

# MATRIX X-CLAMP

Fast and easy clamping!

Unique form closure to hold, fix in position and clamp in production, assembly and machining.





# Global leader – MATRIX® clamping and mold clamping systems

The new clamping and mold clamping systems of MATRIX® in Ostfildern near Stuttgart will revolutionize your workflows in all areas of clamping technology and assembly and replace conventional clamping technology.

The new clamping systems are perfectly designed not only for production and prototype construction but also for all areas where perfect hold and adjustable mold clamping are required.

At your company you are responsible for the optimum design of workflows in production technology. You know how difficult it can be to clamp workpiece that have complicated geometries. The unique and revolutionary technology of our clamping and hol-

ding systems will help you optimize workflows.

The MATRIX® clamping systems with their individually movable pins replace cost-intensive special equipment and a wide range of shaping elements. The MATRIX® clamping modules quickly and individually provide a mirror image mold of the various workpiece contours.

The patented MATRIX® systems are robust, durable and self-cleaning. The integrated blocking air system simplifies any required maintenance and ensures reliable operation.

To find out more, refer to your operating instructions.

- We are pleased to be able to showcase our new X-GRIP MINI mold clamping system for you.

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MATRIX® is the holder of the Baden-Württemberg Innovation Award – Dr.-Rudolf-Eberle-Preis –

## Fast, easy clamping – X-CLAMP® clamping systems

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

Anyone looking to achieve fast results in prototype construction or in pre-production runs, needs a fast, flexible and easy-to-operate clamping system. This is why professional choose the innovative and patented MATRIX® X-CLAMP system.

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 and a parts 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.

The perfect form closure can be guarantee 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 X-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.

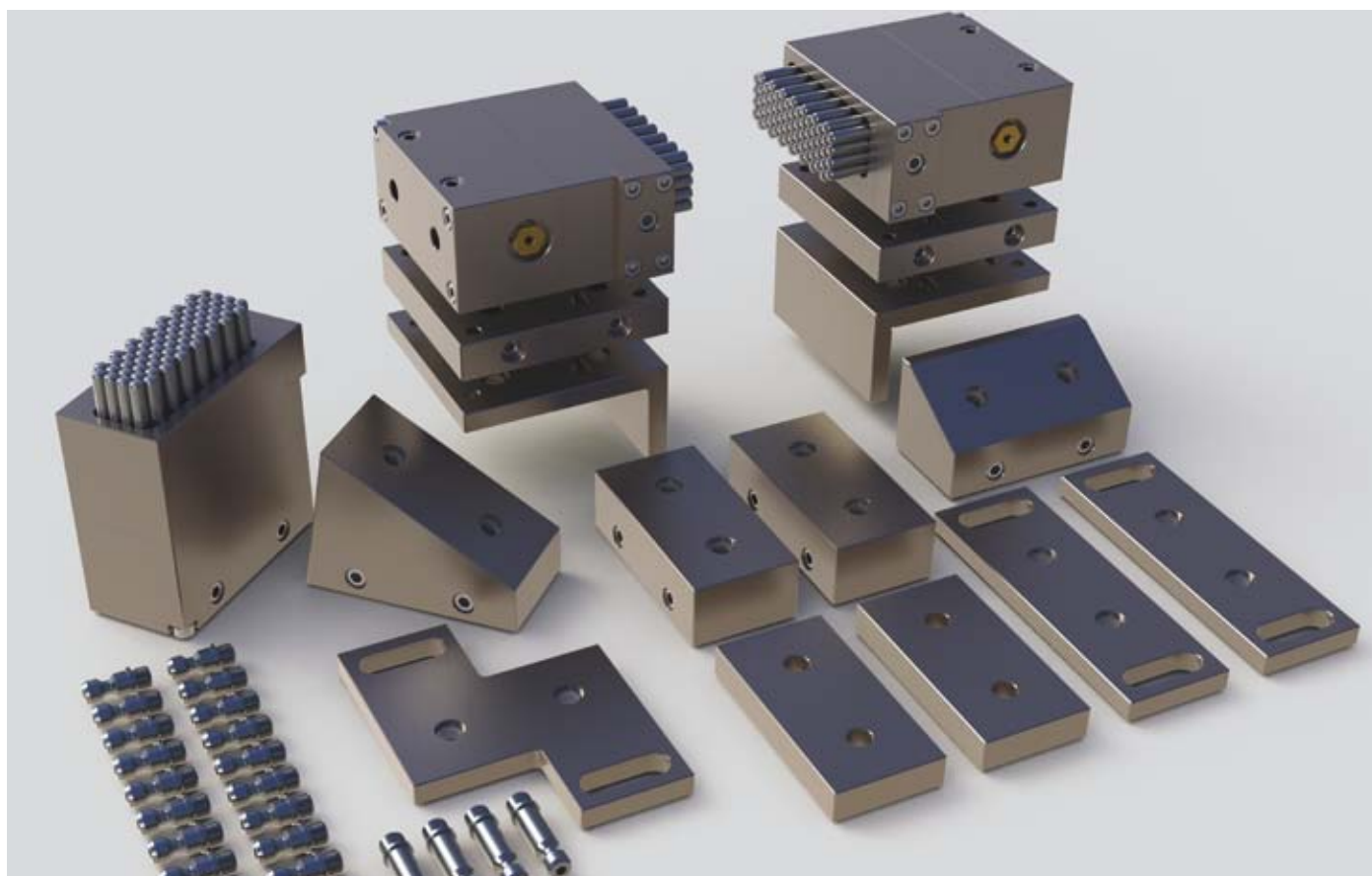
The X-CLAMP delivers excellent results in the light and medium machining process, as well as in prototype and small series construction.

The advantages of the X-CLAMP® and X-SUPPORT clamping systems at a glance:

- Optimum hold of complex workpieces.
- Very fast, true-to-contour fixing in position of the workpiece.
- No stocking of specific workpiece supports.
- Up to 80% cost reduction in jig construction.
- Individual, multipurpose and modular system.
- Easy handling and storing in the MATRIX® case.







The **X-CLAMP 100 XL** 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.

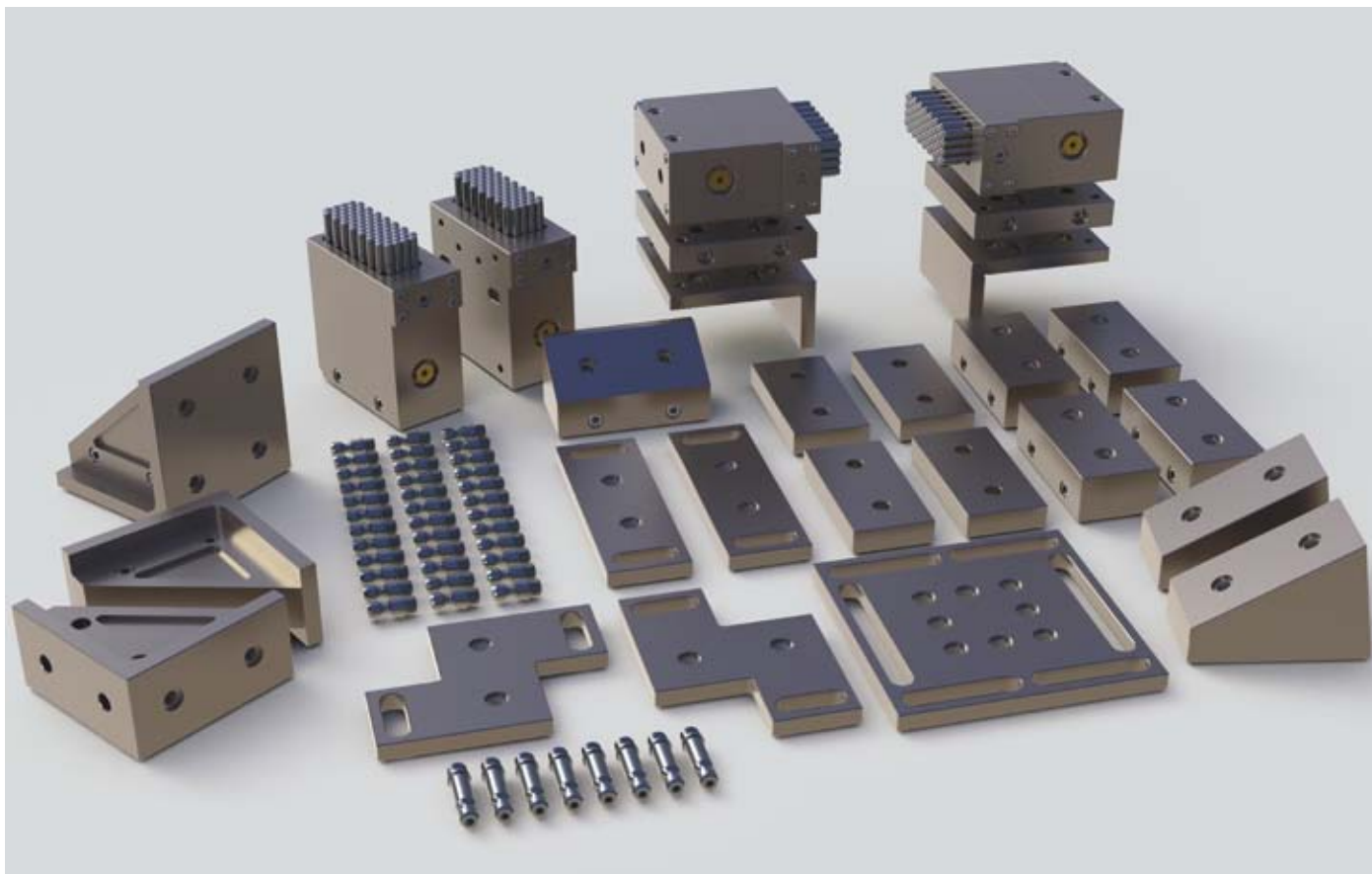
The modular system consisting of the following individual components:

| Modules  | Article no. | Quantity | Designation  | Dimensions and information:  |           |                  |   |
|--|-------------|----------|--|--|-----------|------------------|---|
|  | 0020.1067   | 2 x      | X-CLAMP 100L   | Outer dimensions: 50 x 105 x 100 mm, Tightening surface: approx. 30 x 80 mm, Number of pins: 67, Pin diameter: 6 mm, Stroke: 21 mm, Weight: approx. 3,1 kg, Installation location: any, Material pins/housing: stainless steel, Cleaning: air and coolant connections, Data sheet and CAD data on request. |           |                  |   |
|  | 0021.1067   | 1 x      | X-CLAMP 100R   |  |           |                  |   |
|  |             |          |  |  |           |                  |   |
| Components   | Article no. | Quantity | Designation/Info                                     | Article no.  | Quantity  | Designation/Info |   |
|  | 0020.1026   | 2 x      | Adapter plate for X-CLAMP 100<br>100 x 100 x 18,5 mm |   | 0020.1039 | 2 x              | Adapter angle 100 x 100 x 50 mm<br>(Fastening bores optional) |




| Components  | Article no. | Quantity | Designation/Info  |   | Article no. | Quantity | Designation/Info                                       |
|---|-------------|----------|---|---|-------------|----------|--|
|   | 0020.1015   | 2 x      | Intermediate module for X-CLAMP 100<br>50 x 100 x 15 mm |  | 0020.1016   | 2 x      | Intermediate module for X-CLAMP 100<br>50 x 10 x 30 mm |
|   | 0020.1030   | 1 x      | Angle for X-CLAMP 100<br>30°, 50 x 100 mm               |  | 0020.1031   | 1 x      | Angle for X-CLAMP 100<br>30°, 100 x 50 mm              |
|   | 0020.0120   | 1 x      | S baseplate for X-CLAMP 100<br>130 x 100 x 10 mm        |  | 0020.0100   | 2 x      | Baseplate for X-CLAMP 100<br>50 x 150 x 10 mm          |
|   | 0020.0027   | 22 x     | Connection pin for X-CLAMP<br>27 mm                     |  | 0020.0042   | 4 x      | Connection pin for X-CLAMP<br>42 mm                    |
|  | 0900.9000   | 1 x      | MATRIX® case  |   |             |          |  |

**Total number (including torque wrench): 43 Components**







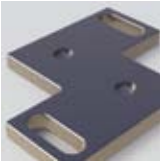

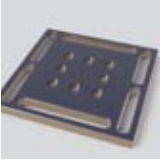





**The X-CLAMP 100 XXL** is the logical and comprehensive extension for a multitude of applications. With the X-CLAMP system MATRIX® offers fast solutions for mold clamping. The option of using the modules as mold jaw and as support elements is revolutionary. Your vise can be easily transformed into a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

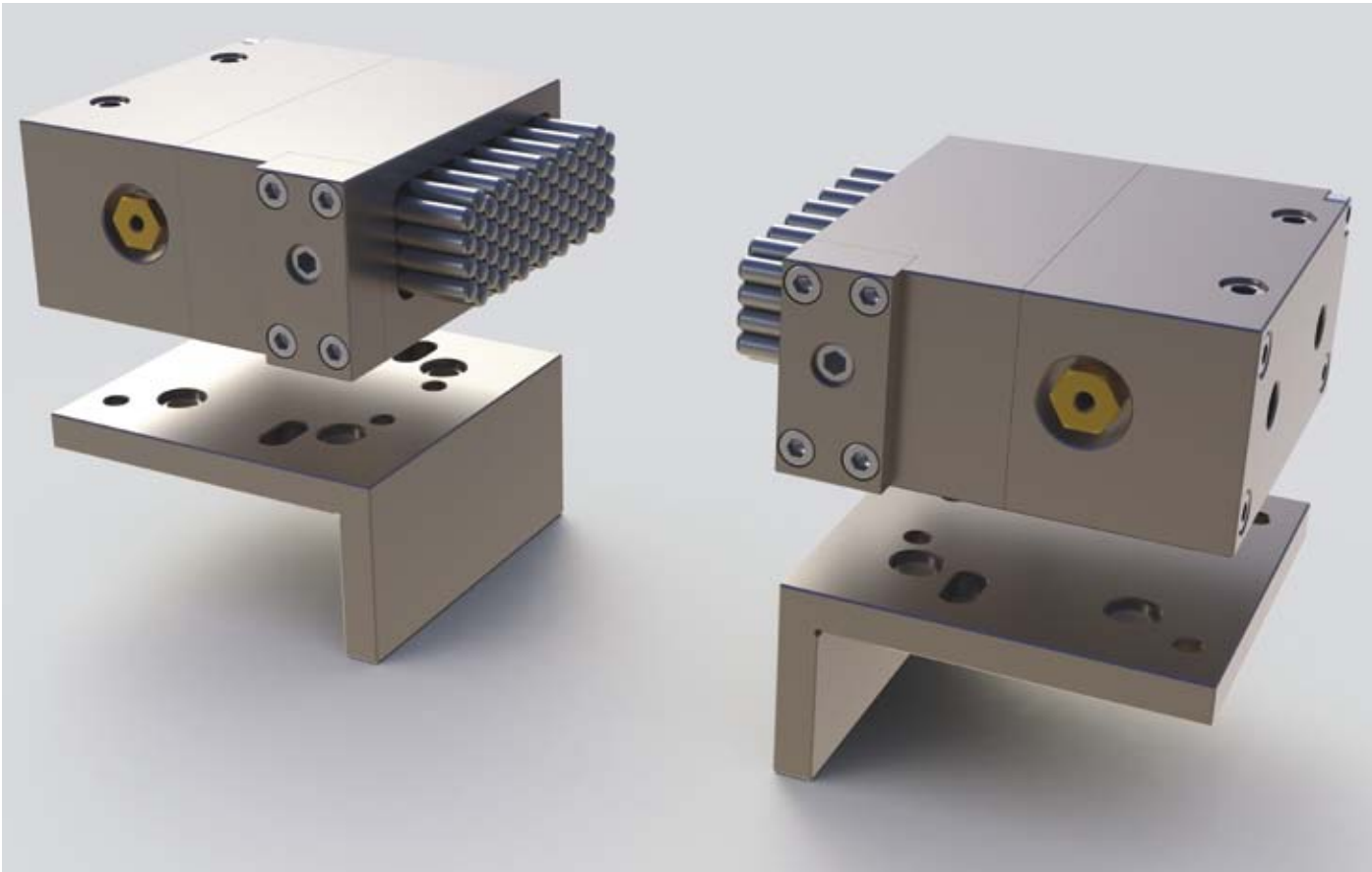
The modular system consisting of the following individual components:

| Modules  | Article no. | Quantity | Designation  | Dimensions and information:  |           |   |
|--|-------------|----------|--|--|-----------|---|
|  | 0020.1067   | 2 x      | X-CLAMP 100L   | Outer dimensions: 50 x 105 x 100 mm, Tightening surface: approx. 30 x 80 mm, Number of pins: 67, Pin diameter: 6 mm, Stroke: 21 mm, Weight: approx. 3,1 kg, Installation location: any, Material pins/housing: stainless steel, Cleaning: air and coolant connections, Data sheet and CAD data on request. |           |   |
|  | 0021.1067   | 2 x      | X-CLAMP 100R   | Data mirror-image identical to X-CLAMP 100L  |           |   |
| Components   | Article no. | Quantity | Designation/Info                                     | Article no.  | Quantity  | Designation/Info  |
|  | 0020.1026   | 2 x      | Adapter plate for X-CLAMP 100<br>100 x 100 x 18,5 mm |   | 0020.1039 | 2 x<br>Adapter angle<br>100 x 100 x 50 mm<br>(Fastening bores optional) |






| Components   | Article no. | Quantity | Designation/Info   |   | Article no. | Quantity | Designation/Info   |
|--|-------------|----------|--|---|-------------|----------|--|
|    | 0020.1015   | 4 x      | Intermediate module for X-CLAMP 100<br>50 x 100 x 15 mm          |    | 0020.1016   | 4 x      | Intermediate module for X-CLAMP 100<br>50 x 100 x 30 mm                |
|    | 0020.1030   | 2 x      | Angle for X-CLAMP 100<br>30°, 50 x 100 mm                        |    | 0020.1031   | 1 x      | Angle for X-CLAMP 100<br>30°, 100 x 50 mm                              |
|    | 0020.1035   | 2 x      | Angle with supporting strut for X-CLAMP 100<br>50 x 100 x 100 mm |    | 0020.1036   | 1 x      | Angle with two supporting struts for X-CLAMP 100<br>100 x 100 x 100 mm |
|    | 0020.0120   | 2 x      | S baseplate for X-CLAMP 100<br>130 x 100 x 10 mm                 |    | 0020.0100   | 2 x      | Baseplate for X-CLAMP 100<br>150 x 50 x 10 mm                          |
|   | 0020.0150   | 1 x      | Double baseplate for X-CLAMP 100<br>150 x 150 x 10 mm            |   | 0020.0027   | 36 x     | Connection pin for X-CLAMP<br>27 mm                                    |
|  | 0020.0042   | 8 x      | Connection pin for X-CLAMP<br>42 mm                              |  | 0900.9000   | 2 x      | MATRIX® case   |

**Total number (including torque and hex wrenches): 73 Components**



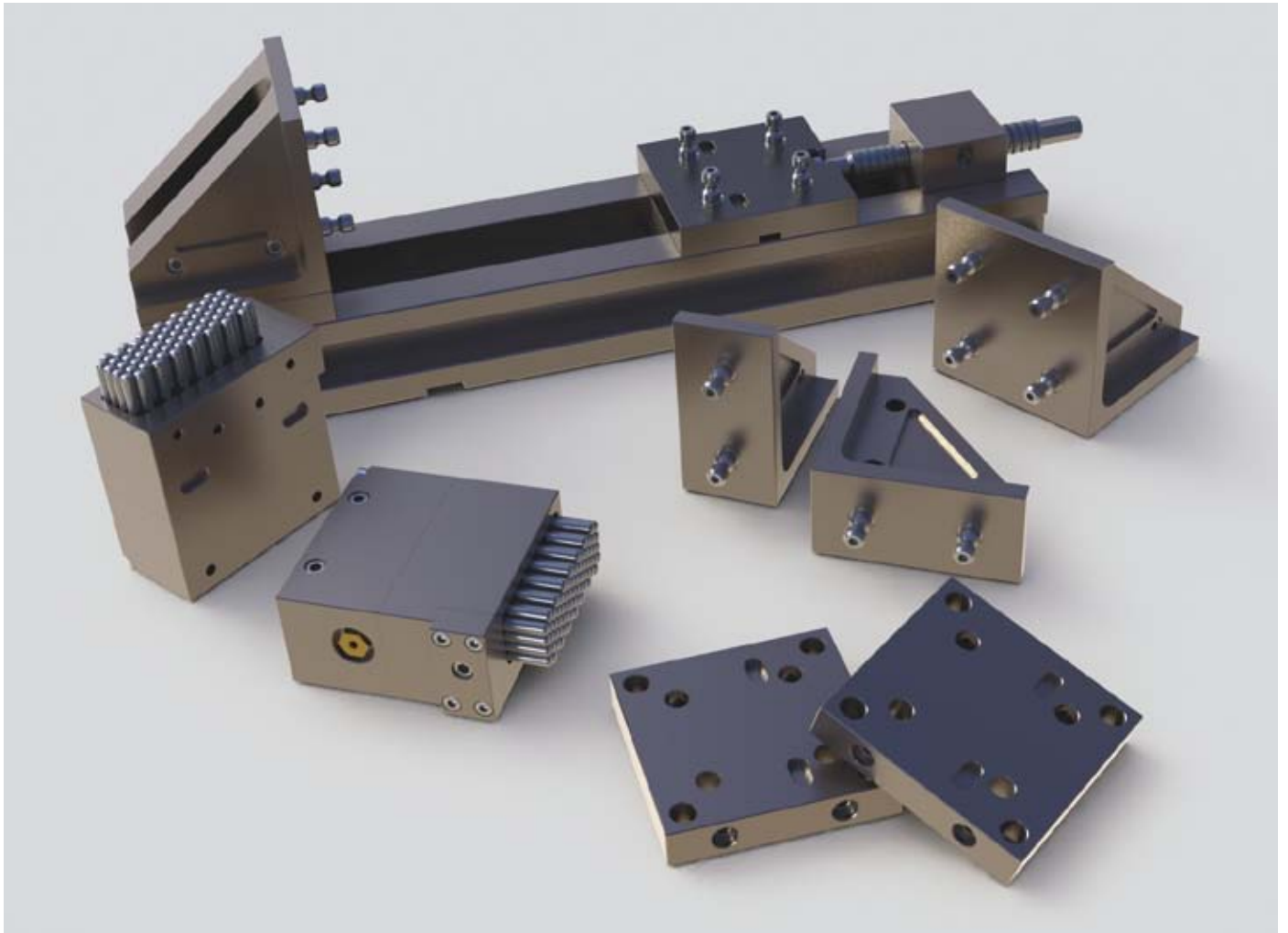
The **X-CLAMP 100** is the ideal addition for machine vises with 100 mm jaw widths of all manufacturers. It is a single solution but can also be integrated into the extensive X-CLAMP 100 XL and X-CLAMP 100 XXL modular system. Providing optimum hold for difficult workpieces.

The X-CLAMP 100 is supplied with the following components:

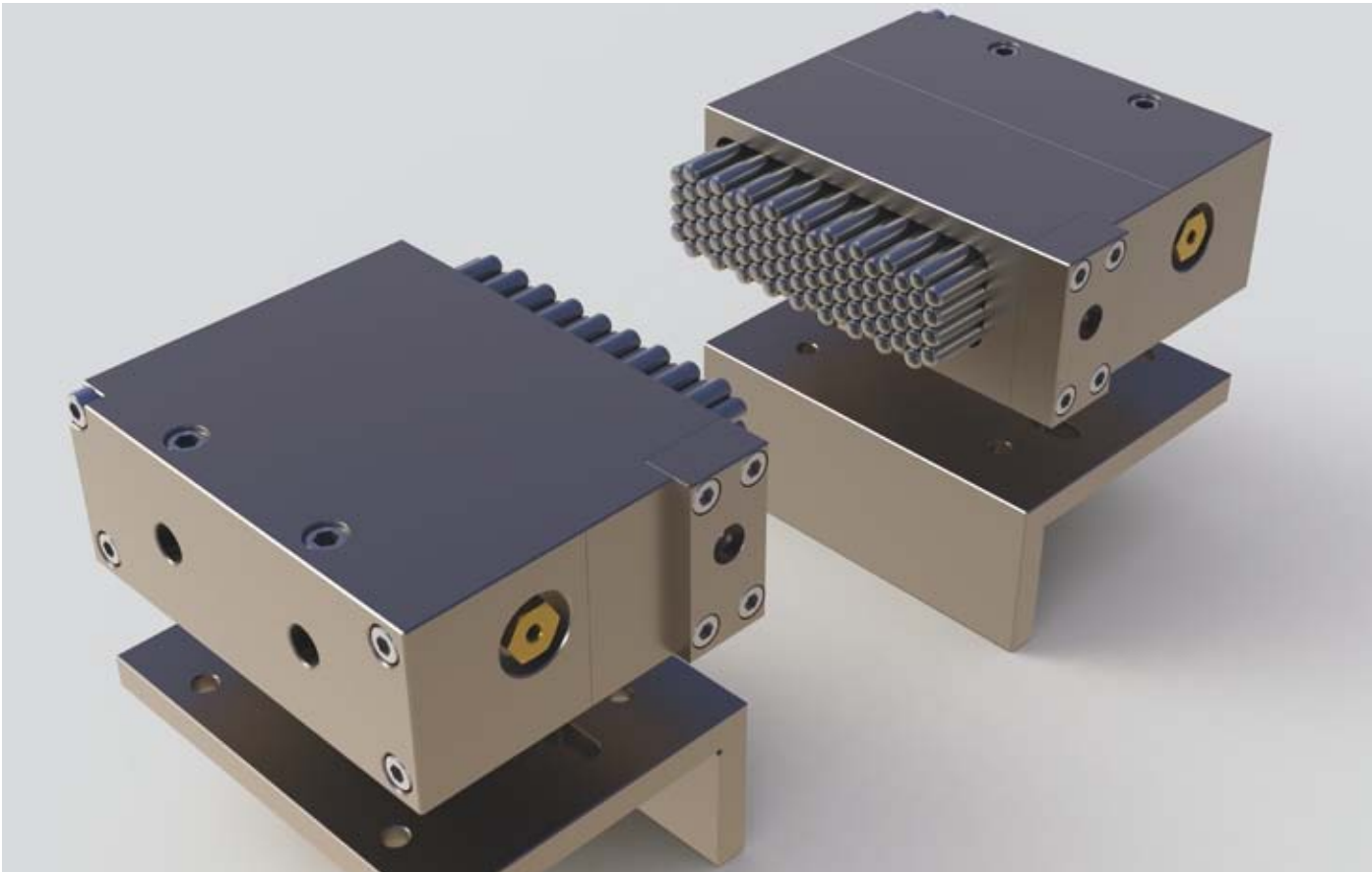
| Modules  | Article no. | Quantity | Designation   | Dimensions and information:  |           |                  |              |
|--|-------------|----------|---|--|-----------|------------------|--------------|
|  | 0020.1067   | 1 x      | X-CLAMP 100L  | Outer dimensions: 50 x 105 x 100 mm, Tightening surface: approx. 30 x 80 mm, Number of pins: 67, Pin diameter: 6 mm, Stroke: 21 mm, Weight: approx. 3,1 kg, Installation location: any, Material pins/housing: stainless steel, Cleaning: air and coolant connections, Data sheet and CAD data on request. |           |                  |              |
|  | 0021.1067   | 1 x      | X-CLAMP 100R  |  |           |                  |              |
| Components   | Article no. | Quantity | Designation/Info  | Article no.  | Quantity  | Designation/Info |              |
|  | 0020.1039   | 2 x      | Adapter angle 100 x 100 x 30 mm (with individual fastening bores) |   | 0900.9000 | 1 x              | MATRIX® case |

Total number (including torque wrench): 5 Components

Infinitely variable configuration of modules from the X-CLAMP® modular system.









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

The X-CLAMP 125 is supplied with the following components:

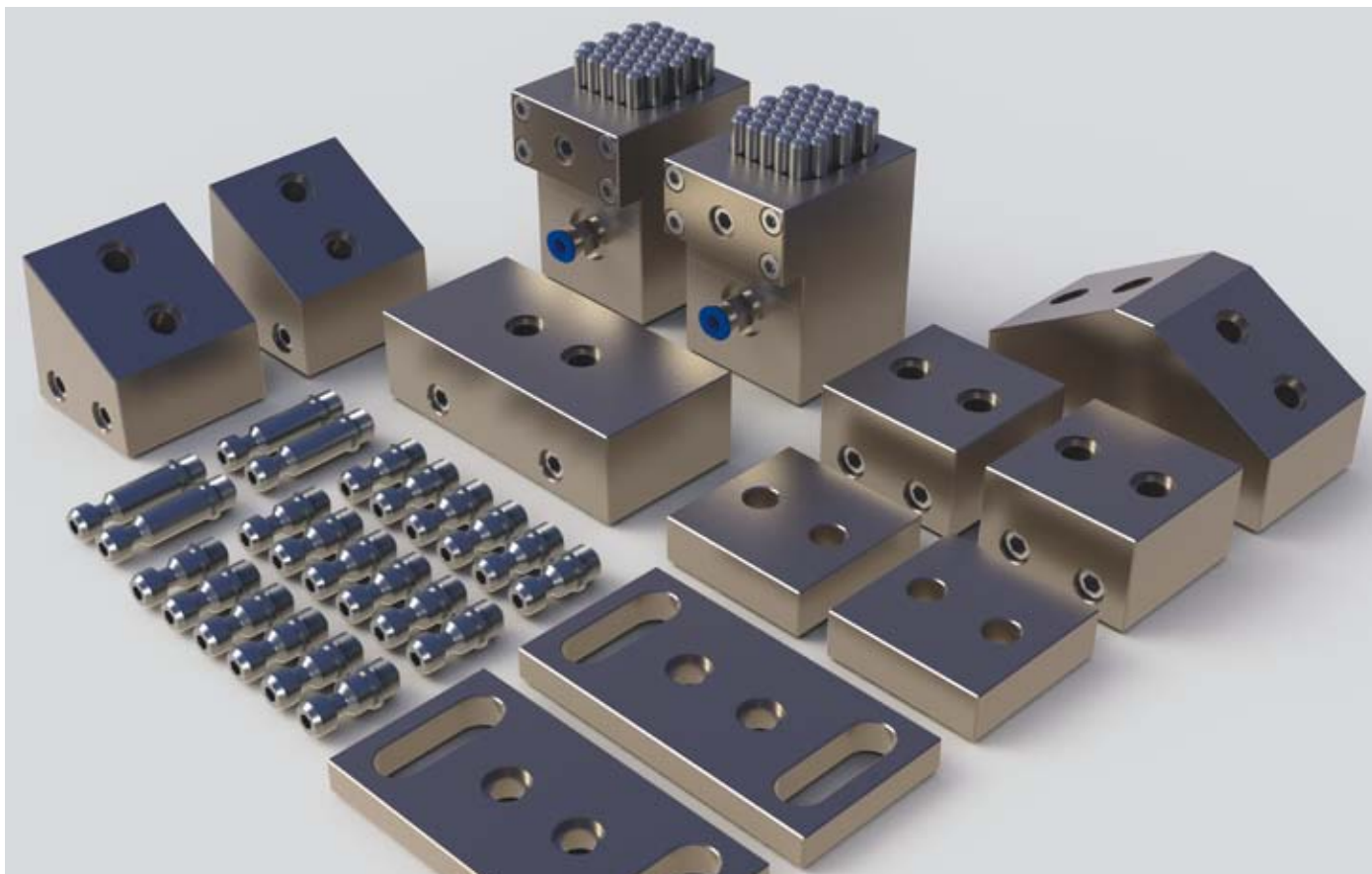
| Modules  | Article no. | Quantity | Designation  | Dimensions and information:   |
|--|-------------|----------|--------------|---|
|  | 0020.1285   | 1 x      | X-CLAMP 125L | Outer dimensions: 50 x 130 x 100 mm, Tightening surface: approx. 30 x 100 mm, Number of pins: 85, Pin diameter: 6 mm, Stroke: 21 mm, Weight: approx. 3,9 kg, Installation location: any, Material pins/housing: stainless steel, Cleaning: air and coolant connections, Data sheet and CAD data on request. |
|  | 0021.1285   | 1 x      | X-CLAMP 125R | Data mirror-image identical to X-CLAMP 125L   |

| Components   | Article no. | Quantity | Designation/Info  | Article no.   | Quantity  | Designation/Info |
|--|-------------|----------|---|---|-----------|------------------|
|  | 0020.1239   | 2 x      | Adapter angle 100 x 125 x 30 mm (with individual fastening bores) |  | 0900.9000 | 1 x MATRIX® case |

**Total number (including torque wrench): 5 Components**












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 X-CLAMP modular system.

The modular system consisting of the following individual components:

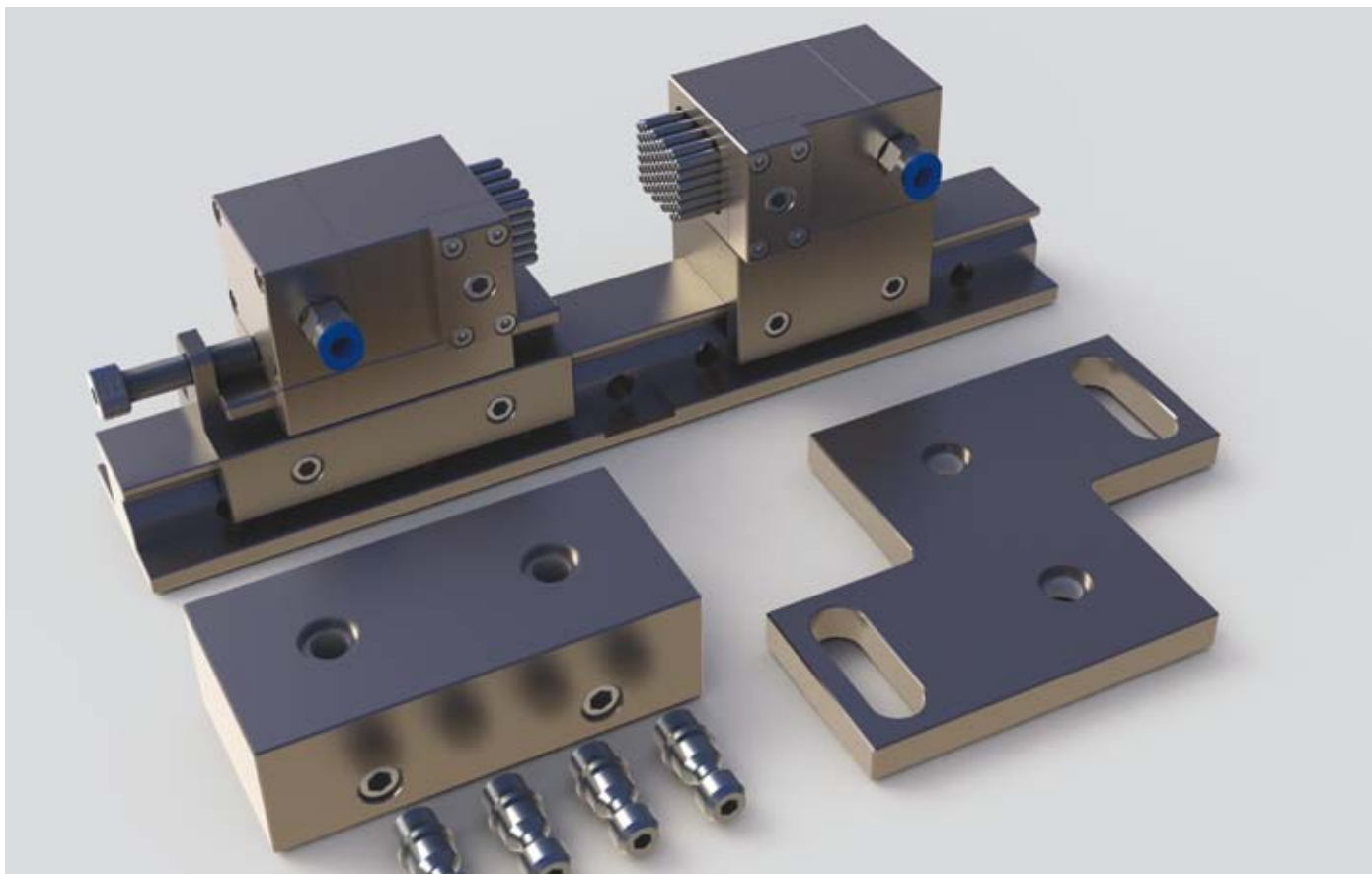
| Modules  | Article no. | Quantity | Designation  | Dimensions and information:  |
|--|-------------|----------|--------------|--|
|  | 0020.3138   | 2 x      | X-SUPPORT 50 | Outer dimensions: 50 x 60 x 70 mm, Tightening surface: approx. 36 x 37 mm, Number of pins: 38, Pin diameter: 6 mm, Stroke: 12 mm, Weight: approx. 1,2 kg, Installation location: any, Material pins/housing: stainless steel, Cleaning: air and coolant connections, Data sheet and CAD data on request. |

| Components   | Article no. | Quantity | Designation/Info                          | Article no.   | Quantity  | Designation/Info                              |
|--|-------------|----------|---|---|-----------|---|
|  | 0020.5000   | 2 x      | Baseplate<br>100 x 50 10 mm               |  | 0020.3116 | 2 x<br>Intermediate module<br>50 x 50 x 30 mm |
|  | 0020.3115   | 2 x      | Intermediate<br>module<br>50 x 50 x 15 mm |  | 0020.3130 | 2 x<br>Angle<br>30°, 50 x 50 mm               |



| Components   | Article no. | Quantity | Designation/Info                       |   | Article no. | Quantity | Designation/Info                               |
|--|-------------|----------|--|---|-------------|----------|--|
|  | 0020.3132   | 1 x      | Double angle<br>30°,<br>100 x 50 mm    |  | 0020.3150   | 1 x      | Adapter<br>for X-CLAMP 100<br>100 x 50 x 30 mm |
|  | 0020.0027   | 18 x     | Connection pin<br>for X-CLAMP<br>27 mm |  | 0020.0042   | 4 x      | Connection pin<br>for X-CLAMP<br>42 mm         |
|  | 0900.9000   | 1 x      | MATRIX® case                           |   |             |          |  |

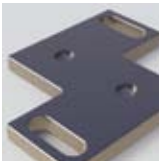



**Total number (including torque wrench): 35 Components**



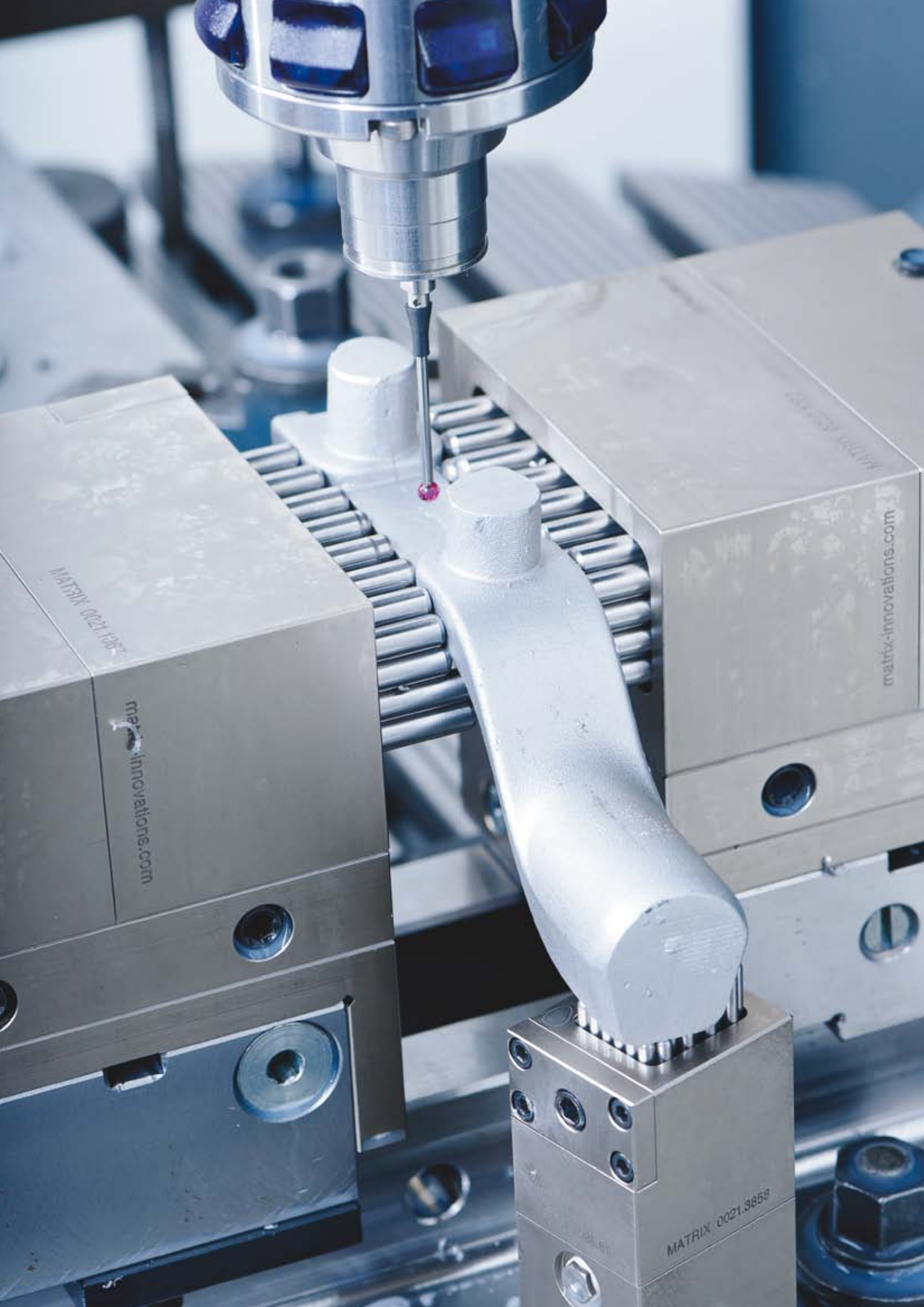
The **X-CLAMP 40** is unbeatable as mold clamping system for small workpieces with complicated shapes.

The modular system consisting of the following individual components:

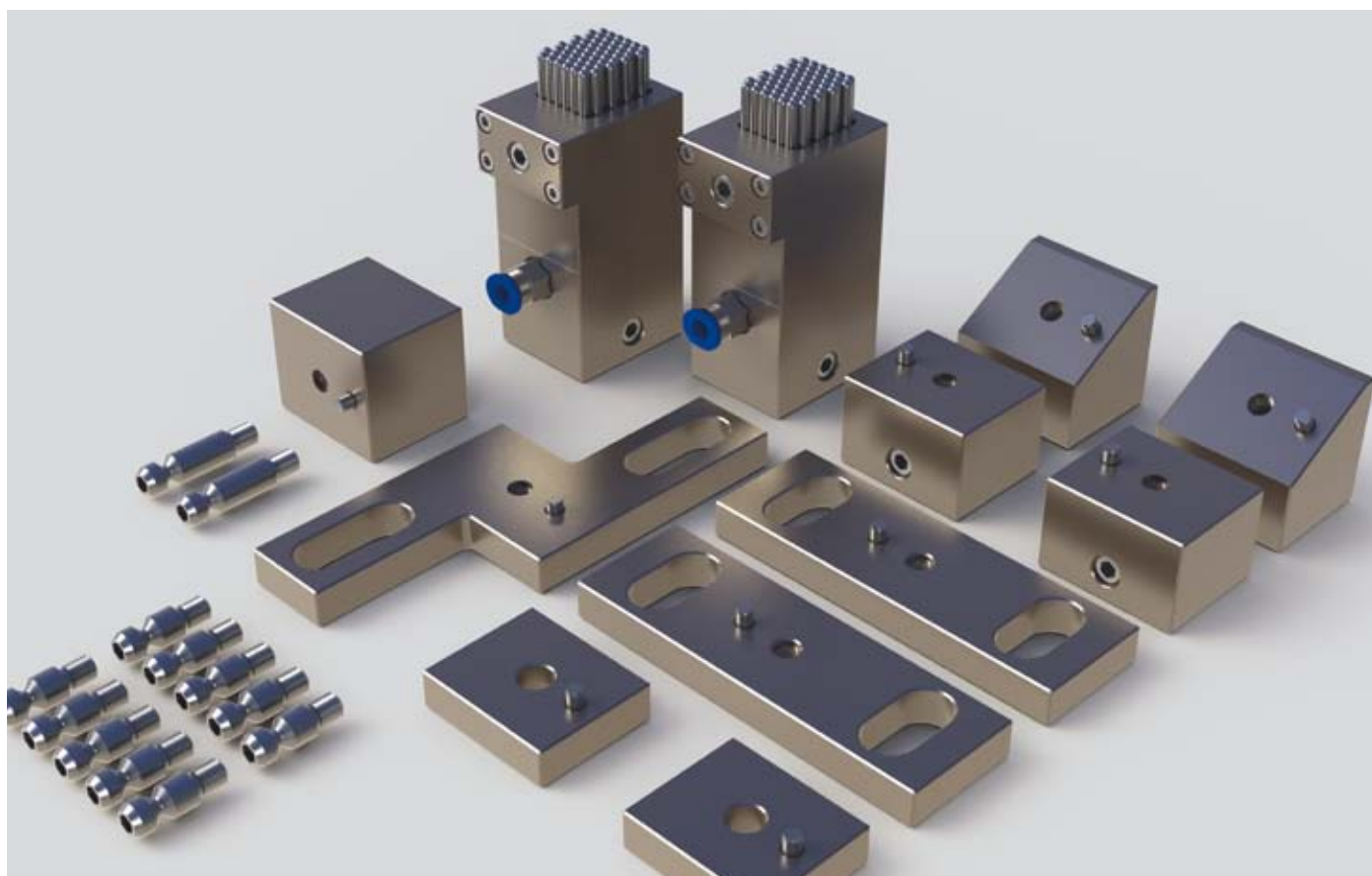
| Modules  | Article no. | Quantity | Designation | Dimensions and information:  |
|--|-------------|----------|-------------|--|
|  | 0020.3858   | 1 x      | X-CLAMP 40  | Outer dimensions: 48 x 255 x 75 mm, Tightening surface: approx. 21 x 24 mm, Number of pins: 58 (2x), Pin diameter: 3 mm, Stroke: 12 mm, Weight: approx. 3 kg, Installation location: any, Material pins/housing: stainless steel, Cleaning: air and coolant connections, Data sheet and CAD data on request. |

| Components   | Article no. | Quantity | Designation/Info                                 | Article no.   | Quantity  | Designation/Info   |
|--|-------------|----------|--|---|-----------|--|
|  | 0020.0120   | 1 x      | S baseplate for X-CLAMP 100<br>130 x 100 x 10 mm |  | 0020.3116 | 1 x<br>Intermediate module for X-CLAMP 100<br>50 x 100 x 30 mm |
|  | 0020.0027   | 4 x      | Connection pin for X-CLAMP<br>27 mm              |  | 0900.9000 | 1 x<br>MATRIX® case  |

**Total number (including torque wrench): 8 Components**
















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 consisting of the following individual components:

| Modules  | Article no. | Quantity | Designation  | Dimensions and information:  |
|--|-------------|----------|--------------|--|
|  | 0021.3858   | 2 x      | X-Support 40 | Outer dimensions: 32 x 43 x 58 mm, Tightening surface: approx. 21 x 24 mm, Number of pins: 58, Pin diameter: 3 mm, Stroke: 12 mm, Weight: approx. 0,6 kg, Installation location: any, Material pins/housing: stainless steel, Cleaning: air and coolant connections, Data sheet and CAD data on request. |

| Components   | Article no. | Quantity | Designation/Info  | Article no.   | Quantity  | Designation/Info   |
|--|-------------|----------|---|---|-----------|--|
|  | 0021.3810   | 2 x      | Intermediate module for X-SUPPORT 40<br>38 x 32 x 10 mm |  | 0021.3825 | 2 x<br>Intermediate module for X-SUPPORT 40<br>38 x 32 x 25 mm |
|  | 0021.3830   | 2 x      | Angle for X-SUPPORT 40<br>30°, 38 x 32 mm               |  | 0021.3831 | 1 x<br>Angle for X-SUPPORT 40<br>90°, 38 x 32 mm               |

| Components   | Article no. | Quantity | Designation/Info                                    |   | Article no. | Quantity | Designation/Info                                  |
|--|-------------|----------|---|---|-------------|----------|---|
|  | 0021.3828   | 1 x      | S baseplate<br>for X-SUPPORT 40<br>120 x 50 x 10 mm |  | 0021.3829   | 2 x      | Baseplate<br>for X-SUPPORT 40<br>100 x 32 x 10 mm |
|  | 0050.1245   | 8 x      | Connection pin<br>M6 x 23 mm                        |  | 0020.0033   | 2 x      | Connection pin<br>M6 x 33 mm                      |
|  | 0900.9000   | 1 x      | MATRIX® case  |   |             |          |   |

**Total number (including torque wrench): 23 Components**

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