification of the calibration status of an FPT-H1 Friction Peel Tear tester FPT loadcell. Using dead-weight masses (ordered separately), the kit allows you to quickly decide whether or not adjustment, recalibration or repair is required.

**DATASHEET**

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-640</td>
<td>FPT Calibration verification pulley-jig (excluding masses)</td>
</tr>
<tr>
<td>432-640</td>
<td>Lightweight hanger and 5 N slotted mass for verifying FPT 10 N</td>
</tr>
<tr>
<td>432-640</td>
<td>Lightweight hanger and 50 N slotted mass for verifying FPT 100 N</td>
</tr>
</tbody>
</table>
CrimpTest-1 kN fixtures

Wire Terminal Wedge Grip for the CrimpTest-1 kN

This wedge action terminal grip is self-tightening to secure flat connectors to the Mecmesin CrimpTest-1. The grip can be mounted in place of the standard rotating crimp receptacle, and is used in combination with the standard cam grip for the wire tail.

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
<th>Max. capacity</th>
<th>Load rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-607</td>
<td>1 kN wire terminal wedge grip, for CrimpTest-1 kN</td>
<td>8 mm (0.3&quot;)</td>
<td>1 kN</td>
</tr>
</tbody>
</table>

Cable Tie Break Fixture for CrimpTest-1 kN

The cable tie break fixtures provide stepped bollards for testing tensile strength, with 10 mm-high steps for three tie lengths. They are mounted in place of the standard rotating crimp receptacle and cam grip of the CrimpTest 1 kN.

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
<th>Min. tie length in start position</th>
<th>Max. tie length in start position</th>
<th>Load rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-653</td>
<td>Cable tie break fixture for CrimpTest-1 kN</td>
<td>280 mm (11&quot;)</td>
<td>400 mm (15.75&quot;)</td>
<td>1 kN</td>
</tr>
</tbody>
</table>

Rotating Crimp Receptacle and Cam Grip for CrimpTest-1 kN

The rotating crimp receptacle (RCR) is slotted to suit wires from 1.5 mm (1/16") to 8 mm (5/16"). The largest slot provides access to a stepped ring terminal pin for loops from 4 mm to 10 mm.

The single lever cam grip accommodates cables up to 13 mm diameter.

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
<th>Max. capacity</th>
<th>Pin steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-605</td>
<td>Rotating crimp receptacle, slotted with removable pin</td>
<td>8 mm</td>
<td>4 mm (0.16&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 mm (0.24&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 mm (0.32&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 mm (0.39&quot;)</td>
</tr>
<tr>
<td>432-660</td>
<td>Cable cam grip</td>
<td>11 mm</td>
<td>–</td>
</tr>
</tbody>
</table>

CrimpTest-1 kN calibration verification rig

The calibration checking rig is designed for verifying the accuracy of the CrimpTest-1 kN loadcell readings. For the user, this ensures that a unit does not continue to be used with inaccurate readings across its range.

A locally-calibrated mass hanger and mass set must be procured separately.

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Typical bench height required*</th>
<th>M8 mounting bolt lengths supplied</th>
<th>Bracket footprint</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-671</td>
<td>720 mm</td>
<td>60 mm, 70 mm, 80 mm</td>
<td>300 mm W x 200 mm D</td>
</tr>
</tbody>
</table>

* allowing for length of mass hanger used
Sequin Pull-off Fixture

This fixture holds the sequin in the serrated jaw of a pair of clamping forceps hooked over a stainless steel test hook. The sample fabric is held in a suitable lower fixture mounted to the anvil plate - typically the 25 mm / 50 mm "grab test" textile fixture.

Applications:
• buttons

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Slot Widths (A)</th>
<th>Max. Button Ø (A)</th>
<th>Length (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-175</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>3 mm / 5 mm / 7 mm</td>
<td>0.12&quot; / 0.2&quot; / 0.28&quot;</td>
<td>35 mm 1.38&quot; 102 mm 4.01&quot;</td>
</tr>
</tbody>
</table>

Button Pull-off Fixture with 3 Plates

This fixture engages the button shank in a slot for testing the tensile strength to failure. Three slotted interchangeable plates accommodate different shank diameters. A shatter-protection guard contains broken buttons. Typically used with the 25 mm / 50 mm "grab test" textile fixture.

Applications:
• buttons

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-291</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>157 mm</td>
<td>20 g</td>
</tr>
</tbody>
</table>

No drawing available
Modified Large Wedge Grip

The modified large wedge grip has a shorter body with longer jaws to be able to securely hold S-spring poppers for tensile test-to-failure. As load is applied, the wedge action of the jaws increases the grip on sample.

Applications:
- poppers
- press studs

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-212</td>
<td>1 kN</td>
<td>10-32 UNF</td>
<td>11 mm</td>
<td>25 mm</td>
<td>160 mm</td>
<td>166 g</td>
</tr>
<tr>
<td></td>
<td>100 kgf</td>
<td></td>
<td></td>
<td>0.98&quot;</td>
<td>6.30&quot;</td>
<td>0.37 lb</td>
</tr>
<tr>
<td></td>
<td>225 lbf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3-Jaw Popper Pull-off Fixture

This fixture has 3 jaws and a swivelling action to securely hold 13-15 ligne poppers for tensile test to failure.

Applications:
- poppers
- press studs

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Sample Min./Max. Ø</th>
<th>Popper Size</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-409</td>
<td>500 N</td>
<td>M5</td>
<td>6 mm / 13 mm</td>
<td>13 - 15 ligne</td>
<td>149 mm</td>
<td>166 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td>0.24&quot; / 0.51&quot;</td>
<td></td>
<td>5.87&quot;</td>
<td>0.37 lb</td>
</tr>
<tr>
<td></td>
<td>110 lbf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Popper Cam Base

The popper cam base is secured to the base of a test stand to test the strength of poppers and press studs. The popper is fed through the retaining hole and positioned over the retaining post. The lever of the cam mechanism is locked down to raise the popper with the fabric so that it can easily be gripped - typically the 3-jaw popper pull-off fixture.

Applications:
Used by clothing manufacturers for test-to-failure testing for compliance with BS 7907:2007 on poppers and press studs

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread</th>
<th>Popper Size</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-179</td>
<td>1 kN</td>
<td>10-32 UNF</td>
<td>13 - 15 ligne</td>
<td>68 mm</td>
<td>2.68&quot;</td>
</tr>
<tr>
<td></td>
<td>100 kgf</td>
<td></td>
<td></td>
<td></td>
<td>1.7 lb</td>
</tr>
</tbody>
</table>
Textile attachment grips
Tension

25 mm/50 mm "Grab Test" Textile Fixture

The 25 mm/50 mm "grab test" textile fixture has 2 different-sized jaws to comply with standard methods for textile strength and elongation.

<table>
<thead>
<tr>
<th>DATASHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>432-323</td>
</tr>
</tbody>
</table>

Extended Peg Hook (Bow Pull-off Test)

The extended peg hook is used for securely attaching samples of decorations when carrying out test-to-failure tests on textiles and clothing adornments, for example a bow. Often used with the 25 mm / 50 mm ‘Grab Test’ textile fixture.

Applications:
• bows

<table>
<thead>
<tr>
<th>DATASHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>432-181</td>
</tr>
</tbody>
</table>

Pinch Grip (for testing bows, applique, patches)

Pinch grips are lightweight miniature vice grips, which use a hinge action to grab a sample and a wing nut to tighten the jaw face. Each jaw face has a slight groove to hold the sample securely, yet avoid inducing a break within the grip.

Applications:
• thin film
• tissue
• woven yarn

<table>
<thead>
<tr>
<th>DATASHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>432-280</td>
</tr>
</tbody>
</table>
Specialist tension fixtures
Tension

Container Holder (4-peg adjustable)

The 4-peg container holder is designed to securely hold different shapes and sizes of containers during tensile testing. Available in two ranges of adjustability.

Applications:
• plastic containers

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Container Min./Max. Ø</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-411</td>
<td>100 N</td>
<td>22 lbf</td>
<td>10 mm / 190 mm</td>
<td>102 mm</td>
</tr>
<tr>
<td>432-493</td>
<td>100 N</td>
<td>22 lbf</td>
<td>10 mm / 78 mm</td>
<td>103 mm</td>
</tr>
</tbody>
</table>

Cork Extraction Test Rig

The cork extraction test rig is used to test the extraction force of bottle stoppers. It has a bottle cradle with an antislip surface and is easily adjusted to accommodate different bottle heights, e.g. 200 ml to 750 ml. It is used in conjunction with corkscrew test accessories suitable for testing natural and synthetic corks.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Loop Diameter (ØD)</th>
<th>Length (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDV11086</td>
<td>1 kN</td>
<td>225 lbf</td>
<td>13 mm</td>
<td>450.5 mm</td>
</tr>
</tbody>
</table>

DATASHEET
General (tension and compression)

A number of fixtures can be used under compression or tension, for example a vice grip to position a switch while its button is depressed, or a pin chuck to pull a rod or push a needle.
Pin Chuck

Pin chucks are specifically designed for gripping circular or rod-type specimens, or needles for sharpness testing.

Applications:
• pin or rod components

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Capacity Min./Max. Ø</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-382</td>
<td>100 N</td>
<td>10 kgf</td>
<td>22 lbf</td>
<td>61 mm</td>
<td>36 g</td>
</tr>
<tr>
<td>432-214</td>
<td>100 N</td>
<td>M6</td>
<td>0.5 mm - 3.5 mm</td>
<td>86 mm</td>
<td>36 g</td>
</tr>
</tbody>
</table>

DATASHEET
Manual Handling Accessories
General (tension and compression)

Force Gauge Gripping Cradle

This cradle allows Mecmesin gauges to be used more easily as hand-held instruments. The dual-handle design allows the comfortable application of push/pull loads, with increased stability. Attachment screws supplied.

Applications:
• doors
• filing cabinets
• emergency push bars
• handles and controls

<table>
<thead>
<tr>
<th>DATASHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>432-388</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Pistol Grip

The pistol grip is attached to a Mecmesin force gauge to add comfort and stability in applications where only single-handed operation is possible.

Applications:
• doors
• filing cabinets
• emergency push bars
• handles and controls with restricted access

<table>
<thead>
<tr>
<th>DATASHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>432-389</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Trolley-Pushing Fixture

The trolley-pushing fixture has been designed to attach to trolleys, carts and wheelie bins so that manual handling measurements can be made more easily. Typically used with a force gauge fitted to the force gauge gripping cradle or pistol grip (order separately).

Applications:
• trolleys
• carts
• wheelie bins

<table>
<thead>
<tr>
<th>DATASHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>432-405</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
**Rubber-faced Compression Plate**

This compression plate has a rubber layer which helps to prevent damage that might occur from metal contact during a push test. Also prevents slipping.

**Applications:**
- handles and bars
- slippery or curved samples
- glass

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-219</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>50 mm</td>
<td>1.97&quot;</td>
<td>84 g</td>
</tr>
</tbody>
</table>

**Chain Link and Hook Assembly**

The chain link and hook assembly is used to attach to a variety of objects, which are otherwise difficult to hold. The chain is 1 m long and is supplied with a clevis fastener at each end.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Max. Sample Diameter (ØA)</th>
<th>Length (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-410</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>14 mm</td>
<td>187 ±25 mm</td>
</tr>
</tbody>
</table>

**Padded Radiused Probe**

The padded radiused probe is specially designed for use against limbs for rehabilitation and physical therapy assessment. Use with a short extension rod.

**Applications:**
- physical therapy assessments
- leg extension tests

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Radius (A)</th>
<th>Height (B)</th>
<th>Width (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-414</td>
<td>500 N</td>
<td>5/16 UNC</td>
<td>54 mm</td>
<td>32 mm</td>
<td>80 mm</td>
</tr>
</tbody>
</table>

**Transit Case for Manual Handling/ Ergonomic Kit**

A foam-lined rugged metal case for the components of the advanced or basic manual handling kit. Supplied as standard with the kit, has space for: a force gauge including rechargeable batteries, mains adaptor / battery charger, gripping cradle, chain link assembly, 50 mm rubber-faced compression plate and test hook.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>416-007</td>
<td>2.61 kg 5.76 lb</td>
</tr>
</tbody>
</table>
Miscellaneous Accessories
General (tension and compression)

Adaptor/Charger for use with AFG/AFTI/BFG/CFG

For use with Mecmesin AFG / BFG / CFG digital gauges and the AFTI universal display. Versions for specific geographical locations are available.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Region</th>
<th>Voltage</th>
<th>Pins</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>304-004</td>
<td>Europe</td>
<td>230 V</td>
<td>2-pin</td>
<td>Round</td>
</tr>
<tr>
<td>304-005</td>
<td>UK</td>
<td>230 V</td>
<td>3-pin</td>
<td>Square</td>
</tr>
<tr>
<td>304-006</td>
<td>USA</td>
<td>110 V</td>
<td>2-pin</td>
<td>Flat</td>
</tr>
</tbody>
</table>

Universal Expansion Module

Where a gauge or instrument requires output to a MultiTest-d or -dV test stand (e.g. for reverse or stop control) but also simultaneously to a RS232 printer, analogue output or other peripheral device, this expansion module can be used.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-127</td>
<td>Please see datasheet for full details</td>
</tr>
</tbody>
</table>

Digital I/O Loop-back Plug

The 25-pin Digital I/O Loop-back Plug is inserted into the I/O port of any Mecmesin -i or -xt test stand using Emperor™ control software. By virtue of directly routing digital outputs to inputs, it allows the system user to create test programs with an added layer of sophistication.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-663</td>
<td>Digital I/O Loop-back plug (allows multi-function programming in Emperor™ software)</td>
</tr>
</tbody>
</table>
## Interface Cables

For data communications and control with Mecmesin systems and instruments

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Connect from</th>
<th>Connect to</th>
</tr>
</thead>
<tbody>
<tr>
<td>351-090</td>
<td>CAPTEST</td>
<td>9-pin RS232</td>
</tr>
<tr>
<td>351-096</td>
<td>CrimpTest-1 kN</td>
<td>9-pin RS232</td>
</tr>
<tr>
<td>351-077</td>
<td>CFG+</td>
<td>9-pin RS232</td>
</tr>
<tr>
<td>351-055</td>
<td>BFG/Orbis Mk 1</td>
<td>Mitutoyo printer/DigiCon-X interface</td>
</tr>
<tr>
<td>351-054</td>
<td>BFG/Orbis Mk 1</td>
<td>9-pin RS232*</td>
</tr>
<tr>
<td>351-087</td>
<td>BFG/Orbis Mk 1</td>
<td>USB</td>
</tr>
<tr>
<td>351-057</td>
<td>BFG/Orbis Mk 1</td>
<td>Analog</td>
</tr>
<tr>
<td>351-076</td>
<td>BFG/Orbis Mk 1</td>
<td>MultiTest-d</td>
</tr>
<tr>
<td>351-058</td>
<td>AFG/AFTI/Orbis/Tornado</td>
<td>Mitutoyo Printer/DigiCon-X interface</td>
</tr>
<tr>
<td>351-059</td>
<td>AFG/AFTI/Orbis/Tornado</td>
<td>9-pin RS232*</td>
</tr>
<tr>
<td>351-086</td>
<td>AFG/AFTI/Orbis/Tornado</td>
<td>USB</td>
</tr>
<tr>
<td>351-060</td>
<td>AFG/AFTI/Orbis/Tornado</td>
<td>Analog</td>
</tr>
<tr>
<td>351-063</td>
<td>AFG/AFTI</td>
<td>PLC</td>
</tr>
<tr>
<td>432-127</td>
<td>AFG/AFTI/Orbis/Tornado</td>
<td>4 x 15-pin RS232 (M)</td>
</tr>
<tr>
<td>351-062</td>
<td>AFG</td>
<td>Old motorised stands (VersaTest/UltraTest/M5KNE), stand reverse</td>
</tr>
<tr>
<td>351-074</td>
<td>AFG/AFTI</td>
<td>MultiTest-d/Vortex-dv</td>
</tr>
<tr>
<td>351-092</td>
<td>AFG/AFTI</td>
<td>MultiTest-d/Vortex-dv</td>
</tr>
<tr>
<td>351-051</td>
<td>MultiTest-d/Vortex-dv</td>
<td>9-pin RS232 (with Emperor Lite)</td>
</tr>
<tr>
<td>351-093</td>
<td>MultiTest-d/Vortex-dv</td>
<td>USB B, to PC USB A (with VectorPro Lite)</td>
</tr>
<tr>
<td>351-095</td>
<td>AFG/AFTI</td>
<td>MultiTest-d/Vortex-dv, for gauge control only</td>
</tr>
<tr>
<td>432-450</td>
<td></td>
<td>USB</td>
</tr>
</tbody>
</table>

## Interface Options

for the family of ‘-i’ and ‘-xt’ systems

The USB to USB RS232 cable enables transmission via the COMMS port of an ‘xt’ system’s console to a PC. The event-input cable enables applications such as “switch-testing” on the current range of MultiTest/Vortex/Helixa-i and ‘xt’ stands. The footswitch is used to simulate “Start” on MultiTest-i and ‘xt’ stands.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>351-081</td>
<td>USB to USB RS232 cable (2m long) for transmitting via COMMS port of ‘xt’ console to a PC</td>
</tr>
<tr>
<td>351-080</td>
<td>Event-input cable for MultiTest/Vortex/Helixa-i and ‘xt’ stands</td>
</tr>
<tr>
<td>PDV14081</td>
<td>Footswitch to simulate ‘Start’ on MultiTest-i and ‘xt’ stands</td>
</tr>
</tbody>
</table>
**Digital Gauge to PC Input Tool**

The PC input tool allows for individual gauge readings from AFG, AFTI, Tornado, BFG or Orbis to be sent directly to an open PC application such as Excel. After each test with the gauge, press the blue button to send the displayed numerical value to the PC.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-234</td>
<td>Please see datasheet for full details</td>
</tr>
</tbody>
</table>

**Test Stand Safety Guards and Interlock Override Plug**

Health and safety are of paramount concern when testing under high loads where sample failure can occur. Safety guards prevent access by the operator to the testing area whilst the test in in progress, thereby offering both containment and protection.

Any Mecmesin test system can be supplied or retro-fitted with a safety guard. Due to individual requirements for accommodating different-sized grips and samples, safety guards are often made to custom design. Please contact us with your requirements and stand model for which it is required.

An Interlock Override Plug is available to deactivate the safety guard when developing test programmes under no-load conditions.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Please see datasheet for full details</td>
</tr>
<tr>
<td>PDV12034-01</td>
<td>Interlock override plug</td>
</tr>
</tbody>
</table>

**Dial Gauge Bracket Set for MDD**

The dial gauge bracket set allows an analogue gauge to be securely fitted to the MDD manual test stand.

<table>
<thead>
<tr>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-167</td>
</tr>
</tbody>
</table>
Dust Covers

Dust covers offer protection to all types of Mecmesin motorised test stand in dusty and dirty environments. They are durable and easy to clean, and feature quick-acting Velcro fastening strips for simple fitting and removal.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-481</td>
<td>Vortex Systems (without console)</td>
</tr>
<tr>
<td>432-482</td>
<td>Vortex Systems (with console)</td>
</tr>
<tr>
<td>432-483</td>
<td>MultiTest Systems (without console)</td>
</tr>
<tr>
<td>432-484</td>
<td>MultiTest Systems (with console)</td>
</tr>
</tbody>
</table>

Bellows Kits

Protective bellows fit into the crosshead aperture in the test stand to guard against sample ingress and dust or liquid splash getting inside the column and damaging internal components. Kits are available for the single-column range of stands, the length being appropriate for the particular column dimension.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-471</td>
<td>Bellows kit for fitting to MultiTest 2.5 stand (500 mm)</td>
</tr>
<tr>
<td>432-472</td>
<td>Bellows kit for fitting to MultiTest 1 stand (1000 mm)</td>
</tr>
<tr>
<td>432-473</td>
<td>Bellows kit for fitting to MultiTest 0.5 stand (1200 mm)</td>
</tr>
</tbody>
</table>

Single-column Test Stand Horizontal Feet Kits

The Horizontal Feet Kits enable a single column test stand to be mounted horizontally, aligning the front panel either on its side or facing upwards.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDV11065</td>
<td>Feet kit; allows front-panel to be mounted horizontally on its side</td>
</tr>
<tr>
<td>PDV10105</td>
<td>Feet kit; allows front-panel to be mounted horizontally facing upwards</td>
</tr>
</tbody>
</table>

MDD Horizontal Feet Kit

The MDD horizontal feet kit allows for the horizontal operation of the MDD manual test stand.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Width (A)</th>
<th>Height (B)</th>
<th>Depth (C)</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-126</td>
<td>230 mm</td>
<td>9.06&quot;</td>
<td>75 mm</td>
<td>2.95&quot;</td>
</tr>
</tbody>
</table>

Dust Covers

Dust covers offer protection to all types of Mecmesin motorised test stand in dusty and dirty environments. They are durable and easy to clean, and feature quick-acting Velcro fastening strips for simple fitting and removal.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-481</td>
<td>Vortex Systems (without console)</td>
</tr>
<tr>
<td>432-482</td>
<td>Vortex Systems (with console)</td>
</tr>
<tr>
<td>432-483</td>
<td>MultiTest Systems (without console)</td>
</tr>
<tr>
<td>432-484</td>
<td>MultiTest Systems (with console)</td>
</tr>
</tbody>
</table>

Bellows Kits

Protective bellows fit into the crosshead aperture in the test stand to guard against sample ingress and dust or liquid splash getting inside the column and damaging internal components. Kits are available for the single-column range of stands, the length being appropriate for the particular column dimension.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-471</td>
<td>Bellows kit for fitting to MultiTest 2.5 stand (500 mm)</td>
</tr>
<tr>
<td>432-472</td>
<td>Bellows kit for fitting to MultiTest 1 stand (1000 mm)</td>
</tr>
<tr>
<td>432-473</td>
<td>Bellows kit for fitting to MultiTest 0.5 stand (1200 mm)</td>
</tr>
</tbody>
</table>

Single-column Test Stand Horizontal Feet Kits

The Horizontal Feet Kits enable a single column test stand to be mounted horizontally, aligning the front panel either on its side or facing upwards.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDV11065</td>
<td>Feet kit; allows front-panel to be mounted horizontally on its side</td>
</tr>
<tr>
<td>PDV10105</td>
<td>Feet kit; allows front-panel to be mounted horizontally facing upwards</td>
</tr>
</tbody>
</table>

MDD Horizontal Feet Kit

The MDD horizontal feet kit allows for the horizontal operation of the MDD manual test stand.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Width (A)</th>
<th>Height (B)</th>
<th>Depth (C)</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-126</td>
<td>230 mm</td>
<td>9.06&quot;</td>
<td>75 mm</td>
<td>2.95&quot;</td>
</tr>
</tbody>
</table>
Adapters

A number of fixtures under test conditions require height extension, or connector thread, gender or size conversion. We have here a selection of parts, including mounting brackets, to ensure the best fixturing for your test.

### Adapters

Our range of adapters provide interchangeability between grips and fixtures and our range of force testing instruments and test systems. Adapters are usually threaded into the accessory.

### DATASHEET

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-193</td>
<td>1 kN</td>
<td>100 kgf 225 lbf</td>
<td>10-32 M to M6 F</td>
<td>25 mm</td>
</tr>
<tr>
<td>432-293</td>
<td>5 kN</td>
<td>500 kgf 1100 lbf</td>
<td>5/16 F to 5/16 F</td>
<td>35 mm</td>
</tr>
<tr>
<td>432-328</td>
<td>1 kN</td>
<td>100 kgf 225 lbf</td>
<td>10-32 F to 10-32 F</td>
<td>30 mm</td>
</tr>
<tr>
<td>432-329</td>
<td>1 kN</td>
<td>100 kgf 225 lbf</td>
<td>10-32 F to 5/16 F</td>
<td>25 mm</td>
</tr>
<tr>
<td>432-330</td>
<td>5 kN</td>
<td>500 kgf 1100 lbf</td>
<td>5/16 F to M6 F</td>
<td>25 mm</td>
</tr>
<tr>
<td>432-331</td>
<td>5 kN</td>
<td>500 kgf 1100 lbf</td>
<td>5/16 M to M12 M</td>
<td>29 mm</td>
</tr>
<tr>
<td>432-332</td>
<td>5 kN</td>
<td>500 kgf 1100 lbf</td>
<td>5/16 M to M12 F</td>
<td>34 mm</td>
</tr>
<tr>
<td>432-333</td>
<td>5 kN</td>
<td>500 kgf 1100 lbf</td>
<td>5/16 M to M10 M</td>
<td>29 mm</td>
</tr>
<tr>
<td>432-334</td>
<td>1 kN</td>
<td>100 kgf 225 lbf</td>
<td>M6 F to M6 F</td>
<td>25 mm</td>
</tr>
<tr>
<td>432-335</td>
<td>10 kN</td>
<td>1000 kgf 2200 lbf</td>
<td>M10 M to M12 M</td>
<td>29 mm</td>
</tr>
<tr>
<td>432-364</td>
<td>1 kN</td>
<td>100 kgf 225 lbf</td>
<td>10-32 M to M10 M</td>
<td>29 mm</td>
</tr>
<tr>
<td>432-417</td>
<td>1 kN</td>
<td>100 kgf 225 lbf</td>
<td>10-32 F to M6 F</td>
<td>25 mm</td>
</tr>
</tbody>
</table>
Extension Rods

Extension rods are used to add length to a fixture often to prevent the specimen making contact with the gauge/loadcell e.g., when compressing a plunger into a cylinder. They are also used to connect a force gauge or loadcell to a grip or fixture.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Securing</th>
<th>Thread 1</th>
<th>Thread 2</th>
<th>Length (A)</th>
<th>Diameter (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-006</td>
<td>500 N</td>
<td>thumbwheel</td>
<td>10-32 UNF F</td>
<td>10-32 UNF M</td>
<td>30 mm</td>
<td>8 mm</td>
<td>11 mm</td>
<td>20 g</td>
</tr>
<tr>
<td>432-116</td>
<td>500 N</td>
<td>nut</td>
<td>10-32 UNF F</td>
<td>10-32 UNF M</td>
<td>30 mm</td>
<td>6 mm</td>
<td>10 mm</td>
<td>7 g</td>
</tr>
<tr>
<td>432-1167</td>
<td>500 N</td>
<td>nut</td>
<td>10-32 UNF F</td>
<td>10-32 UNF M</td>
<td>130 mm</td>
<td>6 mm</td>
<td>10 mm</td>
<td>28 g</td>
</tr>
<tr>
<td>432-007</td>
<td>500 N</td>
<td>thumbwheel</td>
<td>10-32 UNF F</td>
<td>M6 M</td>
<td>30 mm</td>
<td>8 mm</td>
<td>12 mm</td>
<td>20 g</td>
</tr>
<tr>
<td>432-186</td>
<td>500 N</td>
<td>thumbwheel</td>
<td>M6 F</td>
<td>M6 M</td>
<td>25 mm</td>
<td>8 mm</td>
<td>12 mm</td>
<td>20 g</td>
</tr>
<tr>
<td>432-187</td>
<td>500 N</td>
<td>thumbwheel</td>
<td>M6 F</td>
<td>M6 M</td>
<td>130 mm</td>
<td>8 mm</td>
<td>12 mm</td>
<td>32 g</td>
</tr>
<tr>
<td>432-008</td>
<td>2.5 kN</td>
<td>thumbwheel</td>
<td>5/16 UNC F</td>
<td>5/16 UNC M</td>
<td>30 mm</td>
<td>12 mm</td>
<td>14 mm</td>
<td>32 g</td>
</tr>
<tr>
<td>432-123</td>
<td>2.5 kN</td>
<td>—</td>
<td>5/16 UNC F</td>
<td>5/16 UNC M</td>
<td>130 mm</td>
<td>12 mm</td>
<td>10 mm</td>
<td>111 g</td>
</tr>
</tbody>
</table>

Datasheet
Mounting brackets
Adapters (tension and compression)

Crosshead Extension and Elevated Base Plate

The 38 mm crosshead extension and elevated base plate are used together for fitting larger samples up to 200 mm diameter, to a single-column MultiTest system.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Width (A)</th>
<th>Depth (B)</th>
<th>Height (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-406</td>
<td>2.5 kN</td>
<td>M5</td>
<td>203 mm</td>
<td>7.99&quot;</td>
<td>62 mm</td>
</tr>
<tr>
<td>432-508</td>
<td>38 mm</td>
<td>M5</td>
<td>203 mm</td>
<td>7.99&quot;</td>
<td>62 mm</td>
</tr>
<tr>
<td>432-307</td>
<td>16 mm</td>
<td>M5</td>
<td>203 mm</td>
<td>7.99&quot;</td>
<td>62 mm</td>
</tr>
<tr>
<td>432-508</td>
<td>38 mm</td>
<td>M5</td>
<td>203 mm</td>
<td>7.99&quot;</td>
<td>62 mm</td>
</tr>
</tbody>
</table>

Crosshead Extension

The crosshead extension allows the loadcell on a single-column MultiTest stand to be positioned further from the column, to accommodate larger test samples.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Thread 1</th>
<th>Depth (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-307</td>
<td>M5</td>
<td>0.63&quot;</td>
</tr>
<tr>
<td>432-508</td>
<td>M5</td>
<td>1.50&quot;</td>
</tr>
</tbody>
</table>
Extended Dovetail Bracket

The extended dovetail bracket is used for mounting Mecmesin Advanced Force Gauge (AFG) and Basic Force Gauge (BFG) force gauges to the crosshead of manual and motorised test stands, to allow precise lateral alignment of the gauge. The extended length provides 70 mm (2.76") of extra daylight. Supplied with socket-head fixing screws M5 x 10 mm.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height (A)</th>
<th>Width (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-326</td>
<td>150 mm</td>
<td>25 mm</td>
</tr>
</tbody>
</table>

Dovetail Bracket

The dovetail bracket is used for mounting Mecmesin Advanced Force Gauge (AFG) and Basic Force Gauge (BFG) force gauges to the crosshead of manual and motorised test stands, to allow precise lateral alignment of the gauge. Supplied with socket-head fixing screws M5 x 10 mm.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height (A)</th>
<th>Width (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-427</td>
<td>80 mm</td>
<td>25 mm</td>
</tr>
</tbody>
</table>

CFG+ Mounting Plate

The CFG mounting plate allows a Mecmesin Compact Force Gauge+ (CFG+) to be mounted onto the crosshead of a test stand. Supplied with 4 x M3 fixing screws.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height (B)</th>
<th>Width (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-131</td>
<td>56 mm</td>
<td>9 mm</td>
</tr>
</tbody>
</table>
Torque

Torque testing involves measuring what it takes to rotate one component against another. Bearings, for example, are meant to rotate very freely, and the torque testing measures unevenness in manufacture or wear, or the torque required to initiate free-running rotation. Other tests involve fastening or closure, and the torque required to secure or release a screw cap or a screw fastener. In manufactured products, tolerances in torque performance are crucial. In some cases, torque and force are combined, for example to extract a crown cork from a bottle, or release a child-resistant closure from a container. Measuring these turning forces requires test systems and fixtures that ensure precise repeatability through correct alignment and gripping.

Types of torque test for which we can supply fixtures

- removal torque
- strip torque
- incremental torque
- bridge torque
- reverse ratchet torque
- breakaway torque
- running torque
- breakaway torque
- rotational shear
- fastening torque
- breaking torque test
Mini V-block

The mini V-block is a precision-engineered mounting block which allows smaller samples to be securely held in a centrally-aligned position, without excessive clamping force. For use with Orbis and Tornado.

V-block Fixtures to hold "irregular shaped" samples

Alternative V-block fixtures can be designed and manufactured for specific requirements. Contact Mecmesin for details.

3-Jaw and 4-Jaw Torque Chucks

A range of key-operated and keyless Torque Chucks are available in 3-jaw or 4-jaw versions. Suitable for use with either Vortex, Helixa or ‘TS’ Torque Screwdrivers.

Closure Mandrels

Specifically designed to grip closures for torque testing. Available in two designs:

a) “Split-mandrels” - comprising 2 mandrel halves which have been machined to suit a narrow span of closure diameters and profiles.

b) “Dedicated mandrels” - machined specifically as an exact fit to match the profile of a single closure type.
Mounts for Torque Sensors

Bench Mounting Stands are equipped with fixing holes to enable secure and stable support for Mecmesin Static Torque Sensors when in use on a table or work-bench. Two versions are available: Bench Mounting Stand for ‘mid & hi-torque’ ST Torque sensors and Bench-Mounting Stand for ‘TS’ Torque Screwdrivers.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Depth (A)</th>
<th>Width (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-401</td>
<td>155 mm</td>
<td>190 mm</td>
</tr>
<tr>
<td>432-402</td>
<td>76 mm</td>
<td>170 mm</td>
</tr>
</tbody>
</table>

**DATASHEET**
Torque Fixing Tables

Developed specifically to fit to the Vortex or Helixa range of Torque Testers. Upper Fixing Tables connect directly to the respective torque sensor and Lower Fixing Tables connect to the motor spindle of the Vortex or Helixa. Upper and Lower Fixing Tables can be used in combination with each other. Alternatively they can be used individually in conjunction with other torque grips or custom fixtures. They are a useful general-purpose grip offering highly versatile clamping of specimens, being fully adjustable to accommodate a variety of forms.

Set of 4 Pegs

These pegs attach to the upper and lower fixing tables to keep samples secure during torque testing. The extended length pegs are to keep taller samples vertically aligned.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Thread 1</th>
<th>Diameter Ø</th>
<th>Length (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-447</td>
<td>M6</td>
<td>16 mm</td>
<td>35 mm</td>
</tr>
<tr>
<td>432-250</td>
<td>M6</td>
<td>16 mm</td>
<td>100 mm</td>
</tr>
</tbody>
</table>

Saddle Plates

For 1.5 N.m and 3 N.m Tornado. Saddle plates provide a more stable base on which to mount awkwardly shaped samples. Held in place by standard or extended pegs.

Saddle plates provide a more stable base on which to mount awkwardly shaped samples. Held in place by standard or extended pegs. For Orbis, Tornado or Vortex.
Orbis and Tornado Mk II, and Vortex Torque Cell, Calibration Check Rig

This bench-top unit enables the on-site verification of the calibration status of Orbis MkII, Tornado MkII testers, and static torque sensors rated from 1.5 N.m to 10 N.m. Using dead-weight masses, the kit allows you to quickly decide whether or not adjustment, recalibration or repair is required. The kit does not replace the need for regular professional calibration.

DATASHEET

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Please see datasheet for full details</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-621</td>
<td></td>
</tr>
</tbody>
</table>
Torque Reference Bottles

The Torque Reference Bottle (or ‘Gold bottle’) provides a means of quickly verifying the calibration of motorised torque measuring systems. Use the part number to specify the required torque to the nearest 0.5 lbf.in: e.g. 432-662-9.5 indicates a 9.5 lbf.in slip torque value will be set by Mecmesin.

A separate drive adapter (part no PDV12106) can be ordered.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Available torque range</th>
<th>Overall length</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-662-xx</td>
<td>4.5 lbf.in (0.6 N.m) to 17.5 lbf.in (2.0 N.m)</td>
<td>134 mm (5.3&quot;)</td>
<td>76 mm (2.99&quot;)</td>
</tr>
<tr>
<td>PDV12106</td>
<td>Reference bottle drive adapter for 432-662-xx</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Torque Accessories
Torque

DATASHEET
DATASHEETS
Nickel Plated Compression Plates

Description

Nickel plated compression plates are resistant to rusting.

Applications

Used for compression testing of:
- metals
- mortar
- cement
- plaster

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-119</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>12 mm</td>
<td>12 mm</td>
<td>6 g</td>
</tr>
<tr>
<td>432-188-F95</td>
<td>5 kN</td>
<td>M6</td>
<td>12 mm</td>
<td>12 mm</td>
<td>5 g</td>
</tr>
<tr>
<td>432-121</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>19 mm</td>
<td>16 mm</td>
<td>12 g</td>
</tr>
<tr>
<td>432-125</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>19 mm</td>
<td>19 mm</td>
<td>17 g</td>
</tr>
<tr>
<td>432-005</td>
<td>5 kN</td>
<td>M6</td>
<td>19 mm</td>
<td>16 mm</td>
<td>10 g</td>
</tr>
<tr>
<td>432-343</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>13 mm</td>
<td>79 g</td>
</tr>
<tr>
<td>432-344</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>50 mm</td>
<td>16 mm</td>
<td>84 g</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

---

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE

DISTRIBUTOR STAMP

www.mecmesin.com
Rubber-Faced Compression Plates

Description

The rubber-faced compression plate has a rubber layer which helps to prevent damage to the sample that would occur from metal contact during a compression test. Also increases grip at the point of force application on low friction or curved specimens.

Applications

Used for compression testing of components:
- metals
- glass
- slippery or curved samples

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter Ø</th>
<th>Height (A)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-219</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>50 mm</td>
<td>17 mm</td>
<td>0.67&quot;</td>
<td>17 mm</td>
</tr>
<tr>
<td>432-220</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>13 mm</td>
<td>0.52&quot;</td>
<td>13 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- A
- B
- THREAD 1

**DETAIL Z**
TEXTURED RUBBER FACE

**ϕ 12 (0.472”)**

**ϕ 50 (1.969”)**

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
Hardened and Ground Compression Plate

Description

Hardened and ground compression plates have a smooth, scratch-proof surface ideal for compression testing on samples that could damage a standard compression plate, such as metal springs.

Applications

Used for compression testing of:
- springs
- bottles
- cans
- polymer foams

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-197</td>
<td>5 kN</td>
<td>M6</td>
<td>50 mm</td>
<td>13 mm</td>
<td>0.51&quot;</td>
</tr>
<tr>
<td>432-336</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>12 mm</td>
<td>12 mm</td>
<td>0.47&quot;</td>
</tr>
<tr>
<td>432-337</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>19 mm</td>
<td>12 mm</td>
<td>0.47&quot;</td>
</tr>
<tr>
<td>432-338</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>70 mm</td>
<td>20 mm</td>
<td>0.79&quot;</td>
</tr>
<tr>
<td>432-341</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>100 mm</td>
<td>20 mm</td>
<td>0.79&quot;</td>
</tr>
<tr>
<td>432-446</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>175 mm</td>
<td>20 mm</td>
<td>0.79&quot;</td>
</tr>
<tr>
<td>432-172-F95</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>13 mm</td>
<td>0.51&quot;</td>
</tr>
</tbody>
</table>
**Compression Plates, QC fitting**

**Mec23-AL Aluminium plate**
- For soft samples, cardboards, plastics, etc.
- Aluminium anodized
- Temperature range: -70°C to 180°C
- Max capacity depends on the size of coupling

**Mec23-St Steel plate**
- For hard materials, steel, plastics, stone, etc.
- Hardened steel 58 HRC, manganese phosphated
- Temperature range: 0°C to 350°C
- Nickel plated: -70°C to 350°C (on request)
- Max capacity depends on the size of coupling

**Ordering information**
Scope of delivery: 1 pair

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Diameter</th>
<th>Coupling</th>
<th>Weight / each plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec23-56-B-AL</td>
<td>56 mm</td>
<td>B*</td>
<td>~0.1 kg</td>
</tr>
<tr>
<td>Mec23-96-B-AL</td>
<td>96 mm</td>
<td>B*</td>
<td>~0.3 kg</td>
</tr>
<tr>
<td>Mec23-116-B-AL</td>
<td>116 mm</td>
<td>B*</td>
<td>~0.4 kg</td>
</tr>
<tr>
<td>Mec23-156-B-AL</td>
<td>156 mm</td>
<td>B*</td>
<td>~0.6 kg</td>
</tr>
<tr>
<td>Mec23-196-B-AL</td>
<td>196 mm</td>
<td>B*</td>
<td>~1.2 kg</td>
</tr>
<tr>
<td>Mec23-246-B-AL</td>
<td>246 mm</td>
<td>B*</td>
<td>~1.5 kg</td>
</tr>
<tr>
<td>Mec23-296-B-AL</td>
<td>296 mm</td>
<td>B*</td>
<td>~3.3 kg</td>
</tr>
</tbody>
</table>

Plates with other dimensions and surfaces on request

**Description of Item number: Mec23-A-B-C**

A Diameter of plate [mm] 56, 96, 116, 156,196…etc

B* Coupling: Female= Af [mm] 15.9, 19.1, 20, 30, 31.8, 36, 40 … (Adapter) Male=Am [mm] Am15.8, Am20, Am31.7 …. etc

C Material: AL = Aluminum St = Steel

Mec23 Plates are rigid platens. For self adjusting plates see MecS223

Mec23 and MecS223 plates can be combined.

Ordering Information for combination rigid + self adjusting plate:
0.5 pair Mec23 + 1x MecS223

---

**Mec23-AL Aluminium plate**
- For soft samples, cardboards, plastics, etc.
- Aluminium anodized
- Temperature range: -70°C to 180°C
- Max capacity depends on the size of coupling

**Mec23-St Steel plate**
- For hard materials, steel, plastics, stone, etc.
- Hardened steel 58 HRC, manganese phosphated
- Temperature range: 0°C to 350°C
- Nickel plated: -70°C to 350°C (on request)
- Max capacity depends on the size of coupling

**Ordering information**
Scope of delivery: 1 pair

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Diameter</th>
<th>Coupling</th>
<th>Weight / each plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec23-56-B-St</td>
<td>56 mm</td>
<td>B*</td>
<td>~0.3 kg</td>
</tr>
<tr>
<td>Mec23-96-B-St</td>
<td>96 mm</td>
<td>B*</td>
<td>~0.7 kg</td>
</tr>
<tr>
<td>Mec23-116-B-St</td>
<td>116 mm</td>
<td>B*</td>
<td>~1.1 kg</td>
</tr>
<tr>
<td>Mec23-156-B-St</td>
<td>156 mm</td>
<td>B*</td>
<td>~1.6 kg</td>
</tr>
<tr>
<td>Mec23-196-B-St</td>
<td>196 mm</td>
<td>B*</td>
<td>~4.0 kg</td>
</tr>
<tr>
<td>Mec23-246-B-St</td>
<td>246 mm</td>
<td>B*</td>
<td>~4.3 kg</td>
</tr>
<tr>
<td>Mec23-296-B-St</td>
<td>296 mm</td>
<td>B*</td>
<td>~9.0 kg</td>
</tr>
<tr>
<td>Mec23-344-B-St</td>
<td>346 mm</td>
<td>B*</td>
<td>-</td>
</tr>
</tbody>
</table>

Plates with other dimensions and surfaces on request

www.mecmesin.com
Examples for other versions and special solutions

Mec23-116-Af159-AL with additional adapter
MecS626-158-158

Mec23-156-Af38-Ni: Nickel plated steel plate
Temperature range -70°C to +350°C

Mec23-156-Am20-St

Mec23-196-Af30-St-20xM8
Steel plate with M8 thread

Mec23-20-Am12-St

Mec23-56-Af159-V2A

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e: sales@mecmesin.cn
**Compression Plates, Rectangular, QC fitting**

**Mec36**

**Mec36 Aluminum compression plate**
- Soft samples, cardboards, plastics, etc.
- Aluminium anodized
- Max capacity:
  - with QC 20 bore-hole = 20 kN
  - with QC 32 bore-hole = 50 kN
- Scope of supply 1 plate

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec36-50-AL</td>
<td>50 x 50 mm</td>
<td>0.20 kg</td>
</tr>
<tr>
<td>Mec36-100-AL</td>
<td>100 x 100 mm</td>
<td>0.52 kg</td>
</tr>
<tr>
<td>Mec36-120-AL</td>
<td>120 x 120 mm</td>
<td>0.78 kg</td>
</tr>
<tr>
<td>Mec36-120x180-AL</td>
<td>120 x 180 mm</td>
<td>1.14 kg</td>
</tr>
<tr>
<td>Mec36-125x250-AL</td>
<td>125 x 250 mm</td>
<td>1.73 kg</td>
</tr>
<tr>
<td>Mec36-150-AL</td>
<td>150 x 150 mm</td>
<td>1.23 kg</td>
</tr>
<tr>
<td>Mec36-150x300-AL</td>
<td>150 x 300 mm</td>
<td>2.35 kg</td>
</tr>
<tr>
<td>Mec36-200-AL</td>
<td>200 x 200 mm</td>
<td>2.10 kg</td>
</tr>
<tr>
<td>Mec36-250-AL</td>
<td>250 x 250 mm</td>
<td>3.40 kg</td>
</tr>
<tr>
<td>Mec36-300-AL*</td>
<td>300 x 300 mm</td>
<td>4.35 kg</td>
</tr>
<tr>
<td>Mec36-350-AL*</td>
<td>350 x 350 mm</td>
<td>6.60 kg</td>
</tr>
<tr>
<td>Mec36-400-AL*</td>
<td>400 x 400 mm</td>
<td>8.70 kg</td>
</tr>
</tbody>
</table>

**Mec36-L Aluminum plate**
- Perforated plate allows air to be released when sample is compressed - suitable for foam testing.
- Aluminium anodized
- Max capacity:
  - with QC 20 bore-hole = 20 kN
  - with QC 32 bore-hole = 50 kN
- Scope of supply 1 plate

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec36-L-150-L6x20</td>
<td>150 x 150 mm</td>
<td>1.10 kg</td>
</tr>
<tr>
<td>Mec36-L-200-L6x20</td>
<td>200 x 200 mm</td>
<td>1.95 kg</td>
</tr>
<tr>
<td>Mec36-L-400-L6x20</td>
<td>400 x 400 mm</td>
<td>8.20 kg</td>
</tr>
</tbody>
</table>

**Mec36-St Steel compression plate**
- For hard materials, steel, plastics, stone, etc.
- Hardened steel 58 HRC
- Max capacity:
  - with QC 20 bore-hole = 20 kN
  - with QC 32 bore-hole = 50 kN
- Scope of supply 1 plate

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec36-100-St</td>
<td>100 x 100 mm</td>
<td>1.54 kg</td>
</tr>
<tr>
<td>Mec36-196-St</td>
<td>196 x 196 mm</td>
<td>6.60 kg</td>
</tr>
<tr>
<td>Mec36-246-St*</td>
<td>246 x 246 mm</td>
<td>10.40 kg</td>
</tr>
<tr>
<td>Mec36-296-St*</td>
<td>296 x 296 mm</td>
<td>13.60 kg</td>
</tr>
<tr>
<td>Mec36-396-St*</td>
<td>396 x 396 mm</td>
<td>33.00 kg</td>
</tr>
<tr>
<td>Mec36-396x496-St*</td>
<td>396 x 496 mm</td>
<td>41.00 kg</td>
</tr>
<tr>
<td>Mec36-396x596-St*</td>
<td>396 x 596 mm</td>
<td>50.00 kg</td>
</tr>
</tbody>
</table>

**Mec36-L Aluminum plate**
- For hard materials, steel, plastics, stone, etc.
- Hardened steel 58 HRC
- Max capacity:
  - with QC 20 bore-hole = 20 kN
  - with QC 32 bore-hole = 50 kN
- Scope of supply 1 plate

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec36L-150-L6x20</td>
<td>150 x 150 mm</td>
<td>1.10 kg</td>
</tr>
<tr>
<td>Mec36L-200-L6x20</td>
<td>200 x 200 mm</td>
<td>1.95 kg</td>
</tr>
<tr>
<td>Mec36L-400-L6x20</td>
<td>400 x 400 mm</td>
<td>8.20 kg</td>
</tr>
</tbody>
</table>

Further dimensions and versions on request

Note: When ordering any of the above plates specify whether you require it to be fitted with a QC-20 or QC-30 mm diameter bore-hole adapter.

*Supplied with fixing legs and hole in each corener to assit with mounting of large plates
Dimensions mm (inch)

Example drawing: Mec36-400-AL

Shown with fixing legs fitted

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Vented Compression Plates

Description

Vented compression plates are ideal for top-load/crush testing of containers such as PET bottles. Two circular vents allow air to escape from the container during compression and an integrated nose cone helps to position containers centrally, minimising bottle slippage during testing. These compression plates are suitable for bottles with necks up to 50 mm (1.97") in diameter.

Applications

Used for compression testing of:
- plastic bottles
- PET containers

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter Ø</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-346</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>13 mm</td>
<td>50 g</td>
</tr>
<tr>
<td></td>
<td>500 kgf</td>
<td></td>
<td>1.97&quot;</td>
<td>0.51&quot;</td>
<td>0.11 lb</td>
</tr>
<tr>
<td>432-347</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>20 mm</td>
<td>50 g</td>
</tr>
<tr>
<td></td>
<td>500 kgf</td>
<td></td>
<td>1.97&quot;</td>
<td>0.79&quot;</td>
<td>0.11 lb</td>
</tr>
<tr>
<td>432-348</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>50 mm</td>
<td>22 mm</td>
<td>50 g</td>
</tr>
<tr>
<td></td>
<td>500 kgf</td>
<td></td>
<td>1.97&quot;</td>
<td>0.87&quot;</td>
<td>0.11 lb</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

2x Ø 6 (0.236”)

H O L E S

直径 50 (19.69”)

直径 19 (0.748”)

直径 7.5 (0.295”)

432-346

432-347 & 432-348

所有尺寸以毫米表示，后续为英寸：MM (IN’)

432-346

432-347 & 432-348

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Self-levelling Compression Plates, QC fitting

**MecS223**

Self-levelling compression plates are ideal for precise compression testing on a range of materials and finished products. Self-levelling allows exact parallelism to be set between the upper and lower plates... ideal for those applications where it is critical to accurately measure the deformation of a sample.

The MecS223 range of hardened steel self-levelling plates features a spherical seating mechanism which allows the plate to ‘float’ and adjust to the specimen geometry during the compression test. Alternatively there are 4 nuts which can lock the self-levelling plate in position when it has been set completely parallel to the opposite ‘fixed’ plate (type Mec23).

MecS223k self-levelling plates are fitted with QC-20mm bore hole adapters suitable for compressive load applications up to 25kN (eg. metals, rigid plastics etc..)

MecS223g self-levelling plates are fitted with QC-32mm bore hole adapters suitable for compressive load applications up to 50kN (eg. metals, concrete etc..)

**Ordering Information**

Scope of delivery: 1 plate

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Diameter (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>MecS223k-56</td>
<td>56 mm</td>
<td>~ 1.27 kg</td>
</tr>
<tr>
<td>MecS223k-96</td>
<td>96 mm</td>
<td>~ 1.4 kg</td>
</tr>
<tr>
<td>MecS223k-116</td>
<td>116 mm</td>
<td>~ 1.7 kg</td>
</tr>
<tr>
<td>MecS223k-156</td>
<td>156 mm</td>
<td>~ 2.7 kg</td>
</tr>
<tr>
<td>MecS223k-196</td>
<td>196 mm</td>
<td>~ 3.95 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Diameter (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>MecS223g-56</td>
<td>56 mm</td>
<td>~ 5.3 kg</td>
</tr>
<tr>
<td>MecS223g-96</td>
<td>96 mm</td>
<td>~ 6.1 kg</td>
</tr>
<tr>
<td>MecS223g-116</td>
<td>116 mm</td>
<td>~ 6.5 kg</td>
</tr>
<tr>
<td>MecS223g-156</td>
<td>156 mm</td>
<td>~ 7.1 kg</td>
</tr>
<tr>
<td>MecS223g-196</td>
<td>196 mm</td>
<td>~ 7.4 kg</td>
</tr>
</tbody>
</table>

Other dimensions on request

The fixed plate Mec23 can be combined with a MecS223 self-leveling plate to form a pair of plates between which specimens are compressed.
Examples of MecS223 self-levelling compression plates used in combination with Mec23 'fixed' compression plates

- **MecS223k-116**
- **Mec23-116-B-St' Fixed Compression Plate 116mm diameter with QC-20mm bore-hole**
- **MecS223g-56**
- **Mec23-56-B-St' Fixed Compression Plate 56mm diameter with QC-32mm bore-hole**

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Self-levelling Compression Plates

Description

Self-levelling compression plates are ideal for general compression testing on a range of materials and finished products. Self-levelling allows parallelism to be set for those applications where it is critical to accurately measure the deformation of a sample, or where the sample has faces that are not exactly parallel and conventional plates would put an undue load on a very small area, causing a premature failure.

Applications

Used for compression testing of:

- metals
- cylinders
- springs
- cans
- polymer foams
- curve-faced samples

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Height (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-349</td>
<td>5 kN</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>38 mm</td>
<td>1.50&quot;</td>
</tr>
<tr>
<td>432-350</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>70 mm</td>
<td>50 mm</td>
<td>1.97&quot;</td>
</tr>
<tr>
<td>432-351</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>100 mm</td>
<td>50 mm</td>
<td>1.97&quot;</td>
</tr>
<tr>
<td>432-352</td>
<td>5 kN</td>
<td>5/16 UNC</td>
<td>175 mm</td>
<td>50 mm</td>
<td>1.97&quot;</td>
</tr>
</tbody>
</table>
Radiused Probes

Description

Radiused probes are used to perform penetration or puncture tests on a wide range of products. The radiused tip is specifically designed for penetrometry tests, including the determination of the firmness and ripeness of foods. Also used for cosmetics and similar products with measured texture attributes.

Applications

Used for penetration and puncture testing of:
- Baked goods
- Dairy products
- Fruit and vegetables
- Confectionery
- Cosmetics

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Diameter (ØB)</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-354</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>6 mm</td>
<td>8 mm</td>
<td>60 mm</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td>0.24”</td>
<td>0.31”</td>
<td>2.36”</td>
</tr>
<tr>
<td>432-355</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>11 mm</td>
<td>60 mm</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td>0.31”</td>
<td>0.43”</td>
<td>2.36”</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- **THREAD 1**
  - \( \phi_A \)
  - \( \phi_B \)

- \( 60 \) (2.362"")
- \( 30 \) (1.181"")

ALL DIMENSIONS ARE IN MILLIMETRES FOLLOWED BY INCHES: MM (IN"")

DRAWING APPLIES TO PT NO:

- 432-354 & 432-355

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Cone Points

Description

Cone points are designed for puncturing, spreading and compressing samples.

Applications

Used for compression testing of:
- Packaging
- Food products
- Cosmetics

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØA)</th>
<th>Length (B)</th>
<th>Diameter (ØC)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-358</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>14 mm</td>
<td>0.55 mm</td>
<td>0.5 mm</td>
</tr>
<tr>
<td>432-359</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>12 mm</td>
<td>21 mm</td>
<td>0.83 mm</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Head Office</th>
<th>France</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mecmesin Limited</td>
<td>Mecmesin France</td>
<td>Mecmesin GmbH</td>
</tr>
<tr>
<td>w: <a href="http://www.mecmesin.com">www.mecmesin.com</a></td>
<td>w: <a href="http://www.mecmesin.fr">www.mecmesin.fr</a></td>
<td>w: <a href="http://www.mecmesin.de">www.mecmesin.de</a></td>
</tr>
<tr>
<td>e: <a href="mailto:sales@mecmesin.com">sales@mecmesin.com</a></td>
<td>e: <a href="mailto:contact@mecmesin.fr">contact@mecmesin.fr</a></td>
<td>e: <a href="mailto:info@mecmesin.de">info@mecmesin.de</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>North America</th>
<th>Asia</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mecmesin Corporation</td>
<td>Mecmesin Asia Co., Ltd</td>
<td>Mecmesin (Shanghai) Pte Ltd</td>
</tr>
<tr>
<td>w: <a href="http://www.mecmesincorp.com">www.mecmesincorp.com</a></td>
<td>w: <a href="http://www.mecmesinasia.com">www.mecmesinasia.com</a></td>
<td>w: <a href="http://www.mecmesin.cn">www.mecmesin.cn</a></td>
</tr>
<tr>
<td>e: <a href="mailto:info@mecmesincorp.com">info@mecmesincorp.com</a></td>
<td>e: <a href="mailto:sales@mecmesinasia.com">sales@mecmesinasia.com</a></td>
<td>e: <a href="mailto:sales@mecmesin.cn">sales@mecmesin.cn</a></td>
</tr>
</tbody>
</table>

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Chisel Points

Description

Chisel points are used for puncturing and splitting samples, e.g. a typical application would be a ‘cleave test’ on eye liner pencils.

Applications

Used for compression testing of:

- Packaging
- Food products
- Cosmetics

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØB)</th>
<th>Length (A)</th>
<th>Tip Width (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-360</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>14 mm</td>
<td>0.31&quot;</td>
<td>3 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td></td>
<td>0.55&quot;</td>
<td></td>
<td>0.02&quot;</td>
</tr>
<tr>
<td></td>
<td>110 lbf</td>
<td></td>
<td></td>
<td>5 mm</td>
<td></td>
<td>0.5 mm</td>
</tr>
<tr>
<td></td>
<td>0.5 mm</td>
<td></td>
<td></td>
<td>0.02&quot;</td>
<td></td>
<td>0.5 mm</td>
</tr>
<tr>
<td></td>
<td>0.0 mm</td>
<td></td>
<td></td>
<td>0.02&quot;</td>
<td></td>
<td>0.5 mm</td>
</tr>
<tr>
<td></td>
<td>432-361</td>
<td>5/16 UNC</td>
<td>12 mm</td>
<td>21 mm</td>
<td>0.47&quot;</td>
<td>12 g</td>
</tr>
<tr>
<td></td>
<td>2.5 kN</td>
<td></td>
<td></td>
<td>0.83&quot;</td>
<td></td>
<td>12 g</td>
</tr>
<tr>
<td></td>
<td>250 kgf</td>
<td></td>
<td></td>
<td>2 mm</td>
<td></td>
<td>12 g</td>
</tr>
<tr>
<td></td>
<td>550 lbf</td>
<td></td>
<td></td>
<td>0.08&quot;</td>
<td></td>
<td>12 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.02&quot;</td>
<td></td>
<td>12 g</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- A
- B
- C
- 60°

ALL DIMENSIONS ARE IN MILLIMETRES FOLLOWED BY INCHES: MM (IN"

DRAWING APPLIES TO PT NO: 432-360 & 432-361

DS-1013-02

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
Inverted Chisel Points

Description

The inverted chisel is designed for compression testing of samples of a curved or rounded shape in cross-section.

Applications

Used for compression testing of:
• Pipes
• Tubes

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØC)</th>
<th>Length (B)</th>
<th>Width (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-356</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>14 mm</td>
<td>7 mm</td>
<td>3 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td></td>
<td>0.31&quot;</td>
<td>0.28&quot;</td>
<td>0.006 lb</td>
</tr>
<tr>
<td>432-357</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>11 mm</td>
<td>21 mm</td>
<td>10 mm</td>
<td>13 g</td>
</tr>
<tr>
<td></td>
<td>250 kgf</td>
<td></td>
<td></td>
<td>0.43&quot;</td>
<td>0.39&quot;</td>
<td>0.030 lb</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- **A**: 90°
- **B**:
- **ø C**:
- **Thread 1**: 

**ALL DIMENSIONS ARE IN MILLIMETRES FOLLOWED BY INCHES: MM (IN")**

**DRAWING APPLIES TO PT NO:** 432-356 & 432-357

**DS-1014-02**

- **Set of 15 needles for Shotcrete Penetrometer**

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
Set of 15 needles for Shotcrete Penetrometer

Description

Set of 15 needle points for use with the Mecmesin shotcrete penetrometer to test sprayed or poured concrete during the first few hours of development as a reliable indication of compressive strength.

Applications

Used to determine the compressive strength of:
- sprayed concrete

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Needle Diameter (A)</th>
<th>Exposed Needle Length (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-519</td>
<td>3 mm</td>
<td>0.118”</td>
</tr>
<tr>
<td></td>
<td>15 mm</td>
<td>0.59”</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

A

B

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
10 kN 3-Point Bend Jig, QC fitting

Description

The 10 kN 3-point bend jig is ideal for performing a variety of flexure tests on medium-stiffness samples. It includes two lower support-anvils, which are adjustable and one upper anvil to apply load to the sample. The support beam is graduated lengthways in metric and imperial units for accurate positioning of the anvils.

Applications

Used to determine the flexural properties of rigid and semi-rigid materials:
- ceramics
- glass
- composites
- plastics
- flexible sheet materials
- wood
- films

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Anvil Width</th>
<th>Anvil Radius</th>
<th>Bending Span</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-266</td>
<td>10 kN</td>
<td>20 mm</td>
<td>50 mm</td>
<td>10 mm</td>
<td>24 mm - 300 mm</td>
<td>0.94&quot; - 11.81&quot;</td>
<td>380 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE

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e: sales@mecmesin.cn

www.mecmesin.com
2.5 kN 3-Point Bend Jig

Description

The 2.5 kN 3-point bend jig is an easy-to-use fixture that relies on the test machine to maintain alignment between the top and bottom parts.

Applications

Used to determine the flexural properties of rigid and semi-rigid materials:
- ceramics
- glass
- composites
- plastics
- flexible sheet materials
- wood
- films

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Anvil Width</th>
<th>Anvil Radius</th>
<th>Bending Span</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-151</td>
<td>2.5 kN</td>
<td>10-32 UNF</td>
<td>45 mm</td>
<td>10 mm</td>
<td>0.4&quot;</td>
<td>10 mm - 300 mm</td>
<td>405 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

Rollers:
10 \( (0.394") \) MIN
300 \( (11.811") \) MAX

59 \( (2.323") \)

178.5 \( (7.028") \)

Drawings is indicative only.

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
1 kN 3-Point Bend Jig

**Description**

The 1 kN 3-point bend jig is a lightweight three-point bend assembly with 60 mm high arms and 120 mm support span. Ideal for most snapping applications including food texture applications. Recommended for use with ‘S’ Beam type load cells where forces are below 1 kN.

**Applications**

Used to determine the flexural and snap properties of:
- food products
- flexible materials

**Specifications**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Anvil Radius</th>
<th>Anvil Width</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-248</td>
<td>1 kN</td>
<td>1.5 mm</td>
<td>120 mm</td>
<td>653 g</td>
</tr>
<tr>
<td>432-294</td>
<td>100 kgf</td>
<td>0.059&quot;</td>
<td>4.7 mm</td>
<td>1.43 lb</td>
</tr>
<tr>
<td></td>
<td>225 lbf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>432-294</td>
<td>Base plate to attach bend jig to test stand</td>
<td>792 g</td>
<td>1.75 lb</td>
<td></td>
</tr>
</tbody>
</table>

www.mecmesin.com
**Dimensions mm (inch)**

- **10 (0.394") MIN**
- **120 (4.724") MAX**
- **175 (6.89")**
- **47 (1.857")**
- **68 (2.674")**
- **60 (2.362")**
- **80 (3.15")**
- **432-248 TMS Light Weight 3-Point Bend Jig**
- **R 1.5 (0.059")**
  - BEND ROLLER RADIUS
- **30°**
- **R1,5 0.059”**
  - **BEND ROLLER RADIUS**
- **152°**
- **A**
- **TEE BOLTS FOR SECURING TO T-SLOT BASE (432-294)**

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
2.5 kN Bend Jig, QC fitting

Mec238 - aluminium

A 2.5 kN Bend Jig in aluminium having a bending span up to 150 mm and a beam width of 30 mm.

A comprehensive selection of Mec238 anvil types and sizes are available to allow you to configure for 3-point or 4-point flexure bend testing.

‘Upper’ anvils and the ‘lower’ bending beam are supplied fitted with a bore hole to allow connection to a QC-20 fixing post.

Below you will see an example configuration showing:

- ‘Lower’ anvils Type A = ‘dual’ anvil having milled edge radii of 2mm and 3mm
- ‘Upper’ anvil Type O = single anvil having milled edge radius of 2mm
- ‘Lower’ bending beam (B) of 150mm length with QC-20 bore hole

This generates a combined part number of: Mec238-AR3R2-OR2-B150-QC20

Dimensions mm

The illustrations overleaf are selected examples of the component parts and assemblies to build precisely the bending jig you require. You choose:

- Bending beam length (lower)
- Bending beam length (upper) ... only applicable if you wish to perform 4-point flexure bend testing
- ‘Lower’ and ‘Upper’ anvil type (roller or milled-edge) and their dimensions
- Special requirements (eg. Wide anvils for large specimens, tall anvils for folding tests, movement in anvils for increased accuracy)

Please refer to the outline at the back of this datasheet for how to identify and specify the components you require.
### Bend jig configurations

<table>
<thead>
<tr>
<th>Jig Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-point bending jig</td>
<td>Lower radii 1, 2, 3, 4, 5, 8, 10, 10; Upper radius 0.5, 1, 2, 3, 4, 5, 8, 10</td>
</tr>
<tr>
<td>4-point bending jig with interchangeable rollers on CX anvils</td>
<td></td>
</tr>
<tr>
<td>4-point bending jig with interchangeable rollers</td>
<td>Lower AX supports; Upper CX supports; Width 30 mm</td>
</tr>
</tbody>
</table>

### Anvils

<table>
<thead>
<tr>
<th>Anvil Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anvil with dual milled radii, 2 mm and 5 mm</td>
<td></td>
</tr>
<tr>
<td>Available radius pairs (mm):</td>
<td></td>
</tr>
<tr>
<td>1.5+2.5; 2+3; 2+5; 3.2+5; 4+5</td>
<td></td>
</tr>
<tr>
<td>Anvils with 1 milled radius edge</td>
<td></td>
</tr>
<tr>
<td>Available radius:</td>
<td></td>
</tr>
<tr>
<td>0.5; 1; 1.5; 2; 2.5; 3.2; 5 mm</td>
<td></td>
</tr>
<tr>
<td>Special anvils with 1 milled edge</td>
<td>CR1H130 = radius 1 mm, height 130 mm</td>
</tr>
<tr>
<td>Anvil for interchangeable rollers</td>
<td></td>
</tr>
<tr>
<td>Diameters 1 to 12.7 mm</td>
<td></td>
</tr>
<tr>
<td>Anvil for single interchangeable roller</td>
<td></td>
</tr>
<tr>
<td>Flat simple anvil, interchangeable roller, for glass</td>
<td></td>
</tr>
<tr>
<td>Roller, hardened, width 30 mm</td>
<td>Diameters: 1; 2; 2.5; 3; 3.175; 4; 4.5; 5; 6; 6.35; 8; 9; 10; 12; 12.7 mm</td>
</tr>
<tr>
<td>Roller with special length + 2 O-Rings + 2 extra pins</td>
<td>Fix or magnets to fix 3x56; 3x105; 6x105; 10x105</td>
</tr>
</tbody>
</table>

### Beams

<table>
<thead>
<tr>
<th>Beam Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm lower beam, anodised aluminium</td>
<td>×1</td>
</tr>
<tr>
<td>200 mm lower beam, chromed steel</td>
<td>×1</td>
</tr>
<tr>
<td>300 mm lower beam, chromed steel</td>
<td>×1</td>
</tr>
<tr>
<td>350 mm lower beam, chromed steel</td>
<td>×1</td>
</tr>
<tr>
<td>400 mm lower beam, chromed steel</td>
<td>×1</td>
</tr>
</tbody>
</table>
## Removable insert anvils

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articulated lower carrier for removeable inserts; can be fixed at an angle</td>
<td>×2</td>
<td><img src="image1" alt="Image" /></td>
</tr>
<tr>
<td>Removable insert for interchangeable roller retained by O-rings</td>
<td>×3</td>
<td><img src="image2" alt="Image" /></td>
</tr>
<tr>
<td>Articulated carrier for removable insert with interchangeable roller retained by O-rings</td>
<td>×2</td>
<td><img src="image3" alt="Image" /></td>
</tr>
<tr>
<td>Flat removable insert for glass</td>
<td>×2</td>
<td><img src="image4" alt="Image" /></td>
</tr>
<tr>
<td>Removable insert for interchangeable roller retained by O-rings</td>
<td>×2</td>
<td><img src="image5" alt="Image" /></td>
</tr>
<tr>
<td>Wide fin removable insert for articulated carrier</td>
<td>×3</td>
<td><img src="image6" alt="Image" /></td>
</tr>
<tr>
<td>Zero-span removable insert</td>
<td>×2</td>
<td><img src="image7" alt="Image" /></td>
</tr>
</tbody>
</table>

## Upper anvils

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper anvil with milled radius 1; 1.5; 2; 3; 4; 5; or 12.5 mm</td>
<td>×1</td>
</tr>
<tr>
<td>Upper v-notch anvil to carry different diameters OX2 holds 1–3.2 mm Ø</td>
<td>×1</td>
</tr>
<tr>
<td>Articulated upper carrier for removable anvil inserts; can be fixed at an angle</td>
<td>×1</td>
</tr>
<tr>
<td>Special anvils</td>
<td></td>
</tr>
<tr>
<td>Anvil with removable needle-bearing insert</td>
<td>×2</td>
</tr>
<tr>
<td>Support with integral roller, centerline radius 5 mm</td>
<td>×2</td>
</tr>
<tr>
<td>Support with diameter 10 mm tube, width 100 mm</td>
<td>×2</td>
</tr>
<tr>
<td>Support with non-interchangeable 60 mm wide anvil, radius 1.5 mm, for 4-point bend system</td>
<td>×4</td>
</tr>
</tbody>
</table>
Bend jigs to your own specification

Bend jigs can be assembled to user specification to meet test requirements:

• load rating  • bending span width  • anvil mount type
• anvil edge type  • anvil movement type  • anvil width
• anvil height  • 3 or 4-point bend capability
• individual positioning of anvils, or by centric gearing using a leadscrew / handle.

Certain anvil types allow a rocking movement, adjustable angle (articulated), or flat sideways movement. For sharp angle bending (e.g. to 160°) long-fin anvils are available, along with other specialised anvils. Standard anvil types are shown below. (Roller size is denoted by diameter, milled edges are denoted by radius.)

Lower Anvils
Type A: dual-radius

A: milled edge  AX: v-notch roller bearings

Type C: single radius

C: milled edge  CX: v-notch roller  CL: captive roller  CM: roller free to traverse

Type CW, carrier style

CW: milled edge  CWX: v-notch roller  CWL: captive roller  CWN: roller traverses to stop

Upper Anvils
Type O

O: milled edge  OX: v-notch roller bearing  OWX: carrier-style v-notch

How to specify your particular bend jig requirement

Let us know your requirement by:

• beam model: Mec238, Mec103, Mec22 and length (long versions available)
• aluminium or steel, and finish (where available)
• anvil mount type as above (A, C, CW, O, with extra designation of W, X, L, M or N where appropriate)
• the upper and lower anvil radii type (milled or rollers) with diamensions
• any special requirements such as anvil height or width, or movement
• if you require centric gearing (Mec103 only)
• if you require an upper support for two anvils for 4-point testing
• the QC coupling size (20 mm or 32 mm)

For full details and examples, refer to the datasheets for the three base models: Mec238, Mec103 and Mec22.
50 kN Bend Jig, QC fitting

Mec103 - steel

A 50 kN Bend Jig in steel having a bending span up to 120 mm and beam width of 50 mm.

A comprehensive selection of Mec103 anvil types and sizes are available to allow you to configure for 3-point or 4-point flexure bend testing.

‘Upper’ anvils and the ‘lower’ bending beam are supplied fitted with a bore hole to allow connection to either QC-20 or QC-32 fixing posts … please specify which size when ordering.

Below you will see an example configuration showing:

• ‘Lower’ anvils Type A = nickel-plated ‘dual radii’ (3mm R3 and 5mm R5)
• ‘Upper’ anvil Type O having 3mm radius
• ‘Lower’ bending beam (B) of 220mm length with QC-20 bore hole

This generates a combined part number of : Mec103-AR3R5-OR3-B220-QC20

The illustrations overleaf are selected examples of the component parts and assemblies to build precisely the bending jig you require. You choose:

• Bending beam length (lower)
• Bending beam length (upper) … only applicable if you wish to perform 4-point flexure bend testing
• ‘Lower’ and ‘Upper’ anvil type (roller or milled-edge) and their dimensions
• Special requirements (eg. Wide anvils for large specimens, tall anvils for folding tests, movement in anvils for increased accuracy)

Please refer to the outline at the back of this datasheet for how to identify and specify the components you require.
Mec103-cgr
Phosphate coated steel with centric gearing. Rotating the hand-wheel adjusts the position of the anvils symmetrically around the central point of the beam.

**Example configurations**

<table>
<thead>
<tr>
<th>3-point bend jig, 220 mm beam with centric gear, lower anvils with dual interchangeable O-ring retained rollers, diameters 3 mm and 5 mm; upper anvils of diameter 2 mm and 3 mm. Black (phosphate coated).</th>
<th>Folding jig comprising 300 mm beam, black finish ‘Lower’ roller anvils of diameter 50 mm with retaining sidebars for 180° folding tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 mm beam, with 80 mm tall ‘lower’ anvils having 50 mm diameter rollers, and 90 mm tall ‘upper’ anvils (various radii) for 160° folding tests.</td>
<td>Rolling table</td>
</tr>
<tr>
<td>220 mm beam, black finish with centric gearing, 5 mm milled ‘lower’ anvils and ‘upper’ anvil radius 30 mm</td>
<td>200 mm upper beam to convert to 4-point bend jig, ‘upper’ anvils having milled radius 5 mm</td>
</tr>
</tbody>
</table>

Folding jig comprising 220 mm beam, black finish with centric gearing, ‘lower’ roller anvils of diameter 20 mm & width 50 mm. Upper ‘anvils’ with fins radius 2 mm and 5 mm both having a height of 80 mm

200 mm upper beam to convert to 4-point bend jig, anvils with ‘articulated’ inserts and interchangeable rollers, diameter 8 mm. Addition of articulated QC-20 adapter to allow movement during the test to maintain parallelism of specimen (for brittle materials eg ceramics)
### Bending Beams

<table>
<thead>
<tr>
<th>220 mm bending beam with QC-20mm bore hole</th>
<th>300 mm bending beam, black, with centric gearing, &amp; QC-20mm bore hole</th>
</tr>
</thead>
<tbody>
<tr>
<td>220 mm bending beam, black, with centric gearing &amp; QC-20mm bore hole</td>
<td>220 mm upper bending beam for 4-point bending conversion, &amp; QC-20mm bore hole</td>
</tr>
</tbody>
</table>

### Lower anvils (pair)

<table>
<thead>
<tr>
<th>Dual-radii 2 mm and 4 mm, milled hardened steel, black finish</th>
<th>Single milled radius 5 mm hardened steel, black finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-notch to receive interchangeable rollers of diameters 3 mm to 15 mm, rollers are retained in position with O-rings,</td>
<td>Roller retaining sidebars – recommended for folding tests</td>
</tr>
<tr>
<td>Interchangeable rollers, diameter 10 mm, 6 mm and 4 mm</td>
<td>Rotating roller, diameter 10 mm, nickel-plated</td>
</tr>
<tr>
<td>Articulated carrier with insert for interchangeable roller of diameter 8 mm on flat-bed with end-stop. Allows movement of the roller along the ‘flat-bed’ during the test.</td>
<td></td>
</tr>
</tbody>
</table>
Upper anvils

Milled radius 2 mm, hardened steel & QC-20mm bore hole

V-notch to receive interchangeable roller, retained by O-rings.

QC-20mm bore hole

Milled radius 10 mm, hardened steel, height 80 mm.

QC-20mm bore hole

Milled radius 0.2 mm, hardened steel fin for folding tests.

QC-20mm bore hole

Milled Radius 50 mm, hardened steel

QC-20mm bore hole
Bend jigs to your own specification

Bend jigs can be assembled to user specification to meet test requirements:

- load rating
- bending span width
- anvil edge type
- anvil movement type
- anvil height
- 3 or 4-point bend capability
- individual positioning of anvils, or by centric gearing using a leadscrew / handle.

Certain anvil types allow a rocking movement, adjustable angle (articulated), or flat sideways movement. For sharp angle bending (e.g. to 160°) long-fin anvils are available, along with other specialised anvils. Standard anvil types are shown below. (Roller size is denoted by diameter, milled edges are denoted by radius.)

**Lower Anvils**

**Type A:**
- dual-radius

- A: milled edge
- AX: v-notch roller bearings

**Type C:**
- single radius

- C: milled edge
- CX: v-notch roller
- CL: captive roller
- CM: roller free to traverse

**Type CW,**
- carrier style

- CW: milled edge
- CWX: v-notch roller
- CWL: captive roller
- CWN: roller traverses to stop

**Upper Anvils**

**Type O**

- O: milled edge
- OX: v-notch roller bearing
- OWX: carrier-style v-notch

How to specify your particular bend jig requirement

Let us know your requirement by:

- beam model: Mec238, Mec103, Mec22 and length (long versions available)
- aluminium or steel, and finish (where available)
- anvil mount type as above (A, C, CW, O, with extra designation of W, X, L, M or N where appropriate)
- the upper and lower anvil radii type (milled or rollers) with diamensions
- any special requirements such as anvil height or width, or movement
- if you require centric gearing (Mec103 only)
- if you require an upper support for two anvils for 4-point testing
- the QC coupling size (20 mm or 32 mm)

For full details and examples, refer to the datasheets for the three base models: Mec238, Mec103 and Mec22.
50 kN Bend Jig (Aluminium), QC fitting

Mec22 - aluminium

A 50 kN Bend Jig in steel having a bending span up to 330 mm and beam width of 100 mm.

A comprehensive selection of Mec22 anvil types and sizes are available to allow you to configure for 3-point or 4-point flexure bend testing.

‘Upper’ anvils and the ‘lower’ bending beam are supplied fitted with a bore hole to allow connection to either QC-20 or QC-32 fixing posts … please specify which size when ordering.

Below you will see an example configuration showing:

- ‘Lower’ anvils Type AX = ‘dual’ roller bearings in a v-notch having diameters of 10mm and 30mm
- ‘Upper’ anvil Type OX = roller bearing in a v-notch having diameter of 30mm
- ‘Lower’ bending beam (B) of 360mm length with QC-32 bore hole

This generates a combined part number of: Mec22-AX30_10-OX30-B360-QC32

Dimensions mm

The illustrations overleaf are selected examples of the component parts and assemblies to build precisely the bending jig you require. You choose:

- Bending beam length (lower)
- Bending beam length (upper) … only applicable if you wish to perform 4-point flexure bend testing
- ‘Lower’ and ‘Upper’ anvil type (roller or milled-edge) and their dimensions
- Special requirements (eg. Wide anvils for large specimens, tall anvils for folding tests, movement in anvils for increased accuracy)

Please refer to the outline at the back of this datasheet for how to identify and specify the components you require.
## Example configurations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-point bend jig, 600 mm beam with AX type lower dual v-notch rollers of diameters 30mm and 10mm. Roller width 160 mm.</td>
<td>4-point bend jig, 1000mm lower beam, ‘lower’ anvil type C of radius 10mm &amp; height of 200 mm. ‘Upper’ beam 600mm, ‘upper’ anvils OWX rollers diameter 20 mm,</td>
</tr>
<tr>
<td>3-point bend jig, 360 mm beam with CW type ‘lower’ carrier roller of diameter 15mm. Rollers are articulated to provide an adjustable angle for maintaining parallelism during test.</td>
<td>4-point bend jig 1200 mm lower beam ‘lower’ anvil type CX rollers of 20mm. ‘Upper’ beam 600mm, ‘upper’ anvils OX rollers diameter 20 mm</td>
</tr>
<tr>
<td>3-point bend jig, 800 mm beam with CX type ‘lower’ v-notch rollers of diameter 15 mm, width 350 mm. ‘Upper’ OX roller diameter 30 mm, width 350mm.</td>
<td>4-point bend jig, 1200 mm beam illustrating CWX carrier roller anvils with special articulation on half- bearings to allow sideways movement</td>
</tr>
<tr>
<td>3-point bend jig, 500mm beam with CW type ‘lower’ anvil of milled edge radius 5mm ‘Upper’ O type anvil also of milled edge radius 5mm. Anvils width 420mm.</td>
<td>3-point bend jig 1310 mm beam with handles, ‘lower’ AX v-notch rollers of diameters 10mm &amp; 20mm. ‘Upper’ type OX v-notch roller of 20mm diameter.</td>
</tr>
<tr>
<td>3-point bend jig, 900 mm beam with CWN ‘lower’ anvils of dia. 30mm rolling to end-stop, ‘upper’ anvil OWX with articulated roller</td>
<td></td>
</tr>
</tbody>
</table>

Example configurations

- 3-point bend jig, 600 mm beam with AX type lower dual v-notch rollers of diameters 30mm and 10mm. Roller width 160 mm
- Upper OX type v-notch roller of 30 mm diameter

- 3-point bend jig, 360 mm beam with CW type ‘lower’ carrier roller of diameter 15mm. Rollers are articulated to provide an adjustable angle for maintaining parallelism during test

- 3-point bend jig, 800 mm beam with CX type ‘lower’ v-notch rollers of diameter 15 mm, width 350 mm. ‘Upper’ OX roller diameter 30 mm, width 350mm.

- 3-point bend jig, 500mm beam with CW type ‘lower’ anvil of milled edge radius 5mm ‘Upper’ O type anvil also of milled edge radius 5mm. Anvils width 420mm

- 3-point bend jig, 900 mm beam with CWN ‘lower’ anvils of dia. 30mm rolling to end-stop, ‘upper’ anvil OWX with articulated roller

- 4-point bend jig, 1000mm lower beam, ‘lower’ anvil type C of radius 10mm & height of 200 mm. ‘Upper’ beam 600mm, ‘upper’ anvils OWX rollers diameter 20 mm

- 4-point bend jig 1200 mm lower beam ‘lower’ anvil type CX rollers of 20mm. ‘Upper’ beam 600mm, ‘upper’ anvils OX rollers diameter 20 mm

- 4-point bend jig, 1200 mm beam illustrating CWX carrier roller anvils with special articulation on half- bearings to allow sideways movement

- 4-point bend jig, 1000 mm beam with handles, ‘lower’ AX v-notch rollers of diameters 10mm & 20mm. ‘Upper’ type OX v-notch roller of 20mm diameter.
Anvils

Type C anvil. Nickel-plated hardened steel, milled radius of 2 mm

Type C Nickel-plated hardened steel, milled radius of 5 mm for 4-point bend jig upper beam

Type AX v-notch lower anvil for interchangeable rollers of diameter 8 mm to 35 mm

Nickel-plated hardened steel diameter 30 mm rollers for v-notch anvils

Lower Type AX aluminium v-notch anvils with rollers of diameter 10 mm, 20 mm, and 30 mm

Lower anvil type CL, captive roller diameter 10 mm, height 150 mm

V-notch anvil type CX with roller diameter 50 mm

Lower anvil type CL, captive roller diameter 10 mm, height 200 mm

Articulated carrier anvils

Lower articulated carrier for removable inserts, aluminium to 50 kN

Upper articulated carrier for removable inserts

Insert for articulated carrier, width 100 mm, available radii: 2; 5; 10; 15 and 20 mm

Articulated carrier with radius 5 mm insert
Rubber-faced sprung roller insert for articulated carrier, roller radius 30 mm, width 100 mm

V-notch upper anvil for interchangeable rollers available in aluminium or steel

4-point bend fixtures

Spring-retained roller on flat bed with end-stops. Type CWN

Upper beam to convert Mec22 3-point bend jig to 4-point bend

Anvil Support with integral roller, diameter 50 mm, width 50 mm

Upper v-notch carrier for interchangeable rollers for 4-point bending

Upper anvil, nickel-plated hardened steel, milled radius 5 mm

Upper beam hardened steel roller, radius 30 mm, width 100 mm, spring-retained on flat bed, recommended for glass testing

Upper anvil, milled radius 25 mm

Upper beam articulated anvil support.

Upper v-notch carrier for interchangeable rollers, diameters: 32, 36, 40, 50 and 60 mm

Special accessories

For holder with large adapter size

V-notch adapters for smallest or largest-radius rollers

V-notch diameter reducer

T-nut for mounting anvils on beams, 10 mm × 40 mm
Bend jigs to your own specification

Bend jigs can be assembled to user specification to meet test requirements:

- load rating
- bending span width
- anvil edge type
- anvil movement type
- anvil height
- 3 or 4-point bend capability
- individual positioning of anvils, or by centric gearing using a leadscrew / handle.

Certain anvil types allow a rocking movement, adjustable angle (articulated), or flat sideways movement. For sharp angle bending (e.g. to 160°) long-fin anvils are available, along with other specialised anvils. Standard anvil types are shown below. (Roller size is denoted by diameter, milled edges are denoted by radius.)

### Lower Anvils

**Type A:** dual-radius

- A: milled edge
- AX: v-notch roller bearings

**Type C:** single radius

- C: milled edge
- CX: v-notch roller
- CL: captive roller
- CM: roller free to traverse

**Type CW, carrier style**

- CW: milled edge
- CWX: v-notch roller
- CWL: captive roller
- CWN: roller traverses to stop

### Upper Anvils

**Type O**

- O: milled edge
- OX: v-notch roller bearing
- OWX: carrier-style v-notch

### How to specify your particular bend jig requirement

Let us know your requirement by:

- beam model: Mec238, Mec103, Mec22 and length (long versions available)
- aluminium or steel, and finish (where available)
- anvil mount type as above (A, C, CW, O, with extra designation of W, X, L, M or N where appropriate)
- the upper and lower anvil radii type (milled or rollers) with diamensions
- any special requirements such as anvil height or width, or movement
- if you require centric gearing (Mec103 only)
- if you require an upper support for two anvils for 4-point testing
- the QC coupling size (20 mm or 32 mm)

For full details and examples, refer to the datasheets for the three base models: Mec238, Mec103 and Mec22.
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Perpex 45° Cone Probe with Extension Rod

Description

The perspex cone probe has a 45° angle, and is used for texture testing to assess characteristics such as hardness and spreadability.

Applications

Used to determine the firmness and spreadability properties of:
- food products
- cosmetics

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Thread 2</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-081</td>
<td>200 N</td>
<td>45 lbf</td>
<td>10-32 UNF</td>
<td>38.6 mm</td>
<td>12 g</td>
</tr>
<tr>
<td>432-100</td>
<td>200 N</td>
<td>45 lbf</td>
<td>M3</td>
<td>110 mm</td>
<td>40 g</td>
</tr>
</tbody>
</table>
**Dimensions mm (inch)**

φ 32 (1.26"

432-081

38.6 (1.521"

45°

25 (0.984"

2x M6 CONNECTIONS

4 (0.157"

110 (4.311"

432-100

50 (1.969"

30 (1.181"

19 (0.748"

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</tr>
</tbody>
</table>
2 mm Needle Probe

Description

The needle probe is made from stainless steel and is designed for surface puncture and penetration tests.

Applications

Used to determine the firmness and spreadability properties of:
- food products

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Thread 2</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-087</td>
<td>100 N</td>
<td>M3</td>
<td>N/A</td>
<td>9 g</td>
</tr>
<tr>
<td>432-100</td>
<td>100 N</td>
<td>10-32 UNF</td>
<td>M3</td>
<td>40 g</td>
</tr>
</tbody>
</table>
### Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \phi 2 )</td>
<td>0.079''</td>
</tr>
<tr>
<td>36.5 (1.437'')</td>
<td></td>
</tr>
<tr>
<td>16.5 (0.65'')</td>
<td></td>
</tr>
<tr>
<td>432-087</td>
<td></td>
</tr>
<tr>
<td>6 (0.236'')</td>
<td></td>
</tr>
<tr>
<td>110 (4.311'')</td>
<td></td>
</tr>
<tr>
<td>50 (1.969'')</td>
<td></td>
</tr>
<tr>
<td>30 (1.181'')</td>
<td></td>
</tr>
<tr>
<td>25 (0.984'')</td>
<td></td>
</tr>
<tr>
<td>2x M6 CONNECTIONS</td>
<td></td>
</tr>
<tr>
<td>4 (0.157'')</td>
<td></td>
</tr>
<tr>
<td>19 (0.748'')</td>
<td></td>
</tr>
<tr>
<td>110 (4.311'')</td>
<td></td>
</tr>
<tr>
<td>2 (0.079'')</td>
<td></td>
</tr>
<tr>
<td>2 (0.079'')</td>
<td></td>
</tr>
<tr>
<td>16.5 (0.65'')</td>
<td></td>
</tr>
<tr>
<td>6 (0.236'')</td>
<td></td>
</tr>
<tr>
<td>432-087</td>
<td></td>
</tr>
<tr>
<td>2 (0.079'')</td>
<td></td>
</tr>
<tr>
<td>2 (0.079'')</td>
<td></td>
</tr>
</tbody>
</table>

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Puncture Test Jig

Description

This jig is designed also to accommodate spherical or irregular samples. Three sizes of holding plate are supplied.

Applications

Used to determine the puncture resistance properties of:
• films
• food products

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Max. Sample Diameter Ø</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-243</td>
<td>200 N</td>
<td>45 lbf</td>
<td>757 g</td>
</tr>
<tr>
<td>432-244</td>
<td>200 N</td>
<td>47 mm 1.85&quot;</td>
<td>693 g</td>
</tr>
<tr>
<td></td>
<td>20 kgf</td>
<td></td>
<td>1.66 lb</td>
</tr>
</tbody>
</table>
DS-1027-01

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---

**Dimensions mm (inch)**

![Diagrams and tables related to the dimensions of the equipment.]
Description

A 25 kN Compressive Shear Jig designed for testing the shear strength in compression of adhesive bonds used for wood and similar materials.

It facilitates testing to various international and industry standards such as ASTM-D905, ASTM-D143, DIN 52187, EN 392, ISO 6238 and UNE 56543:88

It operates on the principle of the self-aligning upper ‘shear blade’ cutting the two blocks of material which have been bonded together. The two blocks are positioned in the lower fixture, which is secured to the base of a testing machine.

The resistance of the adhesive to the cut is calculated by the software of the testing system as ‘force required to shear divided by the bond area’.

Due to the size and weight of the Mec17 Shear Jig it is suitable primarily for use on twin-column test frames.

The Mec17 is supplied fitted with a bore hole to allow connection to either QC-20 or QC-32 fixing posts … please specify which size when ordering.
Round Hooks

Description

Round hooks are general purpose, suitable for any sample with a loop, eyelet or similar feature. Often used with a digital force gauge to perform tensile tests on tension springs.

Applications

Used for general purpose tensile testing of:
- tension springs
- any sample with a loop or eyelet

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Diameter (ØB)</th>
<th>Max. Specimen Diameter (ØC)</th>
<th>Length (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-118</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>3 mm 0.12&quot;</td>
<td>8 mm 0.32&quot;</td>
<td>39 mm 1.54&quot;</td>
<td>20 g</td>
</tr>
<tr>
<td>432-171</td>
<td>50 N</td>
<td>M6</td>
<td>3 mm 0.12&quot;</td>
<td>8 mm 0.32&quot;</td>
<td>38 mm 1.50&quot;</td>
<td>8 g</td>
</tr>
<tr>
<td>432-120</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>6 mm 0.24&quot;</td>
<td>14 mm 0.55&quot;</td>
<td>66 mm 2.60&quot;</td>
<td>30 g</td>
</tr>
<tr>
<td>432-169</td>
<td>500 N</td>
<td>M6</td>
<td>6 mm 0.24&quot;</td>
<td>14 mm 0.55&quot;</td>
<td>66 mm 2.60&quot;</td>
<td>20 g</td>
</tr>
<tr>
<td>432-122</td>
<td>2.5 kN</td>
<td>5-16 UNC</td>
<td>6 mm 0.24&quot;</td>
<td>14 mm 0.55&quot;</td>
<td>66 mm 2.60&quot;</td>
<td>30 g</td>
</tr>
</tbody>
</table>
**Dimensions mm (inch)**

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</table>

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Swivel Test Hooks

Description
Swivel hooks are specifically designed to align samples when testing tension springs. They are usually used in conjunction with fixed test hooks.

Applications
Used for general purpose tensile testing of:
• tension springs

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Max. Specimen Diameter (ØA)</th>
<th>Diameter (ØC)</th>
<th>Length (B)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-392</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>8 mm</td>
<td>0.32&quot;</td>
<td>50 mm</td>
<td>28 g</td>
</tr>
<tr>
<td>432-391</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>14 mm</td>
<td>0.55&quot;</td>
<td>83 mm</td>
<td>50 g</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
Peg Hooks

Description

Peg hooks are designed for easy mounting of small and miniature tension springs. The extended peg hook is supplied with a flexible link.

Used for securely attaching samples of decorations when carrying out test-to-failure tests on textiles and clothing.

Applications

Used for general purpose tensile testing of:
- tension springs

(Extended) Used for general purpose tensile testing of:
- clothing
- textiles

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Length (A)</th>
<th>Peg Length</th>
<th>Peg Ø</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-399</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>30 mm 1.18*</td>
<td>6 mm 0.24&quot;</td>
<td>1.5 mm 0.06&quot;</td>
<td>30 g 0.07 lb</td>
</tr>
<tr>
<td>432-181</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>97 mm 3.82*</td>
<td>9 mm 0.35&quot;</td>
<td>2 mm 0.08&quot;</td>
<td>42 g 0.09 lb</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- Dimension 1: \(201.0787\) mm (7.92"")
- Dimension 2: \(47.75\) mm (1.877"")
- Dimension 3: \(9\) mm (0.354"")
- Dimension 4: \(9.5\) mm (0.374"")

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Adjustable Test Hook

Description

Used for securely holding smaller crimp terminals for tests to BSI spec. BS5G178 PART 1 and equivalent international standards.

Applications

Used for general purpose tensile testing of:
- crimp terminals

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Hook Depth</th>
<th>Jaw Capacity</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-380</td>
<td>50 N</td>
<td>10-32 UNF</td>
<td>5.5 mm</td>
<td>0.217&quot;</td>
<td>2 mm</td>
<td>0.08&quot;</td>
</tr>
<tr>
<td></td>
<td>5 kgf</td>
<td>11 lbf</td>
<td>2 mm</td>
<td>0.08&quot;</td>
<td>56 mm</td>
<td>2.21&quot;</td>
</tr>
<tr>
<td></td>
<td>13 g</td>
<td></td>
<td>13 g</td>
<td>0.02 lb</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

8 (0.315")
6 (0.236")
5.5 (0.217")
2 (0.079") MAX

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Flip Cap Accessory

**Description**

Designed to easily fit under bottle flip caps when testing their opening force.

**Applications**

Used for general purpose tensile testing of:
- flip caps used in packaging

**Specifications**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Hook Depth</th>
<th>Hook Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-419</td>
<td>100 N</td>
<td>10 kgf</td>
<td>22 lbf</td>
<td>22 mm</td>
<td>0.857&quot;</td>
<td>4 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10-32 UNF</td>
<td>0.16&quot;</td>
<td>25.5 mm</td>
<td>1.00&quot;</td>
<td>17 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.04 lb</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- 22 (0.857"")
- 4 (0.157"")
- 9 (0.352"")
- 14.5 (0.571"")
- 25.5 (1.004")
- 125°
- 5:1 @ A3

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Clevis Grips

Description
Clevis grips feature a removable pin which can be inserted into the U-shaped clevis. The specimen is usually pre-conditioned with a hole or eyelet through which the clevis pin is passed to secure it in place. Models 432-400 and 432-443 have a clevis pin with quick-release detents to speed up inserting and removing the pin.

Applications
Used for testing heavy duty tension springs or for securing odd-shaped parts which have an eyelet.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Width (B)</th>
<th>Pin Diameter (ØD)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-403</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>5 mm</td>
<td>5 mm</td>
<td>26 mm</td>
<td>13 g</td>
</tr>
<tr>
<td>432-400</td>
<td>2.5 kN</td>
<td>M8</td>
<td>8 mm</td>
<td>8 mm</td>
<td>42 mm</td>
<td>90 g</td>
</tr>
<tr>
<td>432-443</td>
<td>5 kN</td>
<td>M12</td>
<td>12 mm</td>
<td>12 mm</td>
<td>62 mm</td>
<td>250 g</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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Chain Link Assembly

Description

The chain link assembly is used for flexible alignment and connection of other accessories, in particular manual handling test applications. The 500 N capacity version is often used for ease of sample loading with lightweight vice grips, vice clamps and wedge grips.

Applications

Used for general purpose tensile testing of:
- manual handling

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-259</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>68 mm</td>
<td>32 g</td>
</tr>
<tr>
<td>PSV6057</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>130 mm</td>
<td>158 g</td>
</tr>
</tbody>
</table>
### Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Thread 1</th>
<th>Thread 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>68 ±1.2777</td>
<td>MAX</td>
</tr>
<tr>
<td>130 ±0 (5.118 ±0.394)</td>
<td></td>
</tr>
</tbody>
</table>

**432-259**

**PSV8057**

---

**Chain Link Assembly**

<table>
<thead>
<tr>
<th>Dimensions mm (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-259</td>
</tr>
<tr>
<td>PSV8057</td>
</tr>
</tbody>
</table>

---

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Description

Lever-operated cam grips are designed to self-tighten as load is applied, and spread the load evenly. The lever also allows for quick insertion and release of samples.

Applications

- dumbbells
- elastomers

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Maximum Sample Size (Width x Thickness)</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-383</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>30 mm x 5 mm</td>
<td>29 mm</td>
<td>100 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td>110 lbf</td>
<td>1.18&quot; x 0.20&quot;</td>
<td>1.14&quot;</td>
<td>0.22 lb</td>
</tr>
<tr>
<td>432-047</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>70 mm x 5 mm</td>
<td>29 mm</td>
<td>100 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td>110 lbf</td>
<td>2.76&quot; x 0.20&quot;</td>
<td>1.14&quot;</td>
<td>0.22 lb</td>
</tr>
</tbody>
</table>
**Dimensions mm (inch)**

![Diagram of Lever-operated Cam Grips]

- **A**: 53 (2.076") MAX
- **B**: 39.6 (1.56")

**Measurements**

- **2**: 53 (2.076") MAX
- **8**: 18 (0.709")
- **13**: 29 (1.142")
- **O**: 13 (0.512")

**Thread 1**

**Drawing applies to part number:**

- 432-047
- 432-383

---

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Eccentric Roller Grip, QC fitting

Eccentric roller grips – easy to use and self-tightening
Applicable for soft and flexible samples, foils, plastics, rubber etc.

**Mec7-1 Eccentric Roller Grip**

* Tensile force: 1 kN
* Pyramid (serrated) faced roller, 25mm Ø
* Clamping width 50mm, specimen thickness 0 – 7 mm
* Temperature range: 0 – 130°C
  Other temperature ranges possible on request
* Body: aluminum anodized
* Weight: 509 gram
* Scope of delivery: 1 grip

**Mec7-1-SR Eccentric roller grip**

* Tensile force: 1 kN
* Smooth roller, 25mm Ø, rubber base plate
* Clamping width 50mm, specimen thickness 0 – 7 mm
* Temperature range: 0 – 70°C
  Other temperature ranges possible on request
* Body: aluminum anodized
* Weight: 509 gram
* Scope of delivery: 1 grip

**Mec7-5 Eccentric roller grip**

* Tensile force: 5 kN
* Pyramid (serrated) faced roller, 30mm Ø
* Clamping width 50mm, specimen thickness 0 – 7mm
* Temperature range: 0 – 130°C
  Other temperature ranges possible on request
* Body: aluminum anodized
* Weight: 667 gram
* Scope of delivery: 1 grip

**Mec7-10 Eccentric roller grip**

* Tensile force: 10 kN
* Pyramid (serrated) faced roller, 50mm Ø
* Clamping width 60mm, specimen thickness 0 – 8 mm
* Temperature range: 0 – 130°C
  Other temperature ranges possible on request
* Body: steel, manganese phosphate coating
* Weight: 3.35 Kg
* Scope of delivery: 1 grip
Dimensions mm (inch)

Mec7-1

Mec7-1-SR

Mec7-5

Mec7-10

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Cable Cam Grips

Description

Cable cam grips are designed for holding insulated cables and wire. The sample is secured by the cam, which self-tightens as load is applied and spreads the load evenly. Serrated or smooth cam. Supplied with socket-cap bolt for stand fixing.

Applications

Used for general purpose tensile testing of:
- crimped terminals
- tapes
- foils
- wires

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Type</th>
<th>Max. Sample Width</th>
<th>Max. Sample Thickness</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-390</td>
<td>1 kN</td>
<td>10-32 UNF</td>
<td>Serrated</td>
<td>13 mm</td>
<td>0.51”</td>
<td>10 mm</td>
<td>0.39”</td>
</tr>
<tr>
<td></td>
<td>100 kgf</td>
<td></td>
<td></td>
<td>10 mm</td>
<td>0.39”</td>
<td>75 mm</td>
<td>2.95”</td>
</tr>
<tr>
<td></td>
<td>225 lbf</td>
<td></td>
<td></td>
<td>10 mm</td>
<td>0.39”</td>
<td>75 mm</td>
<td>2.95”</td>
</tr>
<tr>
<td></td>
<td>230 g</td>
<td></td>
<td></td>
<td>10 mm</td>
<td>0.39”</td>
<td>75 mm</td>
<td>2.95”</td>
</tr>
<tr>
<td></td>
<td>0.51 lb</td>
<td></td>
<td></td>
<td>10 mm</td>
<td>0.39”</td>
<td>75 mm</td>
<td>2.95”</td>
</tr>
<tr>
<td>432-404</td>
<td>1 kN</td>
<td>10-32 UNF</td>
<td>Smooth</td>
<td>13 mm</td>
<td>0.51”</td>
<td>10 mm</td>
<td>0.39”</td>
</tr>
<tr>
<td></td>
<td>100 kgf</td>
<td></td>
<td></td>
<td>10 mm</td>
<td>0.39”</td>
<td>75 mm</td>
<td>2.95”</td>
</tr>
<tr>
<td></td>
<td>225 lbf</td>
<td></td>
<td></td>
<td>10 mm</td>
<td>0.39”</td>
<td>75 mm</td>
<td>2.95”</td>
</tr>
<tr>
<td></td>
<td>230 g</td>
<td></td>
<td></td>
<td>10 mm</td>
<td>0.39”</td>
<td>75 mm</td>
<td>2.95”</td>
</tr>
<tr>
<td></td>
<td>0.51 lb</td>
<td></td>
<td></td>
<td>10 mm</td>
<td>0.39”</td>
<td>75 mm</td>
<td>2.95”</td>
</tr>
<tr>
<td>432-108</td>
<td>5 kN</td>
<td>M10</td>
<td>Serrated</td>
<td>40 mm</td>
<td>1.57”</td>
<td>26 mm</td>
<td>1.02”</td>
</tr>
<tr>
<td></td>
<td>500 kgf</td>
<td></td>
<td></td>
<td>26 mm</td>
<td>1.02”</td>
<td>152 mm</td>
<td>5.98”</td>
</tr>
<tr>
<td></td>
<td>1100 lbf</td>
<td></td>
<td></td>
<td>26 mm</td>
<td>1.02”</td>
<td>152 mm</td>
<td>5.98”</td>
</tr>
<tr>
<td></td>
<td>2.3 kg</td>
<td></td>
<td></td>
<td>26 mm</td>
<td>1.02”</td>
<td>152 mm</td>
<td>5.98”</td>
</tr>
<tr>
<td></td>
<td>5.10 lb</td>
<td></td>
<td></td>
<td>26 mm</td>
<td>1.02”</td>
<td>152 mm</td>
<td>5.98”</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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Double Cam Grip

Description

Double cam grips are designed for holding insulated cables and wire. The sample is secured by the cam, which self-tightens as load is applied, minimising slippage during testing.

Applications

Used for tensile testing of:
• crimp terminals
• wires

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Max. Sample Thickness</th>
<th>Max. Sample Width</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-387</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>2 mm</td>
<td>0.08&quot;</td>
<td>36 mm</td>
</tr>
<tr>
<td>432-378</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>5 mm</td>
<td>0.20&quot;</td>
<td>62 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- 56 (2.205"
- 26 (1.04"
- 22.7 (0.89"
- 10 (0.394"
- 25 (0.984"
- 21 (0.83"
- 10 (0.394"
- 3 (0.118"
- 36 (1.41"
- 36 (1.41"
- 18 (0.71"
- 32 (1.26"
- 62 (2.44"
- 25.4 (1"
- 12.7 (0.5"
- 21 (0.83"
- 10 (0.394"
- 62 (2.44"

Thread 1
432-378

432-387

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Rotating Crimp Receptacle

Description

The rotating crimp receptacle is a versatile crimp termination holder that accommodates a wide range of terminals. The inner slotted ring rotates to adjust to fit 8 different-sized crimp terminals, used for BS SG 178-1 and equivalent international standard test methods.

Applications

Used for general purpose tensile testing of:
- crimp terminals
- welded or bonded connectors

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Thread 2</th>
<th>Diameter Ø</th>
<th>Sample Diameter Range</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-379</td>
<td>1 kN</td>
<td>5/16 UNC</td>
<td>10-32 UNF</td>
<td>55 mm</td>
<td>1.5 mm - 5 mm</td>
<td>0.06&quot; - 0.20&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

8 SLOTS: 15 - 5 MM
(0.059 - 0.197”)

23 (0.906”)

10 (0.394”)

\[ \Phi 35 (1.378”) \]

\[ \Phi 55 (2.165”) \]

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Wire/Filament Grips

Description

The wire/filament grip is equipped with a grooved capstan and precision-machined swivel plate, which are designed to ensure centre break within the sample and specimen alignment when force is applied.

Applications

Used for tensile testing of:
- thin wires
- cords
- filaments
- yarns

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Pulley Diameter (ØB)</th>
<th>Max wire Diameter (ØC)</th>
<th>Length (A)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-363</td>
<td>250 N</td>
<td>10-32 UNF</td>
<td>13 mm 0.50&quot;</td>
<td>0.8 mm 0.03&quot;</td>
<td>78 mm 3.07&quot;</td>
<td>-</td>
</tr>
<tr>
<td>432-397</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>19 mm 0.75&quot;</td>
<td>1.5 mm 0.06&quot;</td>
<td>97 mm 3.82&quot;</td>
<td>117 g 0.26 lb</td>
</tr>
</tbody>
</table>
Dimensions

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Large Circular Bollard Grip, QC fitting

Description

Large circular bollard grips are designed for testing flexible wire-type samples up to a maximum load of 2 kN. The sample is wrapped around the bollard and the free end is clamped tightly in place.

Applications

Used for tensile testing of:
• cord
• filaments
• wire
• yarn

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Specimen Thickness</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-271</td>
<td>2 kN</td>
<td>200 kgf</td>
<td>QC20 2 mm 0.08&quot;</td>
<td>140 mm</td>
<td>5.51&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value (mm)</th>
<th>Value (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \phi 8 )</td>
<td>20</td>
<td>0.787</td>
</tr>
<tr>
<td>( \phi 2 )</td>
<td>111</td>
<td>4.37</td>
</tr>
<tr>
<td>( \phi 4 )</td>
<td>49</td>
<td>1.929</td>
</tr>
<tr>
<td>Pitch</td>
<td>4</td>
<td>0.158</td>
</tr>
<tr>
<td>MAX</td>
<td>11</td>
<td>0.433</td>
</tr>
<tr>
<td>( \phi 20 )</td>
<td>140</td>
<td>5.512</td>
</tr>
<tr>
<td>( \phi 8 ) MAX</td>
<td>8</td>
<td>0.315</td>
</tr>
</tbody>
</table>

**DS-1050-01**

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Film Grips

Description

These grips are used for flexible samples such as films, where conventional grips create stress points so reducing tensile strength. Samples are wrapped around the drum, spreading the load and avoiding breakage. Grips are supplied in pairs.

Applications

- thin films
- polymers
- elastomers

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Sample Width</th>
<th>Diameter Ø</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-157</td>
<td>500 N</td>
<td>10-32 UNF</td>
<td>50 mm</td>
<td>20 mm</td>
<td>58.8 mm</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td>110 lbf</td>
<td></td>
<td>0.79&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

FOLLOWED BY INCHES: MM I IN"

<table>
<thead>
<tr>
<th>Dimension (mm)</th>
<th>Dimension (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.8 (2&quot;)</td>
<td>2.047&quot;</td>
</tr>
<tr>
<td>53.3 (2.098&quot;)</td>
<td>2.098&quot;</td>
</tr>
<tr>
<td>( \phi 20 )</td>
<td>(0.787&quot;)</td>
</tr>
<tr>
<td>( \phi 25 )</td>
<td>(0.984&quot;)</td>
</tr>
<tr>
<td>78 (3.071&quot;)</td>
<td>3.071&quot;</td>
</tr>
<tr>
<td>68 (2.677&quot;)</td>
<td>2.677&quot;</td>
</tr>
<tr>
<td>14.8 (0.583&quot;)</td>
<td>(0.583&quot;)</td>
</tr>
<tr>
<td>9.8 (0.386&quot;)</td>
<td>(0.386&quot;)</td>
</tr>
</tbody>
</table>

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Spring-Loaded Fold Grip, QC fitting

Description

The spring-loaded fold grip is a self-tightening grip with a spring-loaded roller for holding flexible samples firmly as load is applied. Sample material is wound around the cross hatch knurl of the 10 mm (0.39”) diameter roller and held in contact with the serrated rear body, preventing slippage within the grip.

Applications

Used for tensile testing of flexible materials:
- elastomers
- rubber
- films
- fabrics
- polymers
- leather

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Sample Thickness</th>
<th>Max. Specimen Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-262</td>
<td>2 kN</td>
<td>QC20</td>
<td>5 mm</td>
<td>0.20”</td>
<td>45 mm</td>
<td>1.75”</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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Small Circular Bollard Grip, QC fitting

Description

Small circular bollard grips are made from aluminium and are designed for testing delicate, flexible samples such as fine threads, wires and yarns, which may break easily when clamped. The maximum capacity is 100 N. The sample is wrapped around the bollard and the free end is held tightly in place using a pair of friction washers and a thumbscrew. The bollard has a single 5 mm (0.197”) wide smooth groove to align the sample centrally and has a diameter of 20 mm (0.79”) around which it can be wound.

Applications

Used for tensile testing of:
- fibres
- yarns
- filaments
- twines
- threads
- fine wires

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Load (to maintain tension)</th>
<th>Max. Diameter</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-270</td>
<td>100 N</td>
<td>10 kgf</td>
<td>22 lbf QC20</td>
<td>0.5 N</td>
<td>5 mm</td>
<td>0.20”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>102 mm</td>
<td>4.02”</td>
<td>210 g</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

Drawing is indicative only

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e: sales@mecmesin.cn

www.mecmesin.com
Webbing Grip, QC fitting

Description

Webbing grips are easy to use and designed for rapid testing of high-strength belts and tapes. The sample is wound around the knurled roller and then around the smooth roller. As load is applied, the smooth roller moves in the slot to secure tightly against the knurled surface ensuring maximum gripping strength.

Applications

Used for tensile testing of:
• fabrics
• webbing
• textiles

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Sample Thickness</th>
<th>Max. Specimen Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-269</td>
<td>20 kN 2000 kgf 4400 lbf</td>
<td>QC20</td>
<td>11 mm 0.43&quot;</td>
<td>50 mm 1.97&quot;</td>
<td>113 mm 4.45&quot;</td>
<td>1.1 kg 2.4 lb</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>ø 0.787”</td>
</tr>
<tr>
<td>21</td>
<td>ø 0.835”</td>
</tr>
<tr>
<td>22</td>
<td>ø 0.866”</td>
</tr>
<tr>
<td>23</td>
<td>ø 0.898”</td>
</tr>
<tr>
<td>24</td>
<td>ø 0.929”</td>
</tr>
<tr>
<td>25</td>
<td>ø 0.961”</td>
</tr>
<tr>
<td>26</td>
<td>ø 0.992”</td>
</tr>
<tr>
<td>27</td>
<td>ø 1.024”</td>
</tr>
<tr>
<td>28</td>
<td>ø 1.056”</td>
</tr>
<tr>
<td>29</td>
<td>ø 1.087”</td>
</tr>
<tr>
<td>30</td>
<td>ø 1.118”</td>
</tr>
<tr>
<td>31</td>
<td>ø 1.150”</td>
</tr>
<tr>
<td>32</td>
<td>ø 1.181”</td>
</tr>
<tr>
<td>33</td>
<td>ø 1.213”</td>
</tr>
<tr>
<td>34</td>
<td>ø 1.244”</td>
</tr>
<tr>
<td>35</td>
<td>ø 1.275”</td>
</tr>
<tr>
<td>36</td>
<td>ø 1.306”</td>
</tr>
<tr>
<td>37</td>
<td>ø 1.338”</td>
</tr>
<tr>
<td>38</td>
<td>ø 1.369”</td>
</tr>
<tr>
<td>39</td>
<td>ø 1.400”</td>
</tr>
<tr>
<td>40</td>
<td>ø 1.432”</td>
</tr>
<tr>
<td>41</td>
<td>ø 1.463”</td>
</tr>
<tr>
<td>42</td>
<td>ø 1.495”</td>
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<tr>
<td>43</td>
<td>ø 1.526”</td>
</tr>
<tr>
<td>44</td>
<td>ø 1.557”</td>
</tr>
<tr>
<td>45</td>
<td>ø 1.588”</td>
</tr>
<tr>
<td>46</td>
<td>ø 1.619”</td>
</tr>
<tr>
<td>47</td>
<td>ø 1.650”</td>
</tr>
<tr>
<td>48</td>
<td>ø 1.681”</td>
</tr>
<tr>
<td>49</td>
<td>ø 1.712”</td>
</tr>
<tr>
<td>50</td>
<td>ø 1.743”</td>
</tr>
<tr>
<td>51</td>
<td>ø 1.775”</td>
</tr>
<tr>
<td>52</td>
<td>ø 1.806”</td>
</tr>
<tr>
<td>53</td>
<td>ø 1.837”</td>
</tr>
<tr>
<td>54</td>
<td>ø 1.868”</td>
</tr>
<tr>
<td>55</td>
<td>ø 1.900”</td>
</tr>
<tr>
<td>56</td>
<td>ø 1.931”</td>
</tr>
<tr>
<td>57</td>
<td>ø 1.962”</td>
</tr>
<tr>
<td>58</td>
<td>ø 1.993”</td>
</tr>
<tr>
<td>59</td>
<td>ø 2.025”</td>
</tr>
<tr>
<td>60</td>
<td>ø 2.056”</td>
</tr>
<tr>
<td>61</td>
<td>ø 2.087”</td>
</tr>
<tr>
<td>62</td>
<td>ø 2.118”</td>
</tr>
<tr>
<td>63</td>
<td>ø 2.150”</td>
</tr>
<tr>
<td>64</td>
<td>ø 2.181”</td>
</tr>
<tr>
<td>65</td>
<td>ø 2.213”</td>
</tr>
<tr>
<td>66</td>
<td>ø 2.244”</td>
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<td>67</td>
<td>ø 2.275”</td>
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<td>68</td>
<td>ø 2.306”</td>
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<td>69</td>
<td>ø 2.338”</td>
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<td>70</td>
<td>ø 2.369”</td>
</tr>
<tr>
<td>71</td>
<td>ø 2.400”</td>
</tr>
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<td>ø 2.432”</td>
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<td>ø 2.557”</td>
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<td>77</td>
<td>ø 2.588”</td>
</tr>
<tr>
<td>78</td>
<td>ø 2.619”</td>
</tr>
<tr>
<td>79</td>
<td>ø 2.650”</td>
</tr>
<tr>
<td>80</td>
<td>ø 2.681”</td>
</tr>
<tr>
<td>81</td>
<td>ø 2.712”</td>
</tr>
<tr>
<td>82</td>
<td>ø 2.743”</td>
</tr>
<tr>
<td>83</td>
<td>ø 2.775”</td>
</tr>
</tbody>
</table>

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Description

Heavy-duty belt grips are designed for testing high-strength belts and straps such as conveyor belts, which require specialised grips to prevent sample slippage. By winding the sample around the split bodies the stresses in the specimen are distributed. Self-tightening for effective tensile testing up to 10 kN. Grips are supplied in pairs.

Applications

Used for tensile testing of:
- conveyor belts
- plastic and metal strapping
- safety harnesses
- seat belts
- tapes

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Sample Thickness</th>
<th>Max. Specimen Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-277</td>
<td>10 kN</td>
<td>QC20</td>
<td>14 mm</td>
<td>0.55&quot;</td>
<td>50 mm</td>
<td>152 mm</td>
</tr>
<tr>
<td></td>
<td>1000 kgf</td>
<td></td>
<td>0.55&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2200 lbf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11 lb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Dimensions mm (inch)**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Max. Sample Width</th>
<th>Max. Sample Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-277</td>
<td>10 kN</td>
<td>14 mm</td>
<td>50 mm</td>
<td>152 mm</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

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Heavy-duty Textile Grips, QC fitting

Description

Heavy-duty textile grips are ideally suited to tension testing of fabrics, textiles and webbing. The grips are very easy to load, and the self-tightening action ensures that the sample does not slip. Grips are supplied in pairs.

Applications

Used for tensile testing of:
- fabrics
- webbing
- textiles

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Sample Thickness Min./Max. (A)</th>
<th>Max. Specimen Width</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-434</td>
<td>50 kN</td>
<td>QC32</td>
<td>0.5 mm / 3 mm</td>
<td>81 mm</td>
<td>224 mm</td>
</tr>
<tr>
<td></td>
<td>5000 kgf</td>
<td></td>
<td>0.02&quot; / 0.118&quot;</td>
<td>3.18&quot;</td>
<td>8.82&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>177</td>
<td>6.969&quot;</td>
</tr>
<tr>
<td>105</td>
<td>4.134&quot;</td>
</tr>
<tr>
<td>81</td>
<td>3.177&quot;</td>
</tr>
<tr>
<td>224</td>
<td>8.819&quot;</td>
</tr>
<tr>
<td>127</td>
<td>0.5&quot;</td>
</tr>
<tr>
<td>17</td>
<td>0.669&quot;</td>
</tr>
<tr>
<td>58</td>
<td>2.283&quot;</td>
</tr>
<tr>
<td>110</td>
<td>4.331&quot;</td>
</tr>
<tr>
<td>60°</td>
<td>MAX</td>
</tr>
<tr>
<td>3</td>
<td>0.118&quot;</td>
</tr>
<tr>
<td>0,5</td>
<td>0.020&quot;</td>
</tr>
<tr>
<td>R 40</td>
<td>1.575&quot;</td>
</tr>
<tr>
<td>R 40</td>
<td>1.575&quot;</td>
</tr>
</tbody>
</table>

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Scissor Grips, QC fitting

Scissor Grips 5, 20 and 50 kN

Self-tightening and self-aligning grips

The initial gripping force to prevent the specimen from slipping when initially inserted is provided by spring tension. The ratio of clamping force to tensile force changes according to the opening width. The larger the opening width the stronger the grips tighten the specimen. The jaws then tighten themselves during force application to ensure the specimen can be pulled to break. Most commonly used for testing high-ductile plastics and elastomers.

Ordering information

Mec11-5 grips are supplied individually, not as a pair.

Supplied with bore-hole to allow connection to QC-20 fixing post

Mec11-5 Scissor Grip (5 kN)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item No.</th>
<th>Tensile force</th>
<th>Opening</th>
<th>Sample width</th>
<th>Body</th>
<th>Temperature range</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec11-5</td>
<td>Mec11-5</td>
<td>5 kN</td>
<td>0 – 19 mm</td>
<td>50 mm</td>
<td>Stainless steel</td>
<td>-70 up to +130°C</td>
<td>980 gram (without jaws)</td>
</tr>
</tbody>
</table>

Jaws for Mec11-5: Scope of delivery 0.5 set = 2 jaws (left and right)

<table>
<thead>
<tr>
<th>Item number</th>
<th>Surface</th>
<th>Clamping surface H x W</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec11-5-B</td>
<td>Blank (smooth) jaws</td>
<td>20x50 mm</td>
<td>240 gram</td>
</tr>
<tr>
<td>Mec11-5-BP</td>
<td>Pyramid (serrated) jaws</td>
<td>20x50 mm</td>
<td>240 gram</td>
</tr>
</tbody>
</table>

Other surfaces on request

Blank jaws (smooth)
- Suitable for own further treatments
- Steel blanks without coating

BP = multi-purpose application range
- Pyramid (serrated) jaws 1.2x45°
- Hardened steel 58HRC, nickel plated

Mec11-5 with Mec11-5-BP pyramid jaws
Mec11-20 Scissor Grip (20 kN)

With locking function (snap in): the grip locks in the opened position.
(Not functional when using round jaws type - BR)

Ordering information
Mec11-20 grips are supplied individually, not as a pair.
Mec11-20 grips are supplied with bore-hole to allow connection to QC-20 fixing post

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Mec11-20</th>
<th>Tensile force</th>
<th>Opening</th>
<th>Sample width</th>
<th>Body</th>
<th>Temperature range</th>
<th>Weight</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>20 kN</td>
<td>Flat jaws 0 – 25 mm</td>
<td>50 mm and 100 mm</td>
<td>Stainless steel</td>
<td>-70 up to +130°C</td>
<td>2 kg (without jaws)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Round jaws 0 – 20 mm</td>
<td>V-jaws for round specimen: 4 – 16 mm Ø</td>
<td></td>
<td>Other temperature ranges on request</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Jaws for Mec11-20: Scope of delivery 0.5 set = 2 jaws (left and right)

* Round jaws are applicable for dumbbell-shaped specimen (“dog-bone”).
**When using 100 mm wide jaws the maximum tensile force is reduced to 10kN.

Mec11-20 with Mec11-20-BW100 jaws

Mec11-20-B, B100**, BP, BP100**, BV, BW100** Surface: Blank (smooth) jaws, Pyramid (serrated) flat jaws, Pyramid (serrated) round jaws, V-jaws for round specimen, Wave jaws, Wave jaws – For textile specimen

Other surfaces on request

Mec11-20 grips are supplied individually, not as a pair.

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Mec11-50 Scissor Grips (50 kN)

With locking function (snap in): the grip locks in the opened position.

Ordering information
Mec11-50 grips are supplied individually, not as a pair.
Mec11-50 grips are supplied with bore-hole to allow connection to QC-32 fixing post

- Item No.: Mec11-50
- Tensile force: 50 kN
- Opening Flat jaws 0 – 48 mm
  V-jaws for round specimen: 10 - 48 mm Ø
- Sample width 100 mm
- Body Steel, manganese phosphate coating
- Temperature range 0 up to +130°C
  Other temperature ranges on request
- Weight 9.1 kg (without jaws)

Jaws for Mec11-50: Scope of delivery 0.5 set = 2 jaws (left and right)

<table>
<thead>
<tr>
<th>Item number</th>
<th>Surface</th>
<th>Clamping surface H x B</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec11-50-BP</td>
<td>Pyramid (serrated) jaws</td>
<td>50x100 mm</td>
<td>1.9 kg</td>
</tr>
<tr>
<td>Mec11-50-BV10</td>
<td>V-jaws for round specimen</td>
<td>Samples 10-48 mm Ø</td>
<td>2.0 kg</td>
</tr>
</tbody>
</table>

Other surfaces on request

BP Pyramid jaws
- Pyramid (serrated) jaws 1.2x45°
- Hardened steel 58 HRC, nickel plated

BV-jaws: for all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel 58 HRC, nickel plated

Mec11-50 with Mec11-50-BP pyramid jaws
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<table>
<thead>
<tr>
<th>Head Office</th>
<th>France</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mecmesin Limited</td>
<td>Mecmesin France</td>
<td>Mecmesin GmbH</td>
</tr>
<tr>
<td>w: <a href="http://www.mecmesin.com">www.mecmesin.com</a></td>
<td>w: <a href="http://www.mecmesin.fr">www.mecmesin.fr</a></td>
<td>w: <a href="http://www.mecmesin.de">www.mecmesin.de</a></td>
</tr>
<tr>
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<td>e: <a href="mailto:info@mecmesin.de">info@mecmesin.de</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>North America</th>
<th>Asia</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mecmesin Corporation</td>
<td>Mecmesin Asia Co., Ltd</td>
<td>Mecmesin (Shanghai) Pte Ltd</td>
</tr>
<tr>
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</tr>
</tbody>
</table>
**Description**

Pinch grips are lightweight miniature vice grips, which use a hinge action to initially grab a sample, with a wing nut to tighten the jaw faces.

Each 10 mm x 10 mm (0.39” x 0.39”) jaw face has a slight groove to hold the sample securely, yet avoid inducing a break within the grip. Pinch grips are particularly well suited for peel testing of thin plastic films.

Supplied with 10-32 UNF adapter and grub screw as shown.

**Applications**

Used for peel and tensile testing of:
- thin film
- tissue
- woven yarn

**Specifications**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-280</td>
<td>200 N</td>
<td>M6 10-32 UNF</td>
<td>9 mm</td>
<td>0.35”</td>
<td>12 mm</td>
<td>0.47”</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø51.0256&quot;</td>
<td></td>
</tr>
<tr>
<td>9 (0.354&quot;)</td>
<td>MAX</td>
</tr>
<tr>
<td>12 (0.472&quot;)</td>
<td></td>
</tr>
<tr>
<td>31 (1.22&quot;)</td>
<td></td>
</tr>
<tr>
<td>25 (0.984&quot;)</td>
<td></td>
</tr>
<tr>
<td>70 (2.759&quot;)</td>
<td></td>
</tr>
<tr>
<td>95 (3.744&quot;)</td>
<td></td>
</tr>
<tr>
<td>THREAD 1</td>
<td></td>
</tr>
</tbody>
</table>

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Large Pinch Grip

Description

The large pinch grip has cross-hatched jaw faces to ensure samples are held securely for tensile tests. Fast installation and release of samples is achieved by initially grabbing by hinge action, and manually tightening the wing nut.

Applications

Used for tensile and heavy duty peel testing of:
- small components
- textile attachments
- welded tags
- paper and tissue strips

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-278</td>
<td>500 N</td>
<td>M6</td>
<td>15 mm</td>
<td>25 mm</td>
<td>90 mm</td>
<td>300 g</td>
</tr>
</tbody>
</table>

www.mecmesin.com
### Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td></td>
<td>0.472&quot;</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>0.6&quot;</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>0.787&quot;</td>
</tr>
<tr>
<td>25.4</td>
<td></td>
<td>1&quot;</td>
</tr>
<tr>
<td>33</td>
<td></td>
<td>1.3&quot;</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>3.54&quot;</td>
</tr>
</tbody>
</table>

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2 kN Pinch Grip, QC fitting

Versatile, easy to use. Suitable for small components, (eg. welded electronic components), where access space is limited yet tensile forces are significant. Clamping surfaces machined with pyramid-shaped serrations on both sides to ensure optimum gripping force.

**MecS470 Pinch Grip (2 kN)**

Supplied with adapter to allow connection to QC-20 fixing post

<table>
<thead>
<tr>
<th>Item number:</th>
<th>MecS470</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile force:</td>
<td>2 kN</td>
</tr>
<tr>
<td>Opening:</td>
<td>0 – 10 mm</td>
</tr>
<tr>
<td>Jaws:</td>
<td>Pyramid jaws, 1.2 x 45°</td>
</tr>
<tr>
<td>Clamping surface HxW:</td>
<td>25 x 25 mm</td>
</tr>
<tr>
<td>Body:</td>
<td>Hardened steel</td>
</tr>
<tr>
<td>Temperature range:</td>
<td>0 to +130°C</td>
</tr>
<tr>
<td>Weight:</td>
<td>452 gram</td>
</tr>
<tr>
<td>Scope of delivery:</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

Not recommended for use with loadcells less than 100 N

**Similar grips:**

- MecS341 Mini-Vice Grip
- MecS205k Spring-loaded Pinch Grip
<table>
<thead>
<tr>
<th>Region</th>
<th>Company</th>
<th>Website</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

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20 N Spring-loaded Pinch Grip with chain link, QC fitting

Pinch Grip (spring-loaded)
A small spring-loaded Pinch Grip ideal for low-force tension tests below 20 N.
Light-weight, versatile and easy to use. Suitable for pull-off and tear tests of components, peel testing of adhesive bonds plus testing the separation force of welded joints (eg. plastic, paper & rubber). The flexible chain-link connection allows easy access to components in limited spaces and ensures self-alignment during testing.

MecS205k: Supplied as standard with chain and adapter to allow connection to QC-20 fixing post.

**MecS205k Spring-loaded Pinch Grip (20 N)**

- Item No. MecS205k
- Tensile force 20 N
- Opening 0 – 3.4 mm
- Jaws Smooth (blank) jaws
- Clamping surface H x W 10 x 10 mm
- Body Aluminium, anodized
- Temperature range 0 up to +180°C
- Weight 98 gram
- Scope of delivery MecS205k: 1 pinch grip incl. chain and adapter

Similar grips

MecS341
Lightweight Mini Vice Grip

Description

Lightweight mini vice grips are ideal for testing extremely low forces by virtue of their spring-loaded clamping action. Samples are held without the need to tighten a thread which may damage very light loadcells or the sample itself. Supplied with a chain link for ease of alignment.

Applications

Used for tensile and low-force peel testing of:
- thin films
- delicate fine wire
- sub-miniature components
- tissue and cotton yarns

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-281</td>
<td>5N</td>
<td>M6</td>
<td>5 mm</td>
<td>0.197&quot;</td>
<td>9 mm</td>
<td>154 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

60 (2.362") MAX

5 (0.197") MAX

17 (0.666") DAYLIGHT

8 (0.315")

154 (6.063") MAX

9 (0.354")

FOLLOWED BY INCHES: MM (IN")

1:1 @ A3

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100 N Miniature Vice-Grip, QC fitting

Versatile, easy to use. Suitable for small components (eg. bonded joints) where access space is very limited and tensile forces are below 100 N. Clamping surfaces are machined with pyramid-shaped serrations to ensure optimum gripping force.

The flexible chain-link connection allows easy access to fix the grip to components ensuring self-adjustment during testing. Supplied with adapter to allow connection to QC-20 fixing post.

MecS341 Miniature Vice Grip (100 N)

- **Item No.** MecS341
- **Tensile force** 100 N
- **Opening** 0 – 4 mm
- **Jaws** Pyramid jaws (serrated), 0.6x45°
- **Clamping surface HxW** 5 x 6 mm
- **Grip** Hardened steel, nickel coated
- **Adapter** Aluminium, anodised
- **Chain** Total length 150 mm; chain link: Ø1.9, length 16.6 mm V4A stainless steel
- **Temperature range** 0 to +130°C  
  -70 to +280°C (MecS341-Ni)
- **Weight** 90 Gram
- **Scope of delivery** 1 piece including chain & adapter

Similar grips

![MecS470](image1)

MecS470

![MecS205k](image2)

MecS205k

MecS341 with chain and adapter

Close-up of MecS341
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**Miniature Vice Grip (100 N)**

Versatile, easy to use. Suitable for small components (eg. bonded joints) where access space is very limited and tensile forces are below 100 N. Clamping surfaces are machined with pyramid-shaped serrations to ensure optimum gripping force. The flexible chain-link connection allows easy access to fix the grip to components ensuring self-adjustment during testing.

- **Item No.** MecS341
- **Tensile force** 100 N
- **Opening** 0 – 4 mm
- **Jaws** Pyramid jaws (serrated), 0.6x45°
- **Clamping surface** HxW 5 x 6 mm
- **Adapter**
- **Temperature range** 0 to +130°C
- **-70 to +280°C (MecS341-Ni)**
- **Weight** 90 Gram
- **Scope of delivery** 1 piece including chain & adapter

**Dimensions mm**

- **Total length** 150 mm; chain link: Ø1.9, length 16.6 mm
- **V4A stainless steel**

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Spring-action Vice Clamp

Description

Spring-action vice clamps are lightweight clamps designed for gripping film, paper, labels, tape and other thin materials for tensile and peel testing. Ideal for testing at low forces, the clamps are fitted with adjustable serrated interlocking jaws. Often used with the chain link assembly for ease of sample loading and for alignment.

Applications

Used for tensile and peel testing of:
- films
- rubber
- flexible sheet materials
- woven fabrics
- paper
- tissue
- laminates
- tape
- textiles

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-381</td>
<td>200 N</td>
<td>10-32 UNF</td>
<td>3 mm</td>
<td>16 mm</td>
<td>66 mm</td>
</tr>
<tr>
<td></td>
<td>20 kgf</td>
<td>45 lbf</td>
<td>0.12'</td>
<td>0.63'</td>
<td>2.60'</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

27 (1,063") MAX
3 (0,118") MAX
44 (1,732") MAX
16 (0,63")
8 (0,315")
16 (0,62")
66 (2,598")
26 (1,018")

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Small Single-action Vice Grip, QC fitting

Description

Small single-action vice grips are ideal for testing low force applications on flat samples. These general purpose side loading vice grips are fitted with 30 mm x 30 mm (1.2" x 1.2") flat faced jaws.

Applications

Used for tensile and peel testing of:
- films
- rubber
- flexible sheet materials
- woven fabrics
- tape
- paper
- tissue
- laminates
- textiles

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-264</td>
<td>200 N</td>
<td>QC20</td>
<td>8 mm</td>
<td>30 mm</td>
<td>65 mm</td>
<td>215 g</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

**DRAWING IS INDICATIVE ONLY**

- 8 (0.315”) MAX
- 30 (1.181”)
- 30 (1.181”)
- 65 (2.559”)
- 30 (1.181”)
- 20 (0.787”)

**ALL DIMENSIONS ARE IN MILLIMETRES FOLLOWED BY INCHES: MM (IN”)**

- 30 (1.181”)
- 30 (1.181”)
- 30 (1.181”)
- 20 (0.787”)

**DRAWING IS INDICATIVE ONLY**

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Medium Single-action Vice Grip, QC fitting

Mechanical Vice Grips apply a clamping force by manually tightening parallel jaw faces directly onto the specimen. Single-action vice grips allow one jaw to be set in position to align the specimen around the central axis and the other jaw to be freely adjustable to clamp it in place. Consequently they are best suited for tensile testing of symmetrical specimens which do not vary greatly in thickness.

The Mec240k Medium Vice Grips are rated between 1 – 2.5 kN and available in 4 sizes with jaw openings ranging from 0-10mm right up to 0-50mm depending on the jaw types selected. An extensive collection of interchangeable, high-performance jaws with differing surface profiles provide excellent gripping characteristics to ensure that a variety of materials and components can be securely held.

Ideal for tension tests below 2.5kN on flat strips of metal and plastic, thin sheets and tapes plus non-woven and general fabrics.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Surface</th>
<th>Opening for Mec240k</th>
<th>Opening for Mec240k-S20</th>
<th>Opening for Mec240k-S30</th>
<th>Opening for Mec240k-S50</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec240k-B</td>
<td>Blank jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.12 kg</td>
</tr>
<tr>
<td>Mec240k-BG</td>
<td>Rubber jaws</td>
<td>30 x 30 mm</td>
<td>0 – 8 mm</td>
<td>0 - 18 mm</td>
<td>0 – 28 mm</td>
<td>0.13 kg</td>
</tr>
<tr>
<td>Mec240k-BP</td>
<td>Pyramid jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.12 kg</td>
</tr>
<tr>
<td>Mec240k-BV2</td>
<td>V jaws</td>
<td>30 x 30 mm</td>
<td>Ø 2 – 10 mm</td>
<td>Ø 20 mm</td>
<td>Ø 30 mm</td>
<td>0.12 kg</td>
</tr>
<tr>
<td>Mec240k-BV3</td>
<td>V jaws</td>
<td>30 x 30 mm</td>
<td>Ø 3 – 10 mm</td>
<td>Ø 20 mm</td>
<td>Ø 30 mm</td>
<td>0.13 kg</td>
</tr>
<tr>
<td>Mec240k-BW</td>
<td>Wave jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.12 kg</td>
</tr>
<tr>
<td>Mec240k-BWD</td>
<td>Diamond jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.13 kg</td>
</tr>
<tr>
<td>Mec240k-B50</td>
<td>Blank jaws</td>
<td>30 x 50 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.22 kg</td>
</tr>
<tr>
<td>Mec240k-BC50</td>
<td>Rubber jaws</td>
<td>30 x 50 mm</td>
<td>0 – 8 mm</td>
<td>0 - 18 mm</td>
<td>0 – 28 mm</td>
<td>0.23 kg</td>
</tr>
<tr>
<td>Mec240k-BP50</td>
<td>Pyramid jaws</td>
<td>30 x 50 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.21 kg</td>
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<tr>
<td>Mec240k-BW50</td>
<td>Wave jaws</td>
<td>30 x 50 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.20 kg</td>
</tr>
<tr>
<td>Mec240k-BWD50</td>
<td>Diamond jaws</td>
<td>30 x 50 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.22 kg</td>
</tr>
<tr>
<td>Mec240k-BB50</td>
<td>Blank jaws</td>
<td>30 x 80 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.36 kg</td>
</tr>
<tr>
<td>Mec240k-BCB50</td>
<td>Rubber jaws</td>
<td>30 x 80 mm</td>
<td>0 – 8 mm</td>
<td>0 - 18 mm</td>
<td>0 – 28 mm</td>
<td>0.27 kg</td>
</tr>
<tr>
<td>Mec240k-BPB50</td>
<td>Pyramid jaws</td>
<td>30 x 80 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.35 kg</td>
</tr>
<tr>
<td>Mec240k-BWB50</td>
<td>Wave jaws</td>
<td>30 x 80 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.22 kg</td>
</tr>
<tr>
<td>Mec240k-BCB50</td>
<td>Diamond jaws</td>
<td>30 x 80 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.36 kg</td>
</tr>
<tr>
<td>Mec240k-B100</td>
<td>Blank jaws</td>
<td>30 x 100 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>Mec240k-BC100</td>
<td>Rubber jaws</td>
<td>30 x 100 mm</td>
<td>0 – 8 mm</td>
<td>0 - 18 mm</td>
<td>0 – 28 mm</td>
<td>0.46 kg</td>
</tr>
<tr>
<td>Mec240k-BP100</td>
<td>Pyramid jaws</td>
<td>30 x 100 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>Mec240k-BW100</td>
<td>Wave jaws</td>
<td>30 x 100 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.51 kg</td>
</tr>
<tr>
<td>Mec240k-BCB100</td>
<td>Diamond jaws</td>
<td>30 x 100 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.45 kg</td>
</tr>
</tbody>
</table>

Scope of delivery: 1 grip supplied fitted with bore-hole to allow connection to QC-20 fixing post

Note: Jaws (see table below) must be ordered separately.

Scope of delivery 0.5 set = 2 jaws (left & right). Order any combination of 2 half-sets of jaws to fit into a pair of any Mec240k Medium Vice grips (upper & lower).

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Surface</th>
<th>Clamping surface</th>
<th>Opening for Mec240k</th>
<th>Opening for Mec240k-S20</th>
<th>Opening for Mec240k-S30</th>
<th>Opening for Mec240k-S50</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec240k-B</td>
<td>Blank jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.12 kg</td>
<td></td>
</tr>
<tr>
<td>Mec240k-BG</td>
<td>Rubber jaws</td>
<td>30 x 30 mm</td>
<td>0 – 8 mm</td>
<td>0 - 18 mm</td>
<td>0 – 28 mm</td>
<td>0.13 kg</td>
<td></td>
</tr>
<tr>
<td>Mec240k-BP</td>
<td>Pyramid jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.12 kg</td>
<td></td>
</tr>
<tr>
<td>Mec240k-BV2</td>
<td>V jaws</td>
<td>30 x 30 mm</td>
<td>Ø 2 – 10 mm</td>
<td>Ø 20 mm</td>
<td>Ø 30 mm</td>
<td>0.12 kg</td>
<td></td>
</tr>
<tr>
<td>Mec240k-BV3</td>
<td>V jaws</td>
<td>30 x 30 mm</td>
<td>Ø 3 – 10 mm</td>
<td>Ø 20 mm</td>
<td>Ø 30 mm</td>
<td>0.13 kg</td>
<td></td>
</tr>
<tr>
<td>Mec240k-BW</td>
<td>Wave jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.12 kg</td>
<td></td>
</tr>
<tr>
<td>Mec240k-BWD</td>
<td>Diamond jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0.13 kg</td>
<td></td>
</tr>
</tbody>
</table>

Jaws with other dimensions and surface coatings on request

www.mecmesin.com
Dimensions mm

Mec240k

Mec240k-S20

Mec240k-S30

Mec240k-S50

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Large Single-action Vice Grips, QC fitting

Description

Large single-action vice grips are suitable for tensile testing a wide range of samples. Available fitted with one of three different types of jaw face: diamond-faced, rubber-coated and wave-form, to securely grip most materials.

Applications

Used for tensile testing of:
- metallic foils
- textiles
- paper and card
- woven fabrics
- plastic sheet
- tapes

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Type</th>
<th>Jaw Capacity (A)</th>
<th>Jaw Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-267</td>
<td>2 kN</td>
<td>450 lbf</td>
<td>QC20 Diamond-faced</td>
<td>9.0 mm 0.35&quot;</td>
<td>78 mm</td>
<td>75 mm</td>
<td>2.95&quot;</td>
</tr>
<tr>
<td>432-267-V01</td>
<td>2 kN</td>
<td>450 lbf</td>
<td>QC20 Rubber-coated</td>
<td>9.0 mm 0.35&quot;</td>
<td>78 mm</td>
<td>75 mm</td>
<td>2.95&quot;</td>
</tr>
<tr>
<td>432-267-V02</td>
<td>2 kN</td>
<td>450 lbf</td>
<td>QC20 Wave-form</td>
<td>6.5 mm 0.26&quot;</td>
<td>78 mm</td>
<td>75 mm</td>
<td>2.95&quot;</td>
</tr>
</tbody>
</table>

www.mecmesin.com
Dimensions mm (inch)

- 90 (3.543")
- 78 (3.071")
- 14 (0.551")
- 75 (2.953")
- 28 (1.102")
- 35 (1.378")

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Heavy-duty Single-action Vice Grip, QC fitting

Mec154 - 10kN – aluminium
Mec154 - 20kN – steel

Mechanical Vice Grips apply a clamping force by manually tightening parallel jaw faces directly onto the specimen. Single-action vice grips allow one jaw to be set in position to align the specimen around the central axis and the other jaw to be freely adjustable to clamp it in place. Consequently they are best suited for tensile testing of symmetrical specimens which do not vary greatly in thickness.

The Mec154 Heavy-duty Vice Grips are rated to either 10kN (aluminium body) or 20kN (steel body) and available in with jaw openings ranging from up to 0-34mm depending on the jaw types selected. An extensive collection of interchangeable, high-performance jaws with differing surface profiles provide excellent gripping characteristics to ensure that a variety of materials and components can be securely held.

Ideal for tension tests below 20kN on a range of materials including flat strips of metal, rigid plastics, plus non-woven and general fabrics.

Scope of delivery: 1 grip supplied fitted with bore-hole to allow connection to QC-20 fixing post

<table>
<thead>
<tr>
<th>Item No:</th>
<th>Mec154-10</th>
<th>Mec154-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated capacity:</td>
<td>10 kN</td>
<td>20 kN</td>
</tr>
<tr>
<td>Opening (depending on jaws):</td>
<td>0-34 mm</td>
<td>0-34 mm</td>
</tr>
<tr>
<td>Weight each grip (without jaws):</td>
<td>2.36 kg</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

Note: Jaws (see table below) must be ordered separately.

**Jaws for Mec154:** Scope of delivery 0.5 set = 2 jaws (left & right). Order any combination of 2 half-sets of jaws to fit into a pair of any Mec154 Heavy-duty Vice grips (upper & lower)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Surface</th>
<th>Clamping surface H x W</th>
<th>Opening</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec154-B</td>
<td>Blank jaws</td>
<td>40 x 60 mm</td>
<td>0 – 34 mm</td>
<td>0.35 kg</td>
</tr>
<tr>
<td>Mec154-BG</td>
<td>Rubber jaws</td>
<td>40 x 60 mm</td>
<td>0 – 32 mm</td>
<td>0.36 kg</td>
</tr>
<tr>
<td>Mec154-BP</td>
<td>Pyramid jaws</td>
<td>40 x 60 mm</td>
<td>0 – 34 mm</td>
<td>0.33 kg</td>
</tr>
<tr>
<td>Mec154-BV4*</td>
<td>V-jaws</td>
<td>Clamping height 40 mm</td>
<td>4 – 12 mm Ø</td>
<td>0.35 kg</td>
</tr>
<tr>
<td>Mec154-BV6*</td>
<td>V-jaws</td>
<td>Clamping height 40 mm</td>
<td>6 – 34 mm Ø</td>
<td>0.32 kg</td>
</tr>
<tr>
<td>Mec154-BW</td>
<td>Wave jaws</td>
<td>40 x 60 mm</td>
<td>0 – 34 mm</td>
<td>0.32 kg</td>
</tr>
<tr>
<td>Mec154-BD</td>
<td>Diamond jaws</td>
<td>40 x 60 mm</td>
<td>0 – 34 mm</td>
<td>0.35 kg</td>
</tr>
<tr>
<td>Mec154-BWC</td>
<td>Jaws for bitumen</td>
<td>40 x 60 mm</td>
<td>0 – 14 mm</td>
<td>0.63 kg</td>
</tr>
<tr>
<td>Mec154-B100</td>
<td>Blank jaws</td>
<td>40 x 100 mm</td>
<td>0 – 30 mm</td>
<td>0.72 kg</td>
</tr>
<tr>
<td>Mec154-BG100</td>
<td>Rubber jaws</td>
<td>40 x 100 mm</td>
<td>0 – 28 mm</td>
<td>0.74 kg</td>
</tr>
<tr>
<td>Mec154-BP100</td>
<td>Pyramid jaws</td>
<td>40 x 100 mm</td>
<td>0 – 30 mm</td>
<td>0.69 kg</td>
</tr>
<tr>
<td>Mec154-BW100</td>
<td>Wave jaws</td>
<td>40 x 100 mm</td>
<td>0 – 30 mm</td>
<td>0.66 kg</td>
</tr>
<tr>
<td>Mec154-BD100</td>
<td>Diamond jaws</td>
<td>40 x 100 mm</td>
<td>0 – 30 mm</td>
<td>0.72 kg</td>
</tr>
<tr>
<td>Mec154-BW200</td>
<td>Wave jaws</td>
<td>60 x 200 mm</td>
<td>0 – 22 mm</td>
<td>3.00 kg</td>
</tr>
</tbody>
</table>

*We recommend BV6 jaws for samples with a larger diameter

**Note:**
- Blank jaws
  - Suitable for own further treatments
  - Steel blanks without coating
- Rubber jaws
  - 1 mm rubber coating (NBR)
  - Nickel-plated
- Pyramid jaws
  - Pyramids 1.2x45°
  - Hardened steel 58HRC
  - Nickel-plated
- V-jaws
  - For all kinds of round samples
  - Tooth pitch 1.2 mm
  - Hardened steel SBHRC, nickel-plated
- Wave jaws
  - For flexible materials
  - Wave 5 mm
  - Hardened steel SBHRC, nickel-plated
- Diamond jaws
  - Covered with synthetic diamonds
  - Nickel-plated

Examples:
- Mec154-BWC: Jaws to test bitumen (with water-cooling)
- Mec154-BG 40 x 100 mm rubber-coated
- Mec154-BW 40 x 60 mm wave form
Dimensions mm (inch)

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www.mecmesin.com
2.5 kN Thin Wire Grip, QC fitting

**Mec9**

The Mec9 "Thin Wire grip" is designed for holding fine wires, thin ropes and narrow bands which have a tendency to slip under load. The specimen is wrapped around the lower bollard to provide more contact area thereby increasing clamping friction. The specimen is then passed through the screw-action jaws before being tightened in place - care should be taken to avoid excessive tightening which may induce specimen break.

The Mec9-Ko version operates in the same way except tightening occurs via the pneumatic cylinders. These can be controlled to apply a suitable constant pressure thus minimising the risk of inducing specimen break at the jaws.

<table>
<thead>
<tr>
<th>Item no.:</th>
<th>Mec9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. load:</td>
<td>2.5 kN</td>
</tr>
<tr>
<td>Body:</td>
<td>Aluminum, anodized</td>
</tr>
<tr>
<td>Weight per grip with jaws:</td>
<td>380 gram</td>
</tr>
<tr>
<td>Temperature range*:</td>
<td>0°C ... +70°</td>
</tr>
<tr>
<td>Scope of delivery:</td>
<td>1 piece includes Mec9-GT carrier for inset jaws. Inset jaws must be ordered separately</td>
</tr>
</tbody>
</table>

**Inset jaws for Mec9:**
For a quick change of inset jaws, a carrier is provided as standard (Mec9-GT). Scope of delivery: 0.5 set

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Surface</th>
<th>Clamping surface (H x W)</th>
<th>Opening</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec9-EB</td>
<td>Blank inset jaws</td>
<td>37x15 mm</td>
<td>0 – 5 mm</td>
<td>26 g</td>
</tr>
<tr>
<td>Mec9-EBD</td>
<td>Diamond-coated inset jaws</td>
<td>37x15 mm</td>
<td>0 – 5 mm</td>
<td>26 g</td>
</tr>
</tbody>
</table>

Jaws faces with other dimensions and surface coatings are available on request.
Dimensions mm (inch)

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Fabric Grips

Description

Fabric grips are designed for tensile and elongation testing of fabric to a number of international strength standards. Two locking nuts at either side of the grip ensure the sample is clamped securely across its entire width during testing.

Applications

Used for tensile testing of:
- fabric
- textiles

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Clamp Capacity</th>
<th>Max. Sample Width (A)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-384</td>
<td>100 N 10 kgf</td>
<td>10-32 UNF 4 mm</td>
<td>0.16&quot;</td>
<td>50 mm 1.97&quot;</td>
<td>25 mm 0.98&quot;</td>
<td>81 g 0.17 lb</td>
</tr>
<tr>
<td>432-386</td>
<td>200 N 20 kgf</td>
<td>10-32 UNF 4 mm</td>
<td>0.16&quot;</td>
<td>100 mm 3.97&quot;</td>
<td>33 mm 1.30&quot;</td>
<td>— —</td>
</tr>
</tbody>
</table>

www.mecmesin.com
Dimensions mm (inch)

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www.mecmesin.com
Large Double-action Vice Grip, QC fitting

Description

The large double-action vice grip is rated to 5 kN and can grip specimens with a thickness from 0.5 mm to 25 mm. It has a tommy-bar handle on one side for rapid tightening and a fine-action thumb-screw on the other for accurate sample positioning. An engraved millimetre scale on one jaw can be used to align the sample accurately.

Applications

Used for testing of:

- textiles
- leather
- plastics
- thin metal sheets

- paper and cards
- thick films

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-433</td>
<td>5 kN</td>
<td>QC20</td>
<td>25 mm</td>
<td>50 mm</td>
<td>92 mm</td>
<td>2.8 kg</td>
</tr>
<tr>
<td></td>
<td>500 kgf</td>
<td></td>
<td>0.98*</td>
<td>1.97*</td>
<td>3.62*</td>
<td>6.2 lb</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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U-Form Vice Grip, Double-action, 5 kN - Aluminium, QC fitting

Mec240g, Mec240g-S50, Mec240g-100

Shown fitted with a half-set of Mec240g-BW wave jaws

Shown fitted with a half-set of Mec240g-BG80 rubber jaws

Shown fitted with a half-set of Mec240g-BD80 diamond jaws.

Mechanical Vice Grips apply a clamping force by manually tightening parallel jaw faces directly onto the specimen. Double-action vice grips allow free adjustment of both jaws, allowing them to be aligned around the central axis to accommodate tensile testing of both symmetrical and asymmetrical specimens. The ‘U-Form’ cut into the aluminium body of these Pneumatic Vice Grips creates the space for an operator to have specimen material below the jaws thereby facilitating loading and removal when testing.

The Mec240g U-form Vice Grips are rated to 5kN and available in 3 sizes with jaw openings ranging from 0-24mm, 0-50mm and 10-100mm depending on the jaw types selected. An extensive collection of interchangeable, high-performance jaws with differing surface profiles provide excellent gripping characteristics to ensure that a variety of materials and components can be securely held. Ideal for tension tests on flat strips of metal and plastic, thin sheets and tapes plus non-woven and general fabrics.

Scope of delivery: 1 grip supplied fitted with bore-hole to allow connection to QC-20 fixing post

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Mec240g</th>
<th>Mec240g-S50</th>
<th>Mec240g-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated capacity:</td>
<td>5 kN</td>
<td>5 kN</td>
<td>5 kN</td>
</tr>
<tr>
<td>Opening (depending on jaws):</td>
<td>0-24 mm</td>
<td>0-50 mm</td>
<td>10–100 mm</td>
</tr>
<tr>
<td>Weight each grip (without jaws):</td>
<td>1.3 kg</td>
<td>1.3 kg</td>
<td>2.22 kg</td>
</tr>
</tbody>
</table>

Note: Jaws (see table below) must be ordered separately

Jaws for Mec240g: Scope of delivery 0.5 set = 2 jaws (left and right). Order any combination of 2 half-sets of jaws to fit into a pair of any Mec240g U-form Vice grips (upper and lower)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Surface Clamping surface H x W</th>
<th>Opening Mec240g</th>
<th>Opening Mec240g-S50</th>
<th>Opening Mec240g-100</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec240g-B</td>
<td>Blank jaws 30x50 mm</td>
<td>0-30 mm</td>
<td>0-50 mm</td>
<td>-</td>
<td>0.22 kg</td>
</tr>
<tr>
<td>Mec240g-BG</td>
<td>Rubber jaws 30x50 mm</td>
<td>0-28 mm</td>
<td>0-50 mm</td>
<td>-</td>
<td>0.22 kg</td>
</tr>
<tr>
<td>Mec240g-BP</td>
<td>Pyramid jaws 30x50 mm</td>
<td>0-30 mm</td>
<td>0-50 mm</td>
<td>-</td>
<td>0.21 kg</td>
</tr>
<tr>
<td>Mec240g-BV2</td>
<td>V-jaws 30x50 mm</td>
<td>Ø 2–30 mm</td>
<td>Ø 2–50 mm</td>
<td>-</td>
<td>0.22 kg</td>
</tr>
<tr>
<td>Mec240g-BVS</td>
<td>V-jaws 30x50 mm</td>
<td>Ø 5–30 mm</td>
<td>Ø 5–50 mm</td>
<td>-</td>
<td>0.25 kg</td>
</tr>
<tr>
<td>Mec240g-BW</td>
<td>Wave jaws 30x50 mm</td>
<td>0-30 mm</td>
<td>0-50 mm</td>
<td>-</td>
<td>0.20 kg</td>
</tr>
<tr>
<td>Mec240g-BD</td>
<td>Diamond jaws 30x50 mm</td>
<td>0-30 mm</td>
<td>0-50 mm</td>
<td>-</td>
<td>0.22 kg</td>
</tr>
<tr>
<td>Mec240g-B80</td>
<td>Blank jaws 30x80 mm</td>
<td>0-26 mm</td>
<td>0-48 mm</td>
<td>10–100 mm</td>
<td>0.43 kg</td>
</tr>
<tr>
<td>Mec240g-BG80</td>
<td>Rubber jaws 30x80 mm</td>
<td>0-24 mm</td>
<td>0-46 mm</td>
<td>8–98 mm</td>
<td>0.44 kg</td>
</tr>
<tr>
<td>Mec240g-BP80</td>
<td>Pyramid jaws 30x80 mm</td>
<td>0-26 mm</td>
<td>0-48 mm</td>
<td>10–100 mm</td>
<td>0.42 kg</td>
</tr>
<tr>
<td>Mec240g-BW80</td>
<td>Wave jaws 30x80 mm</td>
<td>0-26 mm</td>
<td>0-48 mm</td>
<td>10–100 mm</td>
<td>0.39 kg</td>
</tr>
<tr>
<td>Mec240g-BD80</td>
<td>Diamond jaws 30x80 mm</td>
<td>0-26 mm</td>
<td>0-48 mm</td>
<td>10–100 mm</td>
<td>0.43 kg</td>
</tr>
<tr>
<td>Mec240g-B100</td>
<td>Blank jaws 30x100 mm</td>
<td>0-26 mm</td>
<td>0-48 mm</td>
<td>10–100 mm</td>
<td>0.54 kg</td>
</tr>
<tr>
<td>Mec240g-BG100</td>
<td>Rubber jaws 30x100 mm</td>
<td>0-24 mm</td>
<td>0-46 mm</td>
<td>8–98 mm</td>
<td>0.55 kg</td>
</tr>
<tr>
<td>Mec240g-BP100</td>
<td>Pyramid jaws 30x100 mm</td>
<td>0-26 mm</td>
<td>0-48 mm</td>
<td>10–100 mm</td>
<td>0.53 kg</td>
</tr>
<tr>
<td>Mec240g-BW100</td>
<td>Wave jaws 30x100 mm</td>
<td>0-26 mm</td>
<td>0-48 mm</td>
<td>10–100 mm</td>
<td>0.51 kg</td>
</tr>
<tr>
<td>Mec240g-BD100</td>
<td>Diamond jaws 30x100 mm</td>
<td>0-26 mm</td>
<td>0-48 mm</td>
<td>10–100 mm</td>
<td>0.54 kg</td>
</tr>
</tbody>
</table>

Note:
- Jaws (see table above) must be ordered separately
- Order any combination of 2 half-sets of jaws to fit into a pair of any Mec240g U-form Vice grips (upper and lower)

Blank jaws:
- Applicable for own further treatments
- Steel blanks without coating

Rubber jaws:
- 1mm rubber coating (NBR)
- Nickel plated

Pyramid jaws:
- Pyramid 1.2x45°
- Hardened steel 58 HRC
- Nickel plated

V-jaws:
- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel 58 HRC
- Nickel plated

Wave jaws:
- For flexible materials
- Wave 5 mm
- Hardened steel 58 HRC
- Nickel plated

Diamond jaws:
- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel plated
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Dimensions mm (inch)

Mec240g

Mec240g-S50

Mec240g-S100

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Parallel Jaw Grips

Description

Parallel jaw grips are designed for gripping film, rubber, tape and other materials for general tensile and peel testing up to 500 N. Fitted with individually adjustable serrated interlocking jaws, they grip samples effectively, up to 5 mm (1.95") thick.

Applications

Used for tensile and peel testing of:
- films
- rubber
- flexible sheet materials
- tape
- paper and card
- textiles
- laminates
- woven fabrics

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-396</td>
<td>500 N</td>
<td>10/32 UNF</td>
<td>6 mm</td>
<td>32 mm</td>
<td>60 mm</td>
<td>300 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td>0.24&quot;</td>
<td>1.26&quot;</td>
<td>2.35&quot;</td>
<td>0.66 lb</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

North America
Mecmesin Corporation
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e: sales@mecmesin.cn

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www.mecmesin.com
Small Parallel Grips

Description

The small parallel grip has a rigid body with individually controlled serrated jaws. A floating ball screw attachment ensures central loading with correct alignment during tensile testing, and wing screws are used to easily adjust grip faces.

Applications

Used for tensile and peel testing of:
- flexible sheet materials
- textiles
- tape
- laminates
- paper

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-394</td>
<td>500 N</td>
<td>10/32 UNF</td>
<td>20 mm</td>
<td>0.79&quot;</td>
<td>70.5 mm</td>
<td>126 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td></td>
<td>0.47&quot;</td>
<td></td>
<td>0.28 lb</td>
</tr>
<tr>
<td>432-211</td>
<td>M6</td>
<td>20 mm</td>
<td>0.79&quot;</td>
<td>12 mm</td>
<td>70.5 mm</td>
<td>126 g</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td></td>
<td></td>
<td>0.47&quot;</td>
<td></td>
<td>0.28 lb</td>
</tr>
</tbody>
</table>
**Dimensions mm (inch)**

![Diagram showing dimensions of Small Parallel Grips with measurements labeled: 83 (3.268”) MAX, 103 (4.055”) MAX, 12 (0.472”) MAX, 20 (0.787”), 1 (0.039”) PITCH, 90°.]

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Lightweight Double-action Vice Grip

Mec227 Double-action Vice Grip – aluminium

A compact lightweight vice grip suitable for holding thin strips of material (e.g. Paper and plastic films) where the tensile force is less than 100 N. The double-action screw-driven rods allow symmetrical and asymmetrical specimens to be positioned and clamped in place. Its low-profile aluminium design makes it ideal for tensile testing with loadcells of capacity as low as 5 N. When combined with a flexible chain-link assembly (432-259) it is impeccably suited to low force peel testing applications where the specimen can be inserted separately without risk of overloading the loadcell when tightening the jaws.

Scope of delivery: 1 grip fitted with 10/32UNF threaded hole

<table>
<thead>
<tr>
<th>Item No:</th>
<th>Mec227</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max tensile force:</td>
<td>100 N</td>
</tr>
<tr>
<td>Opening (A):</td>
<td>0 - 8 mm (depending on jaws)</td>
</tr>
<tr>
<td>Weight:</td>
<td>60 g per grip (without jaws)</td>
</tr>
</tbody>
</table>

Mec227-S46 Double-action Vice Grip – aluminium

A larger version of the Mec227 vice grip with an opening of 0 - 46 mm (without jaws) suitable for holding specimens which may have a thick substrate with a thin strip of bonded material (e.g. Paper and plastic films) where the tensile force is less than 100 N.

Scope of delivery: 1 grip fitted with 10/32UNF threaded hole

<table>
<thead>
<tr>
<th>Item No:</th>
<th>Mec227-46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max tensile force:</td>
<td>100 N</td>
</tr>
<tr>
<td>Opening (A):</td>
<td>0 - 46 mm (depending on jaws)</td>
</tr>
<tr>
<td>Weight:</td>
<td>105 g per grip (without jaws)</td>
</tr>
</tbody>
</table>

Jaws for Mec227: Scope of delivery 0.5 set = 2 jaws (left & right)

<table>
<thead>
<tr>
<th>Item number</th>
<th>Surface</th>
<th>Clamping surface H x W</th>
<th>Opening (A)</th>
<th>Weight / per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec227-B25</td>
<td>Blank jaws</td>
<td>10 x 25 mm</td>
<td>0 - 8 mm</td>
<td>18 gram</td>
</tr>
<tr>
<td>Mec227-BG25</td>
<td>Rubber jaws</td>
<td>10 x 25 mm</td>
<td>0 - 8 mm</td>
<td>19 gram</td>
</tr>
<tr>
<td>Mec227-BP25</td>
<td>Pyramid jaws</td>
<td>10 x 25 mm</td>
<td>0 - 8 mm</td>
<td>17 gram</td>
</tr>
<tr>
<td>Mec227-BW25x25</td>
<td>Wave jaws</td>
<td>25 x 25 mm</td>
<td>0 - 8 mm</td>
<td>48 gram</td>
</tr>
<tr>
<td>Mec227-BD25</td>
<td>Diamond jaws</td>
<td>10 x 25 mm</td>
<td>0 - 8 mm</td>
<td>18 gram</td>
</tr>
<tr>
<td>Mec227-B50</td>
<td>Blank jaws</td>
<td>10 x 50 mm</td>
<td>0 - 6 mm</td>
<td>46 gram</td>
</tr>
<tr>
<td>Mec227-BG50</td>
<td>Rubber jaws</td>
<td>10 x 50 mm</td>
<td>0 - 4 mm</td>
<td>48 gram</td>
</tr>
<tr>
<td>Mec227-BP50</td>
<td>Pyramid jaws</td>
<td>10 x 50 mm</td>
<td>0 - 6 mm</td>
<td>43 gram</td>
</tr>
<tr>
<td>Mec227-BW50x25</td>
<td>Wave jaws</td>
<td>25 x 50 mm</td>
<td>0 - 6 mm</td>
<td>100 gram</td>
</tr>
<tr>
<td>Mec227-BD50</td>
<td>Diamond jaws</td>
<td>10 x 50 mm</td>
<td>0 - 6 mm</td>
<td>46 gram</td>
</tr>
<tr>
<td>Mec227-B100</td>
<td>Blank jaws</td>
<td>10 x 100 mm</td>
<td>0 - 6 mm</td>
<td>92 gram</td>
</tr>
<tr>
<td>Mec227-BG100</td>
<td>Rubber jaws</td>
<td>10 x 100 mm</td>
<td>0 - 4 mm</td>
<td>95 gram</td>
</tr>
<tr>
<td>Mec227-BP100</td>
<td>Pyramid jaws</td>
<td>10 x 100 mm</td>
<td>0 - 6 mm</td>
<td>86 gram</td>
</tr>
<tr>
<td>Mec227-BD100</td>
<td>Diamond jaws</td>
<td>10 x 100 mm</td>
<td>0 - 6 mm</td>
<td>92 gram</td>
</tr>
</tbody>
</table>

Jaws with other dimensions and surfaces on request

<table>
<thead>
<tr>
<th>Item number</th>
<th>Surface</th>
<th>Clamping surface H x W</th>
<th>Opening (A)</th>
<th>Weight / per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec227-B25</td>
<td>Blank jaws</td>
<td>10 x 25 mm</td>
<td>0 - 8 mm</td>
<td>18 gram</td>
</tr>
<tr>
<td>Mec227-BG25</td>
<td>Rubber jaws</td>
<td>10 x 25 mm</td>
<td>0 - 8 mm</td>
<td>19 gram</td>
</tr>
<tr>
<td>Mec227-BP25</td>
<td>Pyramid jaws</td>
<td>10 x 25 mm</td>
<td>0 - 8 mm</td>
<td>17 gram</td>
</tr>
<tr>
<td>Mec227-BW25x25</td>
<td>Wave jaws</td>
<td>25 x 25 mm</td>
<td>0 - 8 mm</td>
<td>48 gram</td>
</tr>
<tr>
<td>Mec227-BD25</td>
<td>Diamond jaws</td>
<td>10 x 25 mm</td>
<td>0 - 8 mm</td>
<td>18 gram</td>
</tr>
<tr>
<td>Mec227-B50</td>
<td>Blank jaws</td>
<td>10 x 50 mm</td>
<td>0 - 6 mm</td>
<td>46 gram</td>
</tr>
<tr>
<td>Mec227-BG50</td>
<td>Rubber jaws</td>
<td>10 x 50 mm</td>
<td>0 - 4 mm</td>
<td>48 gram</td>
</tr>
<tr>
<td>Mec227-BP50</td>
<td>Pyramid jaws</td>
<td>10 x 50 mm</td>
<td>0 - 6 mm</td>
<td>43 gram</td>
</tr>
<tr>
<td>Mec227-BW50x25</td>
<td>Wave jaws</td>
<td>25 x 50 mm</td>
<td>0 - 6 mm</td>
<td>100 gram</td>
</tr>
<tr>
<td>Mec227-BD50</td>
<td>Diamond jaws</td>
<td>10 x 50 mm</td>
<td>0 - 6 mm</td>
<td>46 gram</td>
</tr>
<tr>
<td>Mec227-B100</td>
<td>Blank jaws</td>
<td>10 x 100 mm</td>
<td>0 - 6 mm</td>
<td>92 gram</td>
</tr>
<tr>
<td>Mec227-BG100</td>
<td>Rubber jaws</td>
<td>10 x 100 mm</td>
<td>0 - 4 mm</td>
<td>95 gram</td>
</tr>
<tr>
<td>Mec227-BP100</td>
<td>Pyramid jaws</td>
<td>10 x 100 mm</td>
<td>0 - 6 mm</td>
<td>86 gram</td>
</tr>
<tr>
<td>Mec227-BD100</td>
<td>Diamond jaws</td>
<td>10 x 100 mm</td>
<td>0 - 6 mm</td>
<td>92 gram</td>
</tr>
</tbody>
</table>

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Dimensions mm (inch)

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‘Universal’ Pneumatic Vice Grip, Single & dual actuators, QC fitting

Mec240k + Ko (single-actuator) – aluminium
Mec240k + 2Ko (dual-actuator) – aluminium

The most versatile and flexible model of pneumatic grip for use in applications where material is sensitive to damage or slippage when clamped and the tensile force is significant. The Mec240k range has various options available with differing jaw-openings from 0-10mm through to 0-50mm specifically designed to meet the size of specimen you need to test.

• The Mec240k+Ko models feature an adjustable screw-driven rod allowing symmetrical and asymmetrical specimens to be positioned whilst the single-actuator applies the clamping force on the jaws.

• The Mec240k+2Ko models feature a dual actuator so the jaws always close symmetrically around the centre line. This removes the need to adjust the jaw position according to the specimen thickness; a great time-saver especially when testing soft specimens.

Adjustment of pneumatic pressure ensures a constant and reproducible clamping force is achieved to avoid ‘jaw break’ or slippage of specimens. Typically 7 bar pressure provides 1.2 kN clamping force on the specimen.

An extensive collection of interchangeable, high-performance jaws with differing profiles provide excellent holding characteristics when tensile testing a variety of plastic, metal and textile materials.

Scope of delivery: 1 pair of grips supplied fitted with bore-hole to allow connection to QC-20 fixing post

<table>
<thead>
<tr>
<th>Item No:</th>
<th>Mec240k + Ko</th>
<th>Mec240k-S20 + Ko</th>
<th>Mec240k-S30 + Ko</th>
<th>Mec240k-S50 + Ko</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mec240k + 2Ko</td>
<td>Mec240k-S20 + 2Ko</td>
<td>Mec240k-S30 + 2Ko</td>
<td>Mec240k-S50 + 2Ko</td>
</tr>
<tr>
<td>Clamping force:</td>
<td>1.2kN / 7 bar</td>
<td>1.2kN / 7 bar</td>
<td>1.2kN / 7 bar</td>
<td>1.2kN / 7 bar</td>
</tr>
<tr>
<td>Opening (depending on jaws):</td>
<td>0-10 mm</td>
<td>0-20 mm</td>
<td>0-30 mm</td>
<td>0-50 mm</td>
</tr>
<tr>
<td>Weight each grip (without jaws):</td>
<td>0.4 kg / 0.6 kg</td>
<td>0.4 kg / 0.6 kg</td>
<td>0.6 kg / 0.8 kg</td>
<td>0.8 kg / 1 kg</td>
</tr>
<tr>
<td>Pneumatic connection:</td>
<td>M5 – fits to tubes supplied with foot pedals (eg Mec 205-1)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Foot pedals and jaws (overleaf) must be ordered separately.
Jaws for Mec240k+Ko Series

Scope of delivery 0.5 set = 2 jaws (left & right).
Order any combination of 2 half-sets of jaws to fit into a pair of ‘upper and lower’ grips from the ‘Mec240k + Ko’ or ‘Mec240k + 2Ko’ range.

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Surface</th>
<th>Clamping surface</th>
<th>Opening for Mec240k</th>
<th>Opening for Mec240k-S20</th>
<th>Opening for Mec240k-S30</th>
<th>Opening for Mec240k-S50</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec240k-B</td>
<td>Blank jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 - 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.13 kg</td>
</tr>
<tr>
<td>Mec240k-BG</td>
<td>Rubber jaws</td>
<td>30 x 30 mm</td>
<td>0 – 8 mm</td>
<td>0 – 18 mm</td>
<td>0 – 28 mm</td>
<td>0 – 50 mm</td>
<td>0.13 kg</td>
</tr>
<tr>
<td>Mec240k-BP</td>
<td>Pyramid jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.12 kg</td>
</tr>
<tr>
<td>Mec240k-BV2</td>
<td>V-jaws</td>
<td>30 x 30 mm</td>
<td>Ø 2 – 9 mm</td>
<td>Ø 2 – 20 mm</td>
<td>Ø 2 – 30 mm</td>
<td>Ø 2 – 52 mm</td>
<td>0.12 kg</td>
</tr>
<tr>
<td>Mec240k-BV3</td>
<td>V-jaws</td>
<td>30 x 30 mm</td>
<td>Ø 3 – 9 mm</td>
<td>Ø 3 – 20 mm</td>
<td>Ø 3 – 30 mm</td>
<td>Ø 3 – 52 mm</td>
<td>0.13 kg</td>
</tr>
<tr>
<td>Mec240k-BW</td>
<td>Wave jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.12 kg</td>
</tr>
<tr>
<td>Mec240k-BD</td>
<td>Diamond jaws</td>
<td>30 x 30 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.13 kg</td>
</tr>
<tr>
<td>Mec240k-B50</td>
<td>Blank jaws</td>
<td>30 x 50 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.22 kg</td>
</tr>
<tr>
<td>Mec240k-BG50</td>
<td>Rubber jaws</td>
<td>30 x 50 mm</td>
<td>0 – 8 mm</td>
<td>0 – 18 mm</td>
<td>0 – 28 mm</td>
<td>0 – 50 mm</td>
<td>0.23 kg</td>
</tr>
<tr>
<td>Mec240k-BP50</td>
<td>Pyramid jaws</td>
<td>30 x 50 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.21 kg</td>
</tr>
<tr>
<td>Mec240k-BW50</td>
<td>Wave jaws</td>
<td>30 x 50 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.20 kg</td>
</tr>
<tr>
<td>Mec240k-BD50</td>
<td>Diamond jaws</td>
<td>30 x 50 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.22 kg</td>
</tr>
<tr>
<td>Mec240k-B80</td>
<td>Blank jaws</td>
<td>30 x 80 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.36 kg</td>
</tr>
<tr>
<td>Mec240k-BG80</td>
<td>Rubber jaws</td>
<td>30 x 80 mm</td>
<td>0 – 8 mm</td>
<td>0 – 18 mm</td>
<td>0 – 28 mm</td>
<td>0 – 50 mm</td>
<td>0.37 kg</td>
</tr>
<tr>
<td>Mec240k-BP80</td>
<td>Pyramid jaws</td>
<td>30 x 80 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.35 kg</td>
</tr>
<tr>
<td>Mec240k-BW80</td>
<td>Wave jaws</td>
<td>30 x 80 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.32 kg</td>
</tr>
<tr>
<td>Mec240k-BD80</td>
<td>Diamond jaws</td>
<td>30 x 80 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.36 kg</td>
</tr>
<tr>
<td>Mec240k-B100</td>
<td>Blank jaws</td>
<td>30 x 100 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>Mec240k-BG100</td>
<td>Rubber jaws</td>
<td>30 x 100 mm</td>
<td>0 – 8 mm</td>
<td>0 – 18 mm</td>
<td>0 – 28 mm</td>
<td>0 – 50 mm</td>
<td>0.46 kg</td>
</tr>
<tr>
<td>Mec240k-BP100</td>
<td>Pyramid jaws</td>
<td>30 x 100 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>Mec240k-BW100</td>
<td>Wave jaws</td>
<td>30 x 100 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.51 kg</td>
</tr>
<tr>
<td>Mec240k-BD100</td>
<td>Diamond jaws</td>
<td>30 x 100 mm</td>
<td>0 – 10 mm</td>
<td>0 – 20 mm</td>
<td>0 – 30 mm</td>
<td>0 – 52 mm</td>
<td>0.45 kg</td>
</tr>
</tbody>
</table>

Blank jaws
- Applicable for own further treatments
- Steel-blanks without coating
- Nickel-plated

Rubber jaws
- 1 mm rubber coating (NBR)
- Nickel-plated

Mec240k-BV2 V-jaws
- For all kinds
- Tooth pitch 0.8 mm
- Hardened steel 58HRC
- Nickel-plated

Pyramid jaws
- Pyramids 1.2x45°
- Hardened steel 58 HRC
- Nickel-plated

Wave jaws
- For flexible materials
- Wave 5 mm
- Hardened steel 58HRC
- Nickel-plated

Diamond jaws
- Clamping surface coated with synthetic diamonds D91 (170/200 mesh)
- Nickel-plated

Mecmesin
Accessories

Mec205-1 Foot pedals
Non-locking: The jaws of the grip open by pressing the foot pedal and close after removing the foot from the pedal.
Scope of delivery: 1 pair of foot switches including tubes and fittings.

Mec205-2 Foot pedals
With locking function: The jaws of the grip open by pressing the foot pedal and remain opened after removing the foot from the pedal. The jaws close by pressing the pedal one more time. Scope of delivery: 1 pair of foot switches including tubes and fittings.

Mec205-.+PR Pressure regulator
Optional for Mec205-1 or Mec205-2 To adjust air pressure: 1-10 bar or 1-16 bar

Mec205-3 Hand switches
With locking function: The jaws of the grip close by pulling the handle and remain closed. The jaws open by pushing the handle back.
Scope of delivery: 1 unit of hand switches including tubes and fittings.
Description

Toggle clamps are fitted with a lever to allow rapid, easy loading of specimens. They are available fitted with either flat or serrated jaw faces to securely grip most materials.

Applications

Used for testing of:
- fabric
- woven fabrics
- tapes
- polymers

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Type</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-177</td>
<td>500 N</td>
<td>50 kgf</td>
<td>10/32 UNF</td>
<td>Flat</td>
<td>6 mm</td>
<td>50 mm</td>
<td>74 mm</td>
</tr>
<tr>
<td>432-176</td>
<td>500 N</td>
<td>50 kgf</td>
<td>10/32 UNF</td>
<td>Serrated</td>
<td>7 mm</td>
<td>50 mm</td>
<td>74 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Millimeters</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>133</td>
<td>5.236</td>
<td>5.28</td>
</tr>
<tr>
<td>25</td>
<td>0.984</td>
<td>0.386</td>
</tr>
<tr>
<td>37</td>
<td>1.444</td>
<td>0.571</td>
</tr>
<tr>
<td>50</td>
<td>1.969</td>
<td>0.775</td>
</tr>
<tr>
<td>74.5</td>
<td>2.933</td>
<td>1.156</td>
</tr>
<tr>
<td>204</td>
<td>8.031</td>
<td>8.031</td>
</tr>
<tr>
<td>251</td>
<td>9.881</td>
<td>9.881</td>
</tr>
<tr>
<td>371</td>
<td>14.609</td>
<td>14.609</td>
</tr>
</tbody>
</table>

Flat-faced Rubber Jaw: Used in 432-177
Serrated Jaw: Used in 432-176

Drawn to apply to Pt No: 432-176 & 432-177

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
500 N and 200 N Wedge Grips

Description

The 200 N / 500 N wedge grip is a small, lightweight grip designed for tensile testing. As load is applied, the wedge action of the jaws increases the grip on the sample. A spring-loaded lever allows the serrated jaws to open and close easily for the fast securing and release of samples. The 200 N grip includes the chain link assembly for ease of loading samples. A slot in the back accommodates samples wider than the jaws.

Applications

Used for general purpose tensile testing of:
- crimp and welded joints
- laminates
- films
- wires
- flexible sheet materials
- textiles
- many other materials

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Width (A)</th>
<th>Jaw Capacity</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-415</td>
<td>200 N</td>
<td>45 lbf</td>
<td>25 mm</td>
<td>5 mm</td>
<td>0.98&quot;</td>
<td>50 mm</td>
</tr>
<tr>
<td>432-385</td>
<td>500 N</td>
<td>110 lbf</td>
<td>16 mm</td>
<td>5 mm</td>
<td>0.63&quot;</td>
<td>50 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- 53 (2.067”) MAX
- 20.0786”
- 5 (0.197”) MAX
- 43 (1.693”) MAX
- 53 (2.087”) MAX
- Thread 1

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5 kN Wedge Grip

Description

The 5 kN wedge grip is designed for tensile testing of flat and rigid materials including plastics, rubber and light metals. As load is applied, the wedge action of the jaws increases the grip on the sample. A spring-loaded lever allows the serrated jaws to open and close easily for the fast securing and release of samples.

Applications

Used for general-purpose tensile testing of:
- adhesive joints
- plastics
- cables
- polymer
- composites
- crimp and welded joints
- wood
- metals
- rubber

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Width</th>
<th>Jaw Capacity</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-398</td>
<td>5kN</td>
<td>5/16 UNC</td>
<td>25 mm</td>
<td>8 mm</td>
<td>80 mm</td>
<td>3.15&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

![Diagram of dimensions](image)

---

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**10 kN Wedge Grip, lever-action, QC fitting**

**MecS622 – steel**

A versatile lever-actuated wedge grip rated to a tensile force of 10 kN. The initial gripping force is provided by pre-tensioned springs which cause the jaws to close together. The teeth of the jaw faces act to make a preliminary hold of the specimen before the main clamping force is applied by the action of the wedges moving as load is applied to the specimen. A front-facing lever makes it ergonomically easy for operators to release specimens after testing.

The body of the MecS622 Wedge Grip features an ‘open back’ which makes it ideal for wider specimens to be positioned through the body whilst being held within the 34 x 40mm area of the pyramid jaws (MecS622-BP). For round samples of 2-10 mm diameter a set of V-shaped jaws (MecS622-BV) are available for use with the MecS622 wedge grip. Jaws should be ordered separately.

The MecS622 10 kN Wedge Grip is especially suitable for holding a variety of materials such as plastic strips and dumbbells, flat and round metal specimens such as sheet, pipes and dumbbells plus textile straps and belts.

**Scope of delivery: 1 grip fitted with bore-hole to allow connection to QC-20 fixing post**

| Item No. | MecS622 |
|----------|---------|---|
| Max tensile rating: | 10 kN |
| Opening (depending on jaws): | 0-10 mm |
| Weight each grip (without jaws): | 1.83 kg |

**Jaws for MecS622**

Scope of delivery: Scope of delivery 0.5 set = 2 jaws (left & right)

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Surface</th>
<th>Clamping surface H x W</th>
<th>Opening</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>MecS622-BP</td>
<td>Pyramid jaws</td>
<td>40x34 mm</td>
<td>0-10 mm</td>
<td>0.42 kg</td>
</tr>
<tr>
<td>MecS622-BV</td>
<td>V-jaws</td>
<td>Clamping height 40 mm</td>
<td>2-10 mm Ø</td>
<td>0.43 kg</td>
</tr>
</tbody>
</table>

Jaw faces with differing dimensions and surfaces available on request.
Dimensions mm

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www.mecmesin.com
A compact lever-actuated wedge grip available rated to a tensile force of either 20 kN or 50 kN. The initial gripping force is provided by pre-tensioned springs which cause the jaws to close together. The teeth of the jaw faces act to make a preliminary hold of the specimen before the main clamping force is applied by the action of the wedges moving as load is applied to the specimen. A side-action lever arm allows operators to quickly and easily load and release specimens when testing.

The Mec243 Wedge Grips feature easy interchangeability of jaws making them an ideal universal choice when faced with tensile testing of a variety of shapes and materials. Pyramid (serrated) jaws (Mec243-BP & -BP16) are optimal for testing flat samples up to 16mm thickness. For round samples up to 16mm diameter a set of V-shaped jaws (Mec243-BV & -BV16) are available for use with the Mec243 Wedge Grips. Jaws should be ordered separately.

Both versions of the Mec243 Wedge Grips are especially suitable for holding a variety of materials such as plastic strips and dumbbells, flat and round metal specimens such as sheet, pipes, rods and dumbbells plus textile straps and belts.

### Jaws for Mec243:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Surface</th>
<th>Clamping surface H x W</th>
<th>Opening</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec243-BP</td>
<td>Pyramid (serrated) jaws</td>
<td>50 x 35mm</td>
<td>0 – 13mm</td>
<td>0.48 kg</td>
</tr>
<tr>
<td>Mec243-BP16</td>
<td>Pyramid (serrated) jaws</td>
<td>50 x 35mm</td>
<td>4 – 16mm</td>
<td>0.41 kg</td>
</tr>
<tr>
<td>Mec243-BV</td>
<td>V-jaws</td>
<td>Clamping height 50mm</td>
<td>3 – 13mm Ø</td>
<td>0.46 kg</td>
</tr>
<tr>
<td>Mec243-BV16</td>
<td>V-jaws</td>
<td>Clamping height 50mm</td>
<td>4 – 16mm Ø</td>
<td>0.41 kg</td>
</tr>
<tr>
<td>Mec243-BV20</td>
<td>V-jaws</td>
<td>Clamping height 50mm</td>
<td>10 – 20mm Ø</td>
<td>0.35kg</td>
</tr>
</tbody>
</table>

Jaws with other dimensions and surface coatings on request.
Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
Multi-Jaw Grip

Description

The multi-jaw grip is for grasping round or irregularly shaped items. By rotating the sleeve of the grip, the jaws can be opened and closed to achieve a secure grasp on a sample.

Applications

Used for tensile testing of:
- fasteners
- small components
- textiles

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Sample Min./Max. Ø</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-215</td>
<td>500 N</td>
<td>M6</td>
<td>10 mm - 45 mm</td>
<td>105 mm</td>
<td>4.12&quot;</td>
</tr>
<tr>
<td>432-420</td>
<td>500 N</td>
<td>10/32 UNF</td>
<td>10 mm - 45 mm</td>
<td>105 mm</td>
<td>4.12&quot;</td>
</tr>
</tbody>
</table>

---

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233
Dimensions mm (inch)

thread 1

section z-z

40 (1,575")

105 (4.2") max

jaw s φ a min

φ b max

JAWS

Z

Z

105 (4.12") max

40 (1.575")

234
Lightweight Pneumatic Plane Grip, Single actuator, QC fitting

Mec94 – aluminium

A versatile lightweight pneumatic grip especially suitable for holding a variety of materials where the tensile force may be low but the material is sensitive to damage or slippage when clamped. The adjustable screw-driven rod allows symmetrical and asymmetrical specimens to be positioned whilst the single-actuator applies the clamping force on the jaws. Adjustment of pneumatic pressure ensures a constant and reproducible clamping force is achieved to avoid ‘jaw break’ or slippage of specimens. Its low-profile aluminium design makes it ideal for tensile testing with loadcells of capacity as low as 10 N.

- Clamping force: 200 N / 7 bar
- Opening: 0-20 mm (depending on jaws)
- Pneumatic connection: M5 suitable for fitting with tubes supplied with additional foot pedal (eg. Mec205-1)
- Weight: 214 gram each grip (without jaws)

Jaws for Mec94: Scope of delivery 0.5 set = 2 jaws (left & right). Order any combination of 2 half-sets of jaws to fit into a pair of Mec94 grips (upper & lower)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Surface</th>
<th>Clamping Surface H x W</th>
<th>Opening (A)</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mec94-B</td>
<td>Blank jaws</td>
<td>25 x 25 mm</td>
<td>0 - 20 mm</td>
<td>53 gram</td>
</tr>
<tr>
<td>Mec94-BG</td>
<td>Rubber jaws</td>
<td>25 x 25 mm</td>
<td>0 - 18 mm</td>
<td>56 gram</td>
</tr>
<tr>
<td>Mec94-BP</td>
<td>Pyramid jaws</td>
<td>25 x 25 mm</td>
<td>0 - 20 mm</td>
<td>49 gram</td>
</tr>
<tr>
<td>Mec94-BD</td>
<td>Diamond jaws</td>
<td>25 x 25 mm</td>
<td>0 - 20 mm</td>
<td>54 gram</td>
</tr>
<tr>
<td>Mec94-B50</td>
<td>Blank jaws</td>
<td>25 x 50 mm</td>
<td>0 - 20 mm</td>
<td>111 gram</td>
</tr>
<tr>
<td>Mec94-BG50</td>
<td>Rubber jaws</td>
<td>25 x 50 mm</td>
<td>0 - 18 mm</td>
<td>114 gram</td>
</tr>
<tr>
<td>Mec94-BP50</td>
<td>Pyramid jaws</td>
<td>25 x 50 mm</td>
<td>0 - 20 mm</td>
<td>104 gram</td>
</tr>
<tr>
<td>Mec94-BW50</td>
<td>Wave jaws</td>
<td>25 x 50 mm</td>
<td>0 - 16 mm</td>
<td>128 gram</td>
</tr>
<tr>
<td>Mec94-BD50</td>
<td>Diamond jaws</td>
<td>25 x 50 mm</td>
<td>0 - 20 mm</td>
<td>112 gram</td>
</tr>
</tbody>
</table>

Jaws with other dimensions and surface coatings on request

Ordering information Item No.: Mec94
Scope of delivery: 1 pair of grips supplied with adapters to allow connection to QC-20 fixing posts.
Foot pedals (see overleaf) and jaws (see table below) must be ordered separately.

<table>
<thead>
<tr>
<th>Item No:</th>
<th>Mec94</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamping force:</td>
<td>200N / 7 bar</td>
</tr>
<tr>
<td>Opening:</td>
<td>0-20mm (depending on jaws)</td>
</tr>
<tr>
<td>Pneumatic connection:</td>
<td>M5 – fits to tubes supplied with foot pedals (eg Mec205-1)</td>
</tr>
<tr>
<td>Weight:</td>
<td>214 g per grip (without jaws)</td>
</tr>
</tbody>
</table>

Blank jaws
- Steel blanks
- Applicable for own further treatments

Rubber jaws
- 1 mm rubber coating

Pyramid jaws
- Pyramids 1x45°
- Hardened steel 58 HRC

Wave jaws
- Wave 5 mm
- Hardened steel 58 HRC

Diamond jaws
- Coated with synthetic diamonds

*Q = Quick-interchange via 8 mm Ø pin

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Examples for Mec94 with jaws fitted

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Mec94 with Mec94-BW50 jaws" /></td>
<td>Mec94 with Mec94-BW50 jaws</td>
</tr>
<tr>
<td><img src="image2" alt="Mec94- with Mec94-BP50 jaws" /></td>
<td>Mec94- with Mec94-BP50 jaws</td>
</tr>
<tr>
<td><img src="image3" alt="Mec94 with Mec94-B100x25 special blank jaws" /></td>
<td>Mec94 with Mec94-B100x25 special blank jaws</td>
</tr>
</tbody>
</table>

### Accessories

**Mec205-1 Foot pedals**

- **Non-locking:** The jaws of the grip open by pressing the foot pedal and close after removing the foot from the pedal.
- **Scope of delivery:** 1 pair of foot switches including tubes and fittings.

**Mec205-2 Foot pedals**

- **With locking function:** The jaws of the grip open by pressing the foot pedal and remain opened after removing the foot from the pedal. The jaws close by pressing the pedal one more time.
- **Scope of delivery:** 1 pair of foot switches including tubes and fittings.

**Mec205-+PR Pressure regulator**

- **Optional for Mec205-1 or Mec205-2**
- **To adjust air pressure:** 1-10 bar or 1-16 bar

**Mec205-3 Hand switches**

- **With locking function:** The jaws of the grip close by pulling the handle and remain closed. The jaws open by pushing the handle back.
- **Scope of delivery:** 1 unit of hand switches including tubes and fittings.

**Mec216 Compressor for laboratories, oil-lubricated**

- **Max pressure:** 16 bar, 230 V, frequency 50 Hz, noise level: 38 dB (A)/1 m.
- **Displacement:** 5 l/min, tank size 3.1 l (0.82 gallon).
- **Dimensions:** 382x300x334 mm (D x W x H);
- **Weight:** 24 kg
- **Different voltages available on request.**

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Small Pneumatic Plane Grip, QC fitting

Description

Small pneumatic plane grips are made from aluminium, have rubber-faced jaws and use a pneumatically-operated parallel vice action to firmly hold flat samples in place. Designed for fast loading and rapid testing of a large number of specimens. Supplied in pairs complete with 3 m long tube and footswitch for convenient operation. Recommended air pressure 6 bar (maximum 8 bar).

Applications

Used for tensile testing of:
- film
- laminates
- plastic sheet
- textiles
- woven fibre strips
- rubber
- elastomers
- paper

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-275</td>
<td>200 N</td>
<td>45 lbf</td>
<td>QC20</td>
<td>8 mm</td>
<td>114 mm</td>
<td>600 g</td>
</tr>
</tbody>
</table>

www.mecmesin.com
Dimensions mm (inch)

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Φ 20 (0.787")

115 (4.53") MAX

Φ 8 (0.315")

CONNECTION FOR PNEUMATICS

120 ±10 (4.724" ±0.394")

113 (4.449")

381 (15".)

191 (7.52")

30 (1.18")

42 (1.65")

30 (1.18")

238
Pneumatic U-Form Vice Grip, single & dual actuators, QC fitting

Mec240g + Ko (single-actuator) – aluminium
Mec240g + 2Ko (dual-actuator) – aluminium

A highly versatile pneumatic grip for use in applications where material is sensitive to damage or slippage when clamped and the tensile force is significant.

- The Mec240g+Ko features an adjustable screw-driven rod allowing symmetrical and asymmetrical specimens to be positioned whilst the single-actuator applies the clamping force on the jaws.
- The Mec240g+2Ko features a dual actuator so the jaws always close symmetrically around the centre line. This removes the need to adjust the jaw position according to the specimen thickness; a great time-saver especially when testing soft specimens.

Adjustment of pneumatic pressure ensures a constant and reproducible clamping force is achieved to avoid ‘jaw break’ or slippage of specimens. Typically 7 bar pressure provides 2.6 kN clamping force on the specimen.

The ‘U-Form’ cut into the aluminium body of these Pneumatic Vice Grips creates the space for an operator to have specimen material below the jaws thereby facilitating loading and removal. An extensive collection of interchangeable, high-performance jaws with differing profiles provide excellent holding characteristics when tensile testing a variety of plastic, metal and textile materials.

Scope of delivery: 1 pair of grips supplied fitted with bore-hole to allow connection to QC-20 fixing post.

<table>
<thead>
<tr>
<th>Item No:</th>
<th>Mec240g + Ko</th>
<th>Mec240g + 2Ko</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated capacity:</td>
<td>2.6 kN / 7 bar</td>
<td>2.6 kN / 7 bar</td>
</tr>
<tr>
<td>Opening (depending on jaws):</td>
<td>0-24 mm</td>
<td>0-19 mm</td>
</tr>
<tr>
<td>Weight each grip(without jaws):</td>
<td>1.55 kg</td>
<td>1.93 kg</td>
</tr>
<tr>
<td>Pneumatic connection:</td>
<td>1/8” – fits to tubes supplied with foot pedals (eg Mec205-1)</td>
<td></td>
</tr>
</tbody>
</table>
Note: Foot pedals (see overleaf) and jaws (see table below) must be ordered separately.

Jaws for Mec240g+Ko and Mec240g+2Ko: Scope of delivery 0.5 set = 2 jaws (left & right).
Order any combination of 2 half-sets of jaws to fit into a pair of ‘Mec240g + Ko’ or ‘Mec240g + 2Ko’ grips (upper & lower)

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Surface</th>
<th>Clamping surface</th>
<th>Jaw opening with rod L56.5</th>
<th>Jaw opening with rod L51.5</th>
<th>Weight per 0.5 set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank jaws</td>
<td>- Applicable for own further treatments</td>
<td>- Steel blanks without coating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubber jaws</td>
<td>- 1 mm rubber coating (NBR)</td>
<td>- Nickel-plated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pyramid jaws</td>
<td>- Pyramids 1.2x45°</td>
<td>- Hardened steel 58 HRC</td>
<td>- Nickel-plated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-jaws</td>
<td>- For all kinds of round samples</td>
<td>- Tooth pitch 1 mm (BV5) or 0.8 mm (BV2)</td>
<td>- Hardened steel 58HRC</td>
<td>- Nickel-plated</td>
<td></td>
</tr>
<tr>
<td>Wave jaws</td>
<td>- For flexible materials</td>
<td>- Wave 5 mm</td>
<td>- Hardened steel 58HRC</td>
<td>- Nickel-plated</td>
<td></td>
</tr>
<tr>
<td>Diamond jaws</td>
<td>- Clamping surface coated with synthetic diamonds</td>
<td>- Nickel-plated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mec240g-B: Blank jaws
Mec240g-BG: Rubber jaws
Mec240g-BP: Pyramid jaws
Mec240g-BV2: V-jaws
Mec240g-BV5: V-jaws
Mec240g-BW: Wave jaws
Mec240g-BD: Diamond jaws
Mec240g-B80: Blank jaws
Mec240g-BG80: Rubber jaws
Mec240g-BP80: Pyramid jaws
Mec240g-BW80: Wave jaws
Mec240g-BD80: Diamond jaws
Mec240g-B100: Blank jaws
Mec240g-BG100: Rubber jaws
Mec240g-BP100: Pyramid jaws
Mec240g-BW100: Wave jaws
Mec240g-BD100: Diamond jaws

Mec240g-BV2: BV5 jaws fit well for samples with larger diameters
Mec240g-BV5: BV5 jaws fit well for samples with larger diameters

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Accessories

Mec205-1 Foot pedals
Non-locking: The jaws of the grip open by pressing the foot pedal and close after removing the foot from the pedal. Scope of delivery: 1 pair of foot switches including tubes and fittings.

Mec205-2 Foot pedals
With locking function: The jaws of the grip open by pressing the foot pedal and remain opened after removing the foot from the pedal. The jaws close by pressing the pedal one more time. Scope of delivery: 1 pair of foot switches including tubes and fittings.

Mec205-.+PR Pressure regulator
Optional for Mec205-1 or Mec205-2 To adjust air pressure: 1-10 bar or 1-16 bar

Mec205-3 Hand switches
With locking function: The jaws of the grip close by pulling the handle and remain closed. The jaws open by pushing the handle back. Scope of delivery: 1 unit of hand switches including tubes and fittings.

Mec216 Compressor for laboratories, oil-lubricated
Max pressure 16 bar, 230 V, frequency 50 Hz, noise level: 38 dB (A)/1 m. Displacement 5 l/min, tank size 3.1 l (0.82 gallon) Dimensions: 382x300x334 mm (D x W x H); weight 24 kg Different voltages available on request.

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Large Pneumatic Plane Grip, QC fitting

Description

Large pneumatic plane grips have pyramidal-faced jaws and use a pneumatically-operated parallel vice action to firmly hold flat samples in place. Designed for fast loading and rapid testing of a large number of specimens. Supplied in pairs complete with 3 m long tube and footswitch for convenient operation. Recommended air pressure 6 bar (maximum 8 bar)

Applications

Used for tensile testing of:
- plastics
- textiles
- heavy-duty film
- light metals / alloys
- laminates
- paper and card
- rubber
- insulating materials

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-276</td>
<td>1 kN</td>
<td>QC20</td>
<td>0.47&quot;</td>
<td>76.2 mm</td>
<td>179 mm</td>
<td>3.2 kg</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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Heavy-duty Pneumatic Plane Grip, QC fitting

Description

Heavy-duty pneumatic plane grips are made from steel, have pyramidal-face jaws and use a pneumatically-operated parallel vice action to firmly hold flat samples in place. Designed for fast loading and rapid testing of a large number of specimens. Supplied in pairs complete with 3 m long tube and footswitch for convenient operation.

Applications

Used for tensile testing of:
- elastomers
- tapes
- textiles
- films
- plastics
- rubber

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-374</td>
<td>5 kN</td>
<td>QC20</td>
<td>12 mm</td>
<td>76 mm</td>
<td>225 mm</td>
<td>7.9 kg</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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Foot Switches & Hand Switches for Pneumatic Grips

Mec205 range

Pneumatic grips are the ideal choice when performing tensile tests on sensitive materials which have the tendency to slip or break at the point of clamping.

To operate such pneumatic grips there are a number of choices available depending on your preference.

The Mec205-1 (non-locking) and Mec205-2 (locking) are Foot Switches whereby the pedal is pressed to open/close the jaws of the pneumatic grip. Often chosen for convenience to situate beneath the desk and keep both hands free for inserting and removing the specimen from the grips. A pressure regulator is also available for fitting to the Foot Switch so that you can adjust between 1 – 10 bar for fine-tuning the clamping force applied to the specimen via the pneumatic grip.

The Mec205-3 is a Hand Switch for positioning on the table top next to the tester, whereby the lever handles are moved to the open and closed positions to control the jaws of the pneumatic grip.

Scope of delivery: All 3 switch types are supplied with tubes and fittings for connection to your compressed air supply.

Mec205-1 Foot switches
Non-locking: The jaws of the grip open by pressing the foot pedal and close after removing the foot from the pedal. Only for single action rods with spring inside. Max. pressure 10 bar.
Scope of delivery: 1 pair of foot switches including tubes and fittings

Mec205-2 Foot switches
With locking function: The jaws of the grip open by pressing the foot pedal and remain opened after removing the foot from the pedal. The jaws close by pressing the pedal one more time. Only for single action rods with spring inside. Max. pressure 10 bar.
Scope of delivery: 1 pair of foot switches including tubes and fittings

Mec205-PR10bar Pressure regulator
Optional for all versions.
To adjust air pressure: 1-10 bar

Mec205-3 Hand switches
1 unit of pneumatic hand switches, tubes and fittings
With locking function
Only for single action rods with spring inside. Max. pressure 16 bar.
Scope of delivery: 1 unit of hand switches including tubes and fittings
Dimensions mm (inch)

163 (6.4")

214 (8.4")

5x PIPE THREAD Rp 1/4-19 - 9 DEEP

LOCKING FOOTSWITCH (only for Mec205-2)

Mec205-1
and Mec205-2

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Assisted-Pull Peel Table

Description

The assisted-pull peel table is fixed to the anvil plate and the crosshead of a test stand. The carriage of the peel table is directly driven horizontally by the vertical movement of the test stand crosshead, maintaining a constant 90 degree peel angle for the specimen.

Applications

Used for peel testing of:
- adhesive tapes
- packaging
- flexible laminates

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Length</th>
<th>Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC008-208</td>
<td>500 N</td>
<td>397 mm</td>
<td>15.60&quot;</td>
<td>100 mm</td>
<td>3.94&quot;</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td>110 lbf</td>
<td></td>
<td>58 mm</td>
<td>2.28&quot;</td>
</tr>
</tbody>
</table>
**Dimensions mm (inch)**

- 295 (11.61”)  
- 178.5 (7.028”)  
- 50 (1.969”)  
- 75 (2.953”)  
- 100 (3.937”)  
- 58 (2.287”)  
- 397 (15.61”)  
- 215 (8.465”)  
- 198 (7.795”)  
- 55 (2.165”)  
- 127 (5”)  
- MAX SLIDE TRAVEL

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Floating Peel Jig

Description

The floating peel jig is used to test flat samples with a flexible layer and a rigid or semi-rigid substrate, such as credit cards, and enables the card to move smoothly under the rollers while delamination tests are carried out. The fixture maintains a constant 90 degree peel angle for the specimen.

Applications

• films
• tapes
• laminates
• labels
• decals

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-413</td>
<td>500 N</td>
<td>72 mm</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td>2.85&quot;</td>
</tr>
<tr>
<td></td>
<td>110 lbf</td>
<td></td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- 198 (7.795")
- 178,5 (7.028")
- 205 (8.067")
- 17 (0.673") MIN
- 53,5 (2.106") MAX

**DS-1094-01**

**ALL DIMENSIONS ARE IN MILLIMETRES FOLLOWED BY INCHES: MM (IN")**

- 20,5 0,807"
- 79,5 3,13"
- 198 7,795"
- 178,5 7,028"
- 54 (2,126")
- 32,5 (1,28") DAYLIGHT
- 36,5 (1,437") SLOT FOR POSITIONING
- 8 (0,311")
- 1 (0.039")
- 53,5 (2,106") MAX
- 72 (2,85")
- 17 (0.673") MIN
- 53,5 (2,106") MAX
- 72 (2,85")

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Coefficient of Friction Fixture

Description

The Coefficient of Friction Fixture is designed to measure the coefficient of friction between two pieces of material (usually plastic film) when pulled at a constant speed with a fixed pressure between the surfaces. The fixture consists of a long flat bed and a sled. The bed is mounted to a fixing plate suitable for use with Mecmesin tensile testers. The sled is moved along the bed by the movement of the tensile testing machine. The sled connects to the load cell via a thread passing over a low friction pulley. The sled speed is therefore identical to the speed of the tensile tester with the friction load being measured directly by the loadcell.

The bed has a clamping plate at the rear to hold the specimen material securely in place during the test. For additional stability the specimen material may also be taped to the bed if required. The sled is wrapped in a sponge rubber and designed to give the correct pressure between the two halves of the sample as defined by the relevant standard. Specimen material is fixed to the sled using conventional or double-sided adhesive tape.

A bi-directional spirit level and adjustable feet allow the bed to be levelled thereby ensuring that specimens are tested in a completely horizontal plane.

Applications

Used for friction testing primarily of plastic films, sheets, foils and paper.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Standard</th>
<th>Sled Dimensions</th>
<th>Sled mass</th>
<th>Bed length</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>432-144</td>
<td>ASTM D1894</td>
<td>63 x 63 mm, 2.5 x 2.5&quot; (nominal)</td>
<td>200g ± 5g</td>
<td>370 mm</td>
<td>14.6&quot;</td>
</tr>
<tr>
<td>432-501</td>
<td>ISO 8295</td>
<td>63 x 63 mm, 2.5 x 2.5&quot; (nominal)</td>
<td>200g ± 2g</td>
<td>370 mm</td>
<td>14.6&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

**DRAWING IS INDICATIVE ONLY**

ASTM = 370 (14.6”)

635 (2.5”)

ATTACHES TO LOADCELL

635 (2.5”)

CLAMPING PLATE FOR SECURING SAMPLES

178.5 (7.03”)

BETWEEN FIXING SLOTS

50 (1.97”)

30 (1.18”)

50 (1.59”)

196 (7.72”)

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Determining the characteristics of self-adhesive materials or the seal strength of flexible barrier materials is often achieved by peel testing.

There are a number of test methods and standards employed by various industry bodies which call upon specific peel jigs and associated accessories to be used in conjunction with a tensile tester. Mecmesin has developed a range of peel jigs to meet the demands of the most commonly used standards.

Measuring ‘peel adhesion’ - defined as the force required to remove a strip of pressure-sensitive coated material, which has been applied to a standard test plate under specified conditions, from the plate at a specified angle and speed.

180 degree Peel Jig (FINAT 1) – Peel Adhesion

- Remove backing material from 25mm wide strip
- Affix to test plate (PDV13016-C) and roll twice using standard roller (PSV14155)
- Fit test plate (PDV13016-C) to base of tensile tester
- Fit strip into upper grip (MEC227-BG50) of tensile tester so that test angle is 180 degrees
- Separate the adhesive strip from the test plate at a rate of 300 mm/min
- Record data from the central section of the adhesive strip as it is peeled
- Calculate the average of the peel force and express the value as Newton/25mm width
- Describe the type of failure (cohesive failure, adhesive transfer etc.)

Note: tests to be conducted after 20 mins and 24 hours.
90 degree Peel Jig (FINAT 2) – Peel Adhesion

Typically gives lower values than FINAT 1 and is considered useful when failure mode of materials is ‘paper tear’.

- Remove backing material from 25mm wide strip
- Affix strip to float glass (PSV15030) and roll twice using standard roller (PSV14155)
- Fit float glass into horizontal pull-peel table (PDV15031) positioned on base of tensile tester
- Fit strip into upper grip (MEC227-BG50) of tensile tester. Test angle is now maintained at 90 degrees
- Separate the adhesive strip from the test plate at a rate of 300 mm/min
- Record data from the central section of the adhesive strip as it is peeled
- Calculate the average of the peel force and express the value as Newton/25mm width
- Describe the type of failure (cohesive failure, adhesive transfer, paper tear etc.)

Note: tests to be conducted after 20 mins and 24 hours.

180 degree Peel Jig (FINAT 3) – Low-speed Release Force to separate release backing

- Affix 50mm wide strip to test plate (PDV13016-C) using double-sided tape
- Fit test plate (PDV13016-C) to base of tensile tester
- Fit strip into upper grip (MEC227-BG50) of tensile tester so that test angle is 180 degrees
- Separate the adhesive strip from the test plate at a rate of 300 mm/min
- Record data from the central section of the adhesive strip as it is peeled
- Calculate the average of the peel force and express the value as Newton/50mm width

Note: To ensure good contact between release backing and adhesive the tests are to be conducted 20 hours after strips have been compressed together.
Tack Test Jig (FINAT 9) – Loop Tack (aka “Quick-stick”) measurement

- Remove backing material from 25mm wide strip
- Form loop with adhesive surface being outermost
- Fit loop into upper grip (MEC227-BG50) of tensile tester
- Compress the loop to lower Tack Test Jig (PDV13016-A) at 300 mm/min until full contact over float glass plate has been achieved
- Immediately reverse the tester to separate the loop from the glass plate at a tensile rate of 300 mm/min
- Record the maximum separation force

Note: If adhesive transfer or paper tear occurs this should be recorded
Additional Accessories

**Standard Roller (FINAT)** - applies a standard pressure to the specimen irrespective of the variation in hand pressure on the handle.

- Roller of 85mm diameter and 50mm width.
  Fitted with rubber surface of Shore hardness A 80. Weight is 2kg
  Part no: PSV14155

**Sample Cutters** - allows specimen strips to be cut cleanly and straight. Supplied with protective mat and spare cutter blades.

- 15mm wide cutter = PSV13007
- 25mm wide cutter = PSV13143
Pull Peel Wheel Fixture

Description

The pull peel wheel fixture is designed for mounting to the base of a motorised test stand to test the peel strength of flexible adhesive-backed materials. Samples are wound around the wheel and the free end is clamped in a suitable upper grip connected to a loadcell. The minimal-friction bearing ensures a constant 90° peel angle.

Applications

Used for peel testing of:
- laminated coatings
- adhesive-backed tape
- adhesive-backed films and foils

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Post Ø</th>
<th>Rim Width</th>
<th>Wheel Diameter Ø</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-265</td>
<td>200 N</td>
<td>20 kgf</td>
<td>44 lbf</td>
<td>QC20</td>
<td>25.4 mm</td>
<td>212 mm</td>
</tr>
<tr>
<td></td>
<td>152.4 mm</td>
<td>6.0&quot;</td>
<td></td>
<td>212 mm</td>
<td>8.34&quot;</td>
<td>212 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- \( \Phi 152.4 \text{ (6”)} \)
- \( 25.4 \text{ (1”)} \)
- \( 39 \text{ (1.535”)} \)
- \( 40 \text{ (1.575”)} \)
- \( 43.2 \text{ (1.7”)} \)
- \( 50 \text{ (1.969”)} \)
- \( \Phi 8 \text{ (0.315”)} \)

All dimensions are in millimetres followed by inches: mm (in).
FPT-H1 Friction Sleds

The FPT-H1 Coefficient of Friction tester can be fitted with sample sleds of the correct weight, size and facings for a wide variety of international standard test methods. Sleds can be drawn from either end, and have magnetic catches for quickly and cleanly securing film samples.

ISO 15359 prescribes mechanical lifting and lowering of the sled, and friction-free guide rails. The kit for this test requires a factory-fitted servo lift, but the rails can be easily removed for any other form of testing. The lift is software-controlled by the installed test program.

Sleds include the recommended linkages for the tests shown, to avoid slip-stick in kinetic friction testing.

### Description

### Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Face Length</th>
<th>Face Width</th>
<th>Mass</th>
<th>Face Material</th>
<th>Suitable for standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-633</td>
<td>63.5 mm</td>
<td>63.5 mm</td>
<td>200 g</td>
<td>neoprene</td>
<td>TAPPI T 549</td>
</tr>
<tr>
<td>432-638</td>
<td>63.5 mm</td>
<td>63.5 mm</td>
<td>200 g</td>
<td>rubber foam</td>
<td>ASTM D1894, ISO 8295</td>
</tr>
<tr>
<td>432-639</td>
<td>63.5 mm</td>
<td>63.5 mm</td>
<td>800 g</td>
<td>neoprene</td>
<td>ISO 15359</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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The coefficients of friction of plastic films change with temperature. Testing at elevated temperatures can therefore be useful to establish hot-running machine settings. This heated plane has a control box and attaches to the FPT-H1 for use with its standard friction fixtures. With an operating temperature maintained to within 3°C, this unit will enable repeatability in the testing of plastic films, in accordance with ASTM D1894, or your own requirements.

**Description**

The coefficients of friction of plastic films change with temperature. Testing at elevated temperatures can therefore be useful to establish hot-running machine settings. This heated plane has a control box and attaches to the FPT-H1 for use with its standard friction fixtures. With an operating temperature maintained to within 3°C, this unit will enable repeatability in the testing of plastic films, in accordance with ASTM D1894, or your own requirements.

**Specification**

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Heated area length</th>
<th>Heated area width</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-640</td>
<td>318 mm (12.5 in)</td>
<td>148 mm (5.8 in)</td>
<td>24.5 mm (0.96 in)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Max. temperature</th>
<th>85°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warm-up time</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Accuracy</td>
<td>3°C</td>
</tr>
<tr>
<td>Power supply</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>10°C to 40°C (32°F to 122°F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>20% to 85% non-condensing</td>
</tr>
<tr>
<td>Ingress protection rating</td>
<td>30</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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FPT-H1 90° Peel Fixture Kit

Description

The Mecmesin FPT-H1 horizontal coefficient of friction tester can also be used for specific standard peel test methods. Optional fixtures enable 90°, 180° and T-peel testing, which are especially suitable for pressure sensitive adhesive tapes and labels.

The 90° fixture features an assisted sliding table to ensure constant alignment with the draw hook. The table accepts float glass and stainless steel sample plates, to comply with the requirements of a range of standard test methods, including Afera 5001, ASTM D3330, BS EN 1939, FINAT FTM2 and PSTC 101 Method F.

Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Available travel</th>
<th>Max. sample length</th>
<th>Max. sample width</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-670</td>
<td>125 mm</td>
<td>125 mm</td>
<td>50 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-651</td>
<td>Float glass</td>
</tr>
<tr>
<td>432-652</td>
<td>Stainless steel</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- Maximum sample width: 50 \( (197\)"
- Maximum travel: 250 \( (9.84\)"
- Maximum sample length: 125 \( (4.92\)"

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Description

The Mecmesin FPT-H1 horizontal coefficient of friction tester can also be used for specific standard peel test methods. Optional fixtures enable 90°, 180° and T-peel testing, which are especially suitable for pressure sensitive adhesive tapes and labels.

The 180° fixture features a raised bed to ensure accurate alignment with the draw hook. The bed itself accepts float glass and stainless steel sample plates, to comply with the requirements of a range of standard test methods, including Afera 5001, ASTM D3330, BS EN 1939, FINAT FTM1 and PSTC 101.

Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Length</th>
<th>Width</th>
<th>Height</th>
<th>Max. sample width</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-636</td>
<td>173 mm</td>
<td>90 mm</td>
<td>26 mm</td>
<td>50 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-651</td>
<td>Float glass</td>
</tr>
<tr>
<td>432-652</td>
<td>Stainless steel</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

FPT-H1 180° Peel Fixture Kit

ALL DIMENSIONS ARE IN MILLIMETRES FOLLOWED BY INCHES: MM ( IN"

90 3,54
50 1,97
173 6,81
22 ,87
26 1,02

432-636 FPT-H1 180 degree peel testing kit

61 2,40
59 2,32
8,1 ,32

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FPT-H1 50 mm Peel Grip (FINAT 3), QC fitting

Description
The Mecmesin FPT-H1 horizontal coefficient of friction tester can also be used for specific standard peel and tear test methods. This peel grip can be used in conjunction with the FPT-H1 90 degree fixture kit (part no. 432-620) or the FPT-H1 180 degree peel fixture kit (part no. 432-636) where the drawn part of the sample is non-adhesive, in place of the standard hook fixture.

This single-action grip has rubber-faced jaws for securely gripping backing layers, plastic film, paper and card. Supplied as a single grip.

Suitable for test standards FINAT FTM1, 2 & 3; ASTM D3330, D6252, TLMI L-IA1 & 2

Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Jaw capacity</th>
<th>Jaw width</th>
<th>QC Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-654</td>
<td>4 mm</td>
<td>50 mm</td>
<td>8 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

```
50 (1.97)  25 (0.98)
```

```
40 (1.57)
```

```
15 (0.59)
```

```
35 (1.38)
```

```
10 (0.39)
```

```
4 (0.16) MAX
```

```
DAYLIGHT
```

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## Description

The Mecmesin FPT-H1 horizontal coefficient of friction tester can also be used for specific standard peel and tear test methods. For T-peel, two 25 mm vice grips are used.

Sold as a pair, these small vice grips have both jaws adjustable, and are rubber-faced for securely gripping plastic films, paper and card.

## Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Jaw capacity</th>
<th>Jaw width</th>
<th>QC Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-642</td>
<td>6 mm</td>
<td>25 mm</td>
<td>8 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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FPT-H1 Lightweight Tear Grips, QC fitting

Description

The Mecmesin FPT-H1 horizontal coefficient of friction tester can also be used for specific standard peel and tear test methods. For tear testing, two 100 mm vice grips are used.

Sold as a pair, these small vice grips have both jaws adjustable, and are rubber-faced for securely gripping plastic films, paper and card.

Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Jaw capacity</th>
<th>Jaw width</th>
<th>QC Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-625</td>
<td>4 mm</td>
<td>100 mm</td>
<td>8 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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www.mecmesin.com
Description

The Loadcell Calibration Check Rig is a bench-top pulley and cord jig which allows the on-site verification of the calibration status of the loadcell of an FPT-H1 Friction Peel Tear tester. Using dead-weight masses suspended on a hanger (ordered separately), the kit allows you to quickly decide whether or not adjustment, recalibration or repair is required. The pulley jig is clamped to the bench-top, the weights are carefully added and the load reading on the console is checked to verify if it is within the manufacturer’s specification of +/- 0.1% of the rated capacity of the loadcell.

When a loadcell is beyond its recommended calibration date, this will be indicated when you switch the system on. It should be returned to Mecmesin or your distributor, for recalibration in a controlled laboratory environment. The Calibration Check Rig does not replace the need for regular professional calibration under controlled laboratory conditions by Mecmesin-approved providers.

The calibrated slotted masses are available for a 10 N or 100 N loadcell.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-635</td>
<td>FPT Calibration verification pulley-jig (excluding masses)</td>
</tr>
<tr>
<td>432-655</td>
<td>Lightweight hanger and 5 N slotted mass for verifying FPT 10 N</td>
</tr>
<tr>
<td>432-656</td>
<td>Lightweight hanger and 50 N slotted mass for verifying FPT 100 N</td>
</tr>
</tbody>
</table>
432-635 Pulley jig clamped to bench-top and calibrated weights applied for loadcell accuracy verification.

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Wire Terminal Wedge Grip for the CrimpTest-1 kN

Description

These wedge action terminal grips are self-tightening to secure flat connectors to the Mecmesin CrimpTest-1. Either grip can be mounted in place of the standard rotating crimp receptacle, and is used in combination with the standard cam grip for the wire tail.

Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
<th>Max. capacity</th>
<th>Load rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-607</td>
<td>1 kN wire terminal wedge grip, for CrimpTest-1 kN</td>
<td>8 mm (0.3&quot;)</td>
<td>1 kN</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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Cable Tie Break Fixture for CrimpTest-1 kN

Description
The cable tie break fixtures provide stepped bollards for testing tensile strength, with 10 mm-high steps for three tie lengths. They are mounted in place of the standard rotating crimp receptacle and cam grip of the CrimpTest 1 kN.

Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
<th>Min. tie length in start position</th>
<th>Max. tie length in start position</th>
<th>Load rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-653</td>
<td>Cable tie break fixture for CrimpTest-1 kN</td>
<td>280 mm (11&quot;)</td>
<td>400 mm (15.75&quot;)</td>
<td>1 kN</td>
</tr>
</tbody>
</table>
Rotating Crimp Receptacle, and Cam Grip, for CrimpTest-1 kN

Description
These two fixtures are specifically for use on the dedicated CrimpTest-1 kN wire terminal strength tester.

The rotating crimp receptacle (RCR) is slotted to suit wires from 1.5 mm (1/16") to 8 mm (5/16"). The largest slot provides access to a stepped ring terminal pin for loops from 4 mm to 10 mm.

The single lever cam grip accommodates cables up to 13 mm diameter.

Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
<th>Max. capacity</th>
<th>Pin steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-605</td>
<td>Rotating crimp receptacle, slotted with removable pin</td>
<td>8 mm</td>
<td>4 mm (0.16&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 mm (0.24&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 mm (0.32&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 mm (0.39&quot;)</td>
</tr>
<tr>
<td>432-660</td>
<td>Cable cam grip</td>
<td>11 mm</td>
<td>–</td>
</tr>
</tbody>
</table>
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CrimpTest-1 kN Calibration Bracket

Description

The calibration bracket is designed for verifying the accuracy of the CrimpTest-1 kN loadcell readings. For the user, this ensures that a unit does not continue to be used with inaccurate readings across its range. The main bracket should be bolted to a suitable work platform. The CrimpTest-1 kN is mounted vertically, and locally-calibrated masses (not supplied) added in order for a stepped series of load readings to be taken. These can be compared for tolerance with a table of standard limits.

Supplied with all necessary bolts.

A locally-calibrated mass hanger and mass set must be procured separately. If not available locally please consult Mecmesin for details.

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Typical bench height required*</th>
<th>M8 mounting bolt lengths supplied</th>
<th>Bracket footprint</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-671</td>
<td>720 mm</td>
<td>60 mm, 70 mm, 80 mm</td>
<td>300 mm W x 200 mm D</td>
</tr>
</tbody>
</table>

* allowing for length of mass hanger used
Dimensions mm

▲ Support bracket mounting dimensions

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Puncture Resistance Test Jig, QC fitting

MecS511

A puncture resistance fixture designed for tests based on European standard EN 14477: “Flexible packaging material—Determination of puncture resistance”; also known as the ‘Parker Pen’ or ‘Parker Ball-Point’ test. The procedure is used to measure the resistance of flexible (including multilayer) packaging materials to penetration or puncture by sharp internal items or external objects. The peak force, energy, and elongation to break are determined.

A sample specimen of film is clamped in the lower fixture holder and is punctured from above by the 0.8 mm diameter probe.

<table>
<thead>
<tr>
<th>Item No:</th>
<th>MecS511</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated capacity</td>
<td>500 N</td>
</tr>
<tr>
<td>Body</td>
<td>Steel</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0 – 70°C</td>
</tr>
</tbody>
</table>

Scope of delivery: 1 test jig including both lower and upper fixtures each with a bore-hole to allow connection to QC-20 fixing posts.

Applications

Characterisation of flexible packaging films, laminates and other similar materials for slow rate penetration resistance.

- Food packaging
- Medical instruments and sharps packaging
- Textiles with a high degree of elongation

Consult Mecmesin for test jigs to specifically conform to:

- ASTM F1306 Slow Rate Penetration Resistance of Flexible Barrier Films and Laminates
- ASTM D3787 Bursting Strength of Textiles—Constant-Rate-of-Traversal (CRT) Ball Burst Test.
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Button Pull-off Fixture with 3 Plates

Description

This fixture engages the button shank in a slot for testing the tensile strength to failure. Three slotted interchangeable plates accommodate different shank diameters. A shatter-protection guard contains broken buttons. Typically used with the 25 mm / 50 mm 'grab test' textile fixture.

Applications

• buttons

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Slot Widths</th>
<th>Max Button Ø</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-175</td>
<td>500 N</td>
<td>50 kgf</td>
<td>110 lbf</td>
<td>3 mm / 5 mm / 7 mm</td>
<td>0.12&quot; / 0.2&quot; / 0.28&quot;</td>
</tr>
</tbody>
</table>
### Dimensions mm (inch)

**Thread 1**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Unit (mm)</th>
<th>Unit (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-175</td>
<td>16 (0.63&quot;)</td>
<td>16 (0.63&quot;)</td>
</tr>
<tr>
<td>102 (4&quot;)</td>
<td>4.011&quot;</td>
<td></td>
</tr>
<tr>
<td>210 (8.27&quot;)</td>
<td>8.27&quot;</td>
<td></td>
</tr>
<tr>
<td>35 (1.378&quot;)</td>
<td>1.378&quot;</td>
<td></td>
</tr>
<tr>
<td>50 (1.969&quot;)</td>
<td>1.969&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**Button Puller - Plate Detail**

<table>
<thead>
<tr>
<th>Plate</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>3MM</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>5MM</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>7MM</td>
<td>7</td>
<td>21</td>
</tr>
</tbody>
</table>

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Sequin Pull-off Fixture

Description

This fixture holds the sequin in the serrated jaw of a pair of clamping forceps hooked over a stainless steel test hook. The sample fabric is held in a suitable lower fixture mounted to the anvil plate - typically the 25 mm / 50 mm 'Grab Test' textile fixture.

Applications

Used for pull-off testing of:
• clothing decoration

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-291</td>
<td>50 N</td>
<td>11 lbf</td>
<td>157 mm</td>
<td>20 g</td>
</tr>
</tbody>
</table>
NO DRAWING AVAILABLE
Modified Large Wedge Grip

Description

The modified large wedge grip has a shorter body with longer jaws to be able to securely hold S-spring poppers for tensile test-to-failure. As load is applied, the wedge action of the jaws increases the grip on sample.

Applications

- poppers
- press studs

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-212</td>
<td>1 kN</td>
<td>10-32 UNF</td>
<td>11 mm</td>
<td>25 mm</td>
<td>160 mm</td>
<td>166 g</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

R2.5 (0.098")
R5.5 (0.216")

160 (6.299") MAX
32 (1.252") JAW DEPTH
11 (0.433") MAX
25 (0.984") JAW WIDTH
84 (3.313")

70 (2.746") MAX
35 (1.378")

ALL DIMENSIONS ARE IN MILLIMETRES FOLLOWED BY INCHES: MM ( IN"

JAW DEPTH
32 1,252"
84 3,313"
35 1,378"
70 2,746"

R 2,5 0,098" 
R 5,5 0,216"

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DS-1099-01
3-Jaw Popper Pull-off Fixture

Description

This fixture has 3 jaws and a swivelling action to securely hold 13-15 ligne poppers for tensile test to failure.

Applications

• poppers
• press studs

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Sample Min/Max Ø</th>
<th>Popper Size</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-409</td>
<td>500 N</td>
<td>M5</td>
<td>6 mm / 13 mm</td>
<td>13 - 15 ligne</td>
<td>144 mm</td>
<td>166 g</td>
</tr>
</tbody>
</table>

www.mecmesin.com
# Dimensions mm (inch)

![Diagram](image)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>37 mm (1.443”)</td>
</tr>
<tr>
<td>Diameter</td>
<td>6 mm (0.236”) MIN</td>
</tr>
<tr>
<td>Diameter</td>
<td>13 mm (0.512”) MAX</td>
</tr>
</tbody>
</table>

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**Popper Cam Base**

**Description**

The popper cam base is secured to the base of a test stand to test the strength of poppers and press studs. The popper is fed through the retaining hole and positioned over the retaining post. The lever of the cam mechanism is locked down to raise the popper with the fabric so that it can easily be gripped typically the 3-jaw popper pull-off fixture is used.

**Applications**

Used by clothing manufacturers for test-to-failure testing for compliance with BS 7907:2007 on
• poppers and press studs

**Specifications**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread</th>
<th>Popper Size</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-179</td>
<td>1 kN</td>
<td>10-32 UNF</td>
<td>13 - 15 ligne</td>
<td>68 mm</td>
<td>2.68&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

![Diagram of a mechanical component with dimensions and annotations.]

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25 mm/50 mm 'Grab Test' Textile Fixture

Description

The 25 mm/50 mm 'grab test' textile fixture has two different-sized jaws to comply with standard methods for textile strength and elongation.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-323</td>
<td>500 N</td>
<td>10/32 UNF</td>
<td>6.5 mm</td>
<td>25 mm</td>
<td>74 mm</td>
<td>400 g</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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Extended Peg Hook
(Bow Pull-off Test)

Description
The extended peg hook is used for securely attaching samples of decorations when carrying out test-to-failure tests on textiles and clothing adornments, for example a bow. Often used with the 25 mm / 50 mm 'grab test' textile fixture.

Applications
• bows and loops

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Length (A)</th>
<th>Peg Length</th>
<th>Peg Ø</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-181</td>
<td>50 N</td>
<td>10/32 UNF</td>
<td>97 mm</td>
<td>9 mm</td>
<td>0.35&quot;</td>
<td>2 mm</td>
</tr>
<tr>
<td></td>
<td>5 kgf</td>
<td></td>
<td>3.82&quot;</td>
<td>0.08&quot;</td>
<td>42 g</td>
<td>0.09 lb</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension (mm)</th>
<th>Dimension (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>97</td>
<td>3.819</td>
</tr>
<tr>
<td>80.035</td>
<td>3.154</td>
</tr>
<tr>
<td>20.0787</td>
<td>0.787</td>
</tr>
<tr>
<td>9.5</td>
<td>0.374</td>
</tr>
<tr>
<td>4.75</td>
<td>0.187</td>
</tr>
<tr>
<td>9</td>
<td>0.354</td>
</tr>
<tr>
<td>2</td>
<td>0.079</td>
</tr>
<tr>
<td>70°</td>
<td></td>
</tr>
</tbody>
</table>

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
Pinch Grip (for testing bows, applique, patches)

Description

Pinch grips are lightweight miniature vice grips, which use a hinge action to grab a sample and a wing nut to tighten the jaw face. Each jaw face has a slight groove to hold the sample securely, yet avoid inducing a break within the grip.

Applications

- thin film
- tissue
- woven yarn

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Jaw Capacity</th>
<th>Jaw Width</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-280</td>
<td>200 N</td>
<td>M6</td>
<td>9 mm</td>
<td>0.35&quot;</td>
<td>12 mm</td>
<td>95 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value (mm)</th>
<th>Value (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>2.56</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0.354</td>
<td>MAX</td>
</tr>
<tr>
<td>31</td>
<td>1.22</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>2.759</td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>3.744</td>
<td></td>
</tr>
<tr>
<td>2:1 @ A3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
**Container Holder**  
*(4-peg adjustable)*

**Description**

The 4-peg container holder is designed to securely hold different shapes and sizes of containers during tensile testing. Available in two ranges of adjustability.

**Applications**

- plastic containers

**Specifications**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Container Min./Max. Ø</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-411</td>
<td>100 N</td>
<td>10 kgf 22 lbf</td>
<td>4 x M5</td>
<td>10 mm / 190 mm</td>
</tr>
<tr>
<td>432-493</td>
<td>100 N</td>
<td>10 kgf 22 lbf</td>
<td>4 x M5</td>
<td>10 mm / 78 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- **Width:** 144 (5.669") MAX
- **Height:** 198 (7.795")
- **Depth:** 218 (8.583")
- **Crosshead Extension:** 35 (1.37")
- **Slot:** 5.5 (0.217")
- **SLOT Dimensions:**
  - 144 (5.669") MAX
  - 120 (4.724") MAX
  - 102 (4.02")

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Cork Extraction Test Rig

Description

The cork extraction test rig is used to test the extraction force of bottle stoppers. It has a bottle cradle with an antislip surface and is easily adjusted to accommodate different bottle heights, e.g. 200 ml to 750 ml. It is used in conjunction with corkscrew test accessories suitable for testing natural and synthetic corks.

Applications

Used for extraction testing of:
• corks
• stoppers

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Loop Diameter Ø</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDV11086</td>
<td>1 kN</td>
<td>4x M5</td>
<td>13 mm</td>
<td>450.5 mm</td>
</tr>
<tr>
<td></td>
<td>100 kgf</td>
<td></td>
<td>0.51&quot;</td>
<td>17.74&quot;</td>
</tr>
<tr>
<td></td>
<td>225 lbf</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
Pin Chucks

Description
Pin chucks are specifically designed for gripping circular or rod-type specimens, or needles for sharpness testing.

Applications
Used for tensile testing of:
• Pin or rod components

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Capacity Min./Max. Ø</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-382</td>
<td>100 N</td>
<td>10 kgf</td>
<td>10-32 UNF</td>
<td>0.5 mm - 3.5 mm</td>
<td>61 mm</td>
</tr>
<tr>
<td>432-214</td>
<td>100 N</td>
<td>10 kgf</td>
<td>M6</td>
<td>0.5 mm - 3.5 mm</td>
<td>86 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

**Thread 1**

- \( A \geq 4 \text{ (0.157") MAX} \)
- \( 60 \text{ (2.362")} \)
- \( \phi B \text{ MIN} \)
- \( \phi E \text{ MAX} \)

\[ \phi 17 \text{ (0.669")} \]

All dimensions are in millimetres followed by inches: mm (in"").

Drawing applies to part no: 432-214 & 432-382

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Force Gauge Gripping Cradle

Description

This cradle allows Mecmesin gauges to be used more easily as hand-held instruments. The dual-handle design allows the comfortable application of push/pull loads, with increased stability. Attachment screws supplied.

Applications

Used to evaluate the ergonomics and force application characteristics of:
• doors
• filing cabinets
• emergency push bars
• handles and controls

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Handle Diameter (Ø)</th>
<th>Handle Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-388</td>
<td>2.5 kN</td>
<td>28 mm</td>
<td>70 mm</td>
<td>246 mm</td>
</tr>
<tr>
<td></td>
<td>250 kgf</td>
<td>1.1&quot;</td>
<td>2.76&quot;</td>
<td>9.69&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

2x FIXING HOLES
FOR AFG/BFG

4x FIXING HOLES
FOR CFG+

80 (3.15"

246 (9.685"

100 (3.937"

70 (2.756"

2x FIXING HOLES
FOR AFG/BFG

28 (1.102"

Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE
Pistol Grip

Description

The pistol grip is attached to a Mecmesin force gauge to add comfort and stability in applications where only single-handed operation is possible.

Applications

Used to evaluate the ergonomics and force application characteristics of:
- doors
- filing cabinets
- emergency push bars
- handles and controls with restricted access

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Handle Diameter (Ø)</th>
<th>Handle Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-389</td>
<td>500 N</td>
<td>28 mm</td>
<td>70 mm</td>
<td>246 mm</td>
</tr>
<tr>
<td></td>
<td>50 kgf</td>
<td>110 lbf</td>
<td>2.76&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Trolley Pushing Fixture

Description

The trolley-pushing fixture has been designed to attach to trolleys, carts and wheelie bins so that manual handling measurements can be made more easily. Typically used with a force gauge fitted to the force gauge gripping cradle or pistol grip (order separately).

Applications

Used to evaluate the ergonomics and force application characteristics of:

- trolleys
- carts
- wheelie bins

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Gripping Diameter (Ø)</th>
<th>Width</th>
<th>Width between Fixings</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-405</td>
<td>1 kN</td>
<td>44 mm</td>
<td>200 mm</td>
<td>160 mm</td>
</tr>
<tr>
<td></td>
<td>100 kgf</td>
<td>1.73&quot;</td>
<td>7.87&quot;</td>
<td>6.3&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- 25 x 40 (0.984 x 1.575") RUBBER STRIP IN 2 PLACES
- 80 (3.15") CLEARANCE FOR TROLLEY LOCK
- Φ 44 MAX
- 200 (7.874")
- 160 (6.299")
- 109 (4.293")
- 90°
- 44 MAX
- 25 x 40
- 80
- 200
- 160
- 109

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Chain Link and Hook Assembly

Description

The chain link and hook assembly is used to attach to a variety of objects, which are otherwise difficult to hold. The chain is 1 m long and is supplied with a clevis fastener at each end.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Max. Sample Diameter</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-410</td>
<td>2.5 kN</td>
<td>5/16 UNC</td>
<td>14 mm</td>
<td>187 ±25 mm 7.352&quot; ±0.98&quot;</td>
</tr>
<tr>
<td></td>
<td>250 kgf</td>
<td></td>
<td>0.55&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>(1.26&quot;)</td>
</tr>
<tr>
<td>89</td>
<td>(3.49&quot;)</td>
</tr>
<tr>
<td>(\Phi 14)</td>
<td>(0.55&quot;)</td>
</tr>
<tr>
<td>6</td>
<td>(0.23&quot;)</td>
</tr>
<tr>
<td>187 ±25</td>
<td>(7.35 ±0.98&quot;)</td>
</tr>
<tr>
<td>25</td>
<td>(0.98&quot;)</td>
</tr>
</tbody>
</table>

Thread 1

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Padded Radiused Probe

Description

The padded radiused probe is specially designed for use against limbs for rehabilitation and physical therapy assessment. Use with a short extension rod.

Applications

• physical therapy assessments
• leg extension tests

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Radius</th>
<th>Height</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-414</td>
<td>500 N</td>
<td>50 kgf</td>
<td>110 lbf</td>
<td>5/16 UNC</td>
<td>54 mm</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

2:1 @ A3

432-414 5/16 UNC Padded Radiused Probe

ALL DIMENSIONS ARE IN MILLIMETRES FOLLOWED BY INCHES: MM (IN"

20 0,787"

R 54 2,126"

80 (3,15"

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Transit Case for Manual Handling / Ergonomic Kit

Description

A foam-lined rugged metal case for the components of the advanced or basic manual handling kit. Supplied as standard with the kit, has space for: a force gauge including rechargeable batteries, mains adaptor / battery charger, gripping cradle, chain link assembly, 50 mm rubber-faced compression plate and test hook.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>416-007</td>
<td>2.61 kg</td>
</tr>
<tr>
<td>Head Office</td>
<td>France</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Mecmesin Limited</td>
<td>Mecmesin France</td>
</tr>
<tr>
<td>w: <a href="http://www.mecmesin.com">www.mecmesin.com</a></td>
<td>w: <a href="http://www.mecmesin.fr">www.mecmesin.fr</a></td>
</tr>
<tr>
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<td>e: <a href="mailto:contact@mecmesin.fr">contact@mecmesin.fr</a></td>
</tr>
<tr>
<td>North America</td>
<td>Asia</td>
</tr>
<tr>
<td>Mecmesin Corporation</td>
<td>Mecmesin Asia Co., Ltd</td>
</tr>
<tr>
<td>w: <a href="http://www.mecmesincorp.com">www.mecmesincorp.com</a></td>
<td>w: <a href="http://www.mecmesinasia.com">www.mecmesinasia.com</a></td>
</tr>
<tr>
<td>e: <a href="mailto:info@mecmesincorp.com">info@mecmesincorp.com</a></td>
<td>e: <a href="mailto:sales@mecmesinasia.com">sales@mecmesinasia.com</a></td>
</tr>
</tbody>
</table>

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Adaptor / Charger for use with AFG / AFTI / CFG / BFG

Description

For use with Mecmesin AFG / BFG / CFG digital gauges and the AFTI universal display. Versions for specific geographical locations are available.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Region</th>
<th>Voltage</th>
<th>Pins</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>304-004</td>
<td>Europe</td>
<td>230 V</td>
<td>2-pin</td>
<td>Round</td>
</tr>
<tr>
<td>304-005</td>
<td>UK</td>
<td>230 V</td>
<td>3-pin</td>
<td>Square</td>
</tr>
<tr>
<td>304-006</td>
<td>USA</td>
<td>110 V / 115 V</td>
<td>2-pin</td>
<td>Flat</td>
</tr>
</tbody>
</table>
Digital I/O Loop-back Plug

Description

Mecmesin’s -i and -xt test stands have the facility for six digital inputs and six digital outputs that can be used to integrate the test stand with programmable logic controllers (PLCs) or other equipment.

The 25-pin Digital I/O Loop-back Plug is inserted into the I/O port of any Mecmesin -i or -xt test stand using Emperor™ control software. By virtue of directly routing digital outputs to inputs, it allows the system user to create test programs with an added layer of sophistication.

This is particularly useful for:

* Tests involving many cycles, where only selective data are required. By using ‘stop acquisition’ and ‘start acquisition’ commands within Emperor™ programs, it easily permits a long-duration test to be performed but data only to be logged for the pertinent cycles you wish to see.

* Conducting a test routine repeatedly on the same specimen without having to be physically present to press the ‘start’ button to launch each separate test. Data is collected and presented as separate samples allowing the user to clearly view and report on specimen performance over time.

Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-663</td>
<td>Digital I/O Loop-back plug (allows multi-function programming in Emperor™ software)</td>
</tr>
</tbody>
</table>
Digital I/O port on the rear panel of a test stand

Rear panel with Digital I/O Loop-back Plug inserted

Digital Inputs, Outputs and Action assignment in Emperor™

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Universal Expansion Module

Description
Where a gauge or instrument requires output to a MultiTest-d or -dV test stand (e.g. for reverse or stop control) but also simultaneously to a RS232 printer, analogue output or other peripheral device, this expansion module can be used.

One input channel (RS232 15-pin, F) and four output channels (RS232 15-pin, M).

For use with: AFG Mk 4, AFTI Mk 4, Orbis Mk 2, Tornado Mk 2

Specification

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-127</td>
<td>Universal expansion module</td>
</tr>
</tbody>
</table>
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### Interface Cables

<table>
<thead>
<tr>
<th>Connect from</th>
<th>Date of manufacture</th>
<th>Connector A</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPTEST</td>
<td>2014-</td>
<td>RS232 (M) mini DIN</td>
</tr>
<tr>
<td>CrimpTest-1 kN</td>
<td>2016-</td>
<td>RJ11</td>
</tr>
<tr>
<td>CFG+</td>
<td>2010-</td>
<td>2.5 mm jack (M)</td>
</tr>
<tr>
<td>BFG-HS/BFG/Orbis Mk 1</td>
<td>2003-2007 (BFG 2008-)</td>
<td>15-pin RS232 (M) D connector</td>
</tr>
<tr>
<td>BFG-HS/BFG/Orbis Mk 1</td>
<td>2003-2007 (BFG 2008-)</td>
<td>15-pin RS232 (M) D connector</td>
</tr>
<tr>
<td>BFG-HS/BFG/Orbis Mk 1</td>
<td>2003-2007 (BFG 2008-)</td>
<td>15-pin RS232 (M) D connector</td>
</tr>
<tr>
<td>BFG-HS/BFG/Orbis Mk 1</td>
<td>2003-2007 (BFG 2008-)</td>
<td>15-pin RS232 (M) D connector</td>
</tr>
<tr>
<td>BFG</td>
<td>2008-</td>
<td>15-pin RS232 (M) D connector</td>
</tr>
<tr>
<td>AFG/AFTI/Orbis/Tornado</td>
<td>2008-</td>
<td>15-pin RS232 (F) D connector</td>
</tr>
<tr>
<td>AFG/AFTI/Orbis/Tornado</td>
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<td>15-pin RS232 (F) D connector</td>
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<tr>
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<td>15-pin RS232 (F) D connector</td>
</tr>
<tr>
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<td>15-pin RS232 (F) D connector</td>
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<tr>
<td>AFG/AFTI/Tornado</td>
<td>2008-</td>
<td>15-pin RS232 (F) D connector</td>
</tr>
<tr>
<td>Universal Expansion Module</td>
<td>2008-</td>
<td>15-pin RS232 (F) D connector</td>
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<tr>
<td>AFG</td>
<td>2008-</td>
<td>15-pin RS232 (F) D connector</td>
</tr>
<tr>
<td>AFG</td>
<td>2008-</td>
<td>15-pin RS232 (F) D connector</td>
</tr>
<tr>
<td>AFTI</td>
<td>2008-</td>
<td>15-pin RS232 (F) D connector</td>
</tr>
<tr>
<td>AFG/AFTI</td>
<td>2008-</td>
<td>15-pin RS232 (F) D connector</td>
</tr>
<tr>
<td>AFG/AFTI</td>
<td>2008-</td>
<td>15-pin RS232 (F) D connector</td>
</tr>
<tr>
<td>MultiTest-d/Vortex-d</td>
<td></td>
<td>9-pin RS232 (M) D connector</td>
</tr>
<tr>
<td>MultiTest-d/Vortex-dV</td>
<td></td>
<td>USB-B</td>
</tr>
<tr>
<td>RS232 to USB converter</td>
<td></td>
<td>9-pin RS232 (M) D connector</td>
</tr>
<tr>
<td>Connect to</td>
<td>Connector B</td>
<td>Function</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Serial printer (e.g. Mettler Toledo)</td>
<td>9-pin RS232 (F) D connector</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>Serial printer (e.g. Mettler Toledo)</td>
<td>9-pin RS232 (F) D connector</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>PC with Emperor Lite or VectorPro Lite</td>
<td>9-pin RS232 (F) D connector</td>
<td>Data transfer (uni-directional)</td>
</tr>
<tr>
<td>Mitutoyo printer/DigiCon-X interface</td>
<td>DigiCon-X</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>PC with Emperor Lite or VectorPro Lite</td>
<td>9-pin RS232 (F) D connector*</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>PC with Emperor Lite or VectorPro Lite</td>
<td>USB-A</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>Analog</td>
<td>2 banana plugs</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>MultiTest-(\text{-d})</td>
<td>25-pin RS232 (M) D connector</td>
<td>Data transfer only (no stand control)</td>
</tr>
<tr>
<td>Mitutoyo Printer/DigiCon-X interface</td>
<td>DigiCon-X</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>PC with Emperor Lite or VectorPro Lite</td>
<td>9-pin RS232 (F) D connector*</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>PC with Emperor Lite or VectorPro Lite</td>
<td>USB-A</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>Analog</td>
<td>3 banana plugs</td>
<td>Data transfer (uni-directional)</td>
</tr>
<tr>
<td>PLC</td>
<td>twin and screen wire ends</td>
<td>Device control</td>
</tr>
<tr>
<td>Multiple peripheral devices</td>
<td>4 x 15-pin RS232 (M) D connectors</td>
<td>Data transfer and stand control</td>
</tr>
<tr>
<td>Old motorised stands (VersaTest/UltraTest/M5KNE)</td>
<td>25-pin RS232 (M) D connector</td>
<td>Gauge to stand (reverse) only</td>
</tr>
<tr>
<td>MultiTest-(\text{-d})</td>
<td>25-pin RS232 (M) D connector</td>
<td>Gauge to stand (reverse/stop) &amp; data transfer to stand</td>
</tr>
<tr>
<td>Vortex-(\text{-d})</td>
<td>25-pin RS232 (M) D connector</td>
<td>Gauge to stand (stop only) &amp; data transfer to stand</td>
</tr>
<tr>
<td>MultiTest-(\text{-dV})/Vortex-(\text{-dV})</td>
<td>RJ11</td>
<td>Gauge to stand (data transfer only)</td>
</tr>
<tr>
<td>MultiTest-(\text{-dV})/Vortex-(\text{-dV})</td>
<td>RJ11</td>
<td>Gauge to stand (reverse/stop) &amp; data transfer to stand</td>
</tr>
<tr>
<td>PC with Emperor Lite or VectorPro Lite</td>
<td>9-pin RS232 (F) D connector</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>PC with VectorPro Lite</td>
<td>USB-A</td>
<td>Data transfer (bi-directional)</td>
</tr>
<tr>
<td>PC</td>
<td>USB-A</td>
<td>Convert RS232 to USB</td>
</tr>
</tbody>
</table>
## Interface options for the family of '-i' and '-xt' Systems

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>351-081</td>
<td>USB to USB RS232 cable (2m long) for transmitting via COM-MS port of 'xt' console to a PC</td>
</tr>
<tr>
<td>351-080</td>
<td>Event-input cable for MultiTest/Vortex/Helix-i and 'xt' stands</td>
</tr>
<tr>
<td>PDV14081</td>
<td>Footswitch to simulate 'Start' on MultiTest-i and 'xt' stands</td>
</tr>
</tbody>
</table>

### Communicating with PC via RS232, e.g. to SPC software

**MultiTest-d**

* Cable 351-070 - AFG to MultiTest d
* *stand, stop/reverse and RS232*'

**MultiTest-dY**

* Cable 351-415 - MultiTest-d to PC
* *Y-way RS232 to USB*
* requests data via RS232 from AFG gauge via MultiTest-d stand

**MultiTest-dY**

* Cable 351-081 - AFG to MultiTest d
* *stand, stop/reverse only*'

**MultiTest-dY**

* Cable 351-079 - AFG to MultiTest d
* *stand, stop/reverse only*'

---

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Digital Gauge to PC Input Tool

Description

The PC input tool allows for individual gauge readings from AFG, AFTI, Tornado, BFG or Orbis to be sent directly to an open PC application such as Excel. After each test with the gauge, press the blue button to send the displayed numerical value to the PC.

Requires the appropriate gauge interface cable:

- for AFG/AFTI/Tornado use cable 351-058
- for BFG/Orbis use cable 351-055.

Specification

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>+5V from PC via USB ‘A’ connector</td>
</tr>
<tr>
<td>Supported operating systems</td>
<td>Windows 2000 and above</td>
</tr>
<tr>
<td>Main unit dimensions</td>
<td>W 38 mm × D 64 mm × H 21 mm</td>
</tr>
<tr>
<td>Cable length</td>
<td>1 m</td>
</tr>
<tr>
<td>Input connector</td>
<td>Digimatic (Mitutoyo)</td>
</tr>
<tr>
<td>Weight</td>
<td>55 g</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10°C to 60°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-10°C to 60°C</td>
</tr>
<tr>
<td>Applicable standards</td>
<td>USB standard (USB 2.0 certificate, communication speed 12 Mbps)</td>
</tr>
</tbody>
</table>
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Test Stand Safety Guards

Interlock key and connections are supplied pre-fitted as standard on all twin-column test stands, ready to accept safety guards.

Description

Health and safety are of paramount concern when testing under high loads where sample failure can occur. Safety guards prevent access by the operator to the testing area whilst the test is in progress, thereby offering both containment and protection.

Any Mecmesin test system can be supplied fitted with a safety guard. These have a rigid metal frame and either polycarbonate panels or steel mesh. Hinged doors are fitted with switch-activated interlock mechanisms that prevent system operation when open. Due to individual requirements for accommodating different-sized grips and samples, safety guards are often made to custom design.

Safety guards can also be retro-fitted to existing Mecmesin test systems. Please contact us with your requirements, and tell us the stand model for which it is intended.

When developing new step-by-step test programmes without a specimen being present it is often preferable to avoid having the safety-guard active. Mecmesin can supply an 'Interlock Override Plug' which is connected to the rear panel of the test frame during programme development and can be removed prior to routine batch testing by operators to re-activate the safety guard.

Part no: PDV 12034-01
Double-door polycarbonate guard for torque testers

Protection from high-tensile break-testing of seat belts

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Protective Covers for Force & Torque Stands

Protect your Investment!
The covers offer protection to all types of Mecmesin motorised test stand in dusty and dirty environments. They are durable and easy to clean, and feature quick-acting velcro fastening strips for simple fitting and removal. Dust covers are available for single-column 2.5 kN force stands and the Vortex range of torque testers.

**Force**
Available for 2.5 kN stands only
- MultiTest motorised force testing stand (d, dV)
- MultiTest-xt touch screen force testing stand
- MultiTest-i computer-controlled force testing stand

**Torque**
- Vortex motorised torque testers (d, dV)
- Vortex-xt touch screen torque tester
- Vortex-i computer-controlled torque tester

<table>
<thead>
<tr>
<th>Protective Cover for Stands Listed</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MultiTest 2.5-dV</td>
<td>432-483</td>
</tr>
<tr>
<td>MultiTest 2.5-xt</td>
<td>432-484</td>
</tr>
<tr>
<td>MultiTest 2.5-i</td>
<td>432-483</td>
</tr>
<tr>
<td>Vortex-dV</td>
<td>432-481</td>
</tr>
<tr>
<td>Vortex-xt</td>
<td>432-482</td>
</tr>
<tr>
<td>Vortex-i</td>
<td>432-481</td>
</tr>
</tbody>
</table>
Bellows and Horizontal Feet Kits for Single Column Test Stands

Description

Bellows Kits

Protective bellows fit into the crosshead aperture in the test stand to guard against sample ingress and dust or liquid splash getting inside the column and damaging internal components. Kits are available for the single-column range of stands, the length being appropriate for the particular column dimension.

NOTE: Fitment of the bellows reduces the throat depth by 18 mm.

Feet Kits

The Horizontal Feet Kits enable a single column test stand to be mounted horizontally, aligning the front panel either on its side or facing upwards. This meets the requirements where the test procedure dictates that the specimen must be tested horizontally.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-471</td>
<td>Bellows kit for fitting to MultiTest 2.5 stand (500mm)</td>
</tr>
<tr>
<td>432-472</td>
<td>Bellows kit for fitting to MultiTest 1 stand (1000mm)</td>
</tr>
<tr>
<td>432-473</td>
<td>Bellows kit for fitting to MultiTest 0.5 stand (1200mm)</td>
</tr>
<tr>
<td>PDV11065</td>
<td>Feet kit; allows front-panel to be mounted horizontally on its side</td>
</tr>
<tr>
<td>PDV10105</td>
<td>Feet kit; allows front-panel to be mounted horizontally facing upwards</td>
</tr>
</tbody>
</table>
Feet available for other test stands or configurations on request.

PDV10105: Upwards-facing front panel

PDV11065: Example application, side-facing front panel—dispensing compression force test of container closure system

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MDD Horizontal Feet Kit

Description

The MDD horizontal feet kit allows for the horizontal operation of the MDD manual test stand.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Width</th>
<th>Height</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-126</td>
<td>230 mm</td>
<td>9.06&quot;</td>
<td>75 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.95&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18.5 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.73&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

- 210 (8.268”)
- 230 (9.055”)
- 75 (2.953”)
- 185 (7.288”)
- \( \phi 5.5 (0.217”) \) fixing holes
- \( \phi 20 (0.787”) \) fixing holes
- 2x M5 clamp bolts

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**Description**

The 38 mm crosshead extension and elevated base plate are supplied together as a kit under part number 432-406. They are used for fitting larger samples up to 200 mm diameter to a single-column MultiTest system. The baseplate replaces the standard 8 mm height anvil plate. When fitted, the cantilever effect of such an extension serves to reduce the maximum rating to 1.6 kN.

The 38 mm and 16 mm crosshead extensions are available to order separately for applications requiring increased space. Suitable for both tension and compression.

**Specifications**

### Crosshead Extension and Elevated Base Plate

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Width</th>
<th>Depth</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-406</td>
<td>1.6 kN</td>
<td>M5</td>
<td>203 mm</td>
<td>7.99&quot;</td>
<td>62 mm</td>
</tr>
<tr>
<td></td>
<td>160 kgf</td>
<td></td>
<td></td>
<td></td>
<td>2.44&quot;</td>
</tr>
<tr>
<td></td>
<td>350 lbf</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Crosshead Extensions

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread 1</th>
<th>Depth (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-307</td>
<td>2 kN</td>
<td>M5</td>
<td>0.63&quot;</td>
</tr>
<tr>
<td>432-508</td>
<td>1.6 kN</td>
<td>M5</td>
<td>1.50&quot;</td>
</tr>
</tbody>
</table>


Dimensions mm (inch)

RAISED ANVIL PLATE
(1:2 SCALE)

178.5 (7.028")

203 (7.992")

50 (1.969")

203 (7.992")

50 (1.969")

62 (2.441")

38.5MM CROSSHEAD EXTENSION
(1:1 SCALE)

30 (1.181")

48 (1.89")

38 (1.5")

311 (12.2")

THREAD 1

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Dovetail Brackets and Mounting Plates

Description

The dovetail bracket is used for mounting a Mecmesin Advanced Force Gauge (AFG) or Basic Force Gauge (BFG) to the crosshead of manual and motorised test stands, to allow precise lateral alignment of the gauge. Supplied with socket-head fixing screws M5 x 12 mm.

The extended dovetail bracket is used for mounting a Mecmesin Advanced Force Gauge (AFG) or Basic Force Gauge (BFG) to the crosshead of manual and motorised test stands, to allow precise lateral alignment of the gauge. The extended length provides 70 mm (2.76") of extra daylight. Supplied socket-head fixing screws M5x10 mm.

This mounting plate allows a Mecmesin Compact Force Gauge+ (CFG+) to be mounted onto the crosshead of a test stand. Supplied with 4 x M3 fixing screws.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-326</td>
<td>150 mm</td>
<td>5.91&quot;</td>
</tr>
<tr>
<td>432-427</td>
<td>80 mm</td>
<td>3.15&quot;</td>
</tr>
<tr>
<td>432-131</td>
<td>52.5 mm</td>
<td>2.07&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

### 432-427

- 80 (3.15")
- 57 (2.25")
- 28 (1.12")
- 60°
- 9 (0.354")
- 5 (0.197")

### 432-131

- 56 (2.2")
- 28 (1.11")
- 8 (0.315")
- 9 (0.354")
- 4x THREAD 1

### 432-326

- 60°
- 57 (2.25")
- 57 (2.25")
- 28 (1.1")
- 150 (5.906")

---

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Thread Adapters

Description

Our range of adapters provide interchangeability between grips and fixtures and our range of force testing instruments and test systems. Adapters are usually threaded into the accessory.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Thread</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-193</td>
<td>1 kN</td>
<td>100 kgf</td>
<td>225 lbf</td>
<td>6 g</td>
</tr>
<tr>
<td>432-293</td>
<td>5 kN</td>
<td>100 kgf</td>
<td>225 lbf</td>
<td>19 g</td>
</tr>
<tr>
<td>432-328</td>
<td>1 kN</td>
<td>100 kgf</td>
<td>225 lbf</td>
<td>4 g</td>
</tr>
<tr>
<td>432-329</td>
<td>1 kN</td>
<td>100 kgf</td>
<td>225 lbf</td>
<td>8 g</td>
</tr>
<tr>
<td>432-330</td>
<td>5 kN</td>
<td>500 kgf</td>
<td>1100 lbf</td>
<td>6 g</td>
</tr>
<tr>
<td>432-331</td>
<td>5 kN</td>
<td>500 kgf</td>
<td>1100 lbf</td>
<td>21 g</td>
</tr>
<tr>
<td>432-332</td>
<td>5 kN</td>
<td>500 kgf</td>
<td>1100 lbf</td>
<td>21 g</td>
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<tr>
<td>432-333</td>
<td>5 kN</td>
<td>500 kgf</td>
<td>1100 lbf</td>
<td>21 g</td>
</tr>
<tr>
<td>432-334</td>
<td>1 kN</td>
<td>100 kgf</td>
<td>225 lbf</td>
<td>5 g</td>
</tr>
<tr>
<td>432-335</td>
<td>10 kN</td>
<td>1000 kgf</td>
<td>2200 lbf</td>
<td>21 g</td>
</tr>
<tr>
<td>432-364</td>
<td>1 kN</td>
<td>100 kgf</td>
<td>225 lbf</td>
<td>14 g</td>
</tr>
<tr>
<td>432-417</td>
<td>1 kN</td>
<td>100 kgf</td>
<td>225 lbf</td>
<td>5 g</td>
</tr>
</tbody>
</table>
Extension Rods

Description

Extension rods are used to add length to a fixture often to prevent the specimen making contact with the gauge/loadcell e.g., when compressing a plunger into a cylinder. They are also used to connect a force gauge or loadcell to a grip or fixture e.g. a wedge grip or test hook. The thumbwheel or locking nut are used to secure the grip in the correct orientation - care should be taken not to overtighten when using with low capacity gauges and loadcells.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Load Capacity</th>
<th>Securing</th>
<th>Thread 1</th>
<th>Thread 2</th>
<th>Length (A)</th>
<th>Diameter (B)</th>
<th>Length (C)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-006</td>
<td>500 N</td>
<td>thumbwheel</td>
<td>10-32 UNF F</td>
<td>10-32 UNF M</td>
<td>30 mm</td>
<td>8 mm</td>
<td>11 mm</td>
<td>20 g</td>
</tr>
<tr>
<td>432-116</td>
<td>500 N</td>
<td>nut</td>
<td>10-32 UNF F</td>
<td>10-32 UNF M</td>
<td>30 mm</td>
<td>6 mm</td>
<td>10 mm</td>
<td>7 g</td>
</tr>
<tr>
<td>432-117</td>
<td>500 N</td>
<td>nut</td>
<td>10-32 UNF F</td>
<td>10-32 UNF M</td>
<td>130 mm</td>
<td>6 mm</td>
<td>10 mm</td>
<td>28 g</td>
</tr>
<tr>
<td>432-007</td>
<td>500 N</td>
<td>thumbwheel</td>
<td>10-32 UNF F</td>
<td>M6 M</td>
<td>30 mm</td>
<td>8 mm</td>
<td>12 mm</td>
<td>20 g</td>
</tr>
<tr>
<td>432-186</td>
<td>500 N</td>
<td>thumbwheel</td>
<td>M6 F</td>
<td>M6 M</td>
<td>25 mm</td>
<td>8 mm</td>
<td>12 mm</td>
<td>20 g</td>
</tr>
<tr>
<td>432-187</td>
<td>500 N</td>
<td>thumbwheel</td>
<td>M6 F</td>
<td>M6 M</td>
<td>130 mm</td>
<td>8 mm</td>
<td>12 mm</td>
<td>32 g</td>
</tr>
<tr>
<td>432-008</td>
<td>2.5 kN</td>
<td>thumbwheel</td>
<td>5/16 UNC F</td>
<td>5/16 UNC M</td>
<td>30 mm</td>
<td>12 mm</td>
<td>14 mm</td>
<td>32 g</td>
</tr>
<tr>
<td>432-123</td>
<td>2.5 kN</td>
<td>—</td>
<td>5/16 UNC F</td>
<td>5/16 UNC M</td>
<td>130 mm</td>
<td>12 mm</td>
<td>10 mm</td>
<td>111 g</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

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Adapters for QC range of grips

Description

The Mecmesin QC (Quick-Change) adapters allow grips to be attached to test frames and loadcells quickly and easily without the need for tools. A standard diameter post fits into the bore hole of the QC-type grip and is held in place by an 8 mm diameter lateral pin. Grips are thus securely fixed, but can be exchanged in a matter of seconds.

The QC adapter can be fitted to the anvil plate of the test frame or to the bottom of the loadcell. See the tables for compatibility.
<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC Type C - 20 mm Φ Male Post c/w pin &amp; fixing screws</td>
<td>432-284</td>
</tr>
<tr>
<td>-fit to Anvil Plate supplied with Test Frame</td>
<td></td>
</tr>
<tr>
<td>-fit to Loadcell Mounting Plate</td>
<td></td>
</tr>
<tr>
<td>x-height added: 24 mm</td>
<td></td>
</tr>
</tbody>
</table>

| QC mounting plate for 50 kN systems                                         | 432-622   |
| -fit to 50 kN anvil plate, or pancake loadcell, as a base for 432-284.      |           |
| Enables 20 mm QC fixtures to be used on a 50 kN test stand.                 |           |
| x-height added: 15 mm                                                      |           |

| QC Adapter, converts Type L (F) to C (M)                                    | 432-623   |
| -fits onto a Type L (32 mm) post, for fitting 20 mm QC fixtures.            |           |
| x-height added: 58 mm                                                      |           |

| QC Type J - Light-weight Male 20 mm Φ adapter (10/32 UNF hole) c/w pin **   | 432-418   |
| -fit to force gauges or loadcells with 10/32 UNF threaded connection        |           |
| x-height added: 32 mm                                                      |           |

| Type A Adapter with Pin QC Type A - Male 20 mm Φ adapter (5-16 UNC hole) c/w pin ** | 432-282 |
| -fit to force gauges or loadcells with 5-16 UNF threaded connection         |           |
| x-height added: 32 mm                                                      |           |

| QC Type K - Female Sleeve 20 mm Φ c/w pin & fixing bolt (5-16 UNC)          | 432-429   |
| -convert a non QC-type grip to QC-type by attaching sleeve to the grip     |           |
| x-height added: 55 mm                                                      |           |

| QC Type B - Female Sleeve 20 mm Φ c/w pin & fixing bolt (M12)                | 432-283   |
| -convert a non QC-type grip to QC-type by attaching sleeve to the grip     |           |
| x-height added: 55 mm                                                      |           |

* N.B. Great care should be taken when selecting grips for use with low-capacity loadcells due to risk of overload
** N.B. Secured with a single screw fitting, so the orientation of the locking-pin hole is not guaranteed
QC-adapters for use with grips having 20mm ø fitting.

<table>
<thead>
<tr>
<th>Description - Loadcell Mounting Plates</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC Type M - Loadcell Mounting Plate - 13 mm wide slot c/w M6 bolt for 100 N &amp; 200 N S-beam loadcells</td>
<td>432-452</td>
</tr>
<tr>
<td>x-height added: 14 mm</td>
<td></td>
</tr>
<tr>
<td>QC Type D - Loadcell Mounting Plate - 19 mm wide slot c/w M6 bolt for 500 N S-beam loadcells</td>
<td>432-285</td>
</tr>
<tr>
<td>x-height added: 14 mm</td>
<td></td>
</tr>
<tr>
<td>QC Type E - Loadcell Mounting Plate - 19 mm wide slot c/w M10 bolt for 1000 N S-beam loadcell</td>
<td>432-286</td>
</tr>
<tr>
<td>x-height added: 14 mm</td>
<td></td>
</tr>
<tr>
<td>QC Type F - Loadcell Mounting Plate - 25 mm wide slot c/w M12 bolt for 2500 N, 5000 N &amp; 10 kN S-beam loadcells</td>
<td>432-287</td>
</tr>
<tr>
<td>x-height added: 25 mm</td>
<td></td>
</tr>
<tr>
<td>QC Type G - Loadcell Mounting Plate - 25 mm wide slot c/w M16 bolt for 25 kN S-beam loadcell</td>
<td>432-288</td>
</tr>
<tr>
<td>x-height added: 25 mm</td>
<td></td>
</tr>
</tbody>
</table>

QC adapters for use with grips having with 32 mm ø fitting

| QC Type L - 32 mm Male Post c/w pin & fixing screws for connection to 20 kN and 50 kN Pancake loadcells and anvil plate of 50 kN Test Frame. Uses a 12 mm diameter pin. | 432-451 |
| x-height added: 30 mm |

Anvil plate | QC Adapter
--- | ---
Single column - MultiTest 0.5, 1, 2.5, 5 | QC Type C 20 mm Male Post c/w pin & fixing screws Use 4 x M6 screws supplied (432-284) or QC Type J 10-32 UNF lightweight adapter with pin ** Use with 10-32 UNF grubscrew in anvil plate (432-418) or QC Type A 5/16 UNC Adapter with pin ** Use with 5/16 UNC grubscrew in anvil plate (432-282)
Twin column - MultiTest 10, 25 | QC Type C adapter post c/w pin and fixing screws Use 4 x M6 screws supplied (432-284)
Twin column - MultiTest 50 | QC Type L - 32 mm Male Post c/w pin & fixing screws Use 6 x M6 screws supplied (432-451)

Test Frame
## Loadcells

<table>
<thead>
<tr>
<th>Loadcell</th>
<th>QC Adapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILC 2*, 5*, 10*, 25*, 50, 100, 250, 500 N (internal type)</td>
<td>QC Type J 10-32 UNF lightweight adapter with pin** (432-418)</td>
</tr>
<tr>
<td>Fitting: 10-32 UNF male thread</td>
<td></td>
</tr>
<tr>
<td>ILC-S 100, 200, 500 N (S-beam type)</td>
<td>QC Type C adapter post c/w pin and fixing screws (432-284)</td>
</tr>
<tr>
<td>Fitting: M6 female threaded hole</td>
<td>QC Type D loadcell mounting plate M6 with bolt (432-285)</td>
</tr>
<tr>
<td>ILS-S 1000 N (S-beam type)</td>
<td>QC Type C adapter post c/w and fixing screws (432-284)</td>
</tr>
<tr>
<td>Fitting: M10 female threaded hole</td>
<td>QC Type E loadcell mounting plate M10 with bolt (432-286)</td>
</tr>
<tr>
<td>ILS-S 2500, 5000 N (S-beam type)</td>
<td>QC Type C adapter post c/w pin and fixing screws (432-284)</td>
</tr>
<tr>
<td>Fitting: M12 female threaded hole</td>
<td>QC Type F loadcell mounting plate M12 with bolt (432-287)</td>
</tr>
<tr>
<td>ILC-T 10 kN (S-beam type)</td>
<td>QC Type C adapter post c/w pin and fixing screws (432-284)</td>
</tr>
<tr>
<td>Fitting: M12 female threaded hole</td>
<td>QC Type F loadcell mounting plate M12 with bolt (432-287)</td>
</tr>
<tr>
<td>ILC-T 25 kN (S-beam type)</td>
<td>QC Type C adapter post c/w pin and fixing screws (432-284)</td>
</tr>
<tr>
<td>Fitting: M16 female threaded hole</td>
<td>QC Type G loadcell mounting plate M16 with bolt (432-288)</td>
</tr>
<tr>
<td>ILC-P 20, 50 kN (Pancake type)</td>
<td>QC Type L - 32 mm Male Post c/w pin &amp; fixing screws (for 50 kN systems only) (432-451)</td>
</tr>
<tr>
<td>Fitting: M6 female thread holes x 6</td>
<td></td>
</tr>
</tbody>
</table>

* N.B. Great care should be taken when selecting grips for use with low-capacity loadcells due to risk of overload
** N.B. Secured with a single screw fitting, so the orientation of the locking-pin hole is not guaranteed

---

**DISCLAIMER**

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Mini V-block

Description

The mini V-block is a precision-engineered mounting block which allows smaller samples to be securely held in a centrally-aligned position, without excessive clamping force.

V-block Fixtures to hold 'irregular shaped' samples

Alternative V-block fixtures can be designed and manufactured for specific requirements. Contact Mecmesin for details.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Thread 1</th>
<th>Jaw Capacity</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-423</td>
<td>4 x M4</td>
<td>5 - 26 mm</td>
<td>54 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.2&quot; - 1.02&quot;</td>
<td>2.13&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 (19.69&quot;)</td>
<td></td>
</tr>
<tr>
<td>108 (4.25&quot;)</td>
<td></td>
</tr>
<tr>
<td>30 (1.18&quot;)</td>
<td></td>
</tr>
<tr>
<td>54 (2.13&quot;)</td>
<td></td>
</tr>
<tr>
<td>4x THREAD 1</td>
<td></td>
</tr>
<tr>
<td>20 (0.78&quot;)</td>
<td>JAW DEPTH</td>
</tr>
<tr>
<td>25 (0.98&quot;)</td>
<td></td>
</tr>
<tr>
<td>26 (1.02&quot;)</td>
<td>MAX</td>
</tr>
<tr>
<td>Φ 5 (0.19&quot;)</td>
<td>MIN</td>
</tr>
</tbody>
</table>

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3-jaw and 4-jaw Torque Chucks

When seeking to hold small components or assemblies for torque testing it is often possible to utilise the flexibility provided by a standard machine-chuck. Mecmesin has taken off-the-shelf chucks and adapted them to fit to our Vortex and Helixa Torque Testing Systems and ‘TS’ Torque screwdrivers to create a simple and affordable gripping solution.

Vortex 4-jaw Torque Chucks

3 models in the range. Each 4-jaw chuck is delivered with 3 sets of interchangeable jaws which can quickly and easily be fitted using the fixing screws supplied.

• **Upper ‘key-operated’ 4-jaw Chuck (small)** fitted with a square-drive adapter for connection to Vortex torque sensors.
  Supplied with dedicated chuck-key.
  Recommended for use only with 6 N.m and 10 N.m sensors.
  Part no: 432-444

  Max opening of chuck = 50 mm
  Weight including jaws: 490 g

• **Lower ‘key-operated’ 4-jaw Chuck (small)** fitted with a round shaft for connection to the motor spindle of Vortex torque stands.
  Part no: 432-496

  Max opening of chuck = 50 mm
  Weight including jaws: 490 g

• **Lower ‘keyless’ 4-jaw Chuck (large)** fitted with a round shaft for connection to the motor spindle of Vortex torque stands.
  Jaws may be tightened by hand or using the levers provided
  Part no: 432-445

  Max opening of chuck = 80 mm
  Weight including jaws: 1400 g
Interchangeable Jaws

Helixa 3-jaw Torque Chucks

5 models in the range. Each 3-jaw chuck is delivered fitted to an adapter specifically to suit the Helixa Precision Torque Tester.

• **Upper ‘key-operated’ 3-jaw Chuck** fitted with a square-drive adapter for connection to Helixa torque sensors. Recommended for use only with 3 N.m and 6 N.m sensors:

  - **3/8” version.**
    - Max opening of chuck = 9.5 mm
    - Weight: 200 g
    - Part no: 432-615

  - **1/2” version.**
    - Max opening of chuck = 12.7 mm
    - Weight: 300 g
    - Part no: 432-617

• **Lower ‘key-operated’ 3-jaw Chuck** fitted with a round shaft for connection to the ‘quick-change’ adapter on the motor spindle of Helixa torque stands:

  - **3/8” version.**
    - Max opening of chuck = 9.5 mm
    - Part no: 432-614

  - **1/2” version.**
    - Max opening of chuck = 12.7 mm
    - Part no: 432-616

| Jaw openings for upper and lower key-operated chucks (432-444 and 432-496) |
|---------------------------------|-----------------|-----------------|
| Mini jaws                       | min 1 mm - max 16 mm | Contact height: 28 mm |
| Standard jaws                   | min 22 mm - max 34 mm | Contact height: 10 mm |
| Long jaws                       | min 6 mm - max 22 mm | Contact height: 29 mm |

| Jaw openings for lower keyless chuck (432-445) |
|-----------------------------------------------|-----------------|-----------------|
| Mini jaws                                     | min 1 mm - max 37 mm | Contact height: 31 mm |
| Standard jaws                                 | min 37 mm - max 72 mm | Contact height: 14 mm |
| Long jaws                                     | min 10 mm - max 42 mm | Contact height: 32 mm |
• Lower ‘keyless’ 3-jaw Pin Chuck fitted to the adapter on the motor spindle of Helixa torque stands:

Max opening of chuck = 3.2 mm
Part no: 432-509

‘TS’ Torque Screwdriver 3-jaw Chuck

A 3-jaw chuck is available for use with Mecmesin ‘TS’ Torque screwdrivers. It has a 3/8” opening and is being connected to the ‘TS’ screwdriver via a square drive spindle.

The 3/8” chuck is supplied as standard with every new ‘TS’ Torque Screwdriver.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Jaw Opening</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-233</td>
<td>9.5 mm</td>
<td>170 g</td>
</tr>
</tbody>
</table>

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www.mecmesin.com
Torque Fixing Tables

Mecmesin offers Torque Fixing Tables which have been developed specifically to fit to the Vortex or Helixa range of Torque Testers. Upper Fixing Tables connect directly to the respective torque sensor and Lower Fixing Plates connect to the motor spindle of the Vortex or Helixa.

Upper and Lower Fixing Tables can be used in combination with each other. Alternatively they can be used individually in conjunction with other torque grips or custom fixtures. They are a useful general-purpose grip offering highly versatile clamping of specimens, being fully adjustable to accommodate a variety of forms.

Description

Four rubber-coated pegs are available with each Fixing Table and are screwed into appropriate threaded holes to suit your specimen dimensions. The pegs are then tightened using the handle and leadscrew to secure the specimen in place. Alternatively you can use the threaded holes to secure your own custom-made jaws.

Note: to avoid the risk of damaging the torque sensor by excessive tightening it is recommended that the Upper Fixing Table only be used with sensors of 6 N.m and above.

In situations where torque is significant and specimens are of particularly awkward shape or have a smooth finish, it is often preferable to develop a custom gripping solution. If you are in any doubt please consult Mecmesin’s experienced application engineers for advice.

Specifications

Vortex

<table>
<thead>
<tr>
<th>Part no:</th>
<th>Type</th>
<th>Thread 1</th>
<th>Max &amp; Min opening diameter</th>
<th>Plate diameter (A)</th>
<th>Height</th>
<th>Weight</th>
<th>Fixing pegs (35mm high)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-320</td>
<td>Lower Fixing Table</td>
<td>4 x M4</td>
<td>10 - 190 mm</td>
<td>188 mm</td>
<td>35 mm</td>
<td>950 g</td>
<td>included</td>
</tr>
<tr>
<td>432-321</td>
<td>Upper Fixing Table</td>
<td>4 x M4</td>
<td>10 - 78 mm</td>
<td>100 mm</td>
<td>35 mm</td>
<td>475 g</td>
<td>included</td>
</tr>
</tbody>
</table>

Helixa

<table>
<thead>
<tr>
<th>Part no:</th>
<th>Type</th>
<th>Thread 1</th>
<th>Max &amp; Min opening diameter</th>
<th>Plate diameter (A)</th>
<th>Height</th>
<th>Weight</th>
<th>Fixing pegs (35mm high)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-600</td>
<td>Precision Lower Fixing Table</td>
<td>4 x M4</td>
<td>20 - 100 mm</td>
<td>100 mm</td>
<td>40 mm</td>
<td>335 g</td>
<td>order separately</td>
</tr>
<tr>
<td>432-601</td>
<td>Precision Upper Fixing Table</td>
<td>4 x M4</td>
<td>20 - 100 mm</td>
<td>100 mm</td>
<td>40 mm</td>
<td>335 g</td>
<td>order separately</td>
</tr>
<tr>
<td>432-602</td>
<td>V-shape rubber jaws for above tables - reversible</td>
<td>4 x M6</td>
<td>120° jaws : 1 - 30 mm 90° jaws: 1 - 25 mm</td>
<td>-</td>
<td>20 mm</td>
<td>50 g</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part no:</th>
<th>Type</th>
<th>Thread 1</th>
<th>Max &amp; Min opening diameter</th>
<th>Plate diameter (A)</th>
<th>Height</th>
<th>Weight</th>
<th>Fixing pegs (35mm high)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-447</td>
<td>Fixing pegs (rubber-coated)</td>
<td>4 x M6</td>
<td>-</td>
<td>-</td>
<td>30 mm</td>
<td>126 g</td>
<td>-</td>
</tr>
<tr>
<td>432-250</td>
<td>Fixing pegs (rubber-coated)</td>
<td>4 x M6</td>
<td>-</td>
<td>-</td>
<td>100 mm</td>
<td>312 g</td>
<td>-</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

4x Φ 4.5 (0.177") HOLES

Vortex Fixing Tables (432-320 and 432-321)
– for illustration only

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Set of 4 Extended Pegs

Description

These pegs attach to the upper and lower fixing tables to keep samples secure during torque testing. The extended length pegs are to keep taller samples vertically aligned.

Applications

Used for closure torque testing of:
• Bottles
• Jars

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Thread 1</th>
<th>Diameter Ø</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-447</td>
<td>M6</td>
<td>16 mm</td>
<td>35 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.63&quot;</td>
<td>1.38&quot;</td>
</tr>
<tr>
<td>432-250</td>
<td>M6</td>
<td>16 mm</td>
<td>100 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.63&quot;</td>
<td>3.94&quot;</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

Φ 16 (0.63")

35 (1.378")

100 (3.937")

THREAD 1

432-447

432-250

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Saddle Plates for use with Lower Fixing Plate

Description

Saddle plates provide a flat stable base on which to mount awkwardly shaped bottles and containers. Particularly suitable for plastic bottles with an uneven base design e.g. the ‘petaloid’ base of carbonated soft drink bottles. They are used in conjunction with a Lower Fixing Plate.

Once the saddle plate is affixed to the Lower Fixing Plate the bottles or containers are held in place by standard (35 mm high) or extended (100 mm high) rubber-coated fixing pegs. Fixing Pegs are supplied as standard with all Lower Fixing Plates.

The small Saddle Plate (432-407) is designed for use with the small Lower Fixing Plate supplied with the Tornado 1.5 N.m and 3 N.m.

The large Saddle Plate (432-424) is designed for use with the large Lower Fixing Plate supplied with the Orbis and the Tornado 6 N.m and 10 N.m. It is also compatible with the Vortex Lower Fixing Plate (432-320).

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-424</td>
<td>Large Saddle Plate For Lower Fixing Tables of Orbis, Tornado 6 &amp; 10 N.m, Vortex</td>
</tr>
<tr>
<td>432-407</td>
<td>Small Saddle Plate For Lower Fixing Table of Tornado 1.5 &amp; 3 N.m</td>
</tr>
</tbody>
</table>
Dimensions mm (inch)

**432-407**
- LOCATING STUDS FOR POSITIONING ON TORNADO
- \( \phi \) 100 ( 3.937”)
- 20 (0.787”) SPACING BETWEEN SLOTS
- 10.5 x 54 (0.413 x 2.126”) SLOTS FOR TORNADO PEGS

**432-424**
- 23 (0.906”)
- 166 (6.535”)
- 190 (7.48”)
- 190 (7.48”)
- 33 (1.299”) TO FIT ORBIS
- SLOTS TO MATCH ORBIS PEGS
- SET SCREWS FOR SECURING ON ORBIS

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Orbis and Tornado Mk II, and Vortex Torque Cell Calibration Check Rig

Description

The calibration check rig is a bench-top unit which allows the on-site verification of the calibration status of Orbis MkII, Tornado MkII testers, and static torque sensors rated from 1.5 N.m to 10 N.m. Using dead-weight masses, the kit allows you to quickly decide whether or not adjustment, recalibration or repair is required. The kit does not replace the need for regular professional calibration.

Specifications

| Part No. | 432-621 |
SUPPLIED WITH FIXINGS AND MASSES FOR CALIBRATION CHECK OF ORBIS AND TORNADO TESTERS AND VORTEX TORQUE SENSORS

Dimensions mm (inch)

276 (10.868")

450 (17.736")

500 (19.685")

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Description

The Torque Reference Bottle (or ‘Gold bottle’) provides a means of quickly verifying the calibration of motorised torque measuring systems. Its magnetic clutch is set by Mecmesin to slip at a single torque value within its range.

There are two models, the standard ‘Torque Reference Bottle’ (4.5 to 17.5 lbf.in) and the smaller ‘Micro Torque Reference Bottle’ (1.1 to 1.75 lbf.in), to cover two separate ranges. Both models can be used with the Helixa and Vortex systems.

Use the part number to specify the required torque to the nearest 0.5 lbf.in: e.g. 432-662-9.5 indicates a 9.5 lbf.in slip torque value will be set by Mecmesin.

Specification

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Available torque range</th>
<th>Overall length</th>
<th>Diameter</th>
</tr>
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<tr>
<td>432-662-xx</td>
<td>4.5 lbf.in (0.6 N.m) to 17.5 lbf.in (2.0 N.m)</td>
<td>134 mm (5.3&quot;)</td>
<td>76 mm (2.99&quot;)</td>
</tr>
<tr>
<td>PDV12106</td>
<td>Reference bottle drive adapter for 432-662-xx</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Application

For the standard Torque Reference Bottle, a separate drive adapter (part no PDV12106) can be ordered. This fits loosely between the pegs of the Upper Fixing Plate and, when driven against the pegs by the motorised stand, will apply torque to the magnetic clutch of the Reference Bottle causing it to slip at the pre-set value. The torque value displayed by the Vortex/Helixa sensor can then be compared.

The Micro Torque Reference Bottle is supplied with its own lightweight drive adapter for fixing to low-capacity torque sensors.

Note: the slip torque value of the Reference Bottle is affected by the speed at which torque is applied. A verification certificate is provided as standard by Mecmesin for each Reference Bottle to show the effects of varying speeds.

The body of both Torque Reference Bottles can be held within the 4 pegs of a Lower Fixing Plate.
Reference Bottle Verification Report

TORQUE REFERENCE BOTTLE VERIFICATION

<table>
<thead>
<tr>
<th>Verification Centre</th>
<th>Mecmesin Ltd</th>
<th>Batch No.</th>
<th>1300505</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Verification</td>
<td>14/10/15</td>
<td>Verified by</td>
<td>M. Davis</td>
</tr>
<tr>
<td>Vessel Serial #</td>
<td>06-1933-08</td>
<td>Operator/Name</td>
<td></td>
</tr>
<tr>
<td>ITC Serial #</td>
<td>05-0380-05</td>
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Reference Bottle Results

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Reference Bottle Serial Number</th>
<th>Units</th>
<th>Sample 1</th>
<th>Sample 2</th>
<th>Sample 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>lbf/m</td>
<td>9.090</td>
<td>9.065</td>
<td>9.051</td>
</tr>
<tr>
<td>AV CW - SRPM (0-360°)</td>
<td></td>
<td>lbf/m</td>
<td>-9.074</td>
<td>-9.004</td>
<td>-9.021</td>
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<tr>
<td>AV CW - 1 RPM (120°-180°)</td>
<td></td>
<td>lbf/m</td>
<td>9.042</td>
<td>9.064</td>
<td>9.022</td>
</tr>
<tr>
<td>AV CW - 0.5 RPM (140°-160°)</td>
<td></td>
<td>lbf/m</td>
<td>9.043</td>
<td>9.084</td>
<td>9.022</td>
</tr>
<tr>
<td>AV CW - 0.5 RPM (160°-180°)</td>
<td></td>
<td>lbf/m</td>
<td>-9.049</td>
<td>-8.586</td>
<td>-8.991</td>
</tr>
<tr>
<td>TOTAL AV CW</td>
<td></td>
<td>lbf/m</td>
<td>-9.06</td>
<td>-9.07</td>
<td>-9.05</td>
</tr>
<tr>
<td>TOTAL AV CCW</td>
<td></td>
<td>lbf/m</td>
<td>-9.06</td>
<td>-9.00</td>
<td>-9.00</td>
</tr>
<tr>
<td>Overall result</td>
<td></td>
<td>lbf/m</td>
<td>PASS</td>
<td>PASS</td>
<td>PASS</td>
</tr>
</tbody>
</table>

Dimensions mm (inch)

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Closure Mandrels

The challenge posed to hold an ever-increasing variety of shapes and sizes of closures and containers is significant. Mecmesin has over 25 years of experience in working with a diverse group of customers to develop gripping solutions for torque testing. Whilst many closures and containers can be held by ‘standard’ grips it is frequently the case that ‘customised’ grips are required to secure the more unusual and odd-shaped specimens - these can be designed and made by Mecmesin engineers to suit your exact requirements.

Fixing Plates

A common ‘standard’ gripping solution features a Fixing Plate with 4 rubber-coated pegs. These can be positioned within the plate to accommodate closures between 10-78 mm diameter. The pegs are tightened manually around the closure by the operator ... although this provides a versatile method of tightening a wide span of closures it should be noted that it is not a perfect solution. It is not suitable for testing large batches as it takes time to load/unload the samples with consequential operator fatigue to the wrist. In addition overtightening of the pegs can cause distortion to closures which may affect the repeatability of results.

It is often preferable to use a customised mandrel which has been specifically tailored to meet the size and form of your unique closure.

Mandrels

There are two versions of mandrels available to grip closures for torque testing.

a) “Split-mandrel” – this comprises 2 mandrel halves which have been machined to suit a narrow span of closure diameters and profiles. The jaws of the mandrel have either a rubber coating or a serrated finish depending on the application requirements.

The closure is located between the mandrel halves and is gripped by lightly tightening the mandrels using either a leadscrew or a pneumatic chuck.
b) “Dedicated mandrel” – machined specifically as an exact fit to match the profile of a single closure type and recommended for optimal repeatability of testing. The gently-tapered mandrel is placed upon the closure and the mandrel is then ‘driven’ by a holder to apply the required torque. The mandrel can then move vertically which is essential for testing screw-type closures. ‘Dedicated mandrels’ are made to the user’s specific design requirement.

The choice of mandrel is determined by the size and shape of the closure, its knurl pattern and the maximum torque expected. If you are not sure which mandrel is best suited to your application simply send some sample closures to our engineers for evaluation and receive a free quotation.

Suitable for various closure types (e.g. CT, ROPP, CR) when testing:

- Application Torque
- Removal Torque
- Incremental Torque
- Bridge Torque
- Strip Torque
- Re-application Torque

**CRC(Child-Resistant Closures)**

To actuate the CR mechanism of a closure it is often required to apply an axial load when testing. The Vortex range of Motorised Torque Testers are equipped with a ‘top load’ tray into which masses can be placed to simulate the axial load. To make this process easy for the operator a Pneumatic Lift Mechanism is available for use with the Vortex range. It only needs the control lever to be turned to apply or release the masses thereby saving time and eliminating fatigue for the operator.

The Vortex Pneumatic Lift can be used in combination with ‘Split’ or ‘Dedicated’ mandrels.

**Contact Mecmesin** for advice on the most suitable gripping solution for your closures and containers.
<table>
<thead>
<tr>
<th>Region</th>
<th>Country</th>
<th>Website</th>
<th>Email</th>
</tr>
</thead>
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</tr>
</tbody>
</table>

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Static Torque Sensor Bench Mounting Stands

Description

Bench Mounting Stands are equipped with fixing holes to enable secure and stable support for Mecmesin Static Torque Sensors when in use on a table or work-bench.

Two versions are available; Bench Mounting Stand for 'mid & hi-torque' ST Torque sensors and Bench-Mounting Stand for 'TS' Torque Screwdrivers.

The sensors are positioned inside the Mounting Stands and secured by the appropriate fixing screws. This allows the operator to attach the test specimen to the sensor and then apply torque directly to the specimen by hand as required.

Two sizes of 3-jaw chuck are available for use with Mecmesin ‘TS’ Torque screwdrivers; ½” opening and ⅜” opening each being connected to the ‘TS’ screwdriver via a square drive spindle. The ⅜” chuck is supplied as standard with every new ‘TS’ Torque Screwdriver, whereas the ½” chuck can be purchased as optional accessory.

Specifications

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Depth (A)</th>
<th>Width (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>432-401</td>
<td>155 mm</td>
<td>6.10”</td>
</tr>
<tr>
<td>432-402</td>
<td>76 mm</td>
<td>6.10”</td>
</tr>
</tbody>
</table>

432 - 401 shown with AFTI mounted and sensor in vertical and horizontal orientation
Dimensions mm (inch)

432-401 Front View

432-401 Shown with sensor mounted

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Mecmesin - a world leader in affordable force and torque testing solutions

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.

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