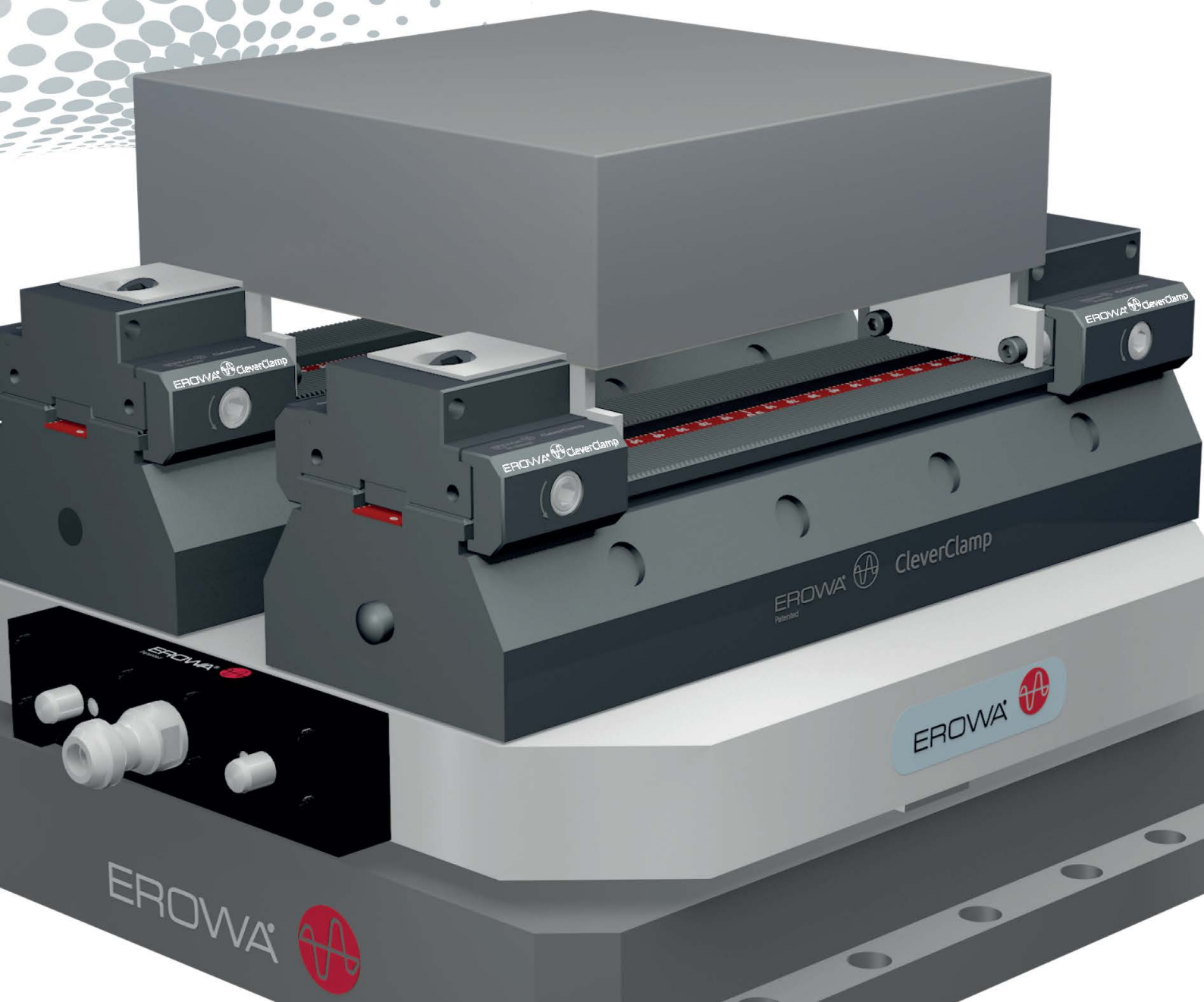
EROWA
system solutions

CleverClamp System

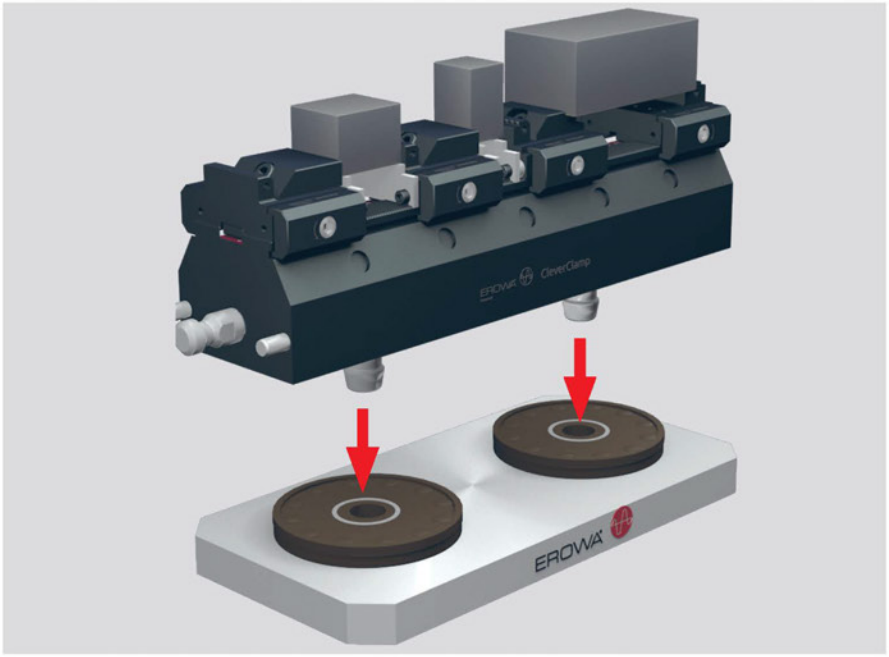
Quick and flexible workholding

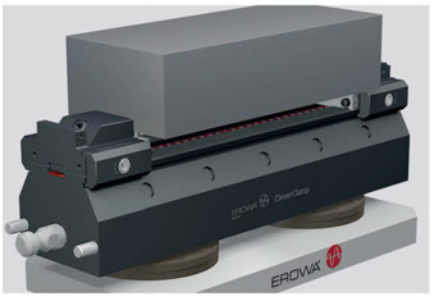


Clever clamping

EROWA CleverClamp is the seamless, modular tooling system. Easy to handle and versatile in use, the EROWA CleverClamp decrease your set up times while increasing machine running times.

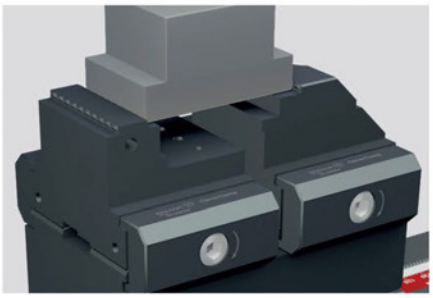
Enjoy the many benefits of EROWA's CleverClamp tooling system.
Thanks to the standardized EROWA UPC or MTS interface, CleverClamp workpiece carriers are quickly and accurately positioned on the machine and can be used universally.





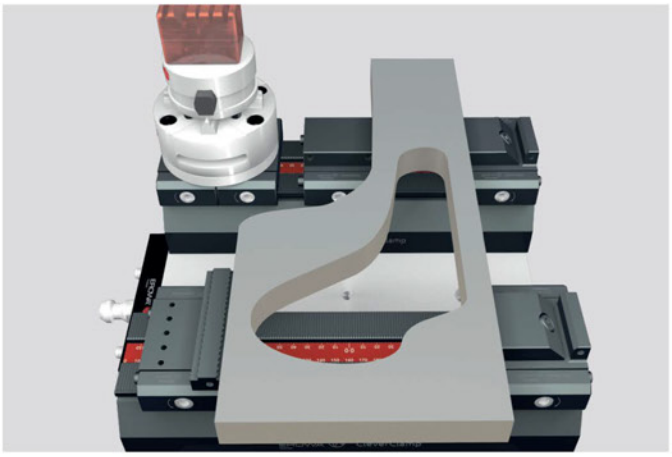
EROWA CleverClamp for clamping large workpieces with large holding power.

Multiple clamping of identical or different workpieces on the same fixture.



Clamping of workpieces with minimal clamping height.

A wide selection of clamping elements and jaws holds any workpiece.

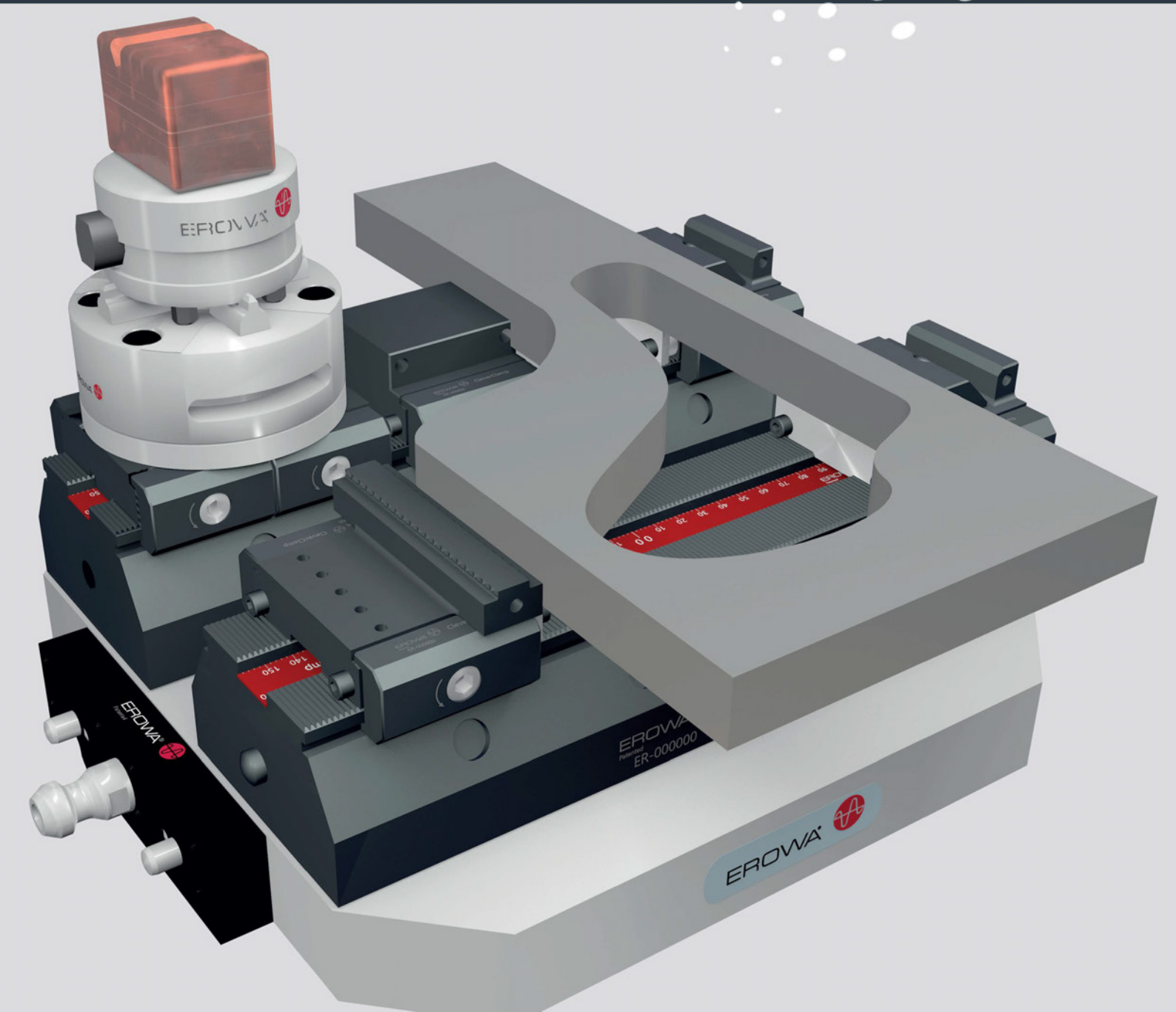


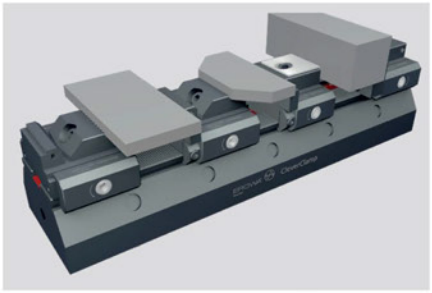
THE FACTS

- Easy to use.
- Quick set-up of workpieces.
- Modular extensions.
- 5-side machining.
- Automatable.

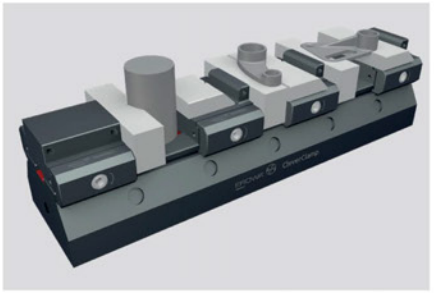
The perfect combination

Everything fits together and can be flexibly combined. CleverClamp holds any workpiece and adapts to any machine situation.

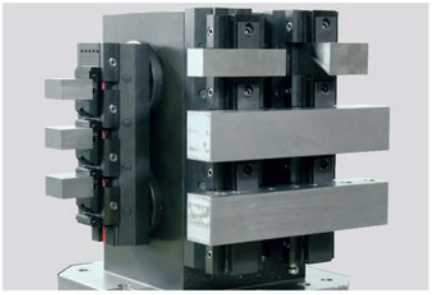




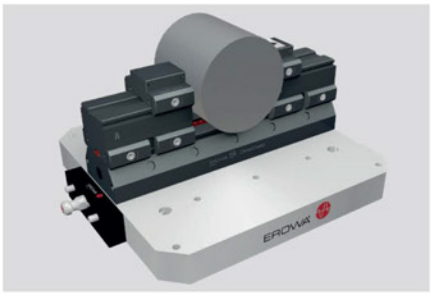
Very high holding power and minimal clamping height (3 mm) are easily achieved with CleverClamp pull-down or linear stamping elements.



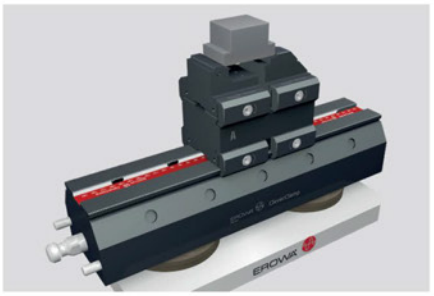
By custom reworking of soft clamping and stop jaws, the clamping possibilities are almost unlimited.



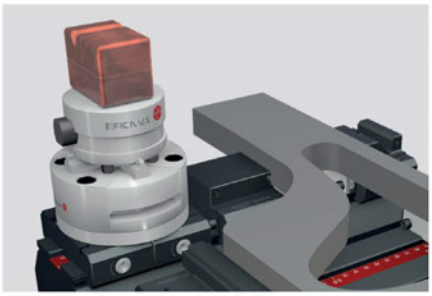
Clamp many workpieces and make optimized use of the full working area of the machine: CleverClamp mounted on EROWA mineral casting tower.



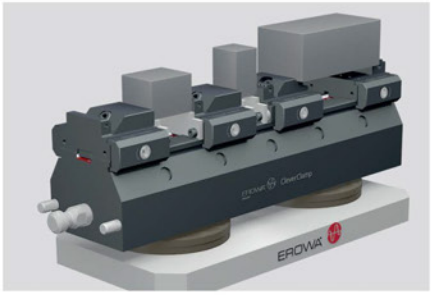
Use of height increasing elements for clamping workpieces with large diameter.



For 5-axis machining: Ensure optimal accessibility of the machine spindle to the workpiece by increasing height increases and serrated clamping elements.



With the CleverClamp QuickChuck 100 P, electrodes can be adapted to and machined on EROWA electrode holders with ease.



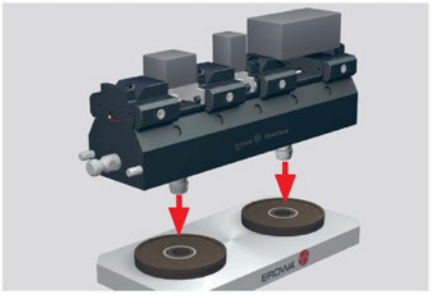
CleverClamp rails enable automatable single or multiple clamping directly on the MTS base plates.

Optimal accessibility for machining from 5 sides. Utilize one CleverClamp rail on our MTS or UPC pallets.

Two CleverClamp rails in combination with pull-down elements allow safe clamping of oversized workpieces.

Easily clamp different workpieces on one pallet using different clamping elements and increase the cycle time of your machine.

Multiple clamping on MTS or UPC pallets with one CleverClamp rail for improved accessibility to the workpiece. Automation enables additional machine running time.

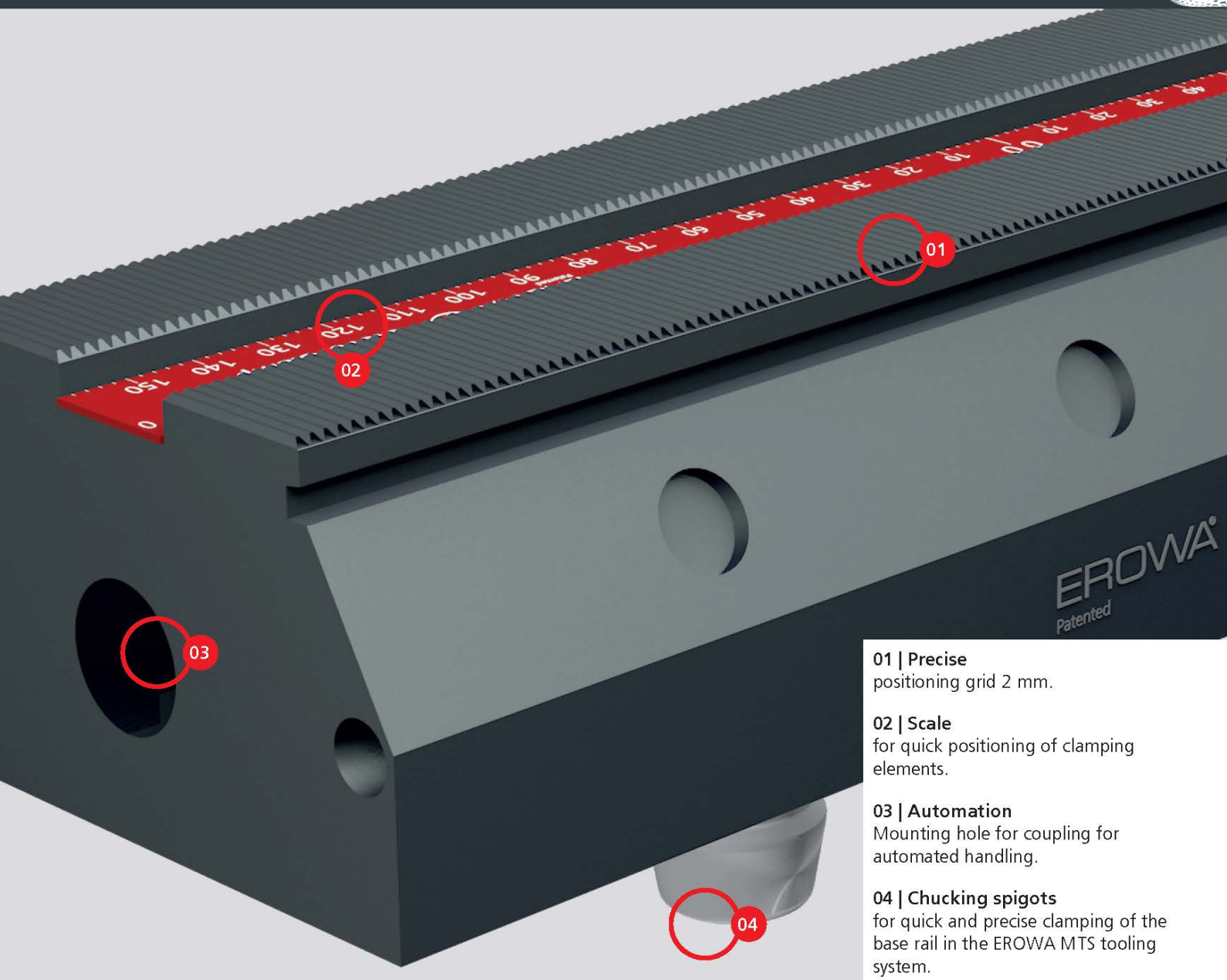


Automatable and usable throughout in the EROWA UPC and MTS tooling system.

Reliable base

The base rails are the backbone of the CleverClamp workpiece holding system. They can be used horizontally or vertically.

The suitable clamping elements can be placed quickly with the precise positioning grid.
Base rails offer plenty of room in the smallest space for flexible fastening of different workpiece shapes and sizes.

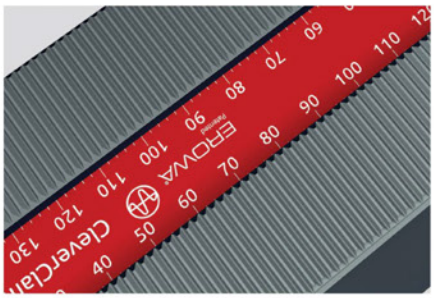


01 | Precise
positioning grid 2 mm.

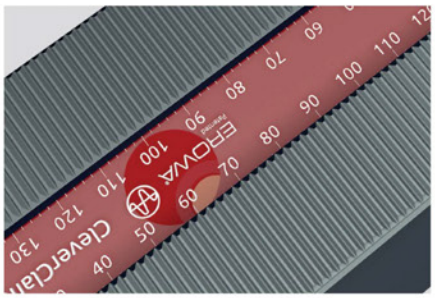
02 | Scale
for quick positioning of clamping elements.

03 | Automation
Mounting hole for coupling for automated handling.

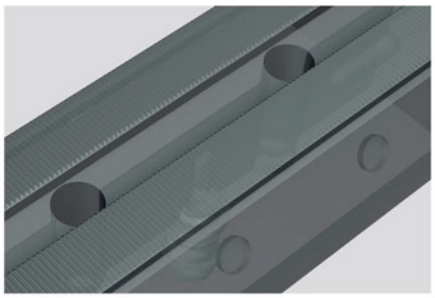
04 | Chucking spigots
for quick and precise clamping of the base rail in the EROWA MTS tooling system.



Very convenient – the integrated scale with 2 mm gradation help in quick and repeatable positioning of the clamping elements during set-up.



Very clever – the scale protects the mounting holes from contamination.



Very precise – the dowel holes in a 50 mm grid allow you to position the base rails quickly and accurately on the machine table.

CleverClamp base rails are available in various versions.

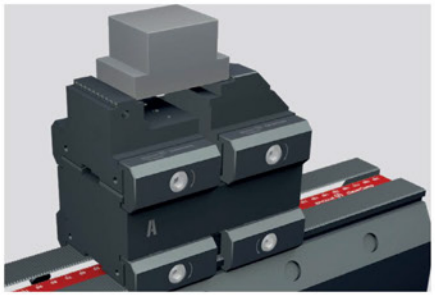
- As a single rail for individual mounting on a machine, fixture, EROWA UPC or an MTS pallet, etc.

- With mounted couplings and automation coupling (option) for direct integration in the EROWA MTS tooling system.

- On EROWA UPC and MTS pallets.

Heavy fixtures can be handled easily with a crane. The CleverClamp base rails have holes on both sides to attach eye bolts.

The height of the machining position can be varied on the base using the convenient raise module.

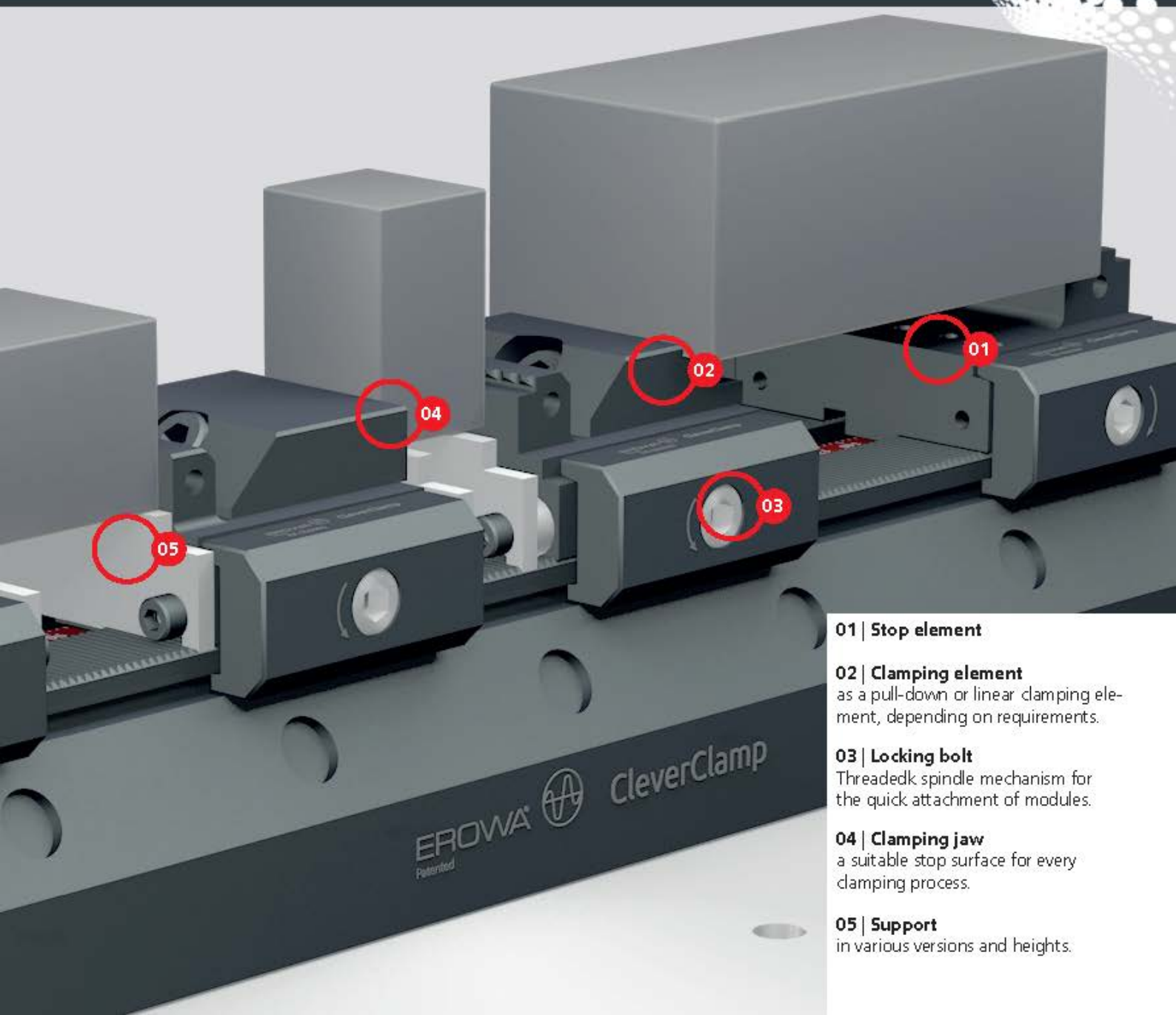


THE FACTS

- Flexible clamping element carriers.
- Precise 2 mm positioning grid.
- Fast mounting.
- Scale for fast positioning.
- Mounting of chucking spigots directly in the base rail.
- Minimal contamination.
- Directly automatable.

Faster setups

The convenient and elaborate selection of different stop and clamping elements hold workpieces flexibly and accurately in any desired position.



01 | Stop element

02 | Clamping element
as a pull-down or linear clamping element, depending on requirements.

03 | Locking bolt
Threadedk spindle mechanism for the quick attachment of modules.

04 | Clamping jaw
a suitable stop surface for every clamping process.

05 | Support
in various versions and heights.

Stop elements

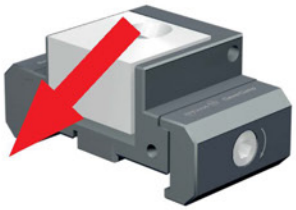
The stop element is used in combination with a clamping element as a fixed jaw on the base rail. Available in widths of 48mm or 94mm and with different clamping surfaces as required.

Clamping elements

The clamping element holds the workpiece reliably and with great power. For multiple clamping, the clamping element also serves as stop element for further clamping.

Available in widths of 48mm or 94mm (stamping elements only) and with different clamping surfaces and jaws as required.
Clamping elements are available as pull-down and linear type elements.

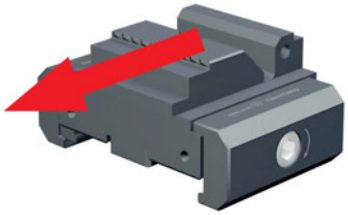
Pull-down clamping elements



Clamping range: 0 - 4.1 mm
Clamping power: up to 28 kN

- High holding forces.
- Powerful clamping also of large workpieces.
- With exchangeable jaws.

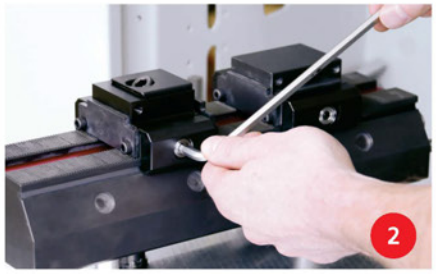
Linear clamping elements



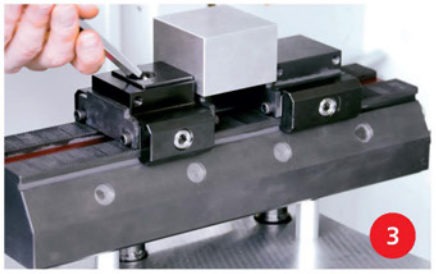
Clamping range: 0 - 5 mm
Clamping power: up to 16 kN

- Vise-like clamping.
- With exchangeable jaws.
- Process-reliable positioning of second mounting.
- Suitable for manufacture of custom form jaws.
- Secure hold with stamping technology.

Set-up and changeover in a few steps. Position and fasten stop element.



Position and fasten the clamping element based on the size of the workpiece.



Securely clamp the workpiece.

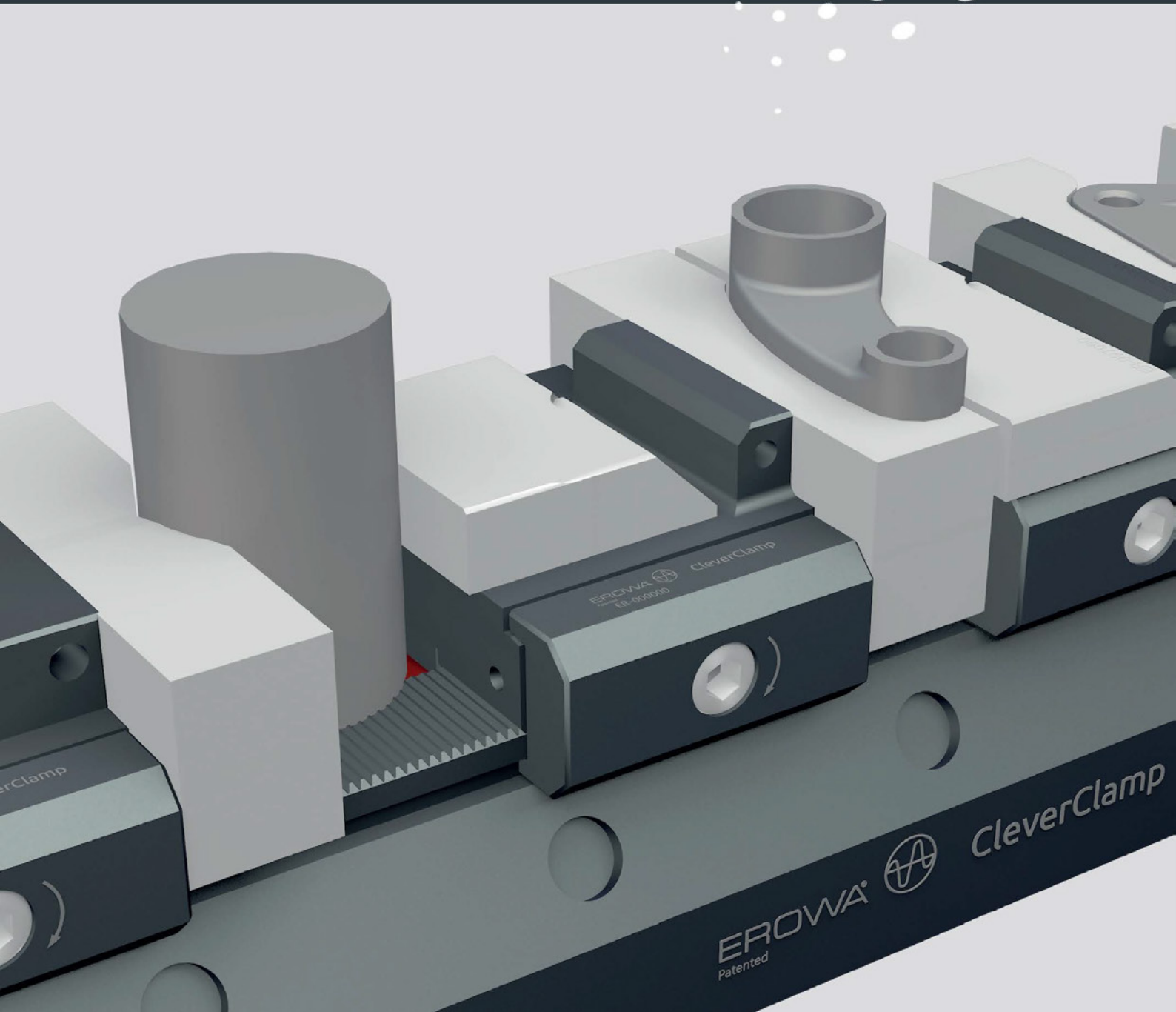
Ingenious screw spindle mechanism – only one screw accurately secures the elements. The toothing grid ensures reliable positioning.

THE FACTS

- Quickly positioned and fastened.
- Quick change of workpieces.
- Easy cleaning of the elements.
- Powerful workholding.
- Single and multiple clamping.

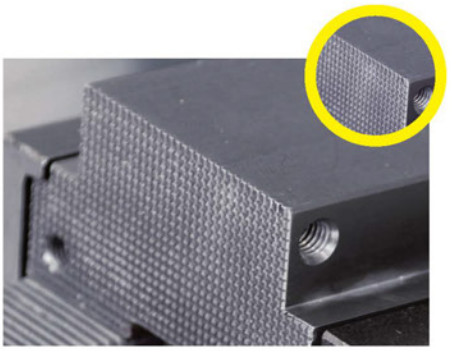
Everything fits

Various types of clamping surfaces, additional clamping jaws and accessories make sure that each type of workpiece and material is mounted reliably.
Whether round, angled or irregular workpiece shapes - CleverClamp holds everything.



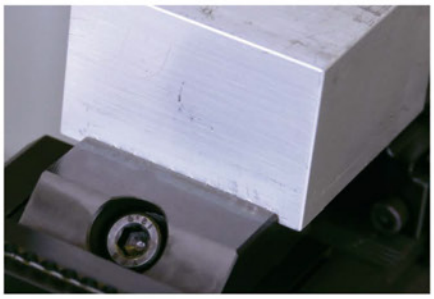
Select the appropriate properties of the clamping surface depending on the material and workpiece.

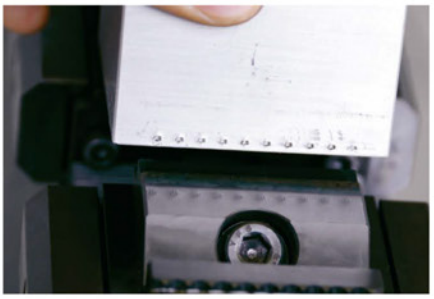
Smooth clamping and stop sides – ideal for clamping of workpieces with finished surfaces.



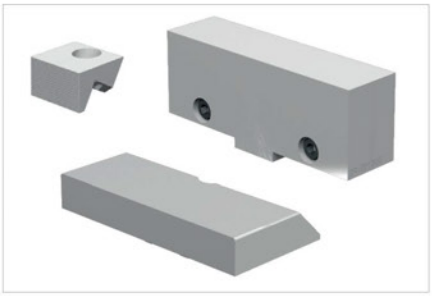
Clamping and stop sides with grip contour – ideal for clamping of raw material and workpieces with increased demands on holding power during machining.

Clamping and stop side with stamping contour - ideal for clamping of raw parts at minimal clamping height and irregular parts.

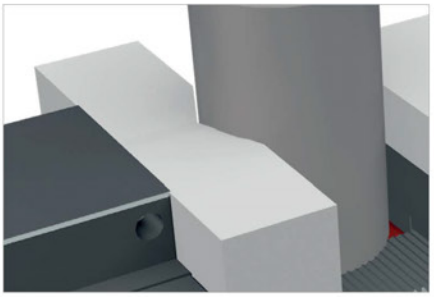




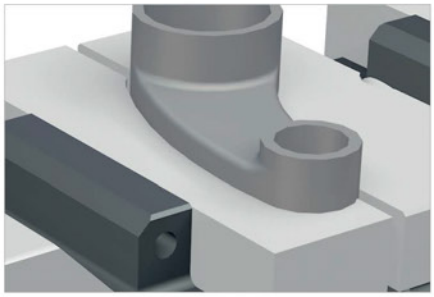
Ingenious stamping contour - The workpieces are held at 3 mm minimal clamping height with up to 1.6 tons of holding power (linear element) form and friction locked. This achieves maximum holding forces.
The workpiece can be nearly finish-machined on 5 sides if necessary.



Various clamping and stop jaws for each requirement.



Soft jaws – for manufacturing jaws with contours as required.

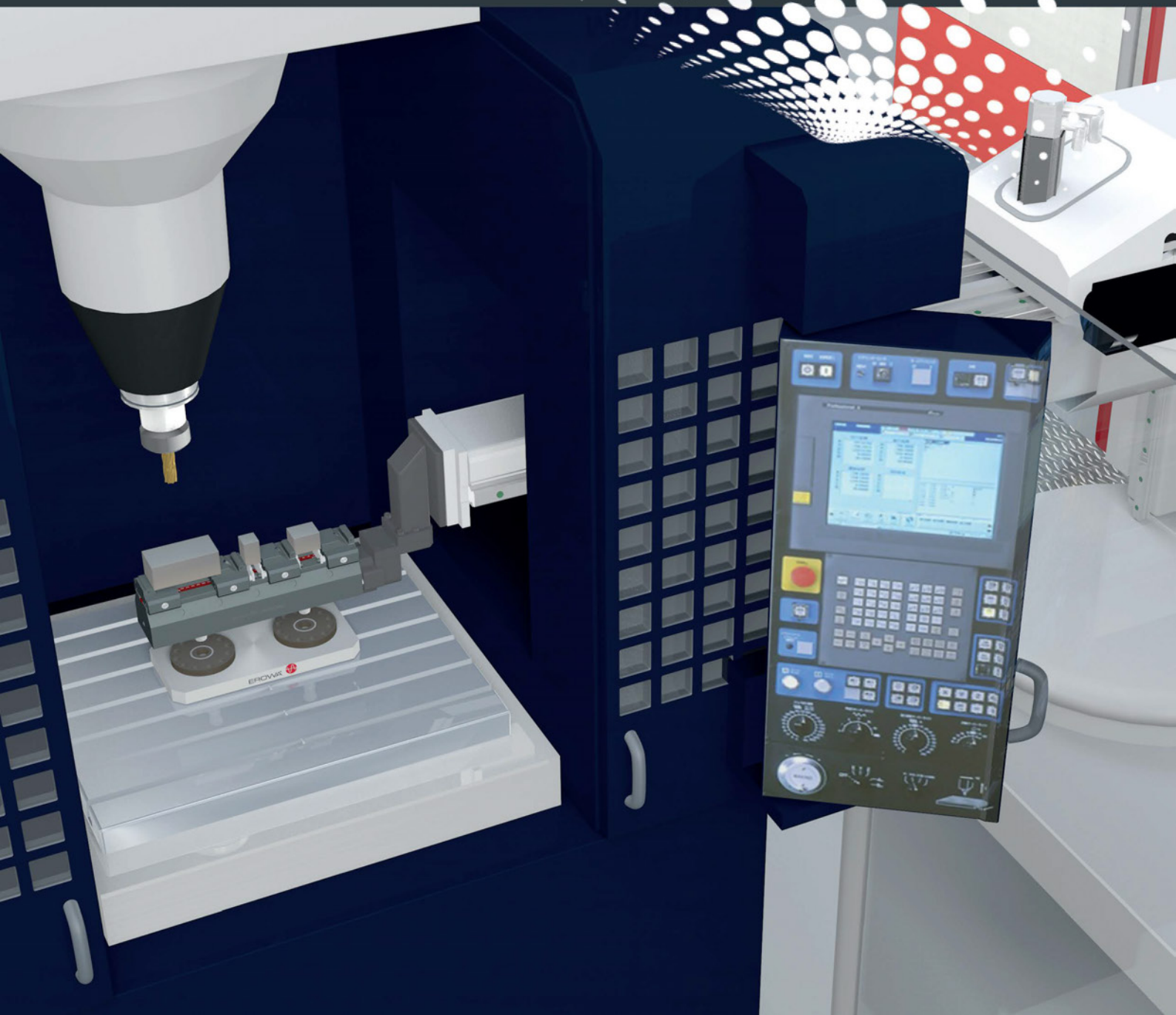


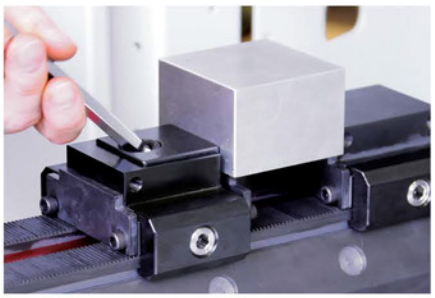
THE FACTS

- Large assortment.
- Clamping surfaces in different finishes.
- Machining with contour of your choice.

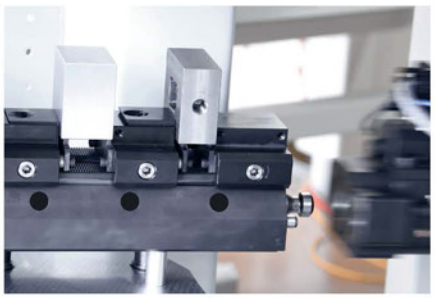
Clever technology to increase productivity

The CleverClamp workpiece is automatable throughout. The proportion of productive machine hours is significantly increased.

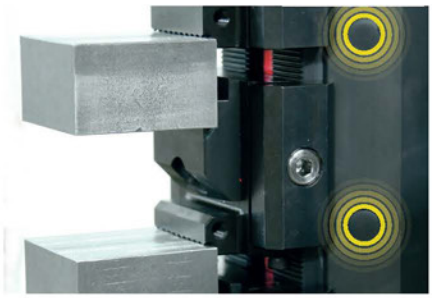




By setting up and adjusting the workpieces outside the machine, time is optimally used and cost is reduced.

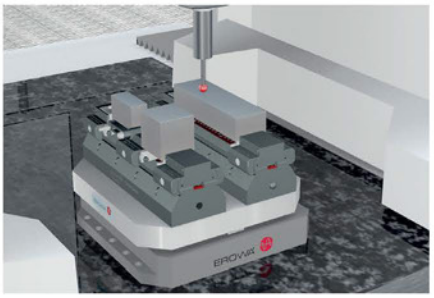


The workpieces to be machined are palletized with CleverClamp and stored in the magazine of the handling unit. The EWIS™ identification system provides a clear overview of magazine locations and pallets.



For setups with recurring workpieces: single part recognition with identification chip and the EROWA Manufacturing Control process control system.

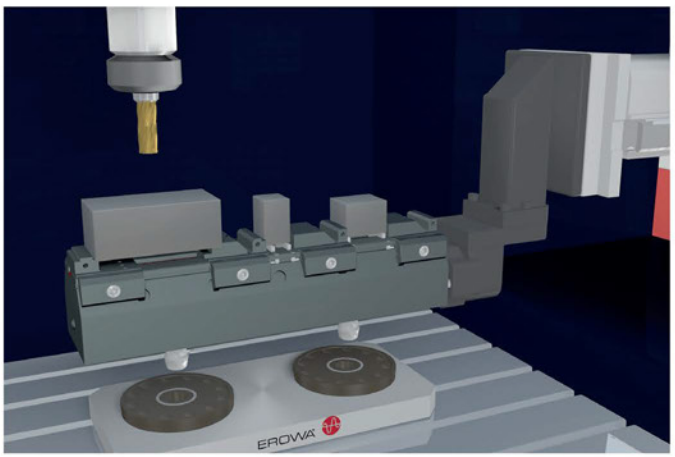
With the EROWA Process Control System, the operator is always in control of all data of the manufacturing cell.



Integrated quality control - Intermediate and final inspections increase process reliability in production.

A highly efficient production cell for automating the manufacture of single parts and small batches. An EROWA linear robot loads two milling centers and one measuring machine in combination.

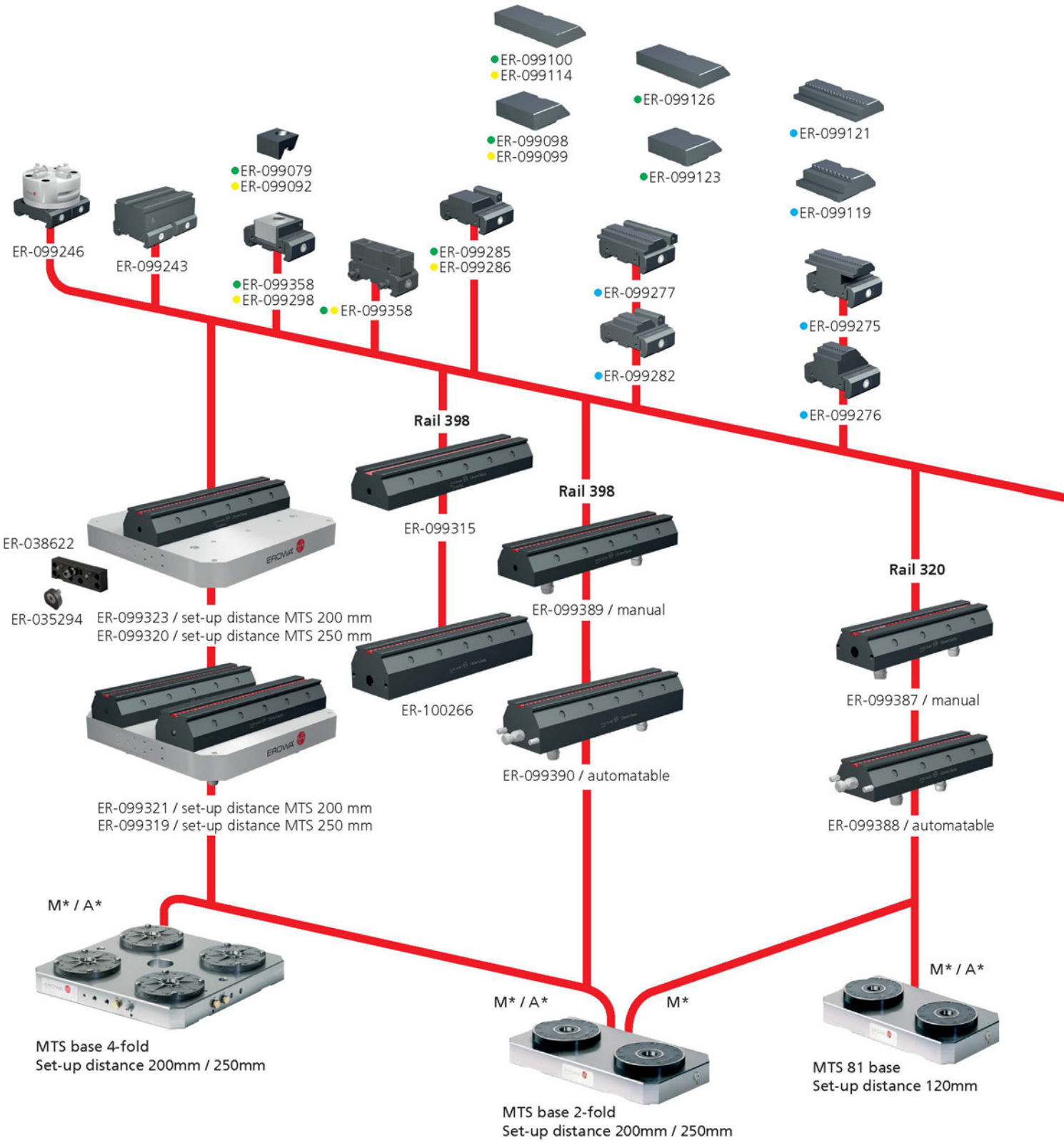
Simply ingenious: The CleverClamp base rail is directly automatable.
The robot places the workpiece carrier quickly and accurately on the machine.



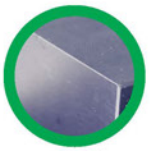
THE FACTS

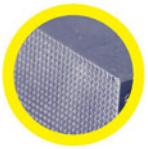
- Direct automation of CleverClamp.
- Use of peripheral and night time hours.
- Automated quality measurement.
- Chip identification for pallets and single parts.

The components



EROWA provides you with a full range of products - everything fits together!


smooth


Grip contour

Stamping contour

The color icon describes the respective surface finish.

Various accessories

ER-099166

ER-099195

ER-099164

Parallel supports

Parallel supports - wide

ER-099272

ER-099332

ER-099267

ER-099269

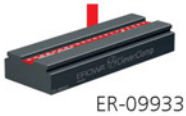
ER-099258

ER-099263

Rail 320

ER-099314

Rail 218


ER-099331

ER-036347

ER-035294

ER-099318 / UPC

ER-099317 / UPC

M* / A*

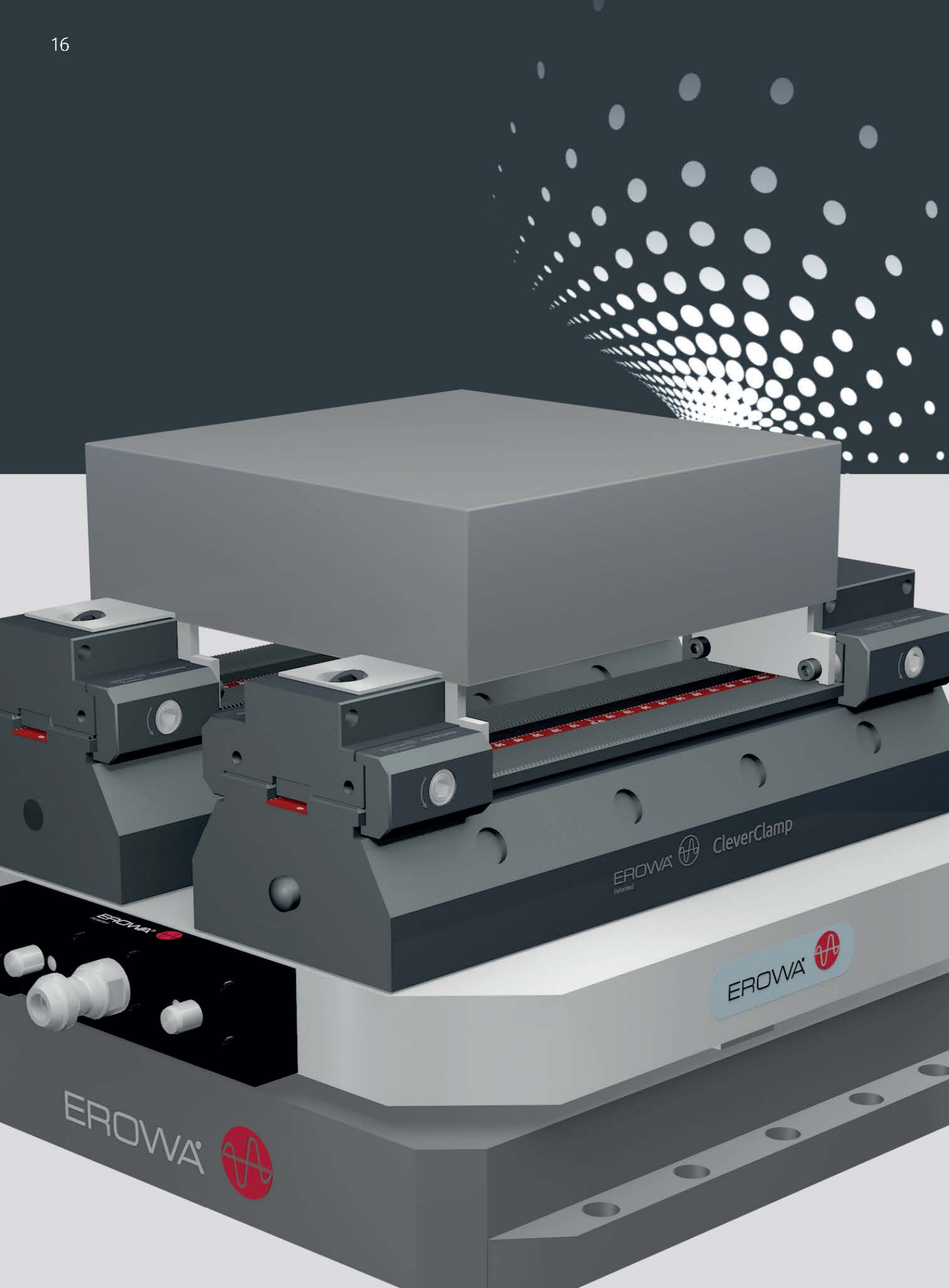
UPC

ER-099330

MTS Single M/A

PowerChuck P

M* = manual operation
A* = automatic operation


EROWA
CleverClamp
EROWA
EROWA

To make it easier for you to find your way about the fields of application for EROWA products, we use the following symbols in all our documents:

1. Manual operation

2. Operate with compressed air jet

3. Operate with manual valve

4. Operate with manual control unit

5. Operate with electro-pneumatic control unit

6. With central flushing clearance

7. Suited for submerged operation

8. Corrosion-resistant material

9. Suited for automatic operation

10. Handling with EROWA Robot gripper S

11. Handling with EROWA Robot gripper Combi

12. Handling with EROWA Robot gripper C

13. Handling with EROWA Robot gripper 72

14. Handling with EROWA Robot gripper 115

15. Handling with EROWA Robot gripper 148

16. Handling with EROWA Robot gripper RN PC 210

17. Handling with EROWA Robot gripper RCS

18. Handling with EROWA Robot gripper WGS-500

CLEVERCLAMP WORKPIECE TOOLING SYSTEM

CleverClamp System Rails 18
CleverClamp System Base rails MTS 21
CleverClamp System Base rails UPC 23
CleverClamp System Base rail ITS 23
CleverClamp System Pull down clamping elements 24
CleverClamp System Linear clamping elements 25
CleverClamp System Stop elements 27
CleverClamp System Accessories / Parallel supports 29
CleverClamp System Accessories 30
CleverClamp System Operating tools 36
CleverClamp System Spare parts 37

For chip-removing processes

For EDM sinking

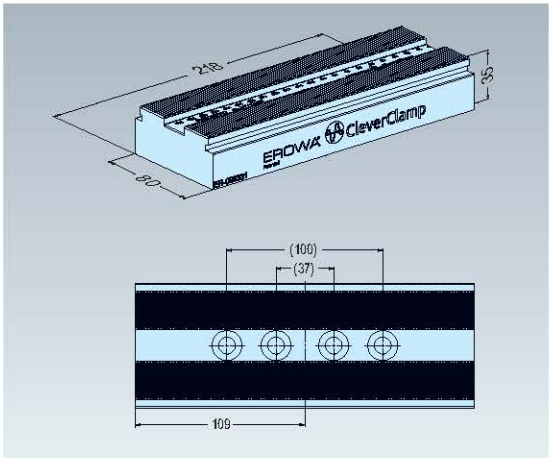
For WEDM

EROWA CleverClamp System

Rails

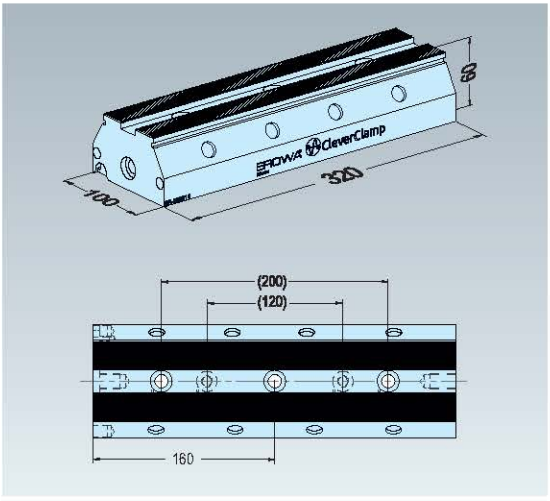
ER-099331	Rail 218 H35 CleverClamp

Version	Steel, hardened. Clamping element carrier, length 218mm, height 35mm, with 2mm positioning grid.
Application	Serves as a Basis to clamp workpieces with various Clever-Clamp clamping and stop elements.
To fit	To fit on grid plates R50, pallets, tombstones and machine tables. 4x M10 x35 socket head bolts.
Accessories	Clamping and stop elements, etc.
Note	Can be fitted directly to pallet P ø 148 Inox (ER-041912.



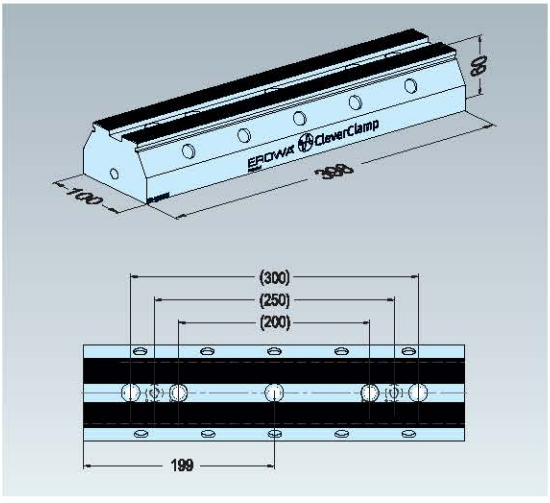
ER-099314	Rail 320 H60 CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Mounting	To mount on R50 grid plates, pallets, tombstones and machine tables
Accessories	Clamping and stop elements, etc.
Important	Can be used directly with a spigot on MTS, 200mm set-up distance (M) or MTS81, 120mm set-up distance (A/M).



ER-099315	Rail 398 H60 CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Mounting	To fit on R50 grid plates, pallets, tombstones and machine tables.
Accessories	Clamping and stop elements, etc.
Important	Can be used directly with a spigot on MTS, 200mm set-up distance (M) or 250mm set-up distance (M).

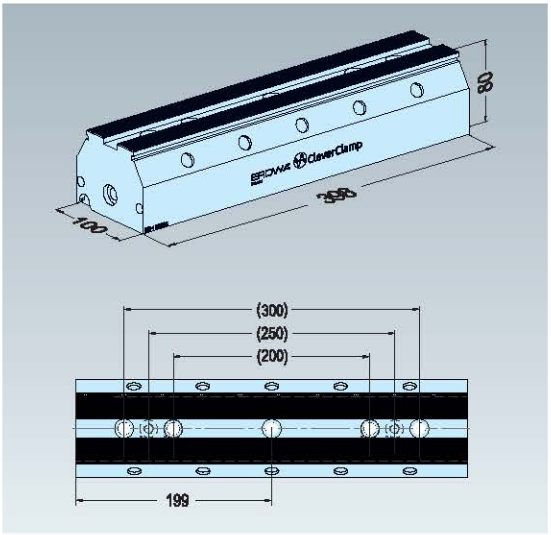


EROWA CleverClamp System

Rails

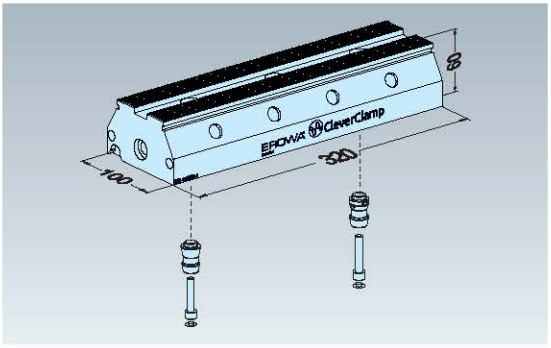
ER-100266	Rail 398 H80 CleverClamp

Version	Steel, hardened. H80 clamping element carrier with 2mm positioning grid.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Mounting	To fit on R50 grid plates, pallets, tombstones and machine tables.
Accessories	Clamping and stop elements, etc.
Important	Can be used directly with a spigot on MTS, 200mm set-up distance (A/M) or 250mm set-up distance (A/M).



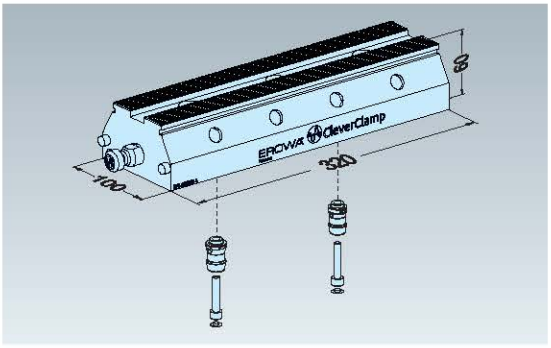
ER-099387	Rail 320 H60 manual CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid. With MTS spigot, manual.
Operation	Manual application on MTS81 base plates with 120mm set-up distance and MTS base plates with 200m set-up distance.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Accessories	Clamping and stop elements, etc.
Important	Manual application.



ER-099388	Rail 320 H60 automated CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid. With MTS spigot, automatic, and Grip-perLink.
Operation	Automated application on MTS81 base plates with 120mm set-up distance.
Application	Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.
Accessories	Clamping and stop elements, etc.
Important	Automated application.

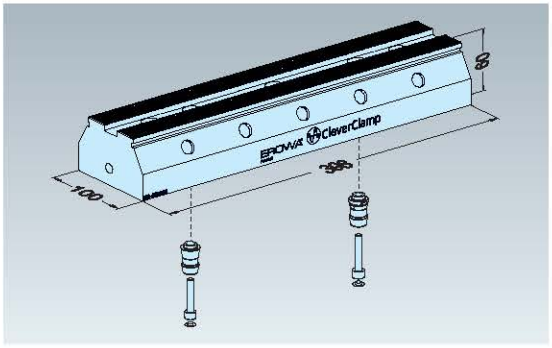


EROWA CleverClamp System

Rails

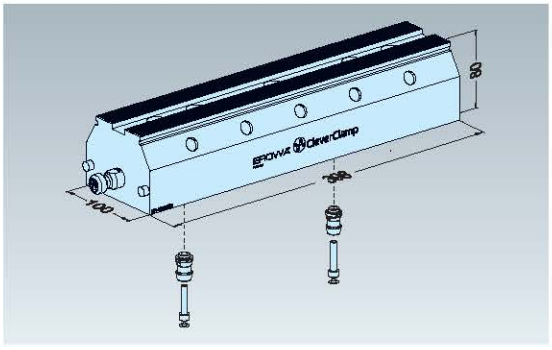
ER-099389	Rail 398 H60 manual CleverClamp

Version	Steel, hardened. H60 clamping element carrier with 2mm positioning grid. With MTS spigot, Manual.
Operation	Manual application on MTS base plates with 200/250mm set-up distance.
Application	Serves as a basis to clamp workpieces with various CleverClamp clamping and stop elements.
Accessories	Clamping and stop elements, etc.
Important	Manual application.



ER-099390	Rail 398 H80 automated CleverClamp

Version	Steel, hardened. H80 clamping element carrier with 2mm positioning grid. With MTS spigot, automatic, and GripperLink.
Operation	Automated application of MTS base plates with 200/250mm set-up distance.
Application	Serves as a base to clamp workpieces with various CleverClamp clamping and stop elements.
Accessories	Clamping and stop elements, etc.
Important	Automated application.

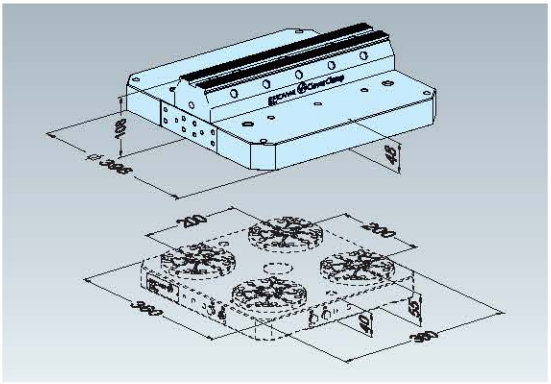


EROWA CleverClamp System

MTS Base rails

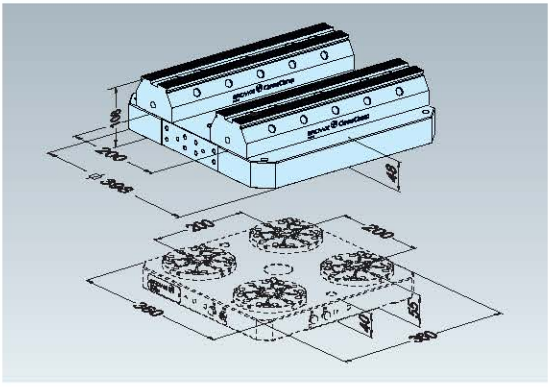
ER-099323	Base MTS 200 mono CleverClamp

Version	Combination of MTS aluminum pallet with 398 rail (MTS spigot set ER-041461 (M)/ ER-041464 (A)).
Application	Optimal accessibility for 5-axis applications with single and multiple fixtures.
Accessories	Order separately: ER-041461 (M) / ER-041464 (A) or MTS GripperLink Rapid ER-038622.



ER-099321	Base MTS 200 duo CleverClamp

Version	Combination of MTS aluminum pallet with two 298 rails (MTS spigot set ER-041461 (M) / ER-041464 (A)).
Application	Optimal for multiple fixtures and for clamping big work-pieces.
Accessories	Order separately: ER-041461 (M) / ER-041464 (A) or MTS GripperLink Rapid ER-038622.

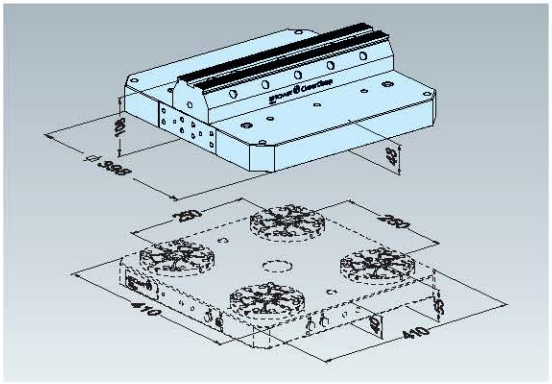


EROWA CleverClamp System

MTS Base rails

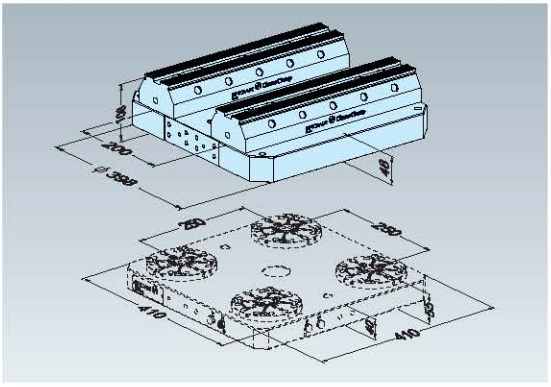
ER-099320	Base MTS 250 mono CleverClamp

Version	Combination of MTS aluminum pallet with 298 rail (MTS spigot set ER-041461 (M) / ER-041464 (A)).
Application	Optimal accessibility for 5-axis applications with single and multiple fixtures.
Accessories	Order separately: ER-041461 (M) / ER-041464 (A) with GripperLink Rapid ER-038622.



ER-099319	Base MTS 250 duo CleverClamp

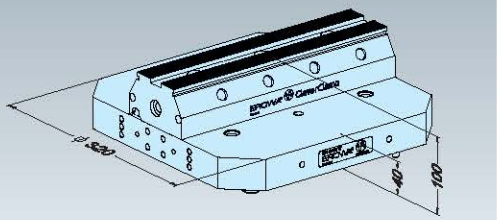
Version	Combination of MTS aluminum with two 398 rails (MTS spigot set ER-041461 (M) / ER-041464 (A)).
Application	Optimal for multiple fixtures and for clamping big work-pieces.
Accessories	Order separately: ER-041461 (M) / ER-041464 (A) or MTS GripperLink Rapid ER-038622.



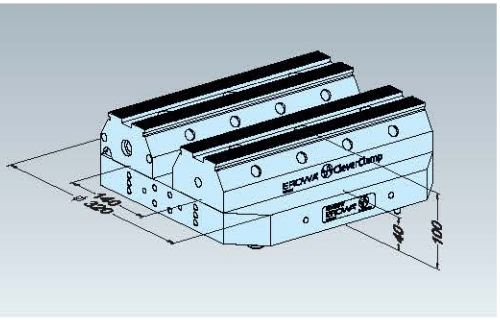
EROWA CleverClamp System

UPC Base rails

ER-099318	Base UPC mono CleverClamp



Version	Combination of UPC aluminum pallet with 320 rail; centering segments and chucking spigots fitted. Z-Support hard.
Application	Optimal accessibility for 5-axis applications with single and multiple fixtures.
Accessories	Order separately: GripperLink RCS / EWIS RAPID ER-036347 for Automation.



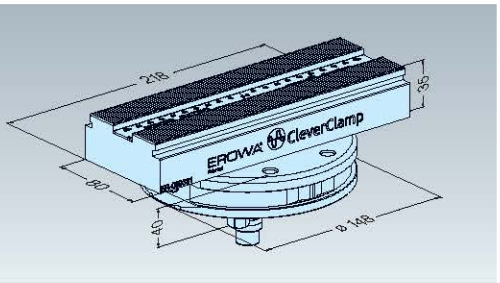
ER-099317	Base UPC duo CleverClamp

Version	Combination of UPC aluminum pallet with two 320 rails; centering segments and chucking spigots fitted. Z-support hard.
Application	Optimal for multiple fixtures and for clamping big workpieces.
Accessories	Order separately: GripperLink RCS / EWIS RAPID ER-036347 for Automation.

EROWA CleverClamp System

ITS Base rail

ER-099330	Pallet P ø 148 mono CleverClamp

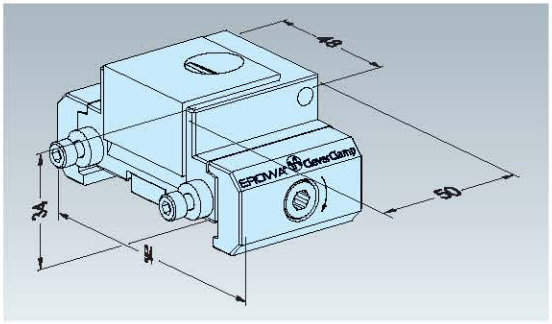


Version	Combination pallet P ø 148 with rail 218mm, height 35 mm, CleverClamp, including chucking spigot F/M Production ER-010742.
Application	For use on all EROWA PowerChuck P and Production-Chuck 210 Combi.
Note	Compatible with EROWA MTS Single and MTS 2.0 Single Chuck (MTS chucking spigot P ER-040999 required).

EROWA CleverClamp System

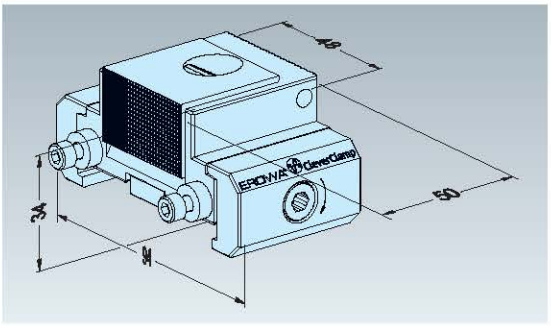
Pull down clamping elements

ER-099292	Pull Down Slide Multi Flat CleverClamp



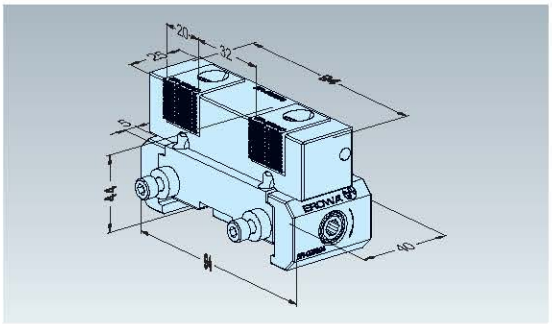
Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides smooth.
Application	Pull-down element for clamping jobs with high clamping forces. Surface: smooth. Ideal for two-side machining and for clamping workpieces with machined surfaces.
Mounting	On a CleverClamp rail.
Important	Suitable for single or multiple fixtures.
Clamping force	Up to 28kN max. at a torque of 40Nm max.
Clamping stroke	Up to 4.1mm.

ER-099298	Pull Down Slide Multi Grip CleverClamp



Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides with grip contours.
Application	Pull-down element for clamping jobs with high clamping forces. Surface with grip contours for additional purchase.
Mounting	On CleverClamp rail.
Important	Suitable for single or multiple fixtures.
Clamping force	Up to 28kN max. with a torque of 40Nm max.
Clamping stroke	Up to 4.1mm.

ER-099358	Twin Pull Down Slide Multi Grip CleverClamp

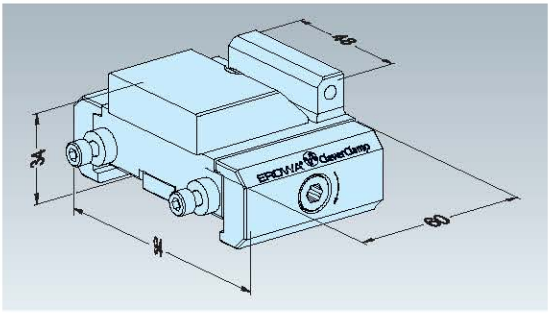


Version	Steel, hardened; width 94mm,height 44mm; clamping side with grip / stop side with grooved contours.
Application	Stop element in the modular CleverClamp system. In combination with the stop element (ER-099332).

EROWA CleverClamp System

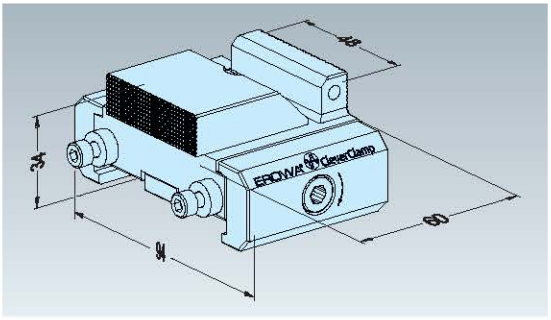
Linear clamping elements

ER-099285	Linear Slide Multi Flat CleverClamp



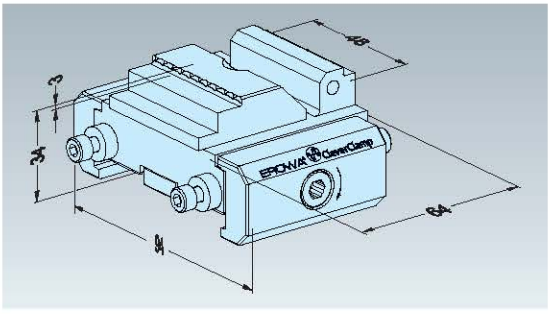
Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides smooth.
Application	For the linear clamping of workpieces with machined surfaces.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Suitable for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

ER-099286	Linear Slide Multi Grip CleverClamp



Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides with grip contours.
Application	Linear clamping with grip contours for additional purchase.
Mountaing	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Suitable for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

ER-099282	Linear Slide Multi Stamp CleverClamp

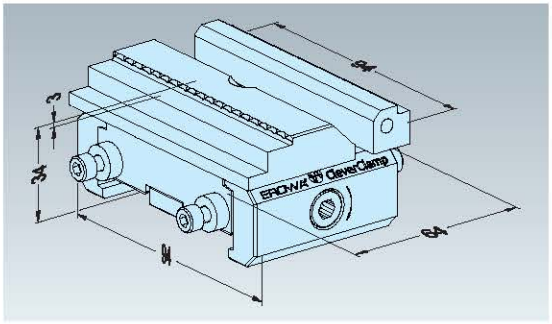


Version	Steel, hardened, width 48mm, height 34mm, clamping and stop sides with stamp contours
Application	Ideal for clamping blanks at the minimum clamping height of 3mm. Secure grip thanks to stamp technology for direct stamping. Can also be used for two-side machining.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Suitable for single and mutliple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

EROWA CleverClamp System

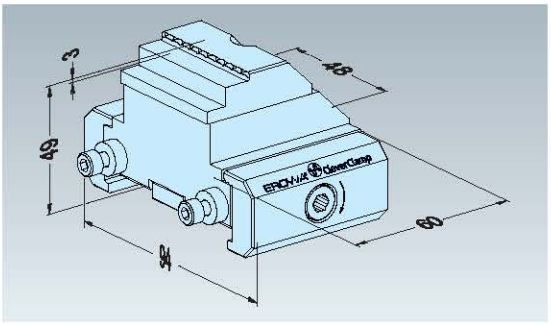
Linear clamping elements

ER-099277 Linear Slide Multi Stamp Wide CleverClamp



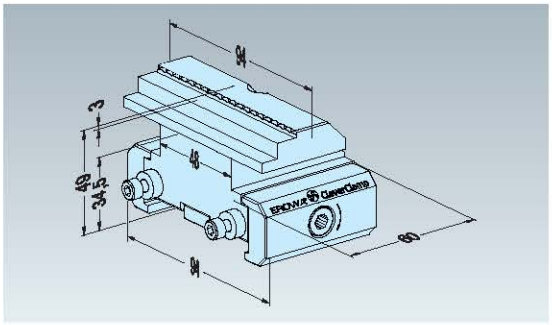
Version	Steel, hardened, width 94mm, height 34mm, clamping and stop sides with stamp contours.
Application	Ideal for clamping blanks at a minimum clamping height of 3mm. Secure grip thanks to stamp technology for direct stamping. Can also be used for two-side machining.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Suitable for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

ER-099276 Linear Slide 5X Stamp CleverClamp



Version	Steel, hardened, width48mm, height 49mm, clamping side with stamp contours.
Application	Optimised machine spindle accessibility for 5-axis applications. Ideal for clamping blanks at a minimum clamping height of 3mm. Secure grip thanks to stamp technology for direct stamping.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Can be used for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

ER-099275 Linear Slide 5X Stamp Wide CleverClamp



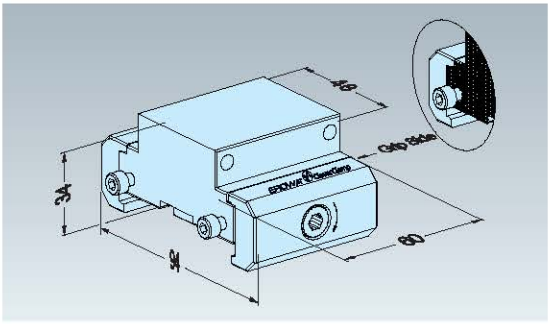
Version	Steel, hardened, width 94mm, height 49mm, clamping side with stamp contours.
Application	Optimised machine spindle accessibility for 5-axis applications. Ideal for clamping blanks at a minimum clamping height of 3mm. Secure grip thanks to stamp technology for direct stamping.
Mounting	On CleverClamp rail.
Important	Modularly compatible with all linear jaws. Can be used for single and multiple fixtures.
Clamping force	Up to 16kN max. with a torque of 40Nm max.
Clamping stroke	Up to 5mm.

EROWA CleverClamp System

Stop elements

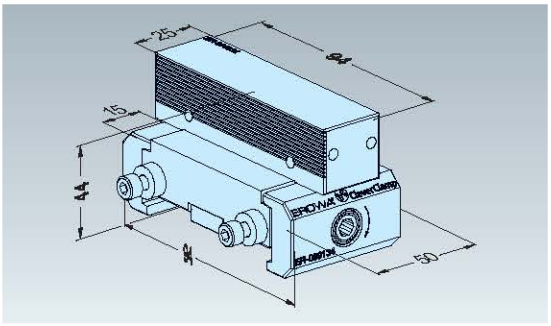
ER-099272 Stop Flat/Grip CleverClamp

Version	Steel, hardened, width 48mm, height 34mm; two stop sides: one smooth, one with grip contours.
Application	Stop element in the modular CleverClamp system. Smooth stop side for workpieces with a machined surface, grip side for additional purchase.
Mounting	On CleverClamp rail.



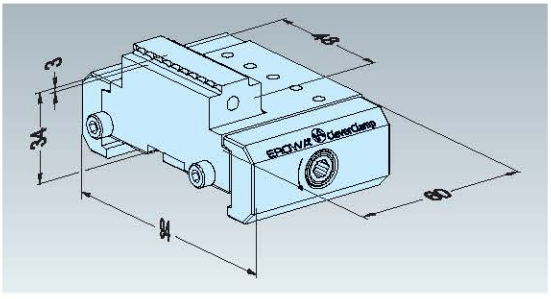
ER-099332 Stop grooved CleverClamp

Version	Steel, hardened; width 94mm, height 33mm; grooved.
Application	Stop element in the modular CleverClamp System. In combination with the double pull-down element (ER-099358).
To fit	On CleverClamp rails.



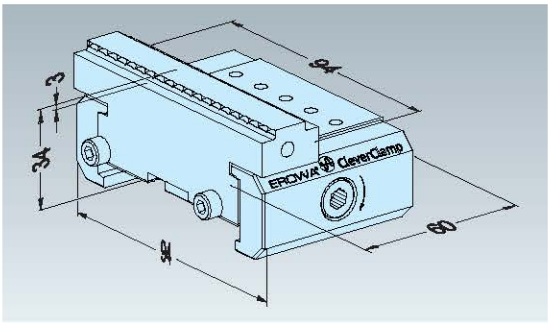
ER-099269 Stop Multi Stamp CleverClamp

Version	Steel, hardened, width 48mm, height 34mm, with stamp contours.
Application	Stop element in the modular CleverClamp system. Stop element with stamp contours, ideal in combination with stamp clamping elements for clamping blanks at a mimimum clamping height of 3mm.
Mounting	On CleverClamp rail.



ER-099267 Stop Multi Stamp Wide CleverClamp

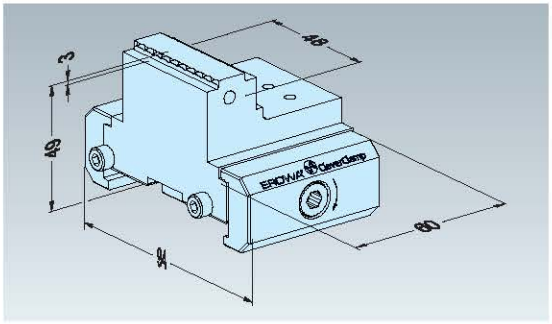
Version	Steel, hardened, width 94mm, height 34mm, with stamp countours.
Application	Stop element in the modular CleverClamp system. Stop element with stamp contours, ideal in combination with stamp clamping elements for clamping blanks at a minimum clamping height of 3mm.
Mounting	On CleverClamp rails.



EROWA CleverClamp System

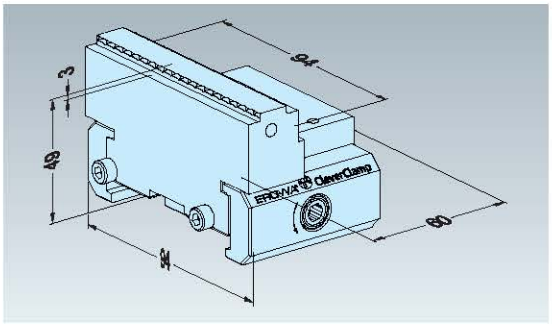
Stop elements

ER-099263	Stop 5X Stamp CleverClamp



Version	Steel, hardened, width 48mm, height 49mm, with stamp contours.
Application	Stop element in the modular CleverClamp system. Stop element with better machine spindle accessiblity for 5-axis applications. With stamp contours, ideal in combination with stamp clamping elements for clamping blanks at a minimum clamping height of 3mm.
Mounting	On CleverClamp rail.

ER-099258	Stop 5X Stamp Wide CleverClamp

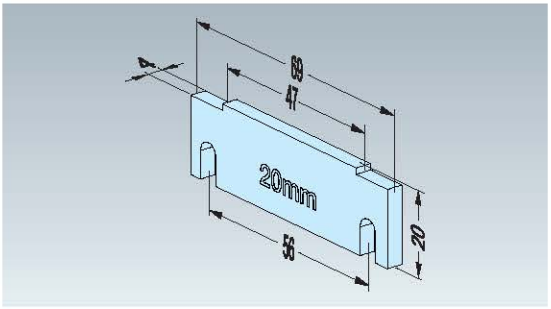


Version	Steel, hardened, width 94mm, height 49mm, with stamp countours.
Application	Stop element in the modular CleverClamp system. Stop element with better machine spindle accessibility for 5-axis applications. With stamp countours, ideal in combination with stamp clamping elements for clamping blanks at a minimum clamping height of 3mm.
Mounting	On CleverClamp rail.

EROWA CleverClamp System

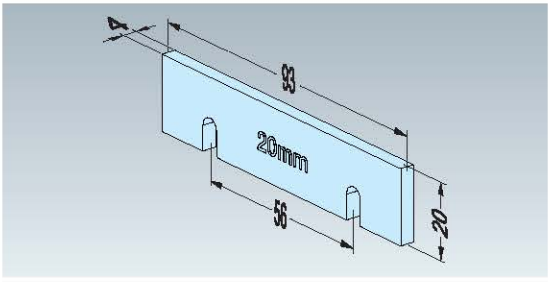
Accessories / Parallel supports

ER-099204	Support 20 CleverClamp
ER-099206	Support 24 CleverClamp
ER-099227	Support 29 CleverClamp
ER-099228	Support 31 CleverClamp
ER-099229	Support 34 CleverClamp
ER-099230	Support 39 CleverClamp
ER-099231	Support 44 CleverClamp
ER-099232	Support 46 CleverClamp



Version	Steel, hardened, width 47mm, height 46mm.
Application	Ground support for setting the workpiece clamping height between the CleverClamp clamping and stop elements.
Important	Supports of the heights 34, 39, 44 and 46 can only be used in combination with the 5-axis clamping and stop elements.

ER-099233	Support 20 Wide CleverClamp
ER-099234	Support 24 Wide CleverClamp
ER-099235	Support 29 Wide CleverClamp
ER-099236	Support 31 Wide CleverClamp
ER-099237	Support 34 Wide CleverClamp
ER-099238	Support 39 Wide CleverClamp
ER-099239	Support 44 Wide CleverClamp
ER-099240	Support 46 Wide CleverClamp



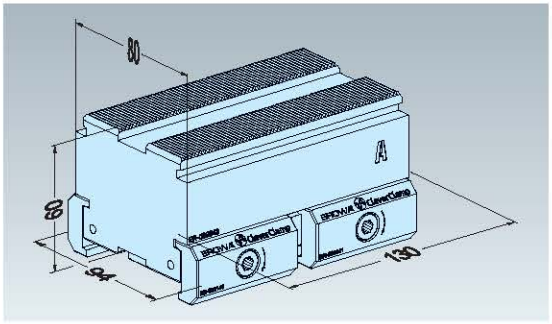
Version	Steel, hardened,width 93mm, height 46mm.
Application	Ground support for setting the workpiece clamping height between the CleverClamp clamping and stop elements.
Important	Supports of the heights 34, 39, 44 and 46 can only be used in combination with the 5-axis clamping and stop elements.

EROWA CleverClamp System

Accessories

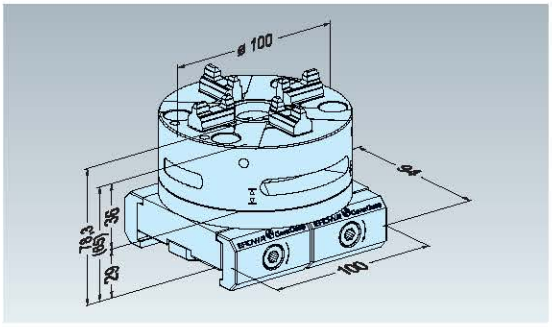
ER-099243 Elevation for rail H60 CleverClamp

Version	Steel, hardened, height 60mm, width 94mm, length 130mm.
Application	CleverClamp 5-axis elevation - enables optimal machine spindle accessibility in 5-axis applications.
Mounting	On CleverClamp rail.



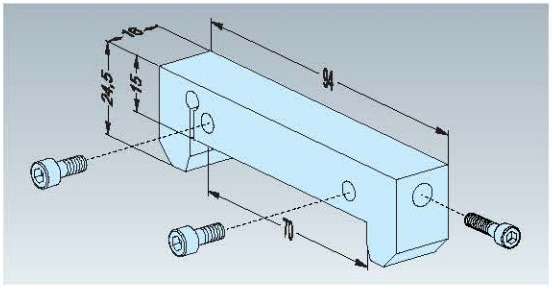
ER-099246 Quick Chuck 100 P CleverClamp

Version	CleverClamp carrier element with QuickChuck 100P, manual.
Application	Adapter between CleverClamp and EROWA ITS pallets and ITS holders.
Mounting	On CleverClamp rail.



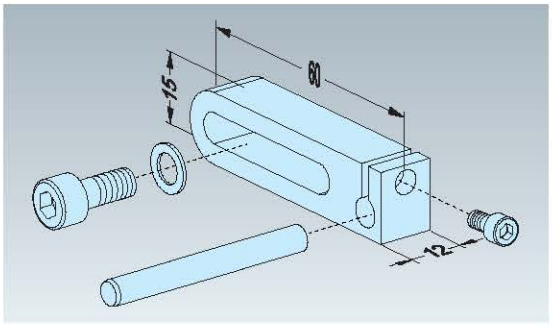
ER-099241 Support Holder CleverClamp

Version	Steel, hardened, width 94mm, height 15mm.
Application	Holder for ground supports used to bridge big clamping distances.
Important	A mill stop can be fitted to the holder additionally.



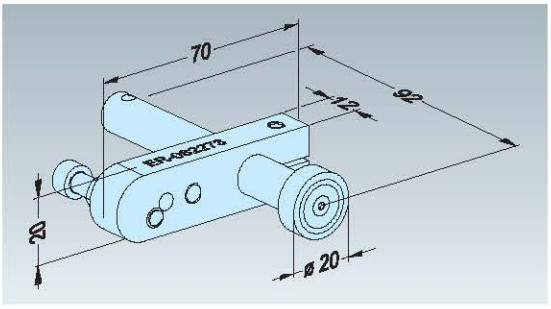
ER-099201 MillStop CleverClamp

Version	Adjustable stop made of steel.
Application	Lateral stop on any CleverClamp clamping or stop element.
Mounting	Use the bolts supplied to fit it laterally to the CleverClamp clamping or stop elements of your choice.



ER-082273 Magnetic stop

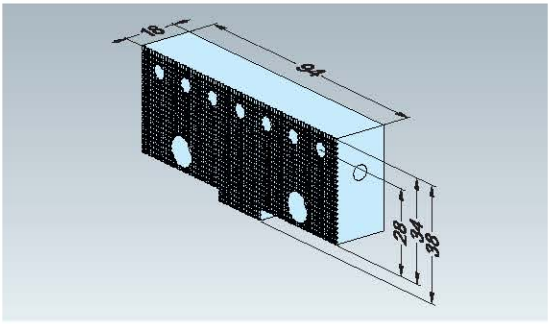
Version	Stop made of anodized aluminum.
Application	Magnetic stop used for positioning workpieces in vises.
Important	Remove the magnetic stop before machining the part.



EROWA CleverClamp System

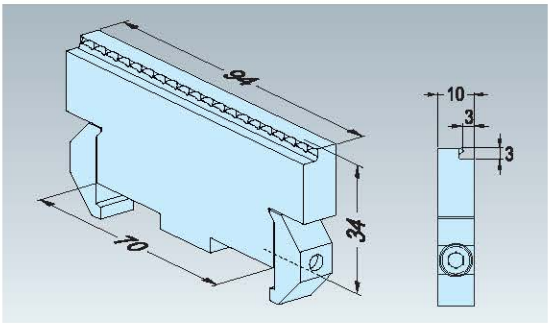
Accessories

ER-099166 Stop Jaw Flat / Grip Wide CleverClamp



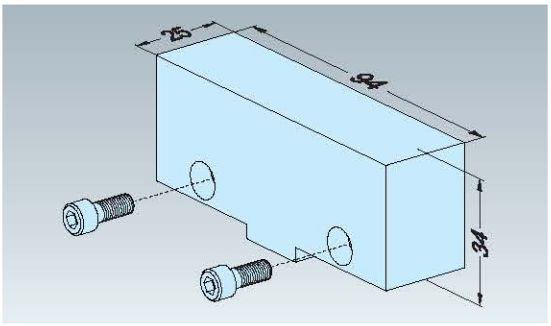
Version	Steel, hardened, width 94mm, height 34mm, one side smooth, the other with grip contours.
Application	Widening the stop surface for better grip when clamping wide workpieces.
Mounting	Use the bolts supplied to fit it to the front of the Clever-Clamp clamping or stop elements of your choice.
Important	Can be ideally combined for use with the 94mm-width linear jaws.

ER-099195 Stop Jaw Stamp Wide CleverClamp



Version	Steel, hardened, width 94mm, height 34mm, with stamping.
Application	Widening the stamping stop surface for better grip when clamping wide workpieces at minimum clamping height with stamping.
Mounting	Place stop jaw behind the clamping or stop element of your choice and attach with lateral bolt.

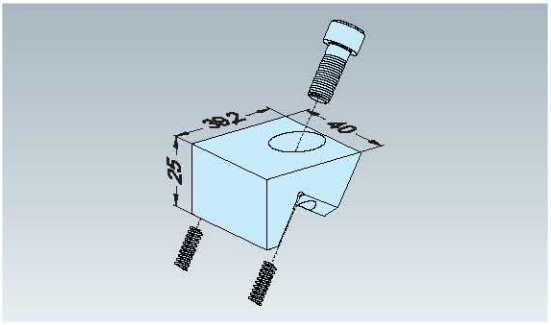
ER-099164 Stop Jaw Soft Wide CleverClamp



Version	Steel, soft, width 94mm, height 34mm.
Application	Soft stop jaw, ideal for milling workpiece-specific clamping contours.
Mounting	Use the bolts supplied to fit it to the front of the Clever-Clamp clamping or stop elements of your choice.

ER-099079 Pull Down Jaw Flat CleverClamp

ER-099092 Pull Down Jaw Grip CleverClamp

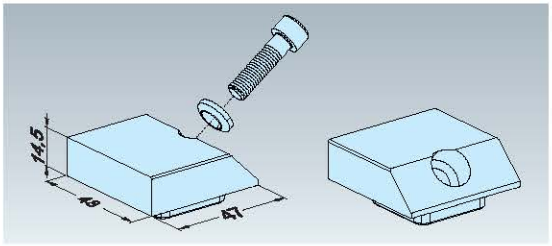


Version	Steel, hardened, stop side smooth or with grip contours.
Application	ER-099079: stop side smooth - ideal for clamping workpieces with machined surfaces. ER-099092: stop side with grip contours for additional grip.
Mounting	Can be used on all CleverClamp pull-down clamping elements.

EROWA CleverClamp System

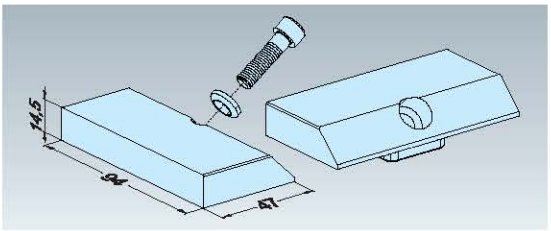
Accessories

ER-099098	**Linear Jaw Flat CleverClamp**
ER-099099	**Linear Jaw Grip CleverClamp**



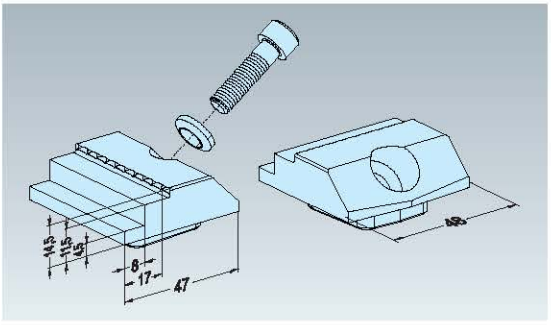
Version	Steel, hardened, width 48mm, stop side smooth or with grip contours.
Application	ER-099098: stop side smooth - ideal for clamping work-pieces with machined surfaces. ER-099099: stop side with grip contours for additional grip.
Mounting	Can be used on all CleverClamp linear clamping elements.

ER-099100	**Linear Jaw Flat Wide CleverClamp**
ER-099114	**Linear Jaw Grip Wide CleverClamp**



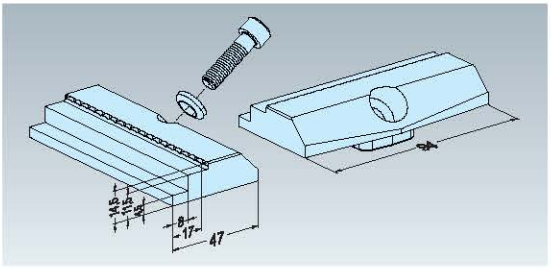
Version	Steel, hardened, width 94mm, stop side smooth or with grip contours.
Application	ER-099100: stop side smooth - ideal for clamping work-pieces with machined surfaces. ER-099114: stop side with grip contours for additional grip.
Mounting	Can be used on all CleverClamp linear clamping elements.

ER-099119	**Linear Jaw Stamp CleverClamp**



Version	Steel, hardened, width 48mm, with stamp contours and smooth step.
Application	Ideal for clamping blanks at the minimum clamping height of 3mm and parts with angle error.
Mounting	Can be used on all CleverClamp linear clamping elements.

ER-099121	**Linear Jaw Stamp Wide CleverClamp**



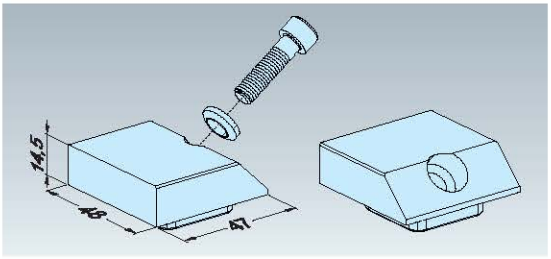
Version	Steel, hardened, width 94mm, with stamp contours.
Application	Ideal for clamping blanks at the minimum clamping height of 3mm and parts with angle error.
Mounting	Can be used on all CleverClamp linear clamping elements.

EROWA CleverClamp System

Accessories

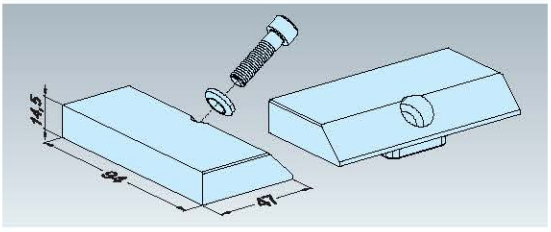
ER-099123	Linear Jaw Soft CleverClamp

Version	Steel, soft, width 48mm.
Appliacation	To produce jaws with contours of your choice.
Mounting	Can be used on all CleverClamp linear clamping elements.



ER-099126	Linear Jaw Soft Wide CleverClamp

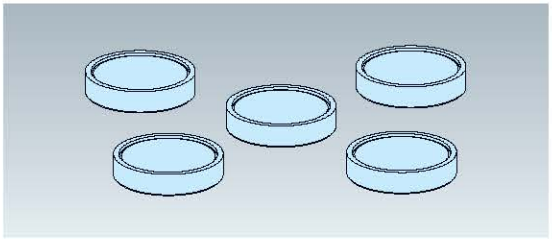
Version	Steel, soft, width 94mm.
Application	To produce jaws with contours of your choice.
Mounting	Can be used on all CleverClamp linear clamping elements.



EROWA CleverClamp System

Accessories

ER-099313 **EWIS™ Chip Set CleverClamp**

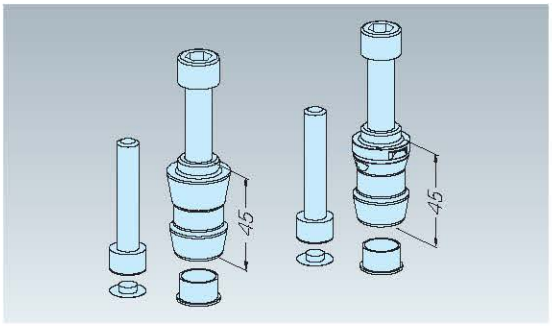


Version EWIS Rapid chip with 5 ø14 chip holders.
Application For the identification of individual parts when using CleverClamp rails as a recurring machining fixture in combination with the EROWA Manufacturing Control and EROWA JMS® Pro Process Control Systems.
Mounting Chips have to be glued on (ref. instruction manual of the relevant CleverClamp rails).

ER-099486 **Fit bolt M12x40 CleverClamp**

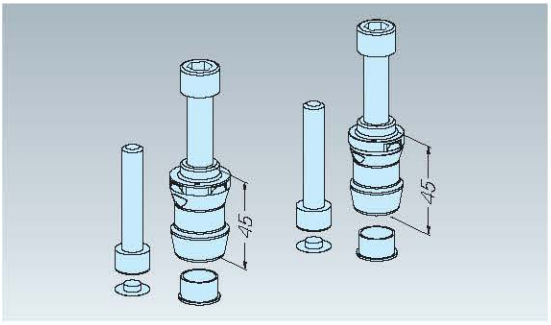
Version Fit bolt, M12 x 40 special.

ER-099437 **MTS Spigot Set 2 manuel CleverClamp**



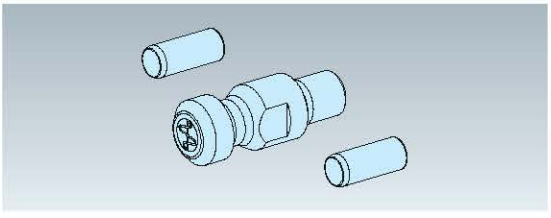
Version 1 centering spigot, 1 compensation spigot / A.
Application For CleverClamp rails „320 H60 Manual" and „398 H60 Manual", which are manually loaded / unloaded in the MTS systesm.
To be fitted From below to the CleverClamp base rails.

ER-099334 **MTS Spigot Set 2 automated CleverClamp**



Version 1 centering spigot / A, 1 compensation spigot / A.
Application For CleverClamp rails „320 H60 automated" and „398 automated", which are automatically loaded / unloaded in the MTS System.
To be fitted From below to the CleverClamp base rails.

ER-099333 **RCS Coupling Set CleverClamp**



Version Set of couplings to be fitted to CleverClamp rails.
Application For CleverClamp rails on EROWA handling facilities equipped with the RCS coupling System.

EROWA CleverClamp System

Accessories

ER-105279 Seal plug CleverClamp

Version	Seal plug, Diameter 18mm, height 7mm.
Application	To plug the MTS chucking spigot boreholes underneath the CleverClamp rails for automatic operation of the rails.
To be fitted	Carefully press into the borehole to ensure that the flat side of the seal plug faces the user.
Please note	Is absolutely necessery when the Rail 398 H80 (ER-100266) is extended into the automatic version Rail 398 H80 automatic (ER-099390).

ER-105271 Eye bolt M14 CleverClamp

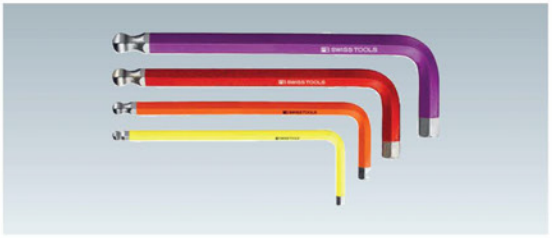
Version	Eye bolt M14, steel.
Application	Lifting gear for CleverClamp rails.

EROWA CleverClamp System

Operating tools

ER-105287 Allenkey set, 4 pieces CleverClamp

Version: Set of four Allen keys, keyk widths 8, 6, 5, 4.



ER-052602 Torque wrench Tohnichi 10 - 50 Nm to self centering vice 100/150/200

Version: Torque wrench, 10 - 50 Nm.

ER-105291 3/8"-Allen bit, 6 mm CleverClamp

Version: Allen bit, 6 mm, with 3/8" drive

ER-105295 3/8"-Allen bit, 8 mm CleverClamp

Version: Allen bit, 8 mm, with 3/8" drive.

ER-068026 Torque wrench 20 - 120 Nm 1/2" Garant 65 6050

Version: Torque wrench, 20-120Nm.

ER-105303 1/2"-Allen bit, 8 mm CleverClamp

Version: Allen bit, 8 mm, with 1/2" drive.

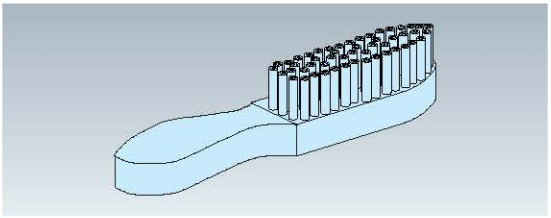
ER-105299 1/2"-Allen bit, 10 mm CleverClamp

Version: Allen bit, 10 mm, with 1/2" drive, extra long.
Application: Fitting aid for the attachment of MTS chucking spigots through the attachment boreholes of the CleverClamp rails.

EROWA CleverClamp System

Operating tools

ER-099312	Brush CleverClamp

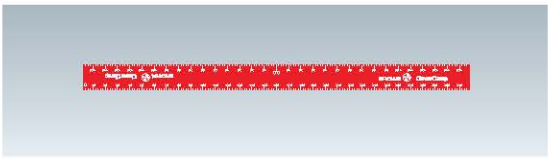


Version Brass-wire brush.
Application Recommended for cleaning the teeth of the CleverClamp rails

EROWA CleverClamp System

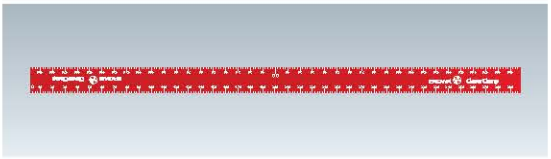
Spare parts

ER-099155	Ruler 320 (Ruler length 320) CleverClamp



Version Ruler with scale, aluminum, underside magnetic, length 320mm.
Application On CleverClamp rail 320 to cover the attachment bore-holes and for the simple, repeatably accurate positioning of the CleverClamp clamping and stop elements.

ER-099157	Ruler 398 (Ruler length 398) CleverClamp

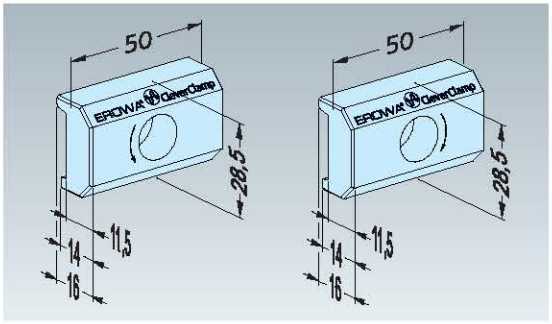


Version Ruler with scale, aluminum, underside magnetic, length 398mm.
Application On CleverClamp rail 398 to cover the attachment bore-holes and for the simple, repeatably accurate positioning of the CleverClamp clamping and stop elements.

EROWA CleverClamp System

Spare parts

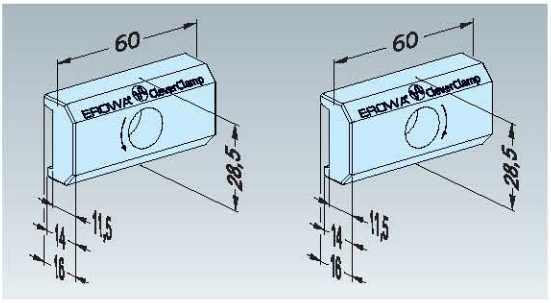
ER-099132	**Claw 50L CleverClamp**
ER-099134	**Claw 50R CleverClamp**



Version: ER-099132: steel, hardened, length 50, with left-hand thread. ER-099134: steel, hardened, length 50, with right-hand thread.

Application: Attachment claw for CleverClamp elements on CleverClamp rails.

ER-099137	**Claw 60L CleverClamp**
ER-099141	**Claw 60R CleverClamp**



Version: ER-099137: steel, hardened, length 60, with left-hand thread. ER-099141: steel, hardened, length 60, with right-hand thread.

Application: Attachment claw for CleverClamp elements on CleverClamp rails.

ER-099309	**Replacement kit pull-down-/stop element CleverClamp**

Version: Spare parts for CleverClamp pull-down and stop elements.

ER-099654	**Replacement kit linear and stop element CleverClamp**

Version: Spare parts for CleverClamp linear and stop elements.

EROWA cleverClamp
ER-099137
EROWA cleverClamp
EROWA Patented cleverClamp

The next step

Important things need to be planned. And your next step is certainly among the important things. It is your start into a new, efficient era. We are pleased to be with you on the way. As consultants, in practice. For you to know at all times what you're engaging in.
The next EROWA branch office is not far – **take the step.**

USA
EROWA Technology, Inc.
North American Headquarters
2535 South Clearbrook Drive
Arlington Heights, IL 60005
USA
Tel. 847 290 0295
Fax 847 290 0298
e-mail: info@erowa.com
www.erowa.com

Italy
EROWA Tecnologie S.r.l.
Sede Legale e Amministrativa:
Via Alfieri Maserati 48
IT-10095 Grugliasco (TO)
Italy
Tel. 011 9664873
Fax 011 9664875
info@erowa.it
www.erowa.com

Unità di Treviso:
Via Leonardo Da Vinci 8
IT-31020 Villorba (TV)
Italy
Tel. 0422 1627132

Singapore
EROWA South East Asia Pte. Ltd.
56 Kallang Pudding Road
#06-02, HH@Kallang
Singapore 349328
Singapore
Tel. 65 6547 4339
Fax 65 6547 4249
sales.singapore@erowa.com
www.erowa.com

Japan
EROWA Nippon Ltd.
Sibadaimon Sasano Bldg.
2-6-4, Sibadaimon, Minato-ku
105-0012 Tokyo
Japan
Tel. 03 3437 0331
Fax 03 3437 0353
info@erowa.co.jp
www.erowa.com

Switzerland
EROWA AG
Knutwilerstrasse 3
CH-6233 Büron
Switzerland
Tel. 041 935 11 11
Fax 041 935 12 13
info@erowa.com
www.erowa.com

France
EROWA Distribution France Sàrl
PAE Les Glaisins
12, rue du Bulloz
FR-74940 Annecy-le-Vieux
France
Tel. 4 50 64 03 96
Fax 4 50 64 03 49
erowa.france@erowa.com
www.erowa.com

Spain
EROWA Technology Ibérica S.L.
c/ Avda. Cornellá, 142 7º 3ª ext.
E-08950 Esplugues de Llobregat - Barcelona
Spain
Tel. 093 265 51 77
Fax 093 244 03 14
erowa.iberica.info@erowa.com
www.erowa.com

China
EROWA Technology (Shanghai) Co., Ltd.
G/F, No. 24 Factory Building House
69 Gui Qing Road (Caohejing Hi-tech Park)
Shanghai 200233, PRC
China
Tel. 021 6485 5028
Fax 021 6485 0119
info@erowa.cn
www.erowa.com

Germany
EROWA System Technologien GmbH
Gewerbegebiet Schwadermühle
Roßendorfer Straße 1
DE-90556 Cadolzburg/Nbg
Germany
Tel. 09103 7900-0
Fax 09103 7900-10
info@erowa.de
www.erowa.de

Scandinavia
EROWA Technology Scandinavia A/S
Fasanvej 2
DK-5863 Ferritslev Fyn
Denmark
Tel. 65 98 26 00
Fax 65 98 26 06
info.scandinavia@erowa.com
www.erowa.com

Eastern Europe
EROWA Technology Sp. z o.o.
Eastern Europe
ul. Spółdzielcza 37-39
55-080 Kąty Wrocławskie
Poland
Tel. 71 363 5650
Fax 71 363 4970
info@erowa.com.pl
www.erowa.com

India
EROWA Technology (India) Private Limited
No: 6-3-1191/6, Brij Tarang Building
Unit No-3F, 3rd Floor, Greenlands, Begumpet,
Hyderabad 500016 (Telangana)
India
Tel. 040 4013 3639
Fax 040 4013 3630
sales.india@erowa.com
www.erowa.com

EROWA Group Business Network: a member of ORENDA Holding Ltd.
Subject to technical changes. Registered trademark of EROWA AG,
Copyright © EROWA AG, for a number of products of EROWA AG
patents are existing or pending.

EROWA AG 101228 v3 en / 07.17

EROWA
system solutions