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.

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

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.

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.

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

Linear clamping elements
- 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.

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

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

Securely clamp the workpiece.

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.
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!

- Various accessories:
  - ER-099166
  - ER-099195
  - ER-099164

- Parallel supports:
  - ER-099269
  - ER-099267

- Parallel supports - wide:
  - ER-099258
  - ER-099263

- Rail 320:
  - ER-099314

- Rail 218:
  - ER-099311
  - ER-099331
  - ER-036347
  - ER-099318 / UPC
  - ER-035294
  - ER-099317 / UPC
  - ER-099317 / UPC
  - ER-09930 / A*

- MTS Single M/A:
  - ER-099330

- PowerChuck P:
  - ER-099330

- The color icon describes the respective surface finish.

- Rail 218:
  - ER-099311
  - ER-099331
  - ER-036347
  - ER-099318 / UPC
  - ER-035294
  - ER-099317 / UPC
  - ER-099317 / UPC
  - ER-09930 / A*

- MTS Single M/A:
  - ER-099330

- PowerChuck P:
  - ER-099330

M* = manual operation
A* = automatic operation
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
CleverClamp System Base rails MTS
CleverClamp System Base rails UPC
CleverClamp System Base rail ITS
CleverClamp System Pull down clamping elements
CleverClamp System Linear clamping elements
CleverClamp System Stop elements
CleverClamp System Accessories / Parallel supports
CleverClamp System Accessories
CleverClamp System Operating tools
CleverClamp System Spare parts

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 CleverClamp 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.

**Important**
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 CleverClamp 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 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 CleverClamp 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.

**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-10266  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 CleverClamp 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 CleverClamp 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 CleverClamp clamping and stop elements.
- **Accessories**: Clamping and stop elements, etc.
- **Important**: Automated application.
EROWA CleverClamp System

Rails

**ER-099389 Rail 398 H60 manual CleverClamp**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Operation</td>
<td>Manual application on MTS base plates with 200/250mm set-up distance.</td>
</tr>
<tr>
<td>Application</td>
<td>Serves as a basis to clamp workpieces with various Clever-Clamp clamping and stop elements.</td>
</tr>
<tr>
<td>Accessories</td>
<td>Clamping and stop elements, etc.</td>
</tr>
<tr>
<td>Important</td>
<td>Manual application.</td>
</tr>
</tbody>
</table>

**ER-099390 Rail 398 H80 automated CleverClamp**

<table>
<thead>
<tr>
<th>Version</th>
<th>Steel, hardened. H80 clamping element carrier with 2mm positioning grid. With MTS spigot, automatic, and GripLink.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
<td>Automated application of MTS base plates with 200/250mm set-up distance.</td>
</tr>
<tr>
<td>Application</td>
<td>Serves as a base to clamp workpieces with various Clever-Clamp clamping and stop elements.</td>
</tr>
<tr>
<td>Accessories</td>
<td>Clamping and stop elements, etc.</td>
</tr>
<tr>
<td>Important</td>
<td>Automated application.</td>
</tr>
</tbody>
</table>
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 workpieces.

Accessories: Order separately: ER-041461 (M) / ER-041464 (A) or MTS GripperLink Rapid ER-038622.
### ER-099320 Base MTS 250 mono CleverClamp

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

### ER-099319 Base MTS 250 duo CleverClamp

<table>
<thead>
<tr>
<th>Version</th>
<th>Combination of MTS aluminum with two 398 rails (MTS spigot set ER-041461 (M) / ER-041464 (A)).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>Optimal for multiple fixtures and for clamping big workpieces.</td>
</tr>
<tr>
<td>Accessories</td>
<td>Order separately: ER-041461 (M) / ER-041464 (A) or MTS GripperLink Rapid ER-038622.</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER-099285</td>
<td>Linear Slide Multi Flat</td>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER-099286</td>
<td>Linear Slide Multi Grip</td>
<td>Steel, hardened, width 48mm, height 34mm, clamping and stop sides with grip contours. Application: Linear clamping with grip contours for additional purchase. 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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER-099282</td>
<td>Linear Slide Multi Stamp</td>
<td>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 multiple fixtures. Clamping force: Up to 16kN max. with a torque of 40Nm max. Clamping stroke: Up to 5mm.</td>
</tr>
</tbody>
</table>
**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.

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**ER-099276**  
**Linear Slide 5X Stamp**  
**CleverClamp**  

Version: Steel, hardened, width 48mm, 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.

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**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 minimum clamping height of 3mm.
Mounting: On CleverClamp rail.

**ER-099267** Stop Multi Stamp Wide CleverClamp

Version: Steel, hardened, width 94mm, 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 minimum clamping height of 3mm.
Mounting: On CleverClamp rails.
### EROWA CleverClamp System

#### Stop elements

| ER-099263 | Stop 5X Stamp  
CleverClamp |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Version</td>
<td>Steel, hardened, width 48mm, height 49mm, with stamp contours.</td>
</tr>
<tr>
<td>Application</td>
<td>Stop element in the modular CleverClamp system. Stop element with better machine spindle accessibility for 5-axis applications. With stamp contours, ideal in combination with stamp clamping elements for clamping blanks at a minimum clamping height of 3mm.</td>
</tr>
<tr>
<td>Mounting</td>
<td>On CleverClamp rail.</td>
</tr>
</tbody>
</table>

| ER-099258 | Stop 5X Stamp Wide  
CleverClamp |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Version</td>
<td>Steel, hardened, width 94mm, height 49mm, with stamp contours.</td>
</tr>
<tr>
<td>Application</td>
<td>Stop element in the modular CleverClamp system. Stop element with better machine spindle accessibility for 5-axis applications. With stamp contours, ideal in combination with stamp clamping elements for clamping blanks at a minimum clamping height of 3mm.</td>
</tr>
<tr>
<td>Mounting</td>
<td>On CleverClamp rail.</td>
</tr>
</tbody>
</table>
**EROWA CleverClamp System**

**Accessories / Parallel supports**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER-099204</td>
<td>Support 20 CleverClamp</td>
</tr>
<tr>
<td>ER-099206</td>
<td>Support 24 CleverClamp</td>
</tr>
<tr>
<td>ER-099227</td>
<td>Support 29 CleverClamp</td>
</tr>
<tr>
<td>ER-099228</td>
<td>Support 31 CleverClamp</td>
</tr>
<tr>
<td>ER-099229</td>
<td>Support 34 CleverClamp</td>
</tr>
<tr>
<td>ER-099230</td>
<td>Support 39 CleverClamp</td>
</tr>
<tr>
<td>ER-099231</td>
<td>Support 44 CleverClamp</td>
</tr>
<tr>
<td>ER-099232</td>
<td>Support 46 CleverClamp</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>ER-099233</td>
<td>Support 20 Wide CleverClamp</td>
</tr>
<tr>
<td>ER-099234</td>
<td>Support 24 Wide CleverClamp</td>
</tr>
<tr>
<td>ER-099235</td>
<td>Support 29 Wide CleverClamp</td>
</tr>
<tr>
<td>ER-099236</td>
<td>Support 31 Wide CleverClamp</td>
</tr>
<tr>
<td>ER-099237</td>
<td>Support 34 Wide CleverClamp</td>
</tr>
<tr>
<td>ER-099238</td>
<td>Support 39 Wide CleverClamp</td>
</tr>
<tr>
<td>ER-099239</td>
<td>Support 44 Wide CleverClamp</td>
</tr>
<tr>
<td>ER-099240</td>
<td>Support 46 Wide CleverClamp</td>
</tr>
</tbody>
</table>

**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.
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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Version</th>
<th>Application</th>
<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER-099098</td>
<td>Linear Jaw Flat CleverClamp</td>
<td>Steel, hardened, width 48mm, stop side smooth or with grip contours.</td>
<td>ER-099098: stop side smooth - ideal for clamping workpieces with machined surfaces. ER-099099: stop side with grip contours for additional grip.</td>
<td>Can be used on all CleverClamp linear clamping elements.</td>
</tr>
<tr>
<td>ER-099099</td>
<td>Linear Jaw Grip CleverClamp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ER-099100</td>
<td>Linear Jaw Flat Wide CleverClamp</td>
<td>Steel, hardened, width 94mm, stop side smooth or with grip contours.</td>
<td>ER-099100: stop side smooth - ideal for clamping workpieces with machined surfaces. ER-099114: stop side with grip contours for additional grip.</td>
<td>Can be used on all CleverClamp linear clamping elements.</td>
</tr>
<tr>
<td>ER-099114</td>
<td>Linear Jaw Grip Wide CleverClamp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ER-099119</td>
<td>Linear Jaw Stamp CleverClamp</td>
<td>Steel, hardened, width 48mm, with stamp contours and smooth step.</td>
<td>Ideal for clamping blanks at the minimum clamping height of 3mm and parts with angle error.</td>
<td>Can be used on all CleverClamp linear clamping elements.</td>
</tr>
<tr>
<td>ER-099121</td>
<td>Linear Jaw Stamp Wide CleverClamp</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### EROWA CleverClamp System

## Accessories

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Version</th>
<th>Application</th>
<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER-099123</td>
<td>Linear Jaw Soft</td>
<td>Steel, soft, width 48mm.</td>
<td>To produce jaws with contours of your choice.</td>
<td>Can be used on all CleverClamp linear clamping elements.</td>
</tr>
<tr>
<td>ER-099126</td>
<td>Linear Jaw Soft Wide</td>
<td>Steel, soft, width 94mm.</td>
<td>To produce jaws with contours of your choice.</td>
<td>Can be used on all CleverClamp linear clamping elements.</td>
</tr>
</tbody>
</table>
## EROWA CleverClamp System
### Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER-099313</td>
<td>EWIS™ Chip Set CleverClamp</td>
<td>EWIS Rapid chip with 5 ø14 chip holders.</td>
<td>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.</td>
<td>Chips have to be glued on (ref. instruction manual of the relevant CleverClamp rails).</td>
</tr>
<tr>
<td>ER-099486</td>
<td>Fit bolt M12x40 CleverClamp</td>
<td>Fit bolt, M12 x 40 special.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ER-099437</td>
<td>MTS Spigot Set 2 manuel CleverClamp</td>
<td>1 centering spigot, 1 compensation spigot / A.</td>
<td>For CleverClamp rails „320 H60 Manual“ and „398 H60 Manual“, which are manually loaded / unloaded in the MTS system.</td>
<td>From below to the CleverClamp base rails.</td>
</tr>
<tr>
<td>ER-099334</td>
<td>MTS Spigot Set 2 automated CleverClamp</td>
<td>1 centering spigot / A, 1 compensation spigot / A.</td>
<td>For CleverClamp rails „320 H60 automated“ and „398 automated“, which are automatically loaded / unloaded in the MTS System.</td>
<td>From below to the CleverClamp base rails.</td>
</tr>
<tr>
<td>ER-099333</td>
<td>RCS Coupling Set CleverClamp</td>
<td>Set of couplings to be fitted to CleverClamp rails.</td>
<td>For CleverClamp rails on EROWA handling facilities equipped with the RCS coupling System.</td>
<td></td>
</tr>
</tbody>
</table>
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 necessary 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.
### Operating tools

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER-105287</td>
<td>Allen key set, 4 pieces</td>
<td>Set of four Allen keys, key widths 8, 6, 5, 4.</td>
</tr>
<tr>
<td>ER-052602</td>
<td>Torque wrench Tohnichi 10 - 50 Nm to self centering vice 100/150/200</td>
<td>Torque wrench, 10 - 50 Nm.</td>
</tr>
<tr>
<td>ER-105291</td>
<td>3/8&quot;-Allen bit, 6 mm</td>
<td>Allen bit, 6 mm, with 3/8&quot; drive</td>
</tr>
<tr>
<td>ER-105295</td>
<td>3/8&quot;-Allen bit, 8 mm</td>
<td>Allen bit, 8 mm, with 3/8&quot; drive.</td>
</tr>
<tr>
<td>ER-068026</td>
<td>Torque wrench 20 - 120 Nm 1/2&quot; Garant 65 6050</td>
<td>Torque wrench, 20-120Nm.</td>
</tr>
<tr>
<td>ER-105303</td>
<td>1/2&quot;-Allen bit, 8 mm</td>
<td>Allen bit, 8 mm, with 1/2&quot; drive.</td>
</tr>
<tr>
<td>ER-105299</td>
<td>1/2&quot;-Allen bit, 10 mm</td>
<td>Allen bit, 10 mm, with 1/2&quot; drive, extra long.</td>
</tr>
</tbody>
</table>

**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  
Applicaton  
Brass-wire brush.  
Recommended for cleaning the teeth of the CleverClamp rails

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EROWA CleverClamp System

Spare parts

**ER-099155**  
**Ruler 320 (Ruler length 320)**  
CleverClamp  
Version  
Application  
Ruler with scale, aluminum, underside magnetic, length 320mm.  
On CleverClamp rail 320 to cover the attachment boreholes and for the simple, repeatably accurate positioning of the CleverClamp clamping and stop elements.

**ER-099157**  
**Ruler 398 (Ruler length 398)**  
CleverClamp  
Version  
Application  
Ruler with scale, aluminum, underside magnetic, length 398mm.  
On CleverClamp rail 398 to cover the attachment boreholes and for the simple, repeatably accurate positioning of the CleverClamp clamping and stop elements.
# EROWA CleverClamp System

## Spare parts

<table>
<thead>
<tr>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>ER-099132</td>
<td>Claw 50L CleverClamp</td>
<td>ER-099132: steel, hardened, length 50, with left-hand thread.</td>
<td>Attachment claw for CleverClamp elements on Clever-Clamp rails.</td>
</tr>
<tr>
<td>ER-099134</td>
<td>Claw 50R CleverClamp</td>
<td>ER-099134: steel, hardened, length 50, with right-hand thread.</td>
<td></td>
</tr>
<tr>
<td>ER-099137</td>
<td>Claw 60L CleverClamp</td>
<td>ER-099137: steel, hardened, length 60, with left-hand thread.</td>
<td></td>
</tr>
<tr>
<td>ER-099141</td>
<td>Claw 60R CleverClamp</td>
<td>ER-099141: steel, hardened, length 60, with right-hand thread.</td>
<td></td>
</tr>
<tr>
<td>ER-099309</td>
<td>Replacement kit pull-down-/stop element CleverClamp</td>
<td>Spare parts for CleverClamp pull-down and stop elements.</td>
<td></td>
</tr>
<tr>
<td>ER-099654</td>
<td>Replacement kit linear and stop element CleverClamp</td>
<td>Spare parts for CleverClamp linear and stop elements.</td>
<td></td>
</tr>
</tbody>
</table>
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.