

Swift-Fix

Metrology fixturing and part holding
for coordinate measuring machines and portable arms





Swift-Fix

Simplify part-holding with modular fixturing

CMMs are the most precise dimensional measuring machines available, but they can only achieve repeatable, accurate results if the parts they measure are correctly fixtured. That's why Hexagon provides a fully modular part-holding system for CMMs, called Swift-Fix.

Simple to set up and use, Swift-Fix enables operators to correctly fixture parts of different shapes, sizes and complexity. It works equally well with stationary CMMs or portable measurement arms, whether they are equipped with tactile, optical or multiple sensors.

Swift-Fix combines standard base plates and fixturing elements that fit together quickly and easily to hold even large or complex parts. A version of Swift-Fix is also available in clear acrylic for use with vision and optical sensors. To ensure repeatability, each base plate is labelled alpha-numerically so that operators can accurately record and reproduce each fixturing set-up. For rotationally symmetrical parts, Swift-Fix chucks are the perfect devices to keep everything in place.

Building in accuracy

Swift-Fix modular fixturing greatly simplifies the CMM operator's task, whether they are measuring small, medium or large parts for many industries. Because the fixturing components are versatile and easy to combine, operators can use them to build fixtures for different kinds of parts, without eating into design and manufacturing time. As a result, Swift-Fix saves time while increasing repeatability and reducing the potential for measurement error.

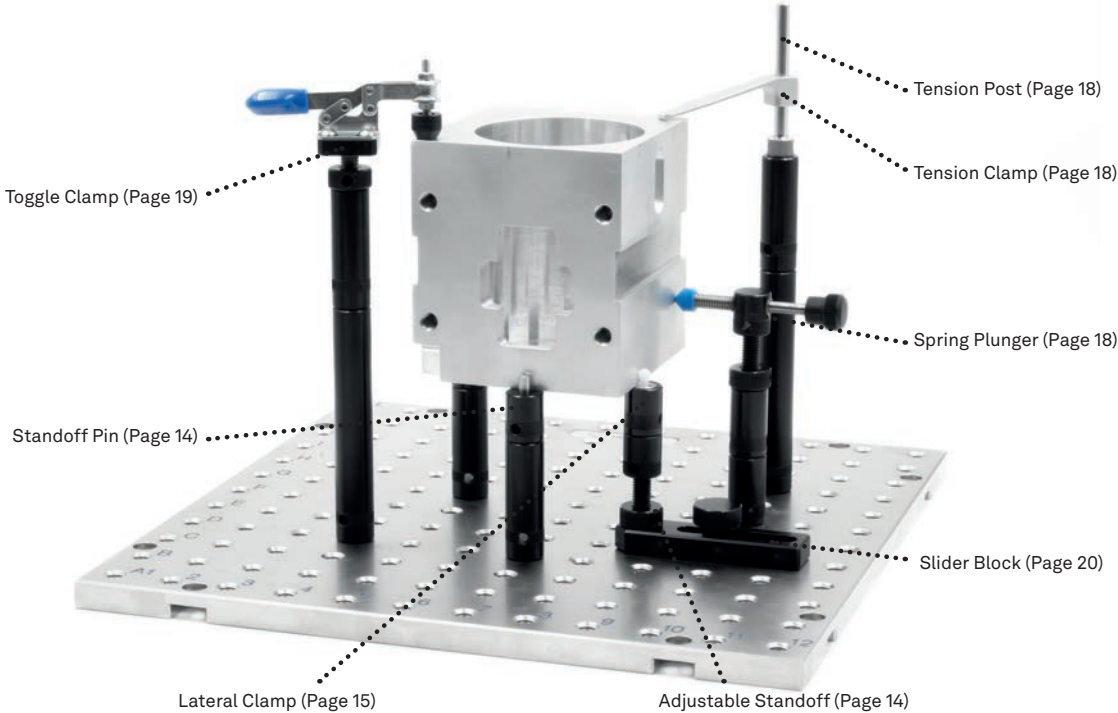
Swift-Fix

Versatile by design

Swift-Fix offers a full range of standardised fixturing components including base plates, standoffs, cones, spring clamps, tension clamps, toggle clamps and universal joints. The lightweight standard aluminium base plates are 12 mm thick, incorporate M8 or 1/4"-20 holes and come with attachments to connect multiple plates together to form larger fixture plates.

All the components are available either as part of a kit or individually. The bronze kit includes 46 elements for basic fixture assembly, the silver has 66 elements, and the gold contains 93 components, making it ideal for larger or more complex workpieces.

In addition, an optional kinematic system allows the repeatable and rapid change of fixtures, minimising set up times on a CMM. Due to the unique design, the kinematics are less sensitive to dirt or wrong alignment, which both would cause metrology issues. Shopfloor operators simply place the fixture on a location plate, select the appropriate program, and the machine automatically measures the part. Kinematic base plates are available with tapped holes, or in a plain configuration for the creation of dedicated fixtures.

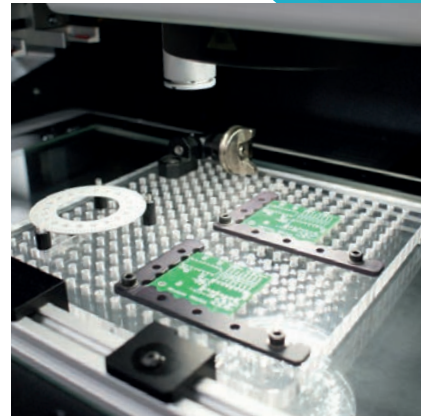


Swift-Fix Vision

Greater transparency

Vision systems often require backlighting to measure delicate parts. Hexagon has developed Swift-Fix Vision to provide vision systems with an unobstructed supply of light. Swift-Fix Vision includes clear acrylic base plates that locate to a quick-change guide rail magnetically and fixturing components that are specially designed to minimise contact with fragile parts and hold them in place using less force.

The Swift-Fix Vision base plates are designed to be changed quickly and can be removed from the Vision system or CMM and replaced without the need for re-alignment. A variety of M4 threaded base plates are available for different kind of applications.

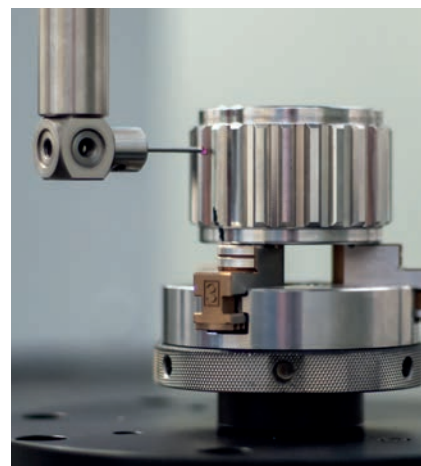


Swift-Fix Chucks

Achieve highest precision

Swift-Fix Chucks ensure the best possible part holding and accessibility for rotational symmetrical parts. The highly accurate, self-centring and repeatable chucks deploy consistent forces on all jaws to help users achieve the highest levels of precision and quality during the measurement process.

Swift-Fix Chucks are designed to hold pieces in place with the help of either three or six jaws. Thanks to a large and easy-to-handle adjustment range, parts with various diameters can be mounted quickly and held on the inner or outer diameter. All three-jaw chucks contain jaws for inner and outer clamping to ensure the best possible positioning across a full range of applications. Six-jaw chucks are equipped with different position and stop pins, so that the clamping can be flexibly adjusted to changing applications.



Features and benefits

Rapid Set-up

Operators simply screw the components into the base plate. Swift-Fix's flexibility makes it possible to further reduce setup time by putting several parts on one base plate and running separate measurement routines in succession.

Repeatability

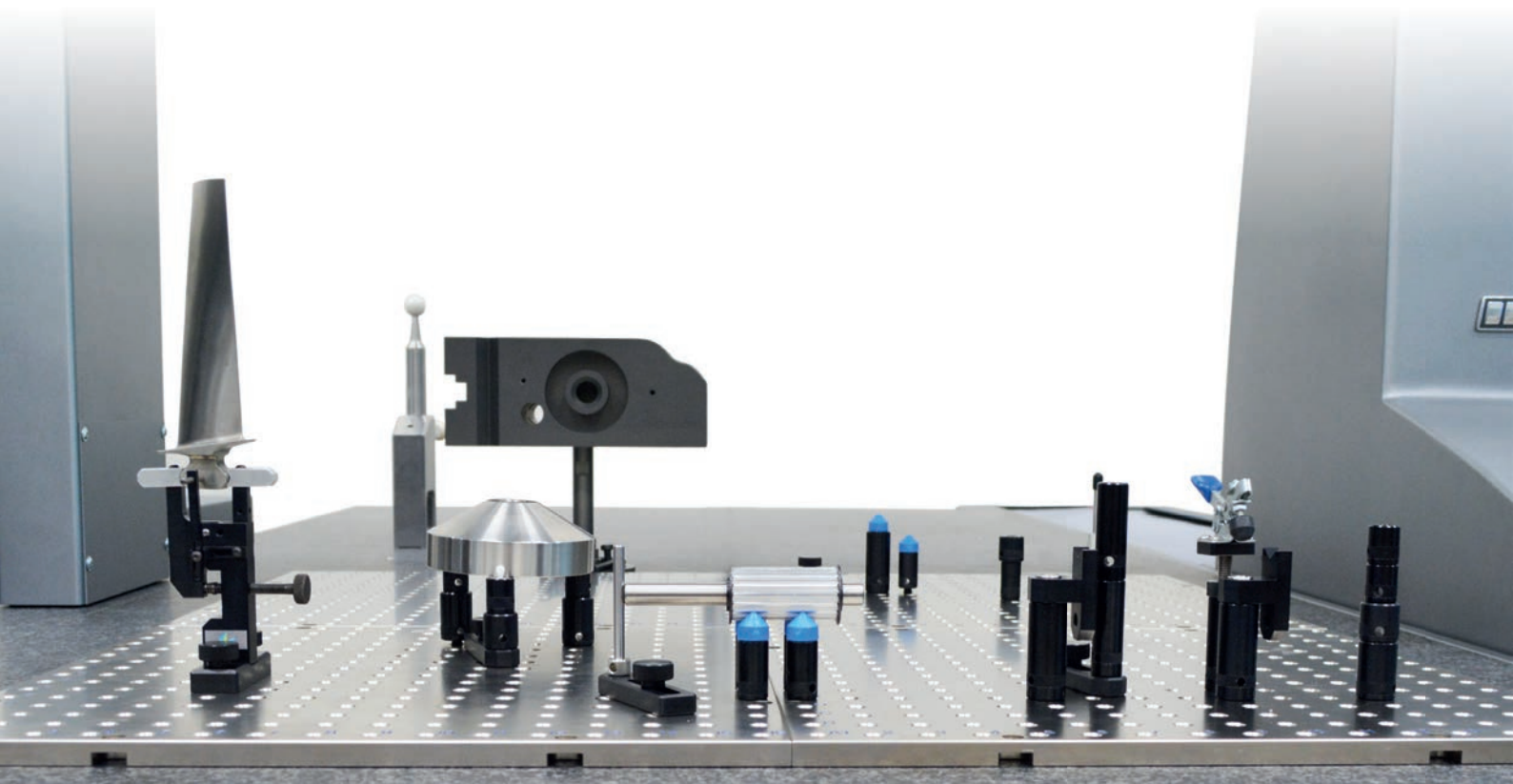
Alphanumerical labelling on the base plates makes it easy to record a fixture and quickly set it up again when needed.

Accessibility

Measurement speed depends on sensors having unencumbered access to a part during the measuring routine. Swift-Fix offers a variety of clamping methods and standoffs to minimise contact between the fixture and the part and maximise its accessibility from all sides.

Flexibility

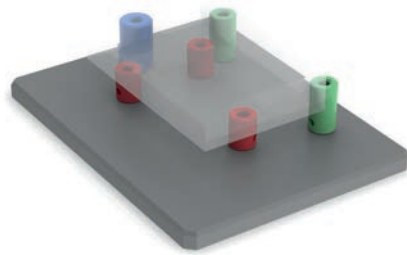
Swift-Fix allows for unlimited fixture configurations from one kit so that operators can add a measurement feature or alter a fixture configuration in a few moves. No matter how complex the component to be measured, Swift-Fix from Hexagon is flexible enough to adapt quickly to changing needs.



Easy as 3-2-1

Tips and tricks - Get the most out of your fixture

- The 3-2-1 principle is the foundation of successful fixturing. When fixing the first axis, 3 setting points provide the stability for accurate plane measurement (in red in the diagram). For the second axis, 2 points set the component line direction (in green) And for the third axis, 1 point sets the datum (in blue).
- Establish clear measurement paths by maximising accessibility and minimising contact between the part and the fixturing.
- Ascertain where you want to take measurements on the part before building the fixture so you can maximise access for sensors.
- Prove your fixturing by tapping the part with your fingers from all directions to make sure it is stable enough.
- Trial and error - Build and combine the components until you have a secure fixture. Afterwards, revise your construction and remove as many components as possible.
- Keep in mind that the measurement position doesn't have to reflect how the part will be used. For example, a car door can be measured horizontally, but assembled vertically.
- Only use tools if needed. Often tightening components by hand is enough.
- Secure the part against the desired measurement direction. The only force which impacts the part is the one coming from the sensor. You should make sure that the part can't slip in this direction.





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Swift-Fix kits (M8)

Swift-Fix kits ensure all parts, however complex, are correctly fixtured before measurement. Five different kits are available to meet a full range of fixturing and measuring requirements and components are stored in a dedicated case, ensuring individual items are always easy to find.

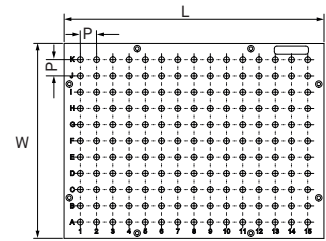


Part No.	Item Description	FX-GOLD/KIT	FX-SILVER/KIT	FX-BRONZE/KIT	FX-BASIC/KIT
FX-SO16/20	Ø16 x 20 Standoff	5 pc.	4 pc.	3 pc.	2 pc.
FX-SO16/30	Ø16 x 30 Standoff	5 pc.	4 pc.	3 pc.	2 pc.
FX-SO16/50	Ø16 x 50 Standoff	5 pc.	4 pc.	2 pc.	2 pc.
FX-SO16/100	Ø16 x 100 Standoff	3 pc.	2 pc.	2 pc.	-
FX-SO20/20	Ø20 x 20 Standoff	5 pc.	4 pc.	3 pc.	2 pc.
FX-SO20/30	Ø20 x 30 Standoff	5 pc.	4 pc.	3 pc.	2 pc.
FX-SO20/50	Ø20 x 50 Standoff	5 pc.	4 pc.	2 pc.	2 pc.
FX-SO20/100	Ø20 x 100 Standoff	3 pc.	2 pc.	2 pc.	-
FX-CONE	Cone	6 pc.	3 pc.	3 pc.	4 pc.
FX-POST	Tension Post	4 pc.	3 pc.	2 pc.	2 pc.
FX-SLIDER	Slider Block	3 pc.	2 pc.	2 pc.	1 pc.
FX-SO/MAG	Standoff Magnet	3 pc.	2 pc.	2 pc.	3 pc.
FX-CTMED	Tension Clamp Medium	2 pc.	2 pc.	2 pc.	2 pc.
FX-SO/PIN	Standoff Pin	2 pc.	2 pc.	2 pc.	2 pc.
FX-LATMED	Lateral Clamp Medium	2 pc.	1 pc.	1 pc.	1 pc.
FX-HEIGHT	Height Adjuster	2 pc.	1 pc.	1 pc.	-
FX-SO/SUPP	Standoff Support	3 pc.	3 pc.	-	-
FX-SPRING	Spring Clamp	2 pc.	1 pc.	-	-
FX-PLUNGER	Spring Plunger	2 pc.	1 pc.	-	-
FX-SUP/STOP	Support Stop	2 pc.	1 pc.	-	-
FX-PR30/250	Vertical Pillar 250 mm	2 pc.	1 pc.	-	-
FX-UNI/JOINT	Universal Joint	2 pc.	1 pc.	-	-
FX-TOG	Toggle Clamp	1 pc.	1 pc.	-	-
FX-VEE	Vee Locator	2 pc.	-	-	-
FX-BP400/400	Base plate 400 x 400	-	-	-	-
FX-BPRTR	Base Plate Retaining Screw	-	-	-	-
FX-THUMB	Thumb Screw	8 pc.	4 pc.	2 pc.	1 pc.
FX-CAPM8/16	Special Cap Screw M8x16	2 pc.	2 pc.	2 pc.	-
FX-CAPM8/20	Special Cap Screw M8x20	2 pc.	2 pc.	2 pc.	-
FX-6MMKEY	Allen Key 6mm	1 pc.	1 pc.	1 pc.	-
FX-4TBAR	Tommy Bar	2 pc.	2 pc.	2 pc.	2 pc.
FX-GUIDE	User Guide	1 pc.	1 pc.	1 pc.	1 pc.
FX-SOM8/M6	M8 to M6 Adapter	-	-	-	2 pc.
	Storage Box	1 pc.	1 pc.	1 pc.	1 pc.

Fixture base plates (M8)

Material: Aluminium

Designed to connect side-by-side with other base plates with the same size, the Swift Fix universal aluminium grid plates come with M8 holes and alpha numeric identification, allowing fixtures to be easily re-built.



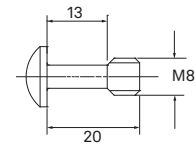
Part No.	Thread	Length (L)	Width (W)	Hole pitch (P)
FX-BP300/300	M8	300 mm	300 mm	25 mm
FX-BP400/400	M8	400 mm	400 mm	25 mm
FX-BP500/500	M8	500 mm	500 mm	25 mm
FX-BP600/600	M8	600 mm	600 mm	25 mm
FX-BP300/400	M8	400 mm	300 mm	25 mm
FX-BP400/600	M8	600 mm	400 mm	25 mm

Base plate retaining screw (M8)

Part No.: FX-BPRTR

Material: Steel

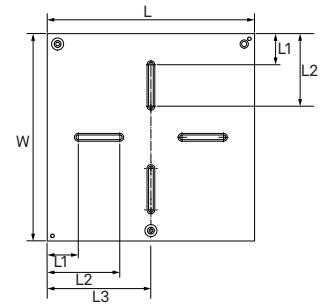
Retaining screws secure base plates on the CMM table, making it simple to mount multiple base plates next to each other.



Kinematic base plates

Material: Anodised Aluminium

Kinematic base plates are ideal for the repeatable, automated measurement of fixtures on a CMM. The base plate remains on the machine and is equipped with spheres, allowing the kinematic fixture plate to be placed in the correct position for repeatable, accurate measurements.

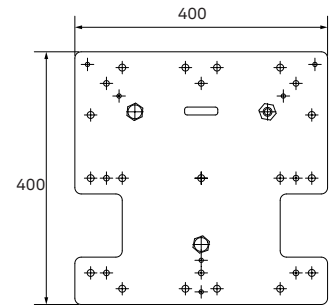


Part No.	Length (L)	Width (W)	L1	L2	L3	Compatibility
KB-250/250	250 mm	250 mm	25 mm	85 mm	125 mm	KPT-300/300 KPP-300/300
KB-300/300	300 mm	300 mm	50 mm	110 mm	150 mm	KPT-400/400 KPP-400/400
KB-400/400	400 mm	400 mm	60 mm	140 mm	200 mm	KPT-500/500 KPP-500/500

Universal kinematic fixture base

Part No.: KB-UNIVL

Automated CMM measurement is greatly enhanced by kinematic base plates, which ensure accurate, highly repeatable fixture placement without manual alignment. The base plate remains on the machine while spheres can be flexibly positioned, allowing the kinematic fixture plate to be aligned in the correct position. The universal kinematic base can be used with any size of kinematic fixture plates.



Kinematic support kits

Both kits can be used with the universal kinematic base plate. The FX-KINKITPLUS makes it possible to accommodate more than one size of kinematic fixture plate.

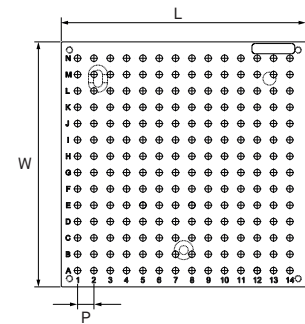
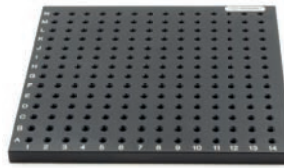


Item Description	FX-KINKIT	FX-KINKITPLUS
Support Sphere	2 pc.	2 pc.
Support Button	1 pc.	1 pc.
Spacer	-	3 pc.
Screws M8 x 16	3 pc.	-
Screws M8 x 25	-	3pc.

Kinematic fixture plates (M8)

Material: Anodised Aluminium

Kinematic fixture plates can be placed in exactly the same position without the need for manual alignment, making them perfect for an automated CMM. The plates, which have M8 holes set at 20 mm pitch, are placed on top of a pre-mounted kinematic base plate.

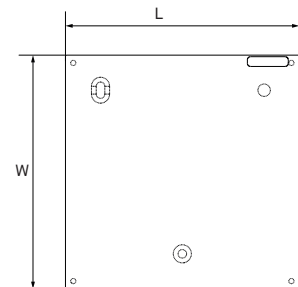


Part No.	Thread	Length (L)	Width (W)	Hole pitch (P)	Compatibility
KPT-300/300	M8	300 mm	300 mm	20 mm	KB-250/250 KB-UNIVL
KPT-400/400	M8	400 mm	400 mm	20 mm	KB-300/300 KB-UNIVL
KPT-500/500	M8	500 mm	500 mm	20 mm	KB-400/400 KB-UNIVL

Kinematic fixture plates (plain)

Material: Anodised Aluminium

Kinematic fixture plates can be repeatedly placed in exactly the same position without the need for manual alignment, making it simple to mount fixtures on an automated CMM. The plates, which have a plain surface, are placed on top of a pre-mounted kinematic base plate.

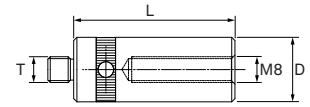


Part No.	Length (L)	Width (W)	Compatibility
KPP-300/300	300 mm	300 mm	KB-250/250 KB-UNIVL
KPP-400/400	400 mm	400 mm	KB-300/300 KB-UNIVL
KPP-500/500	500 mm	500 mm	KB-400/400 KB-UNIVL

Standoffs (M8)

Material: Anodised Aluminium

The standoff elevates a part to make it accessible. It also can be used to elevate other fixture components like pins or clamps. Standoffs are available in different diameters and lengths and can be combined to achieve the desired height.



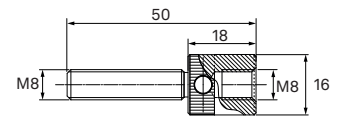
Part No.	Thread (T)	Length (L)	Diameter (D)
FX-SO16/20	M8	20 mm	16 mm
FX-SO16/30	M8	30 mm	16 mm
FX-SO16/50	M8	50 mm	16 mm
FX-SO16/100	M8	100 mm	16 mm
FX-SO20/20	M8	20 mm	20 mm
FX-SO20/30	M8	30 mm	20 mm
FX-SO20/50	M8	50 mm	20 mm
FX-SO20/100	M8	100 mm	20 mm

Adjustable standoff (M8)

Part No.: FX-HEIGHT

Material: Anodised Aluminium

The adjustable standoff gives maximum flexibility when elevating a part or other fixture components away from the base plate.

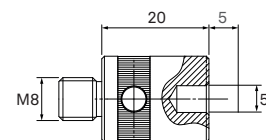


Standoff pin (M8)

Part No.: FX-SO/PIN

Material: Anodised Aluminium

The standoff pin fits into any M8 female thread and enables parts to be both positioned and supported with minimal obstruction.

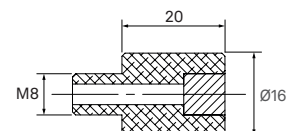


Standoff magnet (M8)

Part No.: FX-SO/MAG

Material: Anodised Aluminium

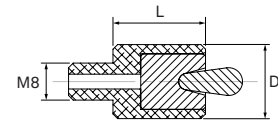
The standoff magnet fits into any M8 female thread to ensure the reliable and repeatable holding of parts made from ferromagnetic metals and alloys, all while maximising accessibility.



Lateral clamps (M8)

Material: Anodised Aluminium

Ideal for thin sheet metal or plastic components, the lateral clamp comes with a tapered pressure button for easy positioning against a location face.



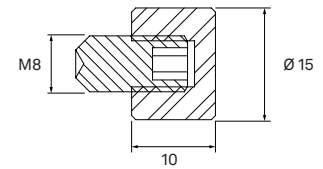
Part No.	Thread	Length (L)	Diameter (D)
FX-LATMED	M8	20 mm	16 mm
FX-LATLGE	M8	20 mm	20 mm

Standoff support (M8)

Part No.: FX-SO/SUPP

Material: Delrin®

The standoff support, which fits into any M8 female thread, is made of Delrin® and protects parts from potential damage by ensuring they are positioned on a flat surface.

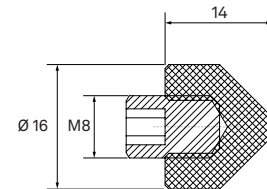


Resting cone (M8)

Part No.: FX-CONE

Material: Delrin®

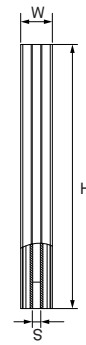
The resting cone is made from Delrin® and shaped to precisely position the part in order to reduce the risk of any damage during measurement.



Pillars

Material: Aluminium

Pillars are used to horizontally mount Swift-Fix elements. A pillar adds both stability and height and can be fixed to either the base plate or the CMM table with help of a thumb screw and a pillar base plate.



Part No.	Width (W)	Height (H)	Slot (S)	Qty Nuts
FX-PR30/50	30 mm	50 mm	8 mm	2 pc.
FX-PR30/100	30 mm	100 mm	8 mm	2 pc.
FX-PR30/150	30 mm	150 mm	8 mm	2 pc.
FX-PR30/200	30 mm	200 mm	8 mm	2 pc.
FX-PR30/250	30 mm	250 mm	8 mm	2 pc.

Pillar kit

Part No.: FX-PILLAR/KIT

The pillar kit comes with a wide range of products to add stability and height when horizontally mounting Swift-Fix elements. The full range of pillars can be fixed to either the base plate or the CMM table with the help of a thumb screw and a pillar base plate.



Part No.	Item Description	Quantity
FX-PR30/50	Pillar (30 x 30 x 50 mm)	2 pc.
FX-PR30/100	Pillar (30 x 30 x 100 mm)	2 pc.
FX-PR30/150	Pillar (30 x 30 x 150 mm)	2 pc.
FX-PR30/200	Pillar (30 x 30 x 200 mm)	2 pc.
FX-PR30/250	Pillar (30 x 30 x 250 mm)	4 pc.
FX-PR30HINGE	Hinge Unit with Handle	2 pc.
FX-P30PLATE	Pillar Base Plate	4 pc.
FX-SUB45/120	Pillar Top Plate	2pc.
FX-CAPM8/12	Cap Screw Set M8x12 (Contains 10 pieces)	1 pc.
FX-CAPM8/16	Cap Screw Set M8x16 (Contains 10 pieces)	1pc.
FX-CAPM8/20	Cap Screw Set M8x20 (Contains 10 pieces)	1 pc.
FX-M8SPRGNUT	M8 Spring Nuts (Contains 10 pieces)	1 pc.
FX-TOOLS	Tool Kit	1 pc.
FX-GUIDE	User Guide	1pc.

Hinge pivot with handle

Part No.: FX-PR30HINGE

Material: Aluminium

The hinge pivot is used to set up two pillars at variable angles, increasing flexibility when mounting larger fixtures.

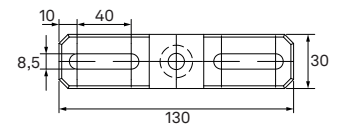


Pillar base plate

Part No.: FX-PR30PLATE

Material: Anodised Aluminium

The pillar base plate is required to fix a pillar on the CMM table or a fixture base plate.

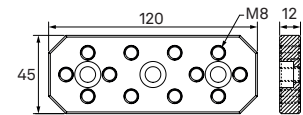


Pillar top plate

Part No.: FX-SUB45/120

Material: Anodised Aluminium

The pillar top plate enables the mounting of additional Swift-Fix components on top of a Swift-Fix pillar.



Spring nut

Part No.: FX-M8SPRGNUT

Material: Steel

Adding spring nuts to a pillar provides greater positioning flexibility when vertically mounting elements.

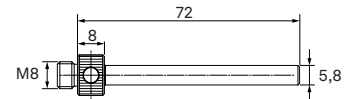


Tension post (M8)

Part No.: FX-POST

Material: Steel

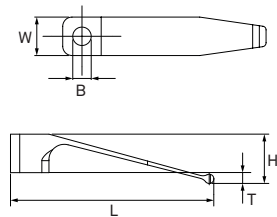
Tension posts are used in combination with tension and spring clamps and can be used in conjunction with other Swift-Fix M8 elements.



Tension clamps

Material: Aluminium

Tension clamps combine medium clamping force with minimum obstruction.



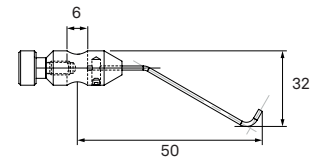
Part No.	Length (L)	Width (W)	Height (H)	Tip (T)	Bore (B)
FX-CTSML	39 mm	7.5 mm	7.5 mm	1.5 mm	Ø6 mm
FX-CTMED	66 mm	12.5 mm	16 mm	3.5 mm	Ø6 mm

Spring clamp

Part No.: FX-SPRING

Material: Spring Steel

A spring clamp provides low force clamping with minimal obstruction.

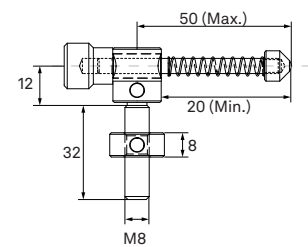


Spring plunger (M8)

Part No.: FX-PLUNGER

Material: Anodised Aluminium, Steel

The spring plunger exerts low forces to hold delicate parts that may be easily affected by other methods of clamping.

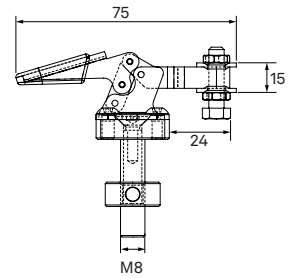


Toggle clamp (M8)

Part No.: FX-TOG

Material: Aluminium, Steel

Ideal when high-force clamping is required, the toggle clamp is quick and easy to use and allows bi-directional adjustment of the fixture.

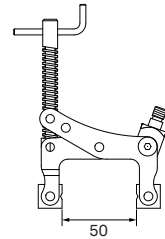


Universal clamp (M8)

Part No.: FX-CLAMP

Material: Steel

The universal clamp is designed for use on complex forms or shapes and is ideal for sheet metal panels or tubes.

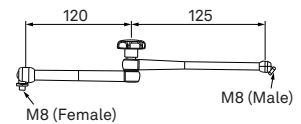


Articulated fixture arm (M8)

Part No.: FX-ARM

Material: Aluminium

The articulated fixture arm has the flexibility to accommodate the most complex positions with only a single locking handle and is typically used with a universal clamp.

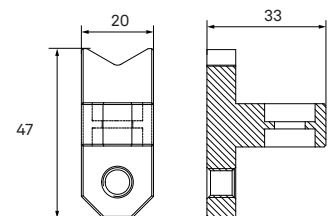


Support stop (M8)

Part No.: FX-SUP/STOP

Material: Anodised Aluminium

The support stop allows the user to apply a positive clamping force with variable pressure and can be used as a small Vee when inverting the assembly.

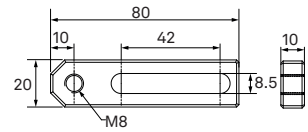


Slider block (M8)

Part No.: FX-SLIDER

Material: Anodised Aluminium

A slider block enables a much greater choice of positions for fixtures than that offered by the standard plate.

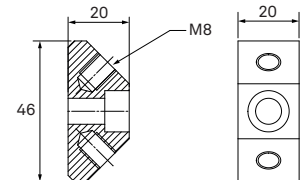


Vee locator (M8)

Part No.: FX-VEE

Material: Anodised Aluminium

The Vee locator fits on the base plate or on top of standoffs, allowing large parts to be positioned through the addition of standoffs to form a large Vee.

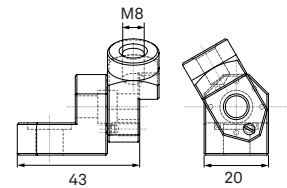


Universal joint (M8)

Part No.: FX-UNI/JOINT

Material: Anodised Aluminium

Universal joints allow M8 components to be rotated in 45° increments and locked with the supplied capscrew to bring greater flexibility.



Fixture tool kit

Part No.: FX-TOOLS

The Swift-Fix Tool kit contains everything users need to optimise the installation adjustment and maintenance of Swift-Fix components.

Item Description	Quantity
Allen key	1 pc.
Tommy bar	2 pc.
Cap Screw M8x16 (FX-CAPM8/16)	2 pc.
Cap Screw M8x20 (FX-CAPM8/20)	2 pc.



Cap screw sets (M8)

Material: Steel

Cap screws are used to mount Swift-Fix components on the base plate.



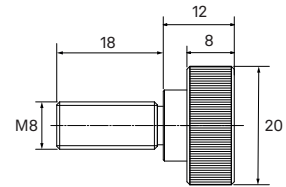
Part No.	Material	Length (L)	Quantity
FX-CAPM8/16	Steel	16 mm	10 pc.
FX-CAPM8/20	Steel	20 mm	10 pc.

Thumb screw (M8)

Part No.: FX-THUMB

Material: Anodised Aluminium

A thumb screw ensures the secure mounting of slider blocks and pillars on the base plate.



Swift-Fix kits (¼"-20)

Swift-Fix kits ensure all parts, however complex, are correctly fixtured before measurement. Five different kits are available to meet a full range of fixturing and measuring requirements and components are stored in a dedicated case, ensuring individual items are always easy to find.

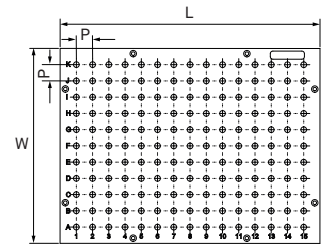


Part No.	Item Description	FI-GOLD/KIT
FI-SO1/2-1	Ø1/2" x 1" Standoff	5 pc.
FI-SO1/2-1-1/2	Ø1/2" x 1 1/2" Standoff	5 pc.
FI-SO1/2- 2	Ø1/2" x 2 " Standoff	5 pc.
FI-SO1/2-4	Ø1/2" x 4" Standof	3 pc.
FI-SO3/4-1	Ø3/4" x 1" Standoff	5 pc.
FI-SO3/4-1-1/2	Ø3/4" x 1 1/2" Standoff	5 pc.
FI-SO3/4- 2	Ø3/4" x 2 " Standoff	5 pc.
FI-SO3/4-4	Ø3/4" x 4" Standoff	3 pc.
FI-CONE	Cone	6 pc.
FI-POST	Tension Post	4 pc.
FI-SLIDER	Slider Block	3 pc.
FI-SO/MAG	Standoff Magnet	3 pc.
FX-CTMED	Tension Clamp Medium	2 pc.
FI-SO/PIN	Standoff Pin	2 pc.
FI-LATMED	Lateral Clamp Medium	2 pc.
FI-HEIGHT	Height Adjuster	2 pc.
FI-SO/SUPP	Standoff Support	3 pc.
FX-SPRING	Spring Clamp	2 pc.
FI-PLUNGER	Spring Plunger	2 pc.
FI-SUP/STOP	Support Stop	2 pc.
FI-PR30/250	Vertical Pillar 250 mm	2 pc.
FI-UNI/JOINT	Universal Joint	2 pc.
FI-TOG	Toggle Clamp	1 pc.
FI-VEE	Vee Locator	2 pc.
FI-THUMB	Thumb Screw	8 pc.
FI-CAP1/4-5/8	Capscrew 1/4" x 5/8"	2 pc.
FI-CAP1/4-3/4	Capscrew 1/4" x 3/4"	2 pc.
FX-6MMKEY	Allen Key 6mm	1 pc.
FI-4TBAR	Tommy Bar	2 pc.
FX-GUIDE	User Guide	1 pc.
	Storage Box	1 pc.

Fixture base plates (¼"-20)

Material: Aluminium

Designed to connect side-by-side with other base plates with the same size, the Swift Fix universal aluminium grid plates come with ¼"-20 holes and alpha numeric identification, allowing fixtures to be easily re-built.

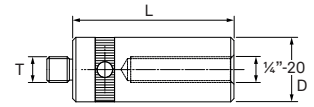


Part No.	Thread	Length (L)	Width (W)	Hole pitch (P)
FI-BP20/27.5	¼"-20	20"	27.5"	0.5"
FI-BP27.5/40	¼"-20	27.5"	40"	0.5"

Standoffs (1/4"-20)

Material: Anodised Aluminium

The standoff elevates a part to make it accessible. It also can be used to elevate other fixture components like pins or clamps. Standoffs are available in different diameters and lengths and can be combined to achieve the desired height.



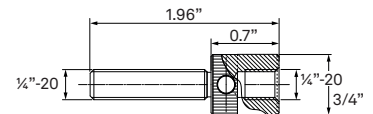
Part No.	Thread (T)	Length (L)	Diameter (D)
FI-S01/2-1	1/4"-20	1.0"	0.5"
FI-S01/2-1-1/2	1/4"-20	1.5"	0.5"
FI-S01/2-2	1/4"-20	2.0"	0.5"
FI-S01/2-4	1/4"-20	4.0"	0.5"
FI-S03/4-1	1/4"-20	1.0"	0.75"
FI-S03/4-1-1/2	1/4"-20	1.5"	0.75"
FI-S03/4-2	1/4"-20	2.0"	0.75"
FI-S03/4-4	1/4"-20	4.0"	0.75"

Adjustable standoff (1/4"-20)

Part No.: FI-HEIGHT

Material: Anodised Aluminium

The adjustable standoff gives maximum flexibility when elevating a part or other fixture components away from the base plate.

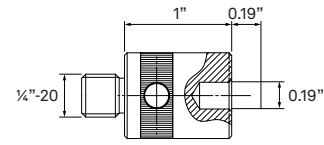


Standoff pin (¼"-20)

Part No.: FI-SO/PIN

Material: Anodised Aluminium

The standoff pin fits into any M8 female thread and enables parts to be both positioned and supported with minimal obstruction.

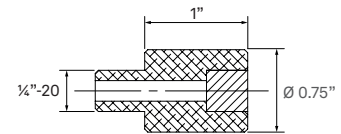


Standoff magnet (¼"-20)

Part No.: FI-SO/MAG

Material: Anodised Aluminium

The standoff magnet fits into any M8 female thread to ensure the reliable and repeatable holding of parts made from ferromagnetic metals and alloys, all while maximising accessibility.

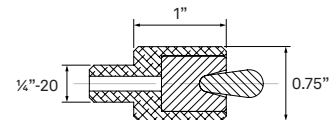


Lateral clamps (¼"-20)

Part No.: FI-LATMED

Material: Anodised Aluminium

Ideal for thin sheet metal or plastic components, the lateral clamp comes with a tapered pressure button for easy positioning against a location face.

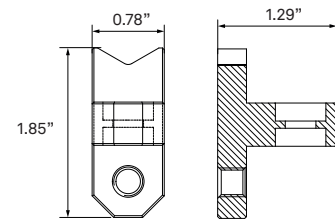


Support stop (¼"-20)

Part No.: FI-SUP/STOP

Material: Anodised Aluminium

The support stop allows the user to apply a positive clamping force with variable pressure and can be used as a small Vee when inverting the assembly.

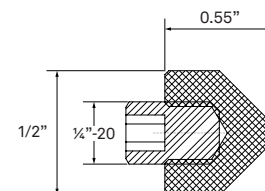


Resting cone (¼"-20)

Part No.: FI-CONE

Material: Delrin®

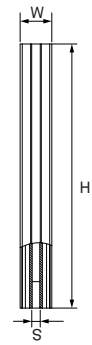
The resting cone is made from Delrin® and shaped to precisely position the part in order to reduce the risk of any damage during measurement.



Pillars

Material: Aluminium

Pillars are used to horizontally mount Swift-Fix elements. A pillar adds both stability and height and can be fixed to either the base plate or the CMM table with help of a thumb screw and a pillar base plate.



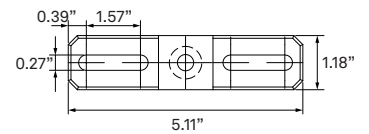
Part No.	Width (W)	Height (H)	Slot (S)	Qty Nuts
FX-PR30/250	1.18"	9.84"	0.31"	2 pc.

Pillar base plate

Part No.: FI-PR30PLATE

Material: Anodised Aluminium

The pillar base plate is required to fix a pillar on the CMM table or a fixture base plate.

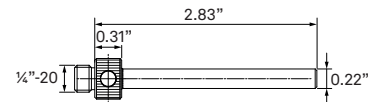


Tension post (1/4"-20)

Part No.: FI-POST

Material: Steel

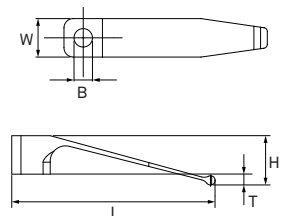
Tension posts are used in combination with tension and spring clamps and can be used in conjunction with other Swift-Fix M8 elements.



Tension clamps

Material: Aluminium

Tension clamps combine medium clamping force with minimum obstruction.



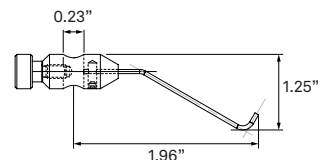
Part No.	Length (L)	Width (W)	Height (H)	Tip (T)	Bore (B)
FX-CTSML	1.57"	0.29"	0.29"	0.05"	0.23"
FX-CTMED	2.59"	0.49"	0.62"	0.13"	0.23"

Spring clamp

Part No.: FI-SPRING

Material: Spring Steel

A spring clamp provides low force clamping with minimal obstruction.

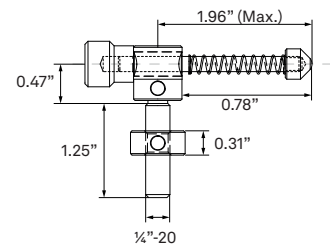


Spring plunger (¼"-20)

Part No.: FI-PLUNGER

Material: Anodised Aluminium, Steel

The spring plunger exerts low forces to hold delicate parts that may be easily affected by other methods of clamping.

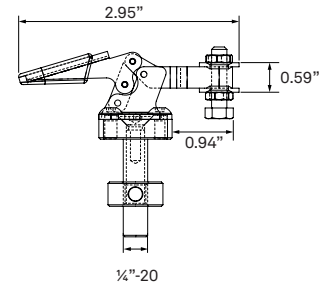


Toggle clamp (¼"-20)

Part No.: FI-TOG

Material: Aluminium, Steel

Ideal when high-force clamping is required, the toggle clamp is quick and easy to use and allows bi-directional adjustment of the fixture.

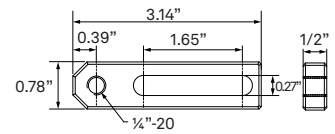


Slider block (1/4"-20)

Part No.: FI-SLIDER

Material: Anodised Aluminium

A slider block enables a much greater choice of positions for fixtures than that offered by the standard plate.

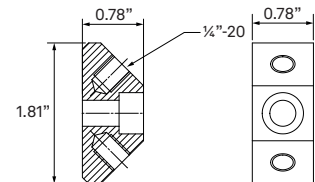


Vee locator (1/4"-20)

Part No.: FI-VEE

Material: Anodised Aluminium

The Vee locator fits on the base plate or on top of standoffs, allowing large parts to be positioned through the addition of standoffs to form a large Vee.

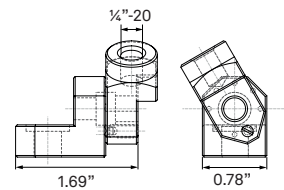


Universal joint (1/4"-20)

Part No.: FI-UNI/JOINT

Material: Anodised Aluminium

Universal joints allow 1/4"-20 components to be rotated in 45° increments and locked with the supplied capscrew to bring greater flexibility.



Fixture tool kits

Part No.: FX-TOOLS

The Swift-Fix Tool kit contains everything users need to optimise the installation adjustment and maintenance of Swift-Fix components.



Item Description	Quantity
Allen key	1 pc.
Tommy bar	2 pc.
Cap Screw (FI-CAP1/4-5/8)	2 pc.
Cap Screw (FI-CAP1/4-3/4)	2 pc.

Cap screw sets (¼"-20)

Material: Steel

Cap screws are used to mount Swift-Fix components on the base plate.



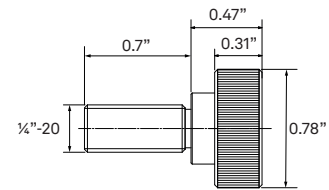
Part No.	Material	Length (L)	Quantity
FI-CAP1/4-5/8	Steel	5/8"	10 pc.
FI-CAP1/4-3/4	Steel	3/4"	10 pc.

Thumb screw (¼"-20)

Part No.: FI-THUMB

Material: Anodised Aluminium

A thumb screw ensures the secure mounting of slider blocks and pillars on the base plate.



Swift-Fix vision kits

Swift-Fix Vision kits ensure all parts, however complex, are correctly fixtured before measurement. Different kits are available to meet a full range of fixturing and measuring requirements and components are stored in a dedicated case, ensuring individual items are always easy to find.

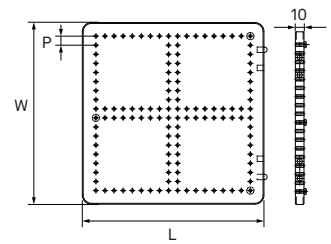


Part No.	Item Description	FV-FULLKIT	FV-STARTERKIT
FV-S008/15	Ø 8x15 Standoff	6 pc.	3 pc.
FV-S008/20	Ø 8x20 Standoff	6 pc.	3 pc.
FV-S008/25	Ø 8x25 Standoff	6 pc.	3 pc.
FV-SO/PIN	Standoff Pin	4 pc.	2 pc.
FV-SO/MAG	Standoff Magnet	4 pc.	2 pc.
FV-LATSML	Lateral Pin Small	3 pc.	1 pc.
FV-SPRING	Spring Clamp	3 pc.	1 pc.
FX-CTSML	Tension Clamp Small	3 pc.	1 pc.
FV-POST	Tension Post	6 pc.	2 pc.
FV-CONE	Cone	6 pc.	3 pc.
FV-SOSUP	Standoff Support	6 pc.	3 pc.
FV-CONEADJ	Cone Adjustable	3 pc.	1 pc.
FV-CNRBRKT	Corner Bracket	2 pc.	1 pc.
FV-SLIDER	Slider Block	4 pc.	2 pc.
FV-ANGSLIDER	Angle Block Slider	2 pc.	1 pc.
FV-BP200/200F	Acrylic Base Plate (Full Pattern)	1 pc.	1 pc.
FV-BP200/200P	Acrylic Base Plate	1 pc.	-
FV-SLIDE	Flexible Vice	1 pc.	-
FV-VEETWIN	Vee Locator Twin	1 pc.	-
FV-VEE	Vee Locator Single	1 pc.	-
FV-MALE	Male Centre	2 pc.	-
FV-FEMALE	Female Centre	2 pc.	-
FV-SCREWS/B	Assorted M4 Screws	1 pc.	1 pc.
FV-2.0KEY	2.0 mm Allen Key	1 pc.	1 pc.
FV-2.5KEY	2.5 mm Allen Key	1 pc.	1 pc.
FV-GUIDE	User Guide	1 pc.	1 pc.
	Storage Box	1 pc.	1 pc.

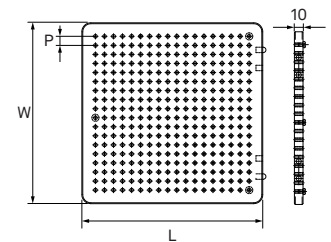
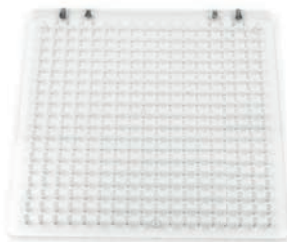
Acrylic base plate (M4)

Material: Acrylic

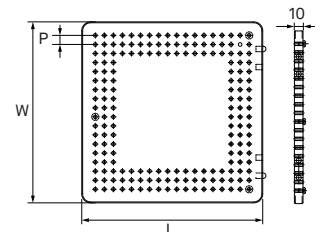
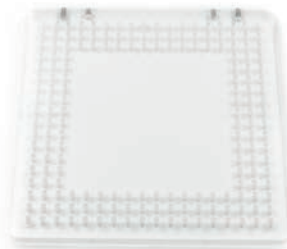
The acrylic, transparent grid plate has M4 holes and can be magnetically fixed to ensure the vision system operates with minimal obstruction. A guide rail is required.



Part No.	Thread	Length (L)	Width (W)	Height	Hole pitch (P)
FV-BP200/200C	M4	200 mm	200 mm	10 mm	10 mm



Part No.	Thread	Length (L)	Width (W)	Height	Hole pitch (P)
FV-BP200/200F	M4	200 mm	200 mm	10 mm	10 mm



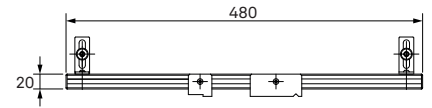
Part No.	Thread	Length (L)	Width (W)	Height	Hole pitch (P)
FV-BP200/200P	M4	200 mm	200 mm	10 mm	10 mm

Guide rail

Part No.: FV-GUIDE480

Material: Aluminium

The base plate guide rail can align acrylic base plates on the front, side or rear of the measuring envelope. In addition to maximising flexibility, it leaves the rear of the machine clear for the qualification artefact and the tip changer. The guide rail is secured to the table using corner brackets with slotted holes, to optimise accessibility.

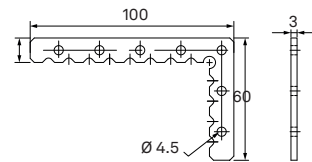


Corner bracket

Part No.: FV-CNRBRKT

Material: Anodised Aluminium

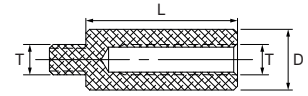
The corner bracket enables the repeatable positioning of parts on a right-angled corner location of an acrylic base plate with reliefs for measurement access.



Standoffs (M4)

Material: Anodised Aluminium

The standoff elevates a part to make it accessible. It also can be used to elevate other fixture components like pins or clamps. Standoffs are available in different diameters and lengths and can be combined to achieve the desired height.



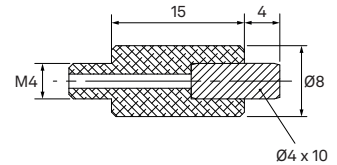
Part No.	Thread (T)	Length (L)	Diameter (D)
FV-S08/15	M4	15 mm	8 mm
FV-S08/20	M4	20 mm	8 mm
FV-S08/25	M4	25 mm	8 mm

Standoff pin (M4)

Part No.: FV-SO/PIN

Material: Anodised aluminium with steel pin

The standoff pin enables parts to be positioned and supported with minimal obstruction.

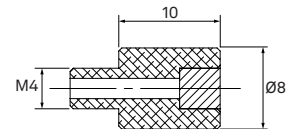


Standoff magnet (M4)

Part No.: FV-SO/MAG

Material: Anodised Aluminium

The standoff magnet ensures the reliable and repeatable holding of parts made from ferromagnetic metals and alloys, all while maximising accessibility.

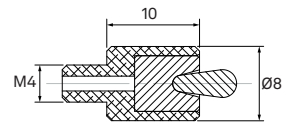


Lateral clamp (M4)

Part No.: FV-LATSML

Material: Anodised Aluminium

Ideal for thin sheet metal or plastic components, the lateral clamp comes with a tapered pressure button to ensure the part is pushed towards a location face.

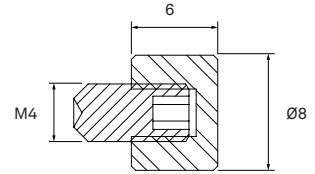


Standoff support (M4)

Part No.: FV-SOSUP

Material: Delrin®

The standoff support is made of Delrin® and helps protect parts from potential damage by ensuring they are positioned on a flat surface.

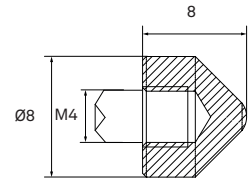


Resting cone (M4)

Part No.: FV-CONE

Material: Delrin®

The resting cone is made from Delrin® and shaped to precisely position the part in order to reduce the risk of any damage during measurement.

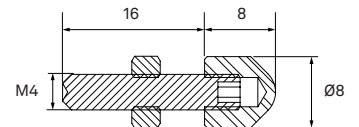


Adjustable cone (M4)

Part No.: FV-CONEADJ

Material: Delrin®

Made from Delrin®, the adjustable cone is shaped to reduce direct contact with delicate parts. It comes with a long thread for height adjustment and is supplied with a lock nut.

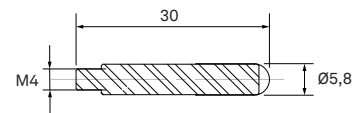


Tension post (M4)

Part No.: FV-POST

Material: Steel

Tension posts are used in combination with tension and spring clamps and can be mounted on other Swift-Fix M4 elements.

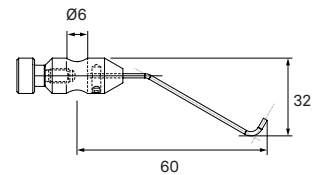


Spring clamp

Part No.: FV-SPRING

Material: Spring Steel

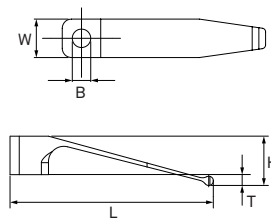
A spring clamp provides low force clamping with minimum obstruction.



Tension clamps

Material: Aluminium

Tension clamps combine medium clamping force with minimum obstruction.



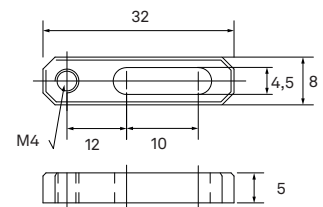
Part No.	Length (L)	Width (W)	Height (H)	Tip (T)	Bore (B)
FX-CTSML	39 mm	7.5 mm	7.5 mm	1.5 mm	Ø6 mm
FX-CTMED	66 mm	12.5 mm	16 mm	3.5 mm	Ø6 mm

Slider block (M4)

Part No.: FV-SLIDER

Material: Acrylic

A slider block opens up a much greater choice of positions for fixtures than that offered by the standard plate.

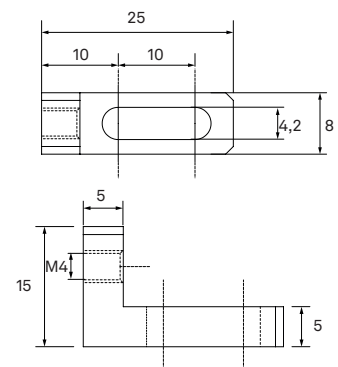


Angle block slider (M4)

Part No.: FV-ANGSLIDER

Material: Acrylic

The angle block slider enables users to position elements horizontally on the base plate. It is secured with a button head screw.

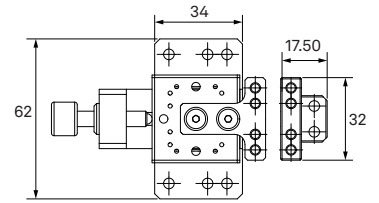


Flexible vice

Part No.: FV-SLIDE

Material: Anodised Aluminium

Highly versatile, the flexible vice can hold a wide variety of parts in position and can be mounted on the base plate in 5 mm increments. Controlled by a thumb screw, it can be used for internal and external clamping and can be equipped with different kinds of vees, male or female centres and other components to enable horizontal or vertical mounting.

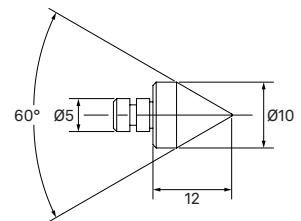


Centering pin

Part No.: FV-MALE

Material: Steel

The centering pin can be used with the flexible vice. This element has direct contact with the part and locates it precisely in the right position.

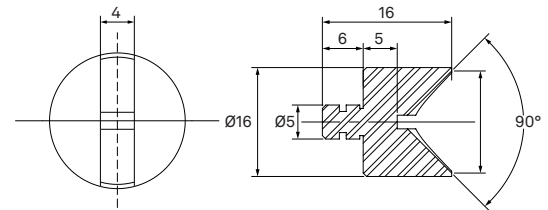


Vee locator

Part No.: FV-FEMALE

Material: Steel

The Vee locator can be used with the flexible vice to precisely position parts.

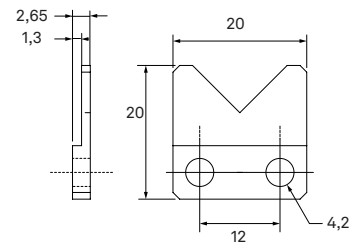


Vee block single

Part No.: FV-VEE

Material: Anodised Aluminium

The single Vee block can be used with the flexible vice. It can also be used to centre parts diagonally in combination with the twin Vee.

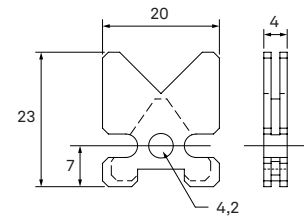


Vee block twin

Part No.: FV-VEETWIN

Material: Anodised Aluminium

The twin Vee block can be used with the flexible vice to position and hold parts in place in the middle of the Vee. It can also be used to centre parts diagonally in combination with the single Vee.



Three-jaw chucks

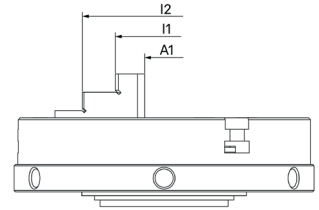
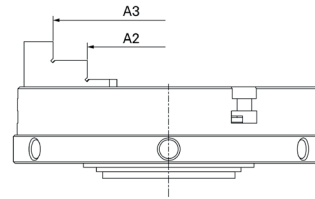
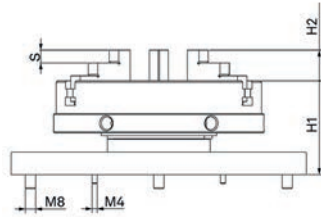
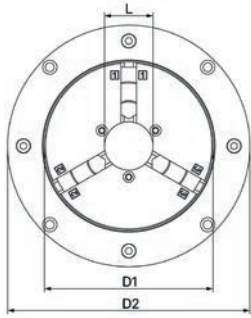
Material: Stainless steel / Aluminium

Extremely precise, self-centring and highly repeatable chucks generate for homogenous clamping force, with exchangeable or reversible jaws for highly accurate inside and outside clamping of parts on coordinate measuring machines.



FC-160SS3

FC-240AL3

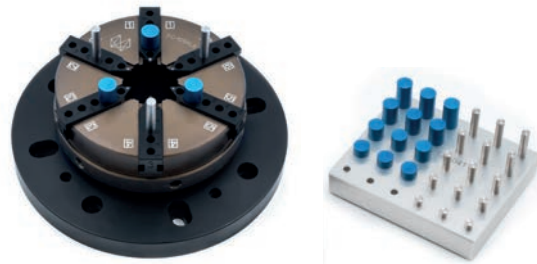


Part No.	FC-70SS3	FC-125SS3	FC-160SS3	FC-240AL3
Outside Diameter Chuck (D1)	70 mm	125 mm	160 mm	240 mm
Material	Stainless Steel	Stainless Steel	Stainless Steel	Aluminum
Fixing	M4 / M8	M4 / M8	M4 / M8	M8
Outside Diameter Flange (D2)	165 mm	190 mm	230 mm	370 mm
Diameter Center Hole (L)	18 mm	36 mm	46 mm	68 mm
Height Flange to Chuck face (H1)	55,5 mm	64,5 mm	73 mm	99,5 mm
Height Jaws (H2)	17 mm	20 mm	24 mm	40,5 mm
Step Height (S)	6,5 mm	7,5 mm	10 mm	10 mm
Clamping Range Outside (A1)	1 – 26 mm	1 – 61 mm	1 – 81 mm	1 – 121 mm
Clamping Range Outside (A2)	21 – 46 mm	30 – 90 mm	34 – 114 mm	30 – 149 mm
Clamping Range Outside (A3)	46 – 71 mm	66 – 126 mm	70 – 150 mm	100 – 238 mm
Clamping Range Outside (A4)	-	-	-	170 – 288 mm
Clamping Range Inside (I1)	18 – 43 mm	32 – 92 mm	34 – 114 mm	35 – 155 mm
Clamping Range Inside (I2)	41 – 66 mm	62 – 122 mm	94 – 174 mm	105 – 225 mm
Clamping Range Inside (I3)	-	-	-	175 – 295 mm
Set of jaws	Two	Two	Two	One (reversible)

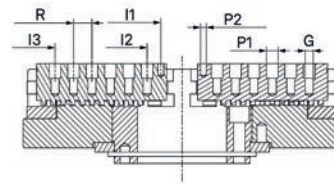
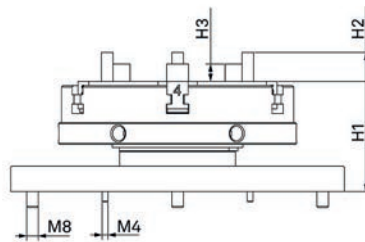
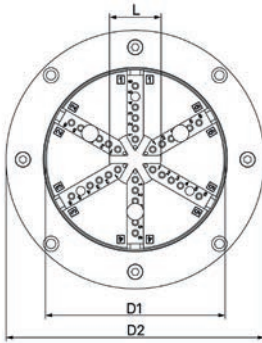
Six-jaw chucks

Material: Aluminium

Extremely precise, self-centring and highly repeatable chucks generate for homogenous clamping force, with modular support and pin stops for inside and outside clamping of parts on coordinate measuring machines.



FC-160AL6



Part No.	FC-125AL6	FC-160AL6
Outside Diameter Chuck (D1)	125 mm	160
Clamping Range	5-156 mm	5-196
Material	Aluminum	Aluminum
Fixing	M4 / M8	M4 / M8
Outside Diameter Flange (D2)	190 mm	230
Diameter Center Hole (L)	36 mm	46
Height to Jaws (H1)	64,5 mm	73
Height Clamping Pins (H2)	5 / 10 / 15 / 20 / 25 mm	5 / 10 / 15 / 20 / 25 mm
Height Stop Pins (H3)	7 / 12 / 17 / 22 mm	7 / 12 / 17 / 22 mm
Clamping Range (I1)	5-67 mm	5-84 mm
Clamping Range (I2)	12-80 mm	16-101 mm
Clamping Range (I3)	88-156 mm	111-196 mm
Jaw hole pitch (R)	9.5 mm	9.5 mm
Fit (P1)	5 mm	6 mm
Fit (P2)	2 mm	3 mm
Thread (G)	M4	M5

All images are for illustration purposes only and are not true to scale or may differ from the actual product.

Errors and modifications subject to change.



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Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

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