

FORM ADAPTING CLAMPING SYSTEM

MATRIX Clamping Systems

Clamping technology for machining, quality control and assembly



Product range



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MATRIX – Innovations Market leader in flexible clamping systems for workpieces

The new clamping and mold clamping systems of MATRIX GmbH will revolutionize your workflows in all areas of clamping technology and assembly and replace conventional clamping technology in the long term.

The new clamping systems are perfectly designed for use not only in labs and in metrology, but also in all areas where optimum hold and adaptable mold clamping are required. As a user, you are responsible for the optimum design of workflows in measurement engineering and production technology.

You know how difficult it can be to clamp workpieces that have complicated geometries. The unique and revolutionary technology of our clamping and holding systems will help you optimize your processes.

The MATRIX clamping systems with their individually movable pins replace high-cost dedicated fixtures and a wide range of molding elements. The MATRIX clamping modules conform quickly to various workpiece contours to form a flexible, nested fixture.



MATRIX® is the recipient of the
Baden-Württemberg Innovation Award

– Dr.-Rudolf-Eberle-Preis –

The **MATRIX** system Self-molding in jig-and-fixture design with repeatable accuracy

MATRIX – Your partner for high-performance holding and clamping systems. To be successful in today's world, you first need to be flexible. With MATRIX you opt for maximum flexibility. The MATRIX system has already convinced and won over many well-known companies; ranging from watchmakers to Formula One suppliers.

The idea: the workpiece itself forms the support. Like a pin cushion, the pins of the MATRIX module adjust to every shape. Simply, quickly, precisely – **workpieces** can be perfectly held or clamped in position. MATRIX has perfected a simple idea and offers an innovative approach to fixturing. With the practical modular system, all MATRIX modules can be combined with each other.

In conjunction with adapters, angle connectors, cone and prism supports, the pin modules can be optimally adapted to every shape.

How you benefit: flexible, cost-effective, universal in use, expandable.

Based on years of experience with our customers, our complete set for various applications are very popular in the market. Users in the area of jig-and-fixture design have a complete range of products to choose from. All accessories can, of course, be ordered separately and used with all versions. This allows you to customize the system to the task at hand. Today and tomorrow.

The basic principle:
Pin cushion



BLUE CLAMP

→ Metrology & assembly

Overview of the modular BLUE CLAMP systems

MATRIX replaces **cost-intensive, special-purpose jigs.**

Special emphasis is put on the development of the pin and function modules which are combined into effective modular sets.

All components of these modular systems are multifunctional and compatible. The number of individual modules is purposely kept small. The present range with only a few modules achieves the objective quickly and cost-effectively.

The following BLUE CLAMP systems are available:

X-SUPPORT

X-SUPPORT XL
X-SUPPORT XL LIGHT
X-SUPPORT SXS
X-SUPPORT XS

X-GRIP

X-GRIP XL
X-GRIP XS
X-GRIP XS LIGHT

ACCESSORY

X-SUPPORT PROFIL
X-SHIFT
X-TABLE
X-GRID / X-SUPPORT OPTIONAL



MATRIX BLUE CLAMP a must-have in metrology

Turbine blades and other complex parts need to be held securely in position during machining or measuring, which is often impossible with conventional systems. With its ingenious system, MATRIX offers a universal solution that is modular, adaptable and easy to use.

If measuring the turbine blades is a requirement, which it is, the next question is how to hold these geometrically complex parts, which vary from part to part, in place in order to work unobstructed? The answer is provided by the clever supporting, holding and clamping system that has been developed by MATRIX. As a system, it has been designed to replace conventional, expensive and inflexible clamping systems.

Jigs rigged together from miscellaneous parts are now a thing of the past. The system's structural design is ingenious. Individually manufactured pins of stainless steel generate a light resistance. The molded jaws are formed within seconds by the workpiece itself and locked in position with a single movement of a lever.

The user then has a part-specific support almost instantly. If a new mold is required, the initial position can be restored by releasing the locating screw. Because the clamping system consists of various modules and since these can be combined in any way with one another, the system is extremely versatile. Pre-assembled sets are available for fast deployment and already cover a comprehensive array of applications.



MATRIX X-SUPPORT XL is a simple and quick-action form clamping system, which is perfectly suited for use on parts with varying geometries.



Holding, clamping, supporting of parts with complex shapes – such as cast housings – without using force

Due to the wide range of available components, the clamping system is a fit for every task. Sets can, for example, comprise of the X-Support-XL module in a 90-degree housing with 67 pins, each of which is 6 mm in diameter and has a 21 mm pin stroke. A T-slot profile plate is used as a base. Added to this are connectors, base plates, adapters, horizontal clamps, pressure pads and numerous other components.

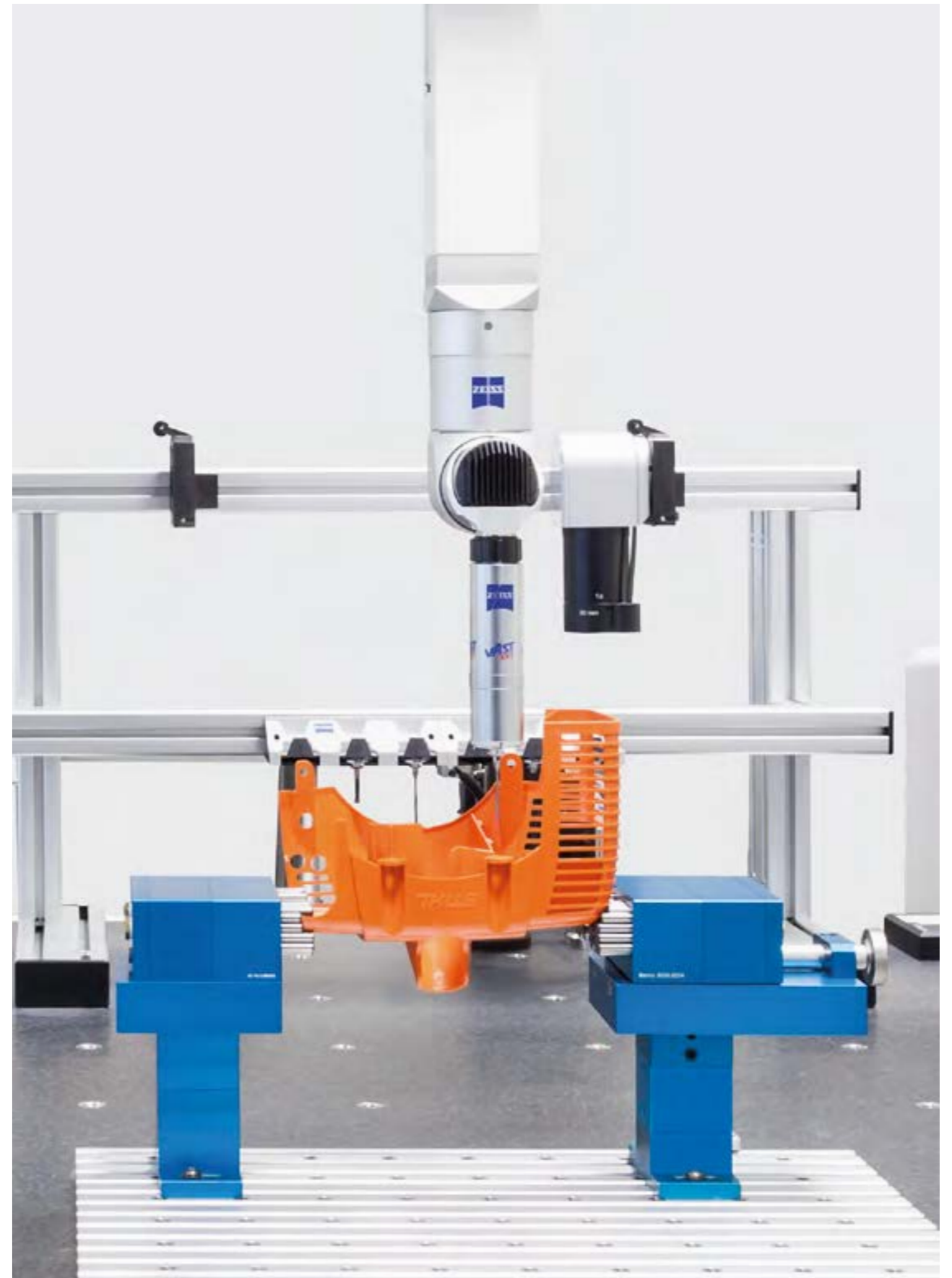
Handling and maintenance of the MATRIX clamping system is very simple and fast, which is important in measuring labs and on the shop floor. Consequently, the components are also provided in a clearly structured, well assorted case. Since the clamping components only consist of

the holder with the clamping pins and the clamping force is achieved by turning a hand lever or Allen wrench, the system remains virtually free of wear. Pressure spots on the workpieces are non-existent because of the form fit. The pins, which cradle the workpiece, are made of stainless steel and the modules are made of aluminum alloy. The result: a high degree of stability combined with low intrinsic weight and maintenance free.

Source: Dietmar Kuhn, Blechnet 1/2012
www.blechnet.com

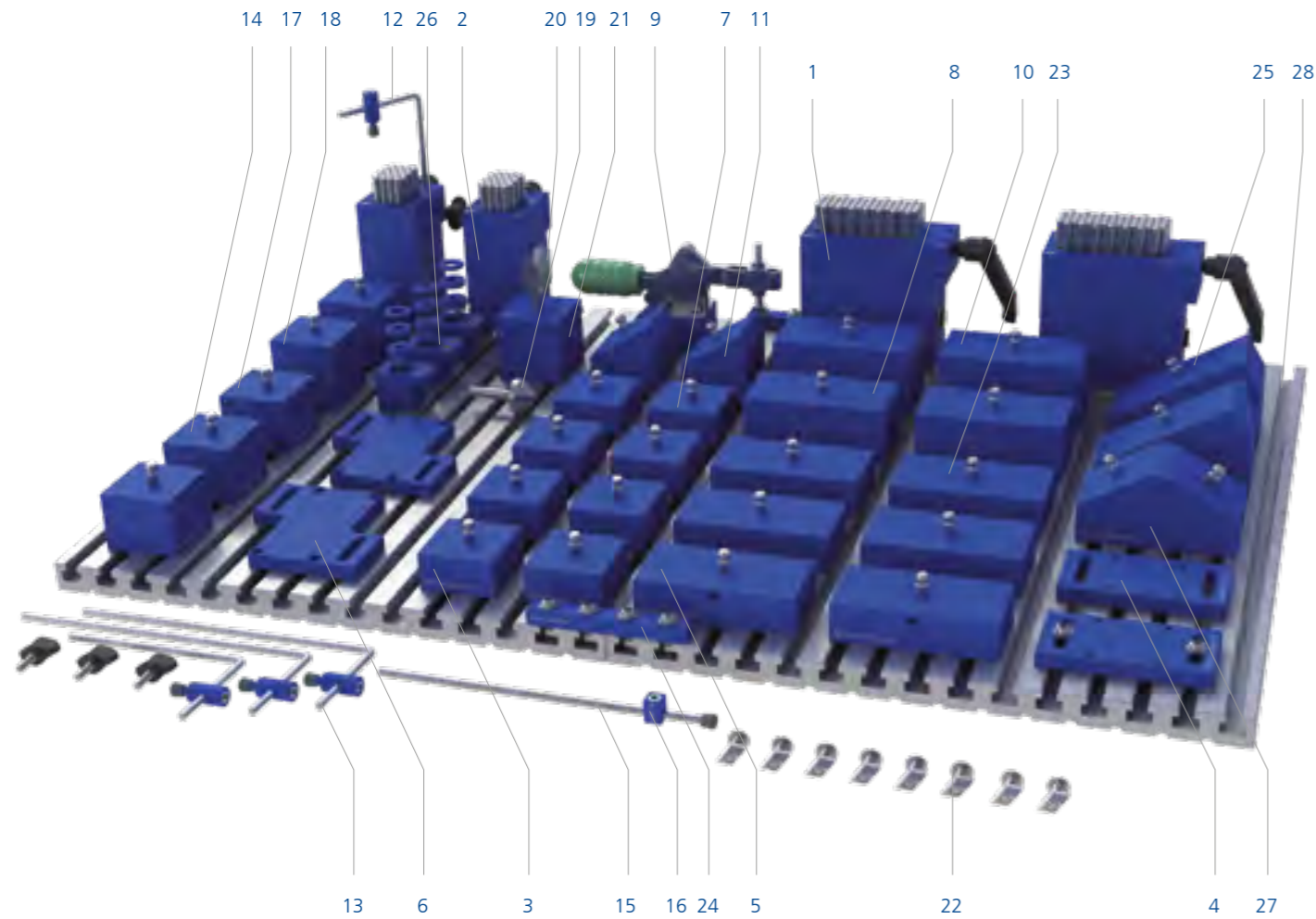
The advantages of the MATRIX **BLUE CLAMP** clamping systems at a glance:

- Optimum holding of complex workpieces.
- Very fast, true-to-contour holding of the workpiece.
- No need to stock separate workpiece supports.
- Up to 80% cost reduction in jig-and-fixture construction.
- Individual, multi-purpose and modular system.
- Easy handling and storing in the MATRIX® case.



X-SUPPORT XL

ORDER NUMMER: 0050.3168



The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.6724	2	X-SUPPORT XL Module	50 x 100 x 100 mm	79 x 30 mm	67 Stück	6 mm	21 mm
2	0050.3124	2	X-SUPPORT XL Module	50 x 50 x 100 mm	37 x 30 mm	31 Stück	6 mm	21 mm
3	0050.3127	2	Connector	25 x 50 x 50 mm	-	-	-	-
4	0050.3128	2	Base plate	10 x 50 x 100 mm	-	-	-	-
5	0050.6727	2	Connector	25 x 50 x 100 mm	-	-	-	-
6	0050.6728	2	Base plate	10 x 100 x 100 mm	-	-	-	-
7	0050.3125	6	Adapter	25 x 50 x 50 mm	-	-	-	-
8	0050.6740	2	Adapter	40 x 50 x 100 mm	-	-	-	-
9	0050.3129	1	Horizontal clamp	-	-	-	-	-

The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension
10	0050.6750	2	Adapter	50 x 50 x 100 mm
11	0050.3130	2	Angle	30°, 50 x 50 mm
12	0050.3115	2	Pressure pad	120 mm
13	0050.3116	2	Pressure pad	200 mm
14	0050.3140	2	Adapter	40 x 50 x 50 mm
15	0050.3117	1	Stop	-
16	0050.3119	1	Adjusting ring	-
17	0050.3141	1	Adapter for pressure pad	40 x 50 x 50 mm
18	0050.3118	4	Joint	-
19	0900.4001	1	Cone support	90°
20	0900.4002	1	Prism support	90°
21	0050.3151	1	Element for cone/prism insert	50 x 50 x 50 mm
22	0900.2501	1 Set = 8 Pieces	Set of fastening parts	-
23	0050.6725	4	Adapter	25 x 50 x 100 mm
24	0900.2500	1 Set = 2 Pieces	Connector	-
25	0050.6730	2	Angle	30°, 50 x 100 mm
26	0900.0501	1 Set = 3 Pieces	Gripper pads	-
27	0050.6732	1	Double angle	30°, 50 x 100 mm
28	0900.0500	2	T-slot profile plate	375 x 500 x 20 mm Nutenbreite: 8 mm
-	0900.3620	2	Bow-type handles	-
-	0900.0000	1	Screwdriver	-
-	0900.9000	2	MATRIX case	-

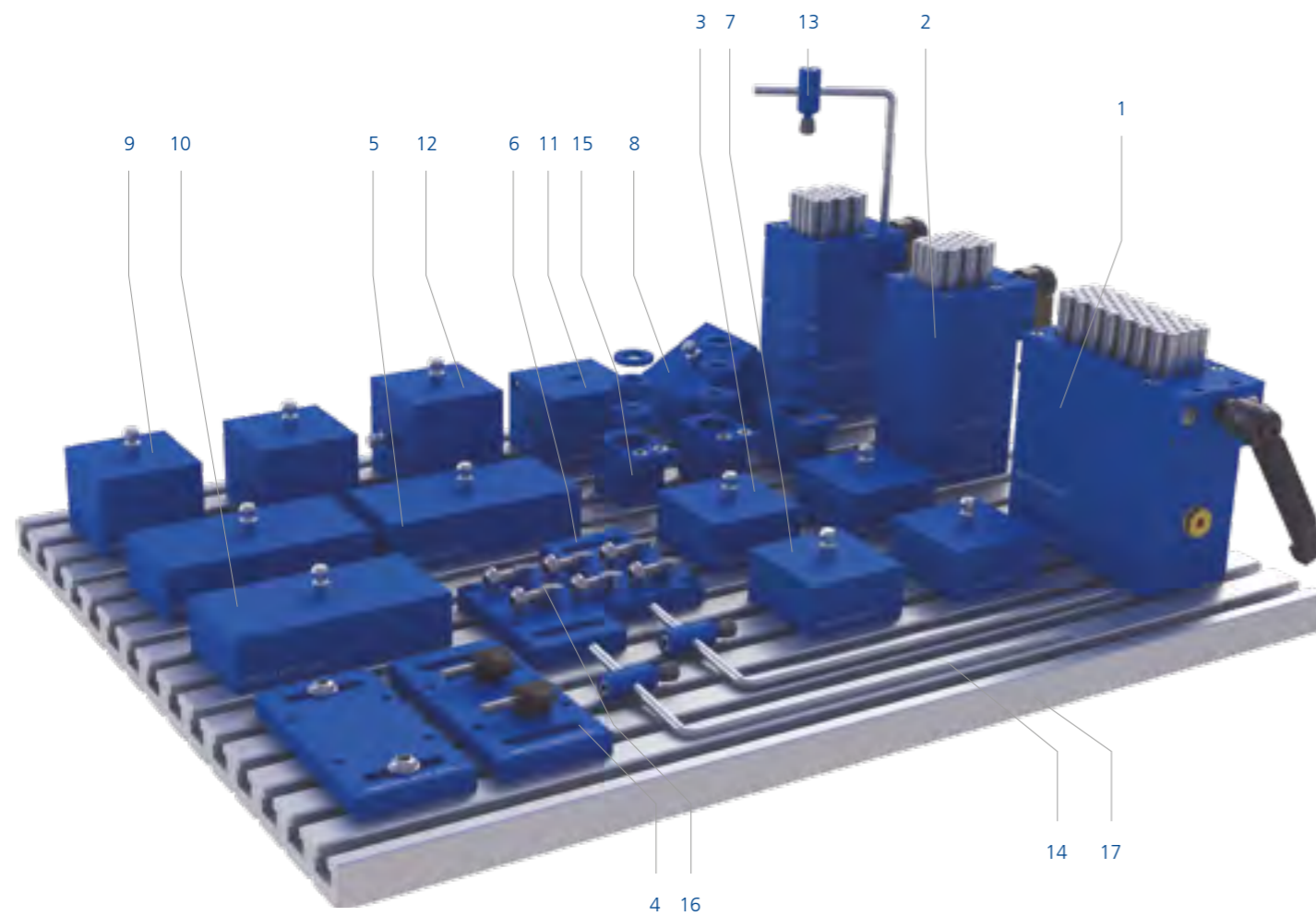
X-SUPPORT XL

As specialist for complicated plastic, cast and car body parts, X-SUPPORT XL is especially suited for use with measuring equipment and in assembly facilities. – The perfect solution!



X-SUPPORT XL LIGHT

ORDER NUMBER: 0050.3169



X-SUPPORT XL LIGHT

Smaller version of the X-SUPPORT XL also for heavy loads and medium-sized workpieces.



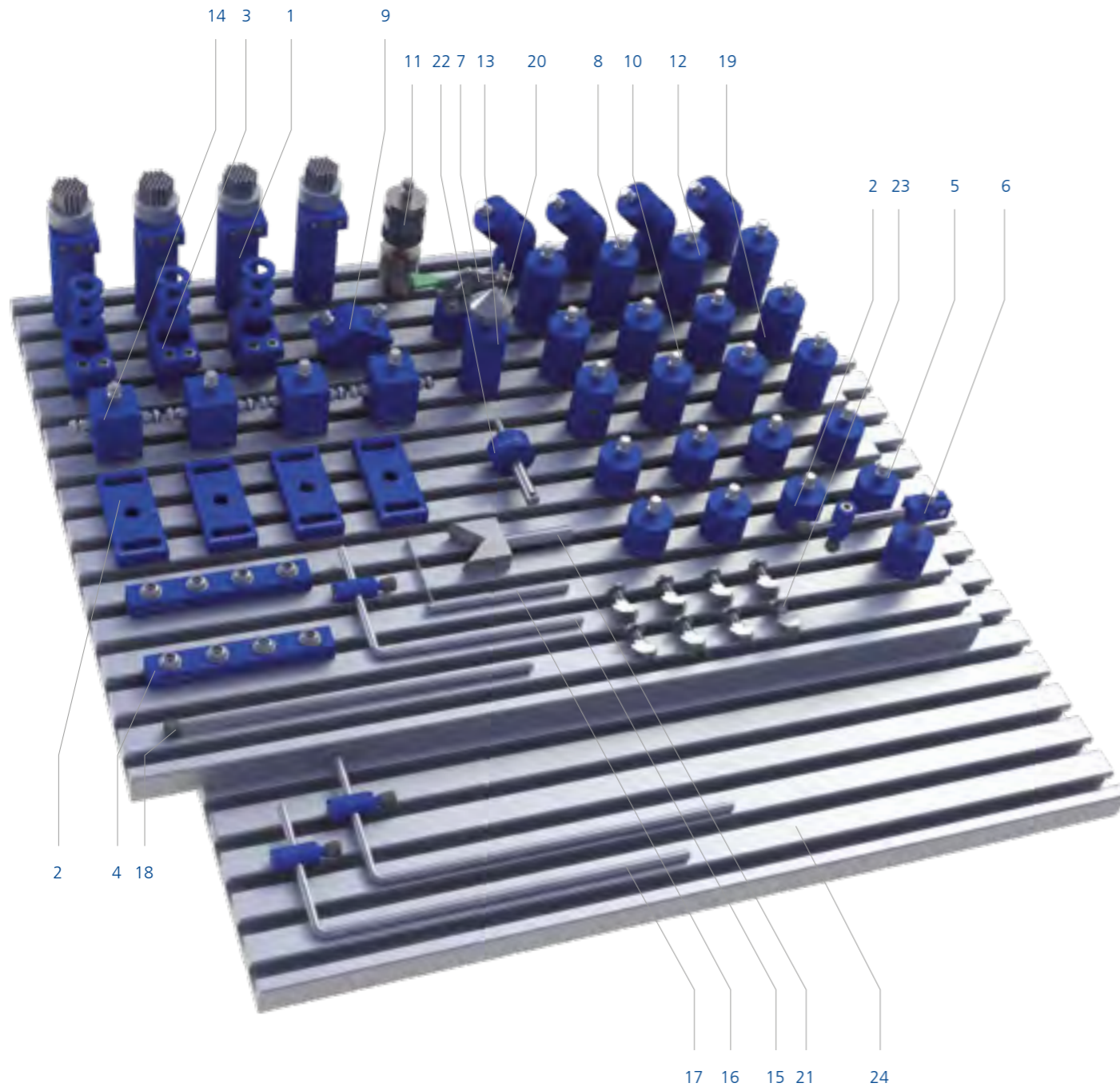
The modular system consists of the following individual components:



Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.6724	1	X-SUPPORT XL Module	50 x 100 x 100 mm	79 x 30 mm	67 Pieces	6 mm	21 mm
2	0050.3124	2	X-SUPPORT XL Module	50 x 50 x 100 mm	37 x 30 mm	31 Pieces	6 mm	21 mm
3	0050.3127	2	Connector	25 x 50 x 50 mm	-	-	-	-
4	0050.3128	2	Base plate	10 x 50 x 100 mm	-	-	-	-
5	0050.6727	1	Connector	25 x 50 x 100 mm	-	-	-	-
6	0050.6728	1	Base plate	10 x 100 x 100 mm	-	-	-	-
7	0050.3125	2	Adapter	25 x 50 x 50 mm	-	-	-	-
8	0050.3130	1	Angle	30°, 50 x 50 mm	-	-	-	-
9	0050.3140	2	Adapter	40 x 50 x 50 mm	-	-	-	-
10	0050.6725	2	Adapter	25 x 50 x 100 mm	-	-	-	-
11	0050.3141	1	Adapter for pressure pad	40 x 50 x 50 mm	-	-	-	-
12	0050.3150	1	Joint	50 x 50 x 50 mm	-	-	-	-
13	0050.3115	1	Pressure pad	120 mm	-	-	-	-
14	0050.3116	2	Pressure pad	200 mm	-	-	-	-
15	0900.0501	1 Set = 3 Stück	Gripper pads	-	-	-	-	-
16	0900.2501	1 Set = 8 Stück	Set of fastening parts	-	-	-	-	-
17	0900.0500	1	T-slot profile plate	375 x 500 x 20 mm Slot width: 8 mm	-	-	-	-
-	0900.3620	2	Bow-type handles	-	-	-	-	-
-	0900.0000	1	Screwdriver	-	-	-	-	-
-	0900.9000	1	MATRIX case	-	-	-	-	-

X-SUPPORT SXS

ORDER NUMBER: 0050.1210



X-SUPPORT SXS

If the interfering contour needs to be kept particularly small, the X-Support SXS is the ideal choice. Despite its small footprint, complex work pieces can be held securely. – Impressive diversity!

The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.1237	4	X-SUPPORT SXS Module	ø 26 mm	–	37 Pieces	2,5 mm	12 mm
2	0050.1227	4	Connector and base plate	ø 26 x 35 mm	–	–	–	–
3	0900.0501	1 Set = 3 Pieces	Gripper pads	–	–	–	–	–
4	0900.2500	1 Set = 2 Pieces	Connector	–	–	–	–	–
5	0050.1225	4	Adapter	ø 26 x 25 mm	–	–	–	–
6	0050.1216	1	Pressure pad	ø 26 mm	–	–	–	–
7	0050.1229	1	Horizontal clamp	–	–	–	–	–
8	0050.1230	4	Angle, infinitely variable	ø 26 mm	–	–	–	–
9	0050.1232	1	Double angle	30°	–	–	–	–
10	0050.1240	4	Adapter	ø 26 x 40 mm	–	–	–	–
11	0050.1243	1	Stepless height-adjustable module (15 mm)	ø 26 mm	–	–	–	–
12	0050.1250	4	Adapter	ø 26 x 50 mm	–	–	–	–
13	0050.1251	1	Element for cone/prism insert	ø 26 x 50 mm	–	–	–	–
14	0050.1252	4	Joint	90°	–	–	–	–
15	0050.1425	1	Pressure pad	–	–	–	–	–
16	0050.3115	1	Pressure pad	120 mm	–	–	–	–
17	0050.3116	2	Pressure pad	200 mm	–	–	–	–
18	0050.3117	1	Stop	–	–	–	–	–
19	0050.1241	4	Component for pressure pad	ø 26 x 40 mm	–	–	–	–
20	0900.4001	1	Cone support	90°	–	–	–	–
21	0900.4002	1	Prism support	90°	–	–	–	–
22	0900.4003	1	Single pin insert	–	–	–	5 mm	19 mm
23	0900.2501	1 Set = 8 Pieces	Set of fastening parts	–	–	–	–	–
24	0900.0500	2	T-slot profile plate	375 x 500 x 20 mm Slot width: 8 mm	–	–	–	–
–	0900.3620	2	Bow-type handles	–	–	–	–	–
–	0900.0000	1	Screwdriver	–	–	–	–	–
–	0900.9000	1	MATRIX case	–	–	–	–	–



MATRIX CASE

Delivery of the systems in MATRIX case. (Order number: 0900.9000)



DEMATRIX 000.1224

DEMATRIX 000.1227

DEMATRIX 000.1225

DEMATRIX 000.1214

DEMATRIX 000.1226

DEMATRIX 000.1237
Made in Germany

DEMATRIX 000.1232

DEMATRIX 000.1221

DEMATRIX 000.1221

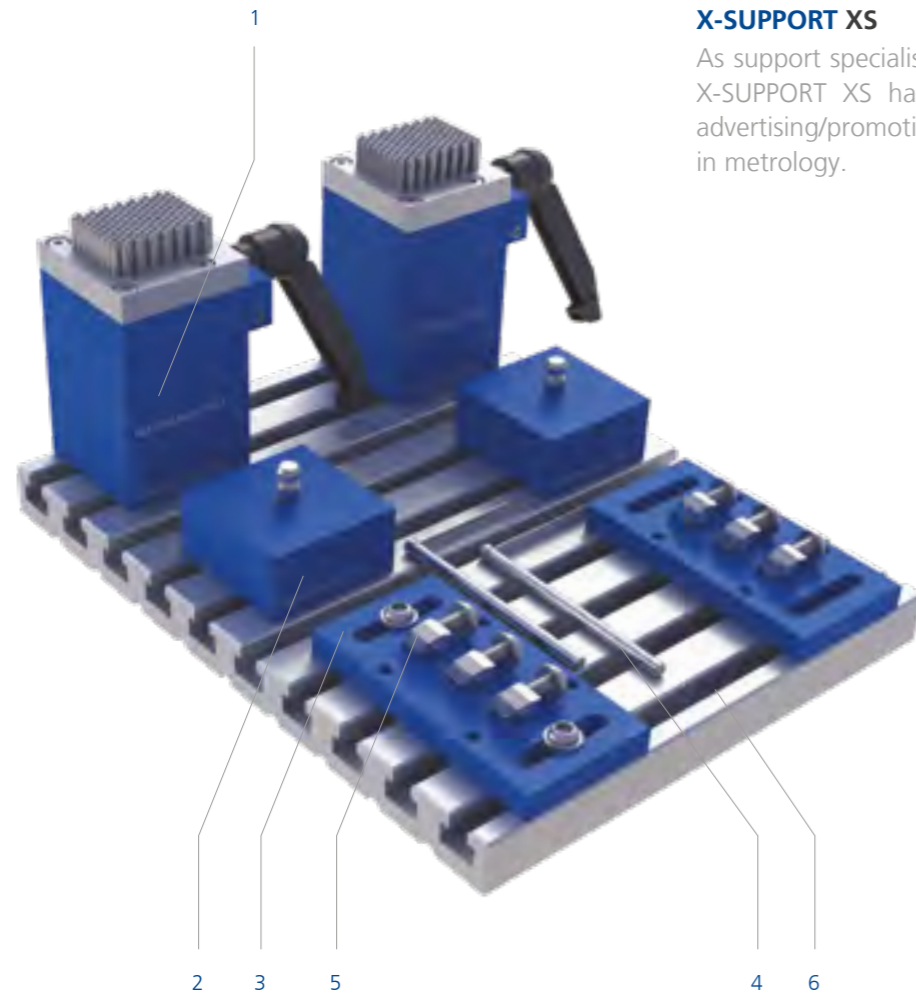
DEMATRIX 000.1220

DEMATRIX 000.1240

DEMATRIX 000.1221

X-SUPPORT XS

ORDER NUMBER: 0050.1424



X-SUPPORT XS

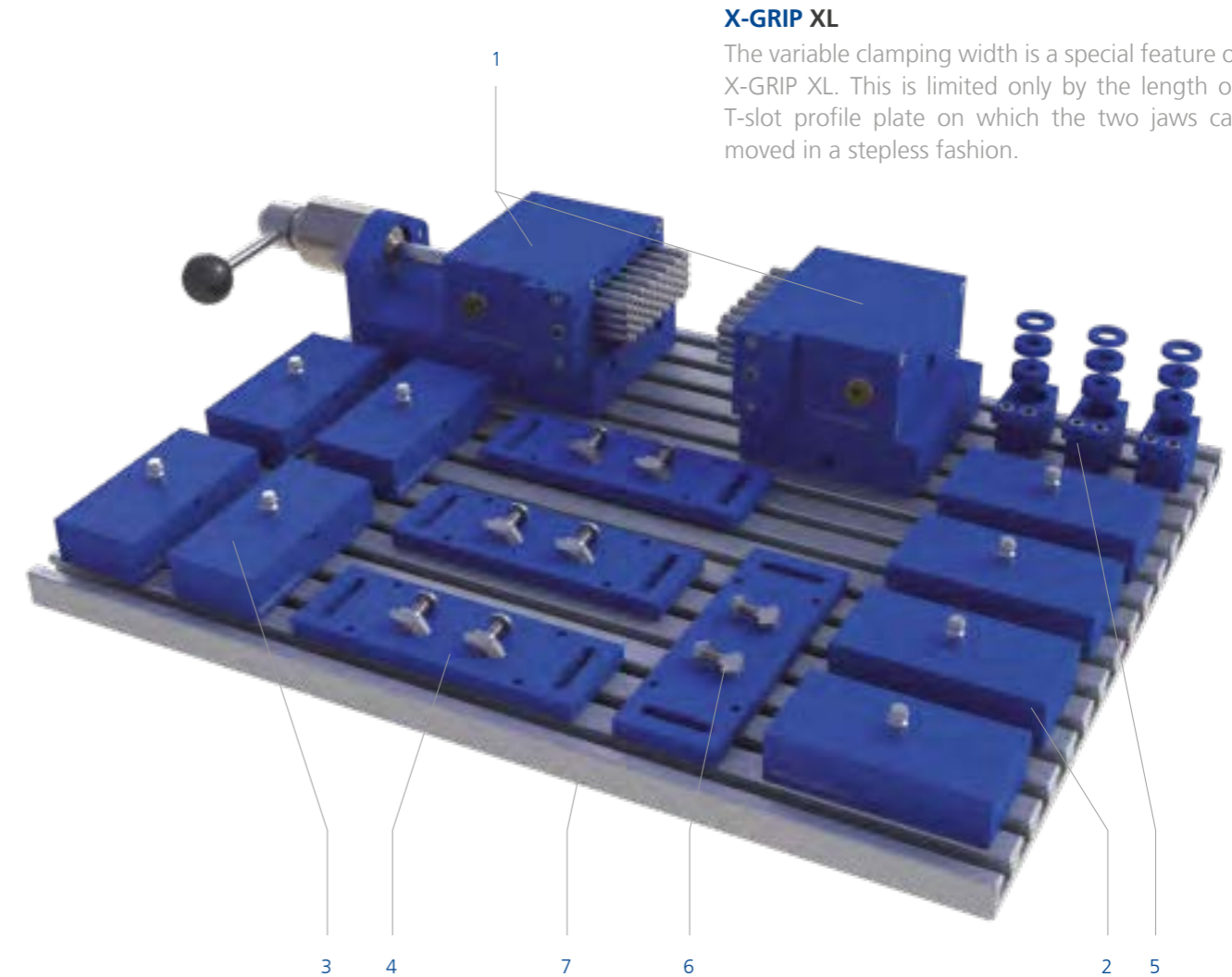
As support specialist for consistently changing parts, X-SUPPORT XS has a proven track record in the advertising/promotional materials industry as well as in metrology.

The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.1423	2	X-SUPPORT XS Module	50 x 50 x 58 mm	39 x 29 mm	142 Pieces	2,5 mm	12 mm
2	0050.3127	2	Connector	25 x 50 x 50 mm	–	–	–	–
3	0050.3128	2	Base plate	10 x 50 x 100 mm	–	–	–	–
4	0050.1425	2	Pressure pad	–	–	–	–	–
5	0900.2501	1 Set = 8 Pieces	Set of fastening parts	–	–	–	–	–
6	0900.0200	1	T-slot profile plate	250 x 200 x 20 mm Slot width: 8 mm	–	–	–	–
–	0900.0000	1	Screwdriver	–	–	–	–	–
–	0900.9000	1	MATRIX case	–	–	–	–	–

X-GRIP XL

ORDER NUMBER: 0050.6225



X-GRIP XL

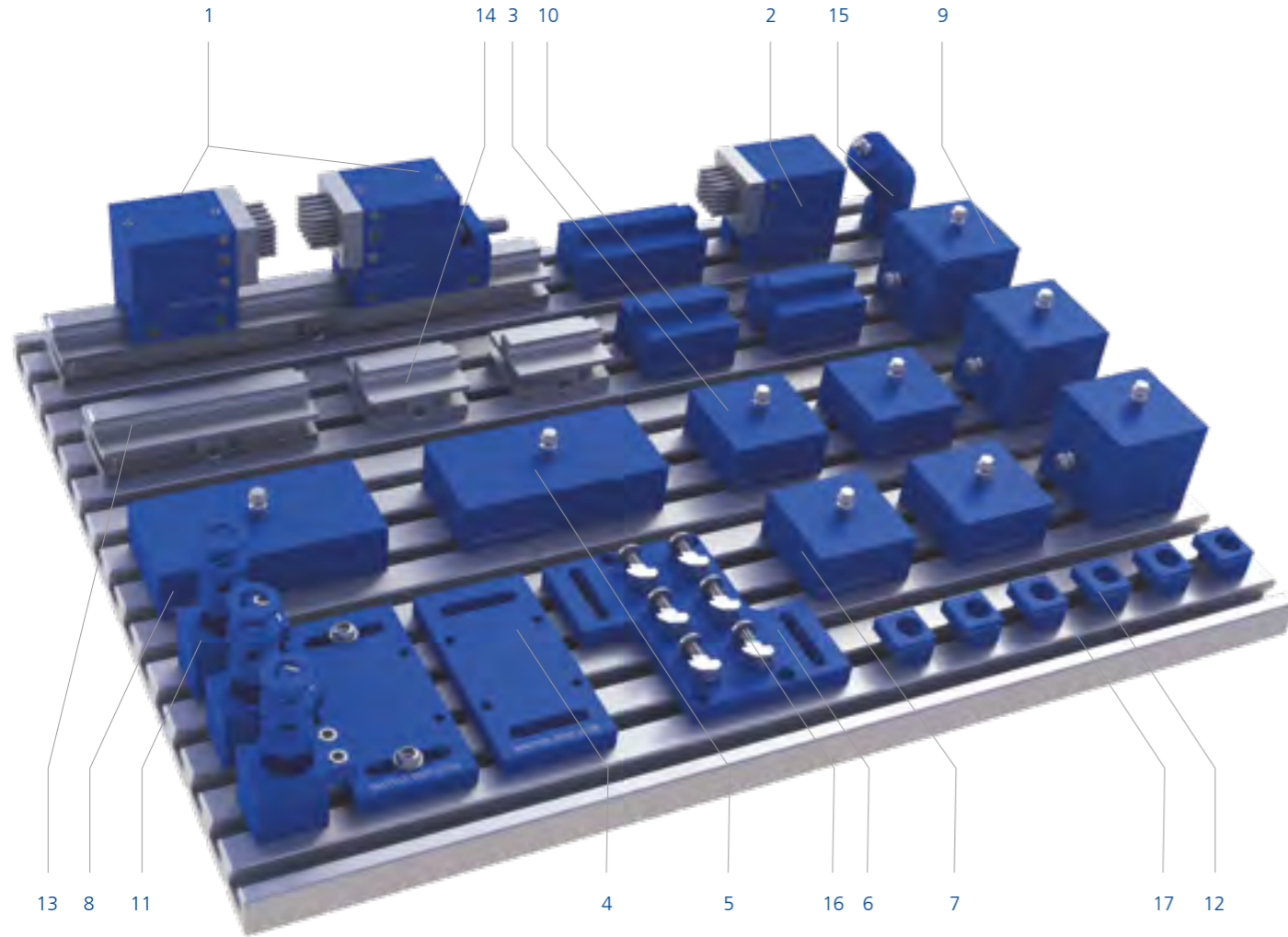
The variable clamping width is a special feature of the X-GRIP XL. This is limited only by the length of the T-slot profile plate on which the two jaws can be moved in a stepless fashion.

The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.6224	1	X-GRIP XL Module with fixed jaws	100 x 100 mm	79 x 30 mm	67 Pieces	6 mm	21 mm
		1	X-GRIP Module with movable jaws	150 x 100 mm	79 x 30 mm	67 Pieces	6 mm	21 mm
2	0050.6725	4	Adapter	25 x 50 x 100 mm	–	–	–	–
3	0050.6727	4	Connector	25 x 50 x 100 mm	–	–	–	–
4	0050.7150	4	Base plate	10 x 50 x 150 mm	–	–	–	–
5	0900.0501	1 Set = 3 Pieces	Gripper pads	–	–	–	–	–
6	0900.2501	1 Set = 8 Pieces	Set of fastening parts	–	–	–	–	–
7	0900.0500	1	T-slot profile plate	375 x 500 x 20 mm Slot width: 8 mm	–	–	–	–
–	0900.3620	2	Bow-type handles	–	–	–	–	–
–	0900.0000	1	Screwdriver	–	–	–	–	–
–	0900.9000	1	MATRIX case	–	–	–	–	–

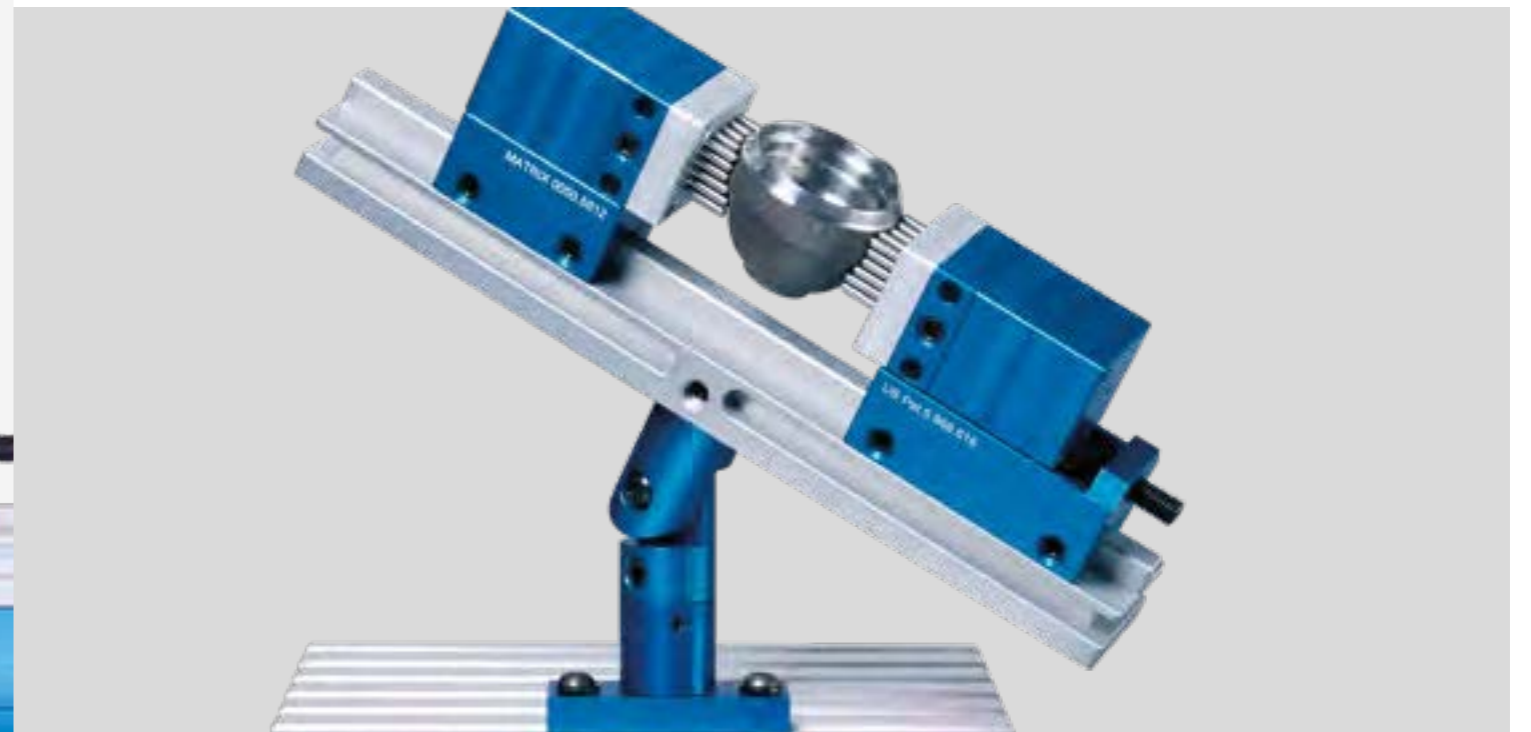
X-GRIP XS

ORDER NUMBER: 0050.5815



X-GRIP XS

Position your workpiece exactly as you want it ... With its stepless angle joint, the X-GRIP XS can be tilted up to 360° and brought into the optimum working position.



The modular system consists of the following individual components:

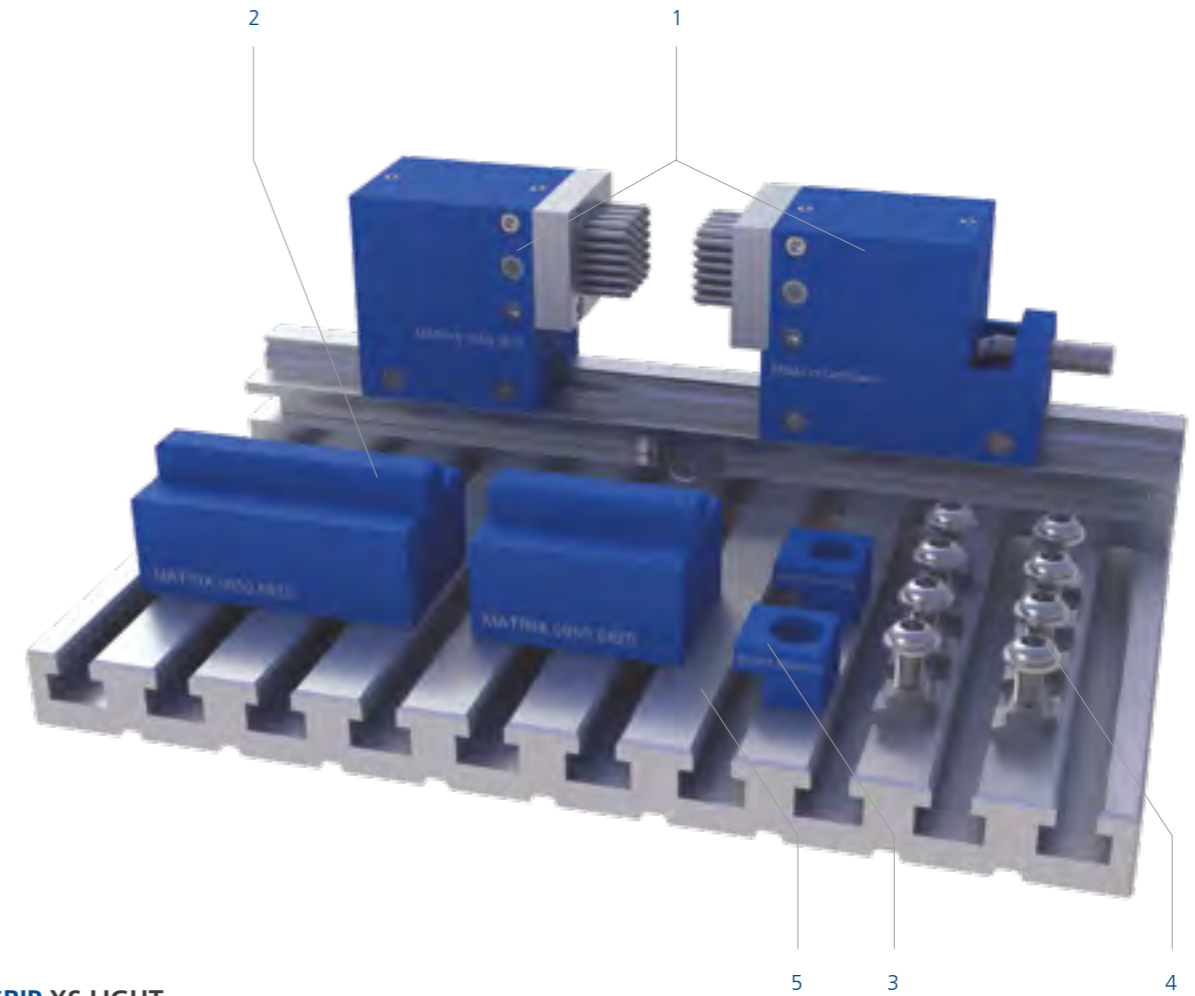


Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.5812	1	X-GRIP XS Module on guide rail 250 mm	38 x 250 mm	20 x 23 mm	58 Pieces	2,5 mm	12 mm
2	0050.5816	1	Additional top jaws	–	20 x 23 mm	58 Pieces	2,5 mm	12 mm
3	0050.3125	2	Connector	25 x 50 x 50 mm	–	–	–	–
4	0050.3128	2	Base plate	10 x 50 x 100 mm	–	–	–	–
5	0050.6727	1	Connector	25 x 50 x 100 mm	–	–	–	–
6	0050.6728	1	Base plate	10 x 100 x 100 mm	–	–	–	–
7	0050.3127	2	Adapter	25 x 50 x 50 mm	–	–	–	–
8	0050.6725	1	Adapter	25 x 50 x 100 mm	–	–	–	–
9	0050.3150	3	Joint	50 x 50 x 50 mm	–	–	–	–
10	0050.5826	1 Set = 3 Parts	Adapter	2x: 25 x 50 x 50 mm 1x: 25 x 50 x 70 mm	–	–	–	–
11	0900.0501	1 Set = 3 Pieces	Gripper pads	–	–	–	–	–
12	0900.0506	1 Set = 6 Pieces	Gripper pads	–	–	–	–	–
13	0050.5867	1	Guide rail for movable jaws	100 mm	–	–	–	–
14	0050.5831	2	Guide rail for fixed jaws	50 mm	–	–	–	–
15	0050.1230	1	Angle, infinitely variable	∅ 26 mm	–	–	–	–
16	0900.2501	1 Set = 8 Pieces	Set of fastening parts	–	–	–	–	–
17	0900.0500	1	T-slot profile plate	375 x 500 x 20 mm Slot width: 8 mm	–	–	–	–
–	0900.3620	2	Bow-type handles	–	–	–	–	–
–	0900.0000	1	Screwdriver	–	–	–	–	–
–	0900.9000	1	MATRIX case	–	–	–	–	–



X-GRIP XS LIGHT

ORDER NUMBER: 0050.5813



X-GRIP XS LIGHT

Perfect stability even for smaller workpieces through optimum form fit. Due to its small footprint, the X-GRIP XS LIGHT can be mounted even in small CMMs.

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.5812	1	X-GRIP XS Module on guide rail 250 mm	38 x 250 mm	20 x 23 mm	Per jaw: 58 Pieces	2,5 mm	12 mm
2	0050.5825	1 Set = 2 Parts	Adapter	25 x 50 x 50 mm, 25 x 50 x 70 mm	–	–	–	–
3	0900.0502	1 Set = 2 Pieces	Gripper parts	–	–	–	–	–
4	0900.2501	1 Set = 8 Pieces	Set of fastening parts	–	–	–	–	–
5	0900.0200	1	T-slot profile plate	250 x 200 x 20 mm Slot width: 8 mm	–	–	–	–
–	0900.0000	1	Screwdriver	–	–	–	–	–
–	0900.9000	1	MATRIX case	–	–	–	–	–



BLUE CLAMP – Equipment and accessories

Overview of the MATRIX profile systems:

Ideal for car bodywork – the MATRIX systems in combination with aluminium profiles allow larger and more complex jigs and fixtures. Convenient: after use these jigs can be dismantled and stored more compact. This saves storage costs.

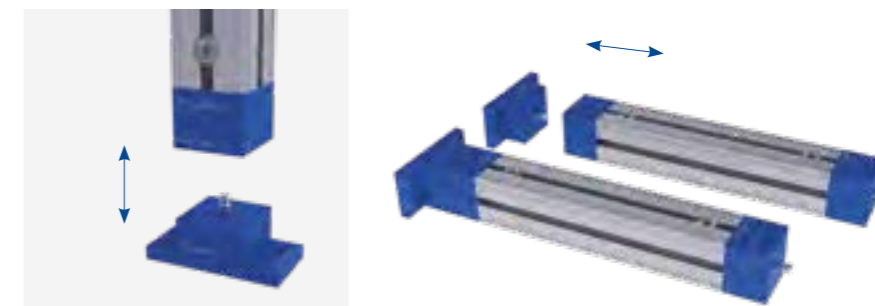
Your benefits:

- Very short assembly times
- Easy access during measuring
- Stepless adjustment with all MATRIX modules
- You can react to measurement orders quickly and flexibly with the MATRIX profile system, especially in car body and door production

Proven profile systems from MATRIX:

- X-SUPPORT PROFIL
- X-SHIFT
- X-TABLE

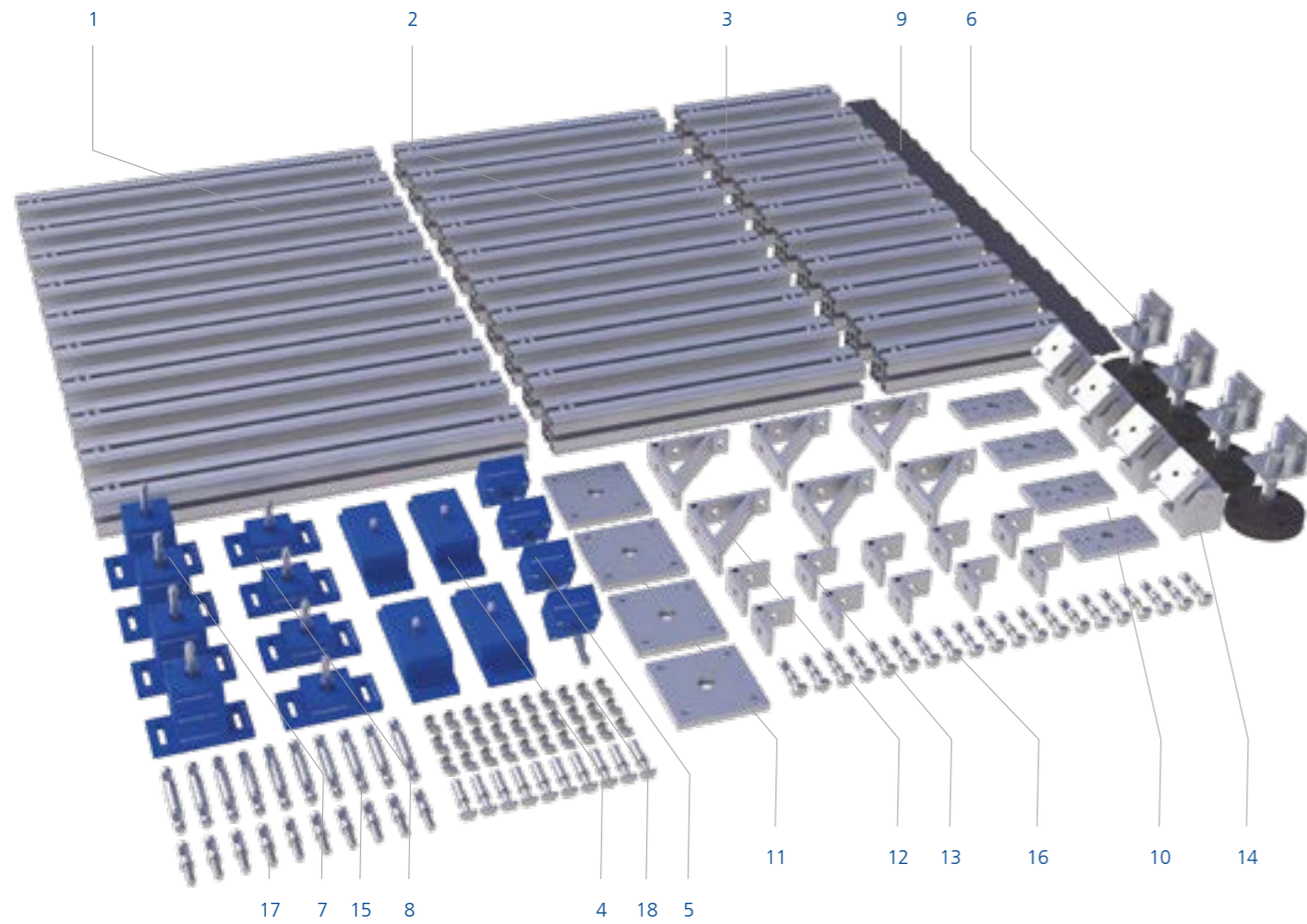
Both systems are fully compatible with the MATRIX BLUE CLAMP modular systems and their modules:



Proven MATRIX connections between the module and the profile systems allow very short set-up times.

X-SUPPORT PROFIL

ORDER NUMBER: 0800.2550



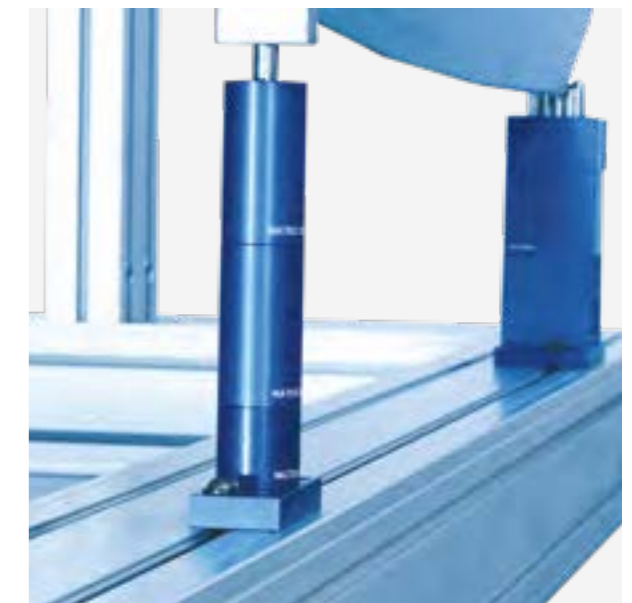
X-SUPPORT PROFIL

Especially in car body and door assembly, your metrology lab can react quickly to job orders when using the MATRIX profile system.

Fig.	Article no.	Quantity	Description	Dimension
1	0800.0500	10	Profile	50 x 50 x 500 mm
2	0800.0400	10	Profile	50 x 50 x 400 mm
3	0800.0250	10	Profile	50 x 50 x 250 mm
4	0050.6727	4	Connector	-
	0050.7150	4	Base plate	-
5	0050.3127	4	Connector	-
	0800.3128	4	Base plate	-
	0800.3517	4	Connector module	-
6	0800.6702	4	Swivel Pad	-
	0800.3526	4	Angle	-
7	0800.3127	4	Base plate	-
	0050.3126	4	Plate with connector,	-
	0050.3127	4	connector,	-
	0050.3128	4	quick connectors	-
	0800.3517	4		-



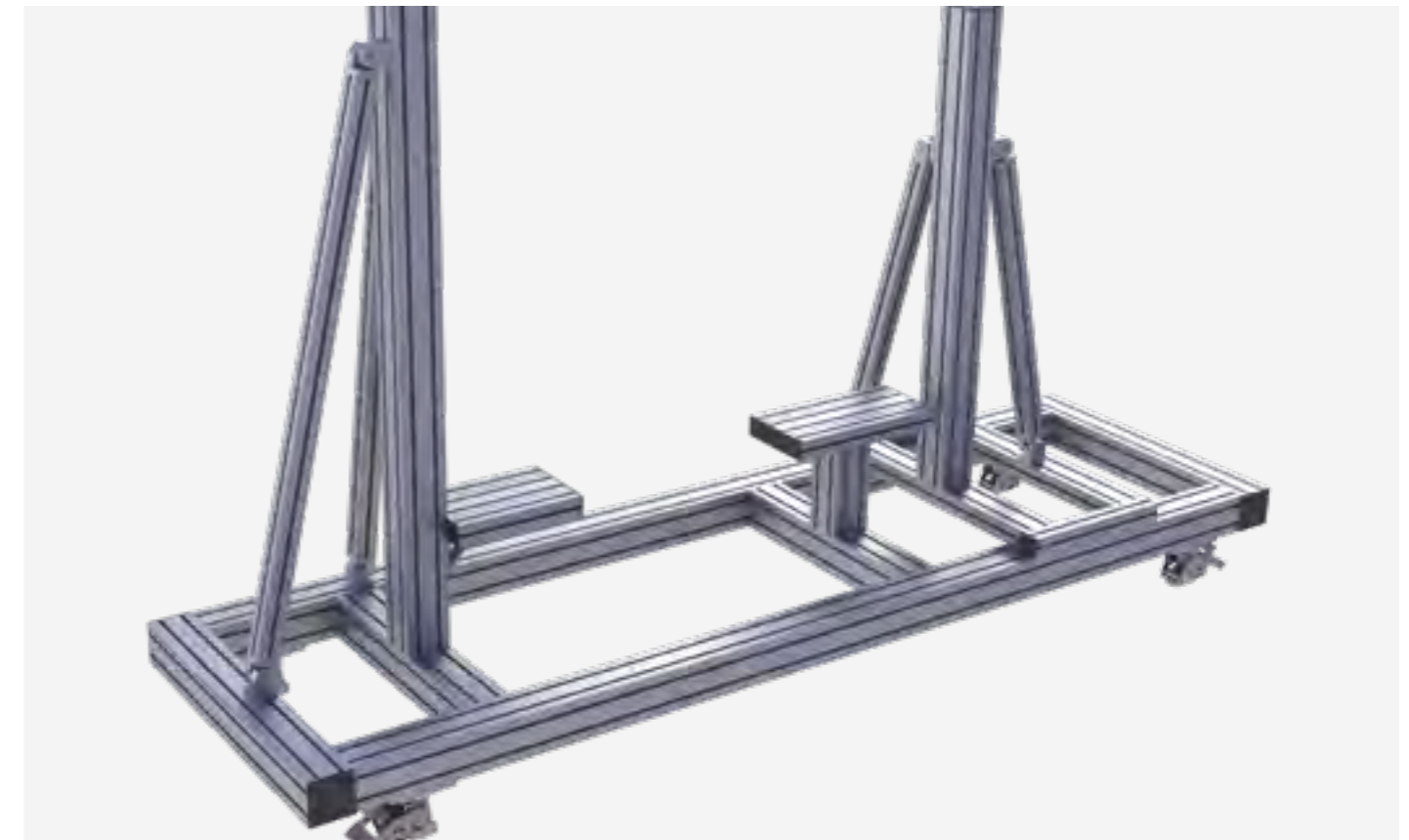
Fig.	Article no.	Quantity	Description	Dimension
8	0800.3127	4	Connector	Plate with connector profile
	0050.3128	4	Base plate	
9	0800.3566	4	Connector	50 x 50 mm
	0800.3517	4	Connector	
10	0800.3714	4	Base plate joint	-
11	0800.3646	4	Base plate profile	-
12	0800.3597	6	Angle large	-
13	0800.3594	10	Angle small	-
14	0800.3701	4	Joint stepless	±90°
15	0800.3510	10	Extension	-
	0800.3519	10	Connector	
16	0800.3517	20	Round-head connector	-
17	0800.3501	10	Threaded connector	-
18	0900.2554	1 Set = 54 Pcs.	Set of fastening parts	-





X-SHIFT

ORDER NUMBER: 0400.1001

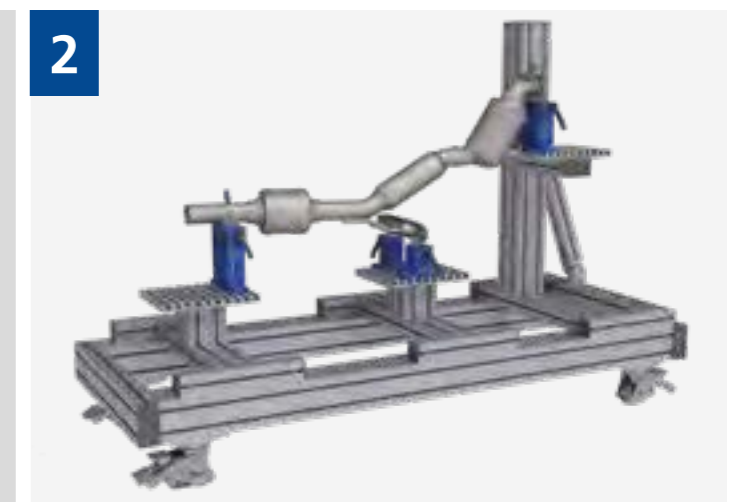
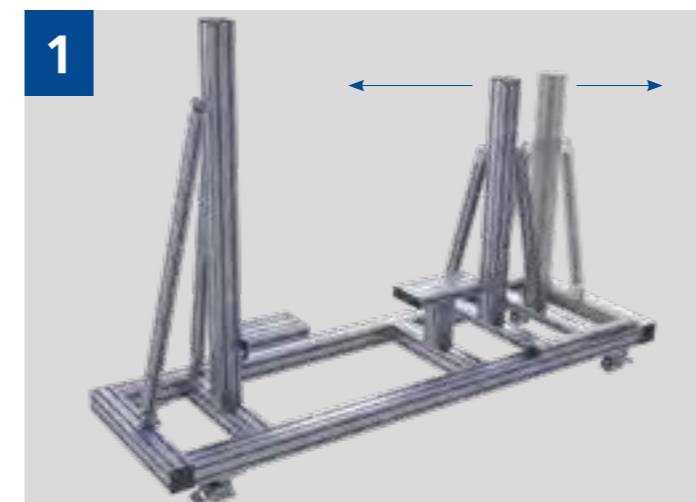


MATRIX X-SHIFT profile system

In frame-and-body construction the X-SHIFT profile system is used to hold large parts in position to measure back panel flaps, bonnets or side panels.

The distance between the two upright elements can be adjusted to the various

workpiece sizes by sliding 1 the carriage in the appropriate position. The high-strength aluminum profiles are supplemented with MATRIX X-SUPPORT components 2 from the BLUE CLAMP series. The dimensions of the X-SHIFT: 2700 x 800 x 1850 mm.





X-TABLE

ORDER NUMBER: 0400.1200 ODER 0400.1500



MATRIX X-TABLE profile system

The X-TABLE is a roller table that is matched to the BLUE CLAMP series and its angle of incline can be variably adjusted.

It is available in two sizes:
1200 x 750 mm H 910 mm
1500 x 750 mm H 910 mm

The table can be set up comfortably in horizontal position and then inclined for an optimum measuring position (vehicle position 1 and 2). Lifting rollers are used to lift the table from the leveling feet and move it easily.



X-GRID

ORDER NUMBER: 0900.0510

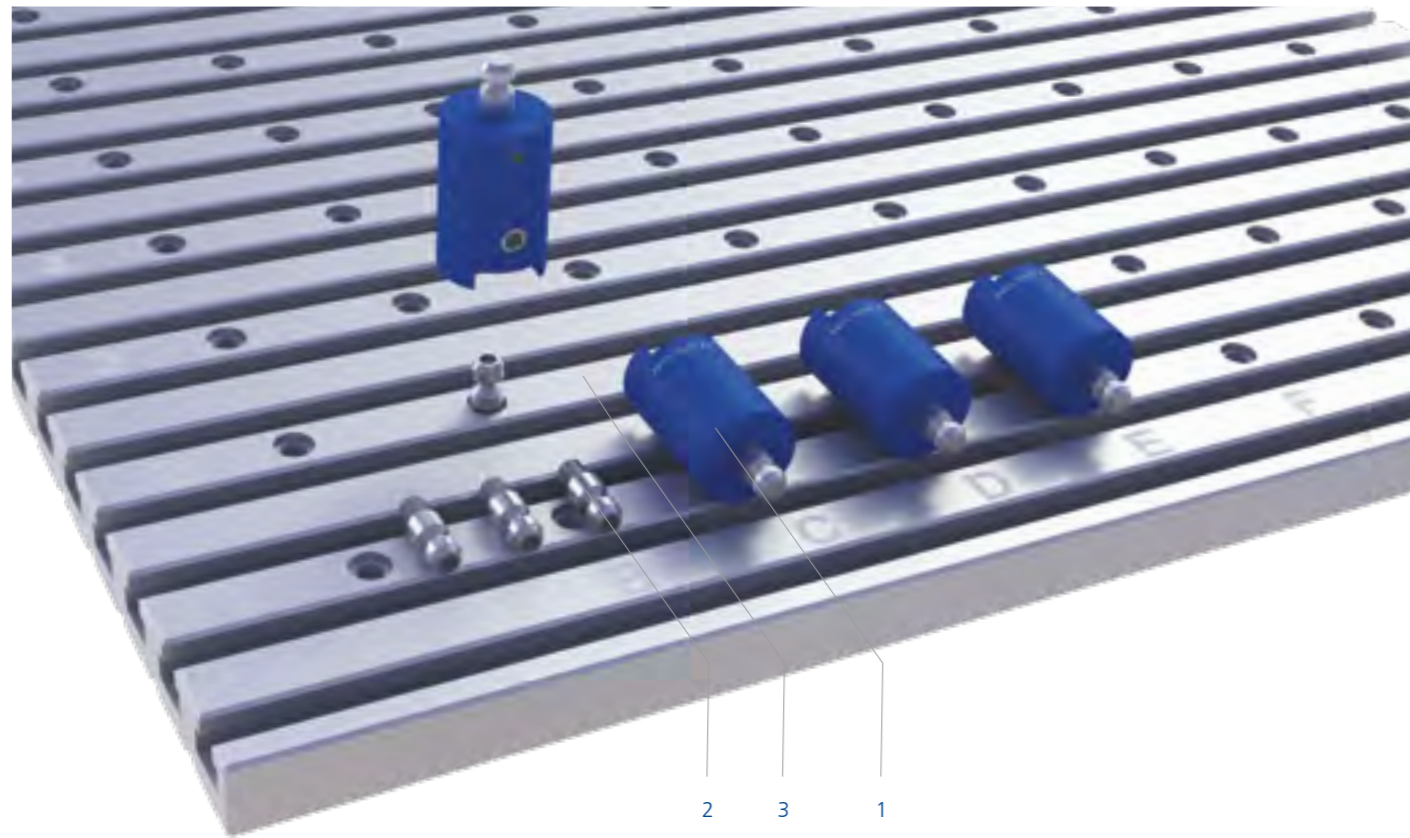


Fig.	Article no.	Quantity	Description	Dimension
1	0050.1244	4	Connector	ø 26 x 40 mm
2	0050.1245	4	Connection pin	–
3	0900.0505	1	Base plate with grid	375 x 500 x 20 mm Slot width: 8 mm Grid width: 50 x 50 mm Thread insert: M6 Positions: 63
–	0900.0000	1	Screwdriver	–

The **X-GRID** plate is the perfect combination of grid and T-slot support. The parts can be set up in a reproducible manner without sacrificing slot flexibility.

X-SUPPORT - OPTIONAL

ADD-ONS (TO BE ORDERED SEPERATELY)



Fig.	Article no.	Quantity	Description	Dimension
1	0900.9210	1	Magnetic base	Holding force ~ 700N 55 x 50 x 75 mm
2	0700.5001	1	Adapter for hole-matrix jigs	ø 12 mm
3	0700.5002	1	Adapter for hole-matrix jigs	ø 20 mm



MATRIX interfaces

Versatile – also for third-party systems

MATRIX systems are not only strong as an adaptable fixture, but can also be used as support and connection elements in combination with existing jigs – a simple and economical add-on.

Simple handling. Always compatible. Different assemblies for workpieces of various shapes and sizes can be assembled with all MATRIX systems. Simply and quickly, using only a single tool.



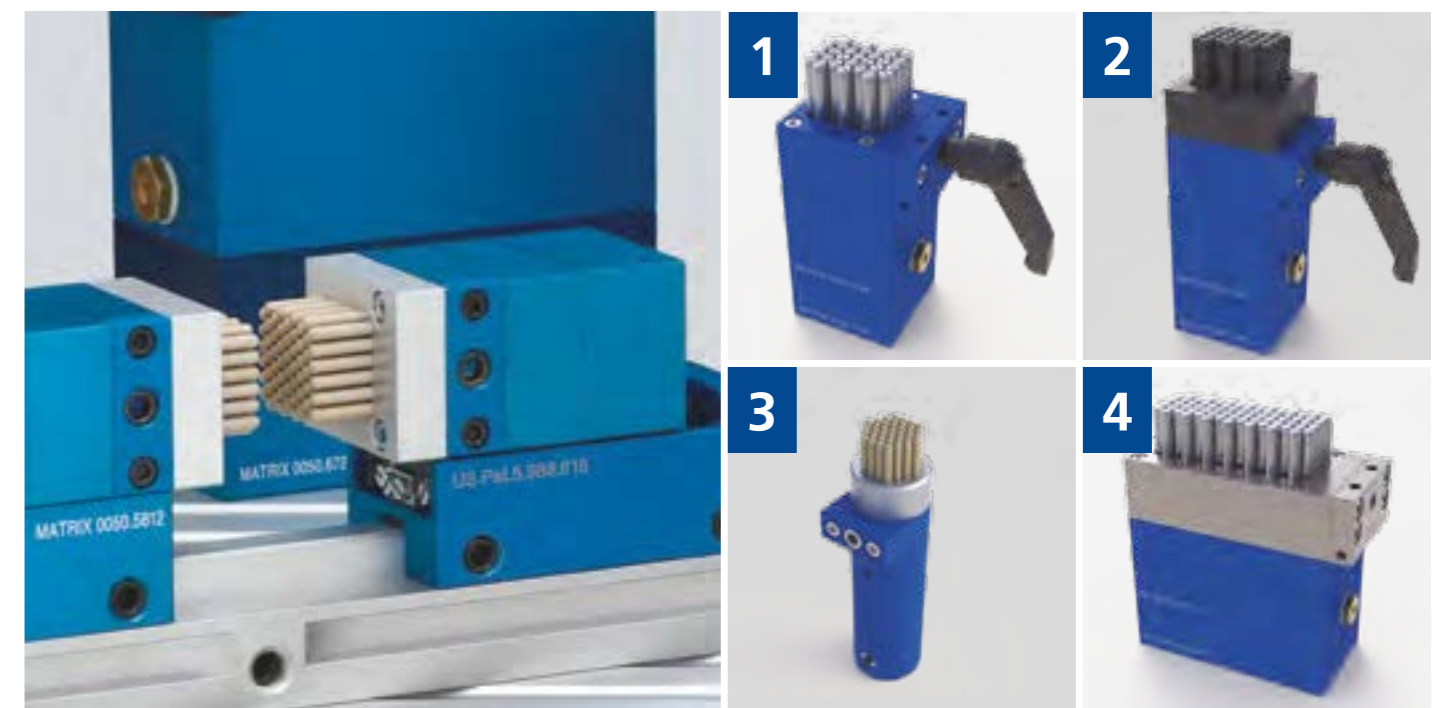
MATRIX pin variants

Perfect molding of the workpiece

For the MATRIX BLUE CLAMP product series, simple operation and handling of the workpiece are key aspects, however, the option of use in customized solutions that adapt to the size and surface properties of the workpieces was squarely kept in view. Special pin types have been designed for unusual applications. Every requirement for individual and industry-specific requirements can be met.

For use in CT analyses, the pins of the BLUE CLAMP system are also available in plastic (2+3) of high quality PEEK. As a result, the system is pervious to radiation, non-ageing and compatible. In cases of very sensitive parts (painted surfaces), the variant with plastic pins (1) has proven to be very effective as well.

For use of the BLUE CLAMP series in very robust assembly work, specially manufactured variants of high-strength steel (4) are used.



MINI CLAMP

→ Delicate workpieces

Overview of the modular MINI CLAMP systems

This development by MATRIX® is small and guarantees perfect mounting of even the most delicate workpieces.

Underlying the principle of the flexible MATRIX pin system is the idea of shaping its support with the help of the workpiece. The original workpiece itself generates an absolutely true-to-shape contour with the help of the individually guided pins. This mold is mechanically fixed. The part-specific and sturdy mold support is finished. Work that previously required lengthy milling or shaped supports, can now be completed in seconds.

Whereas conventional supports could only be used for a single workpiece, the MATRIX pin system can adjust to any workpiece contour. With the MINI CLAMP systems you can now hold filigree workpieces quickly and precisely in the laboratory and in the precision measurement room.

Numerous individual modules and additional components are available for the modular design. And everything is mounted with one single tool. An adapter system, which is available as optional equipment, allows you to use the MINI CLAMP systems in combination with other MATRIX products.

The following MINI CLAMP systems are available:

X-GRIP MINI S

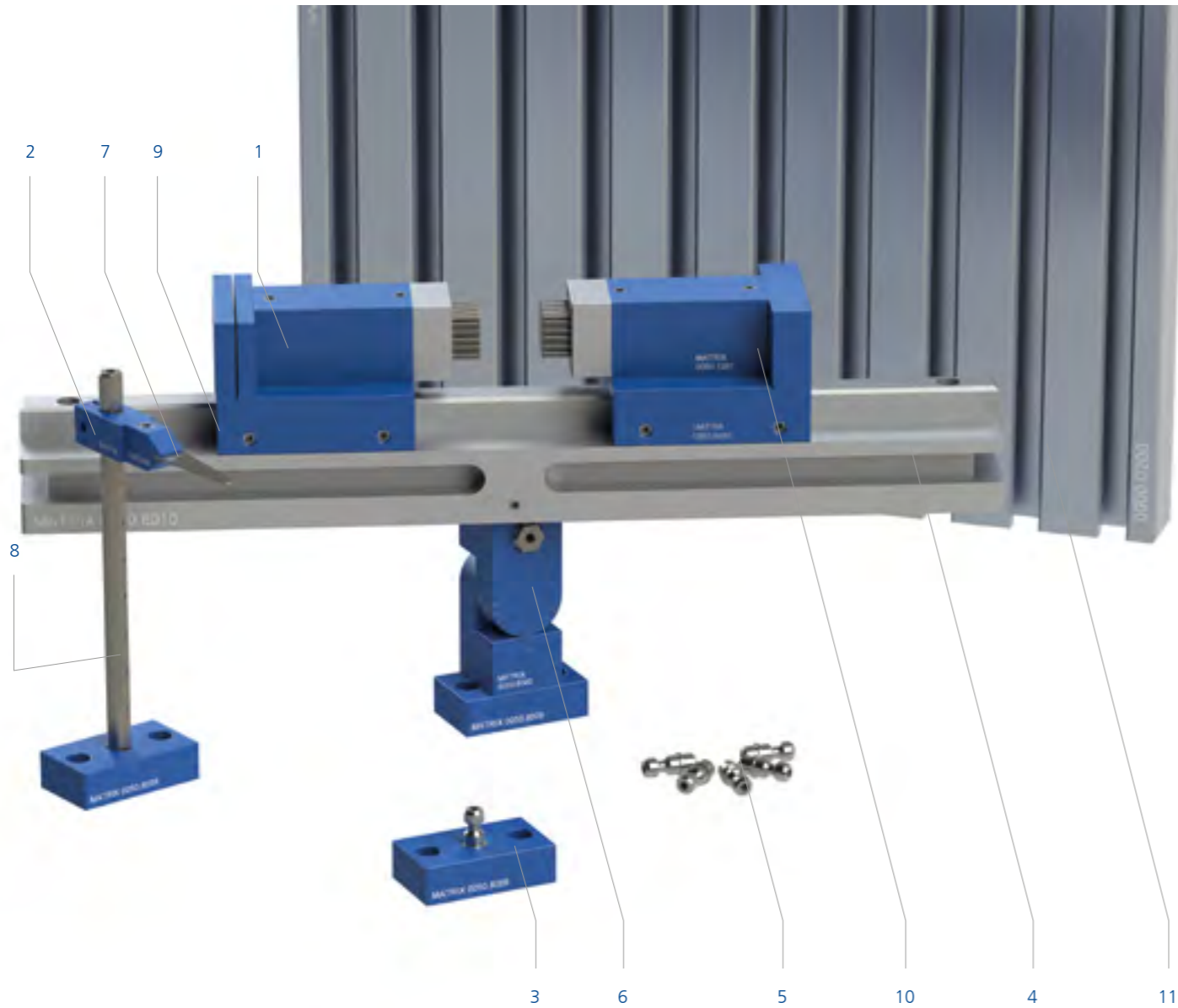
X-GRIP MINI M

X-GRIP MINI L



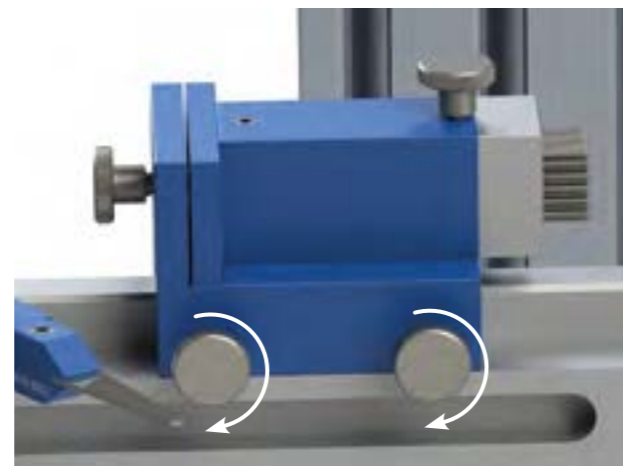
X-GRIP MINI S

ORDER NUMBER: 0050.2515



X-GRIP MINI S

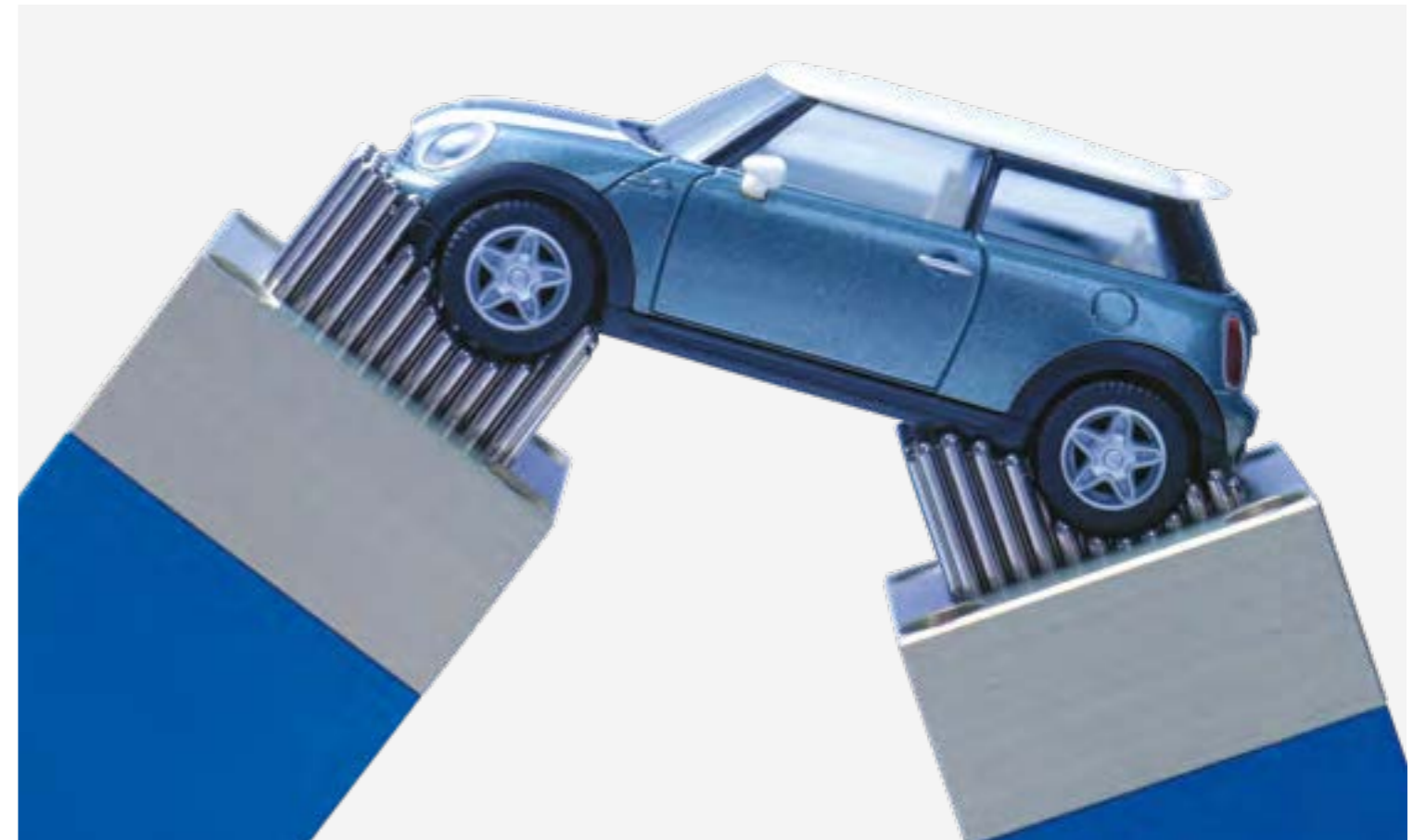
The X-GRIP MINI S generates the form-closure and lightning-fast clamping and support for filigree and lightweight parts in unsurpassed resolution (1 mm pin diameter). Toolless operation is also possible.



The modular system consists of the following individual components:

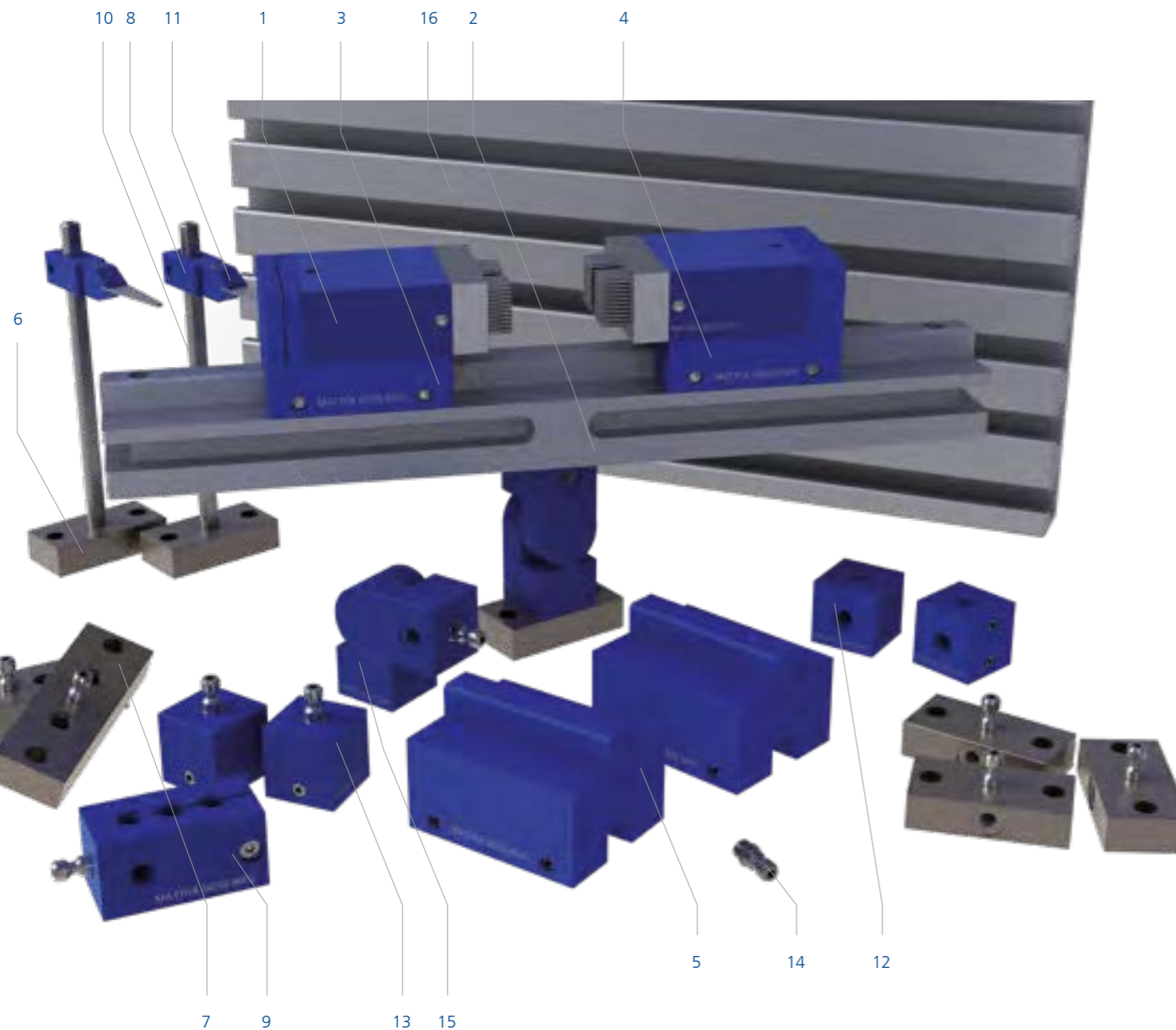


Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.1267	2	X-Grip Mini single	20 x 20 x 50 mm	14x11 mm(1x)	126	1 mm	7,5 mm
Further information about the module:				Weight: 67g, Clamping screw: Hexagon SW2, Material pins: Stainless steel, Material housing: Aluminium anodized, Adaption: Connection pin Ø 5, Installation location: any, Air connections for cleaning, Data sheet on request				
2	0050.8003	1	X-Grip Mini bracket single	-	-	-	-	-
3	0050.8009	3	X-Grip Mini base plate single	-	-	-	-	-
4	0050.8010	1	X-Grip Mini straight guide	250 mm	-	-	-	-
5	0050.8013	8	X-Grip Mini connection pin with hexagon socket	13,5 mm, M5	-	-	-	-
6	0050.8040	1	X-Grip Mini Single joint, stepless	-	-	-	-	-
7	0050.8050	1	X-Grip Mini retainer	-	-	-	-	-
8	0050.8052	1	X-Grip Mini retaining arm	100 mm with scale	-	-	-	-
9	0050.8070	1	X-Grip Mini movable slide	-	-	-	-	-
10	0050.8080	1	X-Grip Mini fixed slide	-	-	-	-	-
11	0900.0200	1	T-slotted profile plate	250 x 200 x 20 mm Slot width: 8 mm	-	-	-	-
-	0900.1000	1	X-Grip Mini micro-screwdriver	-	-	-	-	-
-	0900.2502	1 Set = 8 pieces	X-Grip Mini mounting kit for X-Grip Mini	-	-	-	-	-
-	0900.9000	1	MATRIX Case incl. product-specific deposit, cover- and groundpad	-	-	-	-	-



X-GRIP MINI M

Order number: 0050.2520



X-GRIP MINI M

The X-GRIP MINI M is a form-closure and fast holding system with two pin-jaws for filigree and lightweight parts with unsurpassed resolution (1 mm pin diameter).

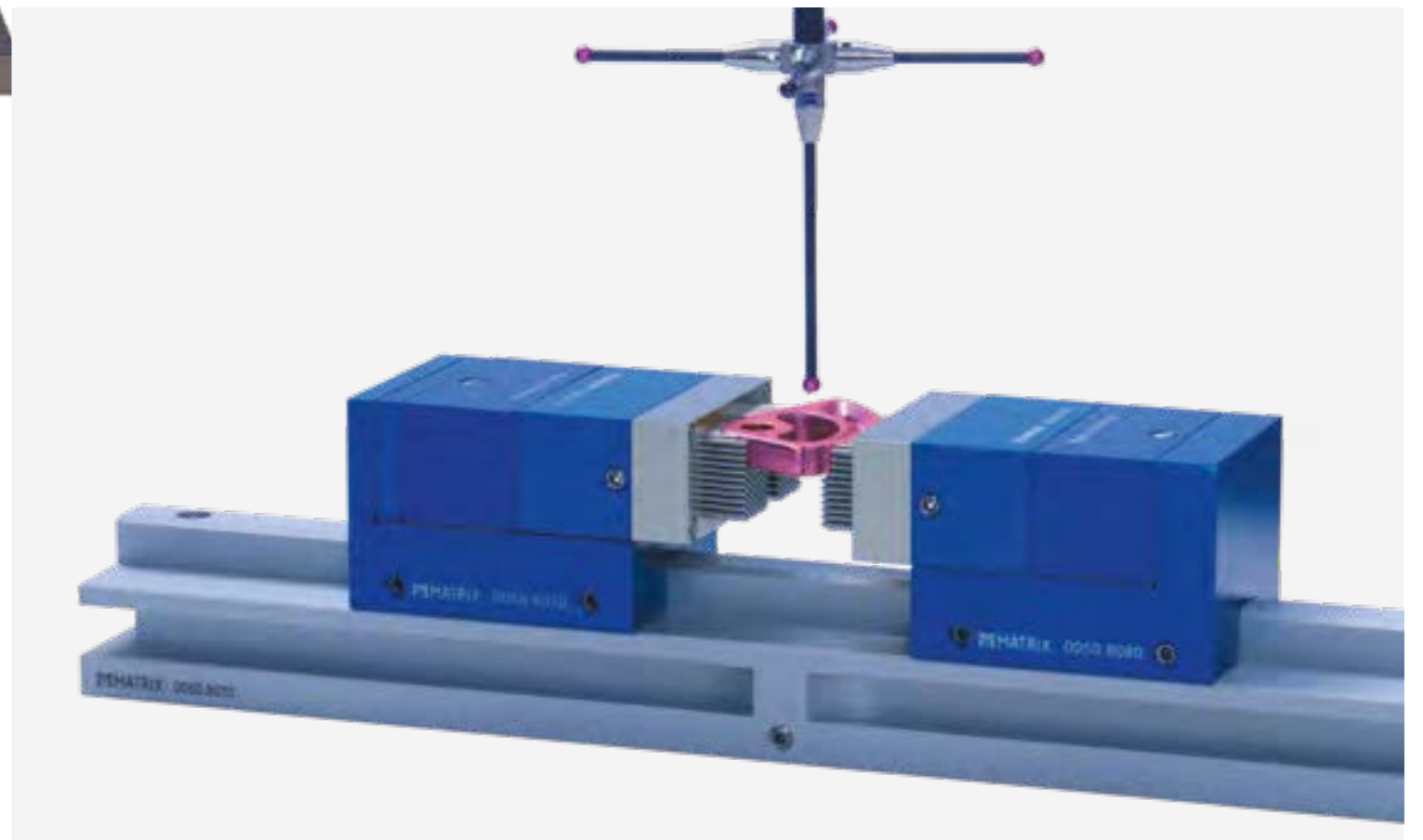


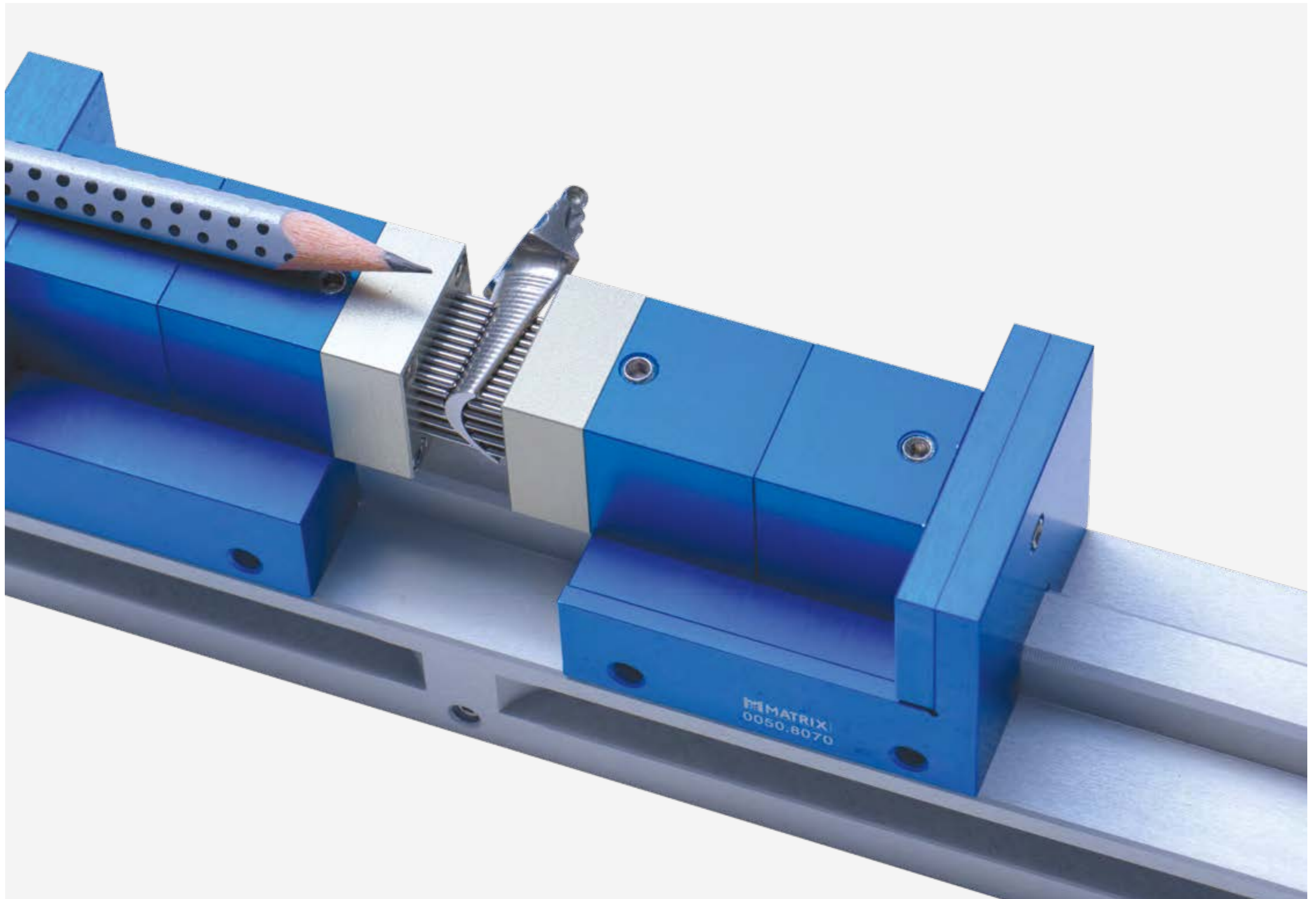
17

The modular system consists of the following individual components:



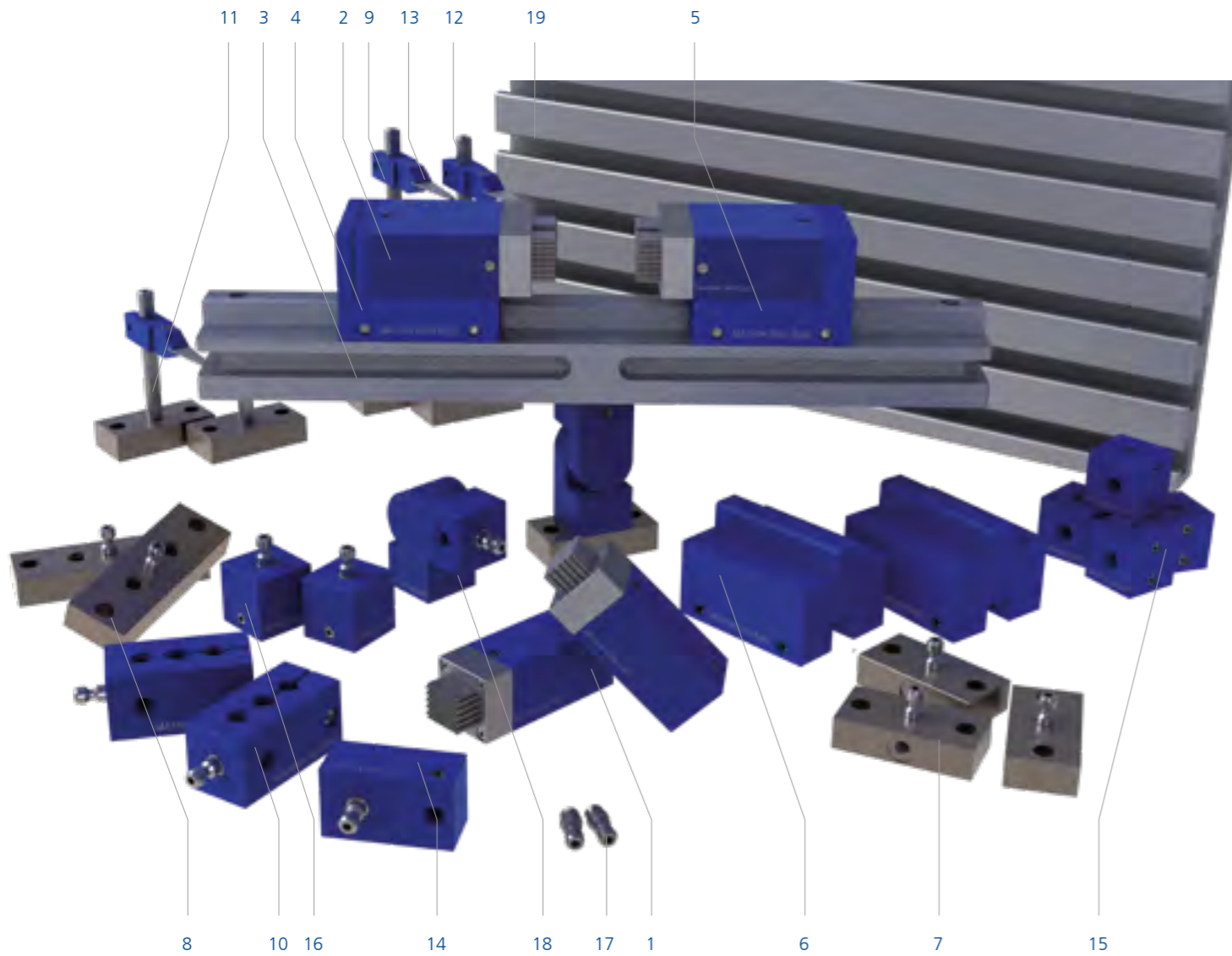
Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.2527	2	X-GRIP MINI Modul double	20 x 40 x 50 mm	14 x 11 mm (x2)	252	1 mm	7,5 mm
Further information about the module:				Weight: 132g, Clamping screw: Hexagon SW2, Material pins: Stainless steel, Material housing: Aluminium anodized, Adaption: Connection pin Ø 5, Instalation location: any, Air connections for cleaning, Data sheet on request				
2	0050.8010	1	Guide rail	250 mm	-	-	-	-
3	0050.8070	1	Carriage, adjustable	-	-	-	-	-
4	0050.8080	1	Carriage, fixed	-	-	-	-	-
5	0050.8060	2	Height adjustment	25 mm	-	-	-	-
6	0050.8009	6	Base plate single	-	-	-	-	-
7	0050.8008	2	Base plate double	-	-	-	-	-
8	0050.8003	2	Holder single	-	-	-	-	-
9	0050.8002	1	Holder double	-	-	-	-	-
10	0050.8052	2	Holding rod	100 mm with scale	-	-	-	-
11	0050.8050	2	Pressure pad	-	-	-	-	-
12	0050.8007	2	Double-joint	90°	-	-	-	-
13	0050.8001	2	Adapter	20 mm	-	-	-	-
14	0050.8013	15	Connection pin with hexagon	M5	-	-	-	-
15	0050.8040	1	Knuckle joint, infinitely variable	-	-	-	-	-
16	0900.0200	1	T-slot profile plate	250 x 200 x 20 mm Slot width: 8 mm	-	-	-	-
17	0900.1000	1	Micro-screwdriver	-	-	-	-	-
-	0900.2503	1 Set = 16 Pcs.	Set of fastening parts for X-GRIP MINI	-	-	-	-	-
-	0900.9005	1	MATRIX case for MINI CLAMP	-	-	-	-	-





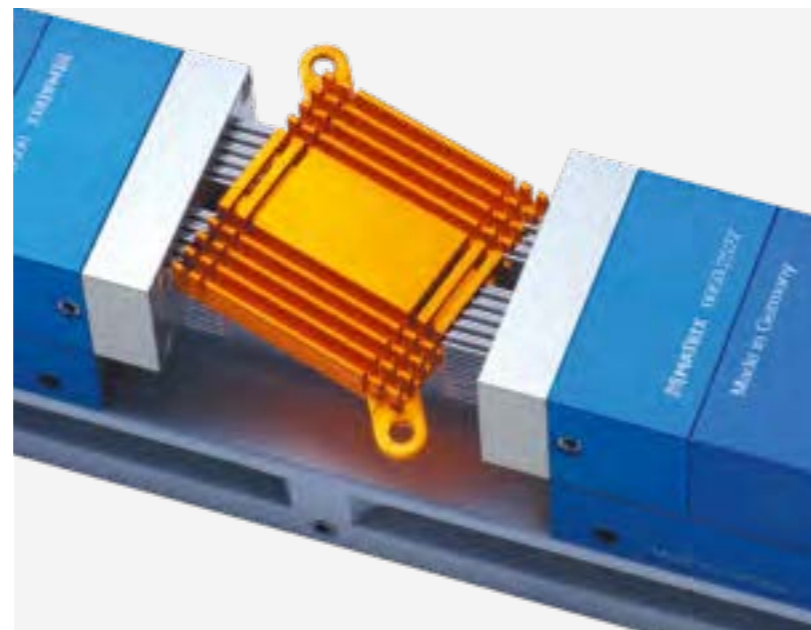
X-GRIP MINI L

ORDER NUMBER: 0050.2530



X-GRIP MINI L

The X-GRIP MINI L is the most recent version of the top technology in unsurpassed resolution (1 mm pin diameter) for fast form closure with complicated contours, for mounting and holding delicate and small parts.



The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0050.1267	2	X-GRIP MINI Module single	20 x 20 x 50 mm	14 x 11 mm (x1)	126	1 mm	7,5 mm
Further information about the module:				Weight: 67g, Clamping screw: Hexagon SW2, Material pins: Stainless steel, Material housing: Aluminium anodized, Adaption: Connection pin Ø 5, Installation location: any, Air connections for cleaning, Data sheet on request				
2	0050.2527	2	X-GRIP MINI Module double	20 x 40 x 50 mm	14 x 11 mm (x2)	252	1 mm	7,5 mm
Further information about the module:				Weight: 132g, Clamping screw: Hexagon SW2, Material pins: Stainless steel, Material housing: Aluminium anodized, Adaption: Connection pin Ø 5, Installation location: any, Air connections for cleaning, Data sheet on request				
3	0050.8010	1	Guide rail	250 mm	-	-	-	-
4	0050.8070	1	Carriage, adjustable	-	-	-	-	-
5	0050.8080	1	Carriage, fixed	-	-	-	-	-
6	0050.8060	2	Height adjustment	25 mm	-	-	-	-
7	0050.8009	8	Base plate single	-	-	-	-	-
8	0050.8008	2	Base plate double	-	-	-	-	-
9	0050.8003	4	Holder single	-	-	-	-	-
10	0050.8002	2	Holder double	-	-	-	-	-
11	0050.8051	2	Holding rod	50 mm with scale	-	-	-	-
12	0050.8052	2	Holding rod	100 mm with scale	-	-	-	-
13	0050.8050	4	Pressure pad	-	-	-	-	-
14	0050.8004	1	Adapter plate	-	-	-	-	-
15	0050.8007	4	Double-joint	90°	-	-	-	-
16	0050.8001	2	Adapter	20 mm	-	-	-	-
17	0050.8013	20	Connection pin with hexagon	M5	-	-	-	-
18	0050.8040	2	Knuckle joint, infinitely variable	-	-	-	-	-
19	0900.0200	1	T-slot profile plate	250 x 200 x 20 mm Slot width: 8 mm	-	-	-	-
-	0900.2504	1 Set = 20 Pcs.	Micro-screwdriver	-	-	-	-	-
-	0900.1000	1	Micro-screwdriver	-	-	-	-	-
-	0900.9005	1	MATRIX case for MINI CLAMP	-	-	-	-	-

X-GRIP MINI - OPTIONAL

ADD-ONS (TO BE ORDERED SEPERATELY)

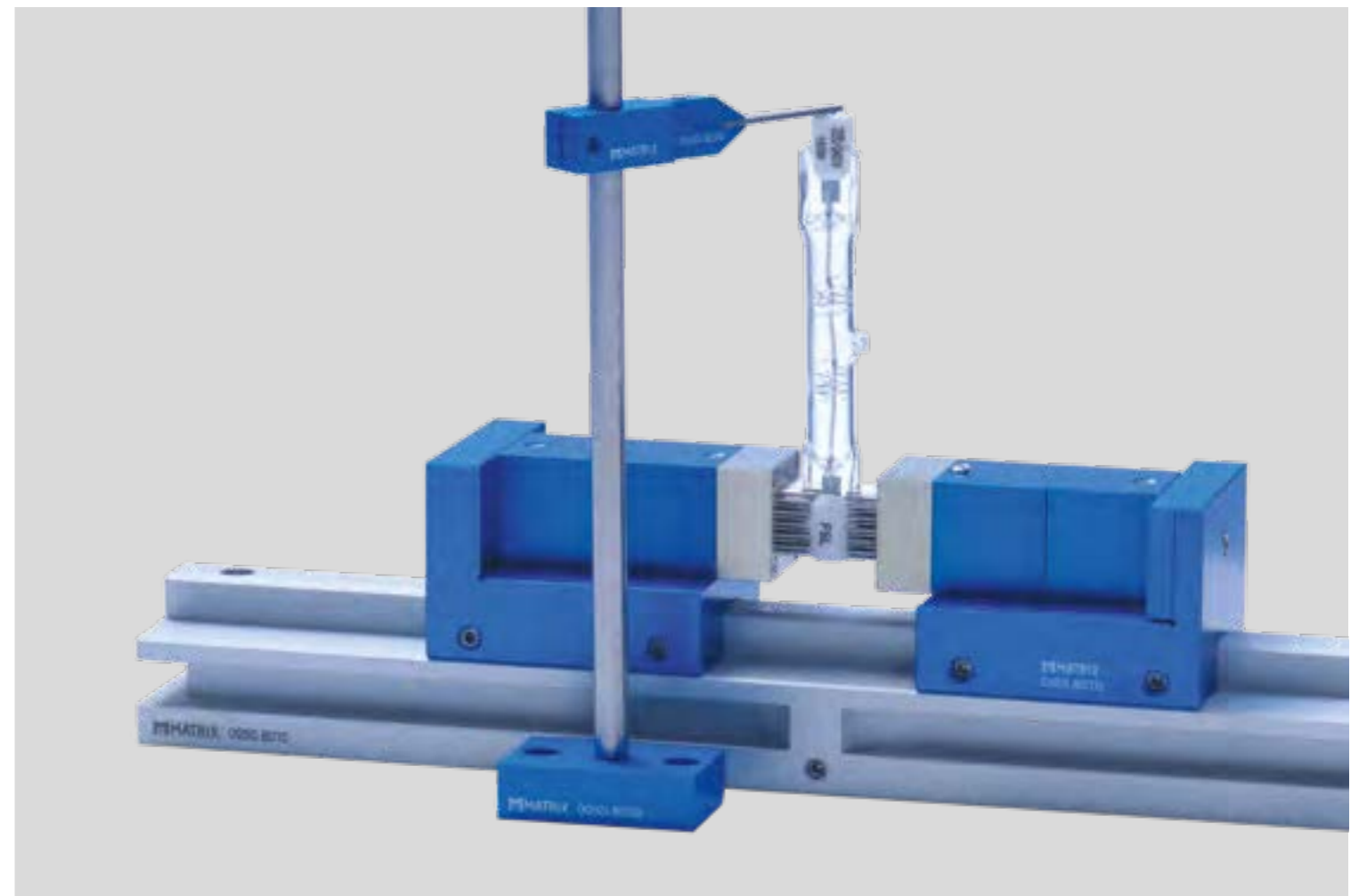
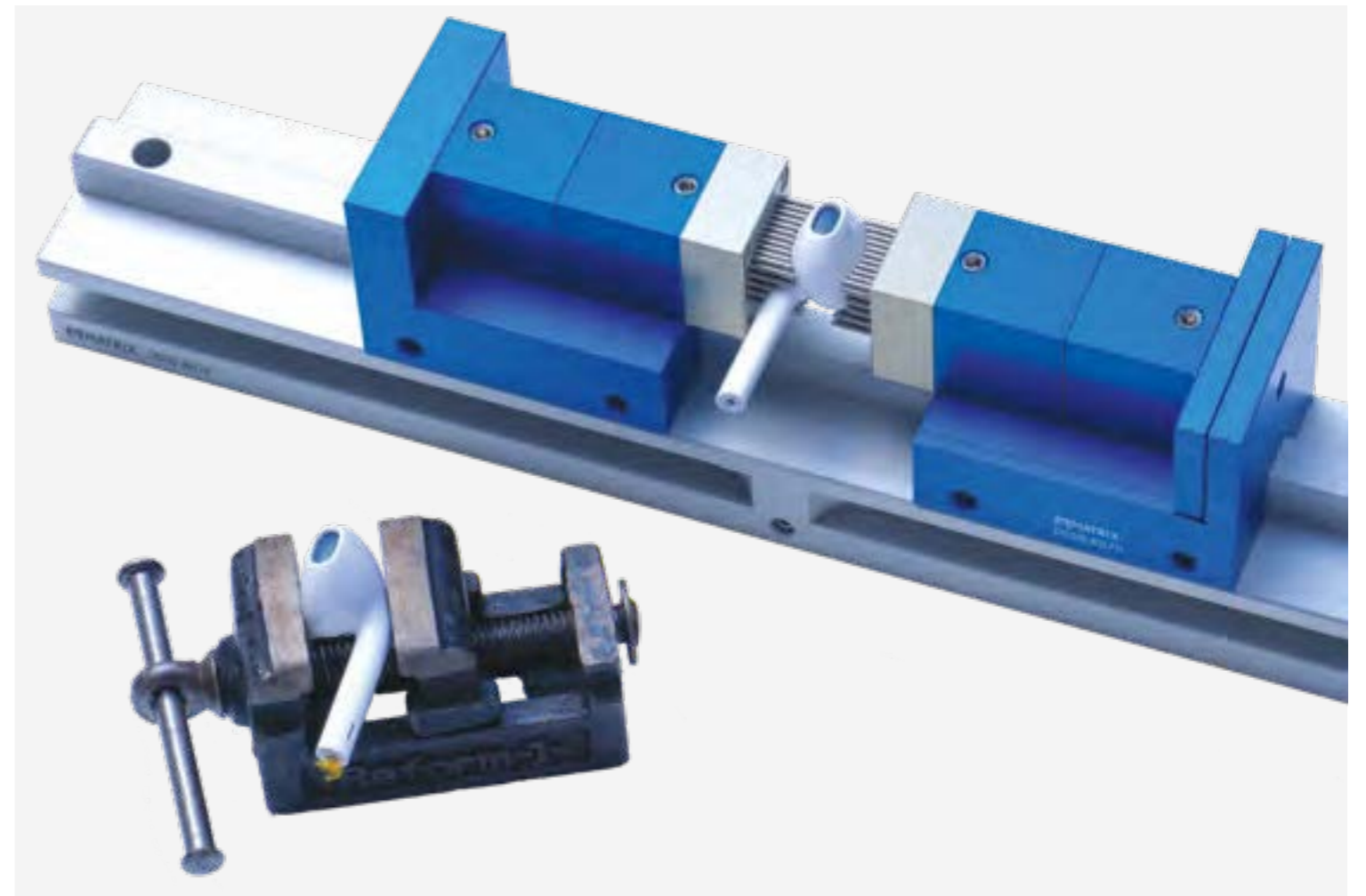
Fig.	Article no.	Quantity	Description
21	0050.8005	1	Adapter single
22	0050.8006	1	Adapter double



21



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SILVER CLAMP

→ Production, assembly and machining

Overview of the modular SILVER CLAMP systems

The new MATRIX clamping systems have decisive advantages for professional users.

Anyone looking to achieve fast results in prototype construction or in preproduction runs, needs a fast, flexible and easy-to-operate clamping system. This is why professionals choose the innovative and patented MATRIX SILVER CLAMP system.

The perfect form closure can be guaranteed maximum hold with minimum force, which can effortlessly withstand the machining forces.

Ideal especially for free-form parts or parts with sensitive surfaces. And everything is mounted with one single tool.

With the SILVER CLAMP systems you have exactly the clamping system that you need. Complexly shaped workpieces can be clamped quickly, easily and reliably. With extensive, modular accessories, MATRIX offers undreamt-of possibilities.

The SILVER CLAMP systems delivers excellent results in the light and medium machining process, as well as in prototype and small series construction.



MATRIX SILVER CLAMP

In perfect shape

The use of the MATRIX SILVER CLAMP at Daimler shows how form closure clamping can be realized in seconds when manufacturing delicate vehicle parts. Where previously an elaborate three-point support was used, clamping can today be performed instantly without sustaining damage.

At Daimler AG's plant in Untertürkheim, vehicle parts are manufactured in the rapid prototyping department to be used in future series production. Materials ranging from aluminum to high-grade stainless steel are processed here. The parts themselves and their susceptibility during workpiece clamping are complex in equal measure. Matthias Miller and Bastian Bosl are both employed by Daimler in the rapid prototyping department. They were previously always faced with the problem of how to clamp, for example, an unprocessed mirror support or a raw intake manifold onto the 5-axis machining center using form closure, in order to mill the first surface. Today,

they simply lock the MATRIX SILVER CLAMP top jaw into the existing vise. Through a low amount of spring pressure on the moving pins, the complex-shape workpiece generates an absolutely true-to-shape contour or adaption. "In just seconds, I can obtain a form closure based on the workpiece's given, complex actual shape;" Miller says in summary.

Measured Workpiece Clamping: The mold is thereby fixed mechanically – and the mold jaw is complete. The workpiece can now be clamped using the vise as appropriate.

The underlying principle of the flexible MATRIX pin system is the idea of shaping its support with the help of the workpiece. Through a low amount of spring pressure on the moving pins, the workpiece generates an absolutely true-to-shape contour. This mold is mechanically fixed. The part-specific and sturdy mold support is complete. Tasks that previously required elaborate milled or shaped supports can now be completed in seconds.

SILVER CLAMP im Einsatz bei der Daimler AG:
Beim Fräsen wird durch den stabilen Formschluss höhere Fertigungsqualität erreicht, bei gleichzeitig kürzeren Rüstzeiten.



Realized in just seconds – it enables part-specific and stable mold supports ...

While regular supports can only be used for a single workpiece, the Matrix pin system adjusts to fit every workpiece. Everything can be fixed with one single tool.

“The mold clamping system can be used to clamp complex workpieces during machining or as part of defined supply at automated manufacturing and assembly plants,” Hubert Meintrup, MATRIX Managing Director, says in outlining the product’s range of application. „This way, the manufacturer can save an enormous amount of time during clamping and in the supply of complex workpieces in assembly.“ Meintrup says that Matrix systems are very robust, durable, and self-cleaning too. The integrated blocking air

system simplifies any required maintenance and ensures reliable operation. Nowadays, complex requirements are placed on jig systems for small and medium-sized batch runs. Technically, a high degree of precision and rigidity is required. Commercially, minimizing setup times is desirable, MATRIX’s Managing Director says.“ In Daimler’s prototype department, the X-Clamp is particularly effective due to its high flexibility, fast convertibility and simple operation. Constructional changes are namely a usual occurrence there and often lead to quickly changing clamping requirements.

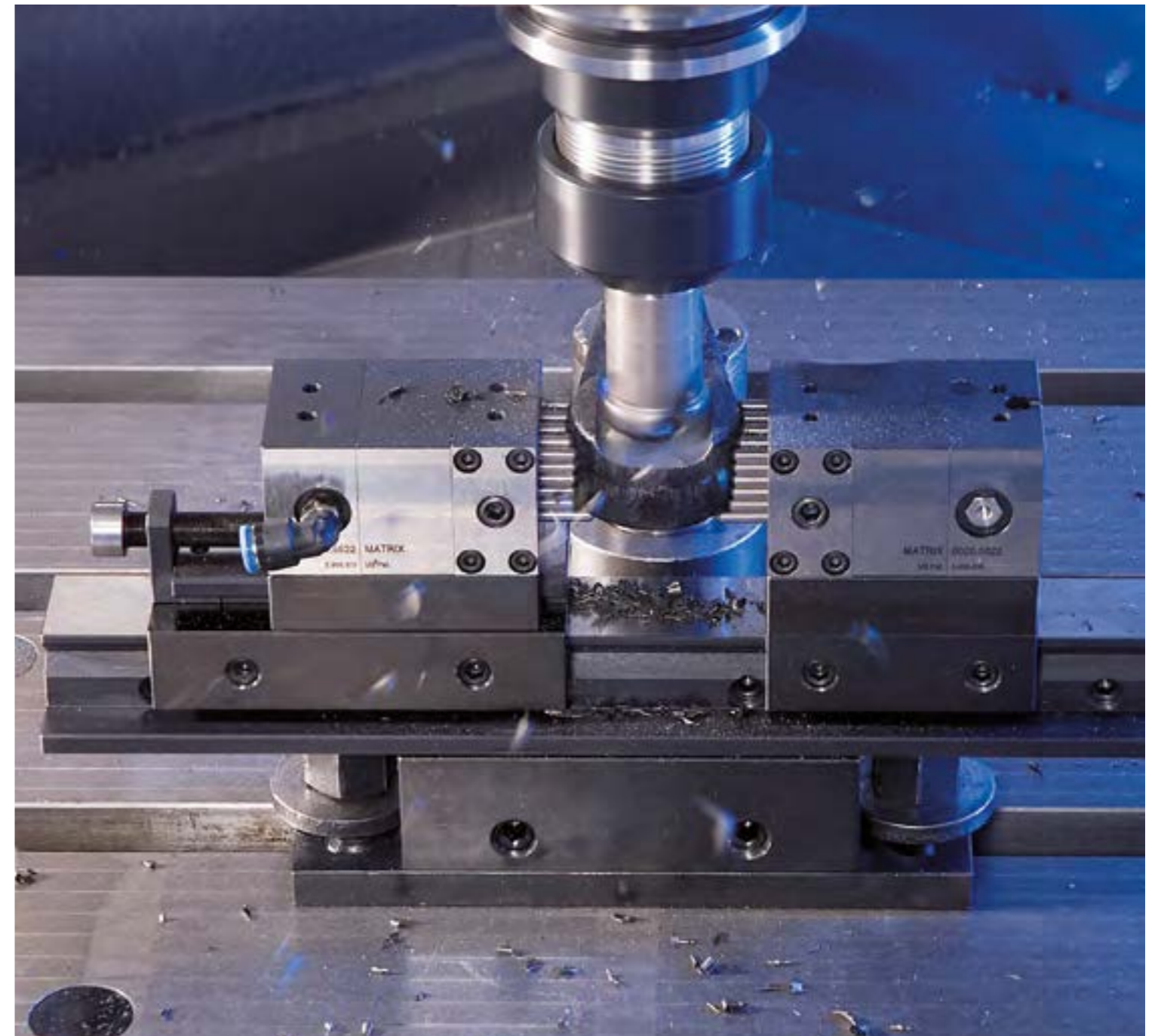
“The SILVER CLAMP system is ideally-suited to our demanding parts,” Miller and Bosl

say in agreement. The various defined clamping points prevent damage from occurring to the surface and shape of the workpieces. Daimler had previously only been able to achieve this using elaborate milled or sintered mold jaws. The classic three-point support is now only rarely used, since the SILVER CLAMP systems do not generate vibrations during milling thanks to its stable

form closure and thus increases quality. „By embedding the workpiece, we can avoid using additional end stops“, Miller says in closing.

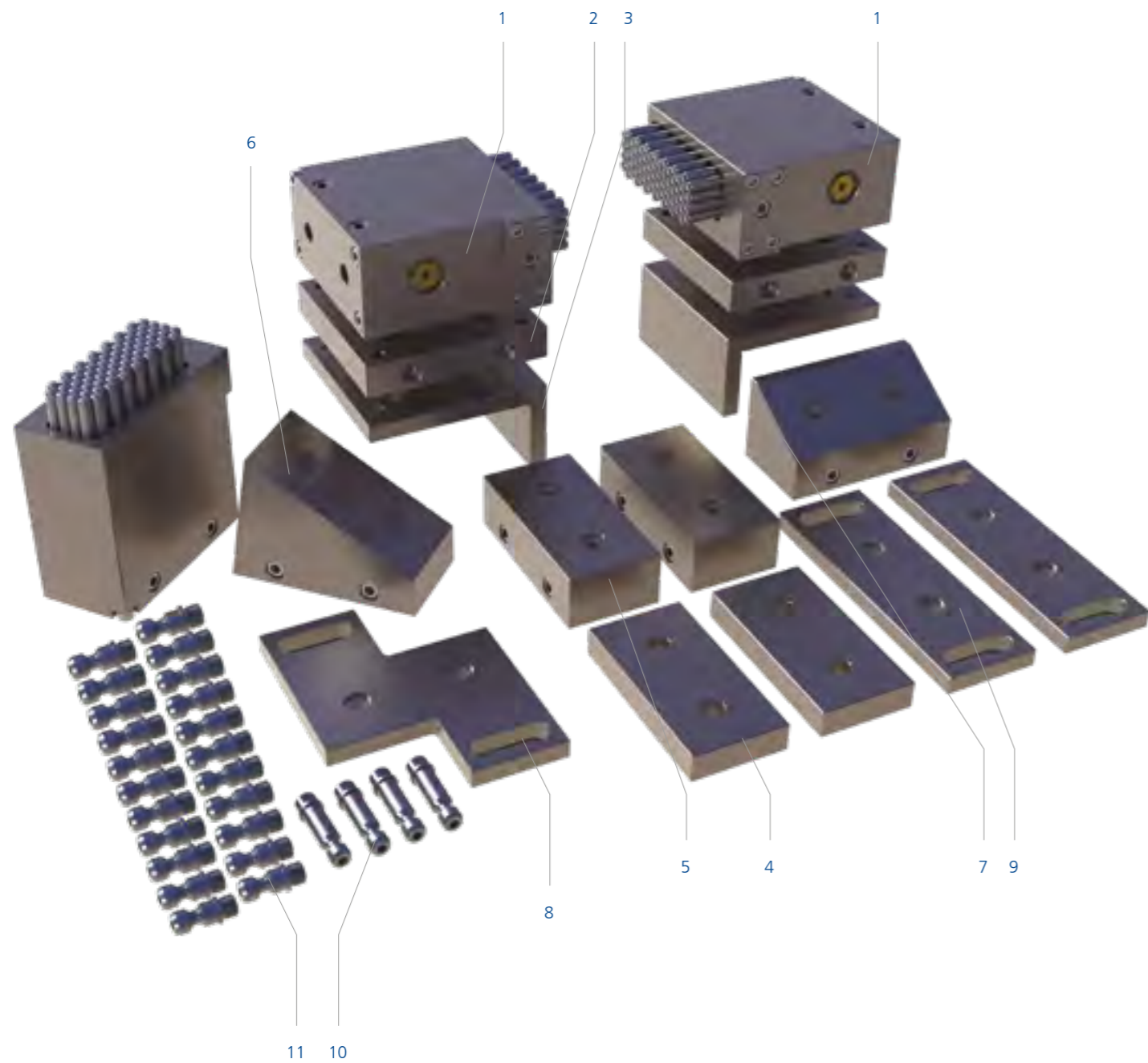
Source: PROBLEM + LÖSUNG Fertigung/Fahrzeugteile, MATRIX Spannsysteme bei der DAIMLER AG

The complex workpiece must be clamped stably for processing. Clamping was previously performed using an elaborate three-point support.



X-CLAMP 100 BASE KIT SMALL

ORDER NUMBER: 0020.1070



X-CLAMP 100 BASE KIT SMALL

The X-CLAMP 100 is the ideal solution for mold clamping. The option of using the modules as mold jaw and as pin elements is revolutionary. Your vise can be easily transformed into a support system for complexly shaped workpieces. The result: You always have the correct jig for every workpiece.



The modular system consists of the following individual components:

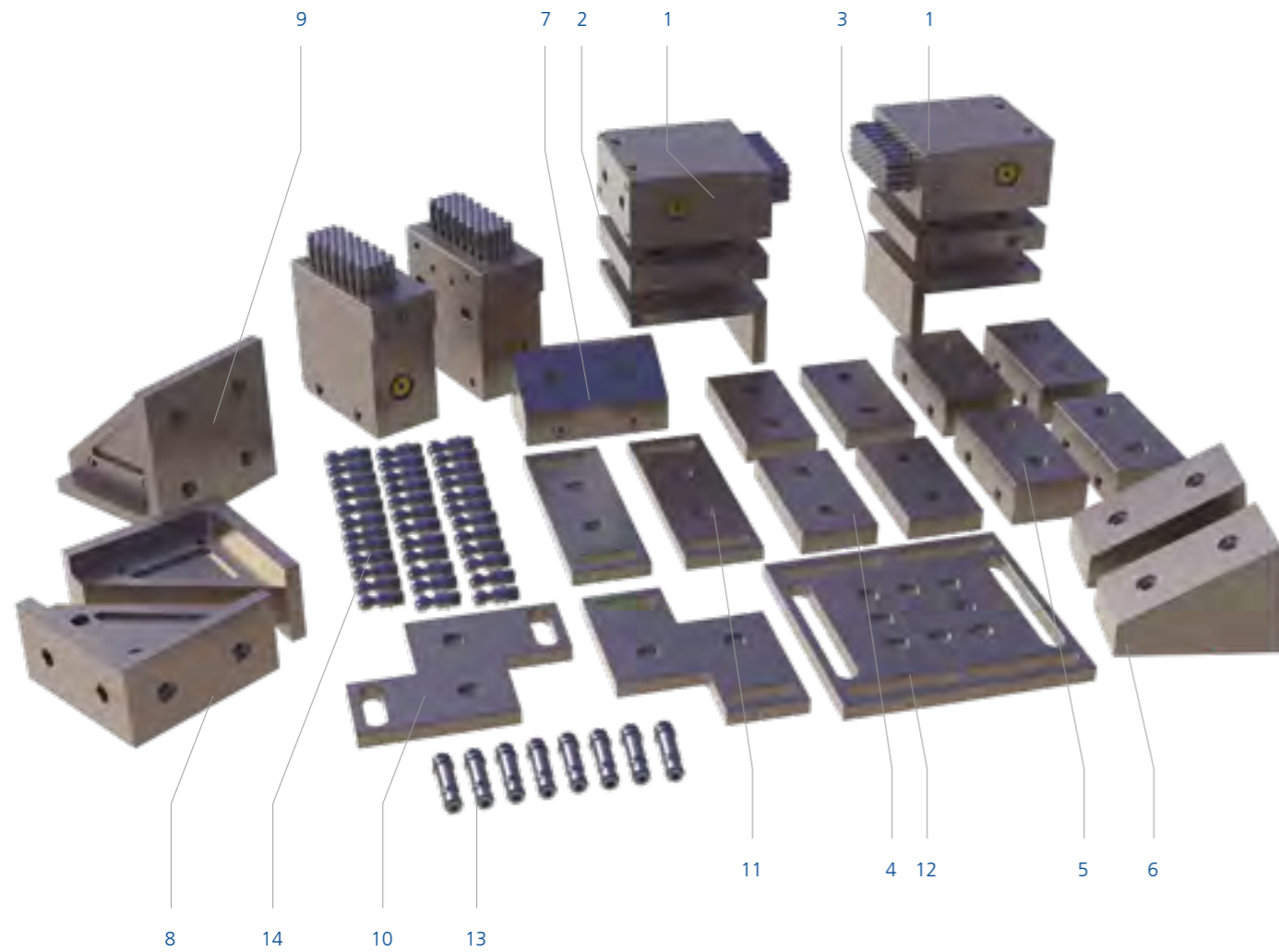


Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0020.6720	3	X-CLAMP 100 Module	50 x 105 x 100 mm	30 x 80 mm	67 Stück	6 mm	21 mm
Further information about the module:				Weight: 3.1 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request				
2	0020.1026	2	Adapter plate for X-CLAMP 100	100 x 100 x 18,5 mm	-	-	-	-
3	0020.1039	2	Adapter angle	100 x 100 x 50 mm (Fastening bores optional)	-	-	-	-
4	0020.1015	2	Adapter for X-CLAMP 100	50 x 100 x 15 mm	-	-	-	-
5	0020.1016	2	Adapter for X-CLAMP 100	50 x 10 x 30 mm	-	-	-	-
6	0020.1030	1	Angle for X-CLAMP 100	30°, 50 x 100 mm	-	-	-	-
7	0020.1031	1	Angle for X-CLAMP 100	30°, 100 x 50 mm	-	-	-	-
8	0020.0120	1	S-Base plate for X-CLAMP 100	130 x 100 x 10 mm	-	-	-	-
9	0020.0100	2	Base plate for X-CLAMP 100	50 x 150 x 10 mm	-	-	-	-
10	0020.0042	4	Connection pin for X-CLAMP	M10 x 42 mm	-	-	-	-
11	0020.0027	22	Connection pin for X-CLAMP	M10 x 27 mm	-	-	-	-
12	-	1	Torque wrench	MICRO 6-30 Nm	-	-	-	-
13	0900.9000	1	MATRIX case	-	-	-	-	-



X-CLAMP 100 BASE KIT LARGE

ORDER NUMBER: 0020.1071



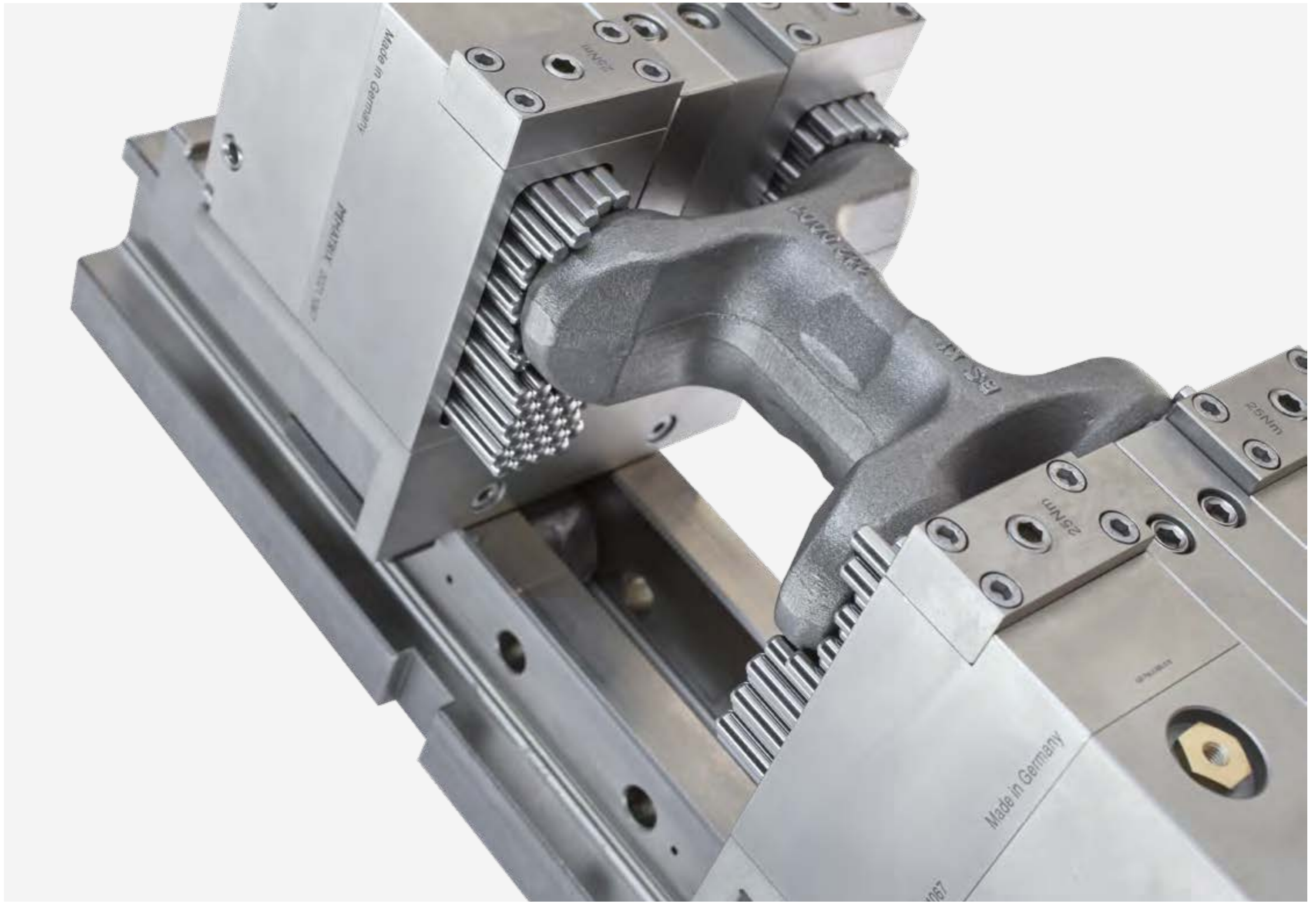
The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0020.6720	4	X-CLAMP 100 Module	50 x 105 x 100 mm	30 x 80 mm	67 Pieces	6 mm	21 mm
			Further information about the module:	Weight: 3.1 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request				
2	0020.1026	2	Adapter plate for X-CLAMP 100	100 x 100 x 18,5 mm	-	-	-	-
3	0020.1039	2	Adapter angle	100 x 100 x 50 mm (Fastening bores optional)	-	-	-	-
4	0020.1015	4	Adapter for X-CLAMP 100	50 x 100 x 15 mm	-	-	-	-
5	0020.1016	4	Adapter for X-CLAMP 100	50 x 10 x 30 mm	-	-	-	-
6	0020.1030	2	Angle for X-CLAMP 100	30°, 50 x 100 mm	-	-	-	-
7	0020.1031	1	Angle for X-CLAMP 100	30°, 100 x 50 mm	-	-	-	-
8	0020.1035	2	Angle with supporting strut for X-CLAMP 100	50 x 100 x 100 mm	-	-	-	-
9	0020.1036	1	Angle with two supporting strut for X-CLAMP 100	100 x 100 x 100 mm	-	-	-	-
10	0020.0120	2	S-Base plate for X-CLAMP 100	130 x 100 x 10 mm	-	-	-	-
11	0020.0100	2	Base plate for X-CLAMP 100	50 x 150 x 10 mm	-	-	-	-
12	0020.0150	1	Double base plate für X-CLAMP 100	150 x 150 x 10 mm	-	-	-	-
13	0020.0042	8	Connection pin for X-CLAMP	M10 x 42 mm	-	-	-	-
14	0020.0027	36	Connection pin for X-CLAMP	M10 x 27 mm	-	-	-	-
15	-	1	Torque wrench	MICRO 6-30 Nm	-	-	-	-
-	-	1	Hex wrenches (set)	-	-	-	-	-
16	0900.9000	2	MATRIX case	-	-	-	-	-

X-CLAMP 100 BASE KIT LARGE

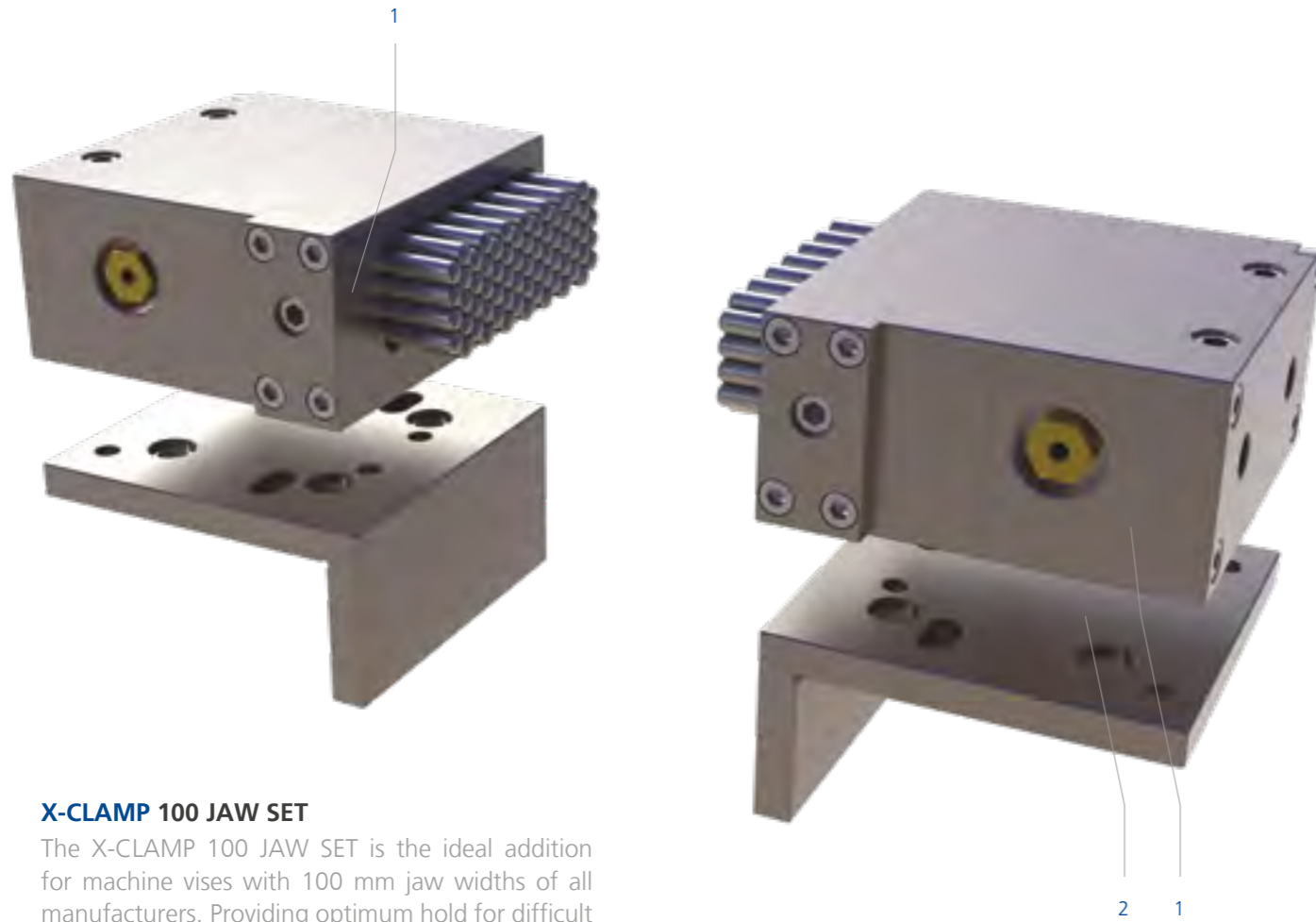
The X-CLAMP 100 is the logical and comprehensive extension for a multitude of applications. With the SILVER CLAMP system MATRIX offers fast solutions for mold clamping. The option of using the modules as mold jaw and as support elements is revolutionary. Your vise can be easily transformed into a support system for complexly shaped workpieces. The result: You always have the correct jig for every workpiece.





ACCESSORIES: X-CLAMP 100 JAW SET

ORDER NUMBER: 0020.1068

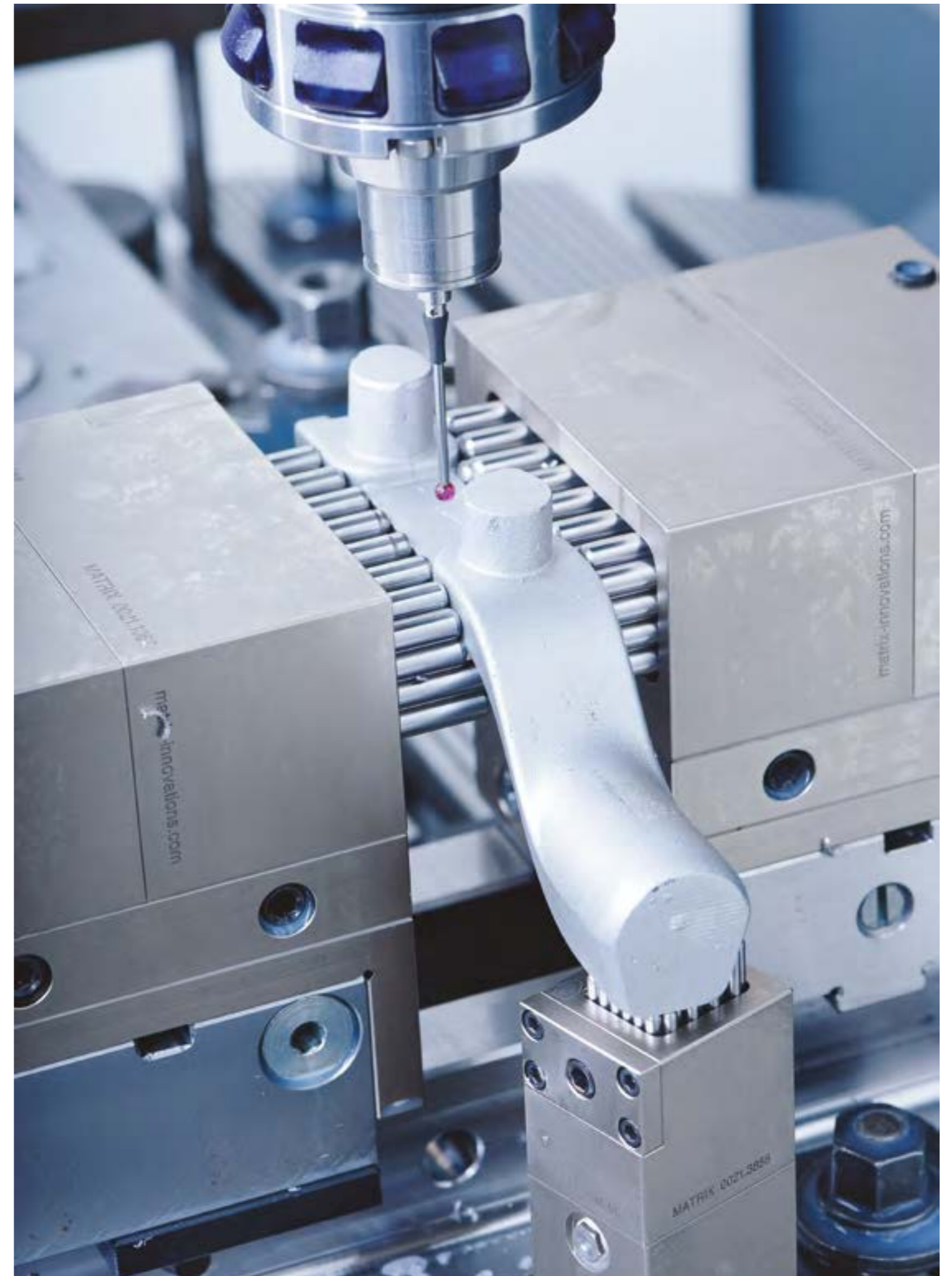


X-CLAMP 100 JAW SET

The X-CLAMP 100 JAW SET is the ideal addition for machine vises with 100 mm jaw widths of all manufacturers. Providing optimum hold for difficult workpieces.

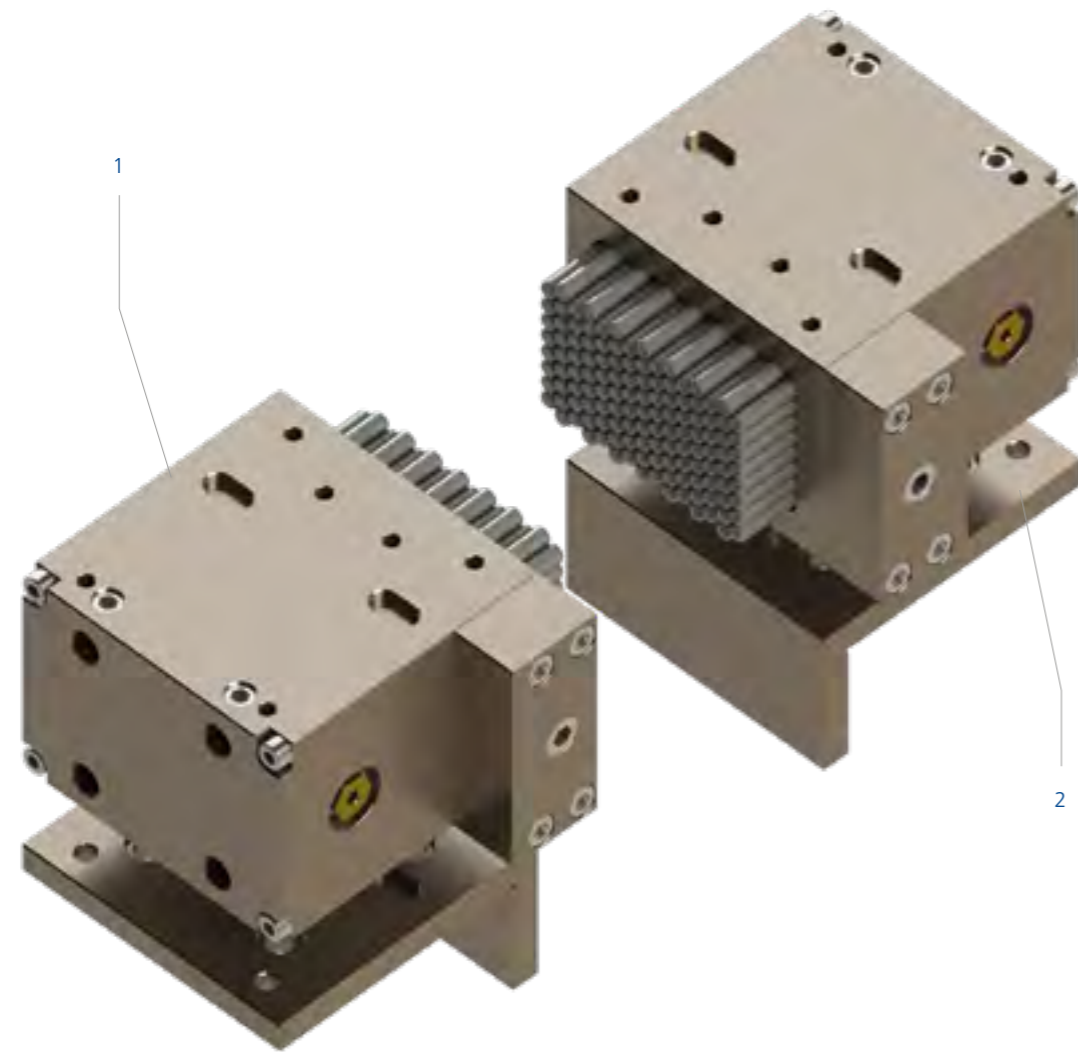
The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0020.6720	2	X-CLAMP 100 Module	50 x 105 x 100 mm	30 x 80 mm	67 Pieces	6 mm	21 mm
Further information about the module:				Weight: 3.1 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request				
2	0020.1039	2	Adapter angle	100 x 100 x 50 mm	–	–	–	–
–	–	1	Torque wrench	MICRO 6-30 Nm	–	–	–	–
–	0900.9000	1	MATRIX case	–	–	–	–	–



ACCESSORIES: X-CLAMP 127 JAW SET

ORDER NUMBER: 0020.1128



X-CLAMP 127 JAW SET

The X-Clamp 127 comes with an extra-large pin-field that is twice the size of the X-Clamp 100. It can be used as mounting jaws for machine vises with jaw width 100mm or be integrated into the X-Clamp 100 modular building kits.

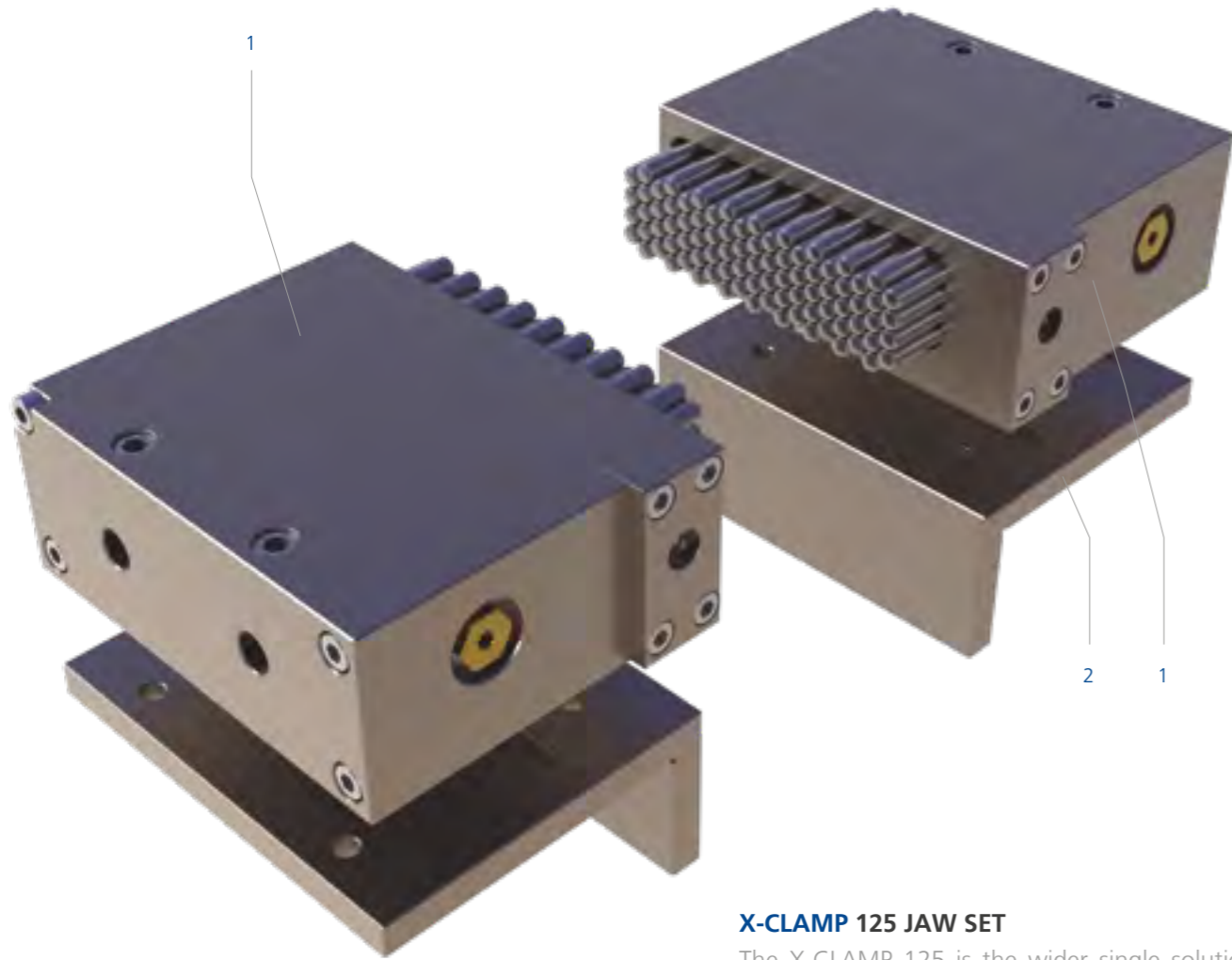
The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0020.1127	2	X-CLAMP 127 Module	50 x 255 x 75 mm	60 x 80 mm	127 Pieces	6 mm	21 mm
Further information about the module:				Weight: 4.9 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request				
2	0020.1039	2	Adapter angle	100 x 100 x 50 mm	–	–	–	–
–	–	1	Torque wrench	20-100 Nm	–	–	–	–
–	0900.9000	1	MATRIX case	–	–	–	–	–



ACCESSORIES: X-CLAMP 125 JAW SET

ORDER NUMBER: 0020.1286



X-CLAMP 125 JAW SET

The X-CLAMP 125 is the wider single solution as mounting jaws for machine vises with jaw width of 125 mm.

The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0020.8520	2	X-CLAMP 125 Module	50 x 130 x 100 mm	30 x 100 mm	85 Pieces	6 mm	21 mm
Further information about the module:				Weight: 3.9 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request.				
2	0020.1239	2	Adapter angle	100 x 125 x 30 mm	–	–	–	–
–	–	1	Torque wrench	MICRO 6-30 Nm	–	–	–	–
–	0900.9000	1	MATRIX case	–	–	–	–	–

X-CLAMP - OPTIONAL

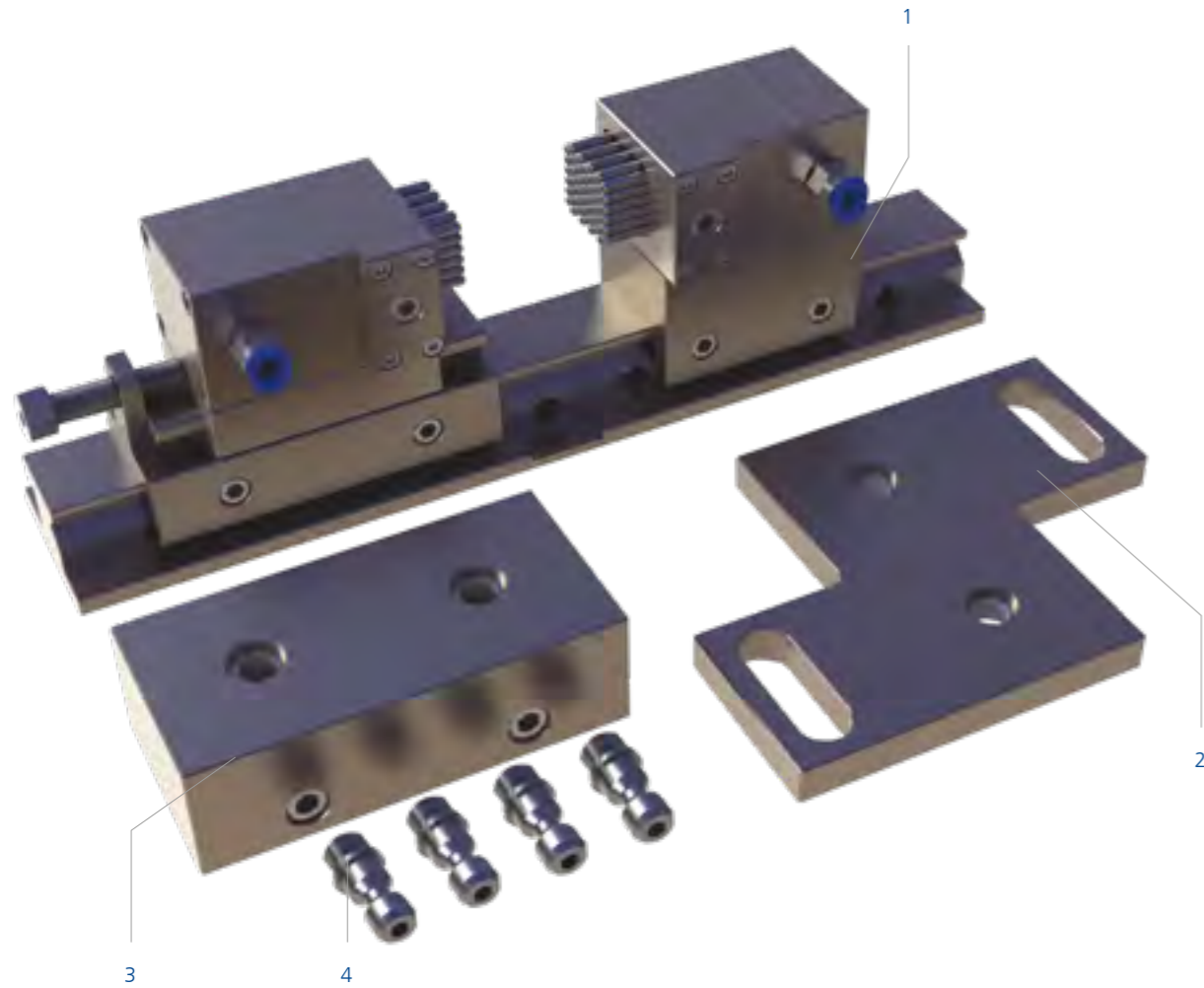
ADD-ONS (TO BE ORDERED SEPERATELY)

Fig.	Article no.	Quantity	Description	Dimension
4	0020.1226	1	Adapter plate for X-CLAMP 125	125 x 100 x 18,5 mm



X-CLAMP 40 MINIATURE MACHINE VISE BASE KIT SMALL

ORDER NUMBER: 0020.3859



X-CLAMP 40 BASE KIT SMALL

The X-CLAMP 40 miniature machine vise is unbeatable as mold clamping system for small workpieces with complicated shapes.

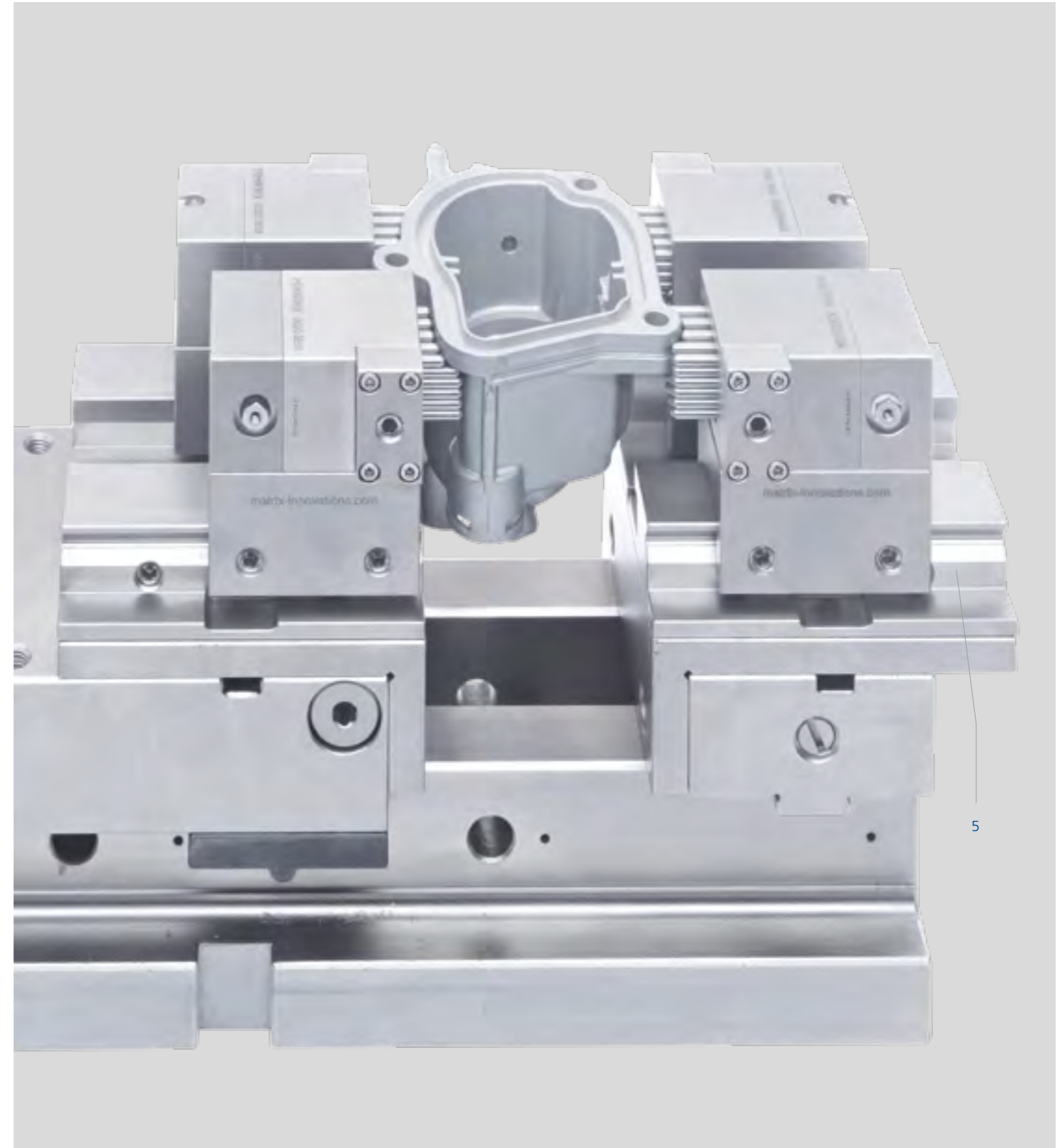
The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0020.3858	1	X-CLAMP 40 Miniature machine vise	38 x 255 x 75 mm	21 x 24 mm	58 Pieces (2x)	3 mm	12 mm
Further information about the module:				Weight: 3 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request				
2	0020.0120	1	S-Base plate for X-CLAMP 100	130 x 100 x 10 mm	-	-	-	-
3	0020.3116	1	Adapter for X-CLAMP 100	50 x 100 x 30 mm	-	-	-	-
4	0020.0027	4	Connection pin for X-CLAMP	M10 x 27 mm	-	-	-	-
-	-	1	Torque wrench	MICRO 6-30 Nm	-	-	-	-
-	0900.9000	1	MATRIX case	-	-	-	-	-

X-CLAMP 40 - OPTIONAL

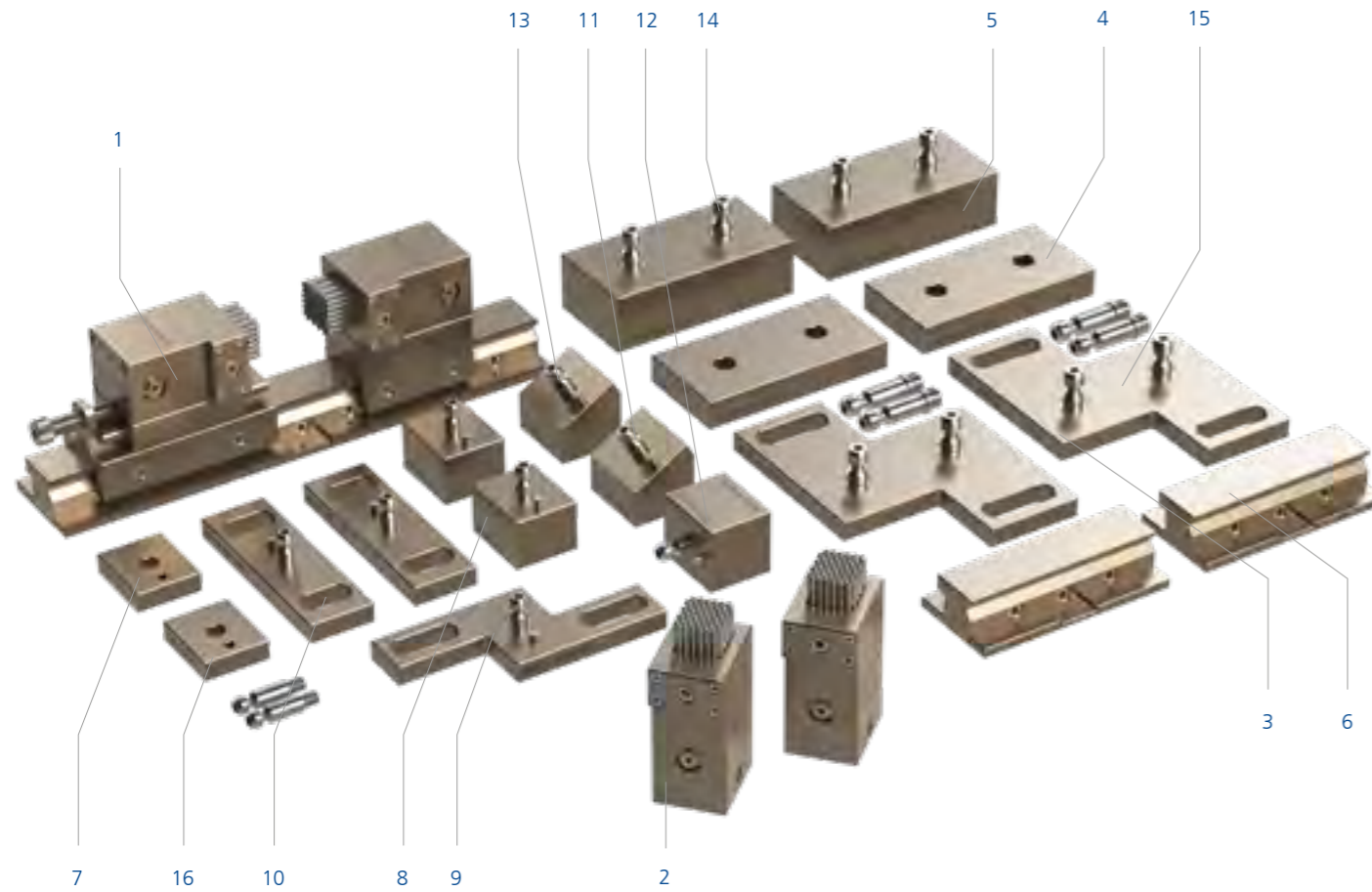
ADD-ONS (TO BE ORDERED SEPERATELY)

Fig.	Article no.	Quantity	Description	Dimension
5	0020.3800	1	Adaptive guide rail for X-CLAMP 40	100 mm



X-CLAMP 40 MINIATURE MACHINE VISE BASE KIT LARGE

ORDER NUMBER: 0020.3860



X-CLAMP 40 BASE KIT LARGE

Miniature machine vise with two additional pin-modules for workpiece support – ideal for the machining of filigree parts. Handles even the most complex geometries.

The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0020.3858	1	X-CLAMP 40 Miniature vise	50 x 255 x 75 mm	21 x 24 mm	58 Pieces (2x)	3 mm	12 mm
			Further information about the module:	Miniature machine vise with two adjustable jaws and clamping unit on 255 mm straight guide rail. Weight: 3 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request. Jaws can be mounted individually on short 100 mm guide rails.				
2	0021.3858	2	X-Support 40 Module	32 x 43 x 58 mm	21 x 24 mm	58 Pieces	3 mm	12mm
			Further information about the module:	Weight: 0.6 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request.				
3	0020.0120	2	X-Clamp 100 S-Base plate	130 x 100 x 10 mm				
4	0020.1015	2	X-Clamp 100 Intermediate module	15 mm				
5	0020.1016	2	X-Clamp 100 Intermediate module	30 mm				
6	0020.3800	2	X-Clamp 40 Short guide rail	100 x 50 mm				
7	0021.3810	2	X-Support 40 Intermediate module	38 x 32 x 10 mm				
8	0021.3825	2	X-Support 40 intermediate module	38 x 32 x 25 mm				
9	0021.3828	1	X-Support 40 S-base plate	120 x 50 mm				
10	0021.3829	2	X-Support 40 Base plate	32 x 100 mm				
11	0021.3830	2	X-Support 40 Angle 30°	38 x 32 mm				
12	0021.3831	1	X-Support 40 Angle 90°	38 x 32 mm				
13	0021.0033	2	Connection pin 33 mm	33 mm, M6, hexagon socket SW4				
14	0020.0027	8	Connection pin X-Clamp 27 mm	27 mm, M10, hexagon socket SW4				
15	0020.0042	4	Connection pin X-Clamp 42 mm	42 mm, M10, hexagon socket SW4				
16	0050.1245	8	Connection pin X-Support 40, 23 mm	23 mm, M6 hexagon socket SW4				
-	-	1	Torque wrench	MICRO 6-30 Nm				
-	0900.9000	2	MATRIX Case					

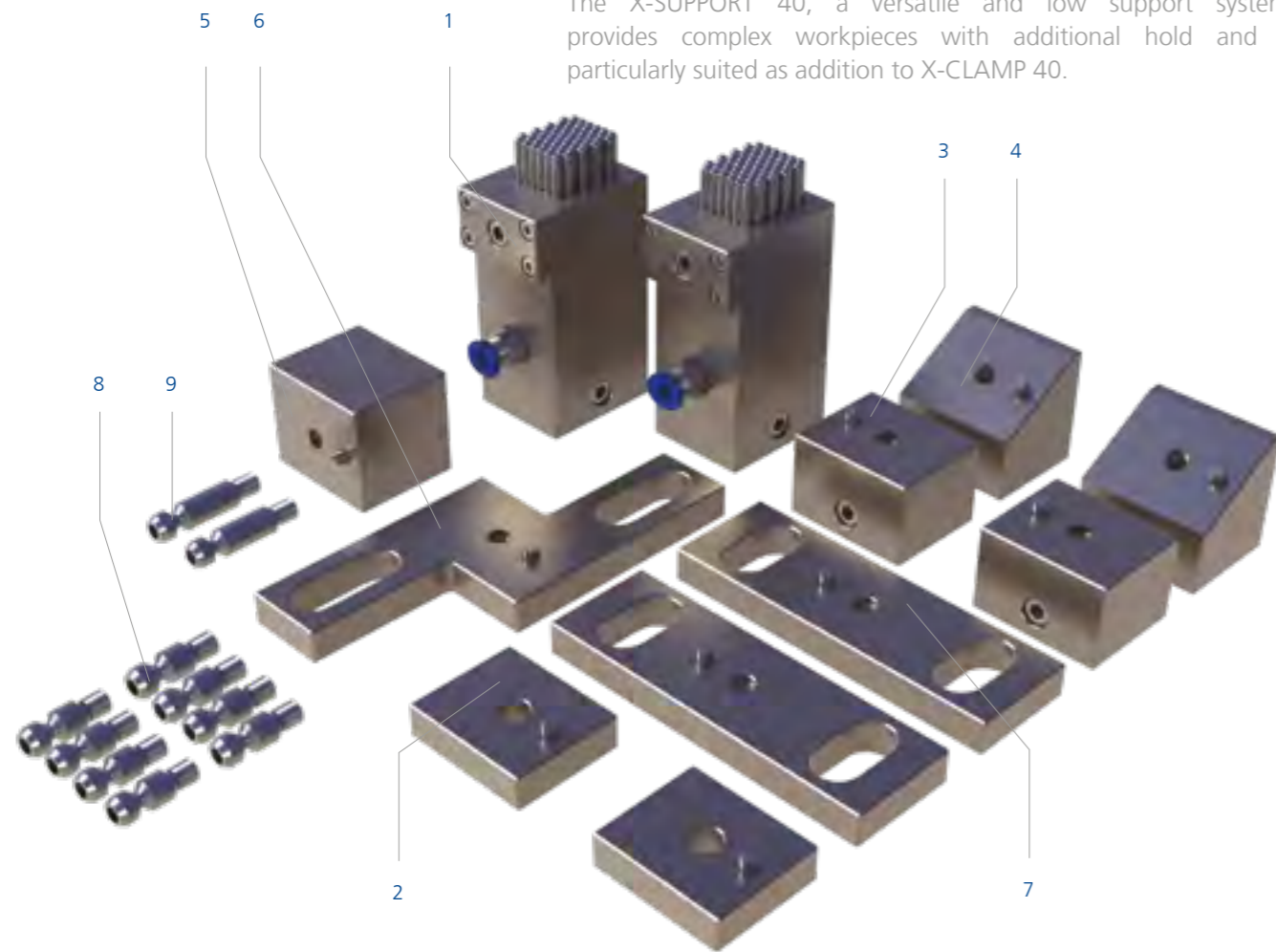


ACCESSORIES: X-SUPPORT 40

ORDER NUMBER: 0021.3860

X-SUPPORT 40

The X-SUPPORT 40, a versatile and low support system, provides complex workpieces with additional hold and is particularly suited as addition to X-CLAMP 40.



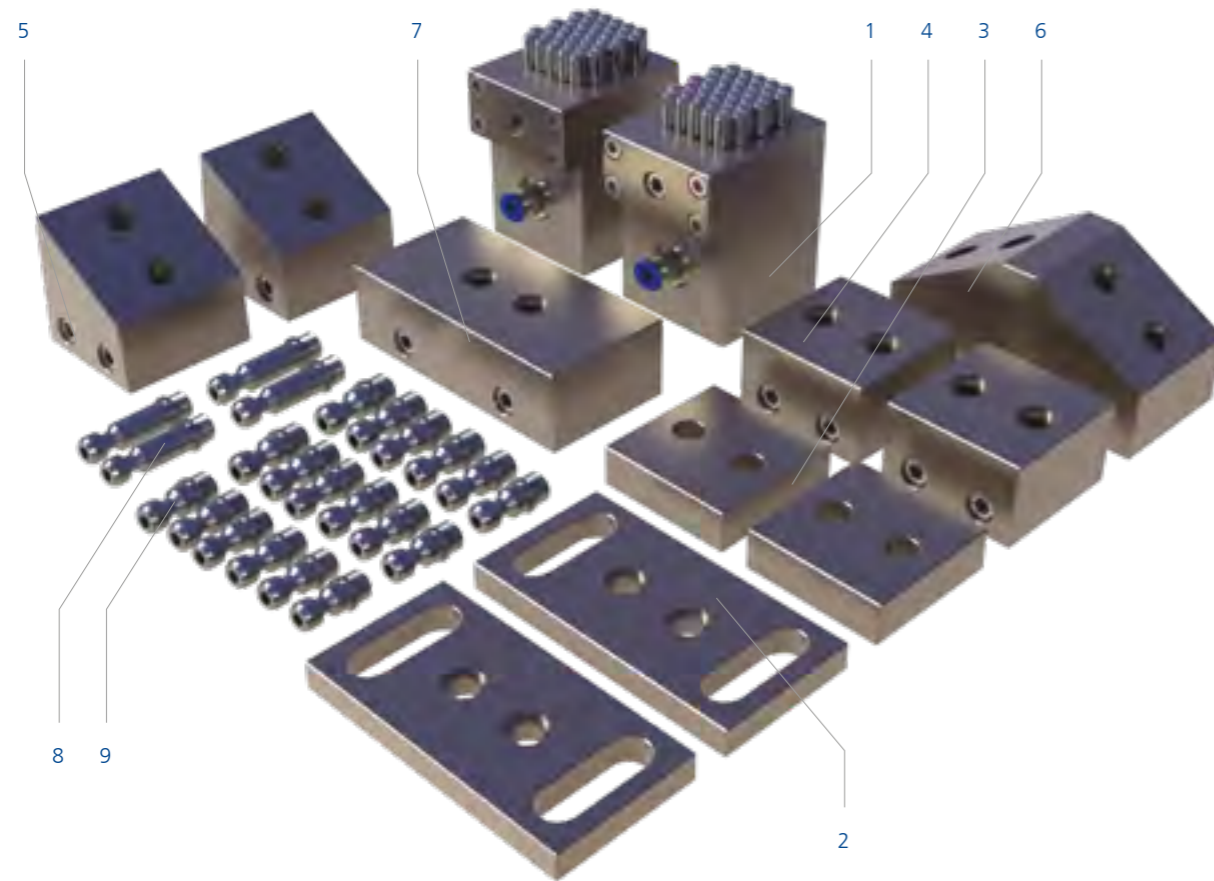
The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0021.3858	2	X-SUPPORT 40 Module	32 x 43 x 58 mm	21 x 24 mm	58 Pieces	3 mm	12 mm
Further information about the module:				Weight: 0.6 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request				
2	0021.3810	2	Adapter for X-SUPPORT 40	38 x 32 x 10 mm	-	-	-	-
3	0021.3825	2	Adapter for X-SUPPORT 40	38 x 32 x 25 mm	-	-	-	-
4	0021.3830	2	Angle for X-SUPPORT 40	30°, 38 x 32 mm	-	-	-	-
5	0021.3831	1	Angle for X-SUPPORT 40	90°, 38 x 32 mm	-	-	-	-
6	0021.3828	1	S-Base plate for X-SUPPORT 40	120 x 50 x 10 mm	-	-	-	-
7	0021.3829	2	Base plate for X-SUPPORT 40	100 x 32 x 10 mm	-	-	-	-
8	0050.1245	8	Connection pin	M6 x 23 mm	-	-	-	-
9	0020.0033	2	Connection pin	M6 x 33 mm	-	-	-	-
-	-	1	Torque wrench	MICRO 6-30 Nm	-	-	-	-
-	0900.9000	1	MATRIX case	-	-	-	-	-



ACCESSORIES: X-SUPPORT 50

ORDER NUMBER: 0020.3139



X-SUPPORT 50

The X-SUPPORT 50 expands the range of applications in production. Owing to its low overall height and form clamping surface, the entire setting is closer to the workpiece. The system is compatible with the entire SILVER CLAMP modular system.

The modular system consists of the following individual components:

Fig.	Article no.	Quantity	Description	Dimension	Pin field	Number of pins	Pin diameter	Pin stroke
1	0020.3124	2	X-SUPPORT 50 Module	50 x 60 x 70 mm	37 x 30 mm	31 Pieces	6 mm	12 mm
Further information about the module:				Weight: 1.2 kg, Material housing/pins: Stainless steel, Installation location: any, Cleaning: Air and coolant connections, Data sheet and CAD data on request				
2	0020.5000	2	Base plate	100 x 50 x 10 mm	-	-	-	-
3	0020.3115	2	Adapter	50 x 50 x 15 mm	-	-	-	-
4	0020.3116	2	Adapter	50 x 50 x 30 mm	-	-	-	-
5	0020.3130	2	Angle	30°, 50 x 50 mm	-	-	-	-
6	0020.3132	1	Double angle	30°, 100 x 50 mm	-	-	-	-
7	0020.3150	1	Adapter for X-CLAMP 100	100 x 50 x 30 mm	-	-	-	-
8	0020.0042	4	Connection pin for X-CLAMP	M10 x 42 mm	-	-	-	-
9	0020.0027	18	Connection pin for X-CLAMP	M10 x 27 mm	-	-	-	-
-	-	1	Torque wrench	MICRO 6-30 Nm	-	-	-	-
-	0900.9000	1	MATRIX case	-	-	-	-	-



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