Mitutoyo

MADE IN GERMANY

MITUTOYO **MODULAR FIXTURING SYSTEMS**

PRECISION WITH A PASSION

GENERAL

MITUTOYO FIXTURES

MITUTOYO FIXTURING SYSTEMS
EXPERTISE IN ACCURACY

Industrial inspection and quality control rely on precision measuring machines and precision fixturing alike. Reliable and repeatable fixture set-up is a basic requirement for successful and accurate measurement. Therefore, fixturing is as important a part of proper quality control as the choice of a suitable CMM, form measuring machine or vision measurement system.

Mitutoyo fixture equipment is designed and manufactured with uncompromising precision in mind. Additionally, universality, flexibility, repeatability and efficiency are essential aspects for choosing Mitutoyo fixturing systems. Quintessentially, our products are the result of over 40 years of experience in fixture system development.

eco-fix and eco-fix*plus* are modular fixturing systems for coordinate measuring machines and form measuring machines. The product lines' components can be set up on a wide choice of base plates. The Mitutoyo pallet receiver system secures highest efficiency for manual CMM loading. Even large structures can be covered by building frames with the multiflex*profile* elements. The adjustable vari-fix columns allow free and unrestricted workpiece orientation in any desired set-up position

opti-fix was especially developed for optical measuring systems. eco-fix and opti-fix components can be combined by using adapters, additionally increasing performance and flexibility.

Mitutoyo fixtures set the industrial standard for repeatable and efficient fixturing. The powerful simplicity of our pallet receiver system facilitates the execution of more measurements per shift than any other brand – without impairing the accuracy.

Mitutoyo fixture systems are the result of our long-standing experience and constant enhancement in fixturing technology.
This is our way to reward our customers' trust in Mitutoyo products.

Mitutoyo fixtures: For measurably better results.

Discover the Mitutoyo online styli catalogue

Straight Styli (442)	Diamond Coated Styli (29)	Joints (13)	Cylinder Styli (15)
Master Ball (1)	Machine tool Styli (11)	Disk Styli (19)	Tip Styli (5)
Extensions (70)	Star Styli (17)	Screws for Cube (7)	Tools (3)
Holders (29)	Styli for 5-Way Styli (12)	StyliCleaner (1)	Styli Kits (18)
Styli for clamping holder(14)	Adapters (21)		

Styli components fromMitutoyo: Add the touch of perfection.

The Mitutoyo product line includes over 1000 stylus components plus highly specialized equipment to provide the best possible solution to your specific measurement needs with a sophisticated sense of touch.

- Precise filtering for fast product access
- Product visualization
- Product description
- Downloadable PDF Drawing
- Competitor cross reference search

Discover the Mitutoyo online fixture system catalogue

Base plates (18)	Build-up competents (60)	Clamping components (57)	Adapters (6)
Positioning and stoppper components (68)	Profile components (21)	Slider components (6)	Fixturing kits (30)
Racks (5)	Base components (59)		

Mitutoyo fixtures: For measurably better results.

Our CMM fixturing product lines eco-fix, eco-fixplus and the multi-flexprofile series ensure that from small and light to large and heavy workpieces, everything can be fixtured and measured with ease.

- Filtering function for fast product access
- Product visualization
- Product description
- Drawing

MITUTOYO FIXTURES

CONTENTS

PAGE	ITEM
2-3	Introduction
4-5	Contents
6-9	CMM fixturing Product lines
10-11	Basics of fixturing for CMM measurement
	Fixturing Components for CMM Measurement – Explanation
12-13	Base components - Base plates
14-15	Base components - Profile frame systems
16-17	Base components - eco-fix rail system
18-23	Base components - Profile connectors and other profile related components
24-29	Build-up components
30-31	Positioning and stopper components
32-33	Clamping components
	Fixture System Guide
32-33	Fixture system guide
	CMM Fixturing Kits
36-46	eco-fix kits
47	eco-fix rail kit
48-53	eco-fix*plus* kits
	eco-fix pallet receiver system PRS
54-55	eco-fix pallet receiver system
56-58	eco-fix pallet receiver system kits
58-59	eco-fix pallet receiver system RFID recognition kit
60-63	Pallet system racks
23	eco-load MiSTAR duo loading station
	Manual Pallet Loading Stations for CMM MPS
64-67	MPS System
	FixtureBuilder Software for eco-fix
68-69	FixtureBuilder software for eco-fix
	FMI Fixturing Kits
70-71	eco-fix FMI kits
	eco-fix and eco-fix*plus* Extension Sets
72-75	eco-fix and eco-fix*plus* extension sets
	eco-fix and eco-fix*plus* Components
76-77	Base components - Base plates and accessories
78-79	Base components - Base profiles
80-81	Base components - eco-fix rail components
82-84	Base components - Attachable bases for build-up module connection
85	Base components – Profile connectors
86-87	Base components – Accessories for multiflex*profile*
88	Base components – Accessories for the pallet receiver system PRS
89-93	Special base plates for Mitutoyo CMM
94-101	Build-up components
102-107	Positioning components
108-112	Clamping components Styli for multi-way stylus
113	Adapters
114-115	eco-fix screws and tools

PAGE ITEM

Fixturing Components for Optical Measurement - Explanation

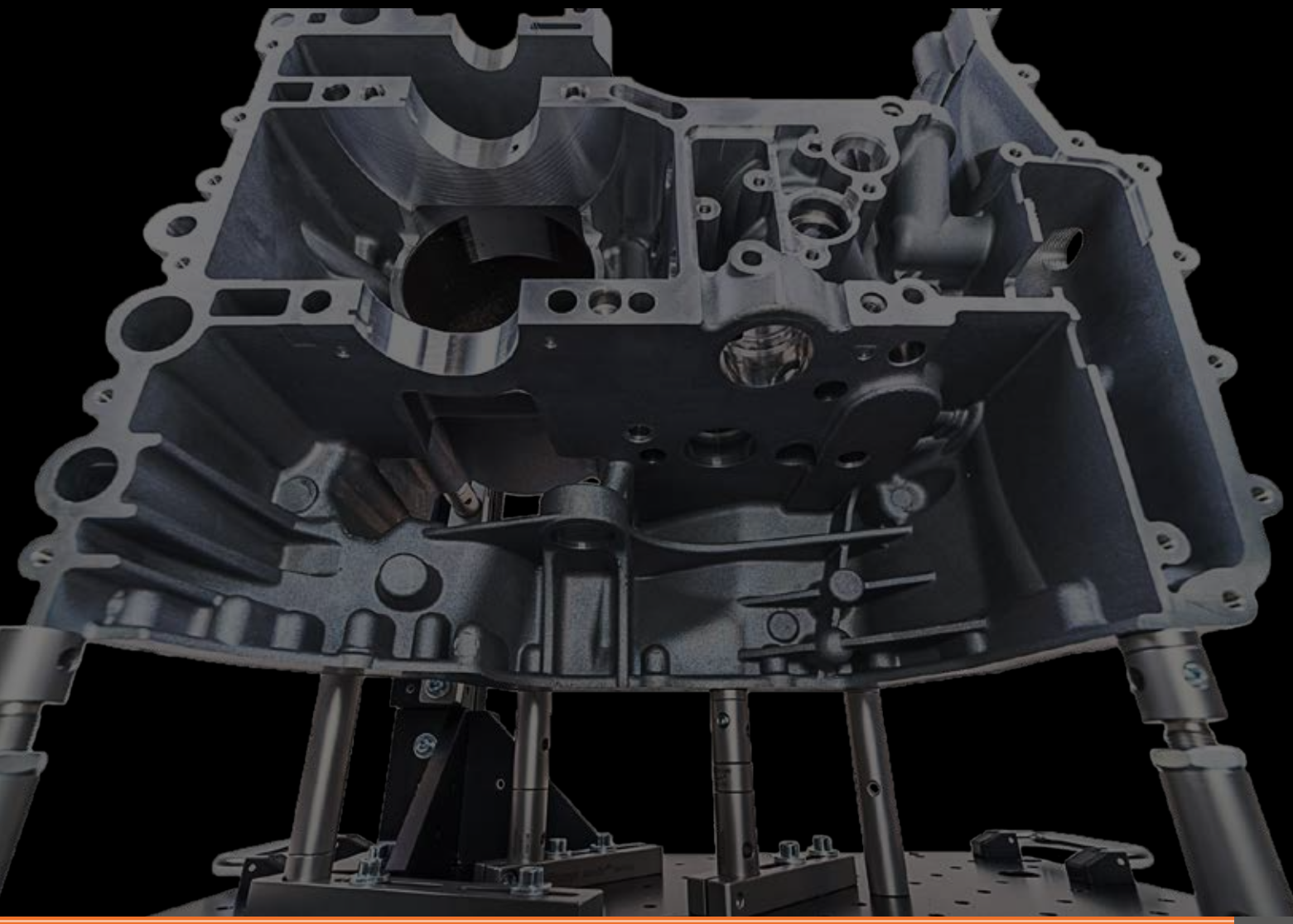
116-117 opti-fix introduction
118-119 Base components – Base plates and profiles
120-121 Base components - connectors and fasteners
122-123 Build-up components
124-125 Positioning components
126-127 Clamping components

opti-fix Fixturing Kits for Optical Measurement

128-137 Optical Measurement Fixturing Kits

opti-fix Components

138-141 Base components
142-145 Build-up components
146-149 Positioning components
150-153 Clamping components Styli for multi-way stylus
154 Adapters
155 opti-fix screws and tools



Modular Fixturing Systems

Product Lines

Mitutoyo modular fixturing series **eco-fix** and **eco-fix*plus*** are fast and affordable solutions to get workpieces clamped on the coordinate measuring machine. In just a few minutes, your fixture is ready for measurement. Therefore, **eco-fix** and **eco-fix*plus*** are attractive alternatives to customised jigs.

These modular clamping systems for CMM allow relaxed working in many ways. Systematical design, keeping an eye on the essential: **eco-fix** and **eco-fix*plus*** concentrate on accomplishing nearly every clamping task in a likewise constant performance optimising way. Applications in aerospace, automotive, electronics or medical industry are suited with a full solution. Logically assignable elements in an uncomplicated and user-friendly design build-up on the base plate equipped only with threads.

The results are systematic efficiency at compelling profitability and considerably reduced costs at enormous versatility.

eco-fix

Hard-anodized aluminium components for small to midsize and -weight workpieces guarantee an outstanding durability and resistibility. The **eco-fix** line features M6 threading.

Receiver bracket

Joint

Column

eco-fix*plus*

Stainless steel components for midsize to large and heavy workpieces – long-lasting operation even under rough conditions. M6 threading. **eco-fix*plus*** benefits from our decade long experiences with eco-fix and repro-fix, its direct predecessor, combining the best of both product lines.

eco-fix and **eco-fix*plus*** are combinable and expandable as required, increasing the economic benefit compared to other clamping systems.

Receiver bracket

Spring loaded contact point

Adjustable positioning pin

The Mitutoyo CMM fixturing range

With our fixturing ranges, it's easy to document your repeatable fixture set-up for reduced variation:

• Part numbers featured on all elements for easy identification of the components.

• Alpha numeric grid pattern on all base plates for simplified positioning and relocation of elements.

• Mitutoyo clamping systems feature positioning components made from hardened steel for long last.

Modular Fixturing Systems

Product Lines

Reproducible structure

The reproducible structure enables the workpiece to be positioned in the same spatial position for repeated measurements.

Consistently compatible

With a range of system components that has been constantly improved over the years, a wide variety of clampings can be implemented: from the watch case to the vehicle body. The basic grid and assembly principle always remain the same. In this way, all components are used consistently. A convincing concept: for recurring measuring tasks and for the one-off fixing of parts!

Practice-oriented and economical

The eco-fix and eco-fix*plus* clamping systems were specially developed for coordinate measuring technology. During development, the focus was on fundamental properties:

- universal system
- logical concept
- highly economical
- reproducible set-up
- high rigidity
- high strength
- easy handling
- flexible application

Optimal accessibility

The linear structure and the direct screw connection of the construction components ensure maximum stability with optimum accessibility to the test part.

Reduced costs

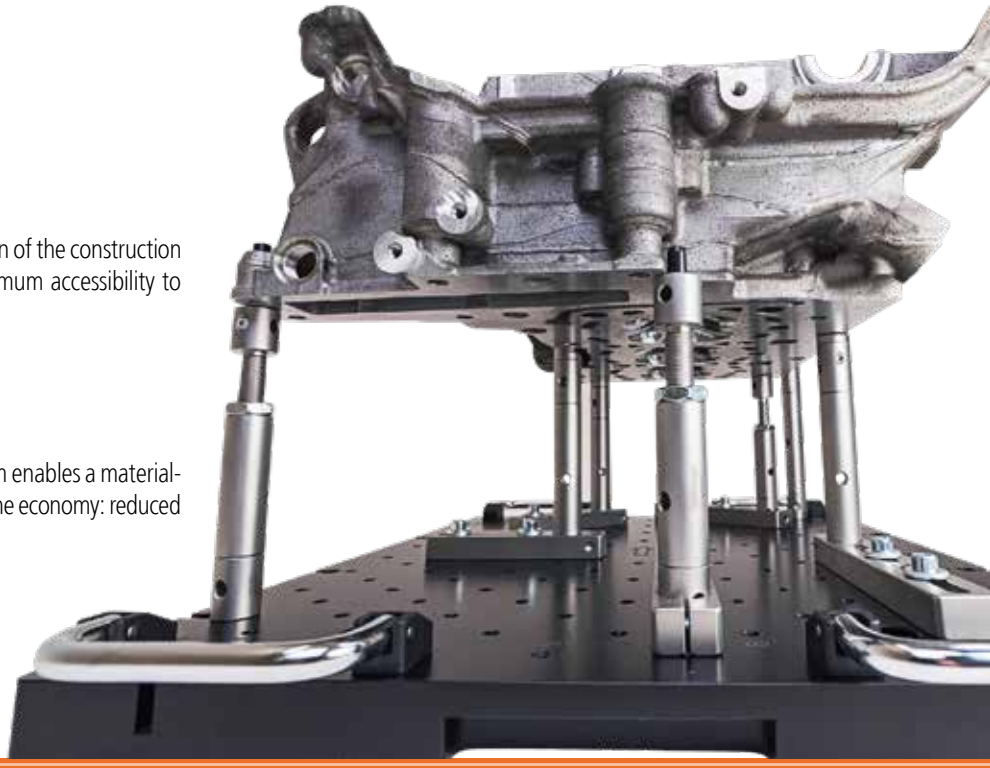
The high flexibility of the Mitutoyo fixturing system enables a material-saving construction. This advantage is reflected in the economy: reduced costs and small storage volume.

Universal set-up

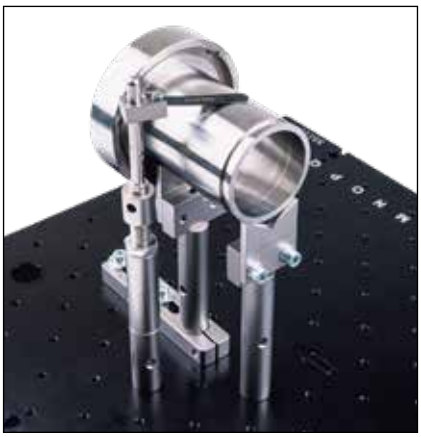
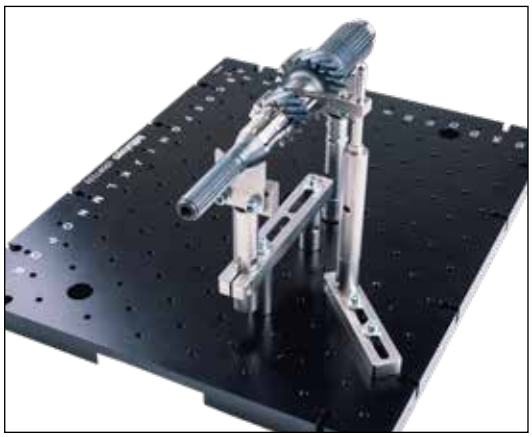
The receiving elements are screwed directly onto the base. The use of bolts and brackets as central components has proven itself in practice. With them, the support and clamping points can be reached very quickly and straightforward, because both the angle position and the height and overhang of the straps are infinitely adjustable. The design is not only material-saving and therefore inexpensive, but also very slim, which is reflected in good accessibility to the workpiece. The components used to build the receiving columns guarantee excellent stability. The direct screwing of the components, both to the base and to each other, contributes to this. It also makes the system easier to use, since no assembly aids are required.

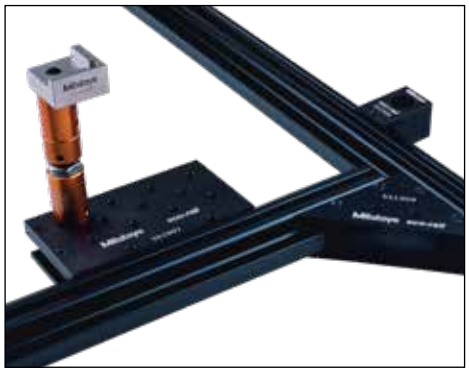
- Fits all CMM brands
- Build your individual fixture in only 20 minutes!
- Fast & affordable
- Easy adaption to product changes
- Purchase one kit for each workpiece

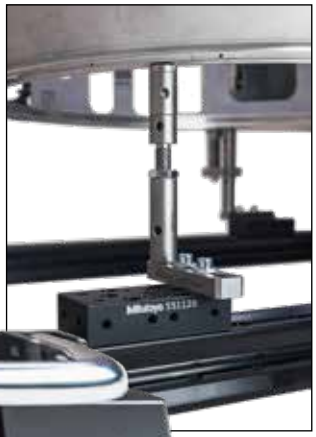
Mitutoyo's fixturing systems for improved reproducibility and accuracy of inspection!



The Mitutoyo CMM fixturing range





Modular Fixturing Systems

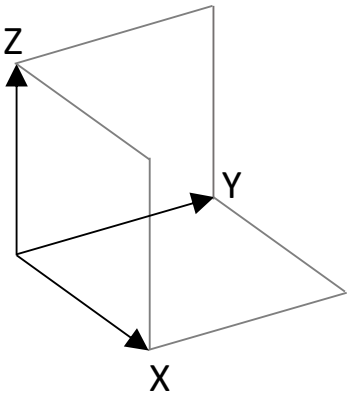
The basics of fixturing

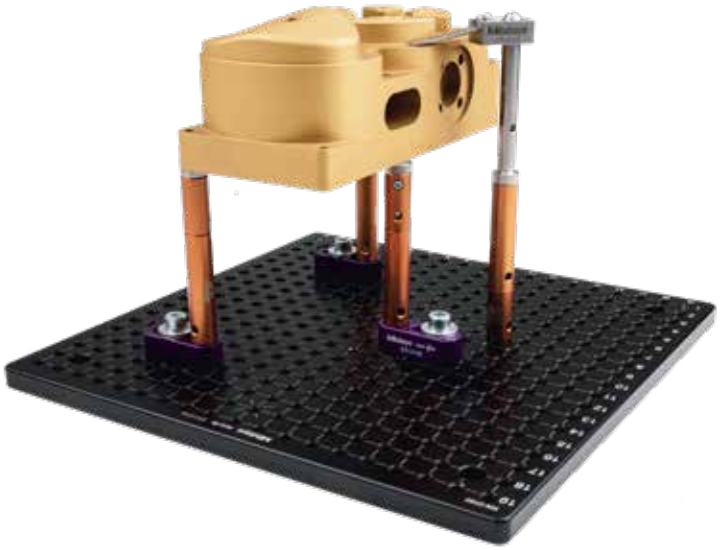
In metrology, a distinction is made between 2 types of coordinate systems:

Machine coordinate system
Workpiece coordinate system

Both consist of 3 levels (Cartesian coordinate system):
XY, YZ and XZ plane.

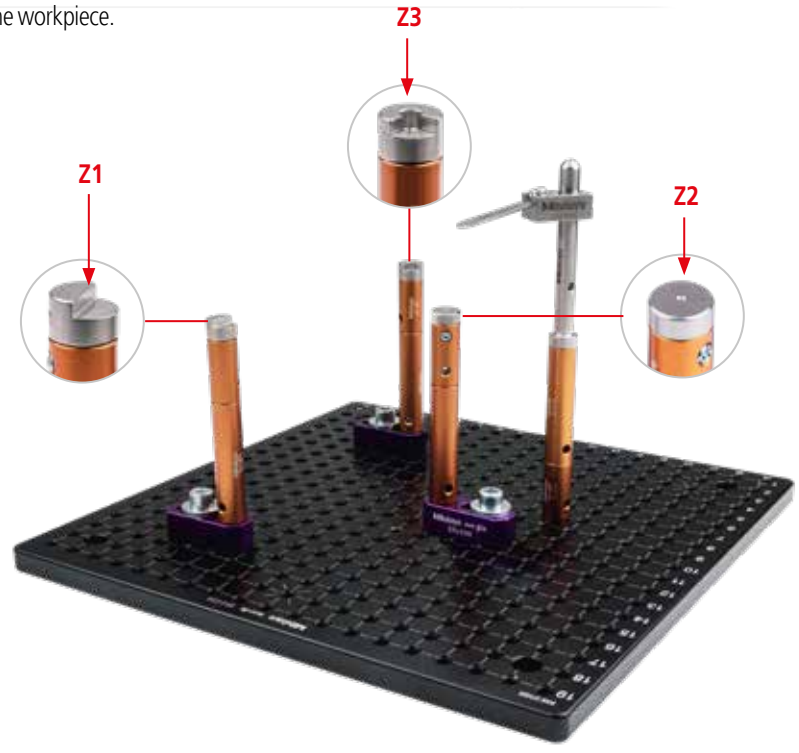
Three mutually perpendicular reference surfaces of a workpiece, each of which has three, two or one reference points for alignment, are defined as a reference system.



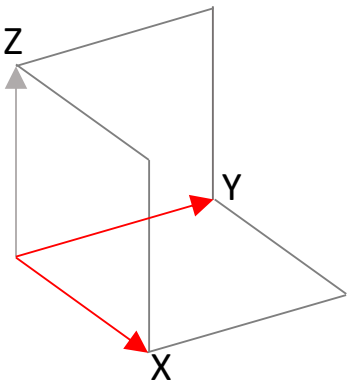


3-2-1 fixturing principle:
Based on the 3 planes, as defined above, the so-called **3-2-1 principle** is used, which applies to both clamping and alignment of the workpiece.

Example:
3 contact points in the Z-Axis (XY-plane)
2 contact points in the X-Axis (YZ-plane)
1 contact point in the Y-Axis (XZ-plane)



3-2-1 fixturing principle:
3 contact points in the Z-Axis (XY-plane)



The Mitutoyo CMM fixturing range

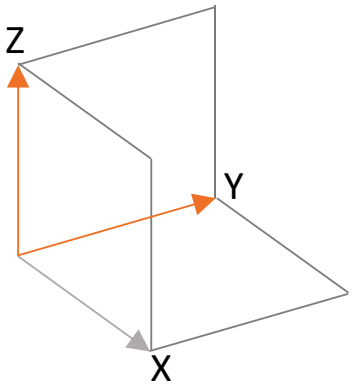
Our positioning and support components offer multiple-plane workpiece support.

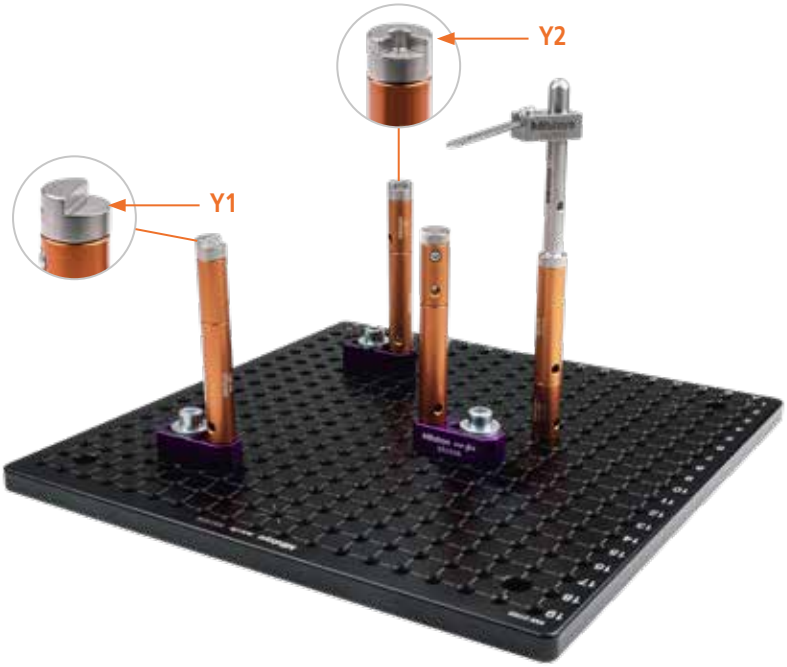
Backstopper
3 plane support
X, Y and Z

Stopper
2 plane support
X or Y and Z

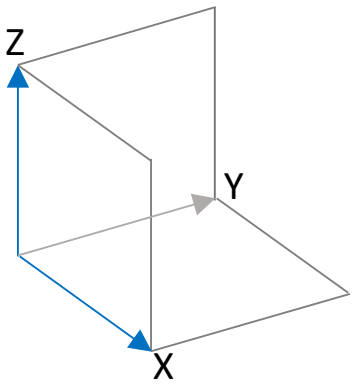
Flat top
1 plane support
Z

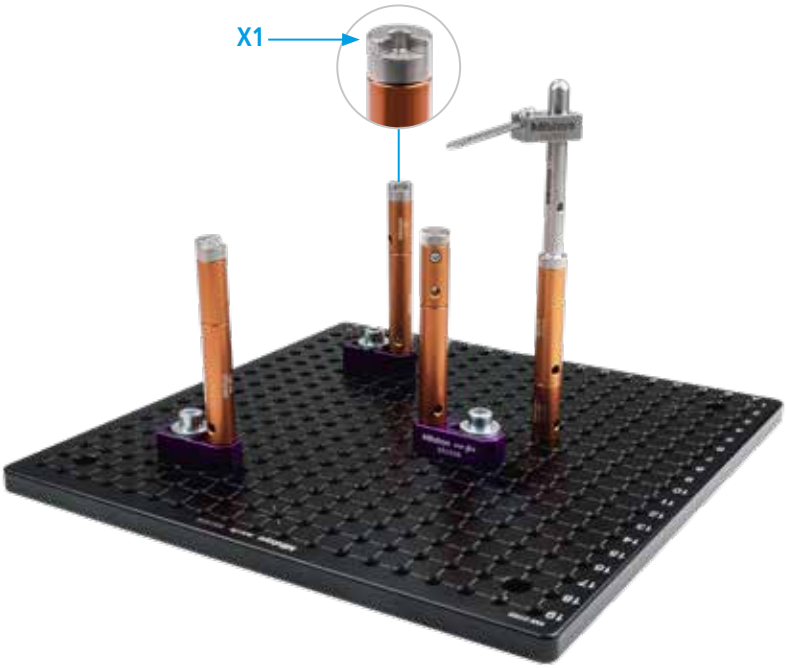
3-2-1 fixturing principle:
2 contact points in the X-Axis (YZ-plane)





3-2-1 fixturing principle:
1 contact point in the Y-Axis (YZ-plane)





Modular Fixturing Systems

Base Components – Base Plates

Successful fixturing tasks need to rely on a solid base. Therefore, we provide a wide range of standard product base plates and a comprehensive line-up of profiles to perfectly suit the application. We are also open for customization requests.

COMPONENT TYPE	MATERIAL

eco-fix base plates

M6 threaded grid, 12,5mm or 25,0 mm grid pattern.
Fully compatible to eco-fix and eco-fix*plus* components. Made from thickness 15,0 mm. Lighter build for fully manual handling.

Hard-coated Aluminium

Part No.:	Available Sizes	Thickness	Thread	Thread grid pattern spacing
K551306	125 x125 mm	10 mm	M6	12,5 x 12,5 mm
K551226	250 x 125 mm	10 mm	M6	12,5 x 12,5 mm
K551034	250 x 250 mm	10 mm	M6	12,5 x 12,5 mm
K551533	500 x 400 mm	15 mm	M6	25 x 25 mm

Other sizes on request

eco-fix*plus* base plates for conventional use and for Manual Loading Systems MPS

M6 25,0 mm or 50,0 mm grid pattern base plates.
Fully compatible to eco-fix and eco-fix*plus* components. Thickness 25,0 mm.
Thicker build for sufficient stiffness when handling heavier workpieces.
Prepared for 3-point ball support on the CMM.
Can be used with the manual CMM loading system range MPS.

Hard-coated Aluminium

Part No.:	Available Sizes	Thicknesss	Maximum load	Thread	Thread grid pattern spacing
K551138	250 x 250 mm	25 mm	60kg	M6	25 x 25 mm
K551137	500 x 400 mm	25 mm	120 kg	M6	50 x 50 mm
K551202	600 x 600 mm	25 mm	250 kg	M6	50 x 50 mm

Other sizes on request

System pallets for Manual Loading Systems MPS

Non threaded system-base plates for full customization.
Customization can be executed by Mitutoyo, customer or third party company.
Thickness 25,0 mm. Prepared for 3-point ball support on the CMM.

Hard-coated Aluminium

Part No.:	Available Sizes	Thicknesss	Maximum load	Thread	Thread grid pattern spacing
K551356	250 x 250 mm	25 mm	60kg	none	none
K551357	500 x 400 mm	25 mm	120 kg	none	none
K551358	600 x 600 mm	25 mm	250 kg	none	none

These plates are also available without threaded grid for full customization.
Other sizes on request.

Special base plates for CMM

M6 50,0 mm grid pattern base plates.
Fully compatible to eco-fix and eco-fix*plus* components.
Thickness 15,0 mm.

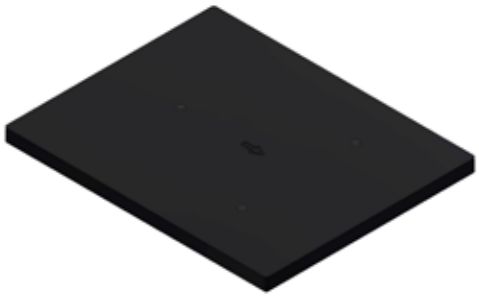
Hard-coated Aluminium

Available Sizes	Thickness	Thread	Thread grid pattern spacing
according to CMM model	15 mm	M6	50 x 50 mm

Other sizes and models on request. The plates can be customized for any CMM brand.

The Mitutoyo CMM fixturing range

eco-fix and eco-fix^{plus} compatible base component systems:

	APPLICATION	PRODUCT LINES
		eco-fix
		eco-fix^{plus}
		eco-fix eco-fix^{plus}
		eco-fix eco-fix^{plus}

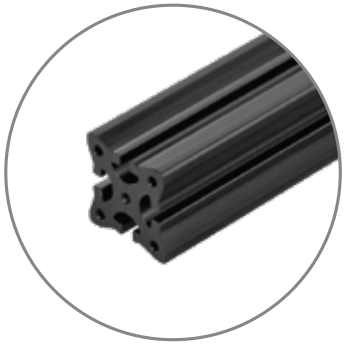
Modular Fixturing Systems

Base Components – profile frame systems

In order to set-up bigger workpieces measurement ready, Mitutoyo has developed three profile types that offer endless options of combination and in fixture construction. The weight and cost efficiency is another striking feature of the multiflex*profile* line.

COMPONENT TYPE	MATERIAL
multiflex*profile* rail - Single function: • Dovetail profile rail Fix the rail directly on the CMM granite. Set-up the fixture structure directly on the machine. Dovetail slider components for attachment and positioning of eco-fix and eco-fix*plus* components. Lengths and screw hole positioning are customizable. 	Hard-coated Aluminium
multiflex*profile* frame - Dual functional profile: • Fourfold dovetail • T-nut for flexible positioning Economically priced and ideal for building base frame structures for large-sized workpieces. Uses dovetail slider components for attachment and positioning of eco-fix and eco-fix*plus* components. 	Hard-coated Aluminium
multiflex*profile* profile - Triple function profile: • Fourfold dovetail • T-nut for flexible positioning • 50,0 mm bushing hole grid for fixed positioning Can be used as a large-sized stand-off on frame constructions and base plates. Uses dovetail slider components for attachment and positioning of eco-fix and eco-fix*plus* components. Fix multifix base components to set-up build-up modules on the 50,0 mm grid. 	Hard-coated Aluminium

The Mitutoyo CMM fixturing range

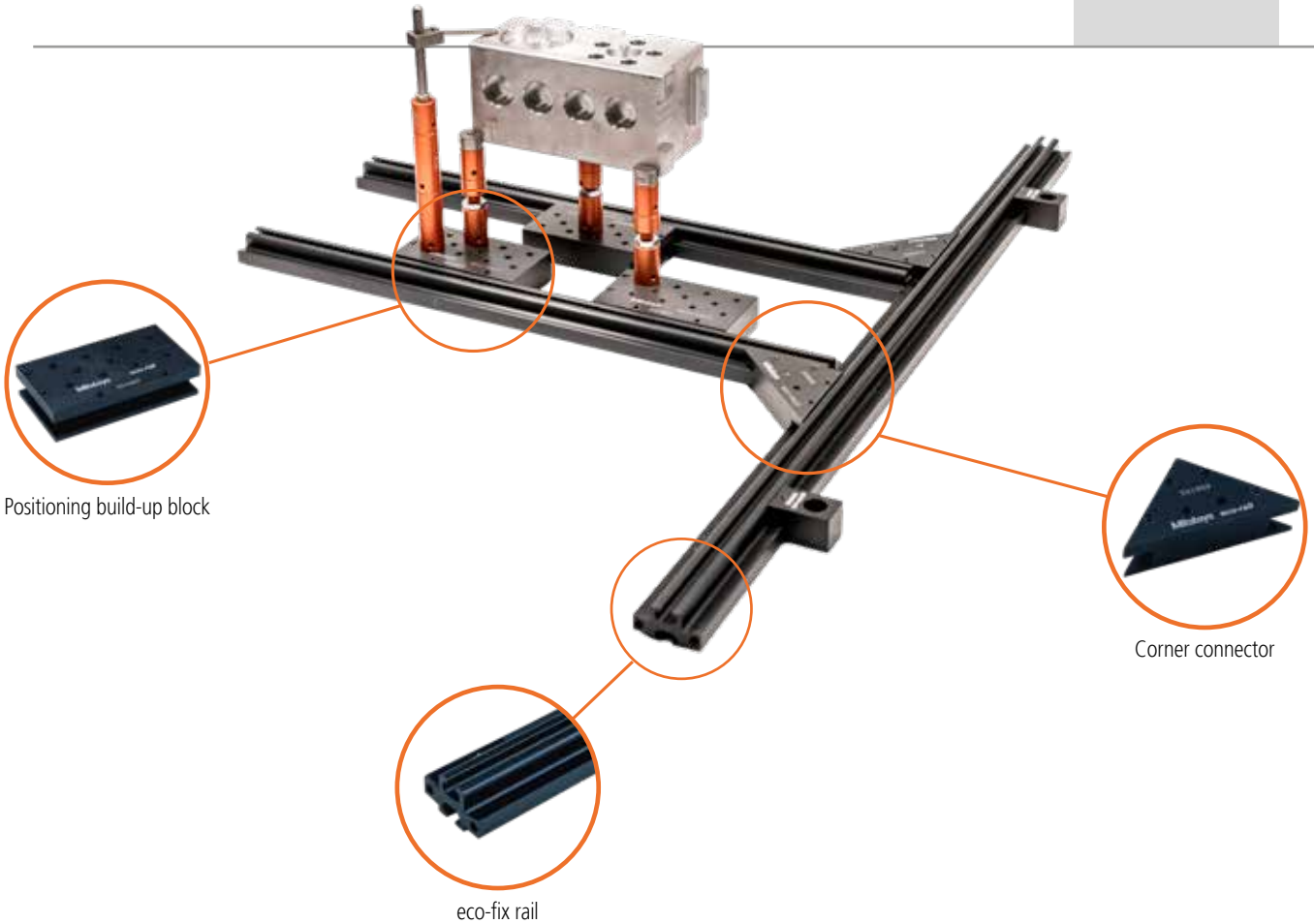
	APPLICATION	PRODUCT LINES
		eco-fix^{plus}
		eco-fix eco-fix^{plus}
 • 50,0 mm 12,5 mm bushing hole grid on the sides • 10,0 mm diagonally positioned front end bushing holes for twist free stable connection		eco-fix eco-fix^{plus}

Modular Fixturing Systems

Base Components – eco-fix rail

The ultra-flexible CMM fixturing system eco-fix rail is suitable for small to midsize components. It ensures a fast set-up and change of orientation in just a few simple steps and is hardly limited in its possibilities. Three mini base plates, the positioning build-up blocks can be relocated in seconds, so the mounting points can be freely positioned via the rail system. Just like the corner connectors who determine the actual rail frame size. In the height level, the adjustability is guaranteed using height-adjustable mounting bolts. This enables you to reproducibly clamp workpieces in the measuring volume of the CMM.

COMPONENT TYPE	MATERIAL
eco-fix rail – Flexible positioning rail system using eco-fix and eco-fix*plus* components • T-slot implied for additional fixturing options. • Quick change of the base dimension according to workpiece size by moving the **corner connectors**. • Fast repositioning of the positioning **build-up blocks** which have the functionality of a small base plate. • Build an angle from the rails to easily reposition a base plate.	Hard-coated Aluminium



The Mitutoyo CMM fixturing range

Due to the compatibility of the clamping elements, an expansion of the clamping system is possible at any time. Since the construction of a clamping device can be realized very quickly. Thanks to the well-thought-out system, the little time required is worthwhile even for small series, and even for individual parts. When the build-up blocks are removed, the frame can be used for fast repositioning of the eco-fix base plates.

	APPLICATION	PRODUCT LINES
		eco-fix **eco-fix*plus***

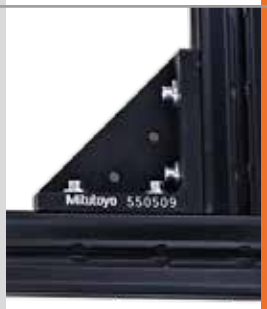
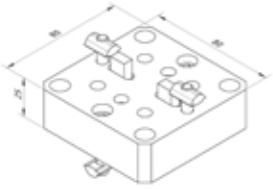
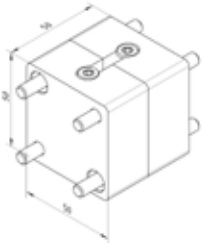
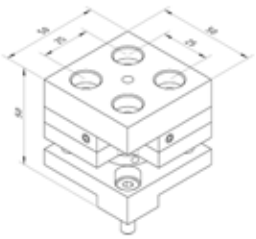
Modular Fixturing Systems

Base Components – for profile connection

In order to build a frame structure, several profiles need to be connected. A rectangular frame can be build by using the support angles or the cross connectors, in up right direction the slider connector is the item of choice. End to end connection is carried out with the front-end connector and further alignment with the XYZ adjustment component.

COMPONENT TYPE		MATERIAL
Profile connectors **multiflex**profile	Support angle	Aluminium
	Cross connector	
	Slider components	
	Front-end connector	
Components for build-up module connection **multiflex**profile	XYZ adjustment	

The Mitutoyo CMM fixturing range

CONNECTION	APPLICATION	PRODUCT LINES
For a stable connection to our 50mm grid profiles use: K550461 Positioning bushing 12,5 mm and K551158 T-slot nut M6	For the rectangular connection of profile frames or the support of profiles on base plates 	multiflex*profile* eco-fix eco-fix*plus*
 K551158 T-slot nuts and screws included	For the composition of frames or sideways mounting on profile components	multiflex*profile*
Clamping lever	For setting up of adjustable cross connections. The dovetail slider can also be used as a stopper, for repositioning of slider components such as the vari-fix columns	multiflex*profile*
 Screws included	For the front-end connection of multiflex profiles	multiflex*profile*
 Screws included	For the front-end connection of multiflex profiles and fine positioning in 3 axes	multiflex*profile*

Modular Fixturing Systems

Base Components – for profile systems

As the abilities for direct attachment of support points and clamping components on the profiles are limited, additional components, the base components for profile systems are required. Therefore, a range of components for connection of build-up modules is available.

COMPONENT TYPE		MATERIAL
Components for build-up module connection **multiflex**profile	 For profiles or base plates Front end mount on profiles Free positioning	Aluminium
Slider component for build-up module connection **multiflex**profile	 Flexible build-up positioning on the profile	

The Mitutoyo CMM fixturing range

CONNECTION	APPLICATION		PRODUCT LINES
For a stable connection to our 50mm grid profiles use: K550461 Positioning bushing 12,5 mm and K551158 T-slot nut M6	For the connection of build-up modules on multiflex profiles and base plates Can also be used as an alternative to cylindrical build-up columns on the base plate		multiflex*profile* eco-fix eco-fix*plus*
For a twist-free and stable connection to the profile end-face use: K551136 positioning bushing 10 mm. (only on the triple function profile)	For the front-end connection of build-up modules on multiflex profiles		multiflex*profile* eco-fix eco-fix*plus*
For a stable connection to our 50mm grid profiles use: K550461 Positioning bushing 12,5 mm and K551158 T-slot nut M6	For creating free receiving positions in cantilever construction. Also in 90°		multiflex*profile* eco-fix eco-fix*plus*
Clamping lever	Slider unit M6 For free positioning on muliflex*profile* components, e.g., for the build-up of receiving points		multiflex*profile* eco-fix eco-fix*plus*

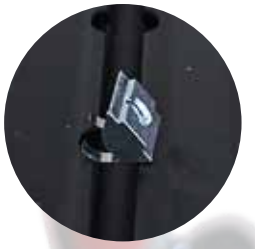
Modular Fixturing Systems

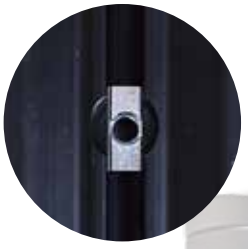
Base Components – for profile systems

How to connect base components for build-up modules on multiflex profiles

In just a few quick steps, the base component is attached on the 50 mm profile grid by using K550461 positioning bushing 12,5 mm and K551158 M6 T-slot nut. The bushing secures the correct positionng of the to be attached component.

1.





Inserting of the M6 T-nut stone in the **multiflex**profile

2.

Inserting of the positioning bushing

3.

Attachment of base components

MiSTAR eco-load duo

K543667 MiSTAR eco-load duo

The MiSTAR eco-load duo two pallet loading station enables a simple and fast workpiece exchange and a maximized throughput at a great price performance ratio.

Mutiple safety installations make sure, the operation is safe:

- The lowering monitor switch (option) confirms when the pallet is in position.
- The laser controlled CMM home sensor ensures the measuring head is in home position for loading.
- Rigid pallet locks prevent undesired movement of the pallets.

- Pneumatic pallet lowering action
- Air unit, home sensor and communication cables included

Optimized for eco-fix

The MiSTAR eco-load duo uses all advantages of the eco-fix pallet receiver system (see also from page 54).
The pallets are set-up in 3-point positioning via attached ball screws in positioning prisms for accurate repositioning.

Required parts:

Part No.:	Description	qty.	see page
K551533	eco-fix pallet L 500x400mm	2	76
K551216	set of handles and ball screws	2	58

Please choose eco-fix kits or single components according to your requirement.

Pallet exchange

Modular Fixturing Systems

Base Components – for profile systems

COMPONENT TYPE		MATERIAL
vari-fix slider units **Adjustable build-up columns** **multiflex**profile		Aluminium

Base Components – support & multi-position build-up columns

COMPONENT TYPE		MATERIAL
Multi-position build-up columns **eco-fix** **eco-fix**plus	 multi-position build-up column and adapter K551212 for base plate attachment	Aluminium
multiflex profile as support column **multiflex**profile	 **multiflex**profile	

The Mitutoyo CMM fixturing range

CONNECTION	APPLICATION	PRODUCT LINES
Set up receiving and clamping positions with the help of brackets. Adaption of other components by customizing. 	For free and unrestricted orientation of the workpiece in any desired pick-up position and flexible positioning on the multiflex*profile*. The shaft is rotatable, and the head is indexable. 375 mm to 1075 mm height **vari-fix** columns are always custom made, tailored to the needs of the customer! Accessories and various versions available on request.	**eco-fix** **eco-fix*plus***

CONNECTION	APPLICATION	PRODUCT LINES
multiflex*profile* and the multi-position build-up columns can be mounted up right on the base plate with adapter K551212. 		**eco-fix** **eco-fix*plus***

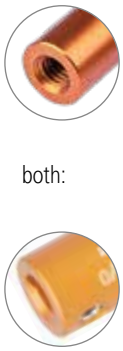
Modular Fixturing Systems

Build-up components – location pins

Choose the right location pins, to build-up the required height of the fixture

COMPONENT TYPE			MATERIAL
Location pin **eco-fix**	Ø 20mm standard 	Ø 12mm small 	Aluminium
Location pin **eco-fix*plus***	Ø 20mm standard 	Requires thread bolt K550592-10 for M6 connection	Stainless steel
Joint **eco-fix**	Ø 20mm standard 	Ø 12mm small 	Aluminium
Joint **eco-fix*plus***	Ø 20mm standard 		Stainless steel

The Mitutoyo CMM fixturing range

CONNECTION TOP		CONNECTION BOTTOM		APPLICATION	PRODUCT LINES
Type A Internal M6 thread or **Type B:** Bore for pin attachment 6 mm - Ø 12mm location pin 8 mm - Ø 20mm location pin		Integrated M6 thread bolt both: Integrated M6 thread bolt	 	For the adjustment of the required height of the fixture		eco-fix
Type A Internal M6 thread **Type B:** 8 mm bore for pin attachment	 	Separate M6 thread bolt both: Separate M6 thread bolt	 	For the adjustment of the required height of the fixture		eco-fix^{plus}
Integrated pin 6 mm - Ø 12mm joint 8 mm - Ø 20mm joint		Internal M6 thread		To create free angles in space		eco-fix
Integrated M6 thread bolt		Integrated M6 thread bolt		To create free angles in space		eco-fix^{plus}

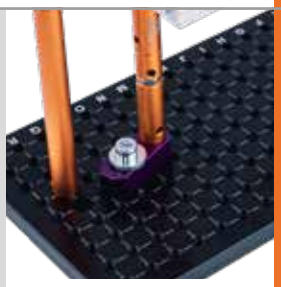
Modular Fixturing Systems

Build-up components – brackets

Type A Brackets are required, when the M6 grid of the base plates doesn't fit the part size. The slotted holes ensure the right positioning.
Type B brackets are used to build clamping positions directly in line with the receiving position.

COMPONENT TYPE			MATERIAL
Brackets **eco-fix**	Type A: Type B: 	Slot nut 	Aluminium
Brackets **eco-fix**^{plus}	Type A: Type B: Type C: Type D: 	Slot nut 	Stainless steel

The Mitutoyo CMM fixturing range

CONNECTION LEFT	CONNECTION RIGHT	APPLICATION		PRODUCT LINES
Type A Internal M6 thread	6,6mm slotted hole for M6 bolts	Mount the location pin on the bracket by using the M6 hole. Use the slotted hole to reach positions that are not covered by the M6 grid of the base plates		**eco-fix**
Type B Bore for location pin attachment Ø 12mm location pin Ø 20mm location pin	8 mm slotted hole for dedicated slot nut	For mounting on location pins, to reach any position, e.g., for positioning of clamping elements directly on receiving points, by using the slot nut		
Type A Internal M6 thread	6,6mm slotted hole for M6 bolts	Mount the location pin on the bracket by using the M6 hole. Use the slotted hole to reach positions that are not covered by the M6 grid of the base plates		**eco-fix*plus***
Type B Bore for location pin attachment Ø 20mm location pin	8 mm slotted hole for dedicated slot nut	For mounting on location pins, to reach any position, e.g., for positioning of clamping elements directly on receiving points, by using the slot nut		
Type C Bore for location pin attachment Ø 20mm location pin	Internal M6 thread	For mounting a spring clip pin close to the location pin		
Type D Bore for pin attachment Ø 8 mm pin	6,6mm slotted hole for M6 bolts	For creating free receiving positions in cantilever construction. Also in 90°		

Modular Fixturing Systems

Positioning and stopper components

Positioning and stopper components are used for accurately defining the position and to reposition the part. These components come in a wide range of choice, always spot on the requirement. Simple block shaped workpieces , as well as rotationally symetric parts are more complicated shapes are suited by our product range.

COMPONENT TYPE	small Ø 6mm connection pin	eco-fix	standard Ø 8mm connection pin	eco-fix eco-fix*plus*	MATERIAL
Stopper					Stainless steel
Stopper with support surface					
Backsquare					Stainless steel
Flat top					
Cone sphere cylinder blade					Stainless steel
V-block magnet V-block					Stainless steel
Prism			 Connect with fastening element K550522-10 2x M4 screw		K550522-10

The Mitutoyo CMM fixturing range

CONNECTION	APPLICATION		PRODUCT LINES
 Ø 8mm connection pin for Ø 20mm location pin Ø 6mm connection pin for Ø 12mm location pin	For receiving a workpiece in a defined position		**eco-fix** **eco-fix*plus***
 Ø 8mm connection pin for Ø 20mm location pin Ø 6mm connection pin for Ø 12mm location pin	For receiving a workpiece in a defined position in XYZ For direct workpiece support		**eco-fix** **eco-fix*plus***
 Ø 8mm connection pin for Ø 20mm location pin Ø 6mm connection pin for Ø 12mm location pin	For receiving parts in bores or centerings etc.		**eco-fix** **eco-fix*plus***
 Ø 8mm connection pin for Ø 20mm location pin Ø 6mm connection pin for Ø 12mm location pin	For receiving e.g., rotationally symmetrical test parts without center hole For receiving of e.g. rotationally symmetrical parts in a defined position		**eco-fix** **eco-fix*plus***

Modular Fixturing Systems

Clamping components

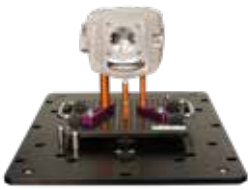
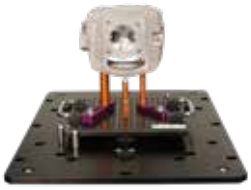
Repeatable fixturing relies on a secure clamping of the to be measured component.
Therefore, a wide selection of clamping components is available.

COMPONENT TYPE		MATERIAL
Push rod clamps		Stainless steel
Spring clips		Stainless steel
Magnetic receivers	Ø 12mm small Ø 20mm standard Ø 20mm standard	Aluminium Stainless steel
Vises		Stainless steel

The Mitutoyo CMM fixturing range

CONNECTION	APPLICATION	PRODUCT LINES
Connect with fastening element K550522-10 2x M4 screw 	For quick and easy clamping of workpieces 	**eco-fix** **eco-fix*plus***
 Ø 8 mm pin Connect to location pin with bore or use K550716 Straight pin with thread 	For quick and easy clamping of workpieces 	**eco-fix** **eco-fix*plus***
 Integrated M6 thread bolt Separate M6 thread bolt K550592-10 	For quick and easy clamping of workpieces 	**eco-fix** **eco-fix*plus***
 Ø 6mm connection pin holes Internal M6 thread 	For quick and easy clamping of workpieces 	**eco-fix** **eco-fix*plus***

Modular Fixturing Systems

Decisive factors	
1. Application	TACTILE MEASUREMENT
2. Dimension	Base type	Base plates: BASE PLATES · up to 500x400mm (manual handling) · up to 600x600mm (loading station only)
3. Mass	Product Line	Light- to medium weight workpieces: eco-fix
4. Through-put	Set-up method	Serial measurement:  Pallet receiver system
5. Efficiency	Loading System	Manual loading system options: A  Pallet receiver system

Fixture system guide

OPTICAL MEASUREMENT

opti-fix

Profile frames:

multiflexprofile for larger structures

Medium to heavy weight workpieces:

eco-fixplus

Single measurement options:

A

base plate

B

eco-fix rail

C

multiflex*profile*

Automatic loading system:

B

Loading station

eco-fix kits

eco-fix Starter kits
Beginner level fixturing

3-point fixture set up in one plane

Advantages:

- Enough fixturing materials to easily set up a simple workpiece
- Entry level kits – easy to overview
- Lower cost
- Scope is easily extended by using extension sets

eco-fix Starter Kit S

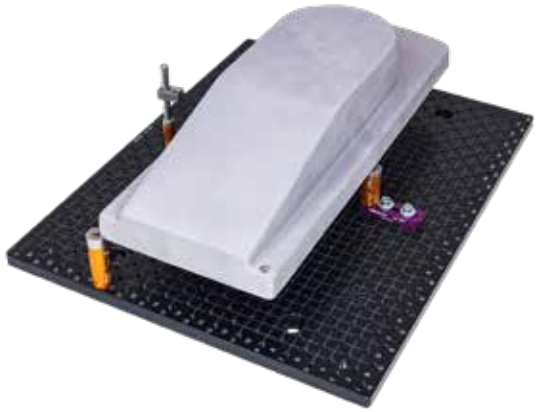
Part No.: K551284

Part No.	Qty.	Part name
Base Components		
Base plate		
K551034	1	Base plate 250 mm x 250 mm
Build-up Components		
Columns		
K551026	1	Location pin ø 12 mm x 50 mm
K551028	2	Location pin ø 20 mm x 13 mm
K551029	1	Location pin ø 20 mm x 25 mm
K551043	3	Location pin ø 20 mm with bore 8 mm
Brackets		
K551036	2	Receiver bracket large
Positioning Components		
K551070	1	Flat top ø 20 mm
K550982	1	Stopper element
K550248	1	Back square
Clamping Components		
K550716	1	Straight pin with thread, M6 x 75 mm
K550279	1	Spring clip, ø 8 mm, L = 60 mm
Screws and Washers		
K550110	4	Cylinder head screw M6 x 20 mm
K550591	4	Washer ø 6.4 mm x ø 17 mm
Total qty.	**23**	

eco-fix Starter Kit L

Part No.: K551285

Part No.	Qty.	Part name
Base Components		
Base plate		
K551533	1	Base plate 500 mm x 400 mm
Build-up Components		
Columns		
K551026	1	Location pin ø 12 mm x 50 mm
K551028	2	Location pin ø 20 mm x 13 mm
K551029	1	Location pin ø 20 mm x 25 mm
K551043	3	Location pin ø 20 mm with bore 8 mm
Brackets		
K551036	2	Receiver bracket large
Positioning Components		
K551070	1	Flat top ø 20 mm
K550982	1	Stopper element
K550248	1	Back square
Clamping Components		
K550716	1	Straight pin with thread, M6 x 75 mm
K550279	1	Spring clip, ø 8 mm, L = 60 mm
Screws and Washers		
K550110	4	Cylinder head screw M6 x 20 mm
K550591	4	Washer ø 6.4 mm x ø 17 mm
Total qty.	**23**	



eco-fix Starter Kit extension sets

eco-fix Extension Set Stand-offs
Part No.: K551286

Part No.	Qty.	Part name
Build-up Components		
Columns		
K551040	2	Adjustable location pin ø 20 mm
K551030	1	Location pin ø 20 mm x 50 mm
K551026	1	Location pin ø 12 mm x 50 mm
Total qty.	**4**	

eco-fix Extension Set Clamping Elements
Part No.: K551287

Part No.	Qty.	Part name
Build-up Components		
Columns		
K551026	1	Location pin ø 12 mm x 50 mm
Clamping Components		
K550716	1	Straight pin with thread, M6 x 75 mm
K550279	1	Spring clip, ø 8 mm, L = 60 mm
Total qty.	**3**	

eco-fix Tool Kit
Part No.: K551288

Part No.	Qty.	Part name
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total qty.	**5**	

eco-fix Kit XXS

Part No.: K551231

Part No.	Qty.	Part name
Base Components		
Base plate		
K551306	1	Base plate 125 mm x 125 mm
Build-up Components		
Columns		
K551024	2	Location pin ø 12 mm x 13 mm
K551025	2	Location pin ø 12 mm x 25 mm
K551026	1	Location pin ø 12 mm x 50 mm
K551027	1	Location pin ø 12 mm x 100 mm
K551028	1	Location pin ø 20 mm x 13 mm
K551029	1	Location pin ø 20 mm x 25 mm
K551030	1	Location pin ø 20 mm x 50 mm
K551031	1	Location pin ø 20 mm x 100 mm
K551040	1	Adjustable location pin ø 20 mm
K551041	2	Adjustable location pin ø 12 mm
K551042	3	Location pin ø 12 mm with bore 6 mm
Brackets		
K551035	1	Receiver bracket small
K551036	1	Receiver bracket large
K551044	1	Receiver bracket L = 90 mm, ø 12 mm
K551045	1	Receiver bracket L = 120 mm, ø 20 mm
K551046	1	Slotted nut for receiver bracket h = 12 mm
K551047	1	Slotted nut for receiver bracket h = 15 mm
Positioning Components		
K550262	2	V-block mini, ø12mm
K550261	2	Cone receiver mini, ø12 mm
K550250	1	Stopper element mini, ø 6 mm
K550247	1	Back square mini, ø 6 mm
K551069	1	Flat top ø 12 mm
K550888	2	Straight pin ø 6 mm x 20 mm
K550889	2	Straight pin ø 6 mm x 30 mm
K550890	2	Straight pin ø 6 mm x 40 mm
Clamping Components		
K550716	2	Straight pin with thread, M6 x 75 mm
K550279	1	Spring clip, ø 8 mm, L = 60 mm
K550554	1	Spring clip, ø 8 mm, L = 40 mm
Screws and Washers		
K550563	2	Cylinder head screw M6 x 25 mm
K550110	6	Cylinder head screw M6 x 20 mm
K550591	8	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total qty.	**61**	

eco-fix Kit XS

Part No.: K551235

Part No.	Qty.	Part name
Base Components		
Base plate		
K551226	1	Base plate 250x125; eco-fix
Build-up Components		
Columns		
K551024	2	Location pin ø 12 mm x 13 mm
K551025	2	Location pin ø 12 mm x 25 mm
K551026	1	Location pin ø 12 mm x 50 mm
K551027	1	Location pin ø 12 mm x 100 mm
K551028	1	Location pin ø 20 mm x 13 mm
K551029	1	Location pin ø 20 mm x 25 mm
K551030	1	Location pin ø 20 mm x 50 mm
K551031	1	Location pin ø 20 mm x 100 mm
K551040	1	Adjustable location pin ø 20 mm
K551041	2	Adjustable location pin ø 12 mm
K551042	3	Location pin ø 12 mm with bore 6 mm
Brackets		
K551035	1	Receiver bracket small
K551036	1	Receiver bracket large
K551044	1	Receiver bracket L = 90 mm, ø 12 mm
K551045	1	Receiver bracket L = 120 mm, ø 20 mm
K551046	1	Slotted nut for receiver bracket h = 12 mm
K551047	1	Slotted nut for receiver bracket h = 15 mm
Positioning Components		
K550262	2	V-block mini, ø12mm
K550261	2	Cone receiver mini, ø12 mm
K550250	1	Stopper element mini, ø 6 mm
K550247	1	Back square mini, ø 6 mm
K551069	1	Flat top ø 12 mm
K550888	2	Straight pin ø 6 mm x 20 mm
K550889	2	Straight pin ø 6 mm x 30 mm
K550890	2	Straight pin ø 6 mm x 40 mm
Clamping Components		
K550716	2	Straight pin with thread, M6 x 75 mm
K550279	1	Spring clip, ø 8 mm, L = 60 mm
K550554	1	Spring clip, ø 8 mm, L = 40 mm
Screws and Washers		
K550563	2	Cylinder head screw M6 x 25 mm
K550110	6	Cylinder head screw M6 x 20 mm
K550591	8	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total	**61**	

eco-fix Kit S

Part No.: K551048

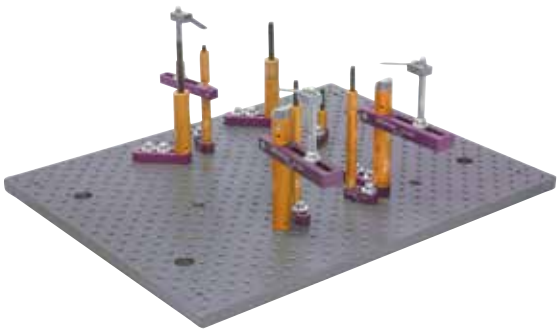
Part No.	Qty.	Part name
Base Components		
Base plate		
K551034	1	Base plate 250 mm x 250 mm
K551032	2	Clamping claw
Build-up Components		
Columns		
K551024	2	Location pin ø 12 mm x 13 mm
K551025	2	Location pin ø 12 mm x 25 mm
K551026	1	Location pin ø 12 mm x 50 mm
K551027	1	Location pin ø 12 mm x 100 mm
K551028	1	Location pin ø 20 mm x 13 mm
K551029	1	Location pin ø 20 mm x 25 mm
K551030	1	Location pin ø 20 mm x 50 mm
K551031	1	Location pin ø 20 mm x 100 mm
K551040	1	Adjustable location pin ø 20 mm
K551041	1	Adjustable location pin ø 12 mm
K551042	3	Location pin ø 12 mm with bore 6 mm
Brackets		
K551035	1	Receiver bracket small
K551036	1	Receiver bracket large
K551044	1	Receiver bracket L = 90 mm, ø 12 mm
K551045	1	Receiver bracket L = 120 mm, ø 20 mm
K551046	1	Slotted nut for receiver bracket h = 12 mm
K551047	1	Slotted nut for receiver bracket h = 15 mm
Positioning Components		
K550262	2	V-block mini, ø12mm
K550261	2	Cone receiver mini, ø12 mm
K550250	1	Stopper element mini, ø 6 mm
K550247	1	Back square mini, ø 6 mm
K550888	2	Straight pin ø 6 mm x 20 mm
K550889	2	Straight pin ø 6 mm x 30 mm
K550890	2	Straight pin ø 6 mm x 40 mm
Clamping Components		
K550716	2	Straight pin with thread, M6 x 75 mm
K550279	1	Spring clip, ø 8 mm, L = 60 mm
K550554	1	Spring clip, ø 8 mm, L = 40 mm
Screws and Washers		
K550563	2	Cylinder head screw M6 x 25 mm
K550110	6	Cylinder head screw M6 x 20 mm
K550591	8	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total qty.	**61**	

eco-fix Kit L

Part No.: K551549

Part No.	Qty.	Part name
Base Components		
Base plate		
K551533	1	Base plate 500 mm x 400 mm
K551032	3	Clamping claw
Build-up Components		
Columns		
K551024	2	Location pin ø 12 mm x 13 mm
K551025	2	Location pin ø 12 mm x 25 mm
K551026	2	Location pin ø 12 mm x 50 mm
K551027	2	Location pin ø 12 mm x 100 mm
K551028	2	Location pin ø 20 mm x 13 mm
K551029	2	Location pin ø 20 mm x 25 mm
K551030	2	Location pin ø 20 mm x 50 mm
K551031	2	Location pin ø 20 mm x 100 mm
K551040	2	Adjustable location pin ø 20 mm
K551041	2	Adjustable location pin ø 12 mm
K551042	3	Location pin ø 12 mm with bore 6 mm
K551043	3	Location pin ø 20 mm with bore 8 mm
Brackets		
K551035	2	Receiver bracket small
K551036	1	Receiver bracket large
K551044	1	Receiver bracket L = 90 mm, ø 12 mm
K551045	2	Receiver bracket L = 120 mm, ø 20 mm
K551046	1	Slotted nut for receiver bracket h = 12 mm
K551047	2	Slotted nut for receiver bracket h = 15 mm
Positioning Components		
K550262	2	V-block mini, ø12mm
K550261	2	Cone receiver mini, ø12 mm
K550250	1	Stopper element mini, ø 6 mm
K550247	1	Back square mini, ø 6 mm
K550058	2	V-block
K550365	2	Cone Receiver
K550982	1	Stopper element
K550248	1	Back square
K550888	2	Straight pin ø 6 mm x 20 mm
K550889	2	Straight pin ø 6 mm x 30 mm
K550890	2	Straight pin ø 6 mm x 40 mm
K550000	2	Straight pin ø 8 mm x 30 mm
K550001	2	Straight pin ø 8 mm x 50 mm
K550002	2	Straight pin ø 8 mm x 65 mm
Clamping Components		
K550716	3	Straight pin with thread, M6 x 75 mm
K550279	2	Spring clip, ø 8 mm, L = 60 mm
K550554	1	Spring clip, ø 8 mm, L = 40 mm

Part No.	Qty.	Part name
Screws and Washers		
K550563	6	Cylinder head screw M6 x 25 mm
K550110	6	Cylinder head screw M6 x 20 mm
K550591	12	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total	**98**	



eco-fix Kit MAG-S

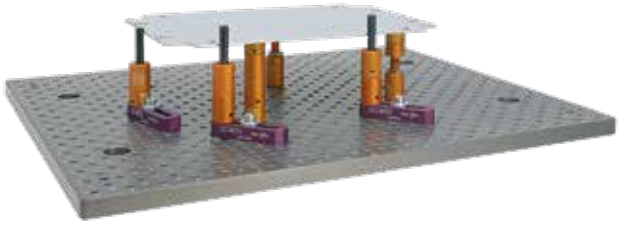
Part No.: K551089

Part No.	Qty.	Part name
Base Components		
Base plate		
K551034	1	Base plate 250 mm x 250 mm
K551032	2	Clamping claw
Build-up Components		
Columns		
K551024	3	Location pin ø 12 mm x 13 mm
K551025	3	Location pin ø 12 mm x 25 mm
K551026	3	Location pin ø 12 mm x 50 mm
K551027	3	Location pin ø 12 mm x 100 mm
K551041	3	Adjustable location pin ø 12 mm
K551042	3	Location pin ø 12 mm with bore 6 mm
Brackets		
K551035	3	Receiver bracket small
K551044	2	Receiver bracket L = 90 mm, ø 12 mm
K551046	2	Slotted nut for receiver bracket h = 12 mm
Positioning Components		
K550889	3	Straight pin ø 6 mm x 30 mm
K550890	3	Straight pin ø 6 mm x 40 mm
Clamping Components		
K551073	3	Magnetic receiver ø 12 mm
Screws and Washers		
K550563	5	Cylinder head screw M6 x 25 mm
K550110	10	Cylinder head screw M6 x 20 mm
K550591	15	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total qty.	**72**	

eco-fix Kit MAG-L

Part No.: K551590

Part No.	Qty.	Part name
Base Components		
Base plate		
K551533	1	Base plate 500 mm x 400 mm
K551032	2	Clamping claw
Build-up Components		
Columns		
K551028	3	Location pin ø 20 mm x 13 mm
K551029	3	Location pin ø 20 mm x 25 mm
K551030	3	Location pin ø 20 mm x 50 mm
K551031	3	Location pin ø 20 mm x 100 mm
K551040	3	Adjustable Location pin ø 20 mm
K551043	3	Location pin ø 20 mm with bore 8 mm
Brackets		
K551036	3	Receiver bracket large
K551045	2	Receiver bracket L = 120 mm; ø 20 mm
Positioning Components		
K550000	3	Straight pin ø 8 mm x 30 mm
K550001	3	Straight pin ø 8 mm x 50 mm
Clamping Components		
K551074	3	Magnetic receiver ø 20 mm
Screws and Washers		
K550563	10	Cylinder head screw M6 x 25 mm
K550110	10	Cylinder head screw M6 x 20 mm
K550591	20	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total qty.	**80**	



eco-fix Kit quick-S

Part No.: K551302

Part No.	Qty.	Part name
Base Components		
Base plate		
K551034	1	Base plate 250 mm x 250 mm
K551032	2	Clamping claw
Build-up Components		
Columns		
K551043	3	Receiver bolt ø 20 mm; bore Ø8 mm
K551303	3	Joint stand eco-fix S20
Brackets		
K551227	3	Receiving bracket for joint stand
Positioning Components		
K551070	2	Flat top ø 20 mm x 22 mm
K550982	1	Stopper element ø 20
Clamping Components		
K550716	2	Cylinder pin with thread, M6 x 75 mm
K550279	2	Spring clip without ball ø 8 x 60 mm
K551228	1	Clamping thimble, KT1 Alu, M6
Tools		
K551229	1	Double open-ended wrench 7-8 mm
Total qty.	**21**	

eco-fix rail Kit S

Part No.: K551279

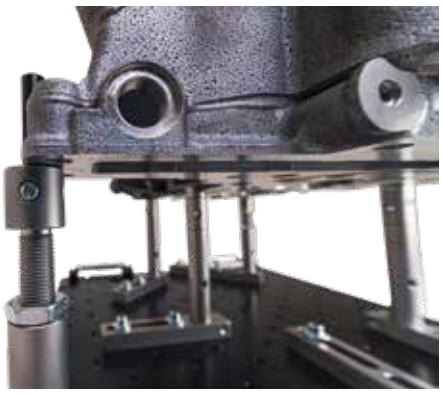
Part No.	Qty.	Part name
Base Components		
Rails		
K551273	1	Clamping profile rail 800 mm
K551271	2	Clamping profile rail with slot 500 mm
K551908	2	Clamping claw
K550909	2	Corner Joint
K551907	3	Clamping plate
Build-up Components		
Columns		
K551043	3	Location pin ø 20 mm with bore 8 mm
K551029	2	Location pin ø 20 mm x 25 mm
K551030	3	Location pin ø 20 mm x 50 mm
K551040	3	Adjustable location pin ø 20 mm
Positioning Components		
K550282	1	Stopper element ø 20 mm
K550261	1	Back square ø 20 mm
K551070	1	Flat top ø 20 mm
K550042	1	Back square 30 mm x 30 mm
K550249	1	Stopper element 30 mm x 25 mm
Clamping Components		
K550716	1	Straight pin with thread, M6 x 75 mm
K550279	1	Spring clip, ø 8 mm, L = 60 mm
K550554	1	Spring clip, ø 8 mm, L = 40 mm
Tools		
K551261	1	Hexagon spanner with t-handle
K551054	1	Double open-ended spanner 10-17
Total qty.	**31**	

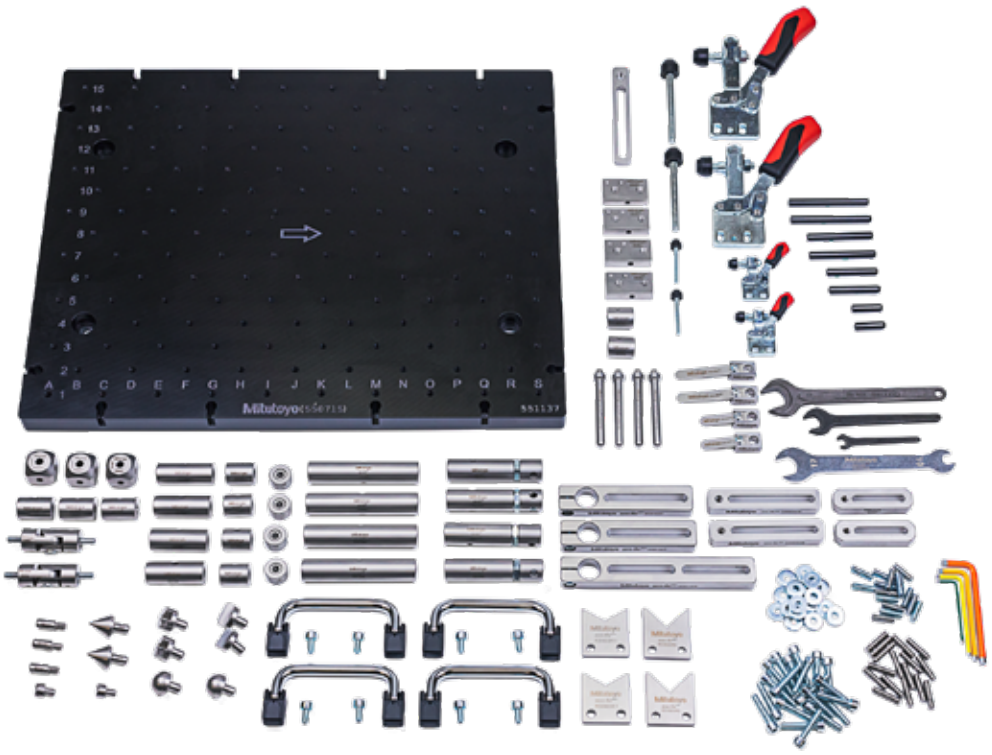
eco-fix^{plus} Kit L

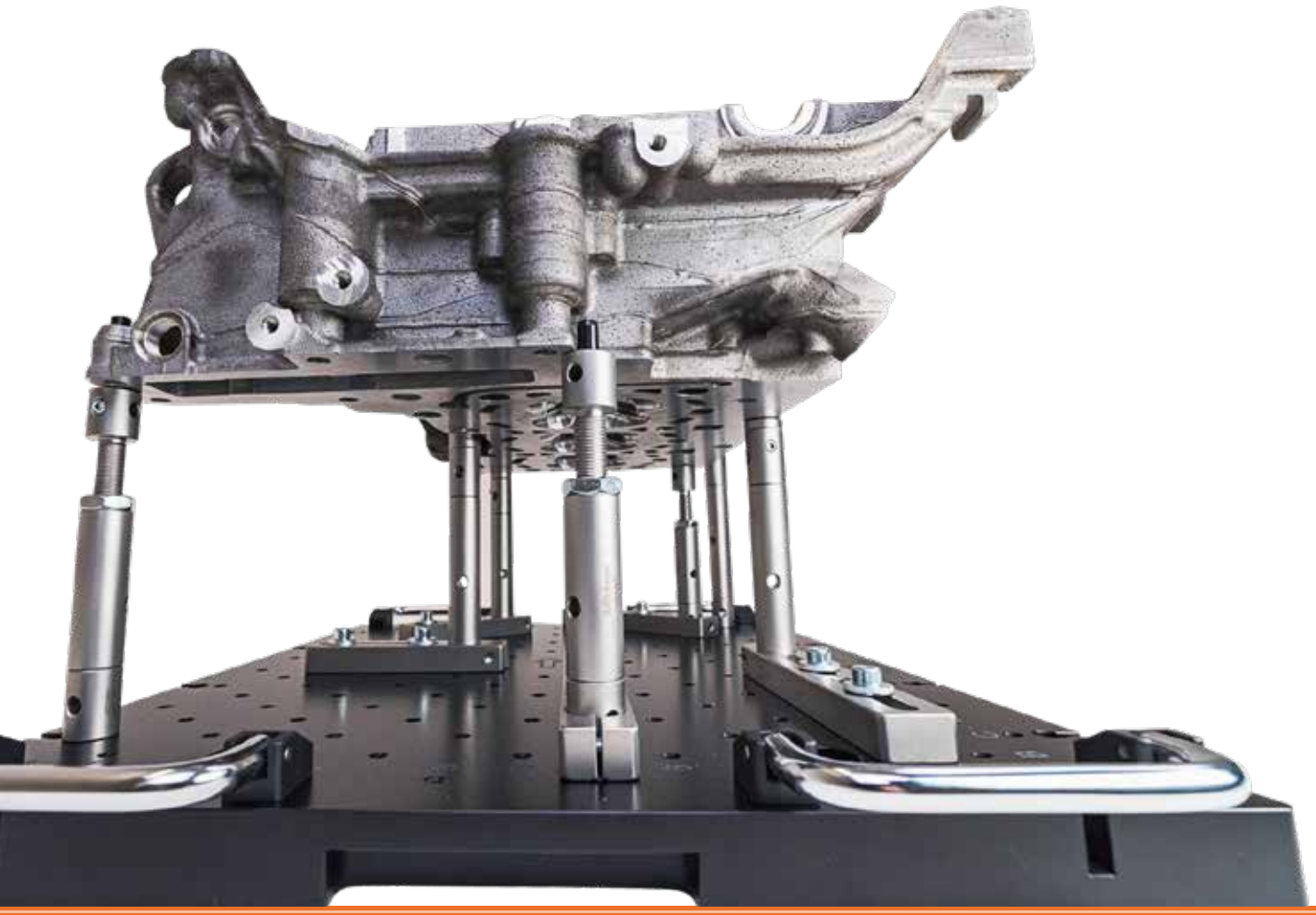
Part No.: K551289

Part No.	Qty.	Part name
Base Components		
Base plate		
K551137	1	Base plate eco-fix^{plus} 500x400mm
Handles		
K551199	2	2pcs. Handles for eco-fix base plates
Build-up Components		
Columns		
K551061	2	Adjustable receiver bushing, 8H7 bore
K551249	2	Adjustable location pin with M6 thread.
K550521-10	3	Cube M6
K550529-10	2	Joint eco-fix^{plus}
K551236	4	Location pin eco-fix^{plus} Ø20,0 x 13,0mm.
K551237	4	Location pin eco-fix^{plus} ø20x25mm
K551238	4	Location pin eco-fix^{plus} ø20x50mm
K551239	4	Location pin eco-fix^{plus} ø20x100mm
K551240	3	Location pin eco-fix^{plus} ø8H7
Brackets		
K550345-10	2	Receiver bracket M6 L=100
K551246	2	Receiver bracket eco-fix^{plus} M6 L=70mm
K551247	2	Receiver bracket eco-fix^{plus} L=120mm
K551248	1	Receiver bracket eco-fix^{plus} L=170mm
Positioning Components		
K550335-10	3	Connector with 8 mm fitting bore.
K550340	2	Prism 90°
K550341	2	Prism 120°
K550058	2	V-anvil insert ø 20 mm
K550248	2	Backsquare insert ø 20 mm
K551072	2	Sphere top insert ø 20 mm
K550365	2	Cone receiver insert ø 20 mm
K550982	2	Stopper insert ø 20 mm
K550000	2	Straight pin stopper d=8mm L=30mm
K550001	2	Straight pin stopper d=8mm L=50mm
K550002	2	Straight pin stopper d=8mm L=65mm
K550003	2	Straight pin stopper d=8mm L=80mm
K550557-10	16	Headless screw 25,0 mm
K550592-10	16	Headless screw 20,0 mm
Clamping Components		
K550554	2	Spring clip bore Ø = 8 mm L = 40 mm
K550279	2	Spring clip bore Ø = 8 mm L = 60 mm
K550716	4	Straight pin for spring clips ø 12 mm
K551242	2	Magnetic receiver
K550009-10	2	Toggle clamp M8
K550012-10	2	Pressure spindle M8
K550522-10	4	Fastening element for toggle clamps
K550536-10	1	Clamping extension M8 for K550009
K550010-10	2	Toggle clamp M4
K550013-10	2	Pressure spindle M4, L = 28,0 mm
Screws		
K550564	20	Screw M 6 x 30mm
K550591	20	Washer 6,4mm x 17mm

Part No.	Qty.	Part name
Tools		
K551054	1	Double open-ended spanner SW 10-17
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K550367	1	Open-end spanner SW 19
K550131	1	Open-end spanner SW 7
K550130	1	Open-end spanner SW 13
Total qty.	**166**	





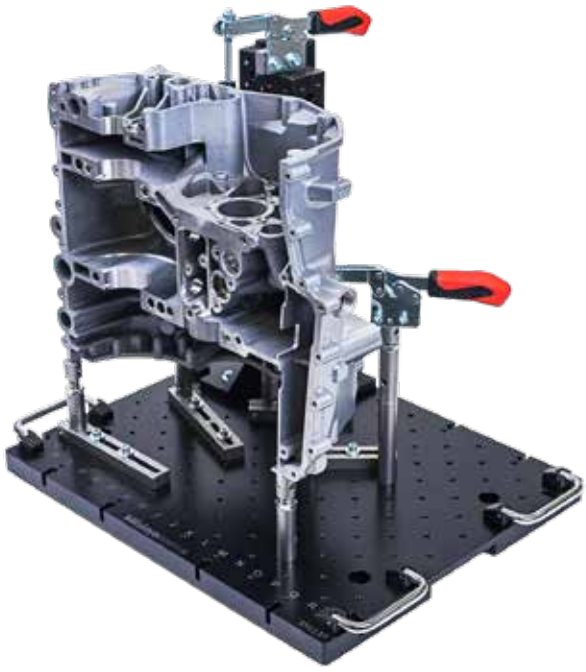


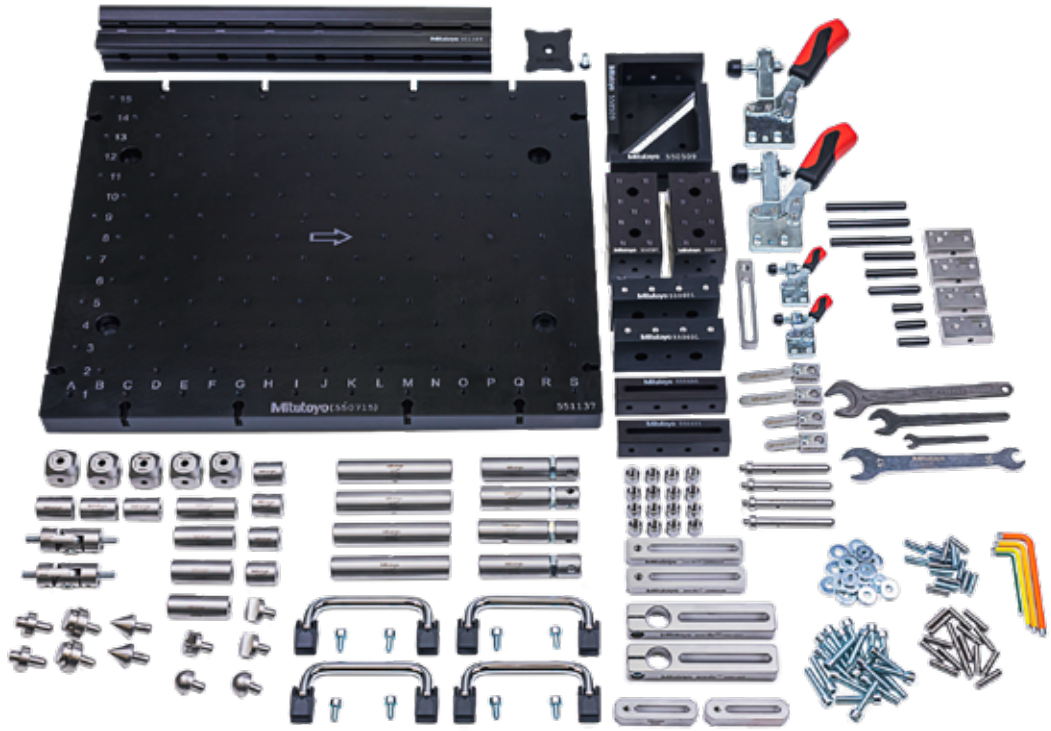
eco-fix*plus* engine and gearbox Kit

Part No.: K551290

Part No.	Qty.	Part name
Base components		
Base plate		
K551137	1	Base plate eco-fix plus 500x400mm
Handles		
K551199	2	2pcs. Handles for eco-fix base plates
Build-up Components		
Profiles		
K551109	1	multiflex*profile* 400mm
K651115	1	Cover plate multiflex*profile*
Build-up plates		
K550597-10	2	Mounting cuboid for module assembly
K550601-10	2	Mounting plate for module assembly
K550521-10	2	Cube M6
K550509-10	2	Angle 100/100 f. right-angled connection
K550461-10	16	Bushing; ø12,49mm
Columns		
K551061	2	Adjustable receiver bushing, 8H7 bore
K551249	2	Adjustable location pin with M6 thread.
K550521-10	3	Cube M6
K550529-10	2	Joint eco-fix*plus*
K551237	4	Location pin eco-fix*plus* ø20x25mm
K551238	4	Location pin eco-fix*plus* ø20x50mm
K551239	4	Location pin eco-fix*plus* ø20x100mm
K551240	3	Location pin eco-fix*plus* ø8H7
Brackets		
K550345-10	2	Receiver bracket M6 L=100
K551246	2	Receiver bracket eco-fix*plus* M6 L=70mm
K551247	2	Receiver bracket eco-fix*plus* L=120mm
K550605-10	2	Receiver bracket w.pin hole L = 100 mm
Positioning Components		
K550073	2	Cylinder pin insert Ø 22,0-26,0mm
K550067	2	Cylinder pin insert Ø 10,0-20,0mm
K550248	1	Backsquare insert ø 20 mm
K550365	2	Cone receiver insert ø 20 mm
K550982	2	Stopper insert ø 20 mm
K551072	2	Sphere top insert ø 20 mm
K550000	3	Straight pin stopper d=8mm L=30mm
K550001	3	Straight pin stopper d=8mm L=50mm
K550003	3	Straight pin stopper d=8mm L=80mm
K550557-10	16	Headless screw 25,0 mm
K550592-10	16	Headless screw 20,0 mm
Clamping Components		
K550554	2	Spring clip bore Ø = 8 mm L = 40 mm
K550279	2	Spring clip bore Ø = 8 mm L = 60 mm
K550716	4	Straight pin for spring clips ø 12 mm
K550009-10	2	Toggle clamp M8
K550522-10	4	Fastening element for toggle clamps
K550536-10	1	Extension Bracket for K550009
K550010-10	2	Toggle clamp, small M4
Screws		
K550564	20	Screw M 6 x 30mm
K550591	20	Washer 6,4mm x 17mm

Part No.	Qty.	Part name
Tools		
K551054	1	Double open-ended spanner SW 10-17
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551053	1	Allen key 5 mm
K550367	1	Open-end spanner SW 19
K550131	1	Open-end spanner SW 7
K550130	1	Open-end spanner SW 13
Total qty.	**177**	



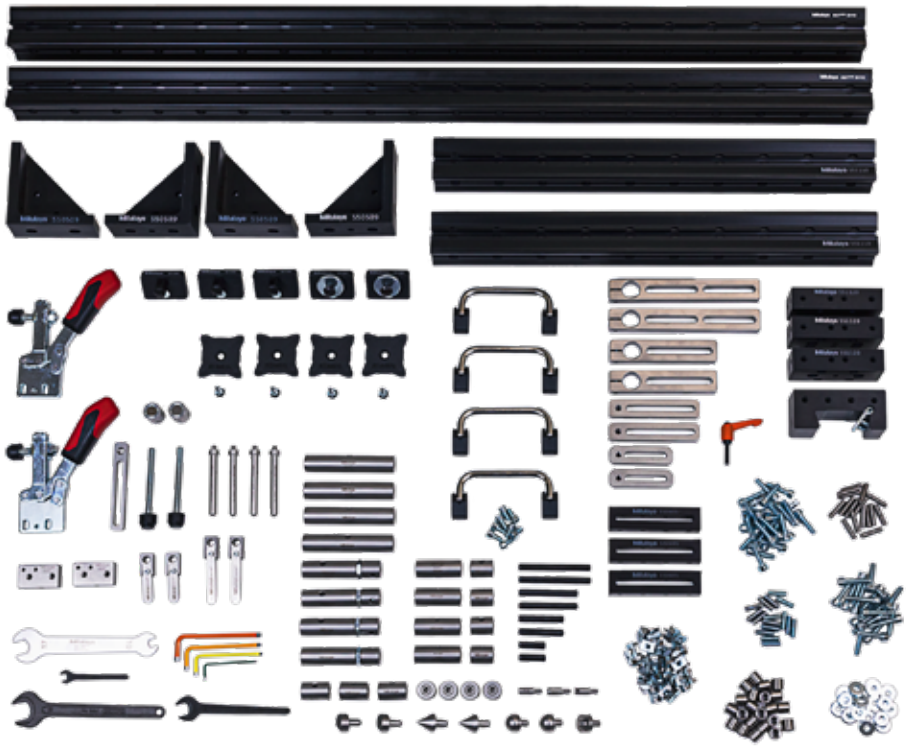


eco-fix*plus* multiflex*profile* Combi Kit

Part No.: K551291

Part No.	Qty.	Part name
Frame components		
Profiles		
K551115	4	Cover plate multiflex*profile*
K551112	2	multiflex*profile* 1000mm
K551110	2	multiflex*profile* 500mm
Handles		
K551199	2	2pcs. Handles for eco-fix base plates
K551158	8	Sliding block M6 multiflex*profile*
Angles		
K550509-10	4	Angle 100/100 f. right-angled connection
K551158	16	Sliding block M6 multiflex*profile*
K550461-10	16	Positioning pin
K550563-10	16	Screws
3-point set-up		
K551280	2	Adjustable foot for multiflex*profile*
K551281	3	Fixed foot for multiflex*profile*
K551158	5	Sliding block M6 multiflex*profile*
K550563-10	5	Screws
Build up Components		
Slider components		
K550957-10	1	Slider element
K502620	1	Clamp lever
Build-up plates		
K551120	3	End plate 100 (Fl. 50x25x100)
K551158	6	Sliding block M6 multiflex*profile*
K550563-10	6	Screws
K550461-10	6	Positioning pin
Columns		
K551061	2	Adjustable receiver bushing, 8H7 bore
K551249	2	Adjustable location pin with M6 thread.
K550557-10	16	Headless screw 25,0 mm
K550592-10	16	Headless screw 20,0 mm
K551236	4	Location pin eco-fix*plus* Ø20,0 x 13,0mm.
K551237	4	Location pin eco-fix*plus* ø20x25mm
K551238	4	Location pin eco-fix*plus* ø20x50mm
K551239	4	Location pin eco-fix*plus* ø20x100mm
K551240	3	Location pin eco-fix*plus* ø8H7
Brackets		
K550345	2	Receiver bracket M6 L=100
K551246	2	Receiver bracket eco-fix*plus* M6 L=70mm
K551247	2	Receiver bracket eco-fix*plus* L=120mm
K551248	1	Receiver bracket eco-fix*plus* L=170mm
K550605-10	3	Receiver bracket with pin hole L = 100 mm

Part No.	Qty.	Part name
Positioning Components		
K550335-10	3	Connector with 8 mm fitting bore.
K550058	2	V-anvil insert ø 20 mm
K550248	1	Backsquare insert ø 20 mm
K550365	2	Cone receiver insert ø 20 mm
K551072	2	Sphere top insert ø 20 mm
K550000	2	Straight pin stopper d=8mm L=30mm
K550001	2	Straight pin stopper d=8mm L=50mm
K550002	2	Straight pin stopper d=8mm L= 65mm
K550003	2	Straight pin stopper d=8mm L=80mm
Clamping Components		
K550554	2	Spring clip bore Ø = 8 mm L = 40 mm
K550279	2	Spring clip bore Ø = 8 mm L = 60 mm
K550716	4	Straight pin for spring clips ø 12 mm
K551242	2	Magnet receiver
K550009-10	2	Toggle clamp M8
K550012-10	2	Pressure spindle M8, L = 80,0 mm
K550522-10	2	Fastening element for toggle clamps
K550536-10	1	Extension Bracket for K550009
Screws		
K550564	20	Screw M 6 x 30mm
K550591	20	Washer 6,4mm x 17mm
Tools		
K551054	1	Double open-ended spanner SW 10-17
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K550367	1	Open-end spanner SW 19
K550131	2	Open-end spanner SW 7
K550130	2	Open-end spanner SW 13
Total qty.	**258**	



Mitutoyo

Mitutoyo 551120

MITUTOYO Pallet Receiver System PRS

The sophisticated Mitutoyo manual pallet receiver system significantly speeds up measuring on coordinate measuring machines as well as on form and vision measuring devices. Workpieces can be exchanged rapidly with the new system.

The pallet system comprises the tried and tested Mitutoyo eco-fix system, a base plate with two handles and three semi-spheres on the bottom. The latter help the measuring staff with quickly and precisely positioning the pallet on the receiver plate prisms fixed to the measuring machine – in just one step. This way, fine adjusting of the position is a thing of the past.

During the measuring process another workpiece can be positioned on a second, identically equipped pallet and placed on the machine as soon as the first workpiece has been measured. This not only guarantees very quick measurement and – therefore – a high workpiece throug put but also, top process safety.

The pallet receiver system even facilitates semi-automatic serial measurements with two possible options:

1. A barcode read out by the dedicated reader that identifies the workpiece and starts the corresponding measurement program via the remote manager function of the measurement software. This makes work for the measurement staff extremely easy: place the pallet onto the measuring machine and scan the barcode for initiating the measuring process.

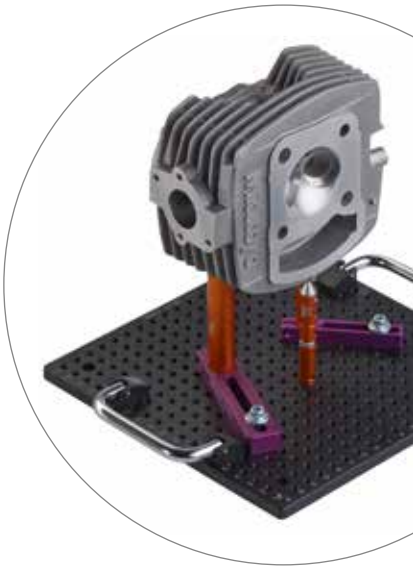
2. The all-new RFID chip recognition system FixtureID is even more convenient to use: The attached RFID chip is assigned to an image and code in the dedicated FixtureID software user interface. When it gets in contact to the RFID reader on the receiver pallet, an image of the fixture with the mounted workpiece appears on the screen. If clicked on the image, it triggers the machine software via the remote manager and loads the assigned part program. You are ready to go!

This renders long clicking through menus and folders for starting the measuring unnecessary. Mitutoyo offers a rack system that can hold up to six pallets that can be placed close to the CMM. It will hold the Fixtures prepared for the next measurement. For perfect tidiness in the measuring room and stowing away pallets that are currently not in use Mitutoyo offers customized racks system that can hold all of your fixture pallets, even when equipped with fixtures and workpieces That way, you can build up a fixture archive for all your parts with a repetitive measurement schedule.

The affordable new manual pallet receiver system is perfectly suitable where workpiece through-put shall be boosted although fully automated solutions are not feasible or beyond budget.

- Easy, precise and fast repositioning
- Enhances semi-automatic serial CMM measurement
- Significantly higher measurement throughput
- Stowing rack for perfect workshop tidiness.

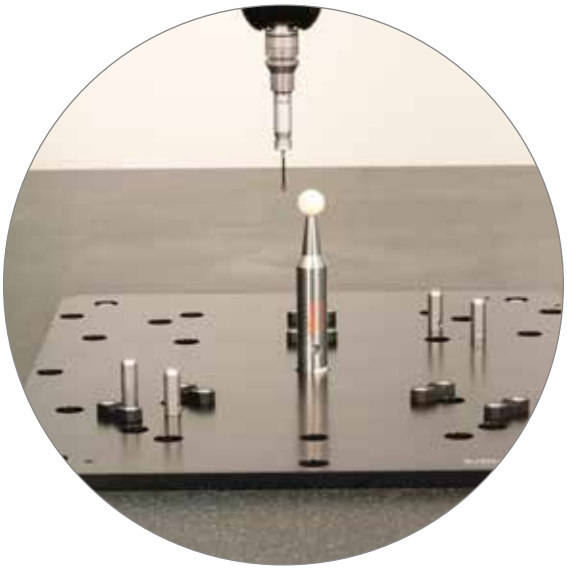
In combination with the well-known eco-fix system, the PRS systems ensures, you get the most out of CMM measurement.



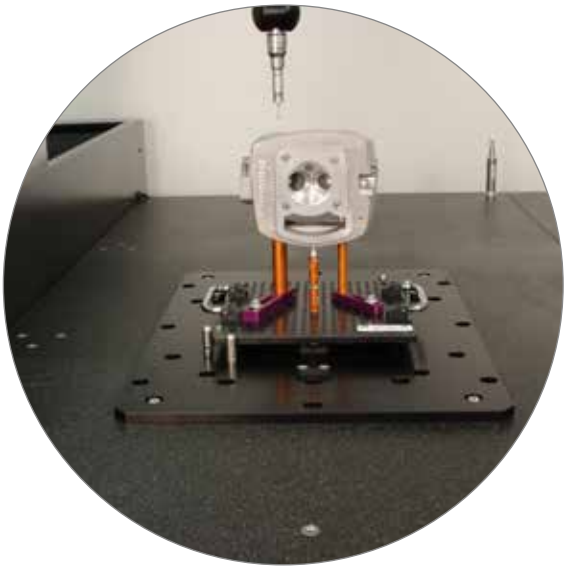
Part set-up on pallet

1. Bar code read out

Spheres mounted on bottom of pallet



Receiver plate mounted on CMM – Datuming process

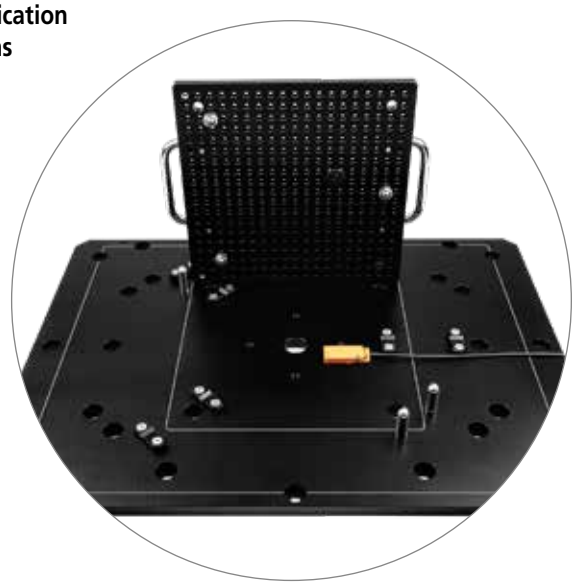


Pallet in repeatable three-point set-up

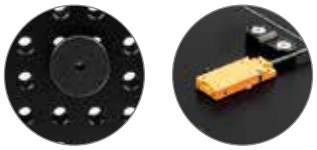
Prisms mounted on receiver plate

Spheres placed in prisms

Part identification options



2. RFID tag readout



Pallet storage rack

eco-fix pallet receiver Kit S **PRS**

Part No.: K551218

Part No.	Qty.	Part name
Base Components		
Base plate		
K551034	1	Base plate 250 mm x 250 mm
K551032	2	Clamping claw
Build up Components		
Columns		
K551024	2	Location pin ø 12 mm x 13 mm
K551025	2	Location pin ø 12 mm x 25 mm
K551026	1	Location pin ø 12 mm x 50 mm
K551027	1	Location pin ø 12 mm x 100 mm
K551028	1	Location pin ø 20 mm x 13 mm
K551029	1	Location pin ø 20 mm x 25 mm
K551030	1	Location pin ø 20 mm x 50 mm
K551031	1	Location pin ø 20 mm x 100 mm
K551040	1	Adjustable location pin ø 20 mm
K551041	1	Adjustable location pin ø 12 mm
K551042	3	Location pin ø 12 mm with bore 6 mm
Brackets		
K551035	1	Receiver bracket small
K551036	1	Receiver bracket large
K551044	1	Receiver bracket L = 90 mm, ø 12 mm
K551045	1	Receiver bracket L = 120 mm, ø 20 mm
K551046	1	Slotted nut for receiver bracket h = 12 mm
K551047	1	Slotted nut for receiver bracket h = 15 mm
Positioning Components		
K550262	2	V-block mini, ø12mm
K550261	2	Cone receiver mini, ø12 mm
K550250	1	Stopper element mini, ø 6 mm
K550247	1	Back square mini, ø 6 mm
K550888	2	Straight pin ø 6 mm x 20 mm
K550889	2	Straight pin ø 6 mm x 30 mm
K550890	2	Straight pin ø 6 mm x 40 mm
Clamping Components		
K550716	2	Straight pin with thread, M6 x 75 mm
K550279	1	Spring clip, ø 8 mm, L = 60 mm
K550554	1	Spring clip, ø 8 mm, L = 40 mm
Screws and Washers		
K550563	2	Cylinder head screw M6 x 25 mm
K550110	6	Cylinder head screw M6 x 20 mm
K550591	8	Washer ø 6.4 mm x ø 17 mm

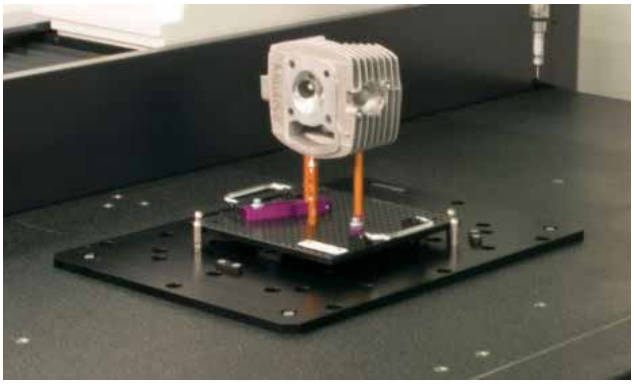
Part No.	Qty.	Part name
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Receiver Components		
K551220	1	Loading receiver plate
K551221	3	Ball screw ø10
K551199	1	Pair of handles for eco-fix base plates
Total	**66**	

eco-fix pallet receiver Kit L **PRS**

Part No.: K551219

Part No.	Qty.	Part name
Base Components		
Base plate		
K551533	1	Base plate 500 mm x 400 mm
K551032	3	Clamping claw
Build up Components		
Columns		
K551024	2	Location pin ø 12 mm x 13 mm
K551025	2	Location pin ø 12 mm x 25 mm
K551026	2	Location pin ø 12 mm x 50 mm
K551027	2	Location pin ø 12 mm x 100 mm
K551028	2	Location pin ø 20 mm x 13 mm
K551029	2	Location pin ø 20 mm x 25 mm
K551030	2	Location pin ø 20 mm x 50 mm
K551031	2	Location pin ø 20 mm x 100 mm
K551040	2	Adjustable location pin ø 20 mm
K551041	2	Adjustable location pin ø 12 mm
K551042	3	Location pin ø 12 mm with bore 6 mm
K551043	3	Location pin ø 20 mm with bore 8 mm
Brackets		
K551035	2	Receiver bracket small
K551036	1	Receiver bracket large
K551044	1	Receiver bracket L = 90 mm, ø 12 mm
K551045	2	Receiver bracket L = 120 mm, ø 20 mm
K551046	1	Slotted nut for receiver bracket h = 12 mm
K551047	2	Slotted nut for receiver bracket h = 15 mm
Positioning Components		
K550262	2	V-block mini, ø12mm
K550261	2	Cone receiver mini, ø12 mm
K550250	1	Stopper element mini, ø 6 mm
K550247	1	Back square mini, ø 6 mm
K550058	2	V-block
K550365	2	Cone Receiver
K550982	1	Stopper element
K550248	1	Back square
K550888	2	Straight pin ø 6 mm x 20 mm
K550889	2	Straight pin ø 6 mm x 30 mm
K550890	2	Straight pin ø 6 mm x 40 mm
K550000	2	Straight pin ø 8 mm x 30 mm
K550001	2	Straight pin ø 8 mm x 50 mm
K550002	2	Straight pin ø 8 mm x 65 mm

Part No.	Qty.	Part name
Clamping Components		
K550716	3	Straight pin with thread, M6 x 75 mm
K550279	2	Spring clip, ø 8 mm, L = 60 mm
K550554	1	Spring clip, ø 8 mm, L = 40 mm
Screws and Washers		
K550563	6	Cylinder head screw M6 x 25 mm
K550110	6	Cylinder head screw M6 x 20 mm
K550591	12	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Receiver Components		
K551220	1	Loading receiver plate
K551221	3	Ball screw ø10
K551199	1	Pair of handles for eco-fix base plates
Total	**103**	



Extension kits for Pallet Receiver System PRS

Set of handles for eco-fix base plates and Ball screws

Part No.: K551216

Part No.	Qty.	Part name
Receiver Components		
K551221	3	Ball screw ø10
K551199	1	Pair of handles for eco-fix base plates
Total	**4**	

Loading receiver plate set for manual eco-fix loading system

Part No.: K551217

Part No.	Qty.	Part name
Receiver Components		
K551220	1	Loading receiver plate
K551221	3	Ball screw ø10
K551199	1	Pair of handles for eco-fix base plates
Total	**5**	

FixtureID RFID fixture recognition

FixtureID kit for automatic part and fixture recognition

The all-new RFID chip recognition system **FixtureID** takes ease of use and application security a wide step further.
It literally takes only a few minutes to prepare the system and add great value to your process safety.

Part No.: K810313 FixtureID kit

Part No.:	Description			Quantity
	FixtureID Software	on USB stick		1 pc.
	Ethernet device configuration software	on USB stick		
	User manual, English language	on USB stick		
	RFID read/write head HF	M12 plug-in connection		1 pc.
	O-Link master with IoT interface, 4 positions	M12 plug-in connection	IP67	1 pc.
	Power Supply 24VDC/1.0A/ww	M12 plug-in connection		1 pc.
K807598	Protective cap	M12		1 pc.
K915481	RFID tag			1 pc.
K913273	Double sided sticker	RFID tag connection		1 pc.
	Screw connection set			1 pc.
	USB Ethernet adapter			1 pc.

Connectivity	
MCOSMOS	Remote manager
FORMTRACEPAK	FORMEio

FixtureID RFID fixture recognition

Five easy preparation steps:

1. Take photographs of the unmounted and mounted workpiece and load it into the **FixtureID** directory.
2. Mount the RFID chip on the bottom side of the eco-fix base pallet.
3. Mount the RFID reader on the dedicated area of the pallet receiver plate.
4. Assign the RFID chip to the part program in **FixtureID**.
5. Assign the **FixtureID** data to the part program in the measuring software.

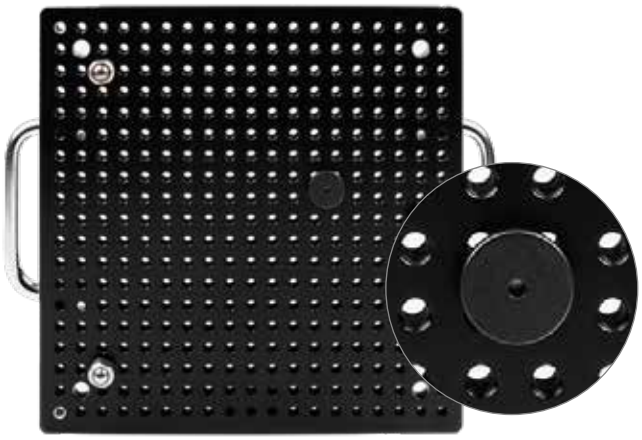
Now you are ready to start the measurement action most conveniently

- High protection rating for the requirements of harsh industrial environments
- Reliable transmission of part and fixture data to the IT environment

Part library overview

Mounted part view

RFID head mounted on pallet receiver plate



RFID tag mounted on the base plate bottom

Pallet system racks PRS

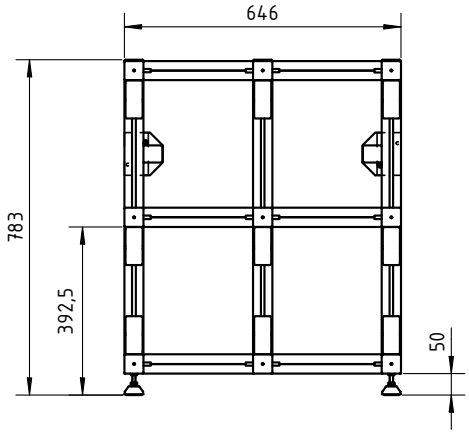
The eco-fix racks are used to easily store the workpiece equipped 250 x 250 mm eco-fix base plates either beside the CMM while preparing the application or running the measurement process or to store away the mounted jig until it is reused.
The two and four pallet racks can be extended to the desired quantities of pallets to be stored by using the extension kits.

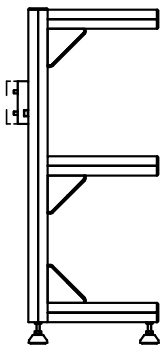
Other pallet dimensions and additional storage locations on request.

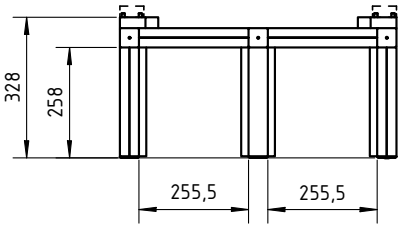
K543826 15 fold 250mm x 250 mm customized pallet rack

Part No.: K551344
Weight 20.000 g

Rack for six pallets
For the loading receiver pallet system
328 mmxx 646 mm x 780 mm
Made of aluminium, profiles







PRODUCT LINES

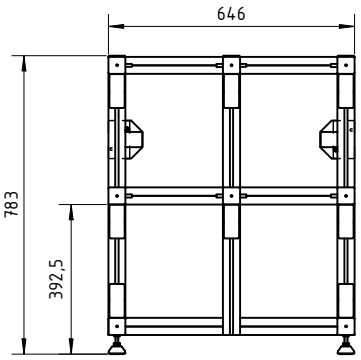
eco-fix
eco-fix*plus*

Pallet receiver system

Pallet system racks PRS

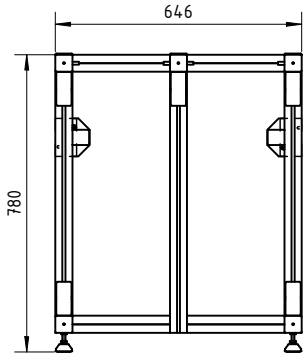
Part No.: K551343
Weight 19.000 g

Rack for four pallets
For the loading receiver pallet system
328 mmxx 646 mm x 780 mm
Made of aluminium, profiles



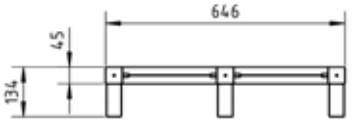
Part No.: K551342
Weight 19.000 g

Rack for two pallets
For the loading receiver pallet system
328 mmxx 646 mm x 780 mm
Made of aluminium, profiles



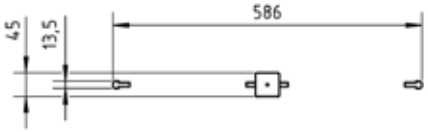
Part No.: K551345
Weight 3.815 g

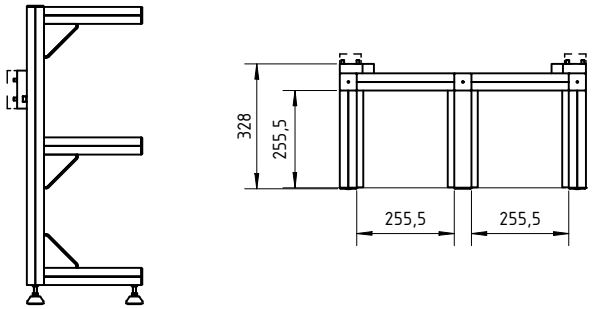
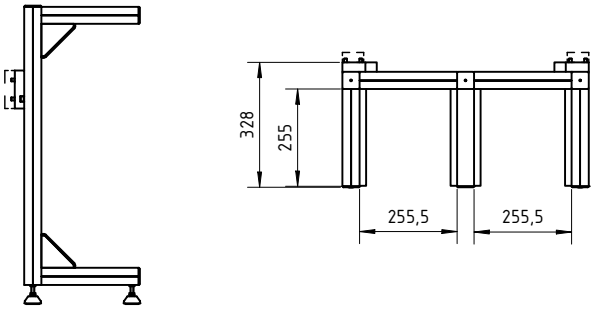
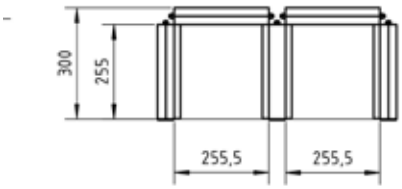
Extension kit 2 –4 pallets
For the loading receiver pallet system



Part No.: K551346
Weight 1.460 g

Extension kit 4 – 6 pallets
For the loading receiver pallet system



	PRODUCT LINES
	eco-fix eco-fix*plus* Pallet receiver system
	eco-fix eco-fix*plus* Pallet receiver system
	Pallet receiver system
	Pallet receiver system

Manual Loading Stations for CMM MPS

Manual loading stations for CMM

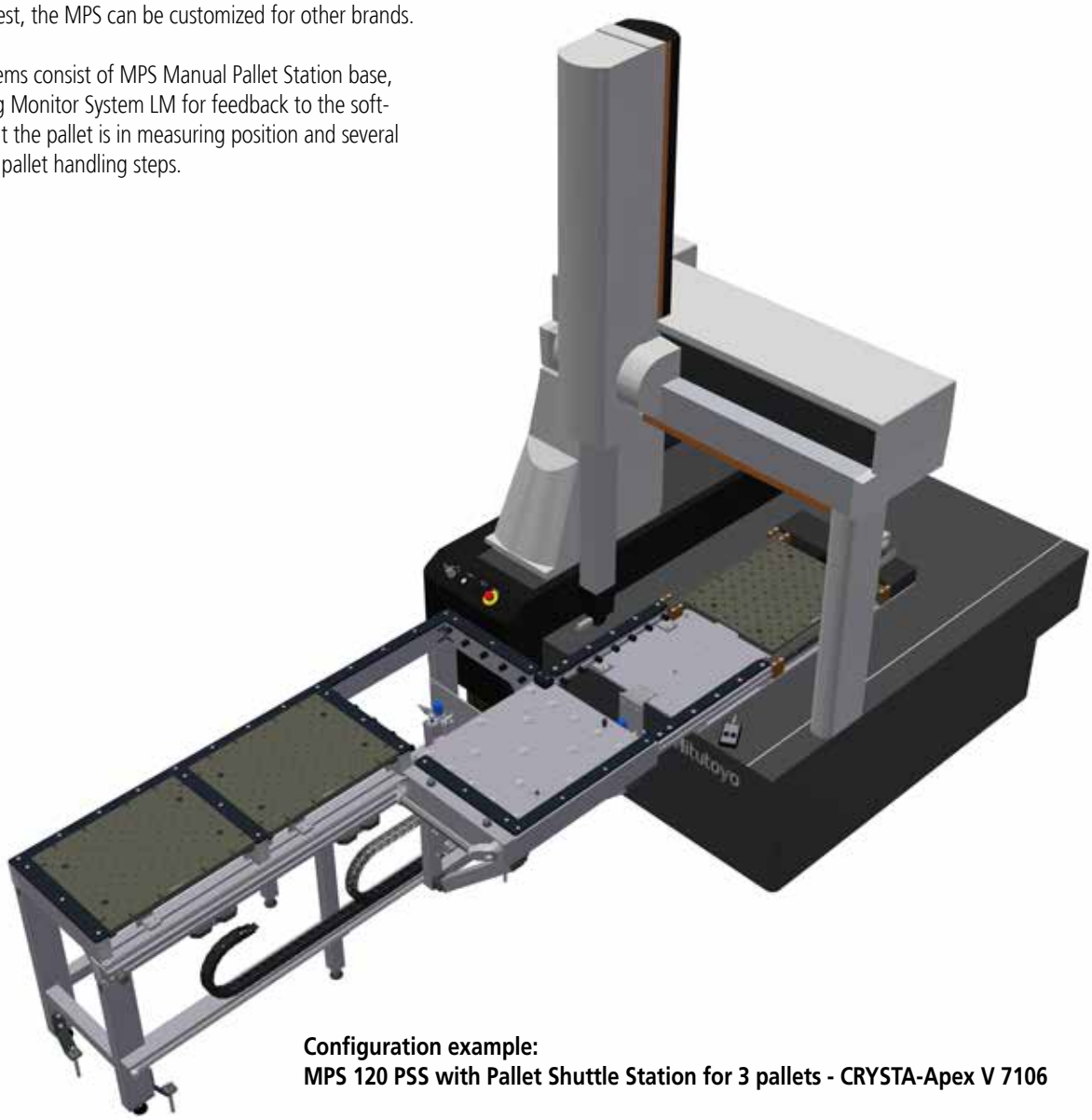
For serial measurements with improved efficiency and the handling of heavy workpieces our Manual Pallet loading System, MPS is the serious option.

The stations are available as a standard solution for the following Mitutoyo frame sizes for the according MiSTAR, CRYSTA-Apex V and STRATO-Apex models:

Available frame sizes		
555	544	574
	776	7106
9106	9166	9206
9108	9168	9208
121210	122010	123010

On request, the MPS can be customized for other brands.

The systems consist of MPS Manual Pallet Station base, Lowering Monitor System LM for feedback to the software that the pallet is in measuring position and several optional pallet handling steps.



Configuration example:
MPS 120 PSS with Pallet Shuttle Station for 3 pallets - CRYSTA-Apex V 7106

Configuration will start at the pallet dimension and properties:

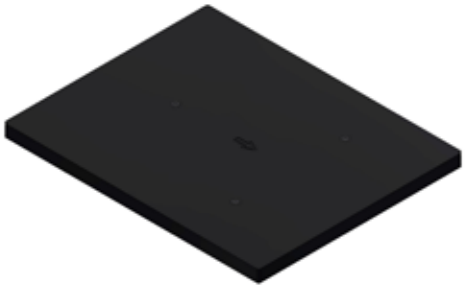
2 base plate variations are available in 3 dimensions each – all prepared with cone bushing inserts for the according 3-point set-up on the MPS frame. See also page 12

Threaded base plates for the use with our modular fixturing systems eco-fix and eco-fix*plus* and non-threaded system base plates for full fixturing customization. The customization can be requested at Mitutoyo or done by the customer.

Pallet type	Available Sizes	Thicknesss	Maximum load
60	250 x 250 mm	25 mm	60 kg
120	500 x 400 mm	25 mm	120 kg
250	600 x 600 mm	25 mm	250 kg

Pallet bottom with cone bushings

eco-fix*plus* pallets for modular set-up



System pallets for customized set-up

MPS Manual Pallet Station Base with 3-point set-up

MPS type	for pallets
MPS 60	250 x 250 mm
MPS 120	500 x 400 mm
MPS 250	600 x 600 mm

Front loading in the centre of the measurement area.
Different specification optional

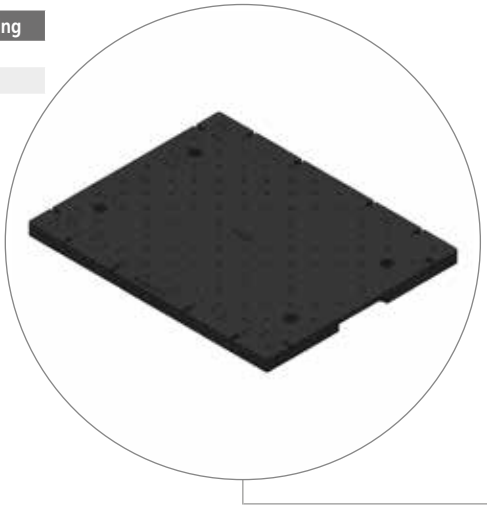
Manual Loading Stations for CMM **MPS**

Configuration steps - Manual loading stations for CMM

1. Pallet dimension and type

Part No.:	Available Sizes	Thickness	Maximum load	Thread	Thread grid pattern spacing
K551356	250 x 250 mm	25 mm	60kg	M6	25 x 25 mm
K551357	500 x 400 mm	25 mm	120 kg	M6	50 x 50 mm
K551358	600 x 600 mm	25 mm	250 kg	M6	50 x 50 mm

eco-fix*plus* pallets for set-up of modular fixtures



eco-fix*plus* pallets for set-up of modular fixtures

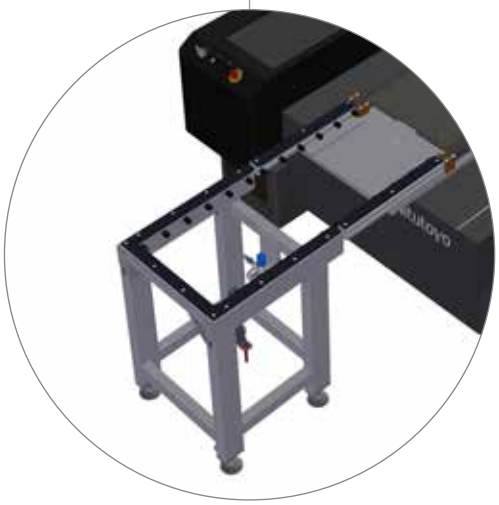
2. MPS type according to pallet dimension and machine frame

MPS type	for pallets
MPS 60	250 x 250 mm
MPS 120	500 x 400 mm
MPS 250	600 x 600 mm

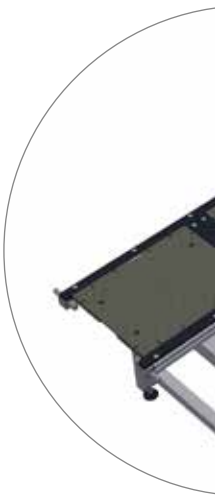
3. Pallet set-up option

Name	Description		Number of pallets
PTT	Pallet Transport Trolley	Trolley option with docking unit	1
PST	Pallet Set-up Table	Fixed pallet table option	1
RST	Rotatable Pallet Set-up Table	Fixed rotatable table option	2
PSB	Pallet Station with Ball Rollers	Fixed pallet station option	2, 3, or 4
PSS	Pallet Station with Shuttle transport	Fixed pallet station option	3, 4, or 5

PTT Pallet Transport Trolley



PST Pallet Set-up Table



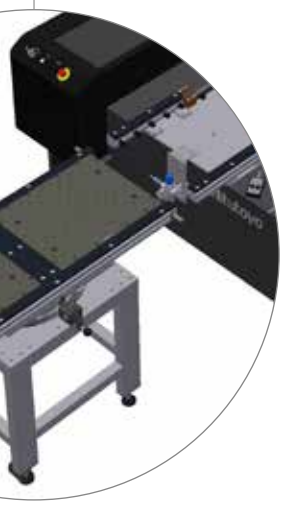
RST Rotatable

Part No.:	Available Sizes	Thickness	Maximum load	Thread	Thread grid pattern spacing
K551138	250 x 250 mm	25 mm	60kg	none	none
K551137	500 x 400 mm	25 mm	120 kg	none	none
K551202	600 x 600 mm	25 mm	250 kg	none	none

System pallets for customized set-up

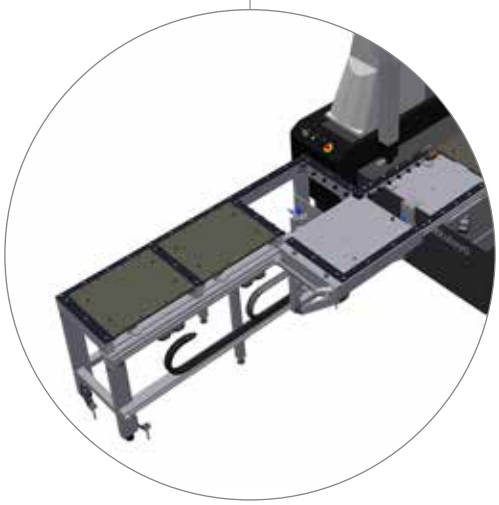
System pallets for customized set-up

MPS base unit



Pallet Set-up Table

PSB Pallet Station with Ball Rollers



PSS Pallet Station with Shuttle transport

FixtureBuilder Software

The free of charge software **FixtureBuilder** enables the user to easily plan and set up his CMM fixture in just a few minutes. Repeatable fixturing has never been easier and at a better price performance ratio. **FixtureBuilder** is a software tool that allows users to create virtual clamping fixtures quickly and easily.
Users can choose whether to set the virtual fixture up manually or to allow the software's "AutoMode" to perform the task.
The interactive "AutoMode" operating mode guides the user step by to step to a finalized clamping fixture. Only very few data need to be input, for example the choice of component to be clamped or the position and type of contact and tensioning points. This data is sufficient to enable **FixtureBuilder** to independently create a complete clamping fixture.

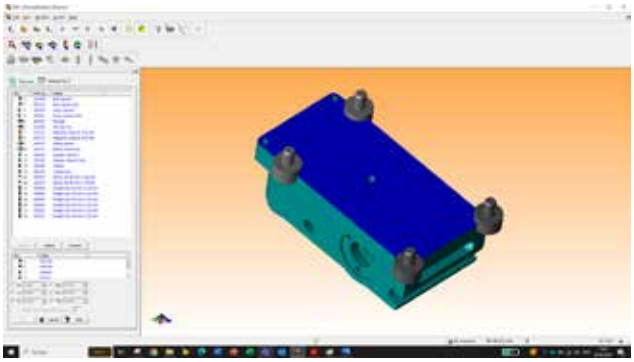
FixtureBuilder advantages
- Fixture building by mouse click
- Ideal for online programming with e.g., **MiCAT Planner**
- Parts list with material overview
- Documented structure
- Assembly instruction for each column
- Alpha numeric column positioning coordinates according to base plate markings
- Automatic weight determination
- Multiple data formats for file data import and export

Import data in
- Acis (*.sat) file format
- Iges (*.igs) file format
- Step (*.stp) file format

Save fixture report in
- PDF file format (3D option)
- HTML file format
- CSV file format

Save fixture data in
- HOOPS (.hsf) file format
- 3D PDF (.pdf) file format
- ACIS (.sat) file format

Imported CAD file and choosen base plate



Application of support points

Applied of support points and clamps

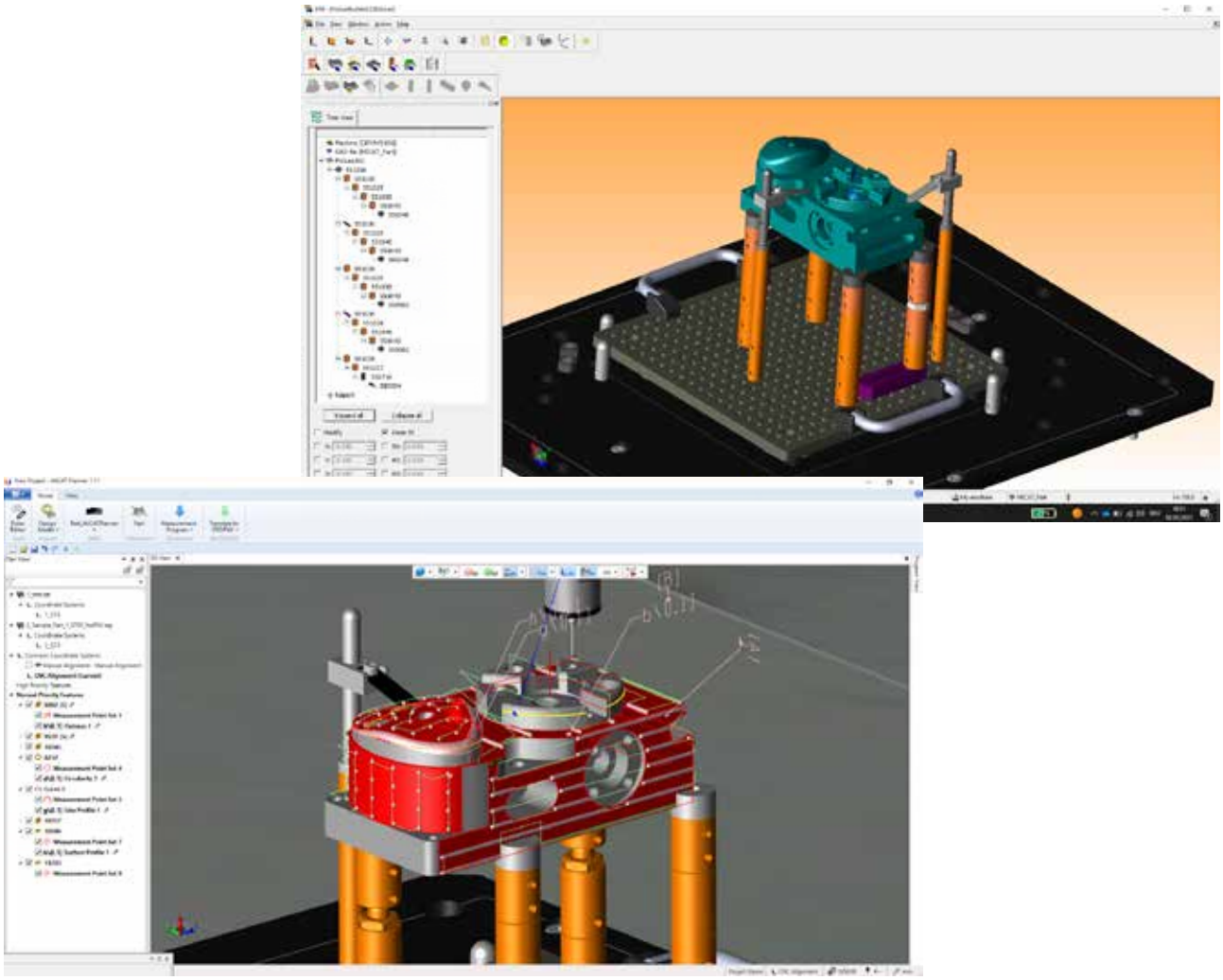
Automatically processed fixture

FixtureBuilder software allows data to be imported in Acis (*.sat), Iges (*.igs) and Step (*.stp) formats. The export functions it offers include Hoops file (*.hsf), A, 3d PDF (*.pdf) and Acis Files (*.sat).

Available integrated in Mitutoyo's **MCOSMOS** CMM software, or as a free standalone version, **FixtureBuilder** allows data to be processed in all **MCOSMOS** import formats. The fixture design can be imported into the measuring software, either on its own or complete with component, and thus be used for offline programming of the coordinate measuring machine. The import works too with any compatible 3rd party CMM software.

Online part programming, for e.g., with part program generating software **MiCAT Planner**, is even easier by importing the fixture and part data directly into the software.

A parts list report with assembly instructions is available in various output formats for the assembly of the real fixture created in **FixtureBuilder**. The 3D function in PDF format is especially practical as it allows limitless variations on the view of the fixture model in the PDF document. The virtual design can therefore be examined from all possible views and positions.



Imported Fixture project in MiCAT Planner part programming software

eco-fix Kit Form-S

Part No.: K551133

Part No.	Qty.	Part name
Base Components		
Base plate		
K551038	1	Adapter plate ø 150 mm
Build up Components		
Columns		
K551024	1	Location pin ø 12 mm x 13 mm
K551025	1	Location pin ø 12 mm x 25 mm
K551026	1	Location pin ø 12 mm x 50 mm
K551027	1	Location pin ø 12 mm x 100 mm
K551028	1	Location pin ø 20 mm x 13 mm
K551029	1	Location pin ø 20 mm x 25 mm
K551030	1	Location pin ø 20 mm x 50 mm
K551031	1	Location pin ø 20 mm x 100 mm
K551040	1	Adjustable location pin ø 20 mm
K551041	1	Adjustable location pin ø 12 mm
K551042	3	Location pin ø 12 mm with bore 6 mm
Brackets		
K551035	1	Receiver bracket small
K551036	1	Receiver bracket large
K551044	1	Receiver bracket L = 90 mm, ø 12 mm
K551046	1	Slotted nut for receiver bracket h = 12 mm
Positioning Components		
K550262	1	V-block mini, ø12mm
K550261	2	Cone receiver mini, ø12 mm
K550250	1	Stopper element mini, ø 6 mm
K550247	1	Back square mini, ø 6 mm
K550058	1	V-block
K550888	2	Straight pin ø 6 mm x 20 mm
K550889	2	Straight pin ø 6 mm x 30 mm
K550890	2	Straight pin ø 6 mm x 40 mm
Clamping Components		
K550716	1	Straight pin with thread, M6 x 75 mm
K550279	1	Spring clip, ø 8 mm, L = 60 mm
Screws and Washers		
K550563	6	Cylinder head screw M6 x 25 mm
K550110	8	Cylinder head screw M6 x 20 mm
K550591	1	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total qty.	**52**	

eco-fix Kit Form-L

Part No.: K551134

Part No.	Qty.	Part name
Base Components		
Base plate		
K551039	1	Adapter plate ø 200 mm
Build up Components		
Columns		
K551024	1	Location pin ø 12 mm x 13 mm
K551025	1	Location pin ø 12 mm x 25 mm
K551026	1	Location pin ø 12 mm x 50 mm
K551027	2	Location pin ø 12 mm x 100 mm
K551028	2	Location pin ø 20 mm x 13 mm
K551029	2	Location pin ø 20 mm x 25 mm
K551030	2	Location pin ø 20 mm x 50 mm
K551031	1	Location pin ø 20 mm x 100 mm
K551040	2	Adjustable location pin ø 20 mm
K551041	1	Adjustable location pin ø 12 mm
K551042	2	Location pin ø 12 mm with bore 6 mm
K551043	3	Location pin ø 20 mm with bore 8 mm
Brackets		
K551035	1	Receiver bracket small
K551036	1	Receiver bracket large
K551044	1	Receiver bracket L = 90 mm, ø 12 mm
K551045	1	Receiver bracket L = 120 mm, ø 20 mm
K551046	1	Slotted nut for receiver bracket h = 12 mm
K551047	1	Slotted nut for receiver bracket h = 15 mm
Positioning Components		
K550262	1	V-block mini, ø12mm
K550261	2	Cone receiver mini, ø12 mm
K550250	1	Stopper element mini, ø 6 mm
K550247	1	Back square mini, ø 6 mm
K550058	1	V-block
K550365	2	Cone Receiver
K550982	1	Stopper element
K550248	1	Back square
K550888	2	Straight pin ø 6 mm x 20 mm
K550889	2	Straight pin ø 6 mm x 30 mm
K550890	2	Straight pin ø 6 mm x 40 mm
K550000	2	Straight pin ø 8 mm x 30 mm
K550001	2	Straight pin ø 8 mm x 50 mm
K550002	2	Straight pin ø 8 mm x 65 mm
Clamping Components		
K550716	2	Straight pin with thread, M6 x 75 mm
K550279	2	Spring clip, ø 8 mm, L = 60 mm

Part No.	Qty.	Part name
Screws and Washers		
K550563	6	Cylinder head screw M6 x 25 mm
K550110	12	Cylinder head screw M6 x 20 mm
K550591	6	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551051	1	Allen key 3 mm
K551052	1	Allen key 4 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total qty.	**82**	

eco-fix and eco-fix*plus* Extension Sets

Part No.: K551123
Weight 310 g

Extension set
Location pins 20
ø 12 mm

Part No.: K551124
Weight 938 g

Extension set
Location pins 12
ø 20 mm

Part No.: K551317
Weight 154 g

Extension set
Joints ø 20 mm

Part No.: K551318
Weight 52 g

Extension set
Joints ø 12 mm

Part No.: K551319
Weight 82 g

Extension set Magnet 20
ø 20 mm

Part No.: K551320
Weight 21 g

Extension set Magnet 12mm
ø 12 mm

Part No.: K551129
Weight 144 g

Extension set
Receiver brackets 12

CONTENT OF EXTENSION SETS

PRODUCT LINES

Part No.	Qty.	Part name
K551024	5	Location pin ø 12 mm x 13 mm
K551025	5	Location pin ø 12 mm x 25 mm
K551026	5	Location pin ø 12 mm x 50 mm
K551027	5	Location pin ø 12 mm x 100 mm
K551042	5	Location pin ø 12 mm with hole ø 6 mm
K551041	2	Adjustable location pin ø 12 mm
Total qty.	**27**	

eco-fix

Part No.	Qty.	Part name
K551028	5	Location pin ø 20 mm x 13 mm
K551029	5	Location pin ø 20 mm x 25 mm
K551030	5	Location pin ø 20 mm x 50 mm
K551031	5	Location pin ø 20 mm x 100 mm
K551043	5	Location pin ø 20 mm with hole ø 8 mm
K551040	2	Adjustable location pin ø 20 mm
Total qty.	**27**	

eco-fix

Part No.	Qty.	Part name
K551076	3	Turn-swivel joint ø 20 mm
Total qty.	**3**	

eco-fix

Part No.	Qty.	Part name
K551075	3	Turn-swivel joint ø 12 mm
Total qty.	**3**	

eco-fix

Part No.	Qty.	Part name
K551074	5	Magnetic receiver ø 20 mm
Total qty.	**5**	

eco-fix

Part No.	Qty.	Part name
K551073	5	Magnetic receiver ø 12 mm
Total qty.	**5**	

eco-fix

Part No.	Qty.	Part name
K551044	3	Receiving bracket L = 90 mm, ø 12 mm
K551035	3	Receiver bracket small L = 40 mm, M6
K551046	3	Slotted nut h = 12 mm
Total qty.	**9**	

eco-fix

eco-fix and eco-fix*plus* Extension Sets

Part No.: K551130
Weight 393 g

Extension set
Receiver brackets 20

Part No.: K551126
Weight 139 g

Extension set
Positioning components 12
ø 12 mm

Part No.: K551127
Weight 514 g

Extension set
Positioning components 20
ø 20 mm

Part No.: K551125
Weight 291 g

Extension set
Clamping components 1

Part No.: K551321
Weight 520 g

Extension set
Straight pins 8
ø 8 mm

Part No.: K551322
Weight 400 g

Extension set
Straight pins 6
ø 6 mm

CONTENT OF EXTENSION SETS

PRODUCT LINES

Part No.	Qty.	Part name
K551045	3	Receiving bracket L = 120 mm, ø 20 mm
K551036	3	Receiver bracket small L = 70 mm, M6
K551047	3	Slotted nut h = 15 mm
Total qty.	**9**	

eco-fix

Part No.	Qty.	Part name
K551069	3	Flat top ø 12 mm
K550250	3	Stopper element mini ø 12 mm
K550247	2	Back square mini ø 12 mm
K550262	2	V-block mini ø 12 mm
K551071	5	Sphere top ø 12 mm
K550261	2	Cone receiver mini ø 12 mm
Total qty.	**17**	

eco-fix

Part No.	Qty.	Part name
K551028	3	Flat top ø 20 mm
K551029	3	Stopper element mini ø 20 mm
K551030	2	Back square mini ø 20 mm
K551031	2	V-block mini ø 20 mm
K551043	5	Sphere top ø 20 mm
K551040	2	Cone receiver mini ø 20 mm
Total qty.	**17**	

eco-fix
eco-fix*plus*

Part No.	Qty.	Part name
K550716	5	Straight pin with thread
K550554	2	Spring clip, ø 8 mm L= 40 mm
K550279	3	Spring clip, ø 8 mm L= 60 mm
Total qty.	**10**	

eco-fix
eco-fix*plus*

Part No.	Qty.	Part name
K550000	5	Straight pin ø 8 mm x 30 mm
K550001	5	Straight pin ø 8 mm x 50 mm
K550002	5	Straight pin ø 8 mm x 65 mm
K550003	5	Straight pin ø 8 mm x 85 mm
Total qty.	**20**	

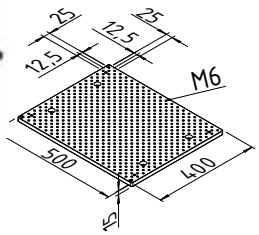
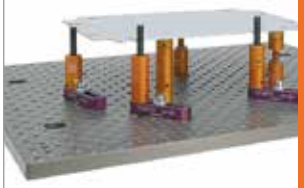
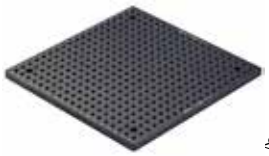
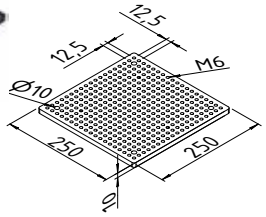
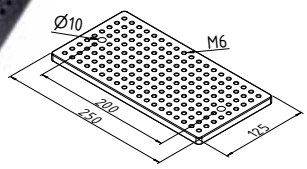
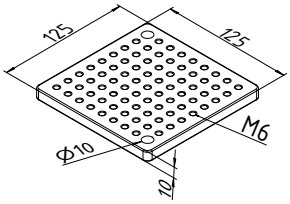
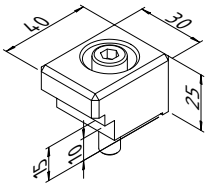
eco-fix
eco-fix*plus*

Part No.	Qty.	Part name
K550888	5	Straight pin mini ø 6 mm x 20 mm
K550889	5	Straight pin mini ø 6 mm x 40 mm
K550890	5	Straight pin mini ø 6 mm x 60 mm
Total qty.	**15**	

eco-fix

Base components

Base plates

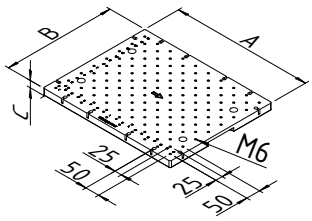
	APPLICATION	PRODUCT LINES
Part No.: K551533 Weight 7600 g **Base plate eco-fix** 500 mm x 400 mm Made of hard-anodised aluminium, with connecting thread M6, grid distance 12.5 mm / 25 mm			eco-fix
Part No.: K551034 Weight 1500 g **Base plate eco-fix** 250 mm x 250 mm Made of hard-anodised aluminium, with connecting thread M6, grid distance 12.5 mm	 		eco-fix
Part No.: K551226 Weight 750 g **Base plate eco-fix** 250 mm x 125 mm Made of hard-anodised aluminium, with connecting thread M6, grid distance 12.5 mm			eco-fix
Part No.: K551306 Weight 375 g **Base plate eco-fix** 125 mm x 125 mm Made of hard-anodised aluminium, with connecting thread M6, grid distance 12.5 mm			eco-fix
Part No.: K551032 Weight 64 g **Clamping claw eco-fix** For fixing of base plates on the measuring table Incl. 1pc. M8, M10 and M12 bolt			eco-fix

eco-fix · eco-fix*plus*

	APPLICATION	PRODUCT LINES

Base plates eco-fix*plus*
Made of hard-anodised aluminium, with connecting thread M6, grid distance 25 mm / 50 mm
Prepared for 3-point ball support on the CMM.

Part No.:	A	B	C	Weight
K551138	250	250	25	3.900g
K551137	500	400	25	12.900g
K551202	600	600	25	28.330g

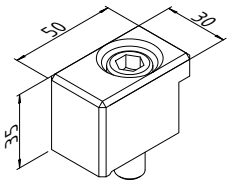


MPS compatible

Part No.: Weight:

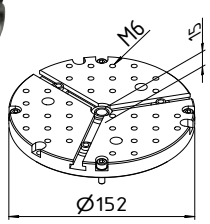
K550936-10 for M8 55g
K550937-10 for M10 60g
K550475-10 for M12 65g

Clamping claw eco-fix*plus*
For fixing of base plates on the measuring table



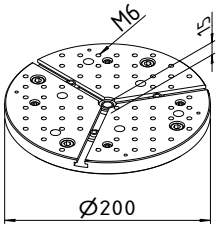
Part No.: K551038
Weight 720 g

Base plate ø 152 mm
Made of hard-anodised aluminium, to adapt holding fixtures on Mitutoyo turntables for roughness and form measuring machines.
Delivered including 3 slotted nuts and mounting parts.



Part No.: K551039
Weight 1300 g

Base plate ø 200 mm
Made of hard-anodised aluminium, to adapt holding fixtures on Mitutoyo turntables for roughness and form measuring machines.
Delivered including 3 slotted nuts and mounting parts.



Base components

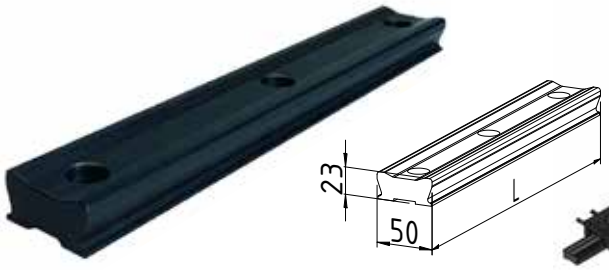
Base profiles

APPLICATION | PRODUCT LINES

multiflex*profile* rail

Part No.:	Description	L mm	weight g
K550631	multiflex*profile* rail	200	430
K550632	multiflex*profile* rail	300	650
K550633	multiflex*profile* rail	500	1.060

· Dovetail profile
To be fixed directly on the CMM granite.
Position slider components flexibly where a build-up is required.
Further sizes on request



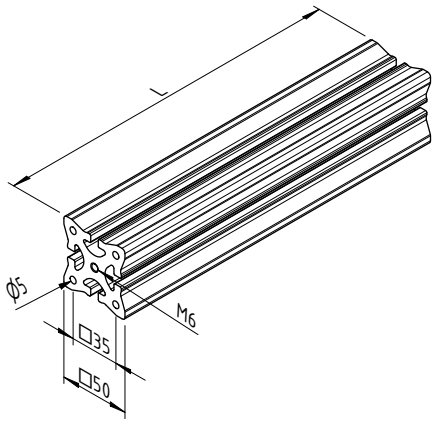
Made of durable black anodized aluminium

multiflex*profile*

multiflex*profile* profile frame

Part No.:	Description	L mm	weight g
K551176	multiflex*profile* frame	250	970
K551177	multiflex*profile* frame	500	1.940
K551178	multiflex*profile* frame	750	2.910
K551179	multiflex*profile* frame	1.000	3.880
K551180	multiflex*profile* frame	1.250	4.850
K551181	multiflex*profile* frame	1.500	5.990
K551182	multiflex*profile* frame	2.000	7.990
K551185	multiflex*profile* frame	2.500	10.990

· 4-fold dovetail profile
· 4-fold T-slot
To be used for cost efficiency in frame building, when the 50 mm grid pattern is not required.
Further sizes on request



Made of durable black anodized aluminium

multiflex*profile*

APPLICATION

PRODUCT LINES

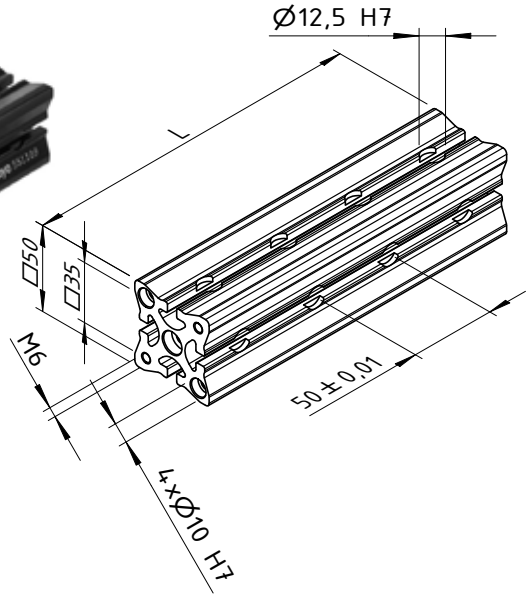
multiflex*profile*

multiflex*profile* 50mm grid profile

Part No.:	Description	L mm	weight g
K551107	multiflex*profile*	200	780
K551108	multiflex*profile*	250	970
K551109	multiflex*profile*	300	1.550
K551110	multiflex*profile*	500	1.940
K551111	multiflex*profile*	700	2.910
K551112	multiflex*profile*	1.000	3.880
K551113	multiflex*profile*	1.250	4.850
K551155	multiflex*profile*	1.500	5.990
K551156	multiflex*profile*	2.000	7.990
K551114	multiflex*profile*	2.500	9.690

· 4-fold dovetail profile
· 4-fold T-slot
· 50 mm grid profile
For the flexible construction of frames with high stability
Further sizes on request

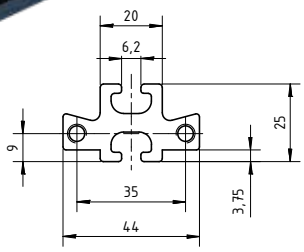
Made of durable black anodized aluminium

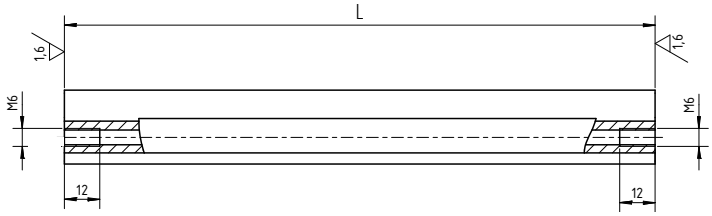


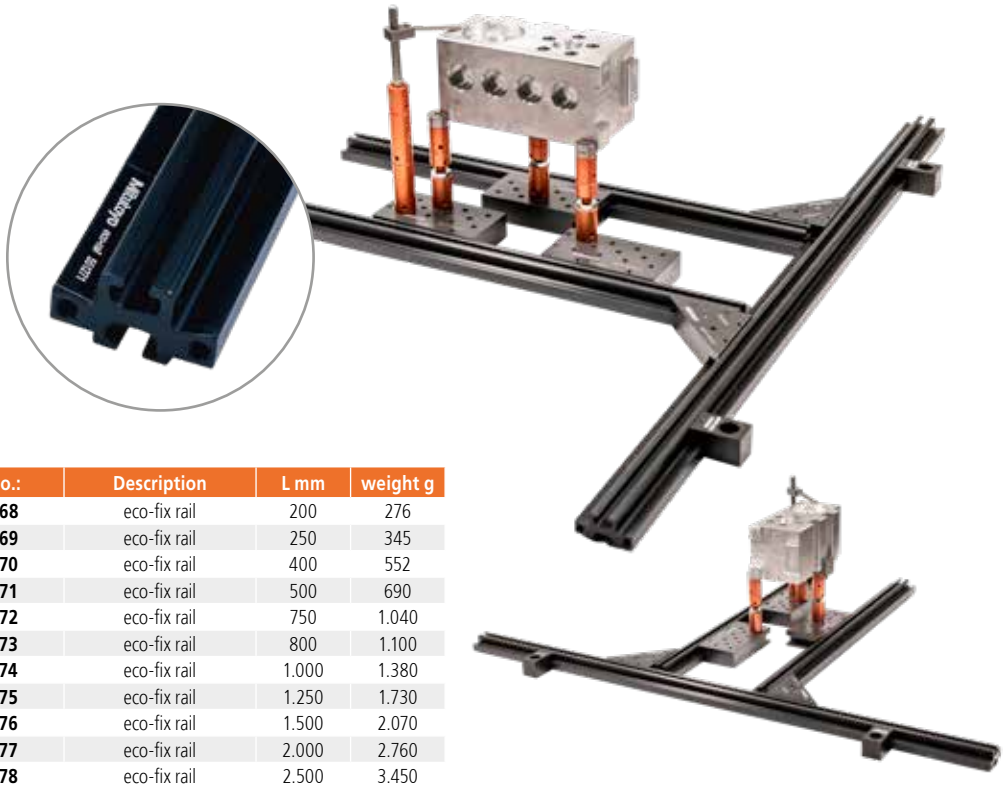
Base components

Base profiles

	APPLICATION	PRODUCT LINES
eco-fix rail Flexible positioning rail system using eco-fix and eco-fix*plus* components. · T-slot implied for additional fixturing options. · Quick change of the base dimension according to workpiece size by moving the corner connectors. · Fast repositioning with the attachable base plates. · Build an angle from the rails to easily reposition a base plate.		eco-fix eco-fix*plus*

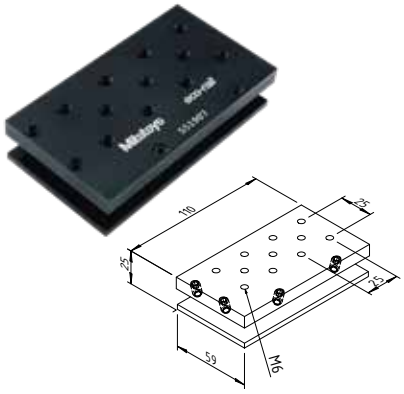
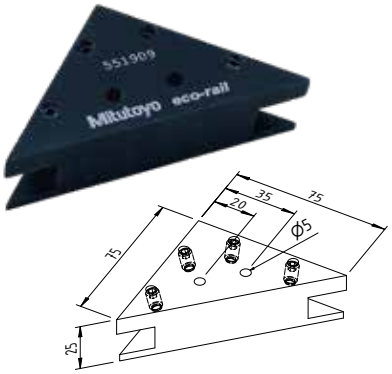
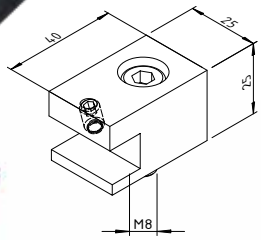






Part No.:	Description	L mm	weight g
K551268	eco-fix rail	200	276
K551269	eco-fix rail	250	345
K551270	eco-fix rail	400	552
K551271	eco-fix rail	500	690
K551272	eco-fix rail	750	1.040
K551273	eco-fix rail	800	1.100
K551274	eco-fix rail	1.000	1.380
K551275	eco-fix rail	1.250	1.730
K551276	eco-fix rail	1.500	2.070
K551277	eco-fix rail	2.000	2.760
K551278	eco-fix rail	2.500	3.450

eco-fix rail

	APPLICATION	PRODUCT LINES
Part No.: K551907 Weight 380 g **Attachable base plate eco-fix rail** The small base plate can change the position on the rail within seconds. Enabling the build-up modules positioned on the plate to suit small and big dimension workpieces. 		eco-fix eco-fix*plus*
Part No.: K551909 Weight 130 g **Profile connector eco-fix rail** Used to connect the rails and fast change of the base area dimension. 		eco-fix eco-fix*plus*
Part No.: K551908 Weight 55 g **Clamping claw eco-fix rail** Fast access to the thread positions on the CMM granite.  **Repositioning of base plates** The eco-fix rail can alternatively be made into a repositioning angle for base plates.		eco-fix eco-fix*plus*

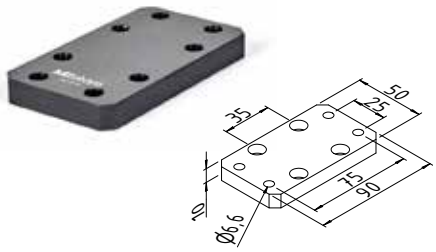
Base components

Attachable bases for build-up module connection

	APPLICATION	PRODUCT LINES

Part No.: K551212
Weight 107 g

Adapter plate
Made of hard-anodised Aluminium. Adapter plate for setting up **multiflex**profile and build-up columns K551213 and K551214 on base plates.

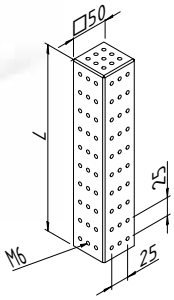


eco-fix
eco-fix*plus*

Part No.: K551213 L=255mm
Weight 1600 g
Part No.: K551214 L=505mm
Weight 3150 g

Build up column
Made of hard-anodised aluminium, with connecting threads M6.

For setting-up the column on base plates, please use adapter plate K551212

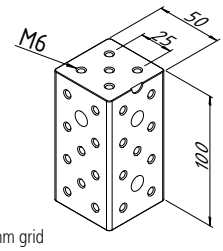


eco-fix
eco-fix*plus*

Part No.: K550597
Weight 563 g

Build-up cuboid
For the connection of build-up modules on multiflex profiles and base plates. Can also be used as an alternative to cylindrical build-up columns on the base plate.

For stable connection to our 50mm grid profiles use: K551136 and K551158

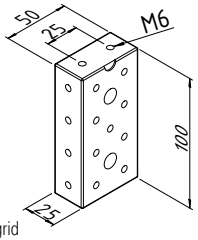


eco-fix
eco-fix*plus*

Part No.: K550601
Weight 290 g

Build-up plate
For the connection of build-up modules on multiflex profiles and base plates. Can also be used as an alternative to cylindrical build-up columns on the base plate.

For stable connection to our 50mm grid profiles use: K551136 and K551158

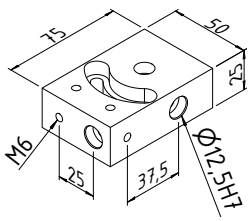


eco-fix
eco-fix*plus*

Part No.: K551121
Weight 260 g

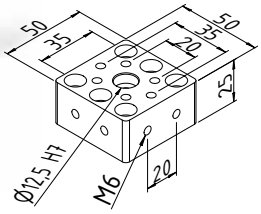
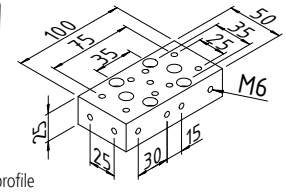
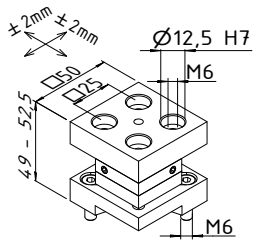
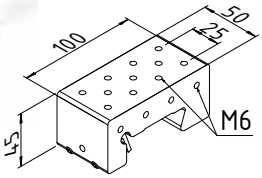
Swivel plate for multiflexprofile
For the mounting of brackets or columns in any angle in the plane or in the room

For stable connection to our 50mm grid profiles use: 551136 and K551158



eco-fix
eco-fix*plus*

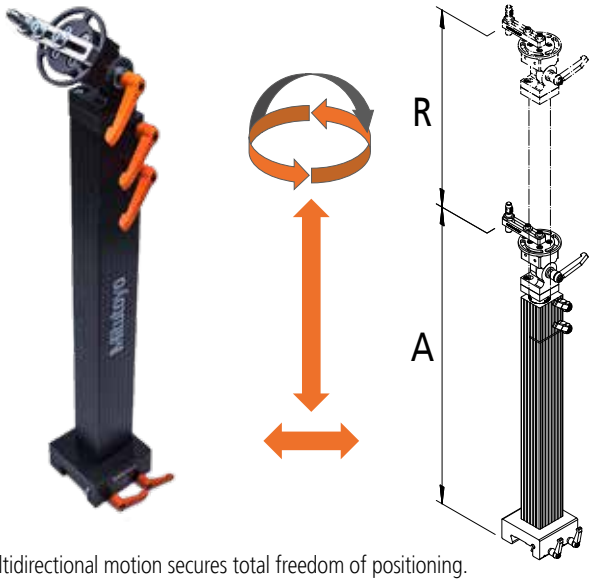
eco-fix · eco-fix*plus* · multiflex*profile*

		APPLICATION	PRODUCT LINES
Part No.: K551119 Weight 130 g **Terminator 50 for multiflex*profile*** For the front-end connection of build-up modules on multiflex profiles.	 For a stable connection to the profile end-face use: K551136 (only on the triple function profile) 		multiflex*profile* eco-fix eco-fix*plus*
Part No.: K551120 Weight 290 g **Terminator 100 for multiflex*profile*** For the front-end connection of build-up modules on multiflex profiles.	 For a stable connection to the profile end-face use: K551136 (only on the triple function profile) 		multiflex*profile* eco-fix eco-fix*plus*
Part No.: K551122 Weight 563 g **XYZ adjustment unit for multiflex*profile*** For fine positioning in 3 axes Front end profile mounting.	 		multiflex*profile* eco-fix eco-fix*plus*
Part No.: K550957 Weight 450 g **Slider unit base plate with M6 grid** For free positioning on multiflex*profile* components, e.g., for the build-up of receiving points.	 		multiflex*profile* slider element eco-fix eco-fix*plus*

Base components

Attachable bases for build-up module connection

ADJUSTABLE BUILD-UP COLUMN vari-fix



Multidirectional motion secures total freedom of positioning.

The unique **vari-fix** head allows for almost unlimited attachment and positioning of build-up modules.

For free and unrestricted orientation of the workpiece in any desired pick-up position and flexible positioning on the multiflex profile.

Part No.:	Description	minimum height mm A	range mm R	adjustable length mm	weight g
K551347	vari-fix column S	427	200	375 - 575	4.200
K551348	vari-fix column M	552	325	500 -825	5.000
K551349	vari-fix column L	677	450	625 - 1075	5.800

APPLICATION

PRODUCT LINES

multiflex*profile*
slider element

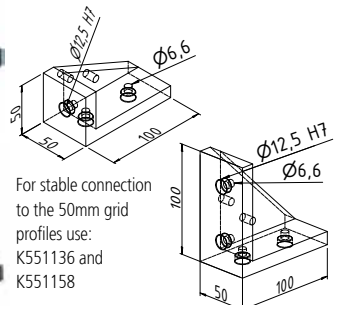
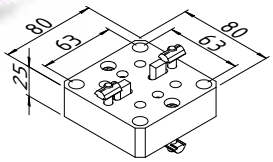
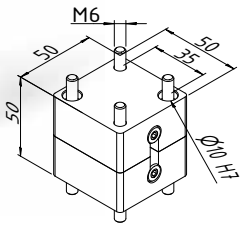
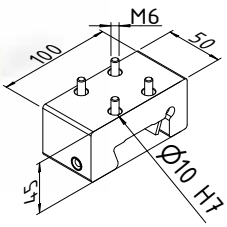
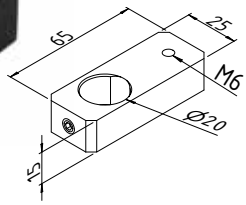
eco-fix
eco-fix*plus*

vari-fix columns are always custom made, tailored to the needs of the customer! Accessories and various versions available on request.

The application examples shows multiflex profile frames, that have been enhanced using vari-fix columns to easily set-up complex structured workpieces.

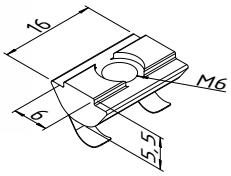
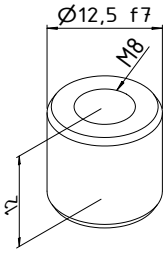
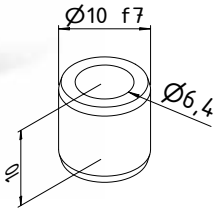
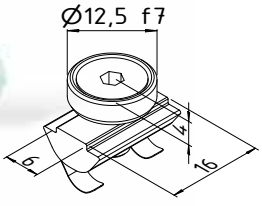
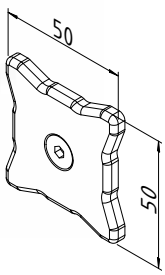
Base components

Profile connectors

	APPLICATION	PRODUCT LINES
Part No.: K550511-10 Weight 260 g **Angle 100/50** **Part No.: K550509-10** Weight 420 g **Angle 100/100** For the rectangular connection of profiles and for setting up profiles on base plates.  For stable connection to the 50mm grid profiles use: K551136 and K551158		eco-fix eco-fix*plus* multiflex*profile*
Part No.: K551157 Weight 290 g **Cross connector for multiflex*profile*** For the composition of frames or sideways mounting on profile components. Also, for the diagonal profile connection.  4pcs. K551158 and screws included		multiflex*profile*
Part No.: K551118 Weight 563 g **Connector set for multiflex*profile*** For the front-end connection of multiflex profiles. 		multiflex*profile*
Part No.: K551117 Weight 445 g **Slider unit for for multiflex*profile*** For free positioning on multi-flex*profile* components, for e.g., the connection of muliflex-profile components. 		multiflex*profile* slider element
Part No.: K550645 Weight 445 g **Slider element dovetail for multiflex*profile*** For setting up of adjustable cross connections. Also, to be used as a stopper, for repositioning of slider components such as the vari-fix columns. 		multiflex*profile* slider element

Base components

Accessories for multiflex*profile*

		APPLICATION	PRODUCT LINES
Part No.: K551158 Weight 5 g **T-slot nut M6 multiflex*profile*** For fixing items to the T-slot of multiflex profiles.	 		multiflex*profile*
Part No.: K550461-10 Weight 7 g **Positioning bushing 12,5 mm multiflex*profile*** For the stabilization of buil-up components on the 50mm grid of the profile.	 requires the use of K551158 		multiflex*profile*
Part No.: K551136 Weight 5 g **Positioning bushing 10 mm multiflex*profile*** For the fixed positioning of slider components or end-face base components when mounted at the profile end-face. Insert in countersink-drill.	 		multiflex*profile* stabilization of profile end-face connections
Part No.: K551116 Weight 10 g **Distance piece multiflex*profile*** Can be used when additional profile strength is required. Complete with T-slot nut and screw.	 		multiflex*profile*
Part No.: K551115 Weight 10 g **End cover for multiflex*profile*** To protect the profile ends from damage.	 		multiflex*profile*

multiflex*profile*

	APPLICATION	PRODUCT LINES

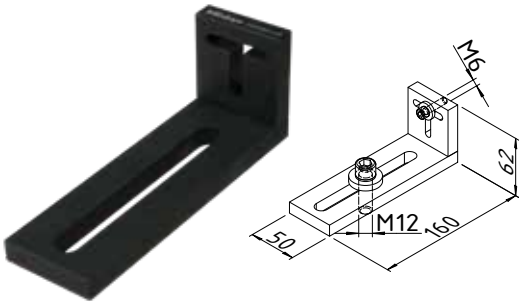
Part No.: K502620
Weight 18 g

Clamp lever for slider components

multiflex*profilev*

Part No.: K551337
Weight 280 g

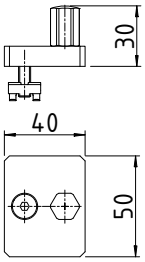
Mounting bracket for multiflex*profile*
For mounting multiflex profiles on the measuring table.



multiflex*profile*

Part No.: K551280
Weight 90 g

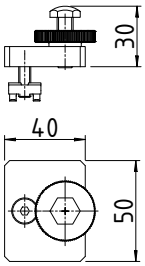
Fixed foot for multiflex*profile*
To make up a 3-point contact and prevent falling over. T-slot nut K551158 included.



multiflex*profile*

Part No.: K551281
Weight 110 g

Adjustable foot for multiflex*profile*
to make up a 3-point contact. T-slot nut K551158 included.

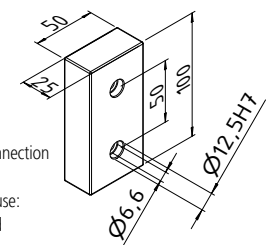


multiflex*profile*

Part No.: K550602
Weight 320 g

Foot component for multiflex*profile*
To be used as a foot element on profile frames.

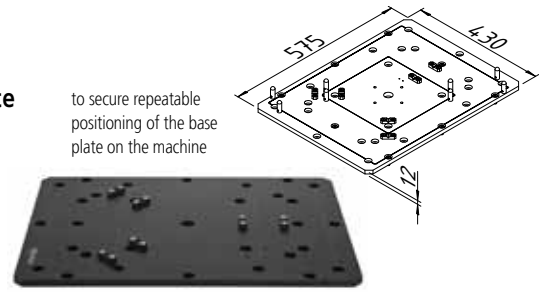
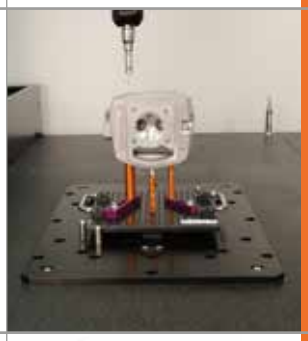
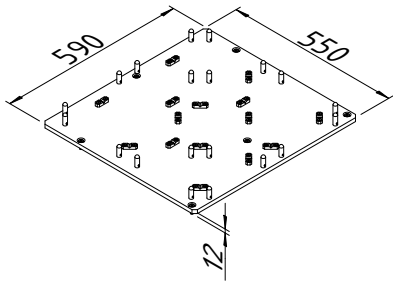
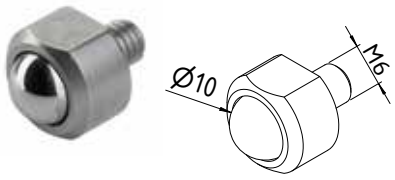
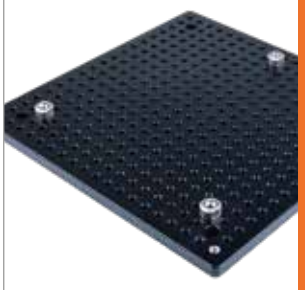
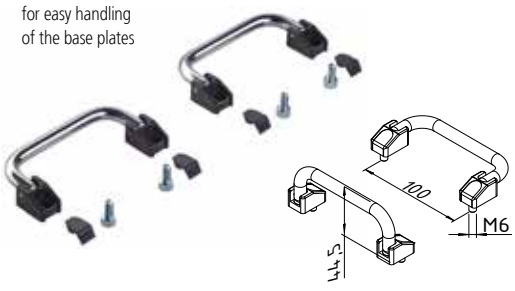
for stable connection to our 50mm grid profiles use: K551136 and K551158



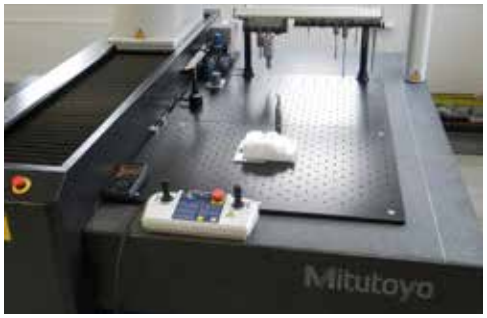
multiflex*profile*

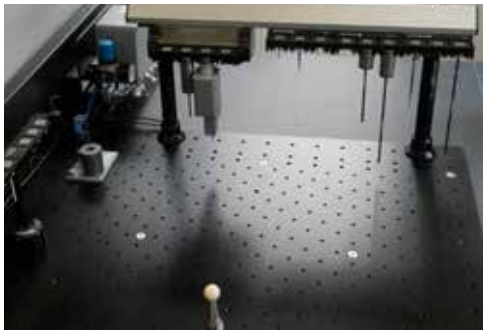
Base components

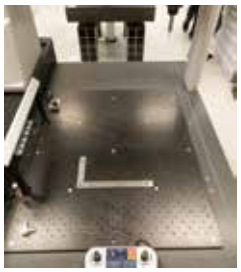
Accessories for the Pallet Receiver System PRS

	APPLICATION	PRODUCT LINES
Part No.: K551220 Weight 8070 g **Loading receiver plate for manual eco-fix loading system** With pallet positioning brackets. to secure repeatable positioning of the base plate on the machine 		eco-fix PRS
Part No.: K551330 Weight 11500 g **4-fold Loading receiver plate MiSTAR for manual eco-fix loading system** With pallet positioning brackets for 4 pallets. A single pallet can also be positioned in the centre of the receiver plate.  to secure repeatable positioning of the base plate on the machine		eco-fix PRS
Part No.: K551221 1pc. 1pc., Weight 30 g **Part No.: K551920 3pcs.** 3pcs., Weight 90 g **Ball screws for manual eco-fix loading system** Positioning spheres with connecting thread M6.  for the 3-point set-up of the pallet on the receiver plate		eco-fix PRS
Part No.: K551199 Weight 300 g **Pair of handles for eco-fix base plates** Handles with connecting screws and screw covers. for stable connection to our 50mm grid profiles use: K551136 and K551158 for easy handling of the base plates 		eco-fix PRS eco-fix*plus* multiflex*profile*

Special base plates for Mitutoyo CMM





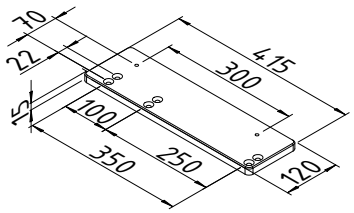


The base plates provide multiple possibilities for fixing fixtures and accessories or even the direct construction of jigs on the CMM.
They are available in different sizes, in the layout specially adapted to the respective Mitutoyo CMM. Depending on the design, the base plates are supplied in 1 to 4 handy segments, which make mounting on the CMM much easier. The basic base plates are designed for direct mounting on the granite tables of the Mitutoyo CMMs. They are precision machined from a high-quality aluminium alloy and provided with a surface finish that makes the base plates extremely durable.
They also protect the valuable granite base of the CMM. The base plates are equipped with fixing threads M6 in a 25mm / 50mm grid to directly position and build-up fixtures for e.g., with the elements from the Mitutoyo modular clamping systems eco-fix and eco-fix^{plus} or also for fixing aids such as chucks, positioning angle or the like. In addition, threads M8 are used to attach CMM accessories such as Measuring balls or stylus rack which are located in the edge area on the base plates.
The MRS fixing plates can be used to mount the stylus rack outside of the base plate area.

Part No.	Measuring range		Plate dimension L x W x D	CMM	Number of elements
	X	Y			
K515432			120 x 415 x 15	Fixing plate for MRS-400	1
K515433			100 x 730 x 15	Fixing plate for MRS-600	1
K551186	500	400	570 x 540 x 15	CRYSTA-Apex S 544	1
K551307	500	400	600 x 670 x 15	MiSTAR 555	1
K551187	500	700	605 x 840 x 15	CRYSTA-Apex S 574	1
K551190	700	700	830 x 840 x 15	CRYSTA-Apex S 776	2
K551191	700	1000	815 x 1140 x 15	CRYSTA-Apex S 7106	2
K551192	900	1000	970 x 1140 x 15	CRYSTA-Apex S 9106/9108	2
K551193	900	1600	970 x 1740 x 15	CRYSTA-Apex S 9166/9168	3
K551194	900	2000	970 x 2140 x 15	CRYSTA-Apex S 9206/9208	4

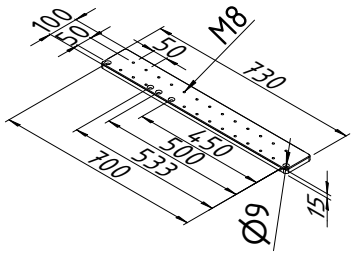
Part No.: K551350
Weight 1950 g

Fixing plate for MRS-400
570 mm x 540 mm x 15mm
Made of hard-anodised aluminium, with connecting thread M8, grid distance 22/100/250 mm



Part No.: K551351
Weight 2850 g

Fixing plate for MRS-600
730 mm x 700 mm x 15mm
Made of hard-anodised aluminium, with connecting thread M8, grid distance 50 mm

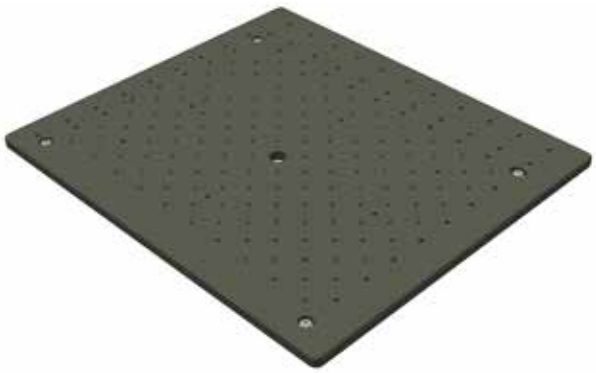


Special base plates for Mitutoyo CMM

Part No.: K551186
Weight 12770 g

Base plate CRYSTA-Apex 544
570 mm x 540 mm x 15mm

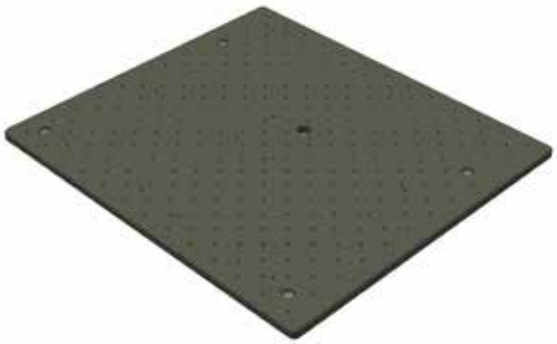
Made of hard-anodised aluminium, with connecting thread M6, grid distance 25 mm / 50 mm



Part No.: K551307
Weight 15800 g

Base plate MiSTAR 555
600 mm x 670 mm x 15mm

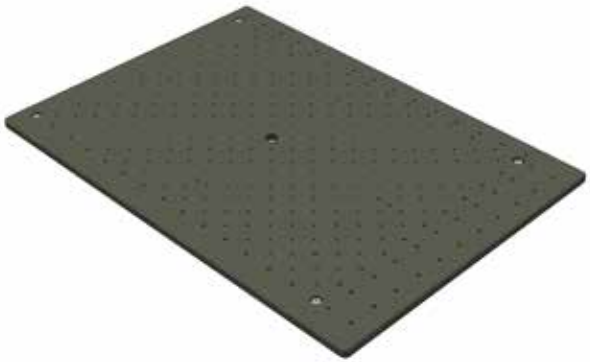
Made of hard-anodised aluminium, with connecting thread M6, grid distance 25 mm / 50 mm



Part No.: K551187
Weight 19900 g

Base plate CRYSTA-Apex 574
605 mm x 840 mm x 15mm

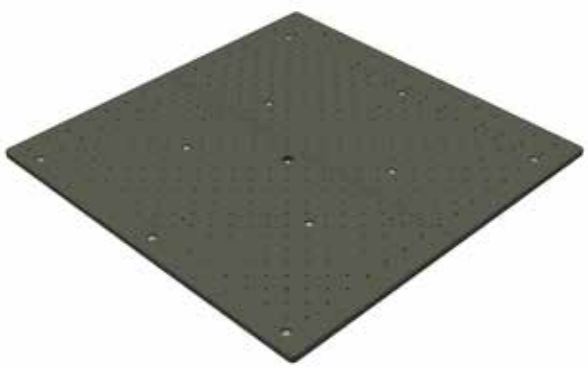
Made of hard-anodised aluminium, with connecting thread M6, grid distance 25 mm / 50 mm

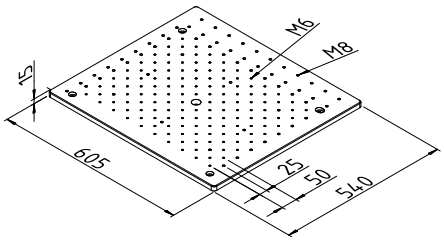
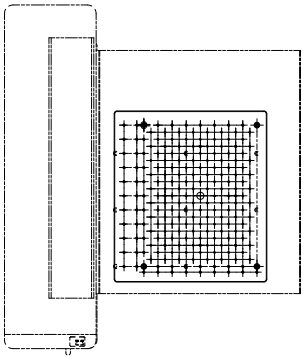
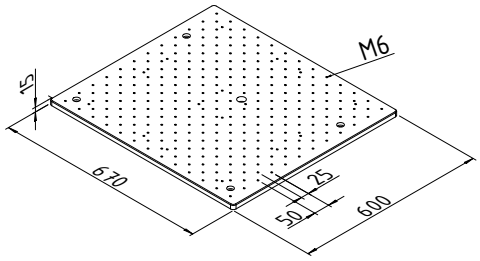
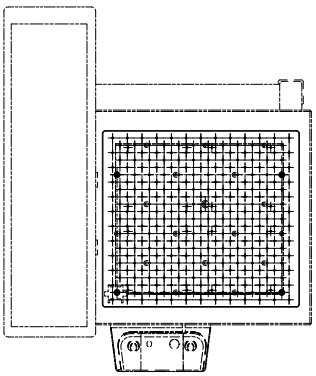
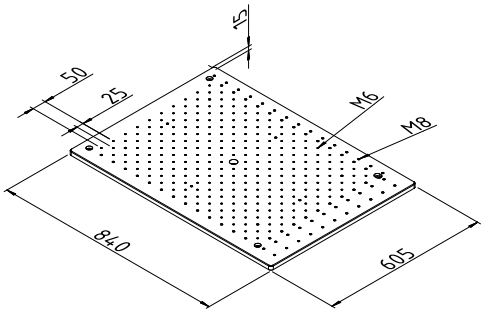
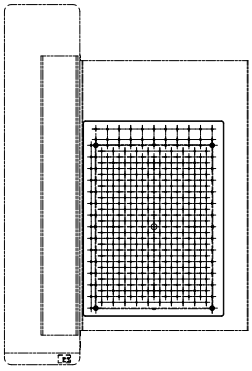
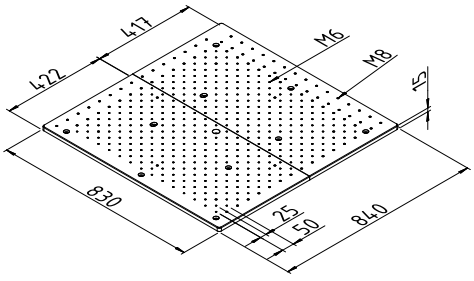
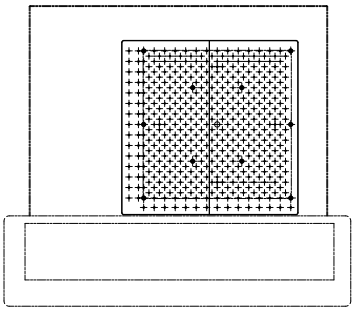


Part No.: K551190
Weight 27400 g

Base plate CRYSTA-Apex 776
830 mm x 840 mm x 15mm

Made of hard-anodised aluminium, with connecting thread M6, grid distance 25 mm / 50 mm



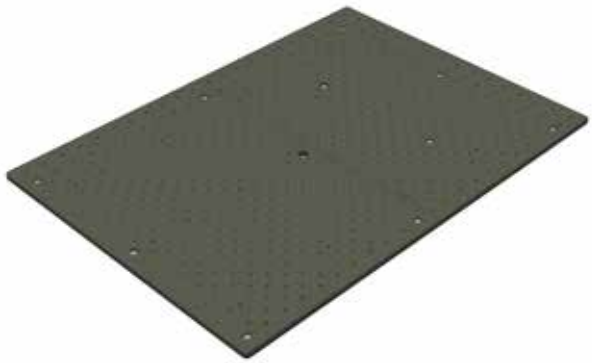
		PRODUCT LINES
		eco-fix eco-fix*plus* 1 plate element
		eco-fix eco-fix*plus* 1 plate element
		eco-fix eco-fix*plus* 1 plate element
		eco-fix eco-fix*plus* 2 plate elements

Special base plates for Mitutoyo CMM

Part No.: K551191
Weight 36500 g

Base plate
CRYSTA-Apex 7106
815 mm x 1140 mm x 15mm

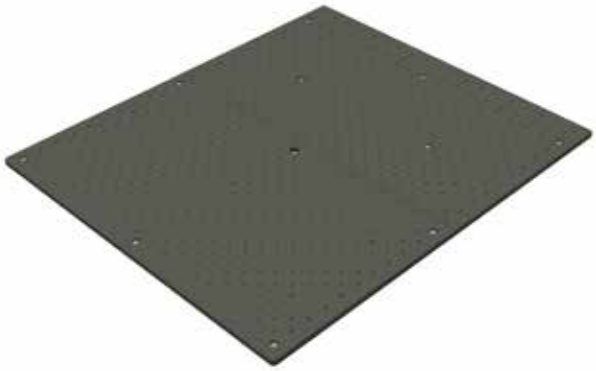
Made of hard-anodised aluminium, with connecting thread M6, grid distance 25 mm / 50 mm



Part No.: K551192
Weight 43400 g

Base plate
CRYSTA-Apex 9106/9108
970 mm x 1140 mm x 15mm

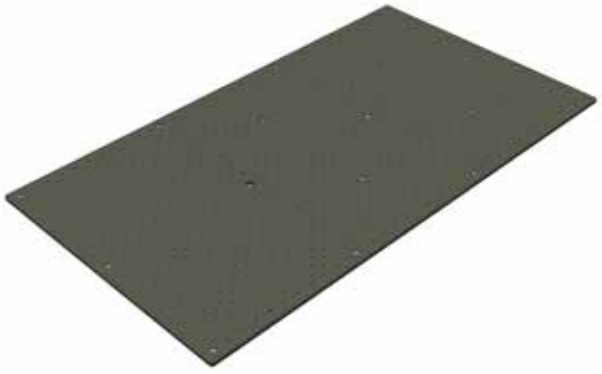
Made of hard-anodised aluminium, with connecting thread M6, grid distance 25 mm / 50 mm



Part No.: K551193
Weight 66300 g

Base plate
CRYSTA-Apex 9106/9108
970 mm x 1740 mm x 15mm

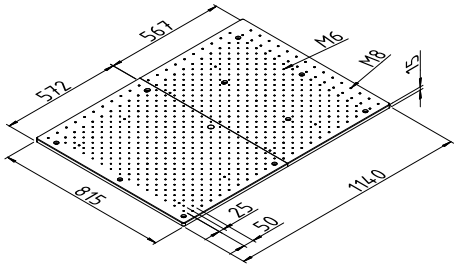
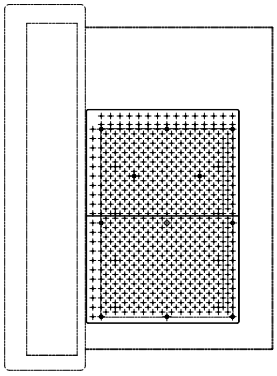
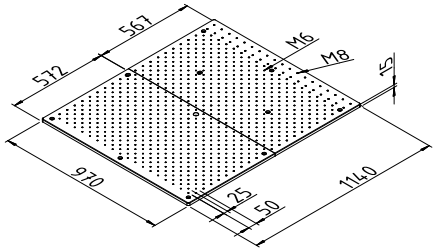
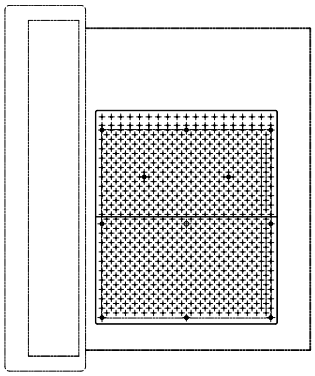
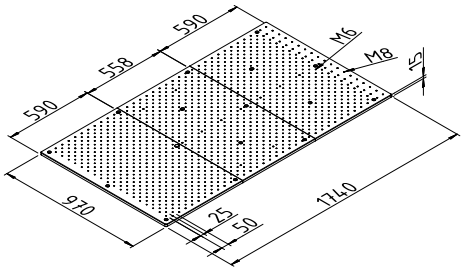
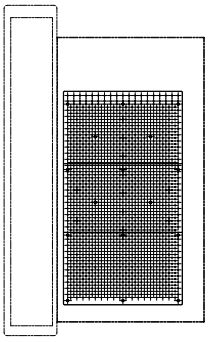
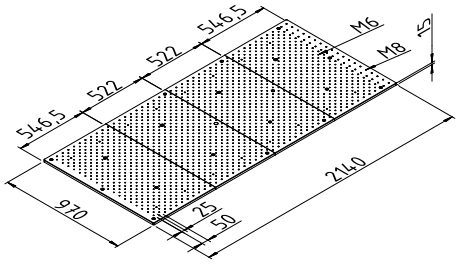
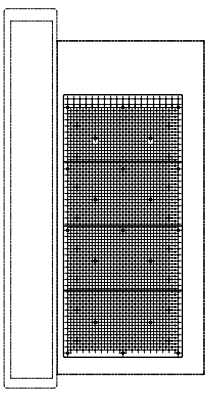
Made of hard-anodised aluminium, with connecting thread M6, grid distance 25 mm / 50 mm



Part No.: K551194
Weight 81500 g

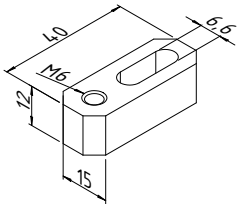
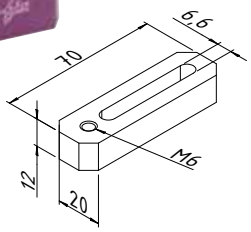
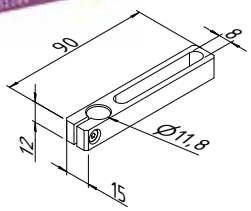
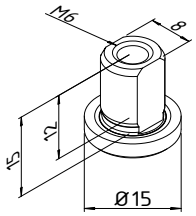
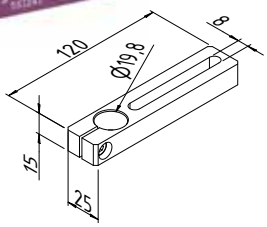
Base plate
CRYSTA-Apex 9206/9208
970 mm x 2140 mm x 15mm

Made of hard-anodised aluminium, with connecting thread M6, grid distance 25 mm / 50 mm

		PRODUCT LINES
		**eco-fix** **eco-fix*plus*** 2 plate elements
		**eco-fix** **eco-fix*plus*** 2 plate elements
		**eco-fix** **eco-fix*plus*** 3 plate elements
		**eco-fix** **eco-fix*plus*** 4 plate elements

Build-up components

Location pins, receiver brackets and other build-up components

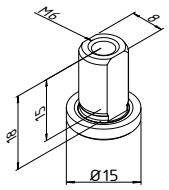
	APPLICATION	PRODUCT LINES
Part No.: K551035 Weight 14 g **Receiving bracket eco-fix Small** L=40mm, M6 width 15 mm To reach any receiving position between the connecting threads. Type A: internal M6 thread 		eco-fix
Part No.: K551036 Weight 34 g **Receiving bracket eco-fix Large** L=70mm, M6 width 20 mm To reach any receiving position between the connecting threads. Type A: internal M6 thread 		eco-fix
Part No.: K551044 Weight 26 g **Receiving bracket eco-fix** L = 90 mm, ø 12 mm For mounting on location pins, to reach any position, e.g., for positioning of clamping elements directly on receiving points. Type B: Bore for location pin attachment Ø 12mm location pin 		eco-fix K551046
Part No.: K551046 Weight 8 g **M6 Slot nut h = 12 mm eco-fix** Use with Type B receiver bracket for 12mm location pins K551044, for mounting e.g., location pins on the receiving bracket, to reach any position in space, e.g., for positioning of clamping elements directly on receiving points. 		eco-fix K551044
Part No.: K551045 Weight 88 g **Receiving bracket eco-fix** L = 120 mm, ø 20 mm For mounting on location pins, to reach any position, e.g., for positioning of clamping elements directly on receiving points. Type B: Bore for location pin attachment Ø 20mm location pin 		eco-fix K551047

eco-fix · eco-fix*plus*

	APPLICATION	PRODUCT LINES

Part No.: K551047
Weight 9 g

M6 Slot nut h = 15 mm eco-fix
Use with Type B receiver brackets for 20mm location pins, for mounting e.g., location pins on the receiving bracket, to reach any position in space, e.g., for positioning of clamping elements directly on receiving points.

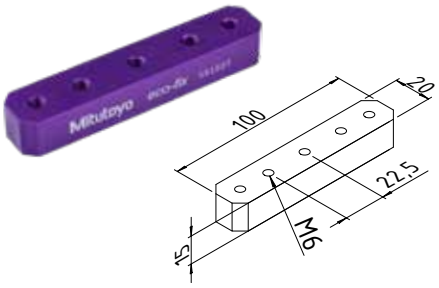


Part No.:	Compatible receiver brackets		
K551045	Receiving bracket eco-fix	L = 120 mm	Type B
K551247	Receiver bracket eco-fix*plus*	L = 120 mm	Type B
K551248	Receiver bracket eco-fix*plus*	L = 170 mm	Type B

eco-fix
eco-fix*plus*

Part No.: K551227
Weight 14 g

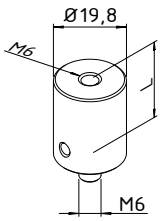
Receiving bracket M6
To reach any receiving position between the connecting threads.



eco-fix

Location pin ø 20 mm
For the adjustment of the required height of the fixture

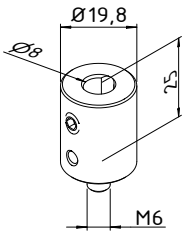
Part No.:	L mm	weight g
K551028	13	10
K551029	25	19
K551030	50	39
K551031	100	83



eco-fix

Part No.: K551043
L = 25mm Weight 19 g

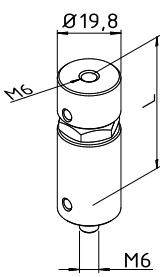
Location pin ø 20 mm
With bore ø 8 mm for connecting of elements with 6 mm connecting pin.



eco-fix

Part No.: K551040
Weight 44 g

Adjustable location pin ø 20 mm
For the adjustment of the required height of receiving positions.



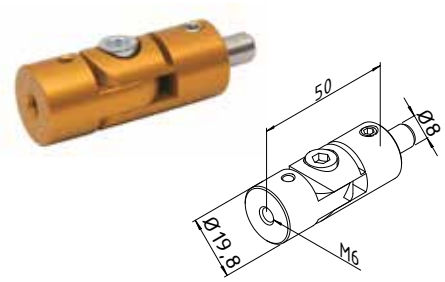
eco-fix

Build-up components

	APPLICATION	PRODUCT LINES

Part No.: K551076
L = 50mm Weight 49 g

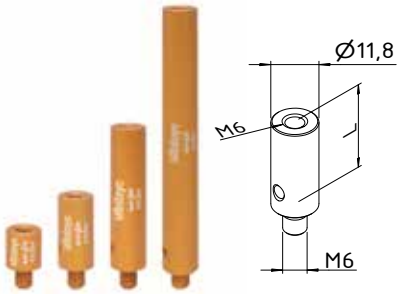
Turn-swivel joint ø 20 mm
To reach any position in space.
ø 8mm connection pin
M6 connection thread.



eco-fix

Location pin ø 12 mm
For the adjustment of the required height of the fixture.

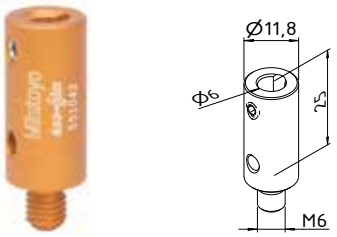
Part No.:	L mm	weight g
K551024	13	3
K551025	25	6
K551026	50	13
K551027	100	27



eco-fix

Part No.: K551042
L = 25mm Weight 7 g

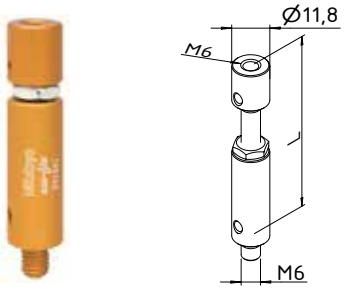
Location pin ø 12 mm
With bore ø 8 mm for connecting of elements with 6 mm connecting pin.



eco-fix

Part No.: K551041
Weight 15 g

Adjustable location pin ø 12 mm
For the adjustment of the required height of receiving positions.

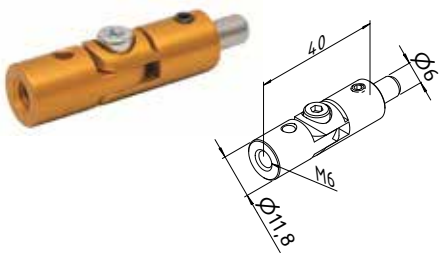


eco-fix

Part No.: K551075
L = 40mm Weight 15 g

Turn-swivel joint ø 12 mm
L = 120 mm, ø 12 mm

To reach any position in space.
ø 6mm connection pin
M6 connection thread.



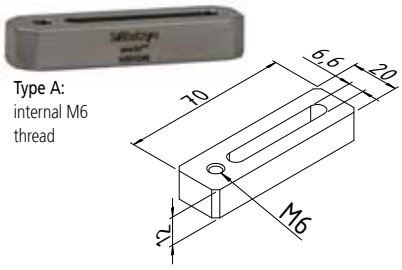
eco-fix

	APPLICATION	PRODUCT LINES

Part No.: K551246
Weight 97 g

Receiver bracket M6 eco-fix*plus*
L = 70 mm

For creating any receiving positions in a cantilever design.



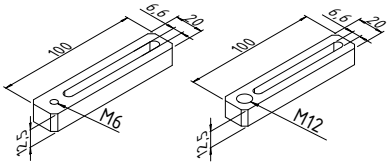
eco-fix*plus*

Bracket with threadhole eco-fix*plus*
L = 100 mm

For creating any receiving positions in a cantilever design.

Type A: internal thread

Part No.:	L mm	D	weight g
K550345-10	100	M6	150
K550342-10	100	M12	150

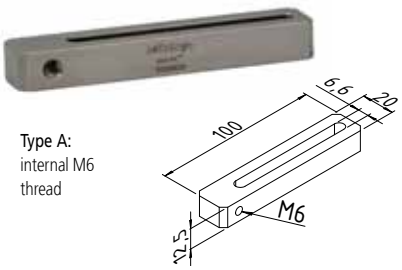


eco-fix*plus*

Part No.: K550939-10
Weight 140 g

Receiver bracket cross hole M6 eco-fix*plus*
L = 100 mm

For creating any mounting positions and angles in cantilever design in the room for direct connection using an M6 threaded pin.

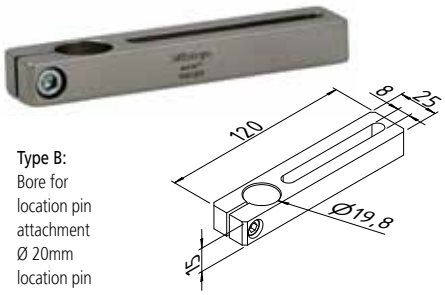


eco-fix*plus*

Part No.: K551247
Weight 240 g

Receiver bracket eco-fix*plus*
L = 120 mm, ø 20 mm

For mounting on location pins, to reach any position, e.g., for positioning of clamping elements directly on receiving points.



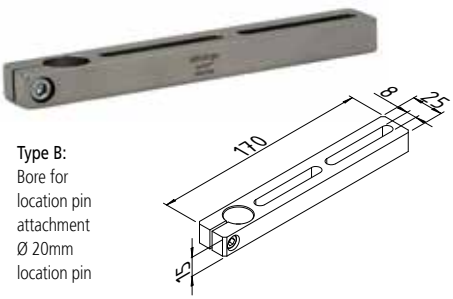
eco-fix*plus*

K551047

Part No.: K551248
Weight 200 g

Receiver bracket eco-fix*plus*
L = 170 mm, ø 20 mm

For mounting on location pins, to reach any position, e.g., for positioning of clamping elements directly on receiving points.



eco-fix*plus*

K551047

Build-up components

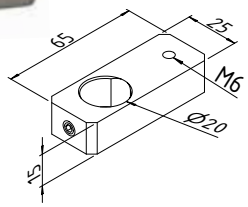
	APPLICATION	PRODUCT LINES

Part No.: K550634-10
Weight 155 g

Receiver bracket for spring clip eco-fix*plus*
L = 65mm, ø 20 mm

For setting up a spring clip directly on the locating pin.

Type C:
Bore for location pin attachment Ø 20mm location pin



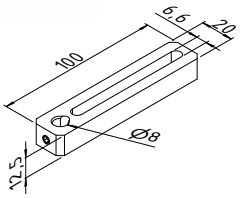
eco-fix*plus*

Part No.: K550598-10
Weight 140 g

Receiver bracket with pinhole 8 mm eco-fix*plus*
L = 100 mm

For creating any mounting positions and angles in a cantilever design in the plane, as well as for mounting cylindrical pins and other elements with 8 mm connecting pins.

Type D:
Bore for pin attachment Ø 8 mm pin



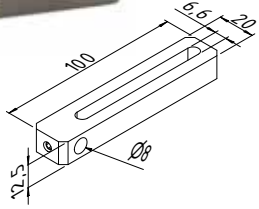
eco-fix*plus*

Part No.: K550630-10
Weight 145 g

Receiver bracket cross hole 8 mm eco-fix*plus*
L = 100 mm

To create any mounting positions and angles in a cantilever design for connecting elements with 8 mm connecting pins.

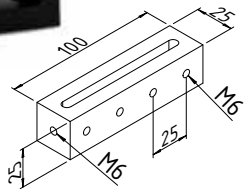
Type D:
Bore for pin attachment Ø 8 mm pin



eco-fix*plus*

Part No.: K550605-10
Weight 125 g

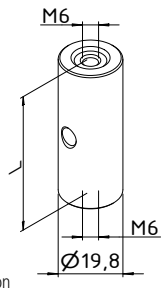
Bracket M6 eco-fix*plus*
To create additional fastening threads for twist-proof screwing of e.g., mounting brackets or as an additional option for mounting points.



eco-fix*plus*

Location pin ø 20 mm eco-fix*plus*
For the adjustment of the required height of the fixture. 2x M6.

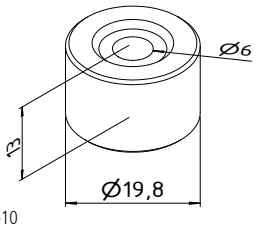
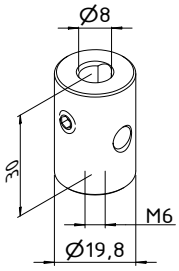
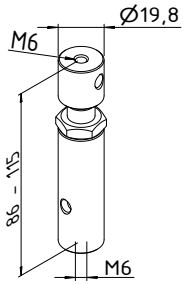
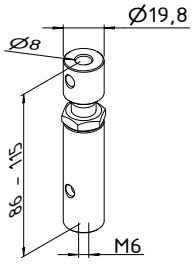
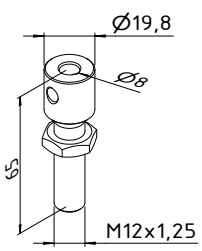
Part No.:	L mm	weight g
K551237	25	52
K551238	50	110
K551239	100	231



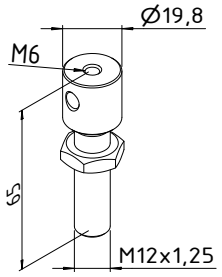
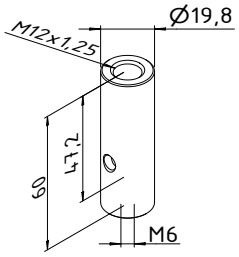
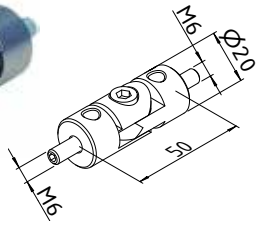
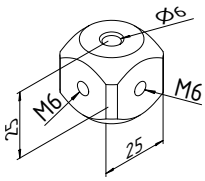
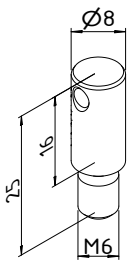
*Requires screw K550592-10 for M6 connection

eco-fix*plus*

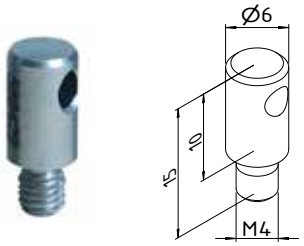
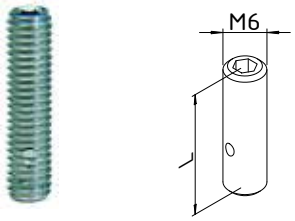
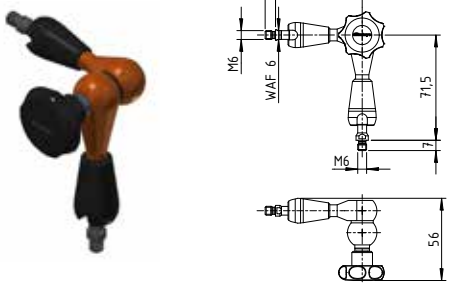
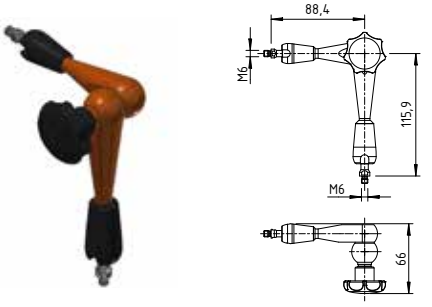
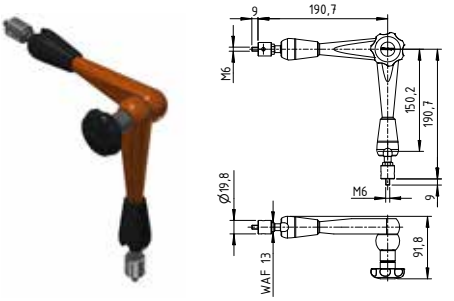
eco-fix · eco-fix*plus*

	APPLICATION	PRODUCT LINES
Part No.: K551236 L = 13 mm, Weight 27 g **Location pin ø 20 mm eco-fix*plus*** For the adjustment of the required height of the fixture. ø 6mm through-hole. To be used as an extension for location pins.  *Requires screw K550557-10 for M6 connection		eco-fix*plus*
Part No.: K551240 L = 30 mm, Weight 15 g **Location pin ø 20 mm ø 8H7 eco-fix*plus*** With bore ø 8 mm for connecting of elements with 8mm connecting pin. With M6 connecting thread.  *Requires screw K550592-10 for M6 connection		eco-fix*plus*
Part No.: K551249 Weight 190 g **Adjustable location pin M6 eco-fix*plus*** For the adjustment of the required height of receiving positions. With M6 connecting thread.  *Requires screw K550592-10 for M6 connection		eco-fix*plus*
Part No.: K551061 Weight 190 g **Adjustable location pin ø 8H7 eco-fix*plus*** For the adjustment of the required height of receiving positions. With ø 8 mm bore for connecting of elements with 8mm connecting pin.  *Requires screw K550592-10 for M6 connection		eco-fix*plus*
Part No.: K551252 Weight 200 g **Receiver bracket eco-fix*plus*** L = 170 mm, ø 20 mm For mounting on location pins, to reach any position, e.g., for positioning of clamping elements directly on receiving points.  To be used with K551241		eco-fix*plus*

Build-up components

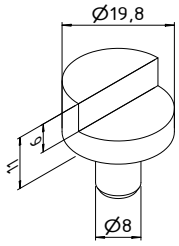
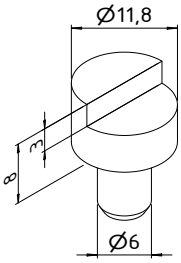
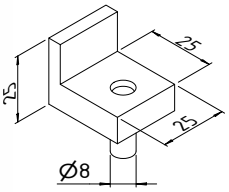
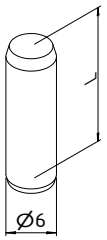
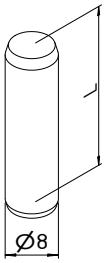
		APPLICATION	PRODUCT LINES
Part No.: K551253 Weight 90 g **Adjustable location pin top M6 eco-fix*plus*** For the adjustment of the required height of receiving positions. With ø 8 mm bore for connecting of elements with 8mm connecting pin.	 To be used with K551241 		eco-fix*plus*
Part No.: K551241 Weight 107 g **Adjustable location pin bottom eco-fix*plus*** For the adjustment of the required height of receiving positions. To be used with K551252 or K551253 for M6 connection	  *Requires screw K550592-10 for M6 connection		eco-fix*plus*
Part No.: K550529-10 L = 50 mm Weight 110 g **Turn-swivel joint ø 20 mm eco-fix*plus*** To create free positions in space. ø 8mm connection pin M6 connection thread.	 		eco-fix*plus*
Part No.: K550521-10 L =25mm Weight 105 g **Cube eco-fix*plus*** For the rectangular change of direction in the room ø 6mm through hole M6 connection thread. Can be attached with M6 screw K550564 or pin connectors.	 		eco-fix eco-fix*plus*
Part No.: K550335-10 Weight 25 g **Pin connector ø 8 mm eco-fix*plus*** For e.g., as a rotating joint in connection with ø 20 mm location pin K551043.	 		eco-fix eco-fix*plus*

eco-fix · eco-fix*plus*

	APPLICATION	PRODUCT LINES
Part No.: K550422-10 Weight 20 g **Pin connector ø 6 mm eco-fix*plus*** For e.g., as a rotating joint in connection with ø 12 mm location pin K551042. 		eco-fix eco-fix*plus*
Part No.: **K550592-10** L = 20 mm, Weight 5 g **K550557-10** L = 25 mm, Weight 6 g **Threaded bolt M6 eco-fix*plus*** For the connection of threaded eco-fix*plus* location pins. 	K550557-10 K550592-10	eco-fix*plus*
Part No.: K551332 Weight 150 g **Articulated stand S** In connection with clamping hand K550717 or mounting brackets for quick and easy positioning of workpieces in the measuring volume of the CMM. 		eco-fix eco-fix*plus*
Part No.: K551303 Weight 460 g **Articulated stand M** In connection with clamping hand K550717 or mounting brackets for quick and easy positioning of workpieces in the measuring volume of the CMM. 		eco-fix eco-fix*plus*
Part No.: K551335 Weight 980 g **Articulated stand L** Directly mount M6 components or use mounting bracket K551045 for quick and easy positioning of workpieces in the measuring volume of the CMM. 		eco-fix eco-fix*plus*

Positioning components

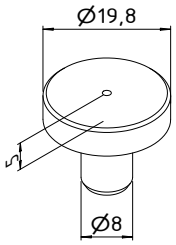
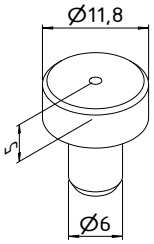
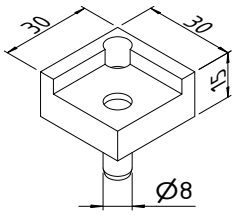
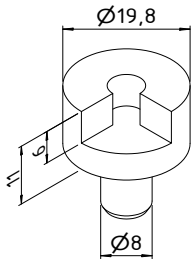
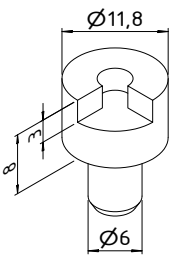
Pins, spherical contact points, prisms and other positioning components

		APPLICATION	PRODUCT LINES
Part No.: K550982 Weight 25 g **Stopper element ø 20 mm** For receiving a workpiece in a defined position.			eco-fix eco-fix*plus*
Part No.: K550250 Weight 8 g **Stopper element ø 12 mm** For receiving a workpiece in a defined position.			eco-fix
Part No.: K550249 Weight 77 g **Stopper element 25 x 25 mm** For location-defined workpiece mounting.			eco-fix eco-fix*plus*
Straight pin ø 6 mm To be used as stopper element together with positioning pins with a ø 6 mm hole.			eco-fix
Straight pin ø 8 mm To be used as stopper element together with positioning pins with a ø 8 mm hole.			eco-fix eco-fix*plus*

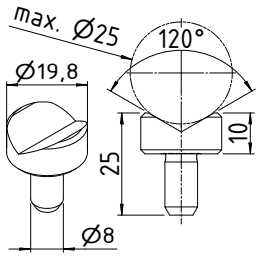
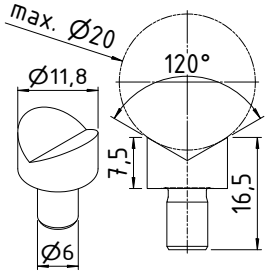
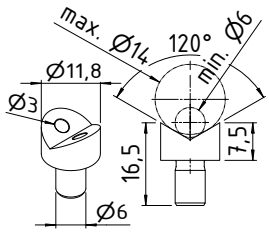
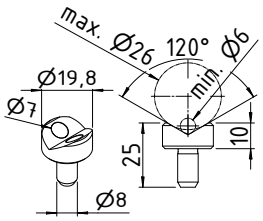
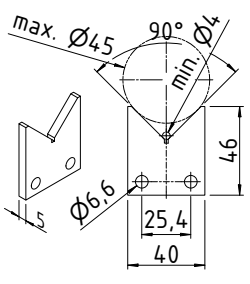
Part No.:	L mm	weight g
K550888	20	4
K550889	30	7
K550890	40	12

Part No.:	L mm	weight g
K550000	30	12
K550001	5ß0	19
K550002	65	25
K550003	85	30

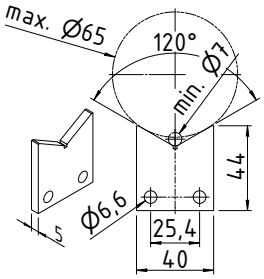
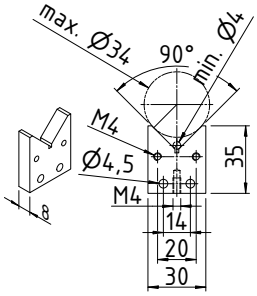
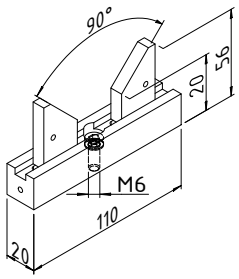
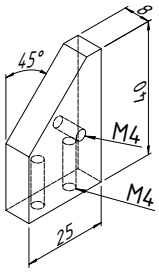
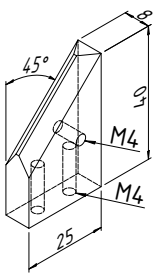
eco-fix · eco-fix*plus*

	APPLICATION	PRODUCT LINES
Part No.: K551070 Weight 17 g **Flat top ø 20 mm** For direct workpiece support. 		eco-fix eco-fix*plus*
Part No.: K551069 Weight 6 g **Flat top ø 12 mm** For direct workpiece support. 		eco-fix
Part No.: K550042 Weight 104 g **Back square 30 x 30 mm** For receiving a workpiece in a defined position. 		eco-fix eco-fix*plus*
Part No.: K550248 Weight 27 g **Back square ø 20 mm** For receiving a workpiece in a defined position. 		eco-fix eco-fix*plus*
Part No.: K550247 Weight 25 g **Back square ø 12 mm** For receiving a workpiece in a defined position. 		eco-fix

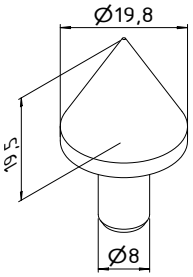
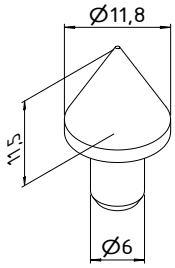
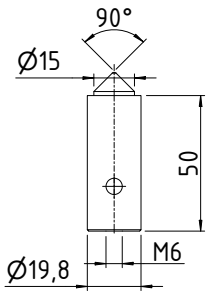
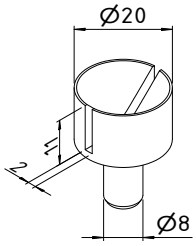
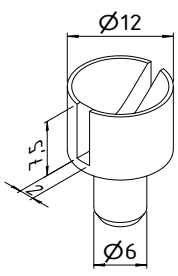
Positioning components

		APPLICATION	PRODUCT LINES
Part No.: K550058 Weight 24 g **V-block ø 20 mm** For receiving of e.g. rotationally symmetrical parts in a defined position.			eco-fix eco-fix*plus*
Part No.: K550262 Weight 7 g **V-block ø 12 mm** For receiving of e.g. rotationally symmetrical parts in a defined position.			eco-fix
Part No.: K551251 Weight 100 g **Magnetic V-block ø 20 mm** For receiving and magnet clamping of e.g. rotationally symmetrical parts in a defined position.			eco-fix eco-fix*plus*
Part No.: K551250 Weight 100 g **Magnetic V-block ø 12 mm** For receiving and magnet clamping of e.g.rotationally symmetrical parts in a defined position.			eco-fix
Part No.: K550340 Weight 65 g **Support prism 90°** For receiving of e.g. rotationally symmetrical parts in a defined position. *Connect with fastening element K550522-10			eco-fix eco-fix*plus*

eco-fix · eco-fix*plus*

		APPLICATION	PRODUCT LINES
Part No.: K550341 Weight 65 g **Support prism 120°** For receiving of e.g. rotationally symmetrical parts in a defined position. *Connect with fastening element K550522-10			eco-fix eco-fix*plus*
Part No.: K550436 Weight 20 g **Support prism 90°, small** For receiving of e.g. rotationally symmetrical parts in a defined position.			eco-fix eco-fix*plus*
Part No.: K550523 Weight 330 g **Universal prism** For receiving of e.g. rotationally symmetrical parts in a defined position Ø 2 - 125 mm.			eco-fix eco-fix*plus*
Part No.: K550343 Weight 8 g **Exchangeable prism wing for universal prism**			eco-fix eco-fix*plus*
Part No.: K550355 Weight 8 g **Exchangeable knife edge prism wing for universal prism**			eco-fix eco-fix*plus*

Positioning components

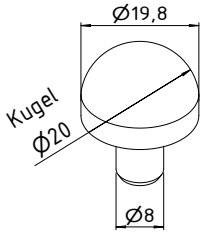
		APPLICATION	PRODUCT LINES
Part No.: K550365 Weight 26 g **Cone receiver ø 20 mm** For receiving parts in bores or centerings etc.			eco-fix eco-fix*plus*
Part No.: K550261 Weight 6 g **Cone receiver ø 12 mm** For receiving parts in bores or centerings etc.			eco-fix
Part No.: K551323 Weight 90 g **Spring-loaded cone support** Used as a centering surface support in bores drilling and center holes.			eco-fix eco-fix*plus*
Part No.: K550996 Weight 26 g **Center mount ø 20 mm** For receiving e.g., rotationally symmetrical components without center hole.			eco-fix eco-fix*plus*
Part No.: K550995 Weight 7 g **Center mount ø 12 mm** For receiving e.g., rotationally symmetrical components without center hole.			eco-fix

eco-fix · eco-fix*plus*

	APPLICATION	PRODUCT LINES

Part No.: K551072
Weight 28 g

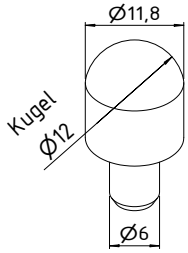
Sphere top ø 20 mm
For direct workpiece support
on non-regular surfaces.



eco-fix
eco-fix*plus*

Part No.: K551071
Weight 11 g

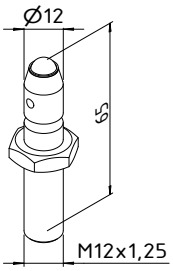
Support prism 90°
For receiving of e.g.
rotationally symmetrical parts
in a defined position.



eco-fix

Part No.: K550759-10
Weight 57 g

Ball screw M12
For the precise height adjustment
Of a receiving point.
To be used with adjustable
receiving pin bottom K551241 or
M12 bracket K550342-10.

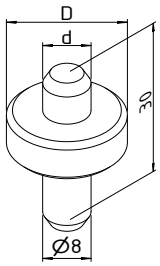


eco-fix

Cylinder pin insert
For workpiece receiving in bores.

Part No.:	d mm	D mm	weight g
K550059	4	10	25
K550060	4,5	10	25
K550061	5	10	25
K550062	5,5	10	26
K550063	6	10	26
K550064	6,6	20	26
K550065	8	20	27

further dimensions on request

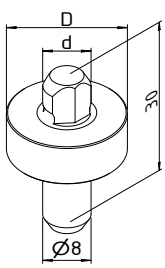


eco-fix
eco-fix*plus*

Blade pin insert
For workpiece receiving in bores.

Part No.:	d mm	D mm	weight g
K550081	4	10	25
K550082	4,5	10	25
K550083	5	10	25
K550084	5,5	10	26
K550085	6	10	26
K550086	6,6	20	26
K550087	8	20	27

further dimensions on request



eco-fix
eco-fix*plus*

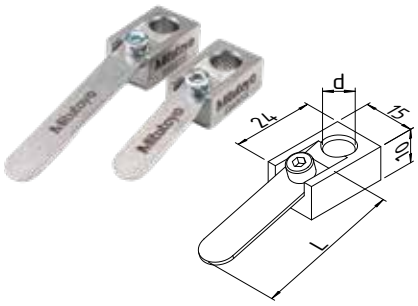
Clamping components

Spring clamps, vices, toggle clamps, magnetic clamps and accessories

	APPLICATION	PRODUCT LINES

Spring clip standard type

For simple and quick clamping of parts.

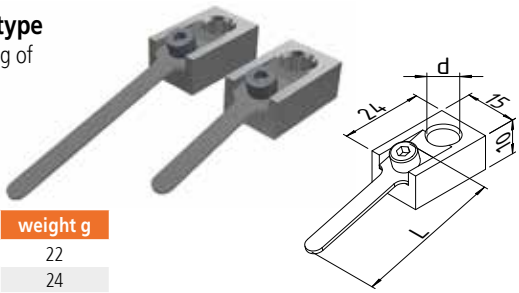


Part No.:	L mm	d mm	weight g
K550554	40	8	25
K550279	60	8	27
K550278	40	6	27
K550292	60	6	29

eco-fix
eco-fix*plus*

Spring clip 8 mm slim type

For simple and quick clamping of parts in confined spaces.

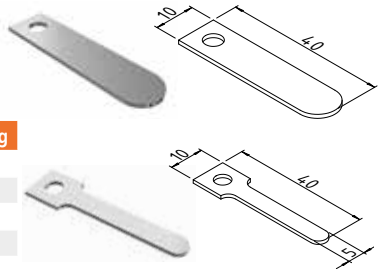


Part No.:	L mm	d mm	weight g
K551327	40	8	22
K551329	60	8	24

eco-fix
eco-fix*plus*

Spring for spring clip

For the exchange of springs in the spring clips



Part No.:	L mm	d mm	width	weight g
K550320	40	8	10	5
K550321	60	8	10	5
K550738-10	80	8	10	53
K551326	40	8	5	3
K551328	60	8	5	4

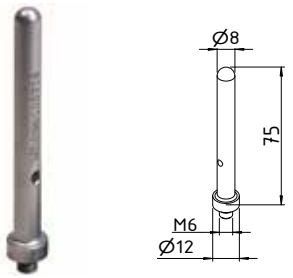
eco-fix
eco-fix*plus*

Part No.: K550716

Weight 32 g

Straight pin with thread

For receiving of spring clip, d = 8 mm, directly on base plates or assembly elements.



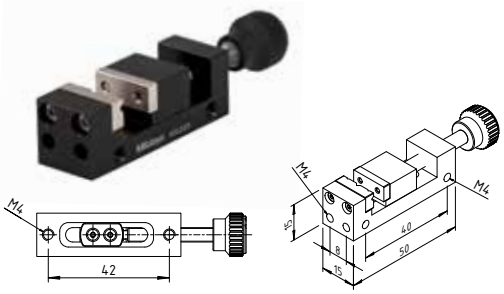
eco-fix
eco-fix*plus*

Part No.: K551334

Weight 40 g

opti-vice M4

One flat and one prismatic jaw. Clamping range 0-14 mm.



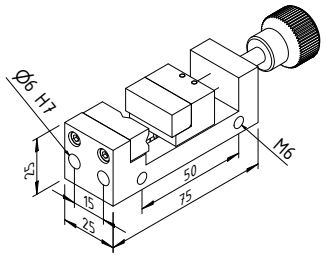
eco-fix
eco-fix*plus*
opti-fix

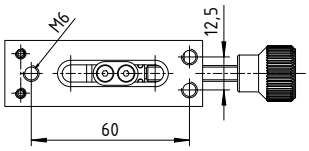
Connect with
M4 straight pin
K550891
K551017

	APPLICATION	PRODUCT LINES

Part No.: K551223
Weight 122 g

eco-vice M6
One flat and one prismatic jaw.
Clamping range 0-25 mm.



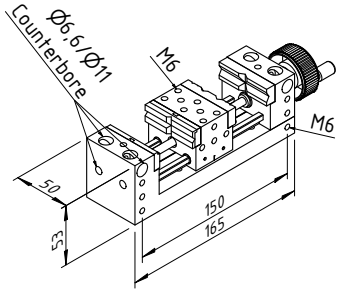


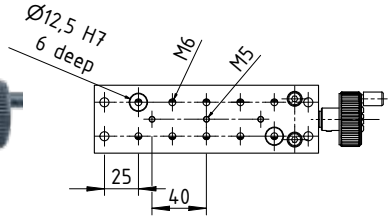
Bottom view

eco-fix
eco-fix*plus*

Part No.: K551078
Weight 920 g

eco-vice M6 Large
Clamping jaws equipped with prisms and surfaces can be changed and combined. By reason of the two-way double function, a very flexible fixation is possible. Connecting threads on the top of the jaws, allows e.g., in combination with pins, the internal fixation of e.g., turning workpieces. Clamping range 0-68 mm.





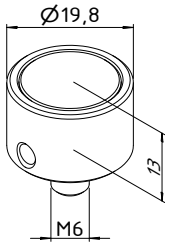
eco-fix

Clamping components

	APPLICATION	PRODUCT LINES

Part No.: K551074
Weight 15 g

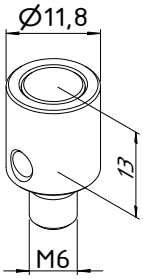
Magnetic receiver ø 20 mm eco-fix
For quick and easy magnetic clamping of workpieces.



eco-fix

Part No.: K551073
Weight 5 g

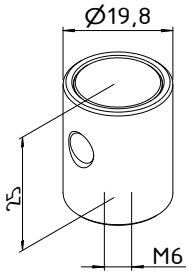
Magnetic receiver ø 12 mm eco-fix
For quick and easy magnetic clamping of workpieces.



eco-fix

Part No.: K551242
Weight 47 g

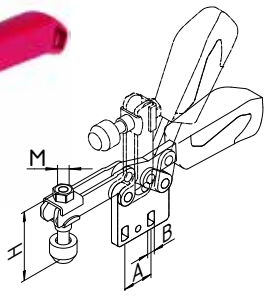
Magnetic receiver ø 20 mm eco-fix*plus*
For receiving a workpiece in a defined position.



eco-fix*plus*

Toggle clamp with pressure spindle
For simple and quick clamping of parts.

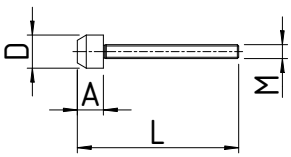
*Connect with fastening element K550522-10



Part No.:	M	H	A	B	Weight g
K550009-10	M8	58	25,5	6,5	337
K550010-10	M4	32	13,6	4,6	26

eco-fix
eco-fix*plus*

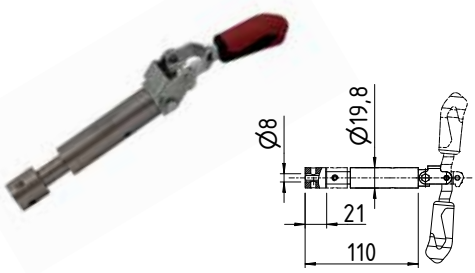
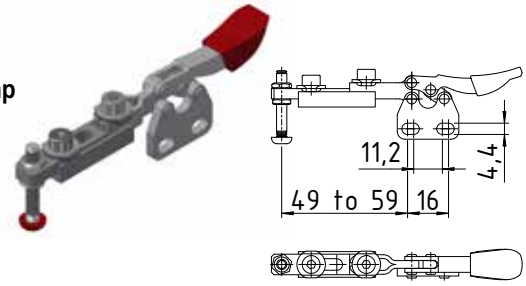
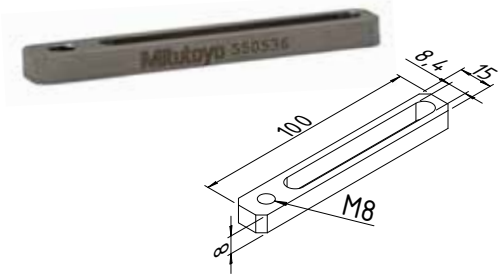
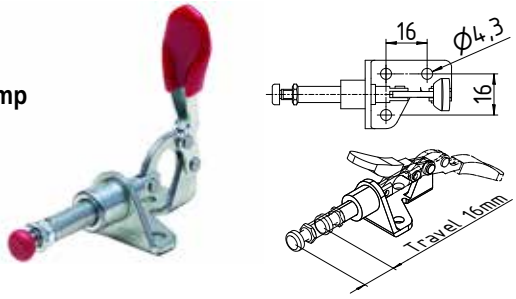
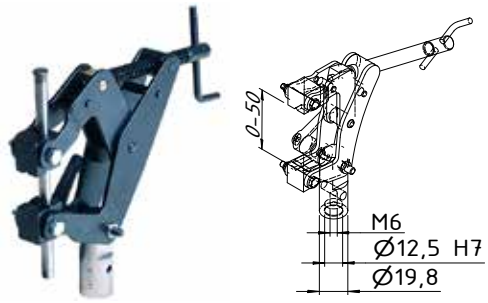
Special pressure spindle for toggle clamp
Extends the range of the toggle clamps.



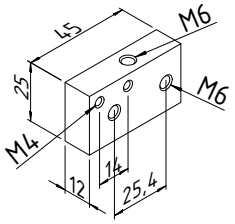
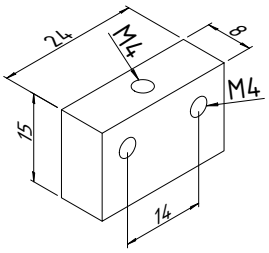
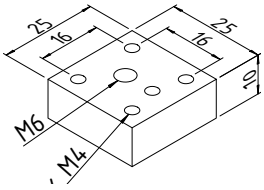
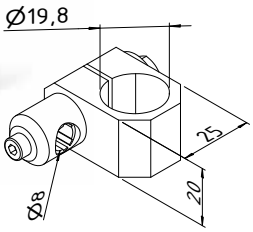
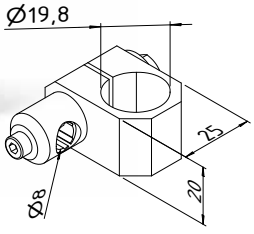
Part No.:	M	L	A	D	Weight g
K550012-10	M8	92,8	15	19	32
K550013-10	M4	46,3	8,5	11	7

eco-fix
eco-fix*plus*

eco-fix · eco-fix*plus*

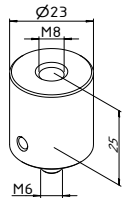
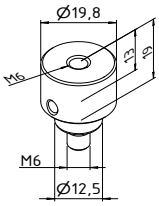
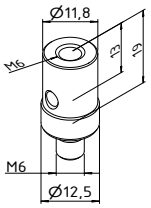
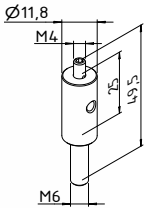
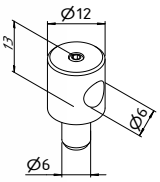
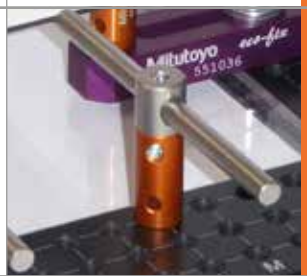
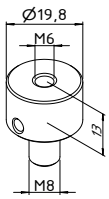
	APPLICATION	PRODUCT LINES
Part No.: K551325 Weight 297 g **Axially adjustable center mount** For holding workpieces in bores that must be cleared again for measurement. 		eco-fix eco-fix*plus*
Part No.: K550277-10 Weight 42 g **Adjustable toggle clamp** Toggle clamp with slidable adjustment of the clamping position. 		eco-fix eco-fix*plus*
Part No.: K550536-10 Weight 536 g **Clamping extension M8** To extend the range of toggle clamp K550277-10 with pressure spindle M8. 		eco-fix eco-fix*plus*
Part No.: K550492-10 Weight 40 g **Vertical push rod clamp** For clamping workpieces in vertical position. 		eco-fix eco-fix*plus*
Part No.: K551336 Weight 450 g **Clamping hand** For quick and easy clamping of workpieces. 		eco-fix eco-fix*plus*

Clamping components

		APPLICATION	PRODUCT LINES
Part No.: K550522-10 Weight 95 g **Fastening element toggle clamps receiving prisms** For connecting the toggle clamps and mounting prisms.			eco-fix eco-fix*plus* K550009-10 K550010-10 K550277-10 K550340 K550341 K550436
Part No.: K550424-10 Weight 20 g **Receiving cuboid, small** For fastening the toggle clamps with an M4 threaded connection.			eco-fix eco-fix*plus* K550010-10 K550277-10
Part No.: K550356-10 Weight 43 g **Mounting plate 25** For holding the push rod clamps vertically and horizontally M4.			eco-fix eco-fix*plus* K550492-10
Part No.: K551203 Weight 60 g **Indicator holder for eco-fix ø 20 mm** Joint for connecting dial gauges and indicators.			eco-fix eco-fix*plus*
Part No.: K551204 Weight 60 g **Indicator holder for eco-fix ø 12 mm** Joint for connecting dial gauges and indicators.			eco-fix

Adapters

Combine components from different product lines

		APPLICATION	PRODUCT LINES
Part No.: K551153 Weight 20 g **Adapting bolt for master ball** For connecting master balls to eco-fix base plates.			master balls
Part No.: K551067 Weight 20 g **Adaption eco-fix to repro-fix Ø 20 mm** For connecting the Ø 20mm eco-fix location pins on repro-fix base plates or profiles, or for connecting Ø20mm eco-fix and repro-fix location pins.			repro-fix eco-fix eco-fix*plus*
Part No.: K551066 Weight 20 g **Adaption eco-fix to repro-fix Ø 12 mm** For connecting the Ø 12mm eco-fix location pins on repro-fix base plates or profiles, or for connecting Ø12mm eco-fix and Ø 20mm repro-fix location pins.			repro-fix eco-fix eco-fix*plus*
Part No.: K551211 Weight 15 g **Adaption eco-fix to repro-fix Ø 12 mm** For connecting eco-fix and repro-fix mini location pins.			repro-fix eco-fix eco-fix*plus*
Part No.: K551189 Weight 15 g **Adaption eco-fix to opti-fix Ø 6 mm** For connecting the eco-fix components to opti-fix components.			opti-fix eco-fix eco-fix*plus*
Part No.: K551065 Weight 30 g **Adapting bolt M6 M8** For connecting eco-fix components to M8 threads.			eco-fix eco-fix*plus*

Screws and tools

PRODUCT LINES

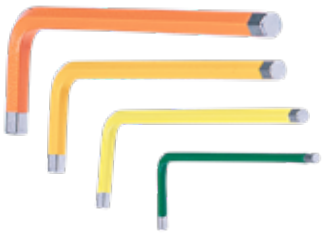
Part No.: K551288 eco-fix tool kit

Part No.	Qty.	Part name	Color	
Tools		Type		size
K551050	1	Allen key	green	2 mm
K551051	1	Allen key	yellow	3 mm
K551052	1	Allen key	dark yellow	4 mm
K551053	1	Allen key	orange	5 mm
K551054	1	double open-end spanner		AF 10-17
Total qty.	5			

eco-fix
eco-fix^{plus}

Allen keys for eco-fix, single items

Part No.:	Type	Color	size
K551050	Allen key	green	2 mm
K551051	Allen key	yellow	3 mm
K551052	Allen key	dark yellow	4 mm
K551053	Allen key	orange	5 mm



eco-fix
eco-fix^{plus}

Allen key with T-handle for eco-fix

Part No.:	Type	size
K550658	Allen key with T-handle	3 mm

eco-fix
eco-fix rail
eco-fix^{plus}

Open-end spanners for eco-fix

Part No.:	Type	size
K550131	Open-end spanner	AF 7
K550130	Open-end spanner	AF 13
K550367	Open-end spanner	AF 19

eco-fix
eco-fix^{plus}

Double open-end spanner for eco-fix

Part No.:	Type	size
K551054	Double Open-end spanner	AF 10-17

eco-fix
eco-fix^{plus}

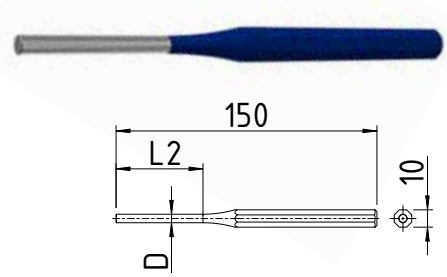
eco-fix · eco-fix*plus*

PRODUCT LINES

Location pin mounting key

For the assembly and disassembling of location pins.

Part No.:	Tip Ø mm	L2 mm	For location pin Ø
K550368	2,9	40	12
K550123	4,9	50	20

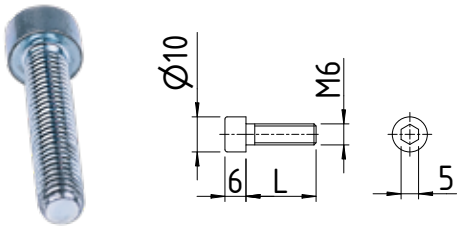


eco-fix
eco-fix*plus*

Cylinder head screw M6 eco-fix

For the connection of eco-fix components.

Part No.:	Type	Thread	Length
K550110	Cylinder head screw	M6	20 mm
K550563	Cylinder head screw	M6	25 mm
K550564	Cylinder head screw	M6	30 mm

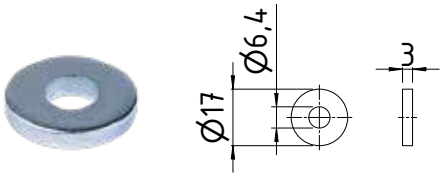


eco-fix
eco-fix*plus*

Washer M6 eco-fix

For the connection of threaded eco-fix*plus* location pins.

Part No.:	Type	Hole ø	Total ø
K550591	Washer M6	6,4 mm	17 mm

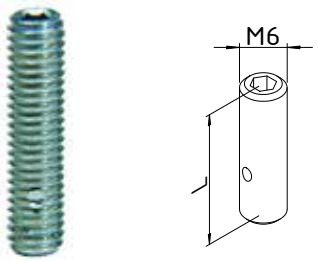


eco-fix
eco-fix*plus*

Threaded bolt M6 eco-fix*plus*

For the connection of threaded eco-fix*plus* location pins.

Part No.:	Type	Thread	Length
K550592-10	Threaded bolt	M6	20
K550557-10	Threaded bolt	M6	25



eco-fix*plus*

Modular Fixturing Systems

Mitutoyo opti-fix

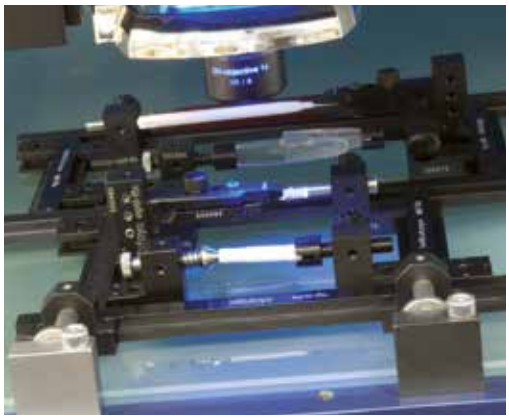
The modular clamping system opti-fix has been developed especially for optical coordinate measuring systems, but it also suits applications for microscopes and profile projectors.

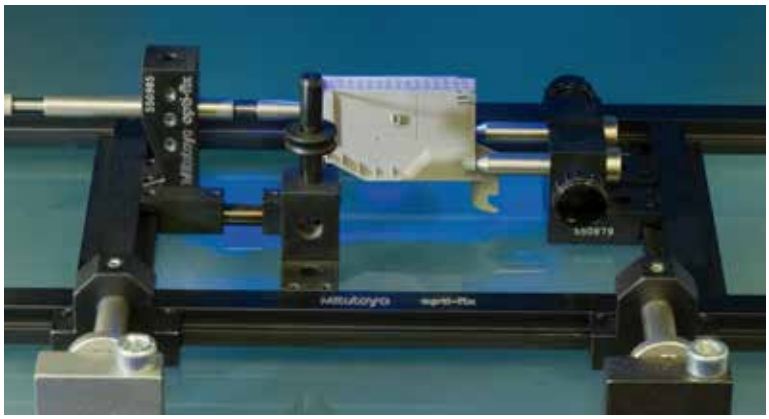
Mitutoyo opti-fix guarantees safe part fixture during measurement and consequently, ensures a permanent error-free transfer of measured values. This functional configuration makes also serial measurements considerably easier.

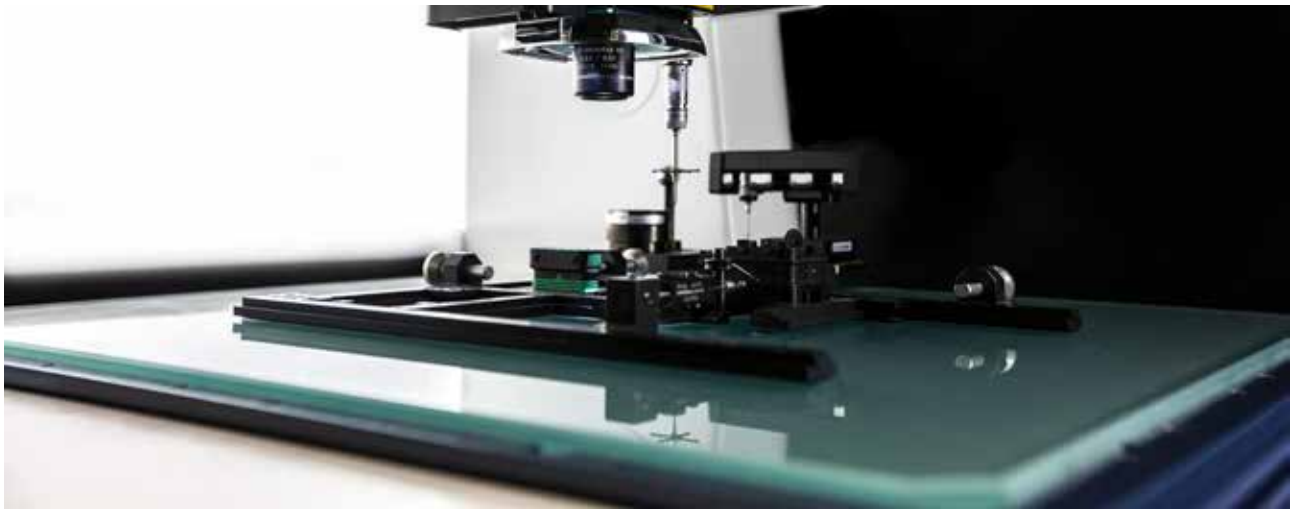
To reduce disturbing reflections of lighting systems and ambient light to a minimum, all important construction elements are anodised in a matte black finish.

For the mounting of the basic elements onto the CMM table there are different fastening types available.

- Magnet clamp connection for exchangeable modules. The base blocks are fixed to the thread positions of the XY frame. Recommended for optical CMM use.
- Direct connection by means of vacuum clamping plates, independent from the existing connecting threads at the sides of XY stage.
- Connection by means of fastening brackets using the connecting threads at the sides of the XY stage. This method is recommended for microscopes and profile projectors.







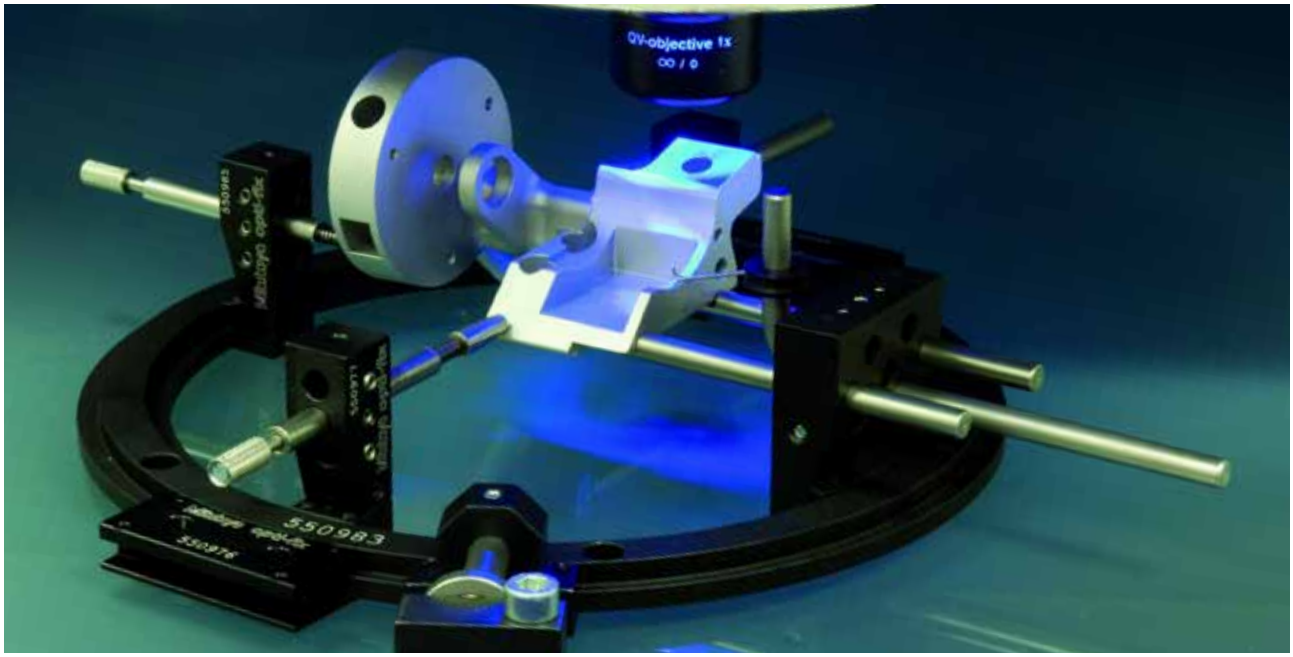
The Mitutoyo vision system fixturing system opti-fix

The opti-fix system allows the quick and safe solution of very different tasks using only a few components. In case of measuring methods using reflected as well as transmitted light for measurement of cubic, rotationally symmetrical, and especially flat workpieces, the use of opti-fix is a practical solution. Furthermore, the spring clips and centering pins of different design which are integrated in the system allows also tactile measuring. Mitutoyo opti-fix offers the user a large number of possibilities for part fixing, from clamping tweezers for miniature test specimens to precision vices for large parts.

Mitutoyo opti-round

The innovative, "Mitutoyo opti-fix round" frame allows by its circular design an infinitely variable adjustment of 360° in horizontal level as well as in space and additionally, the "pin fixing" at the sides ensures a user-friendly access to the workpiece.

Mitutoyo opti-fix round has been developed especially for workpieces with an exceptional geometry which could not be placed functionally within the measuring volume by means of the existing standard methods.
The combination of the two system types Mitutoyo opti-fix and opti-round allows the user professional part clamping for the whole parts range which needs optical/tactile measuring methods. No more improvisation in the field of optical coordinate measuring systems.



Modular Fixturing Systems

Base components – base plates and profiles

Flexible mounting on a solid frame or base plates the key to successful fixturing. Mitutoyo offers a wide range of profiles, that can be customized on request.

COMPONENT TYPE	MATERIAL

eco-fix opti-fix base plates

M6 threaded grid, 12,5mm grid pattern. Fully compatible to eco-fix components. opti-fix components can be combined by using adapter K551189.
Glass insert 160 mm.

Other sizes on request.

Available sizes	Thickness	Thread	Thread grid pattern spacing
250 x 250 mm	15 mm	M6	12,5 x 12,5 mm

MATERIAL: Hard-coated aluminium

Clamping profile rail – Connector groove

With front connector groove for construction of basic frames
Dual dovetail for component connection.

Other sizes on request.

Available sizes
100 mm
200 mm
240 mm
250 mm
310 mm
400 mm
500 mm

MATERIAL: Hard-coated aluminium

Clamping profile rail – Solid front

Solid front, for construction of basic frames
Dual dovetail for component connection.

Other sizes on request.

Available sizes
100 mm
200 mm
250 mm
310 mm
400 mm
500 mm

MATERIAL: Hard-coated aluminium

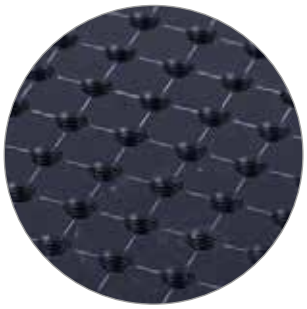
Circular clamping profile rail opti-round

As base for build-up elements of opti-round type
Dual dovetail for component connection.

Outer Ø	Inner Ø
190 mm	170 mm

MATERIAL: Hard-coated aluminium

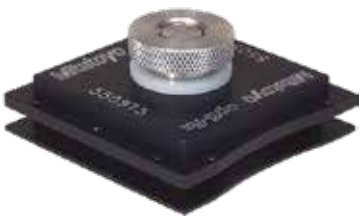
The Mitutoyo vision system fixturing system opti-fix

	APPLICATION	PRODUCT LINES
		opti-fix
		opti-fix
		opti-fix
Clamping block detail for opti-round		opti-fix

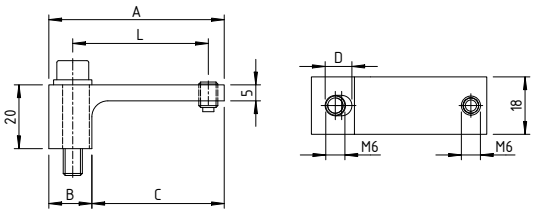
Modular Fixturing Systems

Base components – connectors and fasteners

The already stable profile frames can be reinforced by mounting corner connector elements.
The frame can be fixed to the machine table by using several options for clamping.

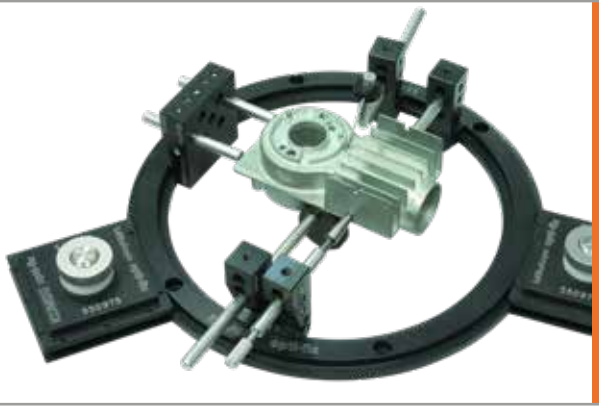
COMPONENT TYPE		MATERIAL
Connector with connector grooves For rectangular connection of profile rails, respectively for reinforcement of profile connections.		Hard-coated aluminium
Connector with dovetail connector E.g., for front end connection to profile rails with connector groove. That way, rectangular connection of profiles with connector groove can be achieved, but also build-up components can be connected.		Hard-coated aluminium
Magnet holder Mag For quick and easy mounting of opti-fix systems to the machine frames by magnets. Adjustable to the table dimension of the measuring devices. The magnet holder are recommended for the use with Optical-CMM. Other sizes on request.		Hard-coated aluminium
Fastening bracket For mounting of basic profiles or frames on measuring devices. The brackets are usually used with profile projectors and similar optical systems.		
Vacuum plate For easy mounting of profiles or of the circular clamping profile directly on the glass plate of the measuring device.		

Pin lengths	Block heights
20mm	27,5mm
25mm	41,5mm
35mm	



Clamping range	L	20,0 - 87,5 mm depending on model
Total length	A	35,0 - 98,0 mm depending on model
Base length	B	13,5 - 62,0 mm depending on model
Free length	C	21,5 - 36,0 mm depending on model
Long hole	D	5,0 or 8,0 mm depending on model

The Mitutoyo vision system fixturing system opti-fix

	APPLICATION	PRODUCT LINES
		opti-fix
		opti-fix
Recommended minimum quantity 3pcs. Depending on frame size. Different lengths of the holder pins make sure, that the pin is never protruding the measuring range. (Applies for Mitutoyo machines). Two holder block heights available to adjust to different glass heights.		opti-fix
Recommended minimum quantity 3pcs. Depending on frame size		opti-fix
Recommended minimum quantity 2pcs. Depending on frame size		opti-fix

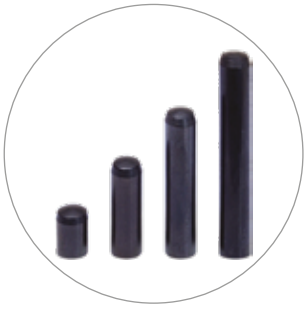
Modular Fixturing Systems

Build-up components

In order to ensure the most flexible positioning of receiving and clamping components, a full range of build-up components is available.

COMPONENT TYPE		MATERIAL
Clamping blocks For mounting of the positioning components such as e.g. receiver pins or pins to mount spring clamps on. **There are three different types:** · Clamping block small (3 receiver positions) · Clamping block small rotatable (3 receiver positions) · Clamping block large (7 receiver positions) All three are available for straight profile frames and for opti-round		Hard-coated Aluminium fixed rotatable
Knuckle joint with dovetail In connection with clamping fixture M4 K550853 for the construction of any angle.		Hard-coated aluminium
Telescope extension In order to reach remote positions, the telescope extension can help to set up a spring clip far off the reach of the profile. This requires the use of a straight pin ø 6 mm for the telescope connection and a M4 pin to set up the spring clamp.		Hard-coated aluminium
M4 connectivity A variety of components with one or more M4 thread holes, ensures the ability to set up e.g., a M4 threaded pin for a spring clip, wherever it is required.		Hard-coated aluminium

The Mitutoyo vision system fixturing system opti-fix

	APPLICATION	PRODUCT LINES
The **rotatable clamping block** is to be used, when the fixed clamping block is not suitable.		opti-fix
		opti-fix
 **Straight pin ø 6 mm** As connecting element e.g., for telescope fixture or spring clips.		opti-fix
		opti-fix

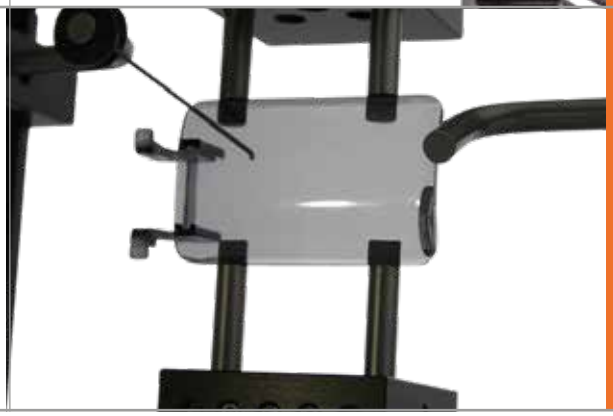
Modular Fixturing Systems

Positioning components

Positioning and stopper components are used for accurately defining the position and to reposition the part.
These components come in a wide range of choice.

COMPONENT TYPE		MATERIAL
Toothed fixtures The teeth of these components allow to measure points on the part contour in transmitted light application, while providing a stable positioning. They are available in 40mm and 100mm length, in standard and fine teeth versions and are clamped on the rail base.		Hard-coated Aluminium
Swivel receivers Swivel receivers are usually used for 3-point positionng. They give away a maximum of the part contour while ensuring a stable repositioning. Blade and round type available. ø 6 mm pin required.		
Receiver components These receiver components are to be mounted on the clamping blocks. The eccentric positioning of the receiving disc makes K550970 and K550972 easy to height adjust. Depending on the type they can be used to receive flat or round shaped parts.		
Receiver pins The receiver pins feature different tips. They are chosen depending on the part size and work as stopper components for locating and repositioning of the part. Also available with a magnet insert at the tip for direct magnet clamping of the workpiece.		

The Mitutoyo vision system fixturing system opti-fix

	APPLICATION	PRODUCT LINES
		opti-fix
		opti-fix
		opti-fix
		opti-fix

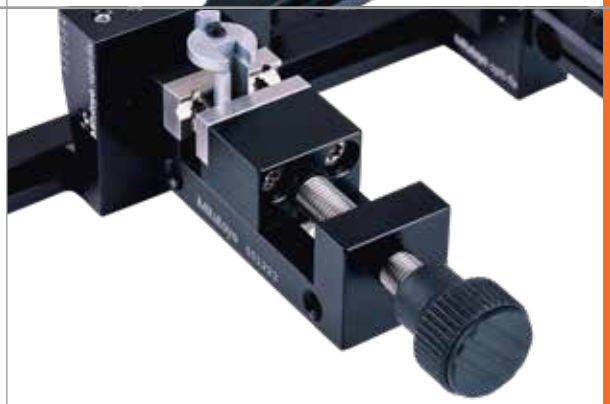
Modular Fixturing Systems

Clamping components

Repeatable fixturing relies on a secure clamping of the to be measured component.
Therefore, a wide selection of clamping components is available.

COMPONENT TYPE		MATERIAL
Spring clamps Available in different lengths and clamping angles. They can be set up on ø 6 mm straight- or rectangular receiver pins.		Hard-coated Aluminium
Clamping vises Different vises ensure flexible clamping of different part shapes.		Hard-coated Aluminium
Tailstock clamping Rotationally symmetric and other parts, are easily clamped by using tailstocks. Different tailstock centres are available to suit a multitude of part shapes.		Hard-coated Aluminium
Clamping tweezers with exchangable tips For the clamping of small and smallest specimen. The tweezers can be mounted in e.g., rotatable and swivel receiver, tailstock, clamping blocks or articulated arm. The use of different exchangeable tips allows extension of the clamping ranges at a reasonable price.		

The Mitutoyo vision system fixturing system opti-fix

	APPLICATION	PRODUCT LINES
		opti-fix
		opti-fix
		opti-fix
		opti-fix

Kit opti-set Start

Part No.: K551056

Part No.	Qty.	Part name
Base Components		
K550838	1	Connector clamp. profile rail; L = 100 mm
K550854	1	Clamping profile rail without slot L = 250 mm
K550842	1	Connector with connector grooves
Build-up Components		
K550853	3	Clamping fixture (with thread M4)
Positioning Components		
K550845	2	Toothed fixture L = 40 mm
K550843	1	Toothed fixture L = 100 mm
Clamping Components		
K550978	1	Spring clip 30° short
K550980	1	Spring clip 30° long
K550979	1	Spring clip 15° short
K550891	3	Straight pin for holding-down devices L = 30 mm
Tools		
K551020	1	Allen key 1.5 mm
Total	16	

Smallest kit, consisting of 16 parts, for construction of a simple rail system with a length of 250 mm, for fixing parts with a simple part geometry.

Frame shape	Application
L-shaped frame 250 x 100mm	Clamping of parts on the machine glass

Fastening brackets, vacuum plates or magnetic holders for mounting the clamping system on the measuring machine, please order separately.

Required parts	Type	Page
Attachment parts depending on the machine frame	Vacuum plate	135
	Magnetic frame clamps	136
	Frame clamping brackets	137

Kit opti-set Basic

Part No.: K551057

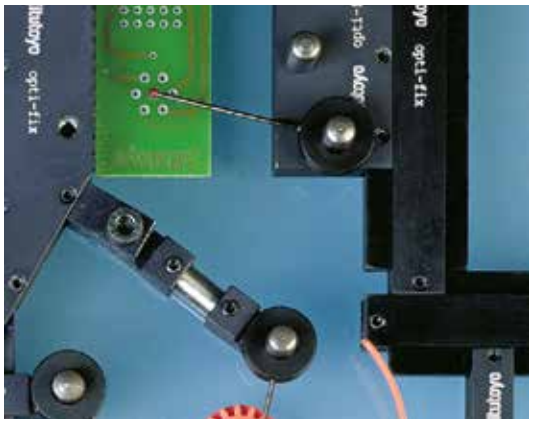
Part No.	Qty.	Part name
Base Components		
K550838	3	Connector clamp. profile rail; L = 100 mm
K550857	2	Clamping profile rail without slot L = 200 mm
Build-up Components		
K550853	4	Clamping fixture (with thread M4)
Positioning Components		
K550845	4	Toothed fixture L = 40 mm
Clamping Components		
K550978	2	Spring clip 30° short
K550980	2	Spring clip 30° long
K550979	2	Spring clip 15° short
K550981	2	Spring clip 15° long
K550891	4	Straight pin for holding-down devices L = 30 mm
Tools		
K551020	1	Allen key 1.5 mm
Total	26	

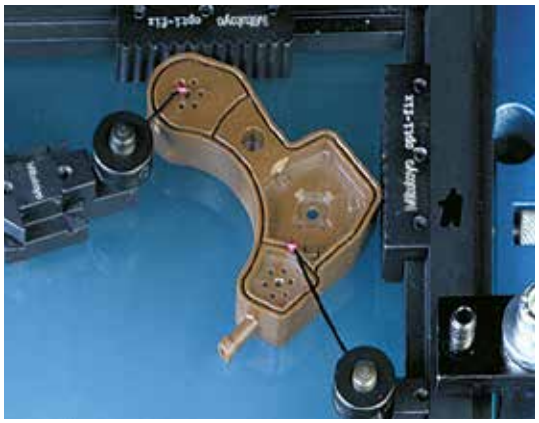
Kit, consisting of 26 parts, for construction of a basic frame with the dimensions of 400 mm x 250 mm, for fixing parts with complex part geometry.

Frame	Application
Rectangle shaped frame one cross-link 200 x 200 mm	Clamping of parts on the machine glass

Fastening brackets, vacuum plates or magnetic holders for mounting the clamping system on the measuring machine, please order separately.

Required parts	Type	Page
Attachment parts depending on the machine frame	Vacuum plate	135
	Magnetic frame clamps	136
	Frame clamping brackets	137

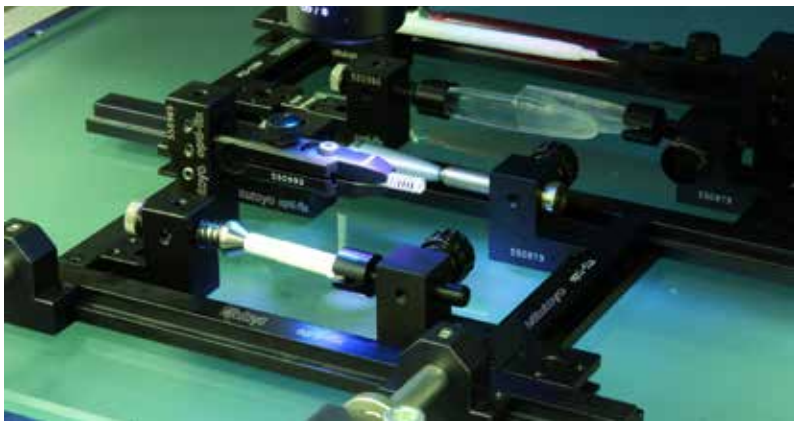




Kit opti-set Rotation

Part No.: K551058

Part No.	Qty.	Part name
Base Components		
K550854	2	Clamping profile rail; L = 250 mm
K550859	2	Clamping profile rail; L = 200 mm
K550842	4	Connector with connector grooves
Build-up Components		
K550984	1	Clamping block GG
K550985	2	Clamping block GK
Positioning Components		
K550972	1	Prismatic eccentric receiver
K551062	2	Shaft 6 mm x 100 mm
K550303	2	Receiver pin stepped 100 mm
Clamping Components		
K550879	1	Tailstock with centre
K550986	1	Tailstock with spring-loaded centre
K550994	2	Centring receiver
K551018	1	Prism 120° compl. with spring clip
Tools		
K551020	1	Allen key 1.5 mm
K551021	1	Allen key 2 mm
Total	23	



Kit, consisting of 23 parts, for construction of a basic frame with the dimensions of 250 mm x 200 mm, for fixing parts with rotationally symmetrical parts with and without centre holes.

Frame	Application
Rectangle shaped frame 250 x 200 mm	Clamping of rotationally symetric parts

Fastening brackets, vacuum plates or magnetic holders for mounting the clamping system on the measuring machine, please order separately.

Required parts	Type	Page
Attachment parts depending on the machine frame	Vacuum plate	135
	Magnetic frame clamps	136
	Frame clamping brackets	137

Kit opti-set Advanced

Part No.: K551059

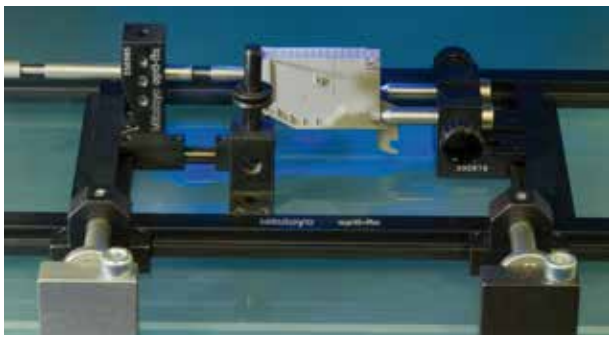
Part No.	Qty.	Part name
Base Components		
K550210	2	Clamping profile rail; L = 400 mm
K550836	3	Clamping profile rail; L = 250 mm
K550838	1	Clamping profile rail; L = 100 mm
K550842	6	Connector with connector grooves
Build-up Components		
K550984	2	Clamping block GG
K550985	1	Clamping block GK
K550213	1	Clamping block GKD, rotatable
Positioning Components		
K550858	1	Toothed fixture L = 100 mm
K550845	2	Toothed fixture L = 40 mm
K550970	1	Eccentric receiver
K550971	1	Prismatic receiver / locator
K550304	1	Receiver plane
K550301	3	Receiver pin stepped L = 60 mm
K550302	3	Receiver pin stepped L = 80 mm
K550303	3	Receiver pin stepped L = 100 mm
Clamping Components		
K551012	1	Spring-loaded clamping rod
K550978	3	Spring clip with bent tip, short L = 30°
K550979	3	Spring clip with bent tip, short L = 15°
K550980	3	Spring clip with bent tip, long L = 30°
K550981	3	Spring clip with bent tip, long L = 15°
K550323	2	Rectangular receiver pin L = 25 mm
K550990	3	Rectangular receiver pin L = 50 mm
Tools		
K551020	1	Allen key 1.5 mm
K551021	1	Allen key 2 mm
Total	51	

Kit, consisting of 51 parts, for construction of a basic frame with the dimensions of 400 mm x 250 mm, for fixing parts with complex part geometry.

Frame	Application
Rectangle shaped frame one cross-link 400 x 250 mm	Clamping of parts on the machine glass
	Clamping of e.g., flat parts above the glass

Fastening brackets, vacuum plates or magnetic holders for mounting the clamping system on the measuring machine, please order separately.

Required parts	Type	Page
Attachment parts depending on the machine frame	Vacuum plate	135
	Magnetic frame clamps	136
	Frame clamping brackets	137



Kit opti-set Professional

Very complex kit, consisting of 115 parts, for construction of a basic frame with the dimensions of 400 mm x 250 mm, for fixing parts with very complex part geometry. The fixing of parts with a rotational symmetrical part geometry can also be realized.

Frame	Application
Rectangle shaped frame with two intermediate cross-links 400 x 250 mm	Clamping of parts on the machine glass
	Clamping of e.g., flat parts above the glass
	Clamping of rotationally symetric parts
	Clamping parts of complex geometry

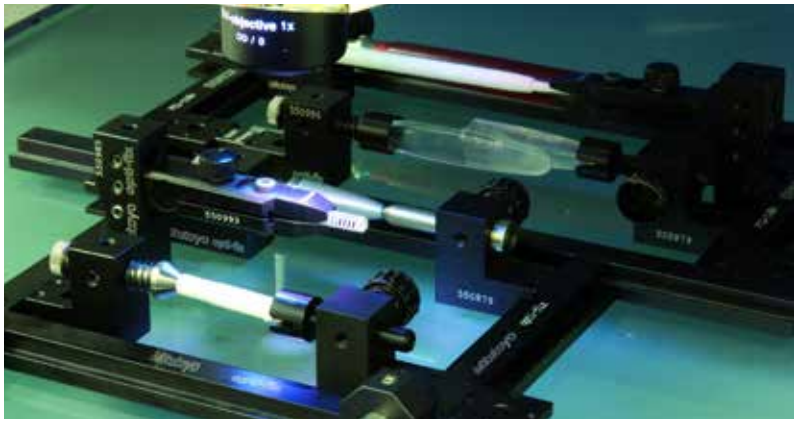
Fastening brackets, vacuum plates or magnetic holders for mounting the clamping system on the measuring machine, please order separately.

Required parts	Type	Page
Attachment parts depending on the machine frame	Vacuum plate	135
	Magnetic frame clamps	136
	Frame clamping brackets	137

Part No.: K551060

Part No.	Qty.	Part name
Base Components		
K550210	2	Clamping profile rail; L = 400 mm
K550836	4	Clamping profile rail; L = 250 mm
K550842	8	Connector with connector grooves
K550838	2	Clamping profile rail; L = 100 mm
Build-up Components		
K550984	2	Clamping block GG
K550985	2	Clamping block GK
K550213	2	Clamping block GKD, rotatable
K550853	8	Clamping fixture (with thread M4)
K550840	2	Knuckle joint with dovetail
K550839	4	Telescope fixture slider
K550852	4	Telescope fixture end piece
K551016	1	Adaptor plate M4
Positioning Components		
K550165	3	Toothed fixture flat L = 40 mm
K550324	2	Toothed fixture flat L = 100 mm
K550845	1	Toothed fixture flat L = 40 mm
K551013	2	Toothed fixture flat with fine teeth L = 40 mm
K550970	2	Eccentric receiver
K550972	2	Prismatic eccentric receiver
K550971	2	Prismatic receiver / locator
K550304	1	Receiver plane
K550887	4	Straight pin 6 x 10 mm
K550888	4	Straight pin 6 x 20 mm
K550889	4	Straight pin 6 x 30 mm
K550890	4	Straight pin 6 x 40 mm
K550851	2	Swivel receiver with knife edge
K550847	2	Swivel receiver with straight pin

Part No.	Qty.	Part name
Clamping Components		
K550978	2	Spring clip with bent tip, short 30°
K550979	2	Spring clip with bent tip, short 15°
K550980	2	Spring clip with bent tip, long 30°
K550981	2	Spring clip with bent tip, long 15°
K550990	3	Rectangular receiver pin L = 50 mm
K550323	3	Rectangular receiver pin L = 25 mm
K550891	4	Straight pin for holding-down devices L = 30 mm
K551017	4	Straight pin for holding-down devices L = 12 mm
K551018	1	Prism 120° compl. with spring clip
K551014	1	Precision quick chuck 0-4 mm
K550301	3	Receiver pin stepped L = 60 mm
K550302	3	Receiver pin stepped L = 80 mm
K550303	3	Receiver pin stepped L = 100 mm
K551012	2	Spring-loaded clamping rod
K550879	1	Tailstock with centre
K550986	1	Tailstock with spring-loaded centre
Tools		
K551020	1	Allen key 1.5 mm
K551021	1	Allen key 2 mm
Total	115	



Kit opti-set Round

Part No.: K550298

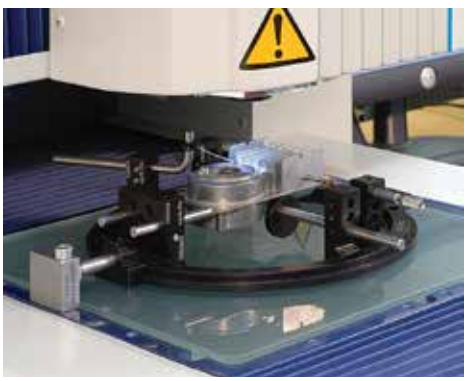
Part No.	Qty.	Part name
Base Components		
K550983	1	Circular clamping profile
Build-up Components		
K550977	1	Clamping block RKD; small, rotatable
K550969	1	Clamping block RK; small
K550968	2	Clamping block RG; large
Positioning Components		
K550302	3	Receiver pin 80 mm
K550970	1	Eccentric receiver
Clamping Components		
K550870	1	Spring clip 15° short
K550849	1	Spring clip 15° long
K550990	2	Rectangular receiver pin
K551012	1	Spring-loaded clamping rod
Adapters		
K550976	2	Adaptor plate
Tools		
K551020	1	Allen key 1.5 mm
K551021	1	Allen key 2 mm
Total	18	

Kit consisting of 18 parts, with locating and clamping elements, incl. adaptor plates for adaptation to e.g., basic frame of the rail system Mitutoyo opti-fix.

Frame	Application
Circular frame Ø190 mm	Clamping of e.g., flat parts above the glass

Fastening brackets, vacuum plates or magnetic holders for mounting the clamping system on the measuring machine, please order separately.

Required parts	Type	Page
Attachment parts depending on the machine frame	Vacuum plate	135
	Magnetic frame clamps	136
	Frame clamping brackets	137



eco-fix opti-kit S

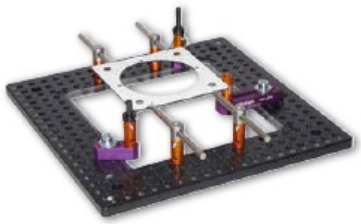
Part No.: K551233

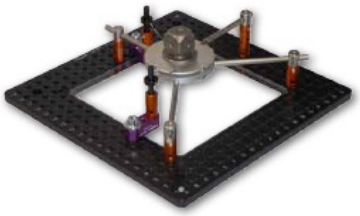
Part No.	Qty.	Part name
Base Components		
K551215	1	Base plate eco-fix/opti-fix for transmitted light measurement 250 mm x 250 mm
Build-up Components		
Columns		
K551024	2	Location pin ø 12 mm x 13 mm
K551025	2	Location pin ø 12 mm x 25 mm
K551026	2	Location pin ø 12 mm x 50 mm
K551041	1	Adjustable location pin ø 12 mm
K551042	6	Location pin ø 12 mm with bore 6 mm
Brackets		
K551035	2	Receiver bracket small
K551036	1	Receiver bracket large
Positioning Components		
K550302	2	Receiver pin stepped L = 80 mm
K550303	2	Receiver pin stepped L = 100 mm
K550971	1	Prismatic receiver / locator
K550972	1	Prismatic eccentric receiver
K550970	1	Eccentric receiver
K550889	1	Straight pin 6 x 30 mm
K550890	2	Straight pin ø 6 mm x 40mm
Clamping Components		
K550980	2	Spring clip large 30°
K550990	1	Rectangular receiver pin L = 50 mm
K550323	2	Rectangular receiver pin L = 25 mm
Adapters		
K551189	4	Adapter eco/opti-fix ø 6 mm
Screws and Washers		
K550563	3	Cylinder head screw M6 x 25 mm
K550591	3	Washer ø 6.4 mm x ø 17 mm
Tools		
K551050	1	Allen key 2 mm
K551053	1	Allen key 5 mm
K551054	1	Double open-ended spanner 10-17
Total qty.	45	

Fast loading kit, consisting of 45 parts, with location pins for free set-up on the base plate. By means of adapters that can be mounted on the eco-fix location pins, opti-fix positioning and clamping components can be incorporated in the fixture. The glass centered base plate allows for transmitted light measurement.

Frame	Application
Square base plate with glass insert 250 x 250 mm	Clamping of e.g., flat parts above the glass
	Clamping parts of complex geometry

For positioning on the stage glass of an optical CMM or similar. please prepare a repositioning angle from opti-fix parts.





Kit opti-set 202 302

Part No.: K551340

Part No.	Qty.	Part name
Base Components frame		
K551208	1	Clamping profile rail 310 mm with groove
K550835	2	Clamping profile rail 240 mm with groove
K550838	2	Clamping profile rail 100 mm with groove
K550842	2	Connector with connector grooves
Build-up Components		
K550853	4	Clamping fixture with M4 thread
Positioning Components		
K550165	2	Toothed fixture flat, L=40 mm
K550845	3	Toothed fixture, 40x10x10 mm
Clamping Components		
K550986	1	Tailstock with spring-loaded centre
K550879	1	Tailstock with centre
K550994	1	Centering Unit Opti-fix
K550980	2	Spring clip with bent tip, A=30° L=33 mm
K550981	2	Spring clip with bent tip, A=15° L=37 mm
K550891	4	Straight pin 6 mm, M4 L=10 mm
K551334	1	opti-vise M4 clamping range 0-14 mm
Tools		
K551020	1	Allen key 1.5 mm
Total	29	

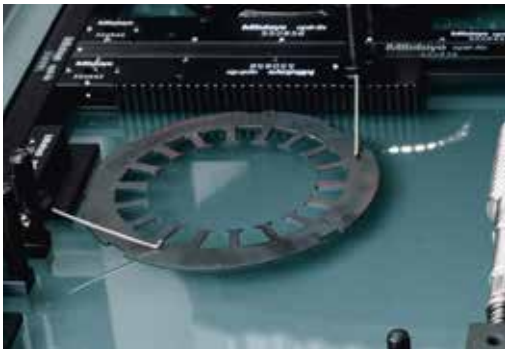
Kit consisting of 29 parts, with part for building a profile angle with a second, freely positionable rail in X direction. Clamp rotationally symmetrical parts using the tailstock or clamp items directly on the glass of the machine. The toothed rails allow measurements with transmitted light.
The opti-fix vise is included for further clamping options.

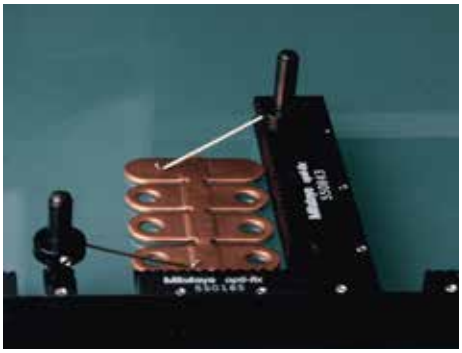
Concepted to suit the 202 and 302 model frames of Mitutoyo optical CMM.

Frame	Application
e.g., C- shaped frame with two intermediate cross-links 310 x 240 mm	Clamping of parts on the machine glass
	Clamping of rotationally symetric parts

For the correct magnet holders to fix the kit to the machine frame, please check the table on page 136.

Required parts	Type	Page
Attachment parts depending on the machine frame	Magnetic frame clamps	136





Kit opti-set 404

Part No.: K551341

Part No.	Qty.	Part name
Base Components		
K550210	1	Clamping profile rail, L=400 mm
K550991	1	Clamping profile rail 400 mm with groove
K550836	2	Clamping profile rail 250 mm with groove
K550842	4	Connector with connector grooves
Build-up Components		
K550853	6	Clamping fixture with M4 thread
K550890	2	Straight pin stopper ø 6 mm L = 40 mm
Positioning Components		
K550165	4	Toothed fixture flat, L=40 mm
K550858	2	Toothed fixture, 100x20x10 mm
K550843	2	Toothed fixture, 100x20x10 mm
K550845	4	Toothed fixture, 40x10x10 mm
Clamping Components		
K550980	3	Spring clip with bent tip, A=30° L=33 mm
K550981	3	Spring clip with bent tip, A=15° L=37 mm
K550891	6	Straight pin 6 mm, M4 L=10 mm
K550986	1	Tailstock with spring-loaded centre
K550879	1	Tailstock with centre
K550994	1	Centering Unit Opti-fix
K551339	1	Prism 120° with spring clip and integrated holder K551338
K551334	1	opti-vise M4 clamping range 0-14 mm
K551010	1	Precision vice for in/outside clamping
Tools		
K551020	1	Allen key 1,5 mm
K551021	1	Allen key 2 mm
Total	49	

Kit consisting of 49 parts, with part for building a profile angle with a second, freely positionable rail in X direction. Clamp rotationally symmetrical parts using the tailstock or clamp items directly on the glass of the machine. The toothed rails allow measurements with transmitted light.
The opti-fix vise is included for further clamping options.

Concepted to suit the 404 model frames of Mitutoyo optical CMM.

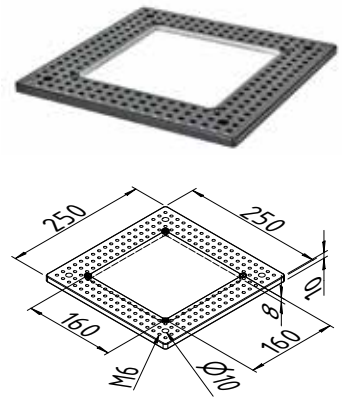
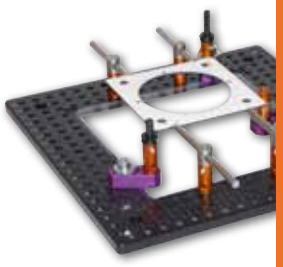
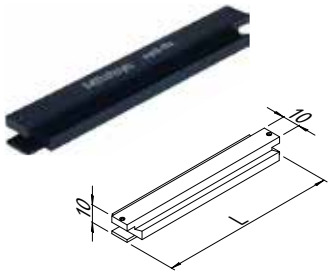
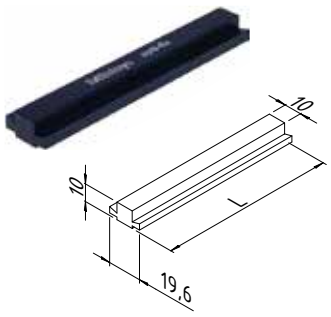
Frame	Application
e.g., L- shaped frame with two intermediadte cross-links 400 x 400 mm	Clamping of parts on the machine glass
	Clamping of rotationally symetric parts
	Clamping with vises

For the correct magnet holders to fix the kit to the machine frame, please check the table on page 136.

Required parts	Type	Page
Attachment parts depending on the machine frame	Magnetic frame clamps	136

Base components

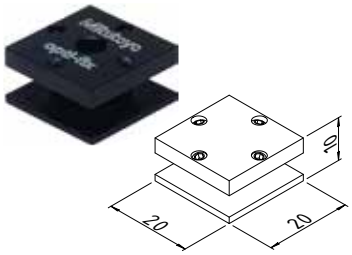
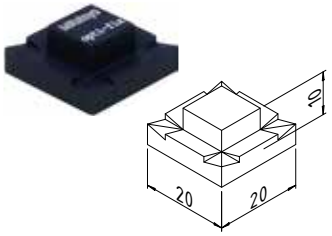
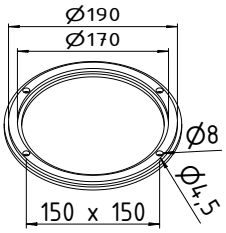
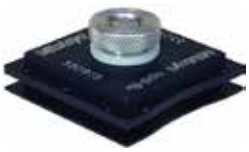
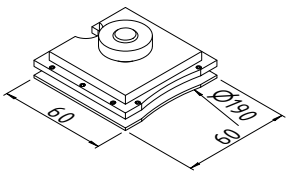
Base plates, profiles and other base components

BASE PLATES AND PROFILES		APPLICATION	PRODUCT LINES
Part No.: K551215 **Base plate eco- and opti-fix for contour illumination** 250 mm x 250 mm Made of hard-anodised aluminium, with connecting thread M6, grid distance 12.5 mm, contour illumination glass.			opti-fix
Clamping profile rail With front connector groove for construction of basic frames Further lengths available on demand.			opti-fix
Clamping profile rail Solid front, for construction of basic frames Further lengths available on demand.			opti-fix

Part No.:	L mm	weight g
K550838	100	45
K550859	200	85
K550835	240	105
K550836	250	110
K551208	310	125
K550991	400	190
K550920	500	230

Part No.:	L mm	weight g
K550861	100	45
K550857	200	110
K550854	250	165
K550834	310	125
K550210	400	205
K550992	500	220

opti-fix

CONNECTORS, OPTI-ROUND AND VACUUM FRAME-CLAMP	APPLICATION	PRODUCT LINES
Part No.: K550842 **Connector with connector grooves** 20 mm x 20 mm For rectangular connection of profile rails, respectively for reinforcement of profile connections.			opti-fix
Part No.: K550841 **Connector with dovetail connector** 20 mm x 20 mm E.g., for front connection to profile rails with connector groove.			opti-fix
opti-round **Part No.: K550983** **Basic circular clamping profile opti-round** As base for receiving elements of "opti-round" type.			opti-fix
Part No.: K550975 **Vacuum plate** 60 mm x 60 mm For easy mounting of profiles or of the circular clamping profile directly on the glass plate of the measuring device. Recommended minimum quantity 2pcs.	 		opti-fix

Base components

Base plates, profiles and other base components

MAGNETIC FRAME-CLAMPS

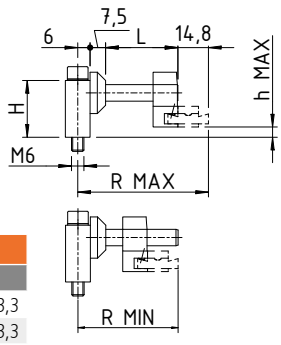
APPLICATION

PRODUCT LINES

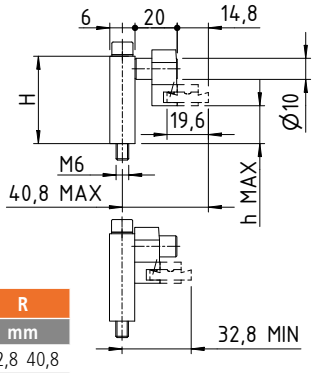
opti-fix

Magnetic holder Mag

For quick and easy mounting of opti-fix systems by magnets.
Easy removing or mounting of complete opti-fix fixtures.
Adjustable to the table dimension of the measuring devices.



Part No.:	L	H	h	R
	mm	mm	mm	mm
K550989	35	27,5	5	48,5 - 63,3
K551296	35	41,5	18	48,5 - 63,3
K551063	25	27,5	5	40,3 - 53,3
K551297	25	41,5	18	40,3 - 53,3



Part No.:	L	H	h	R
	mm	mm	mm	mm
K551316	20	27,5	5	32,8 40,8
K550325	20	41,5	18	32,8 40,8

Application of magnet clamps according to model.

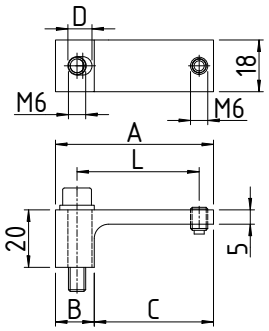
Model	XY stage	Part No.:	qty.	Part No.:	qty.
		X		Y	
QV-A 202	200x200mm	K551316	2	K551063	2
QV 302	300x200mm	K550989	2	K551063	2
MVS-302	300x200mm	K550989	2	K551063	2
QV WLI 302	300x200mm	K551296	2	K551297	2
QV-A 404	400x400mm	K551063	2	K551316	2
QV 404	400x400mm	K550989	2	K550989	2
MVS-404	400x400mm	K550989	2	K550989	2
QV WLI 404	400x400mm	K551296	2	K551296	2
Ultra QV 404	400x400mm	K551296	2	K551296	2
QV 606	600x650mm	K551296	2	K551296	2
QV WLI 606	600x650mm	K551296	2	K551297	2

The quantity is based on a safe and stable connection of the profile from 200mm of length.

FRAME CLAMPING-BRACKETS

Fastening brackets

For mounting of basic profiles or frames on measuring devices.



Delivered with M6 screw

In case of application in t-groove, use K551352

Part No.:	Clampimg range		Total length		Base length	Free length	Long hole	Long hole
	L min.	L max.	A	B	C	D	C	D
K550886	20,5	22,5	35,0	13,5	21,5	5,0	21,5	5,0
K550860	23,5	26,5	39,0	13,5	25,5	5,0	25,5	5,0
K550185	33,5	35,5	48,0	13,5	34,5	5,0	34,5	5,0
K550881	37,0	39,0	52,0	14,0	38,0	5,0	38,0	5,0
K550882	40,5	42,5	55,0	14,0	41,0	5,0	41,0	5,0
K550884	44,5	49,5	60,0	14,5	45,5	8,0	45,5	8,0
K550883	62,5	67,5	78,0	42,0	36,0	8,0	36,0	8,0
K550885	82,5	87,5	98,0	62,0	36,0	8,0	36,0	8,0

APPLICATION

PRODUCT LINES

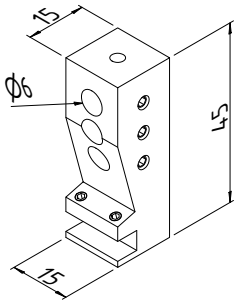
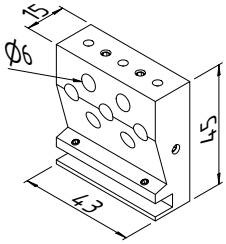
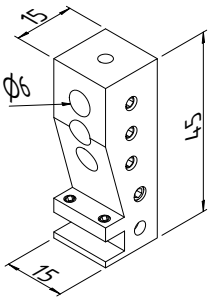
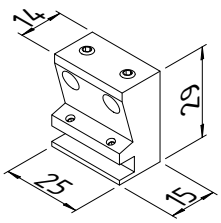
opti-fix

Application of fastening brackets according to model.

Model	XY stage	Part No.:	qty.	Part No.:	qty.	Part No.:	qty.
		Bracket X		Bracket Y		T-groove nut	
PV-5110	200x100mm	K550886	2	K550886	1		
PJ-Plus PJ-A 3000	100x100mm			K550185	3	K550963	3
PJ-A 3000	150x50mm	K550886	2	K550886	1	K550963	2
PJ-Plus	200x100mm	K550881	2	K550860	1		
PJ-A 3000	200x100mm	K550886	2	K550886	1		
PJ H30A	100x100mm			K550886	3	K550963	3
PJ H30A	200x100mm	K550886	2	K550886	1		
PJ H30A	200x170mm	K550884	2	K550185	1		
PJ H30A	300x170mm	K550884	2	K550185	1		
QS-L2010	200x100mm	K550881	2	K550860	1		
QS-L3017	300x170mm	K550884	2	K550185	1		
QS-L4020	400x200mm	K550881	2	K550185	1		
QI-AB1010	100x100mm	K550860	2	K550860	1		
QI-AB2010	200x100mm	K550881	2	K550860	1		
QI-AB2017	200x170mm	K550881	2	K550860	1		
QI-AB3017	300x170mm	K550884	2	K550185	1		
QI-AB4020	400x200mm	K550881	2	K550185	1		
QI-C2010D	200x100mm	K550881	2	K550860	1		
QI-C2017D	200x170mm	K550884	2	K550185	1		
QI-C3017D	300x170mm	K550884	2	K550185	1		

Build-up components

Build-up Components for the attachments of receiver pins and threaded pins

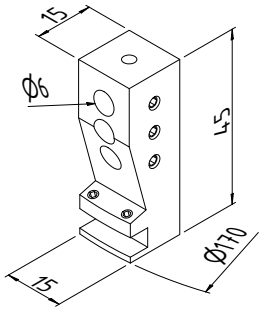
CLAMPING BLOCKS FOR STRAIGHT FRAME PROFILES	APPLICATION	PRODUCT LINES
Part No.: K550985 **Clamping block small** **Straight frame** 15 mm x 15 mm x 45 mm For receiving of the system components such as e.g. receiver pin or eccentric receiver. 		opti-fix
Part No.: K550984 **Clamping block large** **Straight frame** 45 mm x 15 mm x 45 mm For receiving of the system components such as e.g. receiver pin or eccentric receiver. 		opti-fix
Part No.: K550213 **Clamping block small rotatable** **Straight frame** 15 mm x 15 mm x 45 mm For receiving of the system components such as e.g. receiver pin or eccentric receiver Base rotatable for e.g., diagonal positioning. 		opti-fix
Part No.: K551338 **Holder for prism 120° K551018** 20 mm x 25 mm For attachment to e.g., articulated 25 mm. 		opti-fix

opti-fix

CLAMPING BLOCKS FOR OPTI-ROUND	APPLICATION	PRODUCT LINES

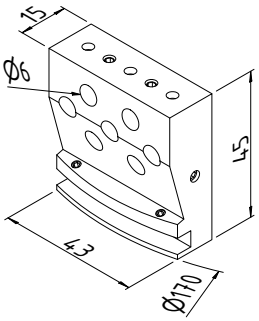
Part No.: K550969

Clamping block small
opti-round
15 mm x 15 mm x 45 mm
For receiving of the system components such as e.g. receiver pin or eccentric receiver.



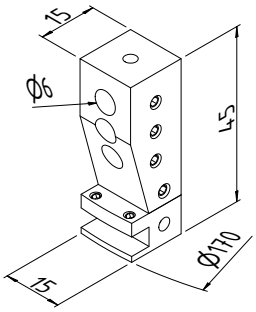
Part No.: K550968

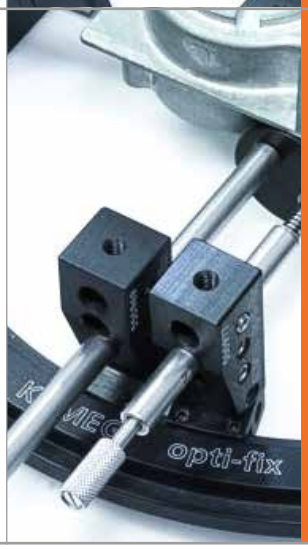
Clamping block large
opti-round
45 mm x 15 mm x 45 mm
For receiving of the system components such as e.g. receiver pin or eccentric receiver.



Part No.: K550977

Clamping block small rotatable
opti-round
15 mm x 15 mm x 45 mm
For receiving of the system components such as e.g. receiver pin or eccentric receiver.
Base rotatable for e.g., diagonal positioning.

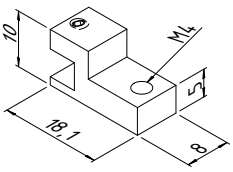
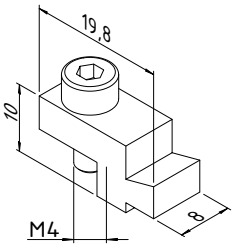
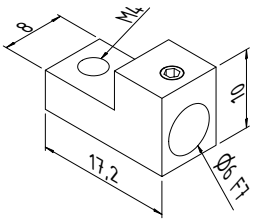
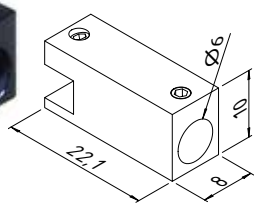
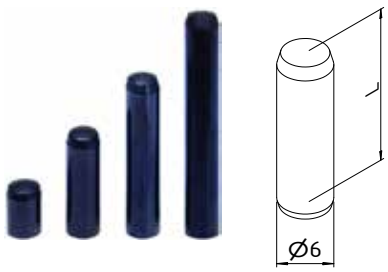




PRODUCT LINES: opti-fix

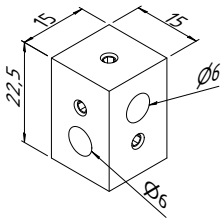
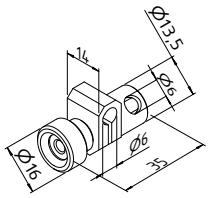
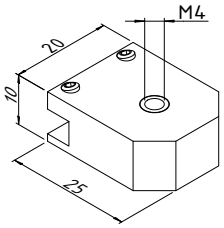
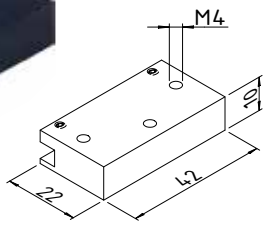
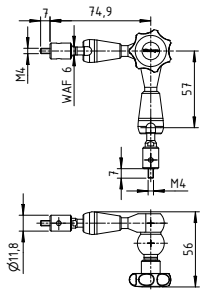
Build-up components

Build-up Components for the attachments of receiver pins and threaded pins

BUILD-UP COMPONENTS FOR THE ATTACHMENTS OF RECEIVER PINS AND THREADED PINS	APPLICATION	PRODUCT LINES
Part No.: K550853 **Clamping fixture with M4 thread** 18 mm x 8 mm x 10 mm For receiving of e.g., spring clip or location pin. Can be also used as locating element.			opti-fix
Part No.: K550840 **Knuckle joint with dovetail** 18 mm x 8 mm x 10 mm In connection with clamping fixture **K550853** for the construction of any angle.			opti-fix
Part No.: K550839 **Telescope fixture slider** 17 mm x 8 mm x 10 mm In connection with end piece **K550852** and straight pin ø 6 mm forpositioning of e.g., spring clip or location pin.			opti-fix
Part No.: K550852 **Telescope fixture end piece** 22 mm x 8 mm x 10 mm In connection with slider **K550839** and straight pin ø 6 mm for positioning of e.g., spring clip or location pin.			opti-fix
Straight pin ø 6 mm As connecting element for telescope fixture.			opti-fix

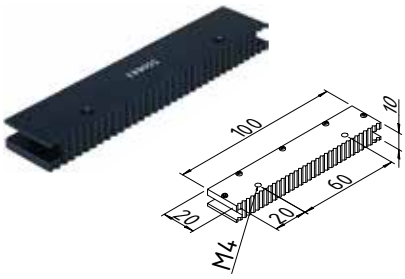
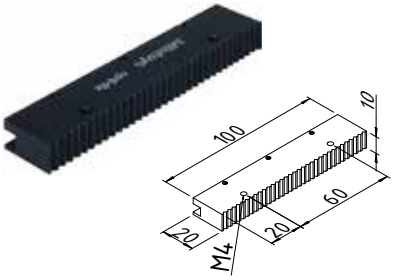
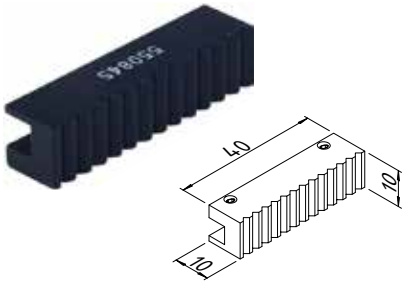
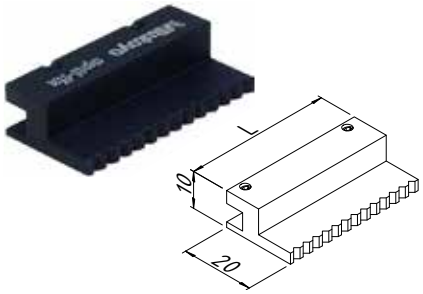
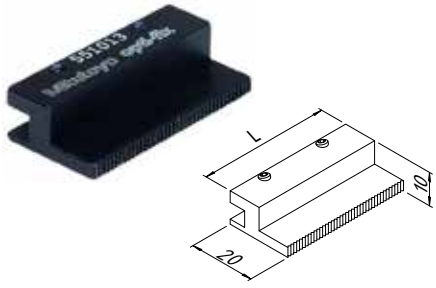
Part No.:	L mm
K550887	10
K550888	20
K550889	30
K550890	40

opti-fix

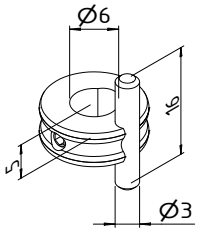
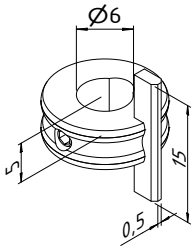
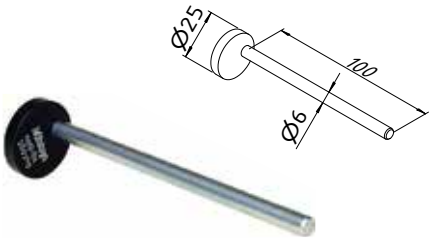
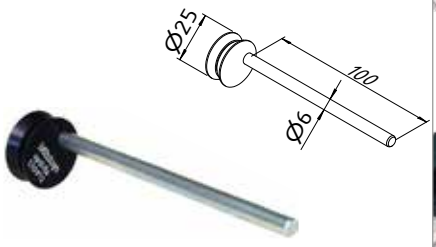
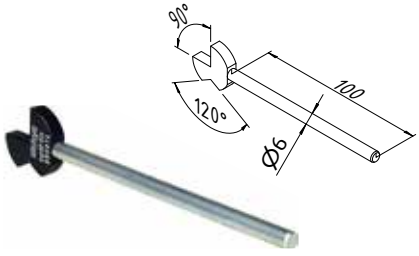
BUILD-UP COMPONENTS FOR THE ATTACHMENTS OF RECEIVER PINS AND THREADED PINS	APPLICATION	PRODUCT LINES
Part No.: K551183 **Holder 90°** 22 mm x 15 mm x 15 mm D1= 6 mm e.g., for attaching a spring clip directly to a workpiece support.			opti-fix
Part No.: K551083 **Clamping knuckle** For creating of free angles, e.g., with the spring loaded clamping rod **K551012.**			opti-fix
Part No.: K551016 **Holder for spring clip 1x M4** 25 mm x 20 mm x 10 mm Receiving block for receiving of e.g., spring clip or other elements with M4 thread.			opti-fix M4 connectivity
Part No.: K550850 **Holder for spring clip 3x M4** 42 mm x 22 mm x 10 mm Receiving block for receiving of e.g., spring clip or other elements with M4 thread.			opti-fix M4 connectivity
Part No.: K551333 **Articulated stand** Directly mount M4 components or use mounting bracket K551044 to mount M6 eco-fix components.			opti-fix

Positioning components

Toothed fixtures, pins and other positioning components

TOOTHED FIXTURES		APPLICATION	PRODUCT LINES
Part No.: K550843 **Toothed fixture** With longitudinal connector grooves and connector grooves at both ends as well as **with M4 receiving thread** for e.g., spring clips.			opti-fix M4 connectivity
Part No.: K550858 **Toothed fixture** With longitudinal connector groove, as well as with M4 receiving thread for e.g., spring clips.			opti-fix M4 connectivity
Part No.: K550845 **Toothed fixture 40** 40 mm x 10 mm x 10 mm As direct workpiece locating element.			opti-fix
Toothed fixture flat As direct workpiece locating element. **Part No.: K550165** — L mm: 40 **Part No.: K550324** — L mm: 100			opti-fix
Part No.: K551013 **Toothed fixture flat with fine teeth** 40 mm x 20 mm x 10 mm As direct workpiece locating element.			opti-fix

opti-fix

RECEIVER PINS		APPLICATION	PRODUCT LINES
Part No.: K550847 **Swivel receiver with straight pin** Receiving ø 6 mm / Locating ø 3 mm As workpiece locating element for direct positioning.			opti-fix
Part No.: K550851 **Swivel receiver with knife edge** Receiving ø 6 mm As workpiece locating element for direct positioning.			opti-fix
Part No.: K550970 **Eccentric receiver** L = 100 mm ø = 25 mm As height-adjustable workpiece receiving element for mounting in the clamping blocks.			opti-fix
Part No.: K550972 **Prismatic eccentric Receiver** L = 100 mm Prism = 120° As height-adjustable workpiece receiving element for mounting in the clamping blocks.			opti-fix
Part No.: K550971 **Prismatic receiver/ Locator** L = 100 mm 25 mm x 25 mm As workpiece receiving element for mounting in the clamping blocks.			opti-fix

Positioning components

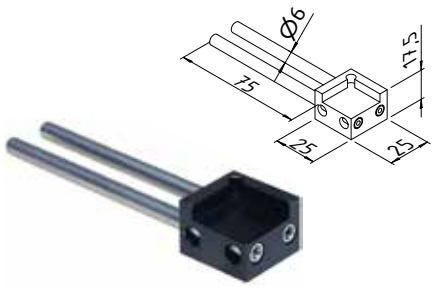
Toothed fixtures, pins and other positioning components

RECEIVER PINS	APPLICATION	PRODUCT LINES

Part No.: K550304

Receiver plane

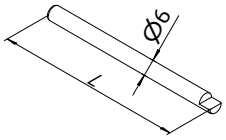
L = 100 mm/
25 mm x 25 mm
In connection with the clamping blocks, it can be used as direct workpiece locating element for free positioning.



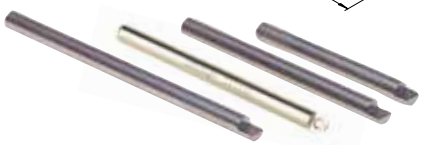
opti-fix

Receiver pin stepped

In connection with the clamping blocks, it can be used as direct workpiece locating element for free positioning.



Part No.:		L mm
K550301		60
K550302		80
K551188	magnet tip	80
K550303		100

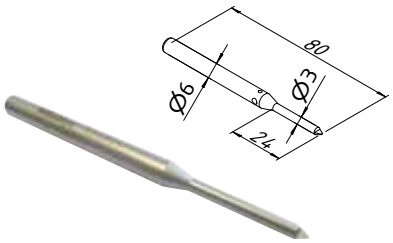


opti-fix

Part No.: K551915

Receiver pin stepped small

D 1 = 6 mm / D2= 3 mm
L = 80 mm / L1= 25 mm
In connection with the clamping blocks, it can be used as direct workpiece locating element for free positioning of very small workpieces.

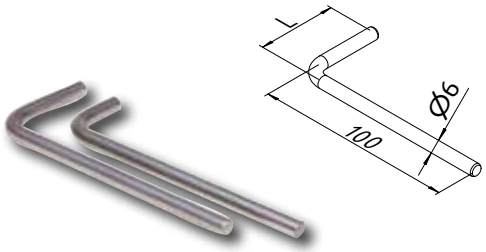


opti-fix

Rectangular receiver pin

As receiving element,
also for spring clips.

Part No.:	L mm
K550990	50
K550323	25

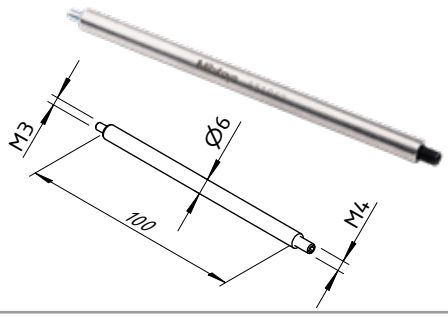


opti-fix

Part No.: K551062

Shaft 6 mm x 100 mm

In connection with the clamping blocks, it can be used as direct workpiece locating element for free positioning of very small workpieces.



opti-fix

Clamping components

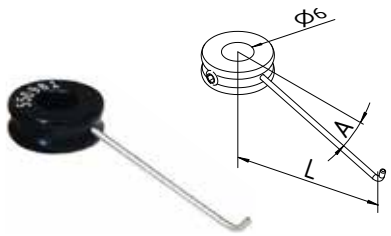
Spring clamps, vices, etc.

SPRING CLAMPS, SPRING CLAMP PINS, PRISMS	APPLICATION	PRODUCT LINES

Spring clip with bent tip

For clamping of workpieces.

Part No.:	A	L mm
K550978	30°	19
K550979	15°	20
K550980	30°	33
K550981	15°	37

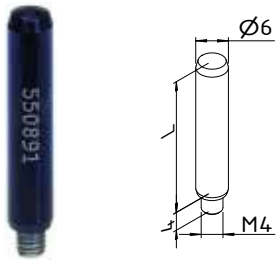


opti-fix

M4 Straight pin ø 6 mm

With M4 thread, as receiving element for spring clips.

Part No.:	L mm
K550891	30
K551017	12



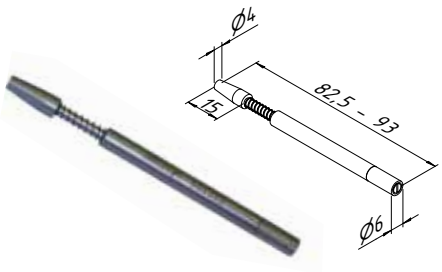
opti-fix

M4 connectivity

Part No.: K551012

Spring-loaded clamping rod

ø 6 mm x 93 mm
For pressing specimens against e.g., locating element.

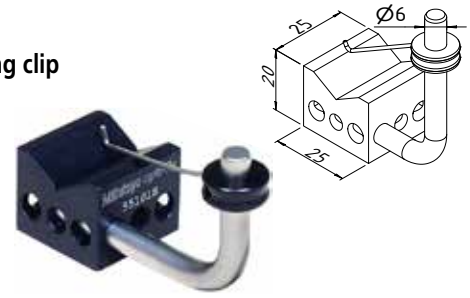


opti-fix

Part No.: K551018

Prism 120° compl. with spring clip

20 mm x 25 mm
For attachment to e.g., articulated arms or clamping blocks, for receiving of specimens ranging from ø 2 mm to ø 25 mm.

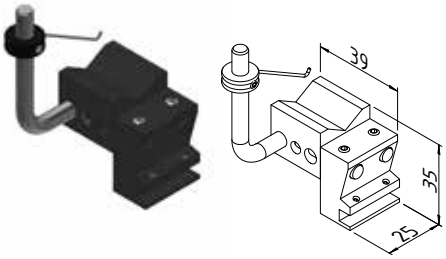


opti-fix

Part No.: K551339

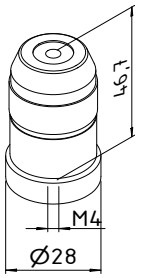
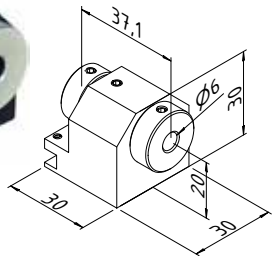
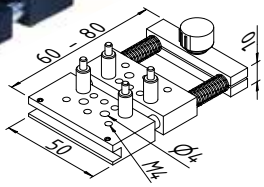
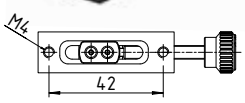
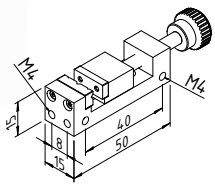
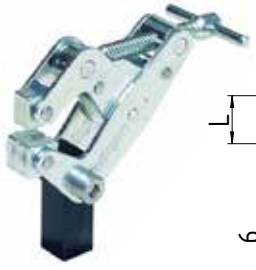
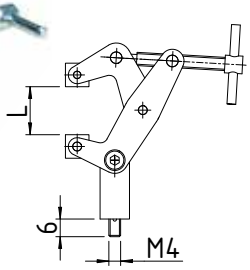
Prism 120° compl. with spring clip and holder K551338

20 mm x 25 mm
For attachment to e.g., articulated arms or clamping blocks, for receiving of specimens ranging from ø 2 mm to ø 25 mm.

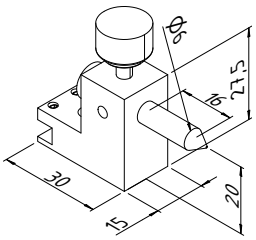
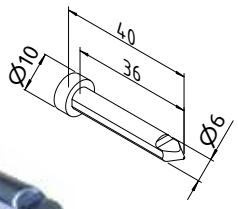
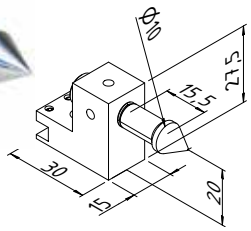
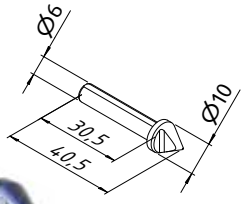
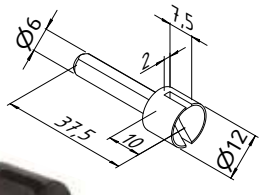


Clamping components

Spring clamps, vices, etc.

CHUCK, VISES AND OTHER COMPONENTS	APPLICATION	PRODUCT LINES
Part No.: K551014 **Precision quick chuck** Clamp. range: 0 - 4 mm Total length: 47 mm With M4 receiving thread, for mounting of e.g., adaptor K551016 or other elements with M4 connecting thread. Extension of the clamping range can be realized by exchange of the guiding columns 		opti-fix Application configuration: K551014 Chuck K551011 Ratchet spanner K550422-10 Pin connector 6mm
Part No.: K551011 **Ratchet spanner** Tip height: 15 mm Circular positioning For receiving of e.g., clamping tweezers, miniature precision chucks and all clamping elements with receiving diameter 6 mm. 		opti-fix
Part No.: K551010 **Precision vice for inside and outside clamping** One flat and one prismatic jaw. Clamping range 0 - 15 mm. 		opti-fix
Part No.: K551334 Weight 80 **eco-opti-vice M4** One flat and one prismatic jaw. Clamping range 0-14 mm. Further vices on page 105  		opti-fix eco-fix Connect with M4 straight pin K550891 K551017
Part No.: K550707 **Clamping unit small** Clamp. range: 0 mm - 25 mm With M4 connecting thread, for mounting to e.g., articulated arm or M4 adaptor (551016)  		opti-fix M4 connectivity

opti-fix

TAILSTOCKS AND ACCESSORIES	APPLICATION	PRODUCT LINES
Part No.: K550879 **Tailstock with centre** Tip height: 20 mm Adjust. range: 16 mm For receiving of specimens between the tips. 		opti-fix
Part No.: K550333 **Tailstock centre stepped for tailstock (K550879)** Tip: ø 6 mm The step at the tip makes length scanning easier, especially in case of the transmitted light method. 		opti-fix
Part No.: K550986 **Tailstock with spring-loaded centre** Tip height: 20 mm Stroke: 8 mm In combination with part No. 550879 for easy and quick receiving of the specimens between the tips. 		opti-fix
Part No.: K550334 **Tailstock centre stepped for tailstock with spring-loaded centre (K550986)** Tip: ø 10 mm The step at the tip makes length scanning easier, especially in case of the transmitted light method. 		opti-fix
Part No.: K550994 **Centering unit** For centering of parts without centre hole. 		opti-fix

Clamping components

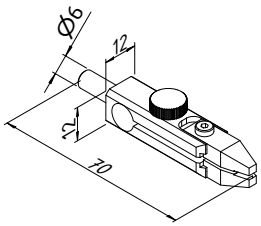
Spring clamps, vices, etc.

CLAMPING TWEEZERS	APPLICATION	PRODUCT LINES

Part No.: K551019

Clamping tweezers set consisting of:
Base K550993
Tweezer tips K550997
Clamp. range: 0,5 mm - 1,5 mm
Clamp. width: 3 mm

For clamping of small and smallest specimens, receiving of the clamping tweezers in e.g., rotatable and swivel receiver, tailstock, clamping blocks or articulated arm. The use of different exchangeable tips allows extension of the clamping ranges at a reasonable price.

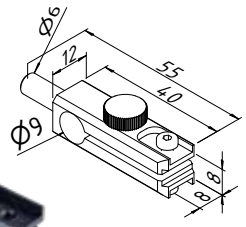


opti-fix

opti-fix

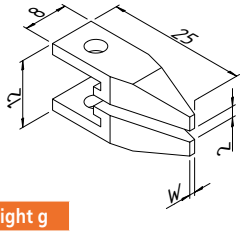
Part No.: K550993

Base for exchangeable tweezer tips
The exchangeable tips allow the extension of the clamping ranges at a reasonable price.



opti-fix

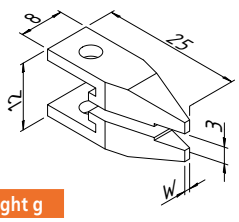
Pair of exchangeable tips for clamping tweezers
For clamping of small and smallest rotationally symmetrical specimens.
• flat clamping surface



opti-fix

Part No.:	Clamping range	Clamping width W	Weight g
K551008	0 mm - 2 mm	1 mm	5
K550997	0,5 mm - 1,5 mm	3 mm	5

Pair of exchangeable tips for clamping tweezers
For clamping of small and smallest rotationally symmetrical specimens.
• offset clamping surface



opti-fix

Part No.:	Clamping range	Clamping width W	Weight g
K551009	1 mm - 3 mm	1 mm	5
K551007	1 mm - 3 mm	3 mm	5

opti-fix

EXCHANGABLE TWEEZER TIPS	APPLICATION	PRODUCT LINES

Pair of exchangeable prismatic tips for clamping tweezers

Part No.:	Clamping range	Weight g
K550999	ø 0,5 mm - ø 2 mm	5
K551003	ø 2 mm - ø 3 mm	5
K551004	ø 3 mm - ø 4 mm	5
K551005	ø 4 mm - ø 5 mm	5
K551006	ø 5 mm - ø 6 mm	5

For clamping of small and smallest rotationally symmetrical specimens

opti-fix

Part No.: K550998

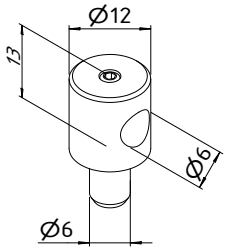
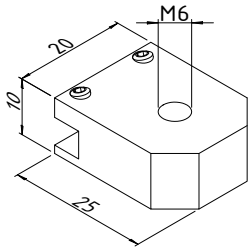
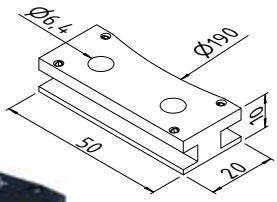
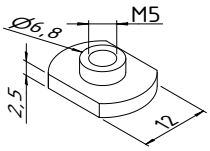
Pair of exchangeable prismatic tips for clamping tweezers

Clamping range: ø 4 mm - ø 5 mm
90° clamping angle.

For clamping of small and smallest rotationally symmetrical specimens

opti-fix

Adapters, tools, and accessories

ADAPTERS AND ACCESSORIES	APPLICATION	PRODUCT LINES
Part No.: K551189 **Adaption eco-fix to opti-fix Ø 6 mm** For connecting the eco-fix components to opti-fix Components. Connects to ø12,0 mm Type-B location pins with 6,0 mm bore. 		opti-fix
Part No.: K551015 **Adaptor plate M6** 25 mm x 20 mm x 10 mm For receiving of all elements with M6 connecting thread, e.g., eco fix location pins. 		opti-fix M6 connectivity
Part No.: K550976 **Adapter plate** 50 mm x 20 mm x 10 mm As adapter between the straight profile rails and the basic circular clamping profile "opti-round". 		opti-fix
Part No.: K550963 **T-slot nut M5** 12 mm x 2,5 mm For mounting of opti-fix systems to e.g., projectors or microscopes. use with K551352 M5x25 		opti-fix

opti-fix

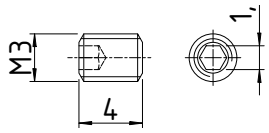
SCREWS AND TOOLS

PRODUCT LINES

Threaded bolt M3 opti-fix

Replacement screws for the connection of profiles and build-up components.

Part No.:	Thread	Thread	Length
K905142	Headless screw 10pcs.	M3	4 mm

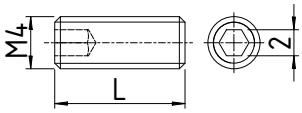


opti-fix

Threaded bolt M4 opti-fix

Replacement for clamping block screws.

Part No.:	Thread	Thread	Length
K908809	Headless screw 10pcs.	M4	4 mm
K901805	Headless screw 10pcs.	M4	10 mm

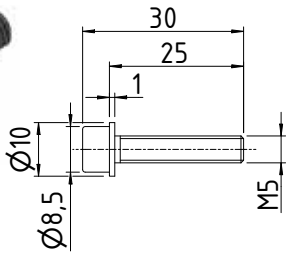


opti-fix

Threaded bolt M5 opti-fix

For fixing the brackets to the T-slot nut M5 K550963.

Part No.:	Type	Thread	Length
K551352	Cylinder head screw	M5	25 mm



opti-fix

Allen keys for opti-fix

Part No.:	Type	Size
K551020	Allen key with handle	1,5 mm
K551021	Allen key with handle	2 mm

opti-fix

© MITUTOYO/D 04/23 PRE 1403(3)

Coordinate Measuring Machines

Vision Measuring Systems

Form Measurement

Optical Measuring

Sensor Systems

Test Equipment and Seismometers

Digital Scale and DRO Systems

Small Tool Instruments and Data Management

Whatever your challenges are, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed up by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.

Find additional product literature and our product catalogue

www.mitutoyo.eu

Note: Product illustrations are without obligation. Product descriptions, in particular any and all technical specifications, are only binding when explicitly agreed upon.
MITUTOYO and MiCAT are either registered trademarks or trademarks of Mitutoyo Corp. in Japan and/or other countries/regions. Other product, company and brand names mentioned herein are for identification purposes only and may be the trademarks of their respective holders.

Mitutoyo

Mitutoyo Europe GmbH
Borsigstraße 8-10
41469 Neuss
Tel. +49 (0) 2137-102-0
info@mitutoyo.eu
www.mitutoyo.eu