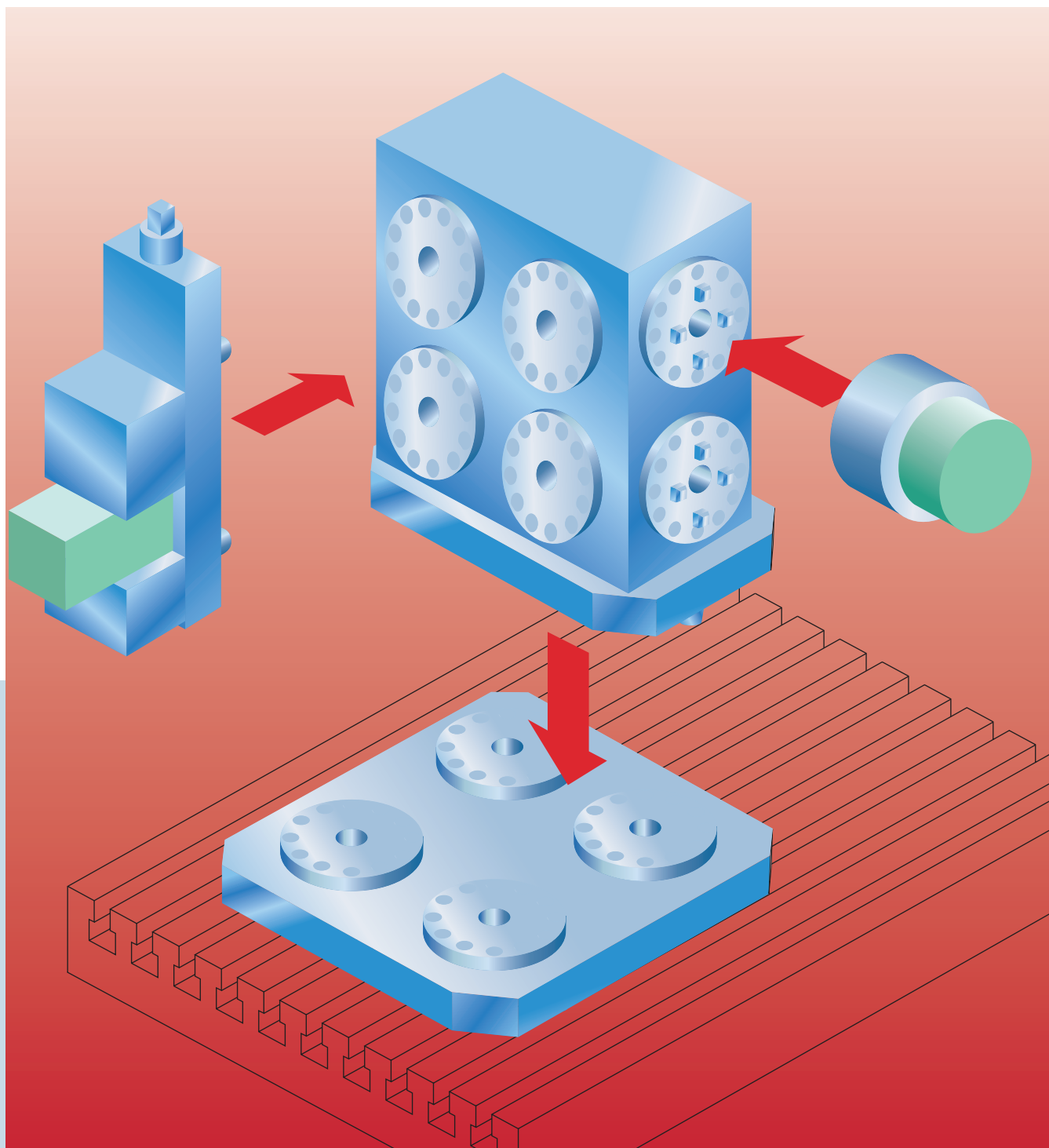


EROWA MTS – the universal interface in manufacturing



EROWA®

System solutions from one single source

EROWA – competent worldwide

You will find us all over the world.

Switzerland

EROWA AG

Germany

EROWA System Technologien GmbH

France

EROWA Distribution France SARL

Italy

EROWA Tecnologie S.r.l.

Japan

EROWA Nippon Ltd.

USA

EROWA Technology Inc.

Sweden

EROWA Nordic AB

Singapore

EROWA South East Asia Pte. Ltd.

China

HANOWA Technology Ltd.

Spain

EROWA Technology Iberica S.L.

Brasil

EROBA Tecnologia Ltda.

The milestones in our development.

EROWA – the name alone shows the way: it is an acronym from the German words for EDM, toolmaking and automation. Ever since the company was set up in 1970, our goal has been clearly defined.

- 1970 EROWA AG was founded
- 1976 ISOCUT planetary device for EDM
- 1978 Water-jet-wire-threading attachment for WEDM.
- 1984 EROWA ITS Integrated Tooling System
- 1987 EROWA Robot
- 1988 International distribution
- 1989 EROWA WEDM tooling system
- 1993 EROWA UPC tooling system
- 1995 EROWA JMS®
Job Management System
- 1996 EROWA Compact tooling system
- 1997 EROWA Robot System ERS for flexible handling
- 1998 EROWA ITS-Compact-Combi-Chuck
PalletSet W
PM Tooling
EROWA JMS®
JobGenerator
- 2000 EROWA FrameSet
EROWA Robot System ERS
- 2001 EROWA
ProductionChuck 210
Modular Tooling System MTS
- 2002 EROWA JMS® Pro

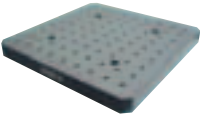
Our partners and customers.

Our customers include notable firms on all five continents. Among them are machine builders, tool and mold manufacturers, as well as production companies in electronics, automobiles, watch-making, medical technology, aviation, space operations, cutting tools and many subcontractors.



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In order to make it easier for you to see where EROWA products find their application, we use the following icons in all our documents:



Manual operation



Handling with EROWA Robot gripper 148



Suitable for automatic application



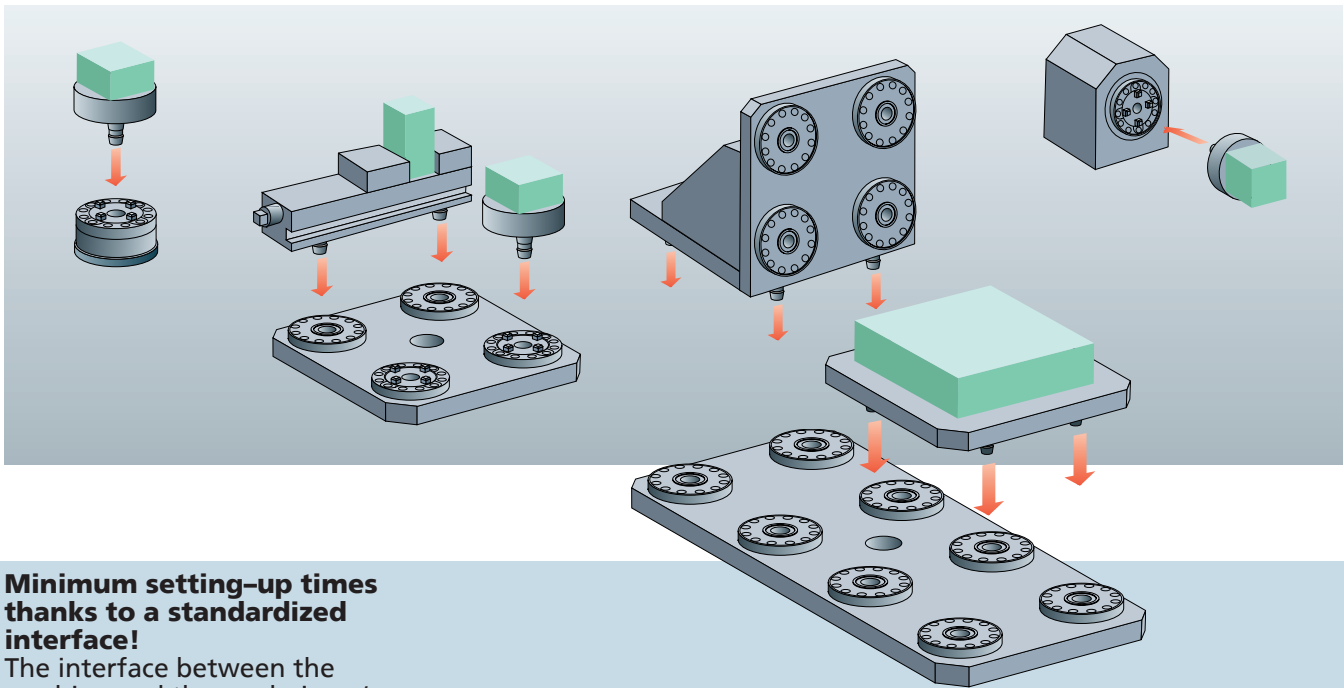
Handling with EROWA RCS gripper.

Any technical data listed in this EROWA catalogue are not binding. Technical modifications are reserved.

The EROWA MTS datum point tooling system

The EROWA MTS (Modular Tooling System) is an open system. The maximum workpiece size exclusively depends on the possibilities offered by the machine. Whether it is a case of single palletization with one MTS chuck or multiple palletization with several MTS chucks or base plates – any combinations are possible. MTS chucks can be operated manually or automatically.

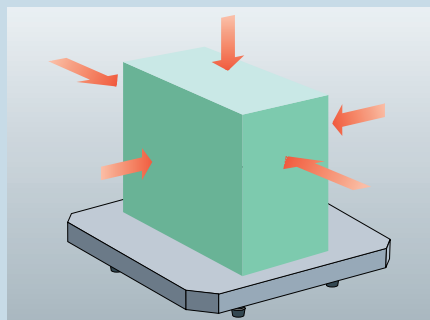
New jobs are set up while the machine is in productive operation. Express jobs can be positioned on the machine within seconds. After that, the previous production process is resumed. In this way, machine down-times are reduced to a minimum.



Minimum setting-up times thanks to a standardized interface!

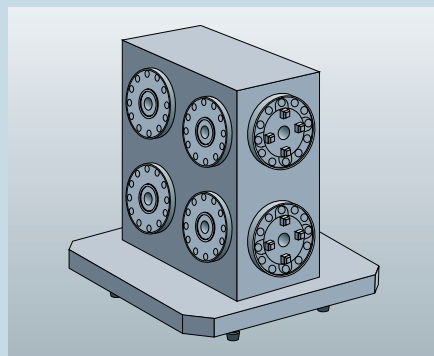
The interface between the machine and the workpieces/ fixtures is standardized. The modular design of the clamping equipment allows for an almost unlimited number of combinations of all the components.

The datum point is defined! No alignment is necessary.



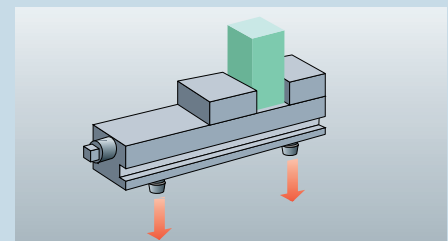
5-side machining in one single clamping process!

Once the workpiece has been clamped on an EROWA pallet, 5 sides can be machined with that one clamping process. Machining times per workpiece are reduced, production quality is increased.



More space!

The working range of the machine is put to optimal use. The low design height provides you with additional valuable production space – with tombstones also in the third dimension.



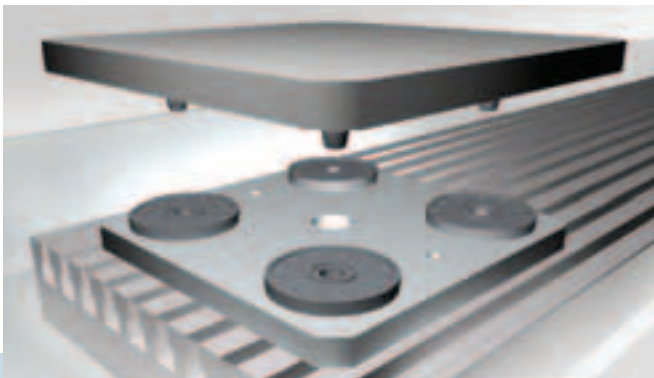
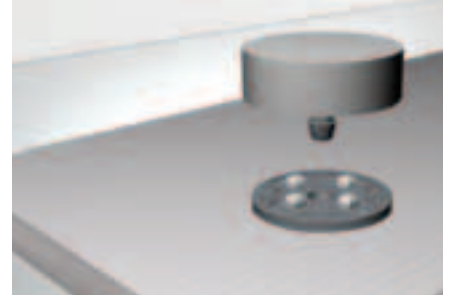
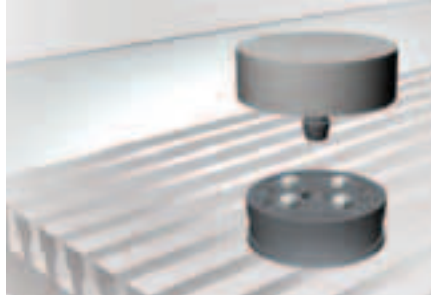
Make use of existing equipment!

Vises, gauges and fixtures are palletized or equipped with chucking spigots and put to further use at once.

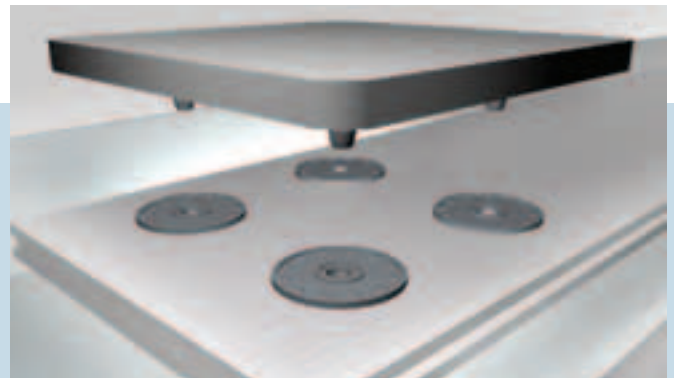
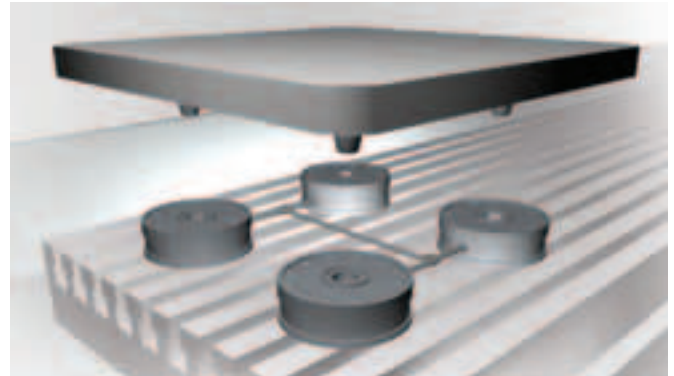


Systematic clamping

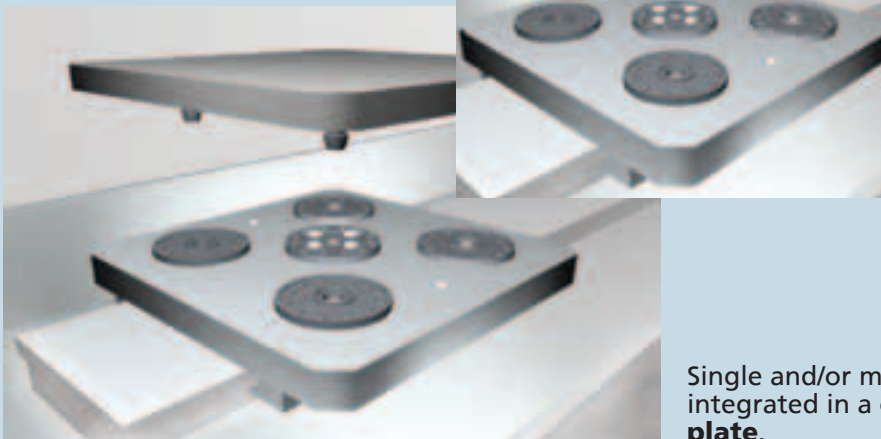
An **individual MTS chuck**, mounted on or directly integrated in the machine table.



A **base plate** with integrated MTS chucks.



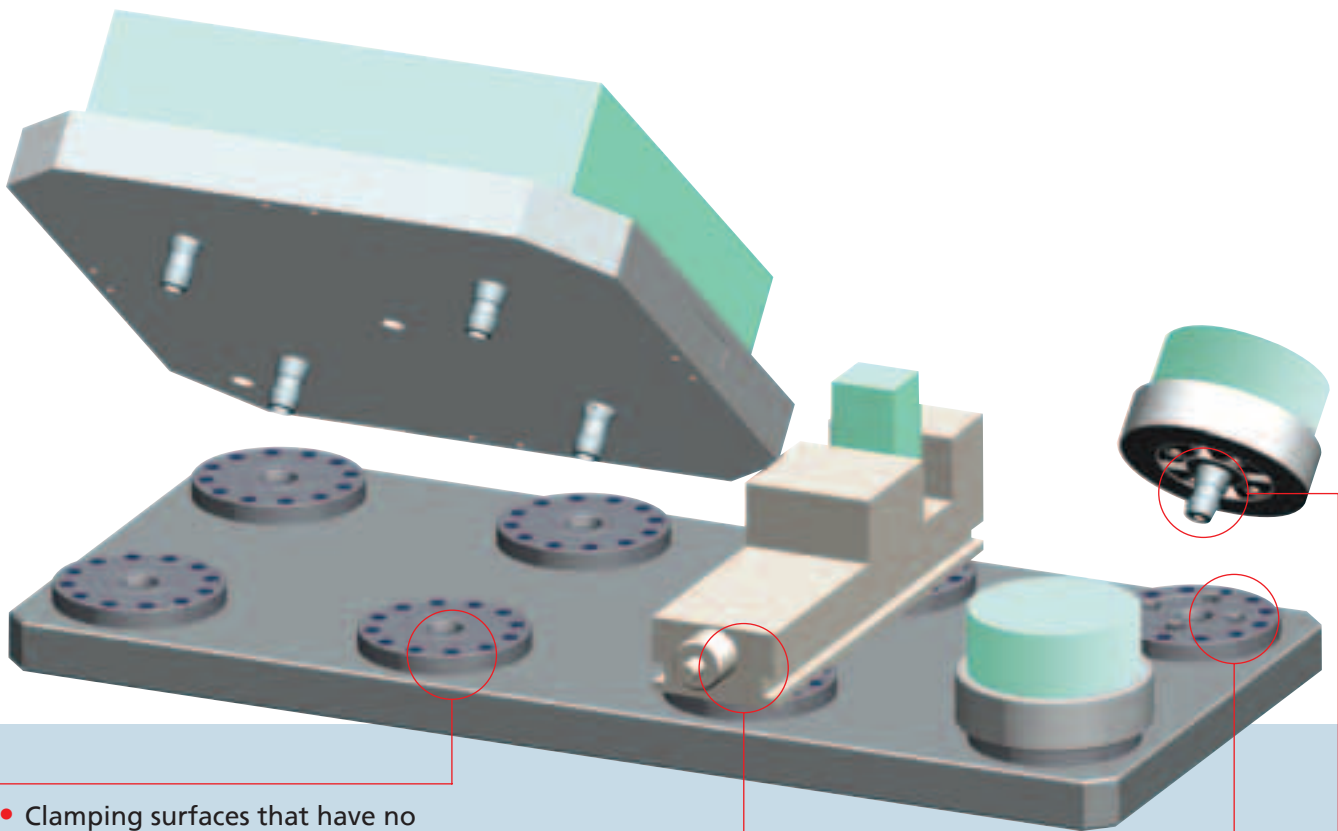
Several MTS chucks mounted on or directly integrated in the machine table.



Single and/or multiple MTS chucks integrated in a **customized base plate**.

EROWA MTS – know-how from experience

We have built our experience of many years into the functionality of the MTS. The system combines the advantages of modularity with those of standardization.



- Clamping surfaces that have no recesses or can be cleaned with compressed air.
- Easy to clean.
- Not prone to interruptions through contamination.
- Low design height.
- Requires little maintenance.
- Suitable for automatic pallet change.
- Standardized set-up distances* of 200mm or 250mm on all EROWA base plates.

- Equip existing fixtures, gauges and vises with chucking spigots and integrate them in the MTS.
- Fit chucking spigots either from above through the workpiece carrier (M12) or from below through the chucking spigot (M10).

- Play-free prismatic centering in MTS single chucks.
- Indexable 4x90°.
- More than 500,000 clamping processes without any loss of power or reference accuracy.
- Low design of the chucking spigot.

* The set-up distance is the distance between the MTS chucks on a base plate.



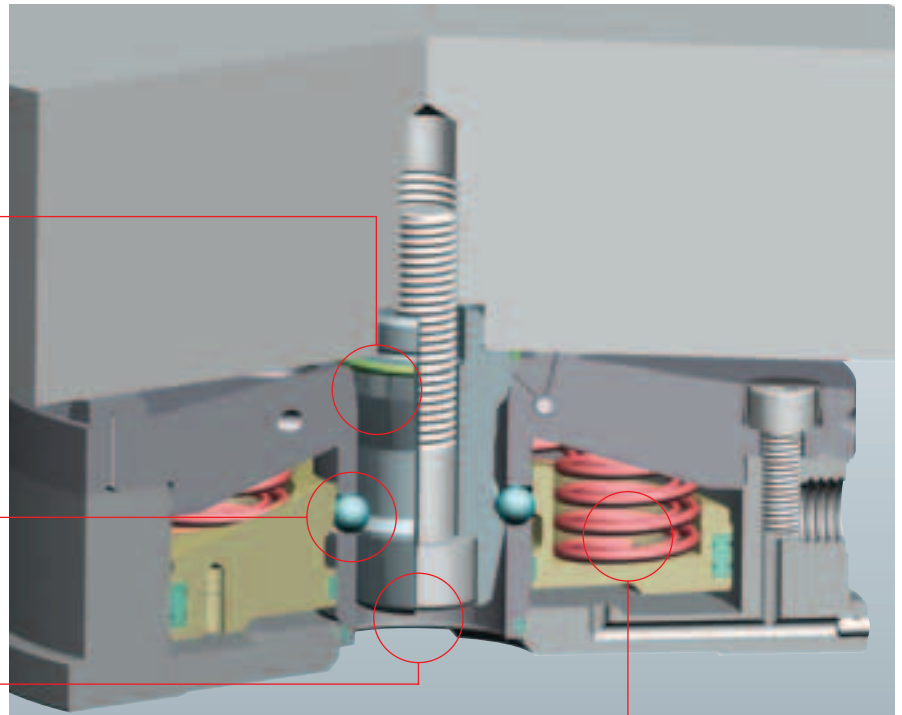
Play-free round-cone centering.

Repeatability: $\leq 0.005\text{mm}$.

Easy insertion of the pallets
without any jamming.

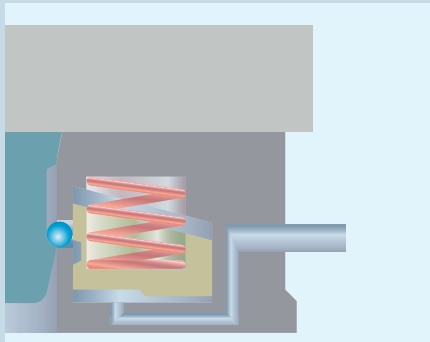
Reliable clamping mechanism
through self-locking ball lock.
Stable, low level of vibration.

Liquids can drain off.
No dirt traps.

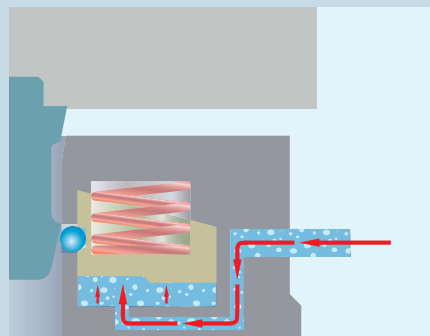


Spiral springs guarantee a long
lifecycle, more than 500,000
clamping processes.

Clamping through spring power.
The full clamping power persists
even if the pressure falls off.

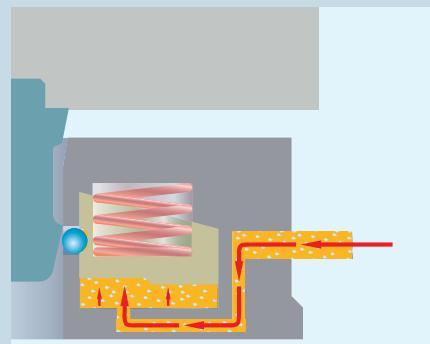


A mere 7bar of opening pressure
results in 12,000N clamping power
thanks to internal power boosting.

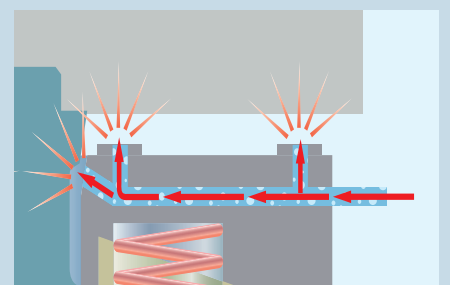
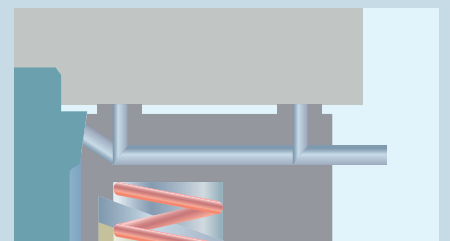


Opened pneumatically ...

The hydraulic MTS chuck with
20,000N clamping power only
requires 25bar opening pressure.
The hydraulic pressure lines are
therefore easy to fit with flexible
tubes.



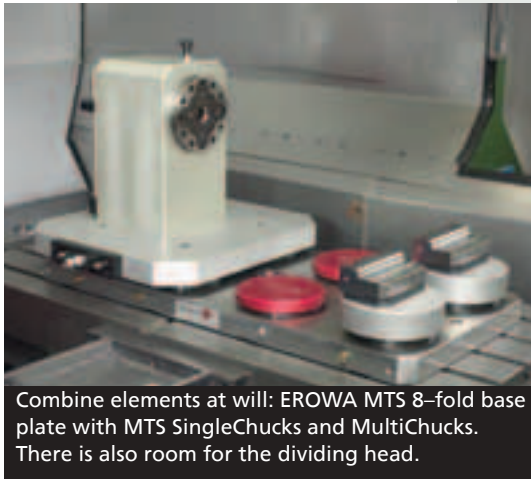
... or hydraulically.



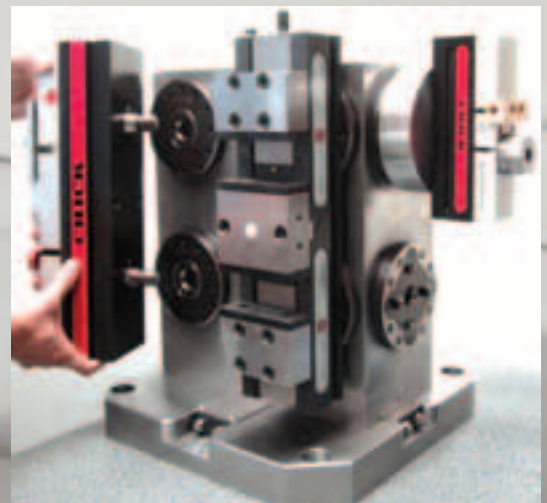
MTS chuck, automatable.
Automatic cleaning of contact
surfaces and of the centering
spigot cone while the workpiece
is changed.

EROWA MTS in operation

The flexible handling of the EROWA MTS Modular Tooling System is only revealed by practical application. The system's universality enables quick changes of a wide variety of workpiece carriers. Workpiece changes can be automated at any later date.



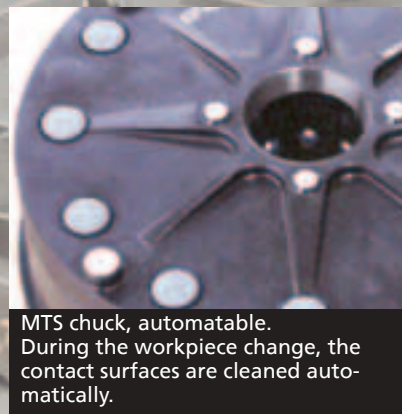
Combine elements at will: EROWA MTS 8-fold base plate with MTS SingleChucks and MultiChucks. There is also room for the dividing head.



Reputable clamping equipment manufacturers offer vises with integrated EROWA MTS chucking spigots.



Single palletization, clamping of palletized vises or complex fixtures. The EROWA MTS is ready for everything.



MTS chuck, automatable. During the workpiece change, the contact surfaces are cleaned automatically.



Various jobs can be done on one machine. Express jobs can easily be placed in between. Resetting the clamping equipment only takes a few seconds.



EROWA®



Customized solutions are included. We will gladly advise you. Swiveling machine table with integrated MTS chucks.



Single palletization, clamping of palletized vises or complex fixtures. The EROWA MTS is ready for everything.



The low design of the EROWA MTS leaves a great deal of space for workpieces.



From the manual handling facility to the complex Robot system, EROWA supplies the handling solution you require.

MTS integral chucks

Technical data

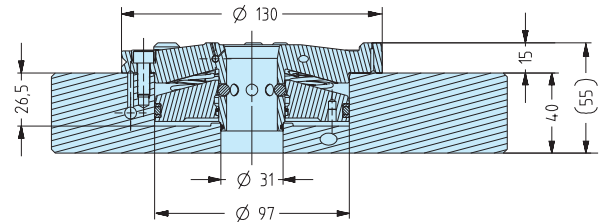
Repeatability	≤ 0.005mm
Indexation, pallet	4x90° (MTS IntegralChuck S)
Clamping	Spring power
Opening	
– pneumatic	min.7bar
– hydraulic	min.25bar/max.70bar
Clamping power	
– chuck, pneumatic	12kN
– chuck, hydraulic	20kN

MTS integral chucks

Technical data

S	= Single
M	= Multi
A	= Automatable
P	= Pneumatically operated
H	= Hydraulically operated

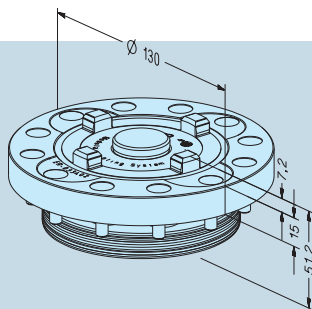
Integration variant (applicable to MTS IntegralChucks Single and Multi). Observe tolerances according to integration instructions!



ER-033402 MTS IntegralChuck S-P ER-033403 MTS IntegralChuck S-H



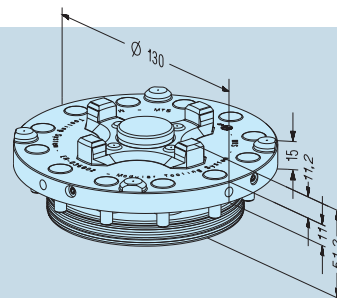
Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	To open: pneumatic or hydraulic.
Application	To accommodate single or multiple pallets.



ER-036802 MTS IntegralChuck S-P/A ER-036803 MTS IntegralChuck S-H/A



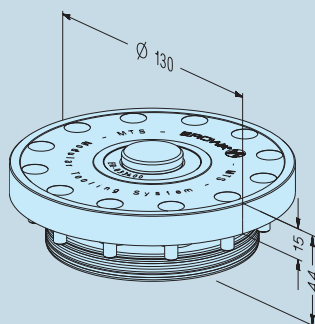
Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	To open: pneumatic or hydraulic. To clean: pneumatic.
Application	To accommodate single or multiple pallets.



ER-033400 MTS IntegralChuck M-P ER-033401 MTS IntegralChuck M-H



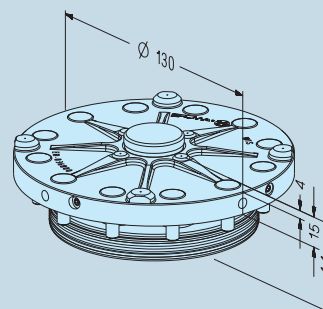
Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	To open: pneumatic or hydraulic.
Application	To accommodate multiple pallets.



ER-036800 MTS IntegralChuck M-P/A ER-036801 MTS IntegralChuck M-H/A



Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	To open: pneumatic or hydraulic. To clean: pneumatic.
Application	To accommodate single pallets.





Technical data	MTS mounted chucks
Repeatability	≤ 0.005mm
Indexation, pallet	4x90° (MTS Chuck S)
Clamping	Spring power
Opening	
– pneumatic	min.7bar
– hydraulic	min.25bar/max.70bar
Clamping power	
– chuck, pneumatic	12kN
– chuck, hydraulic	20kN

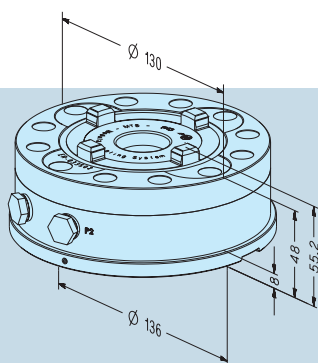
Technical data
S = Single
M = Multi
A = Automatable
P = Pneumatically operated
H = Hydraulically operated

Note: Clamping examples can be found under MTS accessories, p. 26.

ER-033502 MTS Chuck S-P ER-033503 MTS Chuck S-H



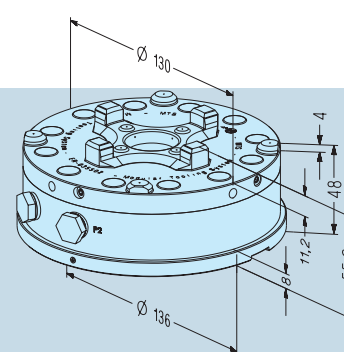
Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	Lateral, to open: pneumatic or hydraulic.
Application	To accommodate single or multiple pallets.
Accessories	Order separately: to fit MTS Chuck, MTS bracket ER-033804 or ER-033805 (cf. p. 25).



ER-035502 MTS Chuck S-P/A ER-035503 MTS Chuck S-H/A



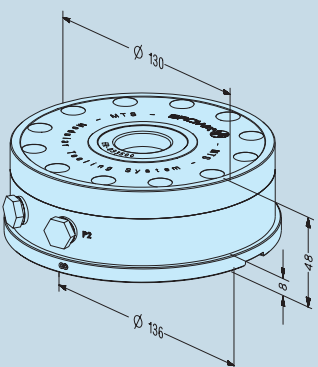
Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	Lateral, to open: pneumatic or hydraulic. Lateral, to clean: pneumatic.
Application	To accommodate single or multiple pallets.
Accessories	Order separately: to fit MTS Chuck, MTS bracket ER-033804 or ER-033805 (cf. p. 25).



ER-033500 MTS Chuck M-P ER-033501 MTS Chuck M-H



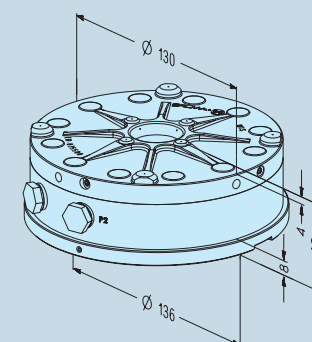
Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	Lateral, to open: pneumatic or hydraulic.
Application	To accommodate multiple pallets.
Accessories	Order separately: to fit MTS Chuck, MTS bracket ER-033804 or ER-033805 (cf. p. 25).



ER-035500 MTS Chuck M-P/A ER-035501 MTS Chuck M-H/A



Version	For direct integration in machine tables, plates, tombstones, squares or dividing heads.
Connections	Lateral, to open: pneumatic or hydraulic. Lateral, to clean: pneumatic.
Application	To accommodate multiple pallets.
Accessories	Order separately: to fit MTS Chuck, MTS bracket ER-033804 or ER-033805 (cf. p. 25).



MTS base plates, 4-fold

Technical data

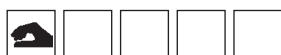
Repeatability	≤ 0.005mm
Indexation, pallet	4x90°
Clamping	Spring power
Opening	
– pneumatic	min.7bar
– hydraulic	min.25bar/max.70bar
Clamping power	
– chuck, pneumatic	48kN (4x12)
– chuck, hydraulic	80kN (4x20)

MTS base plates, 4-fold

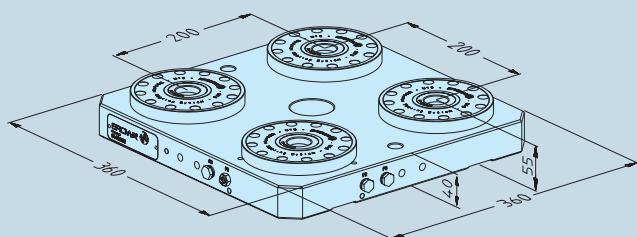
Technical data

P	= Pneumatically operated
H	= Hydraulically operated

ER-033300 MTS base plate 360 x 360 P ER-033301 MTS base plate 360 x 360 H



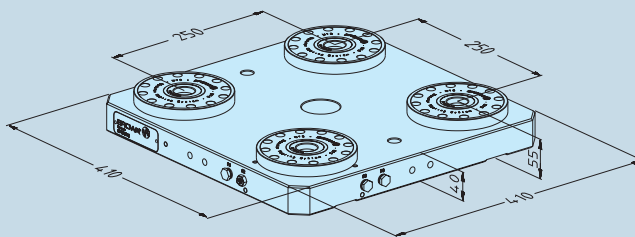
Version	Base plate, steel, unhardened; set-up distance 200mm.
Connections	Lateral, to open: pneumatic or hydraulic.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Accessories, supplied	for ER-033300: 1 x ER-036672 (p. 27). for ER-033301: 1 x ER-033504 (p. 29).
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air or oil ducts! Please order operating instructions from your EROWA dealer.



ER-033302 MTS base plate 410 x 410 P ER-033303 MTS base plate 410 x 410 H



Version	Base plate, steel, unhardened; set-up distance 250mm.
Connections	Lateral, to open: pneumatic or hydraulic.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Accessories, supplied	for ER-033302: 1 x ER-036672 (p. 27). for ER-033303: 1 x ER-033504 (p. 29).
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air or oil ducts! Please order operating instructions from your EROWA dealer.





MTS base plates, 4-fold with cleaning, automatable

Technical data

Repeatability
Indexation, pallet
Clamping
Opening
– pneumatic
– hydraulic
Clamping power
– chuck, pneumatic
– chuck, hydraulic

MTS base plates, 4-fold with cleaning, automatable

$\leq 0.005\text{mm}$
4x90°
Spring power
min.7bar
min.25bar/max.70bar
48kN (4x12)
80kN (4x20)

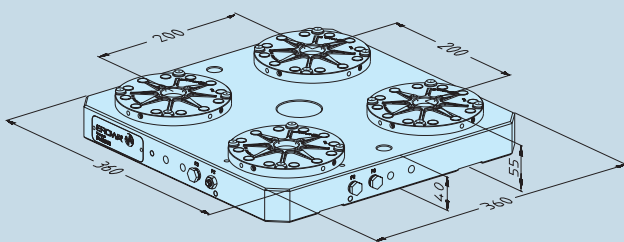
Technical data

P = Pneumatically operated
H = Hydraulically operated
A = Automatable

ER-038300 MTS base plate 360 x 360 P/A ER-038301 MTS base plate 360 x 360 H/A



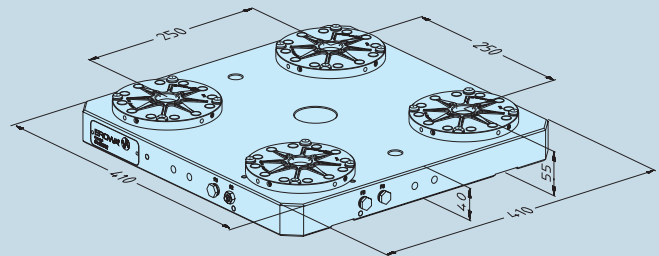
Version Base plate, steel, unhardened; set-up distance 200mm.
Connections Lateral, to open: pneumatic or hydraulic.
Lateral to clean: pneumatic.
Application To accommodate multiple pallets.
For direct assembly on machine tables.
Accessories, supplied for ER-038300: 1 x ER-036672, 2 x ER-014326 (p. 27).
for ER-038301: 1 x ER-033504, 1 x ER-014326 (p. 29, 27).
Note Attachment boreholes can be drilled by customers.
Caution Do not drill through any air or oil ducts!
Please order operating instructions from your EROWA dealer.



ER-038302 MTS base plate 410 x 410 P/A ER-038303 MTS base plate 410 x 410 H/A



Version Base plate, steel, unhardened; set-up distance 250mm.
Connections Lateral, to open: pneumatic or hydraulic.
Lateral to clean: pneumatic.
Application To accommodate multiple pallets.
For direct assembly on machine tables.
Accessories, supplied for ER-038302: 1 x ER-036672, 2 x ER-014326 (p. 27).
for ER-038303: 1 x ER-033504, 1 x ER-014326 (p. 29, 27).
Note Attachment boreholes can be drilled by customers.
Caution Do not drill through any air or oil ducts!
Please order operating instructions from your EROWA dealer.



MTS base plates, 6-fold

Technical data

Repeatability	≤ 0.005mm
Clamping	Spring power
Opening	
– pneumatic	min.7bar
– hydraulic	min.25bar/max.70bar
Clamping power	
– chuck, pneumatic	72kN (6x12)
– chuck, hydraulic	120kN (6x20)

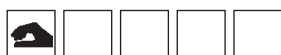
MTS base plates, 6-fold

Repeatability	≤ 0.005mm
Clamping	Spring power
Opening	
– pneumatic	min.7bar
– hydraulic	min.25bar/max.70bar
Clamping power	
– chuck, pneumatic	72kN (6x12)
– chuck, hydraulic	120kN (6x20)

Technical data

P	= Pneumatically operated
H	= Hydraulically operated

ER-033900 MTS base plate 360 x 560 P ER-033901 MTS base plate 360 x 560 H

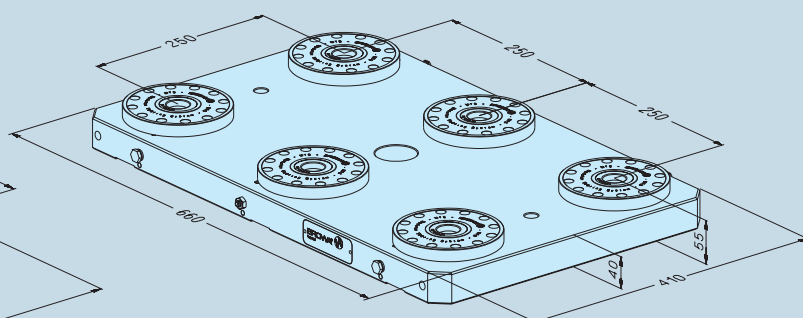
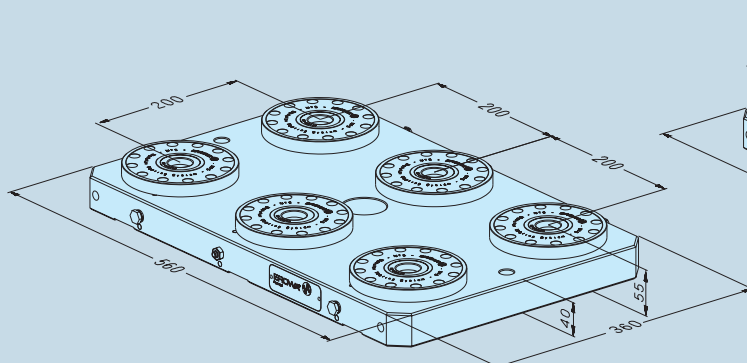


Version	Base plate, steel, unhardened; set-up distance 200mm.
Connections	Lateral, to open: pneumatic or hydraulic.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Accessories, supplied	for ER-033900: 1 x ER-036672 (p. 27). for ER-033901: 1 x ER-033504 (p. 29).
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air or oil ducts! Please order operating instructions from your EROWA dealer.

ER-033902 MTS base plate 410 x 660 P ER-033903 MTS base plate 410 x 660 H



Version	Base plate, steel, unhardened; set-up distance 250mm.
Connections	Lateral, to open: pneumatic or hydraulic.
Application	To accommodate multiple pallets. For direct assembly on machine tables.
Accessories, supplied	for ER-033902: 1 x ER-036672 (p. 27). for ER-033903: 1 x ER-033504 (p. 29).
Note	Attachment boreholes can be drilled by customers.
Caution	Do not drill through any air or oil ducts! Please order operating instructions from your EROWA dealer.



MTS base plates, 8-fold



Technical data

Repeatability

Clamping

Opening

– pneumatic

– hydraulic

Clamping power

– chuck, pneumatic

– chuck, hydraulic

MTS base plates, 8-fold

≤ 0.005mm

Spring power

min.7bar

min.25bar/max.70bar

96kN (8x12)

160kN (8x20)

Technical data

P = Pneumatically operated

H = Hydraulically operated

ER-033904 MTS base plate 360 x 760 P

ER-033905 MTS base plate 360 x 760 H



Version Base plate, steel, unhardened; set-up distance 200mm.

Connections Lateral, to open: pneumatic or hydraulic.

Application To accommodate multiple pallets.
For direct assembly on machine tables.

Accessories, supplied for ER-033904: 1 x ER-036672 (p. 27).
for ER-033905: 1 x ER-033504 (p. 29).

Note Attachment boreholes can be drilled by customers.

Caution Do not drill through any air or oil ducts!
Please order operating instructions from your EROWA dealer.

ER-033906 MTS base plate 410 x 910 P

ER-033907 MTS base plate 410 x 910 H



Version Base plate, steel, unhardened; set-up distance 250mm.

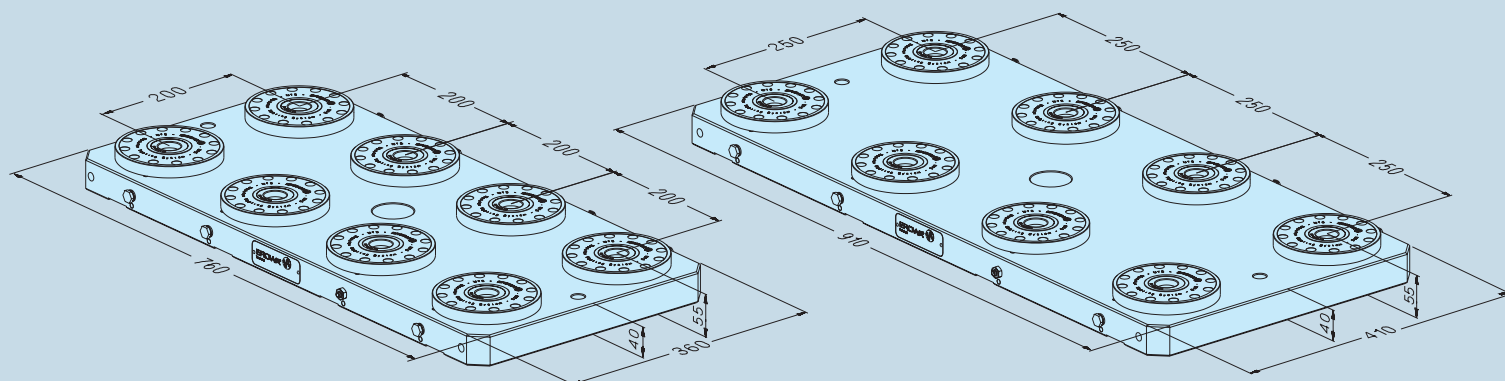
Connections Lateral, to open: pneumatic or hydraulic.

Application To accommodate multiple pallets.
For direct assembly on machine tables.

Accessories, supplied for ER-033906: 1 x ER-036672 (p. 27).
for ER-033907: 1 x ER-033504 (p. 29).

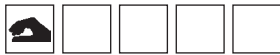
Note Attachment boreholes can be drilled by customers.

Caution Do not drill through any air or oil ducts!
Please order operating instructions from your EROWA dealer.

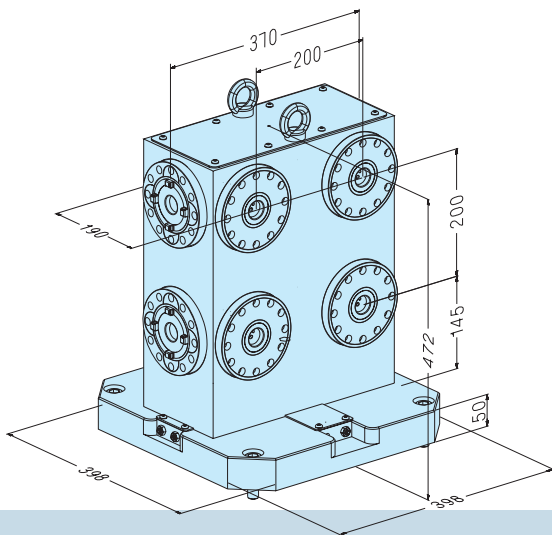


MTS pallets

ER-033634 MTS cube



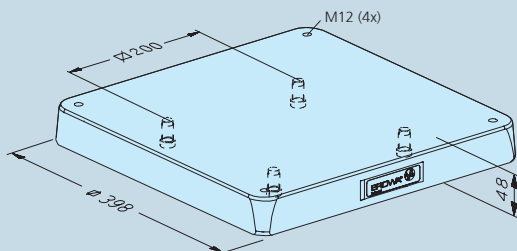
- Version** Cast iron. For pneumatic operation.
Equipped with 8 x ER-033400 MTS
IntegralChucks M-P and 4 ER-033402
MTS IntegralChuck S-P.
- Application** To clamp MTS single pallets, MTS pallets,
MTS base plates, vises, gauges and fixtures.
- Note** Hydraulic version on request.



ER-035031 MTS pallet 398 x 398/200



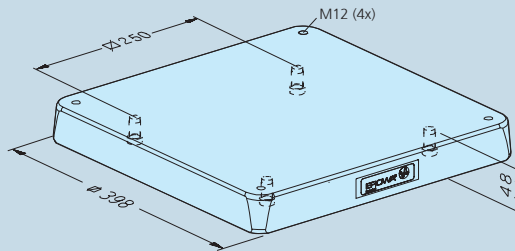
- Version** Cast aluminum pallet, 4-fold, excluding chucking
spigot (MTS chucking spigot set ER-034231).
- Application** To clamp workpieces, vises and gauges.
- Accessories** ER-034231 to be ordered separately.



ER-035081 MTS pallet 398 x 398/250



- Version** Cast aluminum pallet, 4-fold, excluding chucking
spigot (MTS chucking spigot set ER-034231).
- Application** To clamp workpieces, vises and gauges.
- Accessories** ER-034231 to be ordered separately.

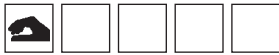




EROWA®



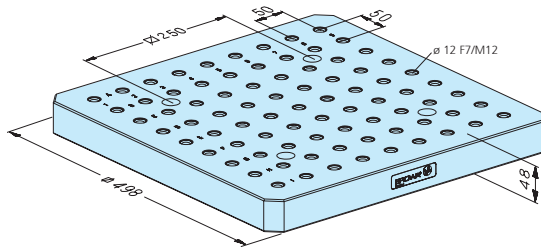
ER-035601 MTS pallet 498 x 498/250 R50



Version Aluminum pallet (hard eloxed), 4-fold, excluding chucking spigot (MTS chucking spigot set ER-034231).

Application To clamp workpieces, vises and gauges.

Accessories ER-034231 to be ordered separately.



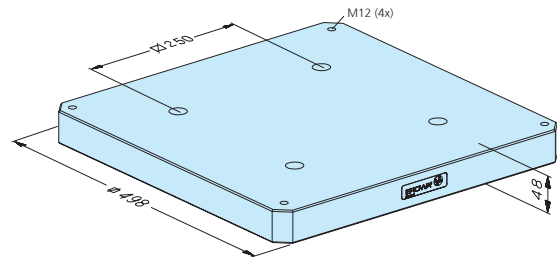
ER-035600 MTS pallet 498 x 498/250



Version Aluminum pallet, 4-fold, excluding chucking spigot (MTS chucking spigot set ER-034231).

Application To clamp workpieces, vises and gauges.

Accessories ER-034231 to be ordered separately.



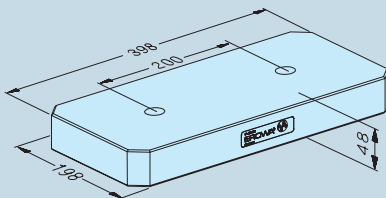
ER-033703 MTS pallet 198 x 398/200



Version Aluminum pallet, 2-fold, excluding chucking spigot (MTS chucking spigot set ER-034230).

Application To clamp workpieces, vises and gauges.

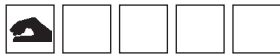
Accessories ER-034230 to be ordered separately.



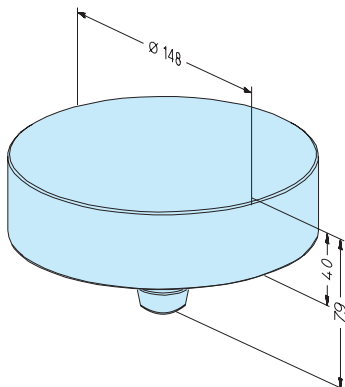
Pallets for automation on request.

MTS single pallets

ER-033602 MTS pallet P ø 148 Alu

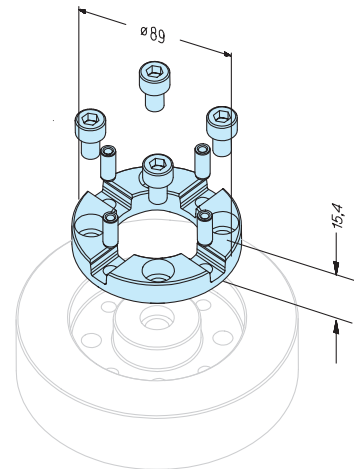


- Version** Aluminum pallet, fitted with centering pallet ER-033600, including chucking spigot ER-033801.
- Application** To clamp workpieces and gauges. For manual handling.



ER-033600 MTS centering pallet P

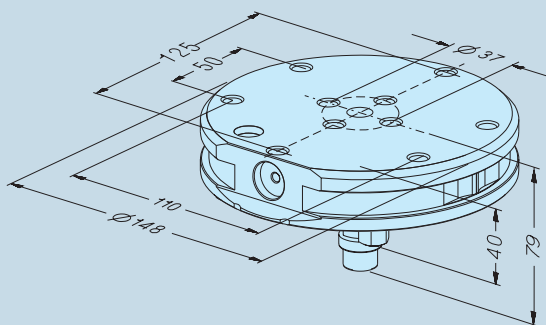
- Version** Steel, hardened, including attachment bolts and positioning pins.
- Application** For the production of customized and indexable MTS pallets.
- Accessories** Chucking spigot ER-033801 to be ordered separately.



ER-033601 MTS pallet P ø 148

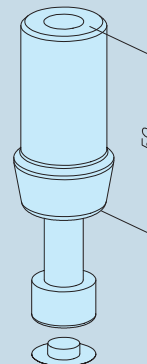


- Version** Steel pallet, not hardened, including chucking spigot ER-033803. Centering segment integrated in the pallet body (hardened).
- Application** To clamp workpieces and gauges. For manual handling and automatic operation.
- Note** Compatible with EROWA PC210 CombiChuck and PowerChuck P (ITS chucking spigot ER-010742 required).



ER-033803 MTS chucking spigot P

- Version** One chucking spigot, including attachment bolt and protective cap.
- Application** For the conversion of ITS pallet ø148 ER-024323 into MTS pallet P ø148 ER-033601.



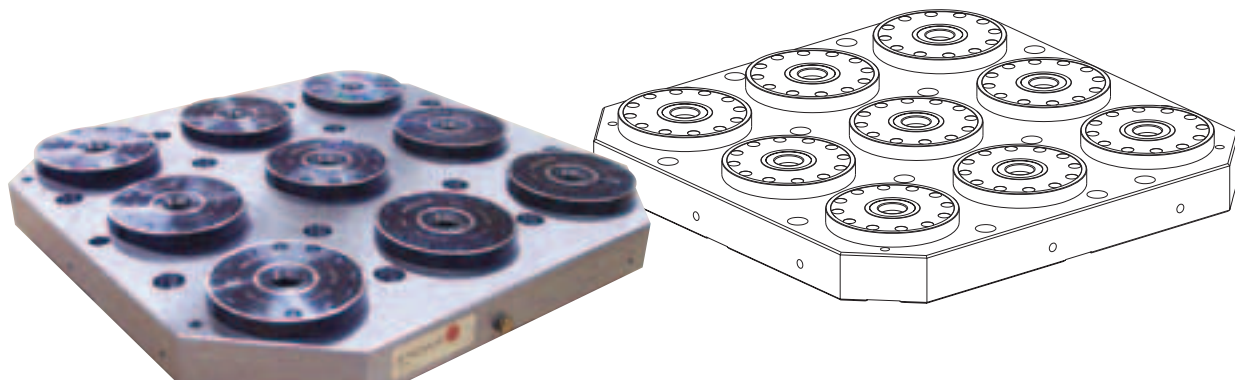


EROWA®



EROWA MTS – according to your requirements

The EROWA MTS Modular Tooling System leaves no customer's desires unfulfilled. Its individual components can be configured according to your requirements. They adapt to practically any machine situation. We will gladly advise you. Undoubtedly, we will find the optimal "tooling solution" for you, too.



From the idea to the solution.
Clamping plate with nine MTS
MultiChucks.

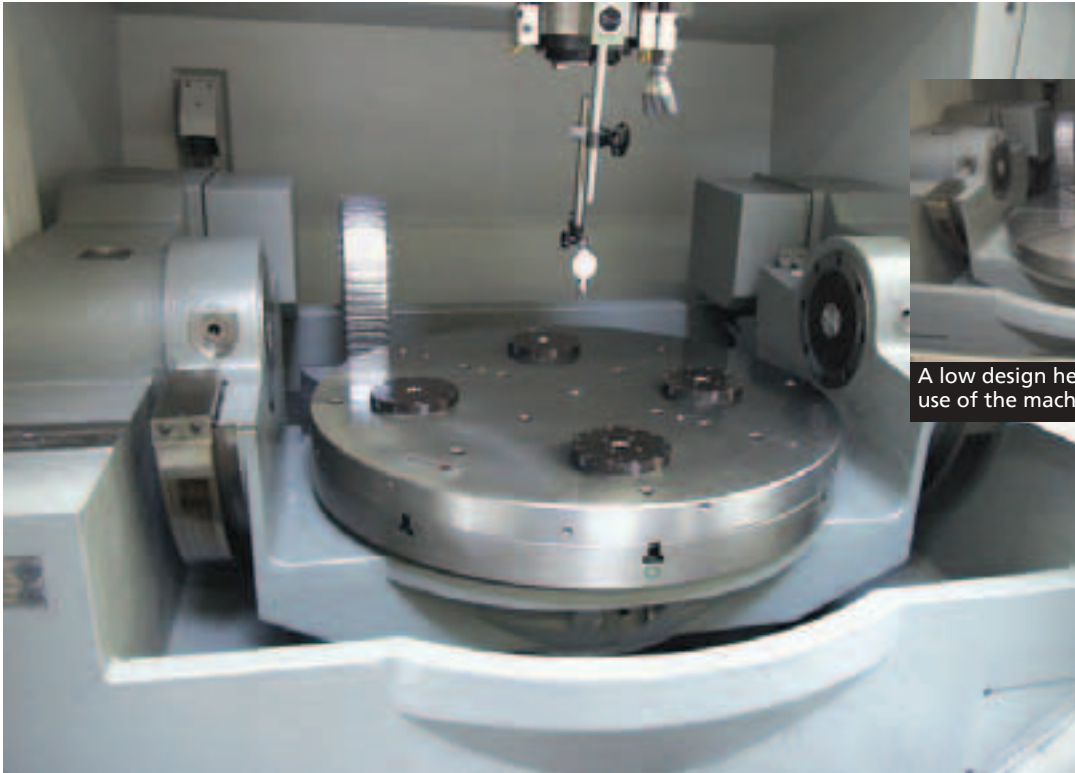


The adaptable working range: reset and
ready for production in next to no time.

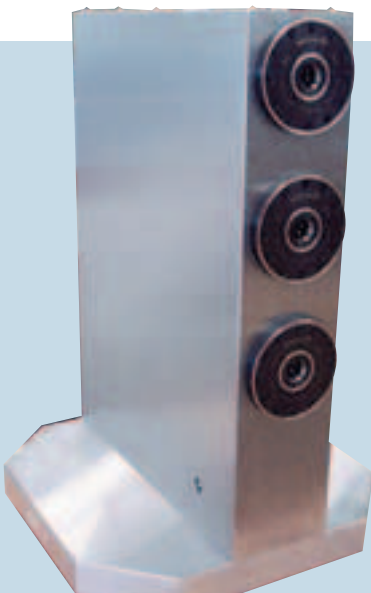




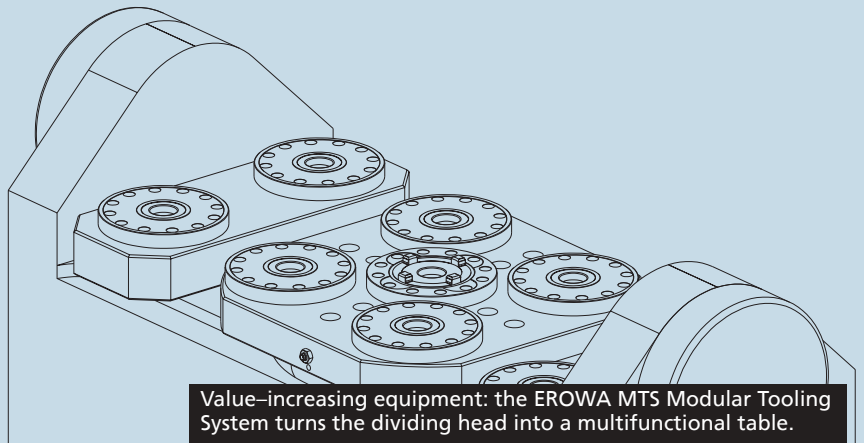
EROWA®



A low design height makes for an optimal use of the machine's workspace.



MTS fixture for long workpieces.



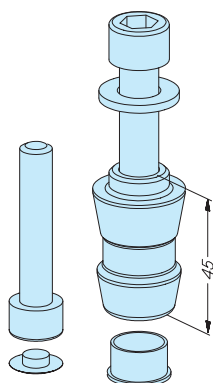
Value-increasing equipment: the EROWA MTS Modular Tooling System turns the dividing head into a multifunctional table.



MTS chucking spigots

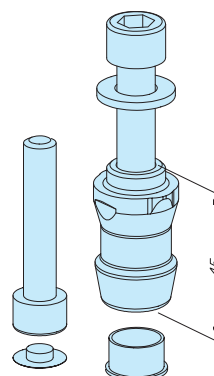
ER-033800 MTS centering spigot

Version	One chucking spigot with centering function (without play), including attachment bolts (M10x50, M12x55), U-disc and protective caps.
Note	Function and order of assembly on p. 23.



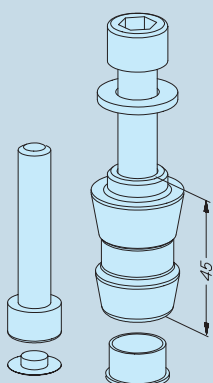
ER-033802 MTS compensation spigot

Version	One chucking spigot with compensation function, including attachment bolts (M10x50, M12x55), U-disc and protective caps.
Note	Function and order of assembly on p. 23.



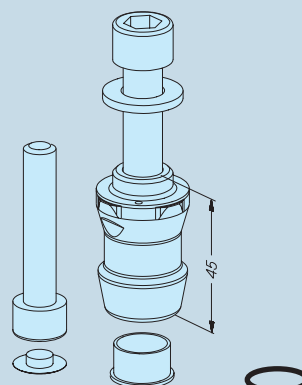
ER-033801 MTS chucking spigot

Version	One chucking spigot without centering (centering play 0.1mm), including attachment bolts (M10x50, M12x55), U-disc and protective caps.
Note	Function and order of assembly on p. 23.



ER-038000 MTS centering spigot A

Version	One chucking spigot with centering function, including attachment bolts (M10x50, M12x55), U-disc, O-ring and protective caps.
Application	For MTS pallets which are loaded/ unloaded automatically. The centering spigot defines the datum point without play and closes the cleaning boreholes in the MTS Chucks/A.

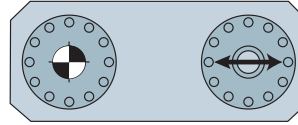




Chucking spigot set (manual)

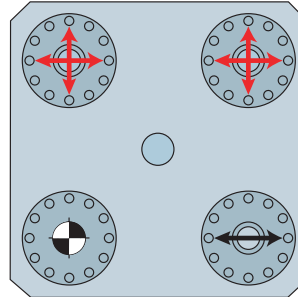
ER-034230 MTS chucking spigot set 2

Version 1 centering spigot, 1 compensation spigot.
To fit With the bolts supplied through the pallet or through the chucking spigot.



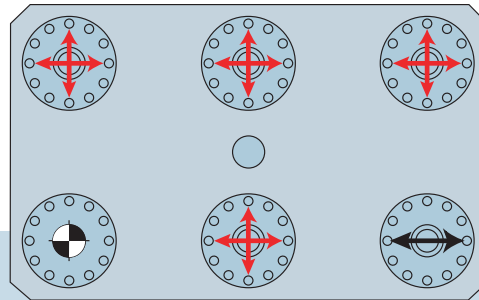
ER-034231 MTS chucking spigot set 4

Version 1 centering spigot, 1 compensation spigot, 2 chucking spigots.
To fit With the bolts supplied through the pallet or through the chucking spigot.



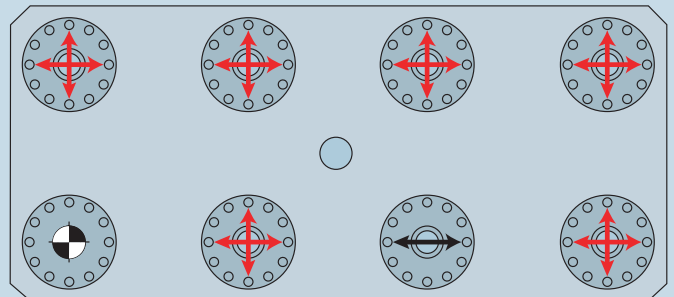
ER-034232 MTS chucking spigot set 6

Version 1 centering spigot, 1 compensation spigot, 4 chucking spigots.
To fit With the bolts supplied through the pallet or through the chucking spigot.



ER-034233 MTS chucking spigot set 8

Version 1 centering spigot, 1 compensation spigot, 6 chucking spigots.
To fit With the bolts supplied through the pallet or through the chucking spigot.



ER-033800 MTS centering spigot

The centering spigot defines the datum point (free of play).



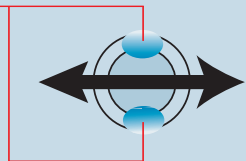
ER-033801 MTS chucking spigot, (centering play 0.1 mm).



ER-033802 MTS compensation spigot

The compensation spigot positions the pallet in one axis only (X or Y) and is capable of compensating for a maximum set-up distance difference of 0.1mm.

Centering surfaces

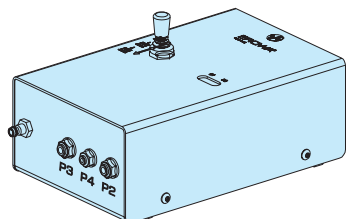


MTS accessories

MTS chuck operation

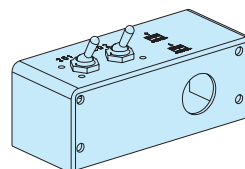
ER-025893 Manual control unit with booster

- Version** Manual valve to control the EROWA MTS chucks, including
2 tubes, $\varnothing 6 \times 1 \text{m}$, and 1 tube, $\varnothing 4 \times 1 \text{m}$.
- Note** Integrated booster with loading ratio 1:2 (up to a max. supply pressure of 10bar).
P2 = open chuck.
P3 = clean chuck.



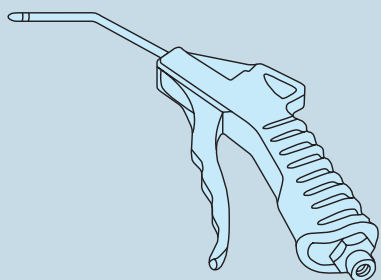
ER-010510 Additional valve, double

- Version** To extend the manual control unit ER-025893, including tube set.
- Note** Operation of two separate chucks with one single control unit.



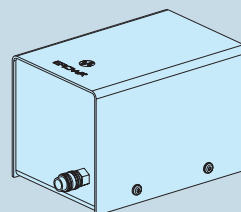
ER-001846 Air jet

- Version** Made of synthetic material; finely dosable air volume; connection 1/4" female thread.
- Application** Operation of manual MTS chucks.
For ER-018977, complete air jet valve.



ER-010520 Pressure booster

- Version** Fast coupling for tube inside $\varnothing = 8 \text{mm}$. Supply pressure up to max. 10bar, loading ratio 1:2.
- Application** For poor mains pressure and for pressure fluctuations.
- Installation** Integrate close to the user in the air circuit.



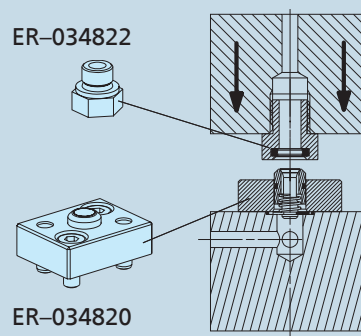
ER-033497 Pneumatic/hydraulic pump

- Version** Manual pump to control the EROWA MTS chucks (hydraulic versions).
- Note** Integrated pressure-reducing valve, set to the necessary operating pressure (25bar). Complete with hydraulic tube (2m) and plug coupling (ER-033499).



ER-034820 MTS air coupling ER-034822 MTS air coupling, pallet

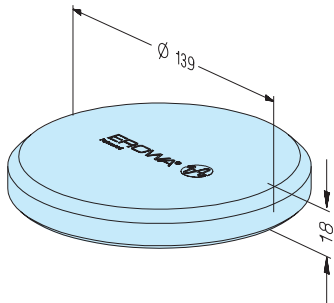
- Application** The MTS air coupling ER-034820 combined with the MTS air coupling ER-034822 serves as a pneumatic interface between MTS base plates and MTS pallets.





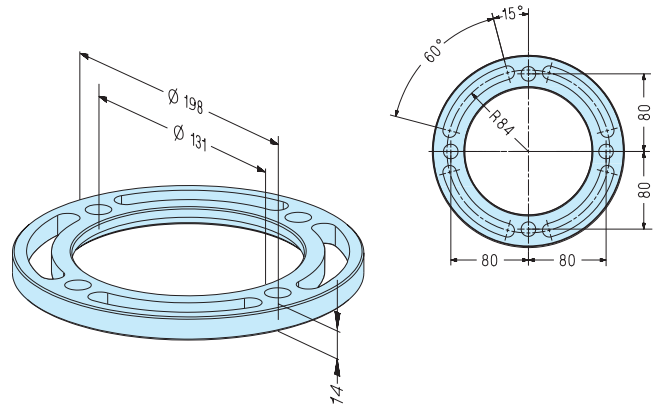
ER-033257 MTS cover, complete

Version Aluminum cover, eloxed, for all MTS chucks.
Application Protects MTS chucks that are not in use from chips and cooling water.



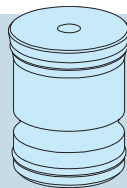
ER-033804 MTS ring bracket

Version Bracket made of steel, excluding attachment bolts.
Application To attach MTS chucks onto the machine table.



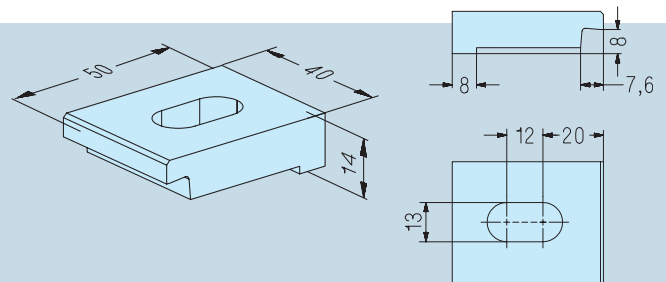
ER-037967 Plug

Version Steel
Application To plug the central borehole of all the MTS chucks.



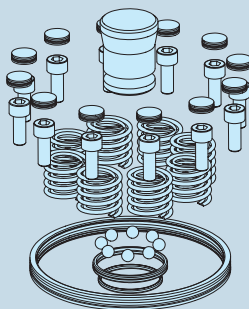
ER-033805 MTS bracket

Version Bracket made of steel, excluding attachment bolt.
Application To attach MTS chucks onto the machine table.
Note Four brackets are necessary per MTS chuck.



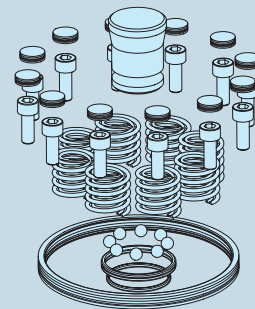
ER-034382 MTS repair set, pneumatic

Version All the wearing parts for pneumatic MTS chucks.
Application As a repair set or for the conversion of hydraulic MTS chucks into pneumatic ones.
Note Repair or conversion according to instruction manual supplied.



ER-034383 MTS repair set, hydraulic

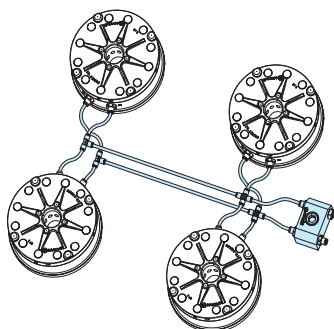
Version All the wearing parts for hydraulic MTS chucks.
Application As a repair set or for the conversion of pneumatic MTS chucks into hydraulic ones.
Note Repair or conversion according to instruction manual supplied.



MTS accessories

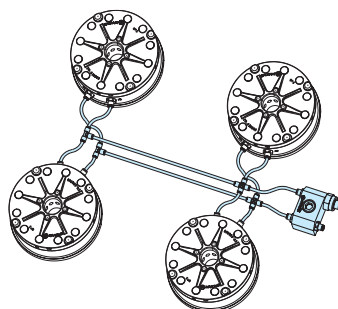
ER-034361 Tube set MTS 2/4-P

Application	All the necessary fittings for the pneumatic control of 2 or 4 MTS chucks. Max. operating pressure: 9bar
Version	2 T-Plugs 2 Cross plug connectors 3 Straight threaded connectors 1 Connector block 8m Tube $\varnothing 6/4$ black 8m PMAFLEX corrugated pipe 1 Valve, complete (for air jet ER-001846)
To fit	According to instruction manual supplied.



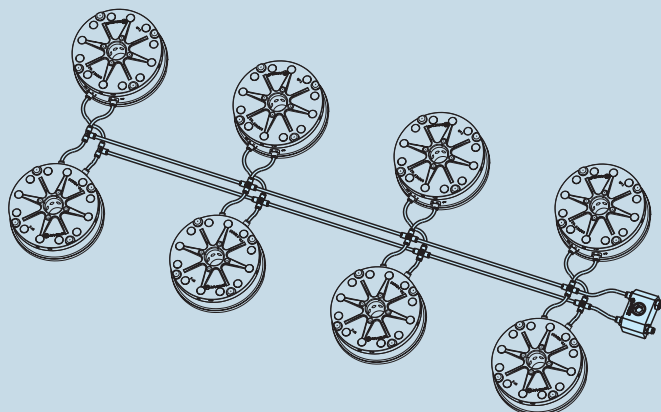
ER-034359 Tube set MTS 2/4-H

Application	All the necessary fittings for the hydraulic control of 2 or 4 MTS chucks. Max. operating pressure: 40bar
Version	2 Threaded T-connectors 2 Threaded cross connectors 3 Straight threaded connectors 24 Support sleeves 1 Connector block 8m Tube $\varnothing 4/2$ yellow PA 8m PMAFLEX corrugated pipe 1 Nipple 1/8" (for pneumatic/hydraulic booster ER-033497)
To fit	According to instruction manual supplied.



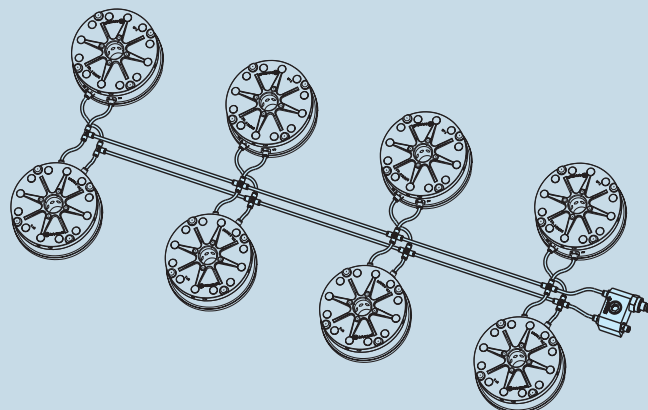
ER-034362 Tube set MTS 6/8 P

Application	All the necessary fittings for the pneumatic control of 6 or 8 MTS chucks. Max. operating pressure: 9bar
Version	2 T-plugs 6 Cross plug connectors 3 Straight threaded connectors 1 Connector block 12m Tube $\varnothing 6/4$ black 12m Corrugated pipe 1 Valve, complete (for air jet ER-001846)
To fit	According to instruction manual supplied.



ER-034360 Tube set MTS 6/8 H

Application	All the necessary fittings for the hydraulic control of 6 or 8 MTS chucks. Max. operating pressure: 40bar
Version	2 Threaded T-connectors 2 Threaded cross connectors 3 Straight threaded connectors 48 Support sleeves 1 Connector block 12m Tube $\varnothing 4/2$ yellow PA, 12m PMAFLEX corrugated pipe 1 Nipple 1/8" (for pneumatic/hydraulic booster ER-033497)
To fit	According to instruction manual supplied.





EROWA®



ER-014326 Straight threaded connector

Application Pneumatic.



ER-002814 Angled connector

Application Pneumatic.



ER-014366 Threaded T-connector

Application Pneumatic.



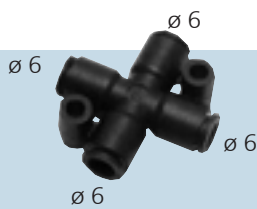
ER-014333 T-connector

Application Pneumatic.



ER-034095 Cross-connector

Application Pneumatic.



ER-002023 Tube ø 6/4

Application Pneumatic.
Max. operating pressure: 9bar.
Order unit Meters.



ER-036672 MTS Air jet valve

Application Pneumatic.
For air jet ER-001846.



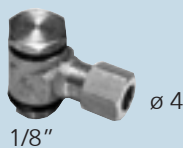
ER-033492 Straight threaded connector

Application Hydraulic and pneumatic.
Note Hydraulic operation requires support sleeve ER-033496.



ER-033565 Angled connector

Application Hydraulic and pneumatic.
Note Hydraulic operation requires support sleeve ER-033496.



ER-033566 Angled T-connector

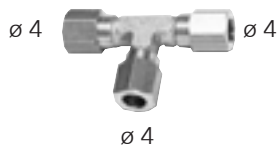
Application Hydraulic and pneumatic.
Note Hydraulic operation requires support sleeve ER-033496.



MTS accessories

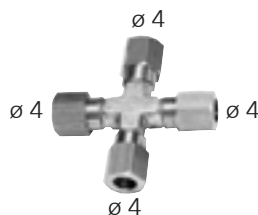
ER-033493 Threaded T-connector

Application Hydraulic and pneumatic.
Note Hydraulic operation requires support sleeve ER-033496.



ER-033494 Cross connector

Application Hydraulic and pneumatic.
Note Hydraulic operation requires support sleeve ER-033496.



ER-002147 Corrugated pipe

Application Hydraulic and pneumatic.
 Protects tubes ER-033495 and ER-002023 from damage.
Order unit Meters.



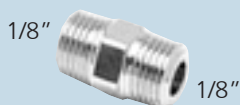
ER-034098 Reduction nipple 1/4" – 1/8"

Application Hydraulic and pneumatic.



ER-001539 Double nipple MS 1/8" – 1/8"

Application Hydraulic and pneumatic.



ER-034372 Reduction bushing IG 1/8" – IG 1/4"

Application Hydraulic and pneumatic.



ER-034373 Reduction bushing IG 1/8" – IG 1/8"

Application Hydraulic and pneumatic.



ER-034375 Reduction nipple AG 1/4" – IG 1/8"

Application Hydraulic and pneumatic.



ER-001617 Threaded plug 1/8"

Application Hydraulic and pneumatic.



ER-033495 Tube ø 4/2

Application Hydraulic.
Version Max. operating pressure: 40bar.
Order unit Meters.
Note If the operating pressure is ≥ 8 bar, you need the support sleeve ER-033496.





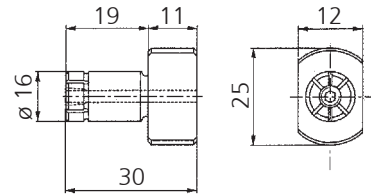
ER-033496 Support sleeve

Application Hydraulic, if the operating pressure is $\geq 8\text{bar}$.



ER-034349 Positioning bolts 12 mm

Application To position the MTS base on machine tables with T-slots.



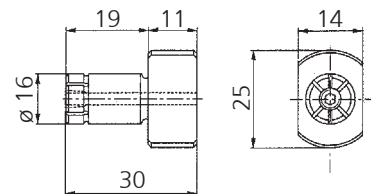
ER-033504 Nipple 1/8"

Application Hydraulic.
With blocking device. Fits fast coupling ER-033499.



ER-034350 Positioning bolts 14 mm

Application To position the MTS base on machine tables with T-slots.



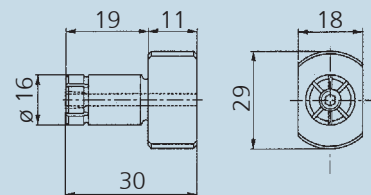
ER-033499 Fast coupling, 1/8" IG

Application Hydraulic.
With blocking device. Fits fast nipple ER-033504.



ER-034351 Positioning bolts 18 mm

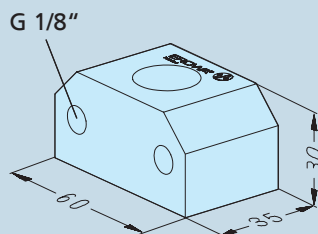
Application To position the MTS base on machine tables with T-slots.



ER-034168 Connector block 1/8" 2-double

Version Connector block made of steel, excluding attachment bolts.

Application To receive pneumatic and hydraulic threaded connectors, nipples and couplings.



EROWA MTS – tailor-made handling



EROWA LiftGear MTS

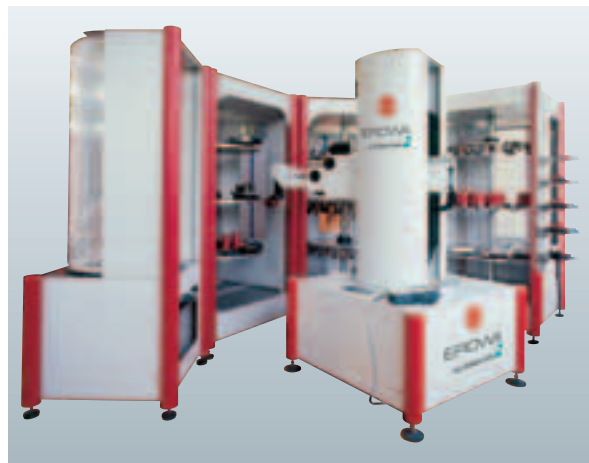
Owing to its functionality, the EROWA MTS Modular Tooling System is highly suitable for the automatic loading/unloading of machines. From the manual handling facility to the complex Robot system, EROWA supplies the handling solution you require.



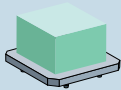
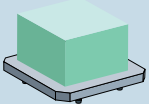
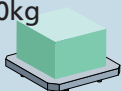
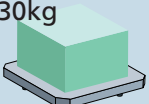
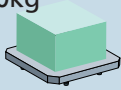
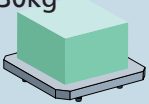
EROWA Lift 2



EROWA Robot



EROWA ERS

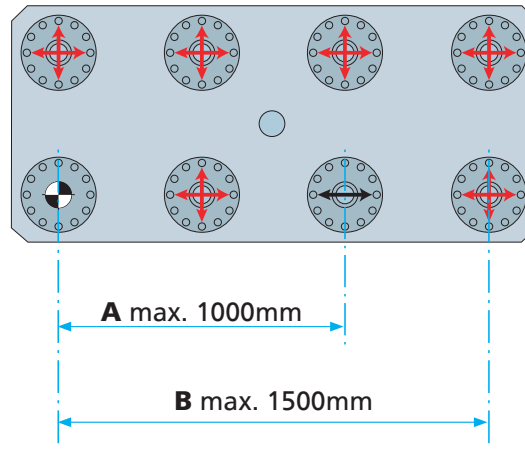
Type	Max. load	Pallet ø148mm	Pallet 400x400mm	Pallet 500x500mm
EROWA LiftGear MTS	250kg	—		
EROWA Lift 2	150kg		130kg 	130kg 
EROWA Robot	65kg		—	—
EROWA ERS	130kg		130kg* 	130kg* 

* without A-axis

Distance between chucking spigots

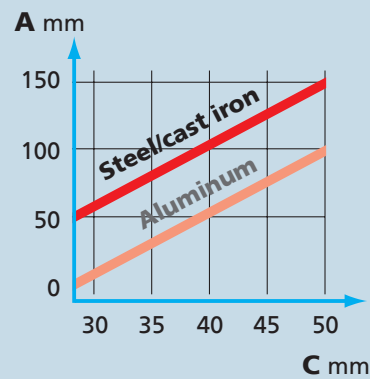
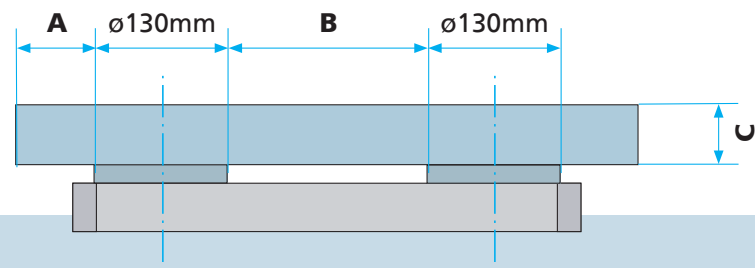
A Maximum distance between the **MTS centering spigot** and the **MTS compensation spigot**.

B Maximum distance between the **MTS centering spigot** and the **MTS chucking spigot**.

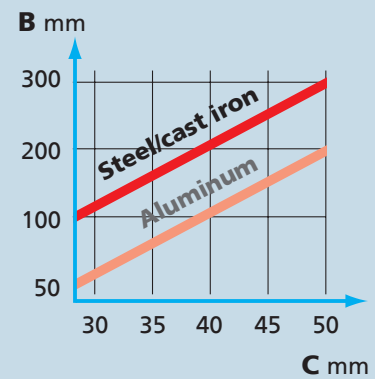


Pallet projection

The stronger the machining forces, and the more exactly the desired tolerance values must be adhered to, the smaller the maximum pallet projection may be.



Maximum projection **A**



Maximum projection **B**

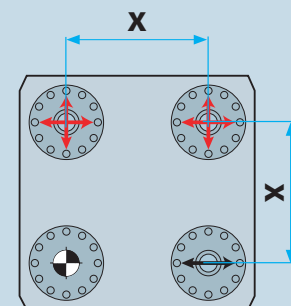
Set-up distance

The set-up distance **X** is the distance between the centers of MTS chucks on base plates.

The set-up distance of MTS chucks on MTS base plates is standardized at 200mm or 250mm.

When MTS integrated chucks are fitted, the set-up distance **X** should amount to at least 140mm.

When MTS mounted chucks are fitted, the set-up distance **X** should amount to at least 200mm.



Any technical data listed in this EROWA catalogue are not binding. Technical modifications are reserved.

The next step is up to you.

Important matters require planning. And your next step is certain to be such an important matter. After all, you are setting off into a new, rational age. We will gladly accompany you on your way. With advice, in daily operating procedures. So that you will know at any time what you are letting yourself in for. The nearest EROWA agency is not far away. Take that important step.

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