EROWA
General Catalog



Unlocking the full potential of your machines

EROWA®

System solutions from one single source

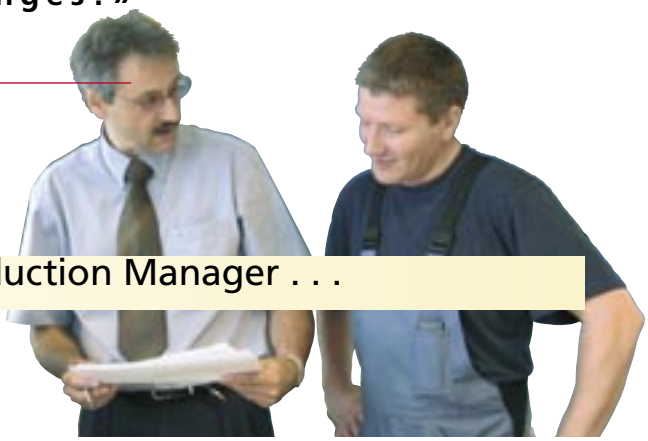
Competence means to understand facts!

This is what EROWA components offer . . .

«Economic changes?»

Flexibility

Flexibility is difficult to express in figures. However, it is crucial nowadays to be able to adapt to changing requirements. Shorter machining times even with small series or one-off parts will enhance your flexibility in both, planning and production.

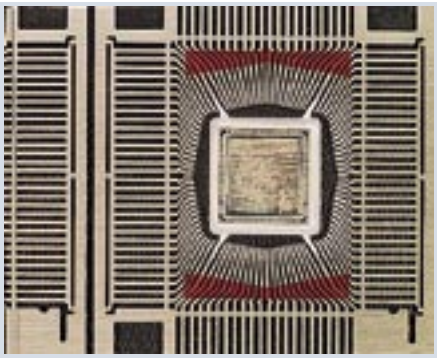


. . . to the Production Manager . . .

«Expensive machinery?»

Return on Investment (ROI)

Increased production capacity coupled with only slightly rising costs ensure that investments will pay off after a short period of time.



«High demands on quality?»

Quality

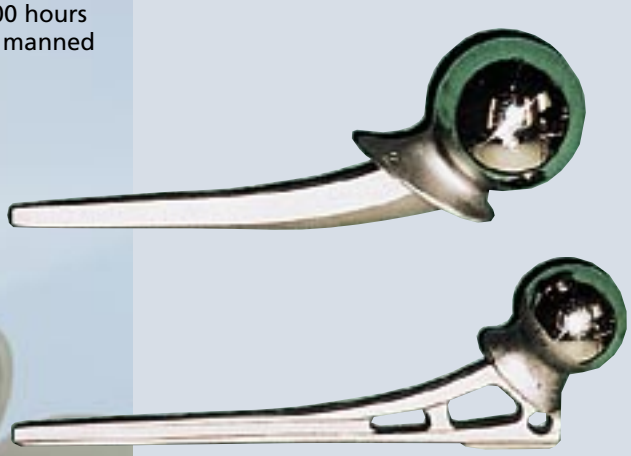
Thanks to structured working processes and technical aids, error sources will be gradually eliminated. Both production quality and product quality will be substantially improved.

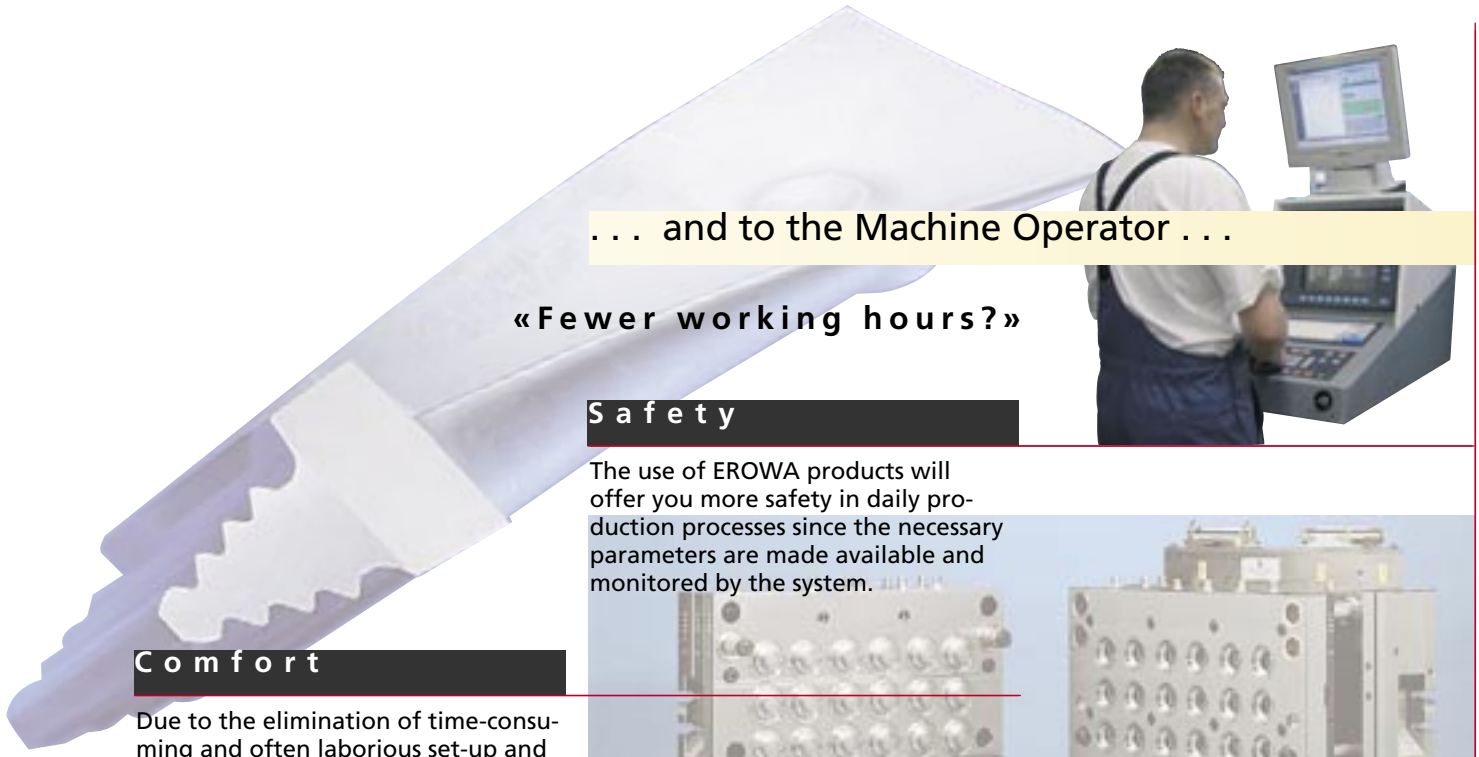
«High labor costs?»

Production capacity

A year offers 8760 hours. With the EROWA FMC you will be able to make productive use of up to 6000 hours with one machine and one manned shift.







. . . and to the Machine Operator . . .

«Fewer working hours?»

Safety

The use of EROWA products will offer you more safety in daily production processes since the necessary parameters are made available and monitored by the system.

Comfort

Due to the elimination of time-consuming and often laborious set-up and programming work on the machine, you will gain more time to work out an optimal work schedule.

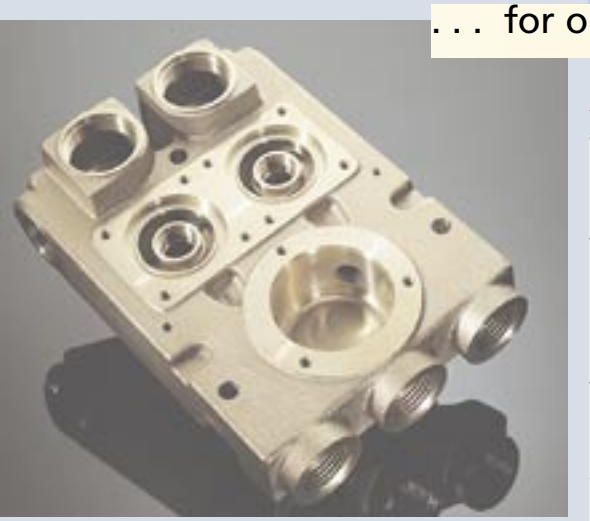


Interesting work

The use of EROWA products will change your workstation. You will turn from an operator into the manager of your production cell. Daily work will be more interesting and more demanding.

«Market globalization?»

. . . for our shared objective:



Competitiveness

The use of EROWA products offers crucial advantages both in terms of finances (increased ROI, increased cash flow, shortened payback) and in terms of personnel through an improved motivation of staff. Together with enhanced flexibility and increased production capacity and production quality, this will provide you with a decisive edge in a market characterized by fierce competition.

EROWA®

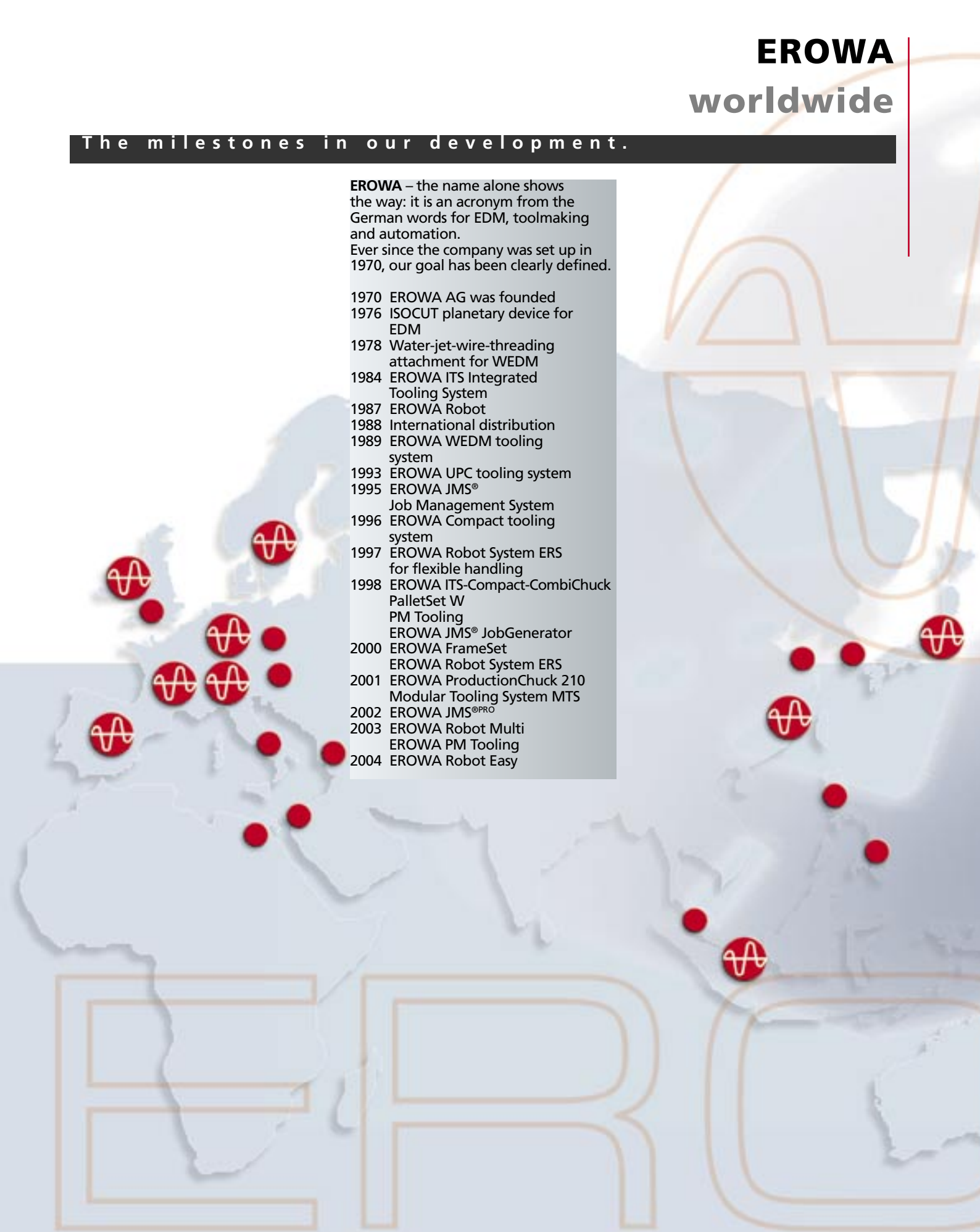
System solutions from one single source

EROWA worldwide

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-CombiChuck
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
2003 EROWA Robot Multi
EROWA PM Tooling
2004 EROWA Robot Easy



Our partners and customers.

Our customers include notable firms on all five continents.

Among them are machinebuilders, tool and mold manufacturers, as well as production companies in electronics, automotive, watch-making, medical technology, aviation, aerospace, cutting tools, and many subcontractors.

EROWA subsidiaries

EROWA distribution centers

You will find us all over world

Switzerland
EROWA AG

Germany
EROWA System Technologien GmbH

France
EROWA Distribution France SARL

Japan
EROWA Nippon Ltd.

USA
EROWA Technology Inc.

Sweden
EROWA Nordic AB

Singapur
EROWA South East Asia Pte. Ltd.

Shanghai
HANOWA Technology Ltd.

Spain
EROWA Technology Ibérica S.L.

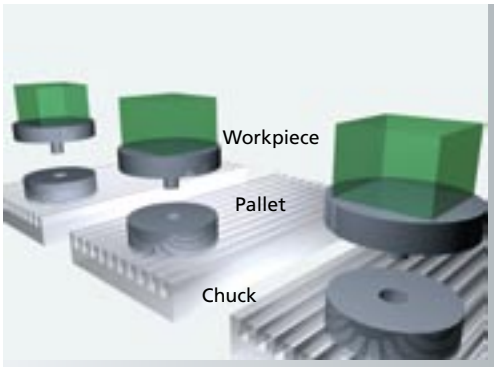
Brasil
EROBA Tecnologia Ltda.

Italy
EROWA Tecnologie S.r.l.

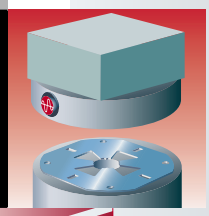


EROWA FMC –
Step by step.

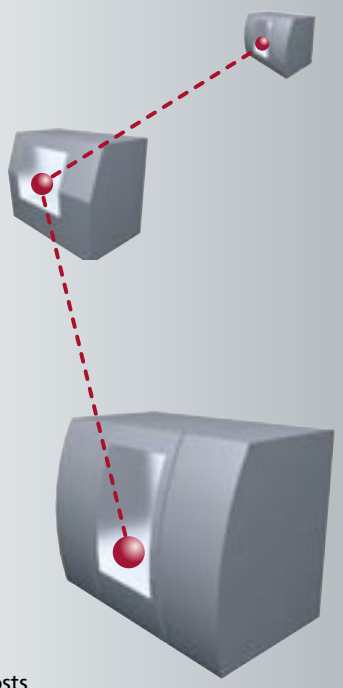
Integration
Automation
Organization



1 Standardization



Standardization of mechanical interfaces. The integration of a universal tooling system on all machine tools will significantly reduce any downtimes.



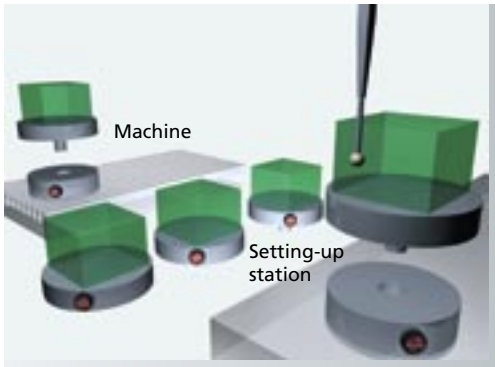
Production costs



Production capacity



Integration
Automation
Organization

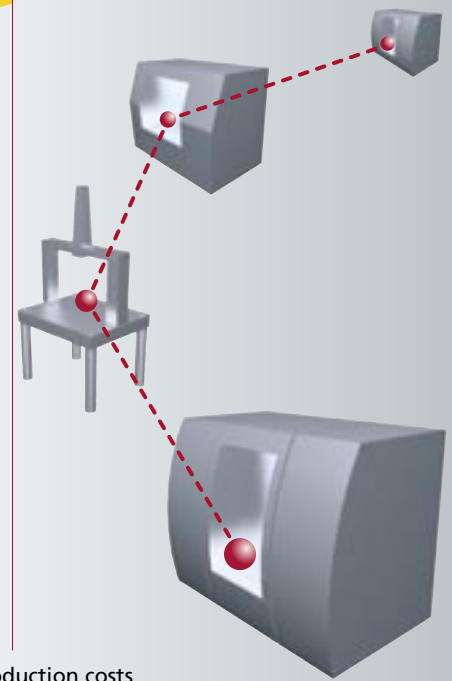


2 Organization



Organization of electrodes and workpieces. All the workpieces and electrodes are set up outside the machine. If necessary, their offset values are determined outside the machine. Thus, programs can be generated in advance, and automation becomes possible.

Standardization



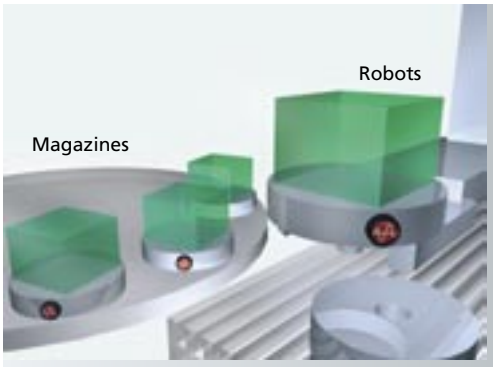
Production costs



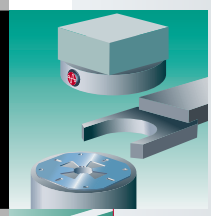
Production capacity



EROWA's Manufacturing Concept (FMC) shows you ways and means of how you will be able to establish rational and future-oriented production facilities step by step.



Integration

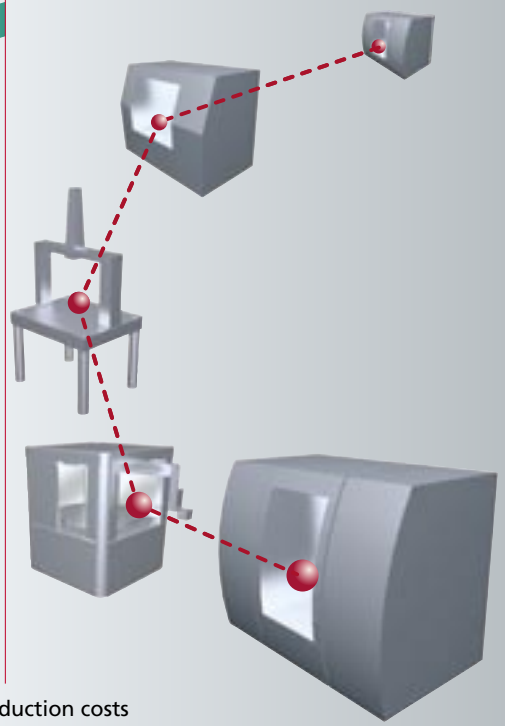
3 

Automation

Automation of machine tools. Operators are relieved of monotonous work. At the same time, the capacity for the output of parts and for preparation work is multiplied.

Organization

Standardization

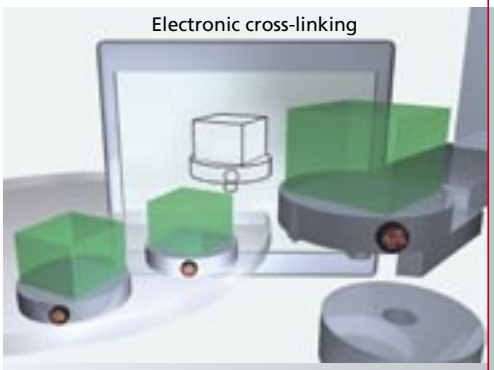


Production costs

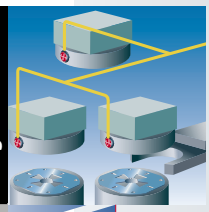


Production capacity





Integration

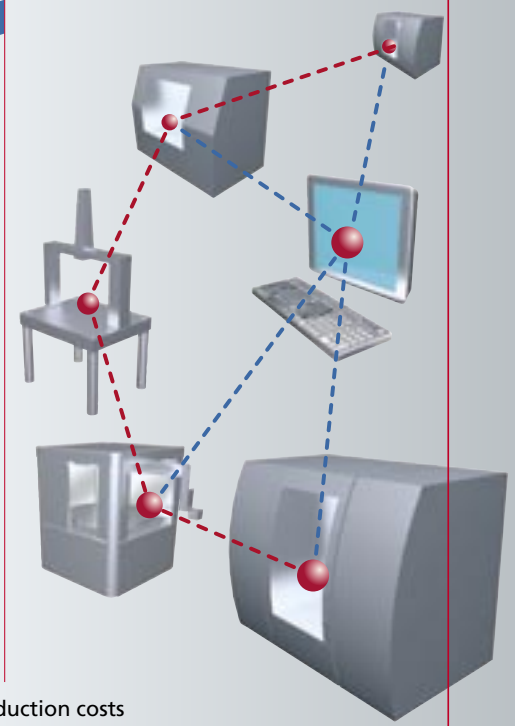
4 

Integration of systems and communication channels. This excludes sources of errors as much as possible, while guaranteeing a fast flow of communication.

Automation

Organization

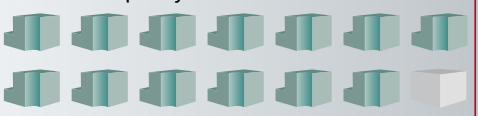
Standardization



Production costs



Production capacity



Here you can find everything.



EROWA palletizing systems

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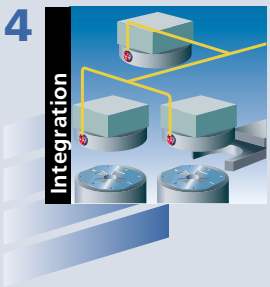
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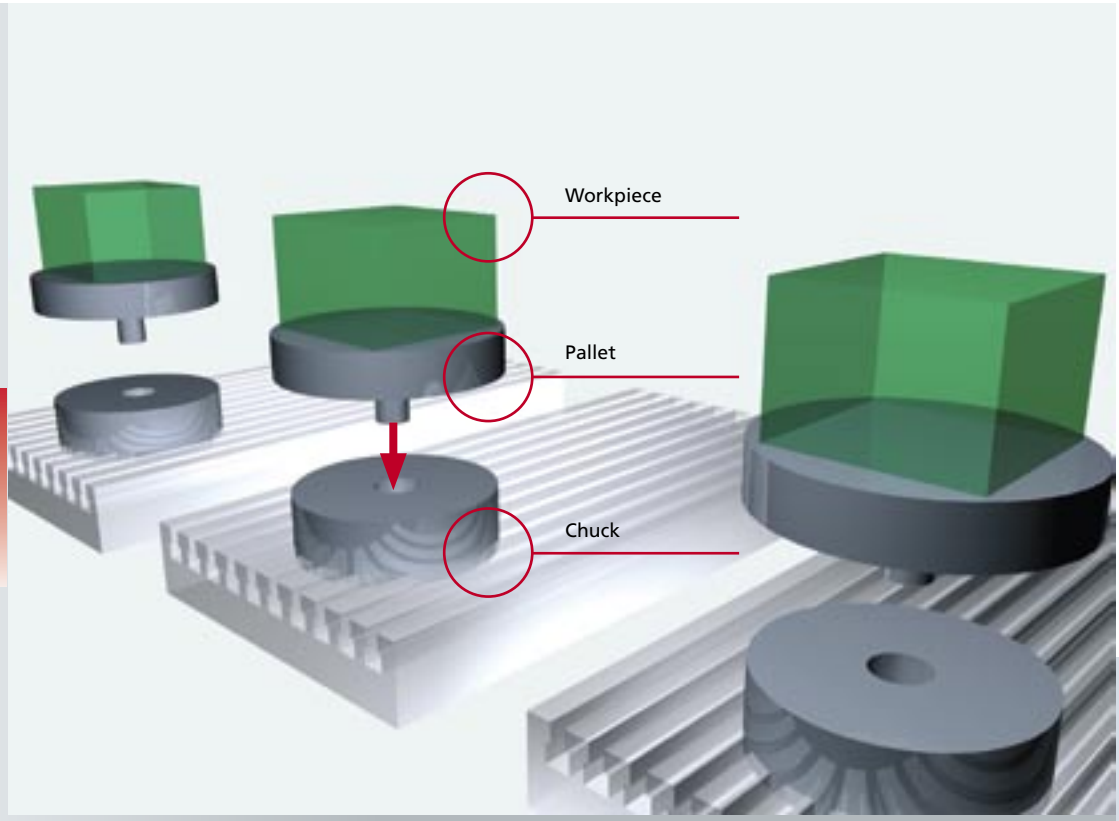
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EROWA®

EROWA Palletizing systems

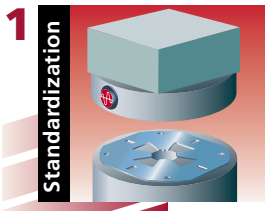


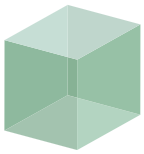
Standardization of mechanical interfaces. The integration of a universal tooling system on all machine tools will significantly reduce any downtimes.

For chip-removing processes

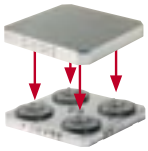
For EDM sinking

For WEDM





Machine dependent

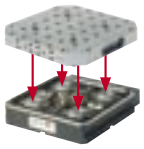


EROWA MTS palletizing system

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500 x 500 x 500 mm



EROWA UPC palletizing system

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400 x 400 x 400 mm



EROWA ProductionChuck 210 tooling system

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160 x 160 x 160 mm

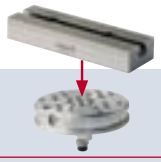


EROWA PowerChuck P tooling system

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200 x 200 x 200 mm

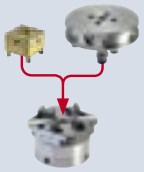


EROWA ClampSet palletizing system

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140 x 140 x 140 mm

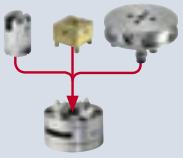


EROWA ITS tooling system

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50 x 50 x 50 mm

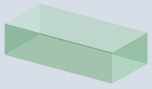


EROWA ITS Compact Combi tooling system

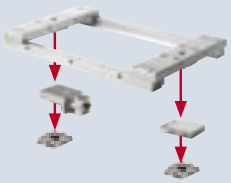
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EROWA ITS Accessories

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Machine dependent



EROWA Wire Tooling System

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EROWA Peripheral equipment

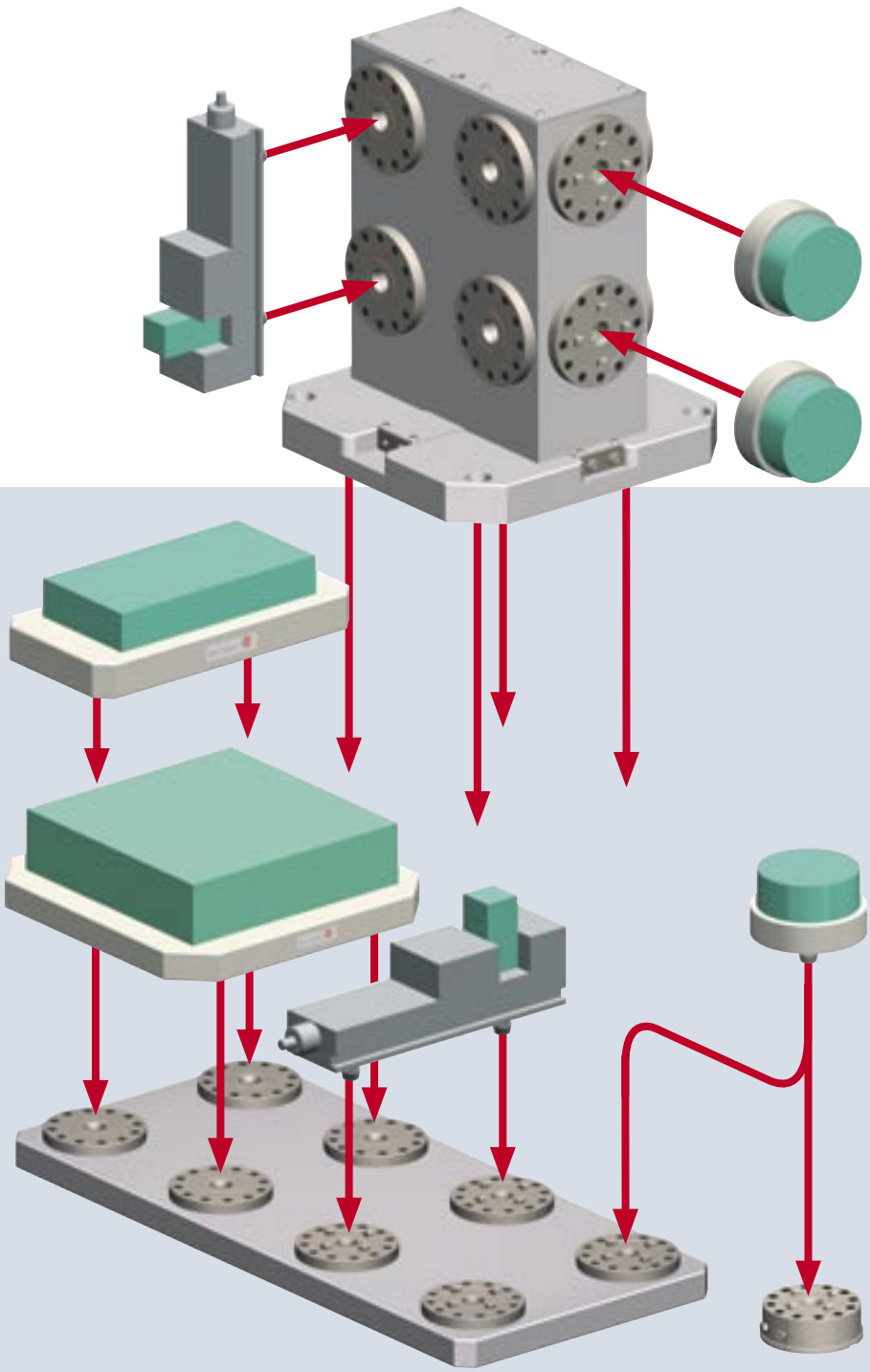
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EROWA®

EROWA MTS

The 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 combination is 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.



The datum point is defined!
No alignement is necessary.

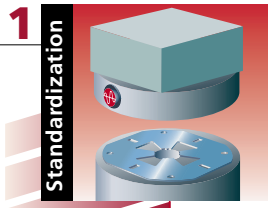
Minimum setting-up times thanks to a standardized interface!
The interface between the machine and the workpieces/fixtures is standardized. The modular design of the clamping equipment allows for an almost unlimited number of combinations of all the components.

Make use of existing equipment!
Vises, gauges and fixtures are palletized or equipped with chucking spigots and put to further use at once.

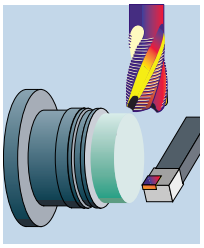
5-side machining in one single clamping process!
Once the workpiece has been clamped on an EROWA pallet, 5 sides can be machined with that one clamping process.

- Play-free prismatic centering in MTS single chucks.
- Indexable 4 x 90°.
- More than 500000 clamping processes without any loss of power or reference accuracy.
- Clamping surfaces that have no recesses or can be cleaned with compressed air.
- Low profile design.
- Suitable for automatic pallet change.
- Standardized set-up distances* of 200 mm or 250 mm on all EROWA base plates.

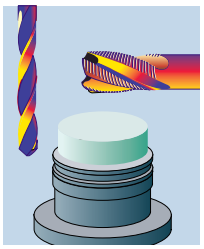
*) The set-up distance is the distance between the MTS chucks on a base plate.



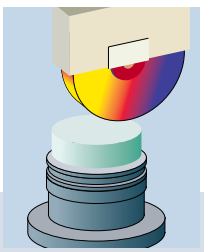
Applications



Milling/Turning

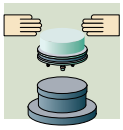


Drilling/Milling



Grinding

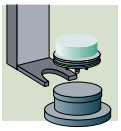
Handling



Manual

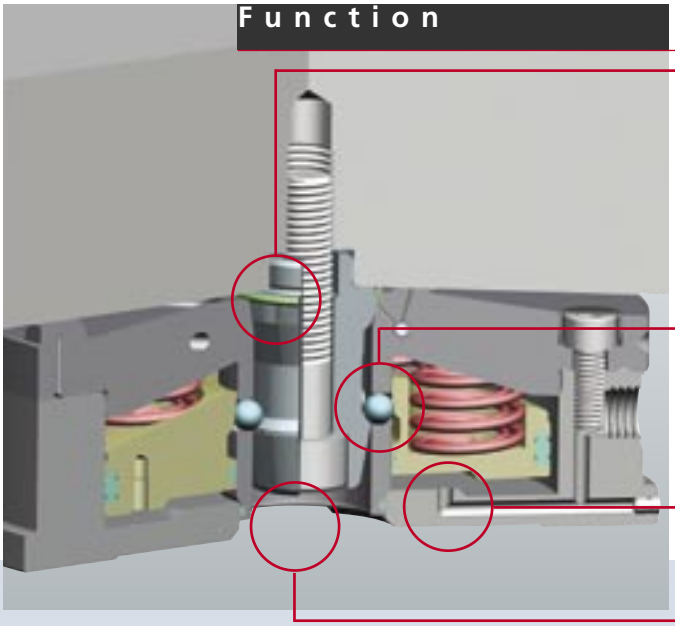


Loading facility



Robot

Function



Play-free round-cone centering.

Repeatability: <0.005 mm.

Easy insertion of the pallets without any jamming.

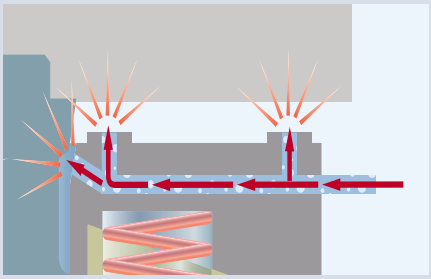
Reliable clamping mechanism through self-locking ball lock. Stable, low level of vibration.

Opened: Pneumatically or hydraulically

Liquids can drain off. No dirt traps.

Opening, hydraulic
The hydraulic MTS chuck with 20000 N clamping power only requires 25 bar opening pressure.

Opening, pneumatic
A mere 7 bar of opening pressure results in 12000 N clamping power thanks to internal power boosting.



MTS chuck, able to automate. Automatic cleaning of contact surfaces and of the centering spigots cone while the workpiece is changed.

Technical data

	MTS pneumatic	MTS hydraulic
Repeatability	<0.005 mm	<0.005 mm
Activation	clamped without pressure	
Opening pressure	min. 7 bar	min. 25 /max. 70 bar
Process monitoring	pneumatically	pneumatically
Clamping power	12000 N/Chuck	20000 N/Chuck

EROWA®

EROWA MTS
Know-how from experience

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.



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





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







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.





Customized solutions are included. We will gladly advise you.

Single palletization with EROWA MTS SingleChuck.

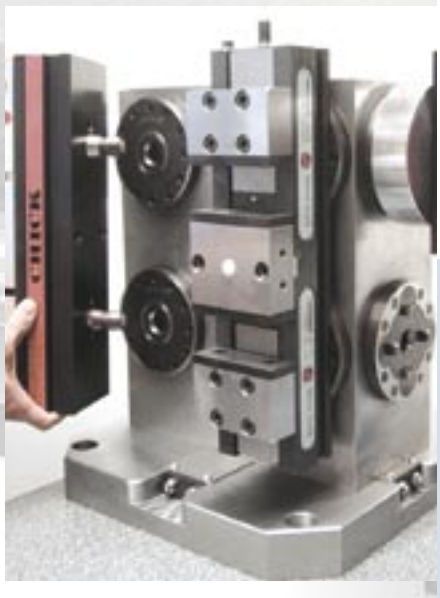


MTS chuck, able to automate. During the workpiece change, the contact surfaces are cleaned automatically.













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

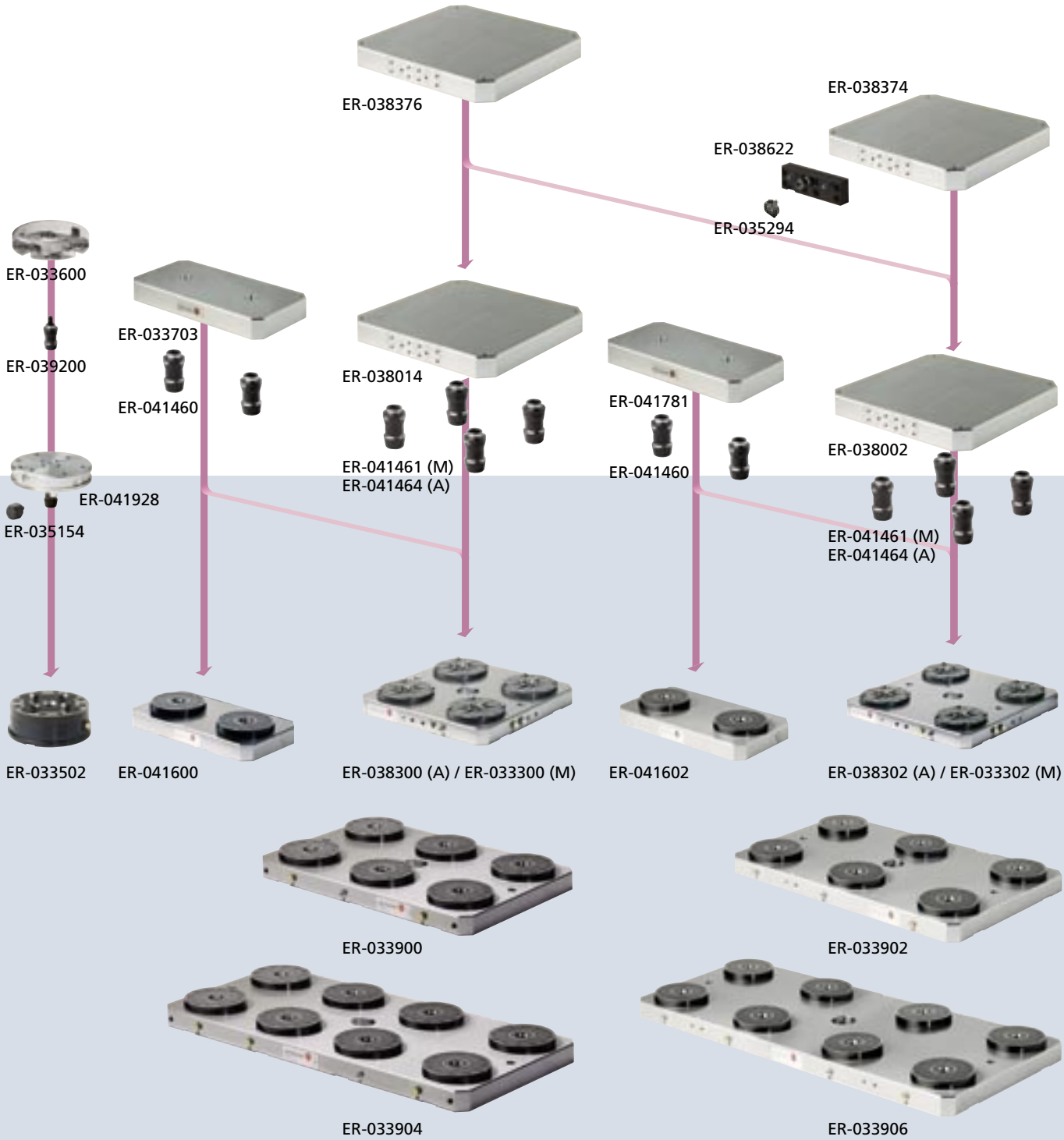


From the manual handling facility to the complex Robot system, EROWA supplies the handling solution you require.

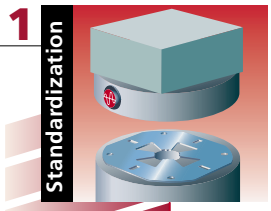
MTS

EROWA®

The components



(M) = manual
(A) = automatic



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 Combi gripper
12. Handling with EROWA Robot gripper 72
13. Handling with EROWA Robot gripper 115
14. Handling with EROWA Robot gripper 148
15. Handling with EROWA RCS gripper

For chip-removing processes

For EDM sinking

For WEDM

EROWA MTS palletizing system

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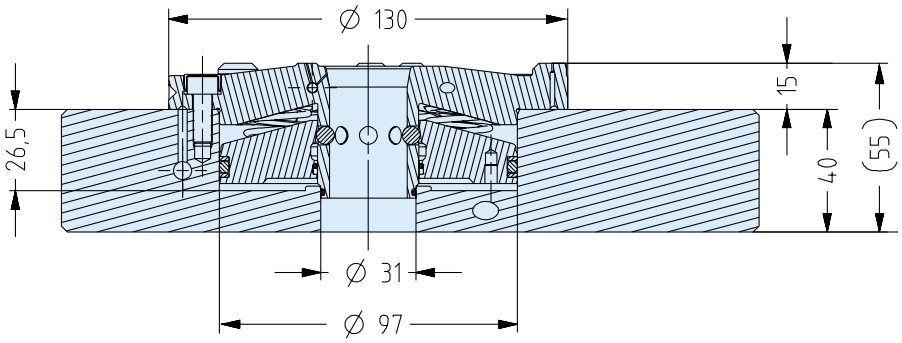
MTS

EROWA

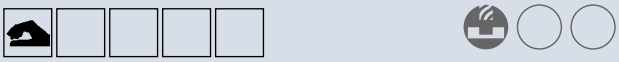
Technical data	MTS integral chucks pneumatic	hydraulic
Repeatability	<0.005 mm	<0.005 mm
Indexation, pallet	4 x 90° (MTS IntegralChuck S)	
Clamping	Spring power	Spring power
Opening pressure	min. 7 bar	min. 25 /max. 70 bar
Process monitoring	pneumatic	pneumatic
Clamping power	12000 N/Chuck	20000 N/Chuck

S = Single
M = Multi
A = able to automate
P = pneumatically operated
H = hydraulically operated

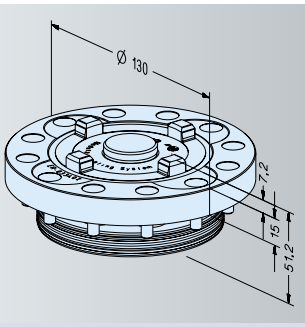
Integration variant (applicable to MTS IntegralChucks Single and Multi).
Observe tolerances according to integration instructions!



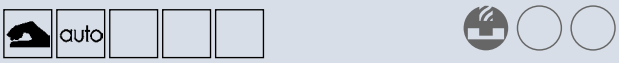
ER-033402 MTS IntegralChuck S-P
ER-033403 MTS IntegralChuck S-H



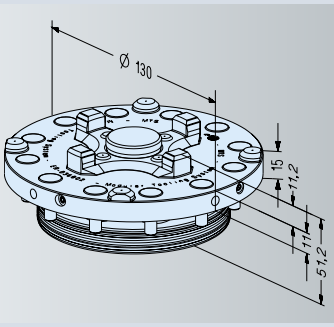
Version For direct integration in machine tables, plates, tombstones, squares or diving heads.
Connections To open: pneumatic or hydraulic.
Application To accommodate single or multiple pallets.



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

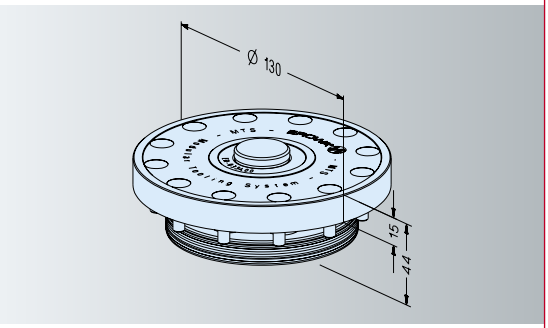


Version For direct integration in machine tables, plates, tombstones, squares or diving heads.
Connections To open: pneumatic or hydraulic.
To clean: pneumatic.
Application To accommodate single or multiple pallets.



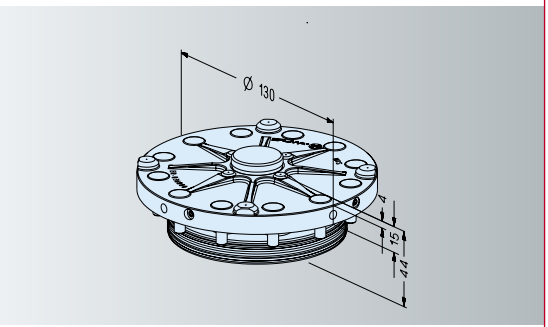
ER-033400 MTS IntegralChuck M-P
ER-033401 MTS IntegralChuck M-H

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



Mounted chucks

Technical data	MTS mounted chucks pneumatic	hydraulic
Repeatability	<0.005 mm	<0.005 mm
Indexation, pallet	4 x 90° (MTS Chuck S)	
Clamping	Spring power	Spring power
Opening pressure	min. 7 bar	min. 25 /max. 70 bar
Process monitoring	pneumatic	pneumatic
Clamping power	12000 N/Chuck	20000 N/Chuck

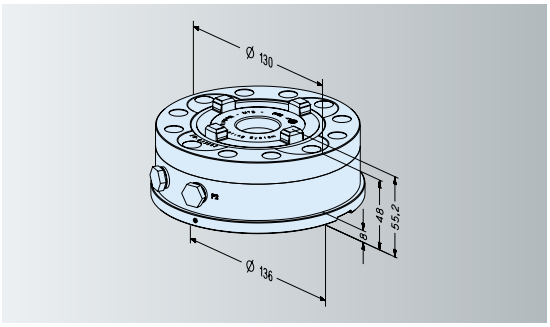
S = Single
M = Multi
A = able to automate
P = pneumatically operated
H = hydraulically operated

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



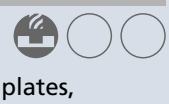


Version For direct mounting on machine tables, plates, tombstones, squares or dividing heads.
Connections Lateral, to open: pneumatic or hydraulic.
Application To accommodate single or multiple pallets.
Accessories Order separately: to fit MTS Chuck, MTS bracket ER-033804 or ER-033805.

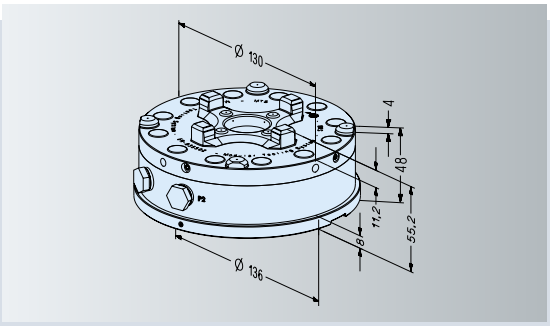


ER-035502 MTS Chuck S-P/A
ER-035503 MTS Chuck S-H/A



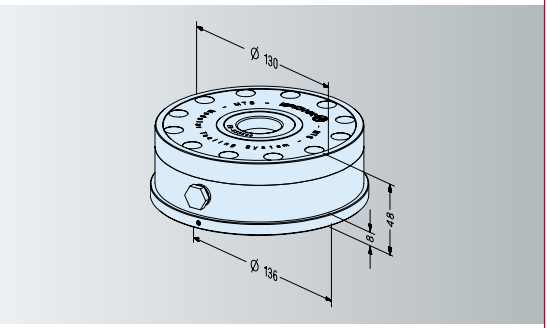


Version For direct mounting on machine tables, plates, tombstones, squares or dividing heads.
Connections Lateral, to open: pneumatic or hydraulic.
Lateral to clean: pneumatic.
Application To accommodate single or multiple pallets.
Accessories Order separately: to fit MTS Chuck, MTS bracket ER-033804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



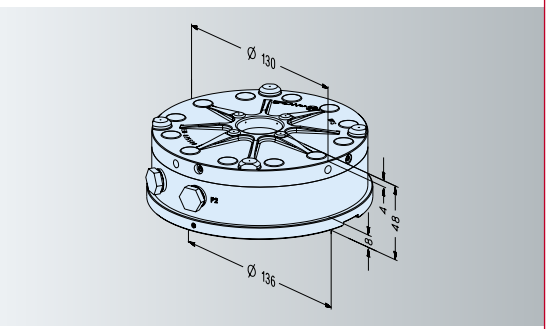
ER-033500 MTS Chuck M-P
ER-033501 MTS Chuck M-H

Version For direct mounting on 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.



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

Version For direct mounting on 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.



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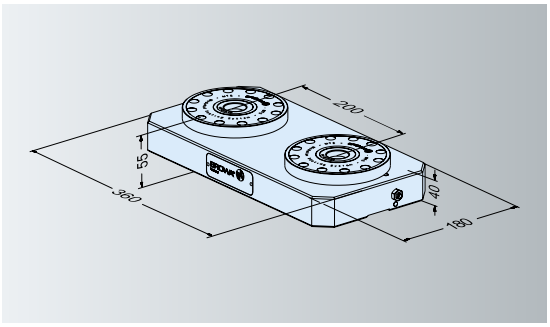
Base plates, 2-fold

Technical data	MTS base plates, 2-fold	
	pneumatic	hydraulic
Repeatability	<0.005 mm	<0.005 mm
Indexation, pallet	1 x 180°	
Clamping	Spring power	Spring power
Opening pressure	min. 7 bar	min. 25 /max. 70 bar
Process monitoring	pneumatic	pneumatic
Clamping power	24000 N (2 x 12000 N)	40000 N (2 x 20000 N)

P = pneumatically operated
H = hydraulically operated

ER-041600 MTS base plate 180 x 360 P

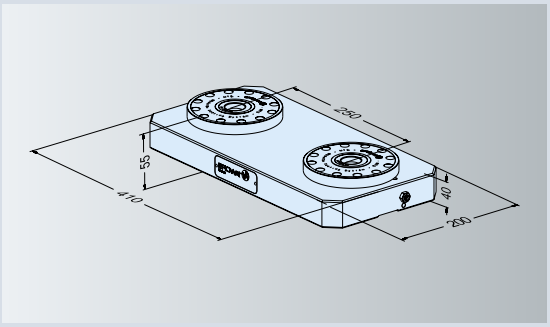
ER-041601 MTS base plate 180 x 360 H



Version Base plate, steel, unhardened; set-up distance 200 mm.
Connections Lateral, to open: pneumatic or hydraulic.
Application To accommodate double pallets. For direct assembly on machine tables.
Accessories for ER-041600: 1 x ER-036672,
for ER-041601: 1 x ER-033504.
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-041602 MTS base plate 200 x 410 P

ER-041603 MTS base plate 200 x 410 H



Version Base plate, steel, unhardened; set-up distance 250 mm.
Connections Lateral, to open: pneumatic or hydraulic.
Application To accommodate double pallets. For direct assembly on machine tables.
Accessories for ER-041602: 1 x ER-036672,
for ER-041603: 1 x ER-033504.
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.

EROWA MTS

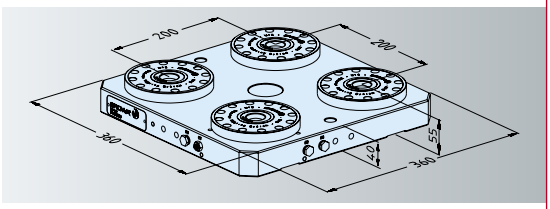
Base plates, 4-fold

Technical data	MTS base plates, 4-fold pneumatic	hydraulic
Repeatability	<0.005 mm	<0.005 mm
Indexation, pallet	4 x 90°	
Clamping	Spring power	Spring power
Opening pressure	min. 7 bar	min. 25 /max. 70 bar
Process monitoring	pneumatic	pneumatic
Clamping power	48000 N (4 x 12000 N)	80000 N (4 x 20000 N)

P = pneumatically operated
H = hydraulically operated

ER-033300 MTS base plate 360 x 360 P

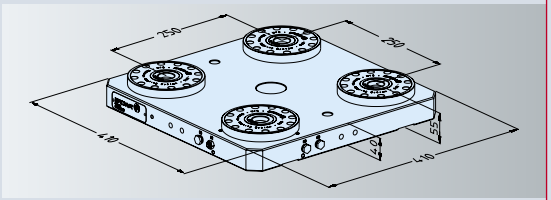
ER-033301 MTS base plate 360x 360 H



Version Base plate, steel, unhardened; set-up distance 200 mm.
Connections Lateral, to open: pneumatic or hydraulic.
Application To accommodate multiple pallets. For direct assembly on machine tables.
Accessories for ER-033300: 1 x ER-036672,
for ER-033301: 1 x ER-033504.
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 250 mm.
Connections Lateral, to open: pneumatic or hydraulic.
Application To accommodate multiple pallets. For direct assembly on machine tables.
Accessories for ER-033302: 1 x ER-036672,
for ER-033303: 1 x ER-033504.
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.

EROWA

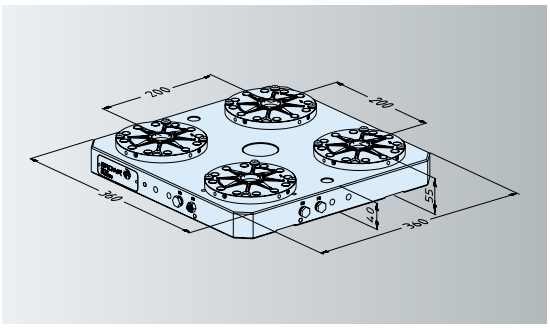
Base plates, 4-fold, with cleaning, able to automate

Technical data	MTS base plates, 4-fold with cleaning, able to automate	
	pneumatic	hydraulic
Repeatability	<0.005 mm	<0.005 mm
Clamping	Spring power	Spring power
Opening pressure	min. 7 bar	min. 25 /max. 70 bar
Process monitoring	pneumatic	pneumatic
Clamping power	48000 N (4 x 12000 N)	80000 N (4 x 20000 N)

P = pneumatically operated
H = hydraulically operated
A = able to automate

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

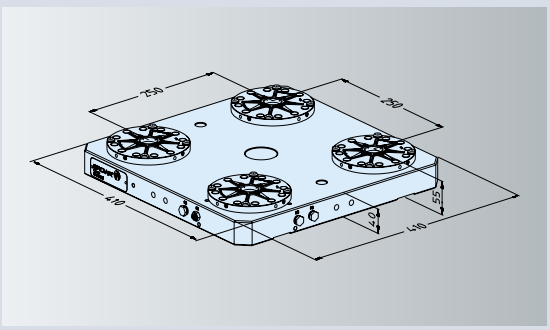
ER-038301 MTS base plate 360 x 360 H/A



Version Base plate, steel, unhardened; set-up distance 200 mm.
Connections Lateral, to open: pneumatic or hydraulic. Lateral to clean: pneumatic.
Application To accommodate multiple pallets. For direct assembly on machine tables.
Accessories for ER-038300: 1 x ER-036672, 2 x ER-014326, for ER-038301: 1 x ER-033504, 1 x ER-014326.
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 250 mm.
Connections Lateral, to open: pneumatic or hydraulic. Lateral to clean: pneumatic.
Application To accommodate multiple pallets. For direct assembly on machine tables.
Accessories for ER-038302: 1 x ER-036672, 2 x ER-014326, for ER-038303: 1 x ER-033504, 1 x ER-014326.
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.

EROWA MTS

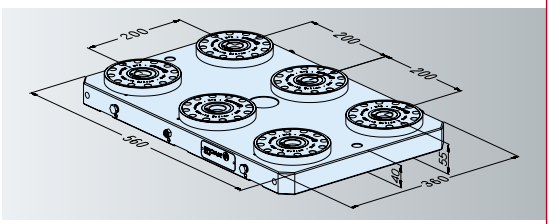
Base plates, 6-fold

Technical data	MTS base plates, 6-fold pneumatic	hydraulic
Repeatability	<0.005 mm	<0.005 mm
Clamping	Spring power	Spring power
Opening pressure	min. 7 bar	min. 25 /max. 70 bar
Process monitoring	pneumatic	pneumatic
Clamping power	72000 N (6 x 12000 N)	120000 N (6 x 20000 N)

P = pneumatically operated
H = hydraulically operated

ER-033900 MTS base plate 360 x 560 P

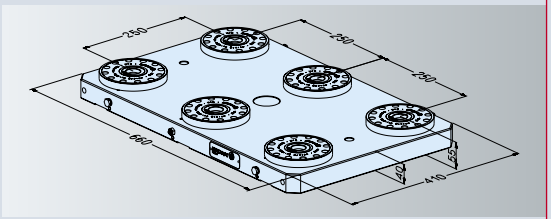
ER-033901 MTS base plate 360 x 560 H



Version Base plate, steel, unhardened; set-up distance 200 mm.
Connections Lateral, to open: pneumatic or hydraulic.
Application To accommodate multiple pallets. For direct assembly on machine tables.
Accessories for ER-033900: 1 x ER-036672,
for ER-033901: 1 x ER-033504.
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 250 mm.
Connections Lateral, to open: pneumatic or hydraulic.
Application To accommodate multiple pallets. For direct assembly on machine tables.
Accessories for ER-033902: 1 x ER-036672,
for ER-033903: 1 x ER-033504.
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.

EROWA

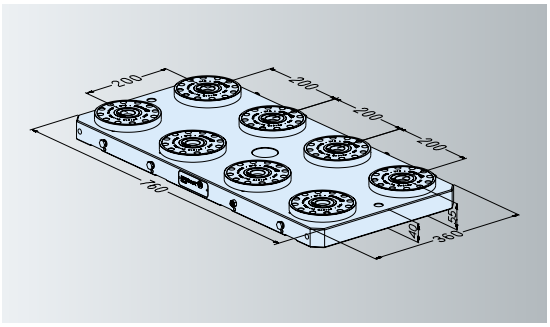
Base plates, 8-fold

Technical data	MTS base plates, 8-fold	
	pneumatic	hydraulic
Repeatability	<0.005 mm	<0.005 mm
Clamping	Spring power	Spring power
Opening pressure	min. 7 bar	min. 25 /max. 70 bar
Process monitoring	pneumatic	pneumatic
Clamping power	96000 N (8 x 12000 N)	160000 N (8 x 20000 N)

P = pneumatically operated
H = hydraulically operated

ER-033904 MTS base plate 360 x 760 P

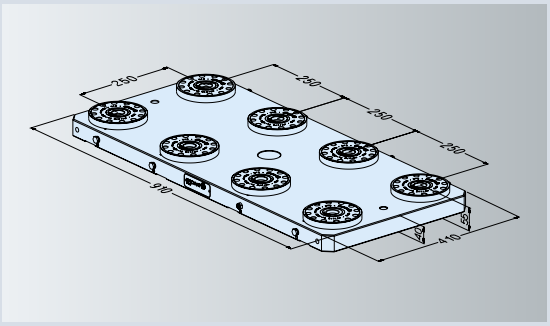
ER-033905 MTS base plate 360 x 760 H



Version Base plate, steel, unhardened; set-up distance 200 mm.
Connections Lateral, to open: pneumatic or hydraulic.
Application To accommodate multiple pallets. For direct assembly on machine tables.
Accessories for ER-033904: 1 x ER-036672,
for ER-033905: 1 x ER-033504.
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

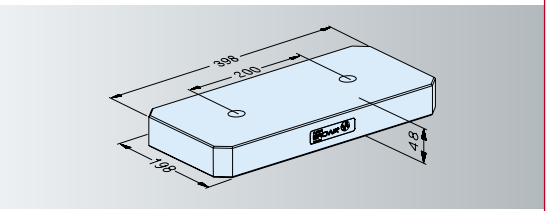


Version Base plate, steel, unhardened; set-up distance 250 mm.
Connections Lateral, to open: pneumatic or hydraulic.
Application To accommodate multiple pallets. For direct assembly on machine tables.
Accessories for ER-033906: 1 x ER-036672,
for ER-033907: 1 x ER-033504.
Note Attachment boreholes can be drilled by customers.
Caution Do not drill through any air or oil ducts! Please order operating instructions from your EROWA dealer.

EROWA MTS
Pallets

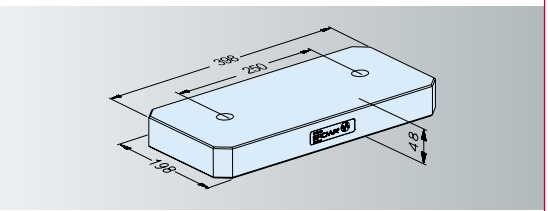
ER-033703 MTS pallet 198 x 398/200

Version Aluminum pallet, 2-fold, excluding chucking spigot (MTS chucking spigot set ER-041460).
Application To clamp workpieces, vises and gauges.
Accessories ER-041460 to be ordered separately.



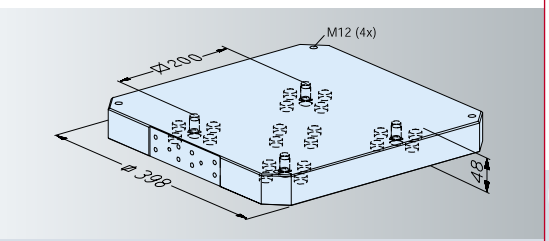
ER-041781 MTS pallet 198 x 398/250

Version Aluminum pallet, 2-fold, excluding chucking spigot (MTS chucking spigot set ER-041460).
Application To clamp workpieces, vises and gauges.
Accessories ER-041460 to be ordered separately.



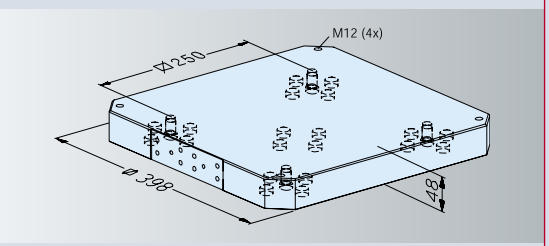
ER-038014 MTS pallet 398 x 398/200

Version Cast aluminum pallet, 4–fold, excluding chucking spigot (MTS chucking spigot set ER–041461 (M) / ER-041464 (A).
Application To clamp workpieces, vises and gauges.
Accessories ER–041461 (M) / ER-041464 (A) to be ordered separately.



ER-038002 MTS pallet 398 x 398/250

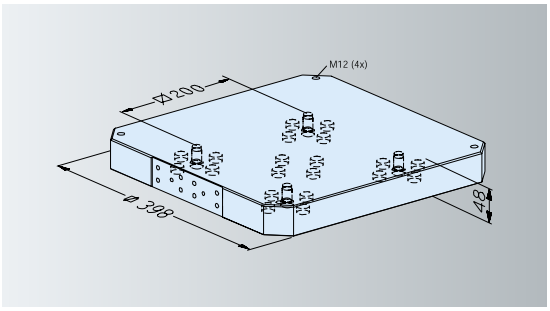
Version Cast aluminum pallet, 4–fold, excluding chucking spigot (MTS chucking spigot set ER–041461 (M) / ER-041464 (A).
Application To clamp workpieces, vises and gauges.
Accessories ER–041461 (M) / ER-041464 (A) to be ordered separately.



MTS

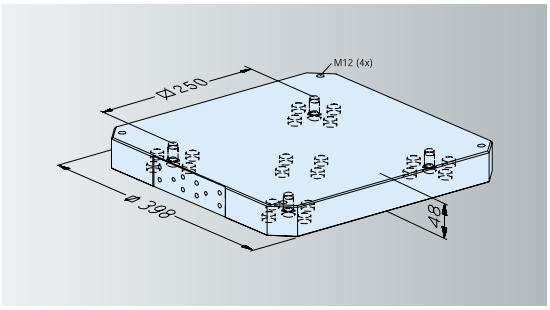
EROWA

ER-038376 MTS pallet 398 x 398/200 Z = hard



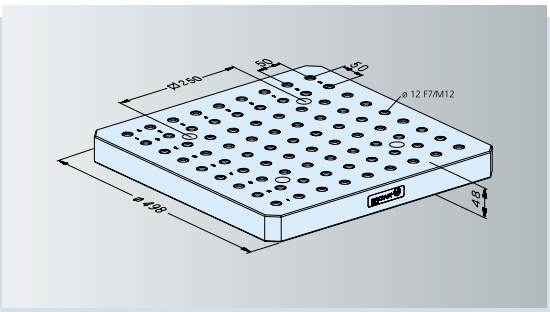
Version Aluminum pallet, 4–fold, excluding chucking spigot (MTS chucking spigot set ER–041461 (M) / ER-041464 (A).
Z-Support hard
Application To clamp workpieces, vises and gauges.
Accessories ER–041461 (M) / ER-041464 (A) to be ordered separately.

ER-038374 MTS pallet 398 x 398/250 Z = hard



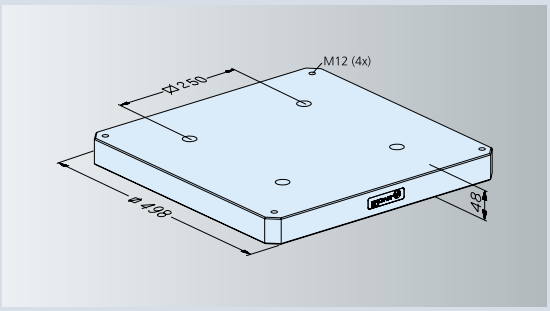
Version Aluminum pallet, 4–fold, excluding chucking spigot (MTS chucking spigot set ER–041461 (M) / ER-041464 (A).
Z-Support hard.
Application To clamp workpieces, vises and gauges.
Accessories ER–041461 (M) / ER-041464 (A) to be ordered separately.

ER-035601 MTS pallet 498 x 498/250 R50



Version Aluminum pallet (hard eloxed), 4-fold, exluding chucking spigot (MTS chucking spigot set ER-041461).
Application To clamp workpieces, vises and gauges.
Accessories ER-041461 to be ordered separately.

ER-035600 MTS pallet 498 x 498/250

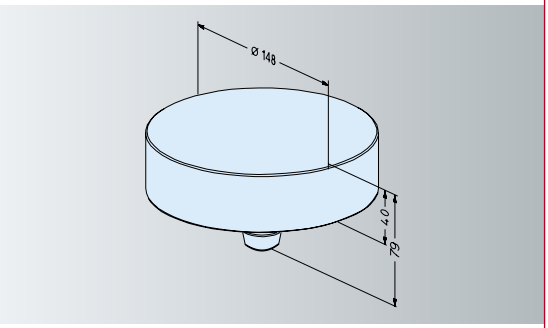


Version Aluminum pallet, 4-fold, excluding chucking spigot (MTS chucking spigot set ER-041461).
Application To clamp workpieces, vises and gauges.
Accessories ER-041461 to be ordered separately.

EROWA MTS
Single pallets

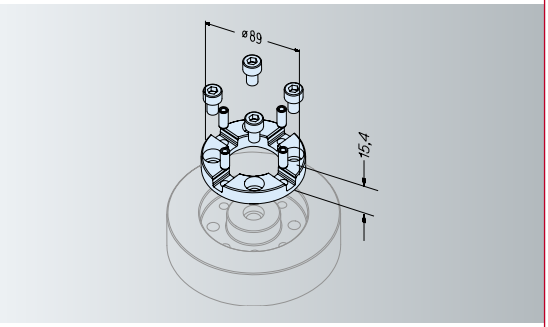
ER-033602 MTS pallet P ø 148 Alu

Version Aluminum pallet, fitted with centering pallet ER-033600, including chucking spigot ER-039200.
Application To clamp workpieces and gauges. For manual handling.



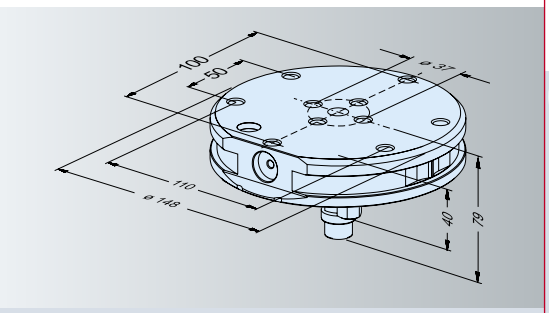
ER-033600 MTS centering pallet P

Version Steel, including attachment bolts and positioning pins.
Application For the production of customized and indexable MTS pallets.
Accessories Chucking spigot ER-039200 to be ordered separately.



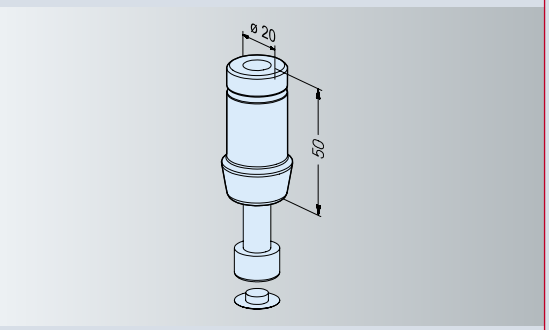
ER-041928 MTS pallet P ø 148 INOX

Version Steel pallet, not hardened, including chucking spigot ER-040999. Centering segment integrated in the pallet body.
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-040999 MTS chucking spigot P

Version One chucking spigot, including attachment bolt and protective cap.
Application For the conversion of ITS pallet ø 148 ER–041912 into MTS pallet P ø 148 ER–041928.



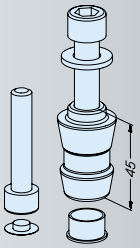
MTS

EROWA®

Chucking spigots

ER-033800 MTS centering spigot

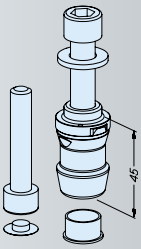




Version One chucking spigot with centering function (without play), including attachment bolts (M10x50, M12x55), U-disc and protective caps.

ER-039201 MTS compensation spigot / A

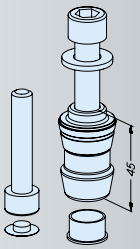




Version One chucking spigot with compensation function, including attachment bolts (M10x50, M12x55), U–disc and protective caps.

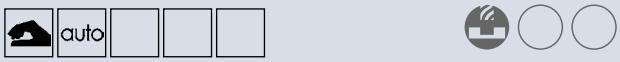
ER-039200 MTS chucking spigot / A

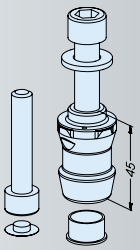




Version One chucking spigot without centering (centering play 0.1mm), including attachment bolts (M10x50, M12x55), U–disc and protective caps.

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.

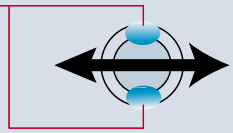
Application For MTS pallets which are loaded/unloaded automatically. The centering spigot defines the datum point without play and closes the cleaning boreholes in the MTS Chucks / A.

ER–033800 MTS centering spigot
ER–038000 MTS centering spigot / A
The **centering spigot** defines the datum point (free of play).

ER–039200 MTS chucking spigot / A
(centering play 0.1 mm).

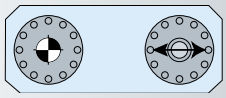
ER–039201 MTS compensation spigot / A
The **compensation spigot** positions the pallet in one axis only (X or Y) and is capable of compensating for a maximum set-up distance difference of 0.1 mm.

Centering surfaces



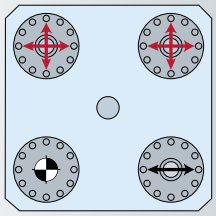
EROWA MTS
Chucking spigot set

ER-041460 MTS chucking spigot set 2



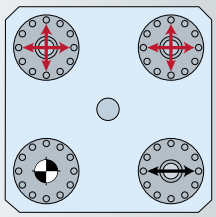
Version 1 centering spigot, 1 compensation spigot / A.
Mounting With the bolts supplied through the pallet or through the chucking spigot.

ER-041461 MTS chucking spigot set 4



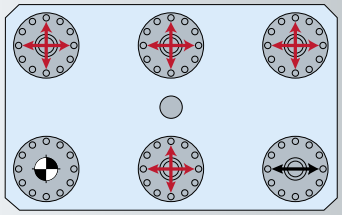
Version 1 centering spigot, 1 compensation spigot / A, 2 chucking spigots / A.
Mounting With the bolts supplied through the pallet or through the chucking spigot.

ER-041464 MTS chucking spigot set 4 / A



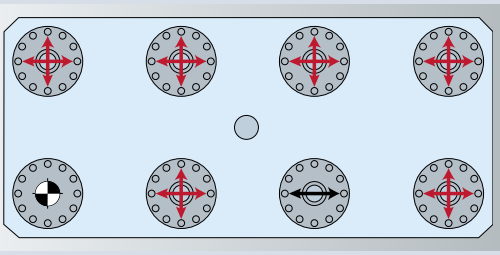
Version 1 centering spigot / A, 1 compensation spigot / A, 2 chucking spigots / A.
Mounting With the bolts supplied through the pallet or through the chucking spigot.

ER-041462 MTS chucking spigot set 6



Version 1 centering spigot, 1 compensation spigot / A, 4 chucking spigots / A.
Mounting With the bolts supplied through the pallet or through the chucking spigot.

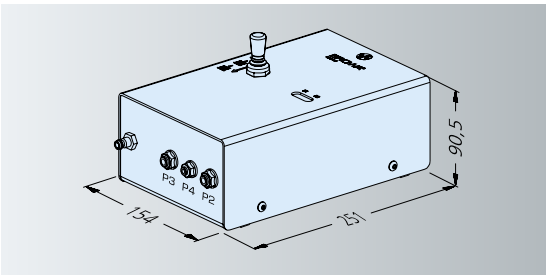
ER-041463 MTS chucking spigot set 8



Version 1 centering spigot, 1 compensation spigot / A, 6 chucking spigots / A.
Mounting With the bolts supplied through the pallet or through the chucking spigot.

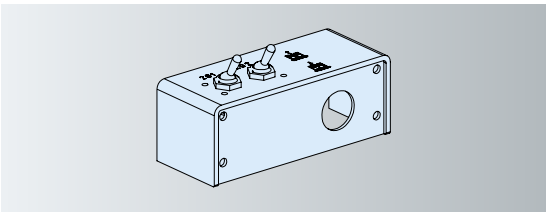
EROWA®

ER-025893 Manual control unit with booster



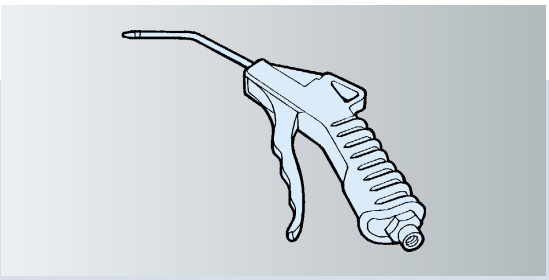
Version Manual valve to control the EROWA chucks: Opening/Reclamping/Cleaning.
Application Operation of: EROWA ITS Compact Combi Chuck, ITS, UPC, MTS, PC 210 chucks and PowerChuck P.
Note Integrated booster with load ratio 1:2 (up to supply pressure of 10 bar max.).

ER-010510 Additional valve, double



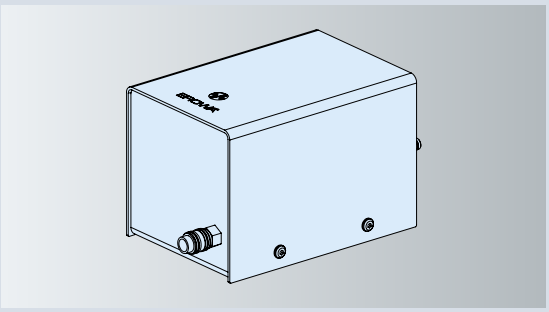
Version To extend the manual control unit ER–025893, including tube set.
Note Operation of two separate chucks with one single control unit.

ER-001846 Air jet



Version Plastic, smooth regulation of air flow, connection 1/4", inside thread.
Application Operation of manual chucks.

ER-010520 Pressure booster



Version Quick-connect couplings for hose ø i = 8 mm. Output pressure: 8 bar. Compression ratio: 1:2
Application On insufficient system pressure and on pressure fluctuations.
Installation Integrate in air circuit near application.

ER-033497 Pneumatic/hydraulic pump

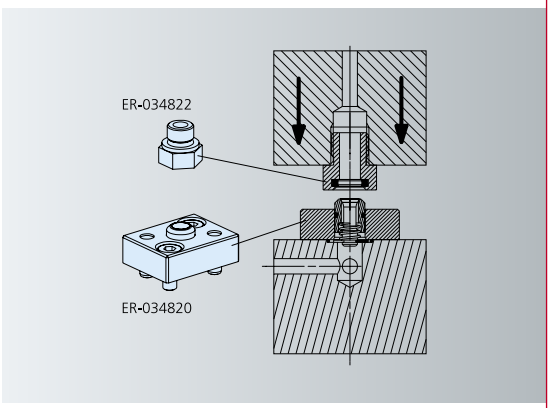


Version Manual pump to control the EROWA MTS chucks (hydraulic versions).

Note Integrated pressure-reducing valve, set to the necessary operating pressure (25 bar). Complete with hydraulic tube (2 m) and plug coupling (ER-033499).

ER-034820 MTS air coupling

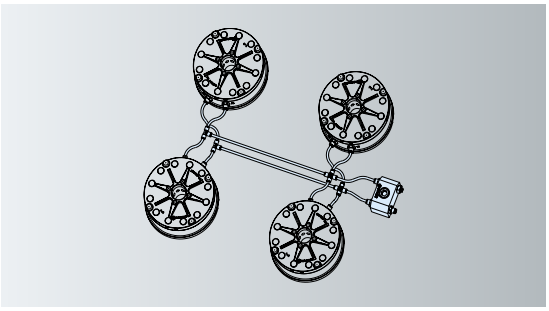
ER-034822 MTS air coupling, pallet



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.

EROWA®

ER-034361 Tube set MTS 2/4-P

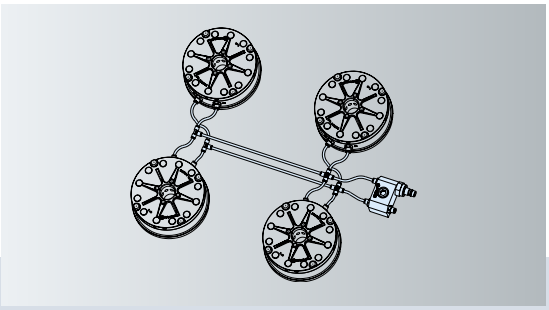


Application All the necessary fittings for the pneumatic control of 2 or 4 MTS chucks. Max. operating pressure: 9 bar.

Version
2 T-Plugs
2 Corss plug connectors
3 Straight threaded connectors
1 Connector block
8 m Tube ø 6/4 black
8 m PMAFLEX corrugated pipe 1 Valve, complete (for air jet ER-001846).

Mounting According to instruction manual supplied.

ER-034359 Tube set MTS 2/4-H

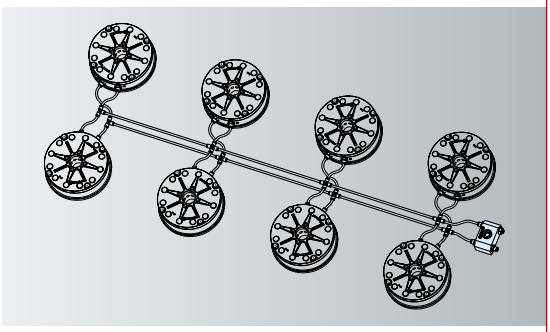


Application All the necessary fittings for the hydraulic control of 2 or 4 MTS chucks. Max. operatung pressure: 40 bar.

Version
2 Threaded T-connectors
2 Threaded cross connectors
3 Straight threaded connectors
24 Support sleeves
1 Connector block
8 m Tube ø 4/2 yellow PA
8 m PMAFLEX corrugated pipe 1 Nipple 1/8“ (for pneumatic/hydraulic booster ER–033497)

Mounting According to instruction manual supplied.

ER-034362 Tube set MTS 6/8 P

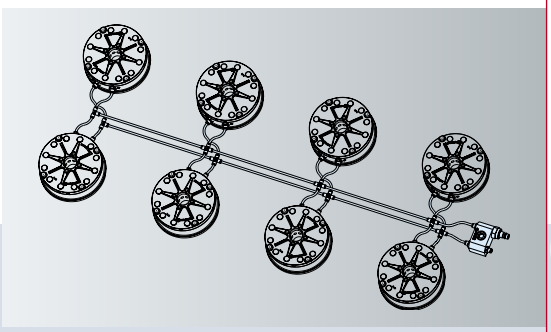


Application All the necessary fittings for the pneumatic control of 6 or 8 MTS chucks. Max. operating pressure: 9 bar.

Version
2 T-plugs
6 Cross plug connectors
3 Straight threaded connectors
1 Connector block
12 m Tube ø 6/4 black
12 m Corrugated pipe
1 Valve, complete (for air jet ER-001846).

Mounting According to instruction manual supplied.

ER-034360 Tube set MTS 6/8 H

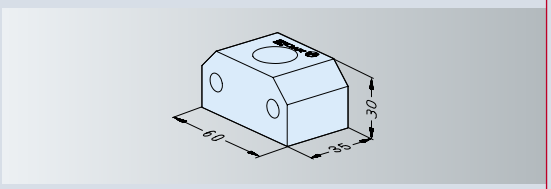


Application All the necessary fittings for the hydraulic control of 6 or 8 MTS chucks. Max. operating pressure: 40 bar.

Version
2 Threaded T-connectors
2 Threaded cross connectors
3 Straight threaded connectors
48 Support sleeves
1 Connector block
12 m Tube ø 4/2 yellow PA
12 m PMAFLEX corrugated pipe
1 Nipple 1/8" (for pneumatic/hydraulic booster ER–033497)

Mounting According to instructon manual supplied.

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



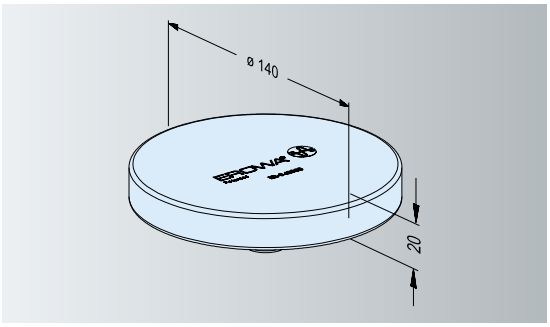
Version Connector block made of steel, excluding attachment bolts.

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

EROWA®

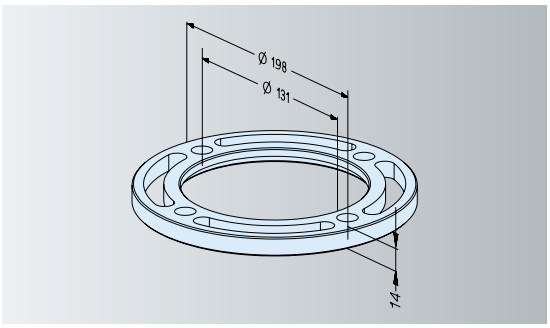
ER-042038 MTS cover

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



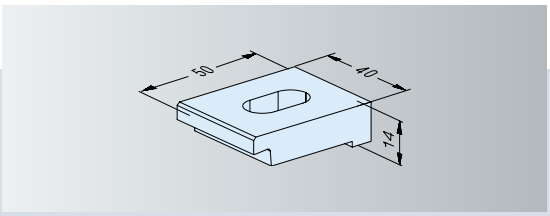
ER-033804 MTS ring bracket

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



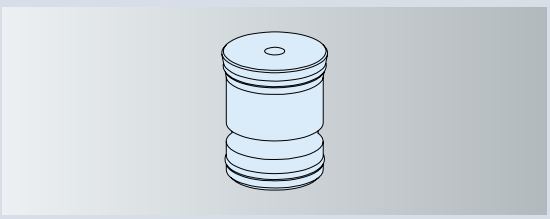
ER-033805 MTS bracket

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.



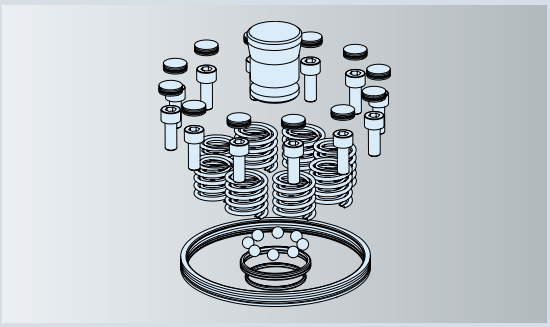
ER-037967 Plug

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

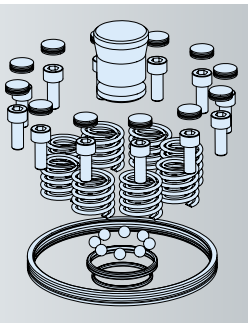


ER-034382 MTS repair set, pneumatic

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.

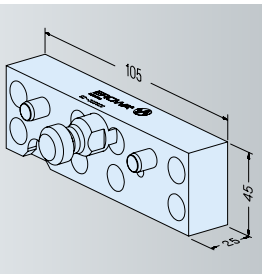


ER-034383 MTS repair set, hydraulic



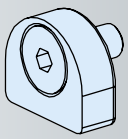
Version All the wearing parts for hydraulic MTS chucks.
Application As a repair set or for the conversion of hydraulic MTS chucks into pneumatic ones.
Note Repair or conversion according to instruction manual supplied.

ER-038622 MTS Gripper Link



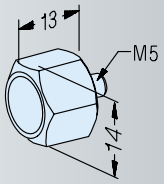
Version Coupling for MTS pallets, mounting accessories included.
Application Suited for MTS pallets to be used on EROWA handling devices with the «RCS coupling system».

ER-035294 EWIS chip with holder/RCS



Version Holder with built-in datacarrier.
EWIS Chip: read only.
Application To build into RCS coupling, PalletSet W holder and Basic WEDM holder.

ER-035154 EWIS Holder SW 14 with Chip



Version Sleeve fitting with built-in datacarrier.
EWIS Chip: read only.
Application In any EROWA electrode holder and pallet which have been prepared for it.

EROWA®

ER-014326 Straight threaded connector

Application Pneumatic.



ER-002814 Angled connector

Application Pneumatic.



ER-014366 Threaded T-connector

Application Pneumatic.



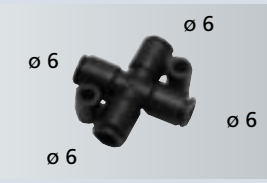
ER-014333 T-connector

Application Pneumatic.



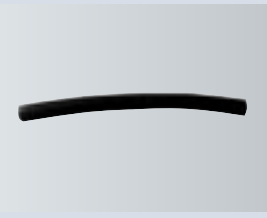
ER-034095 Cross-connector

Application Pneumatic.



ER-002023 Tube ø 6/4

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



ER-036672 MTS Air jet valve

Application Pneumatic. For air jet ER-001846.

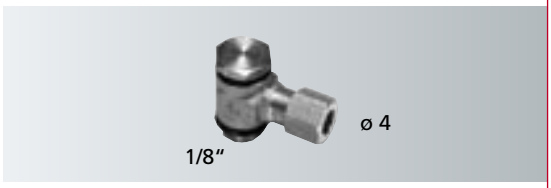


ER-033492 Straight threaded connector



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

ER-033565 Angled connector



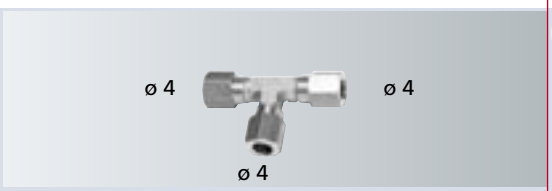
Application Hydraulic and pneumatic.
Note Hydraulic operation requires support sleeve ER-033496.

ER-033566 Angled T-connector



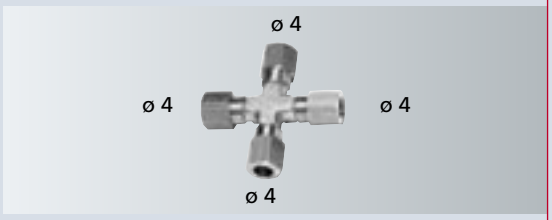
Application Hydraulic and pneumatic.
Note Hydraulic operation requires support sleeve ER-033496.

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.

EROWA®

ER-002147 Corrugated pipe



Application Hydraulic and pneumatic. Protects tubes ER-033495 and ER-002023 from damage.
Order units Meter.

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: 40 bar.
Order unit Meters.
Note If the operating pressure is 8 bar or higher, you need the support sleeve ER-033496.

ER-033496 Support sleeve



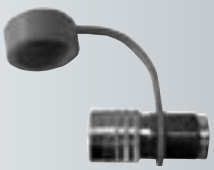
Application Hydraulic, if the operating pressure is 8 bar or higher.

ER-033504 Nipple 1/8“



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

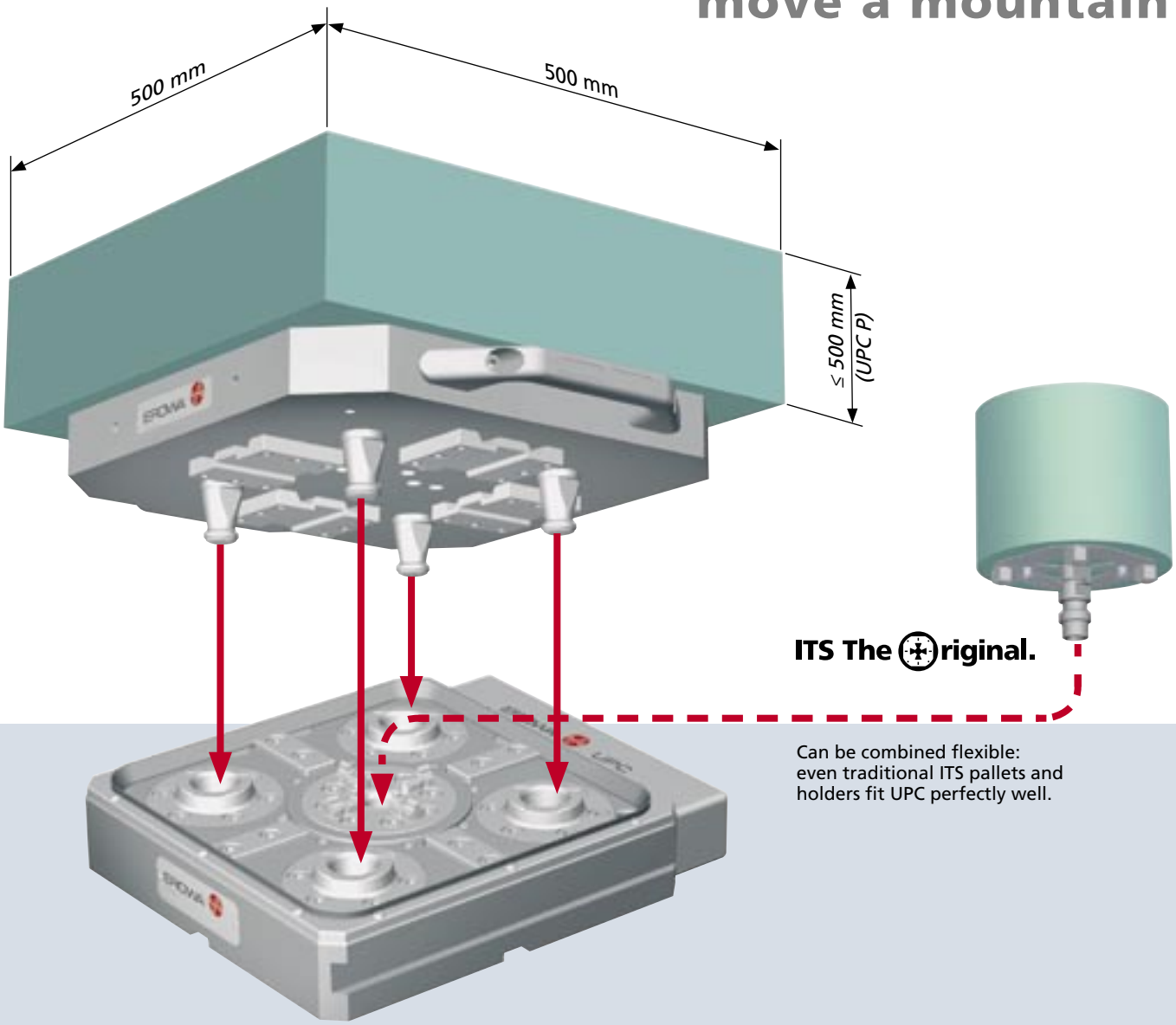
ER-033499 Fast coupling, 1/8“ IG



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

EROWA UPC

you might as well try to move a mountain



Can be combined flexible:
even traditional ITS pallets and holders fit UPC perfectly well.

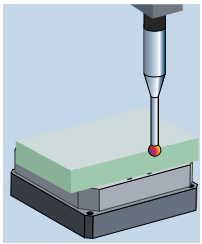
A few highlights:

- Air-cleaned support surfaces.
- Economically priced centering segments for the in-house construction of pallets.
- Pallets can index 4 x 90°.
- Stable centering segments with patented initial tension.
- ITS chuck can be integrated in the center (option).
- Four fixed chucking spigots which also serve as supports for pallet storage.
- Economically priced aluminum pallets with hardened Z-supports as a basis for any fixture.

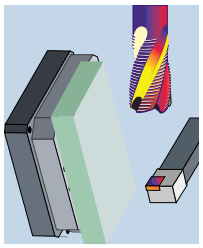
EROWA's UPC (Universal Power Chuck) breaks through the conventional limits of precision, stability and workpiece size. Now, 500 x 500 x 500 mm have ceased to be a problem. And the 2-µm precision will not be impaired at all.

A decisive factor for ITS users: the central ITS chuck guarantees seamless integration into the existing system.

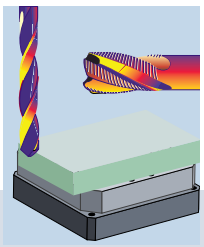
Applications



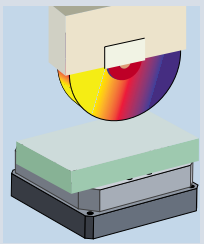
Presetting



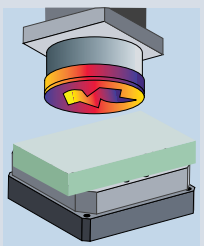
Milling / turning



Drilling / milling

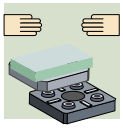


Grinding

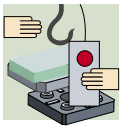


EDM sinking

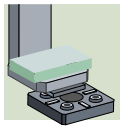
Handling



Manual

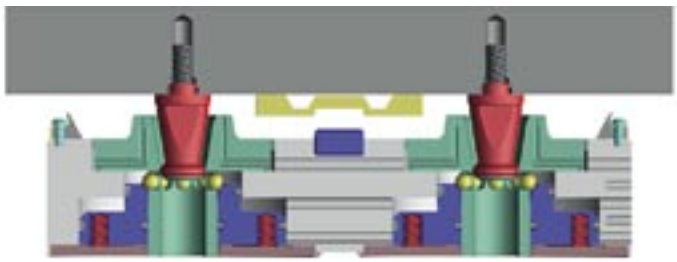


Loading facility

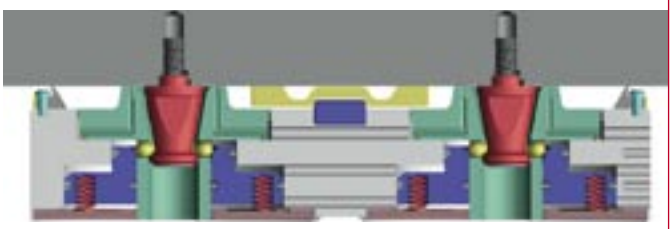


Robot

Function



UPC open



UPC closed

The functional elements have been designed with every conceivable simplicity. This makes for a favorable price. The few movable parts guarantee high functional safety. The lock creates a retaining power of 50000 N. The big distance between the supports creates an extreme degree of platform stability. Precentering is done by means of the chucking spigots. Precise positioning is then achieved by four stable centering segments in pallet and chuck. Release and cleaning are effected by means of compressed air.

Technical data

	UPC	UPC P «Production»
Pallet size	320 x 320 mm	320 x 320 mm
Chuck dimensions	280 x 280 mm	320 x 300 mm
System height (chuck und pallet)	105 mm	105 mm
Recommended workpiece sizes	up to 500 x 500 x 350 mm	up to 500 x 500 x 500 mm
Repeatability	0.002 mm	0.002 mm
Indexation, pallet	4 x 90°	4 x 90°
Activation	clamped without pressure	
Air pressure, dry	min. 6 bar	min. 6 bar
Operation	manually or with automatic control unit	
Process monitoring	pneumatically, evaluation electro-pneumatically	
Clamping power	32000 N	50000 N

EROWA®

EROWA UPC in operation

universal, powerful, micron-accurate



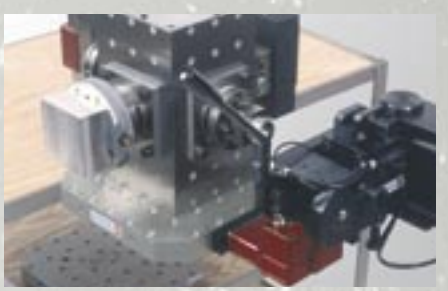


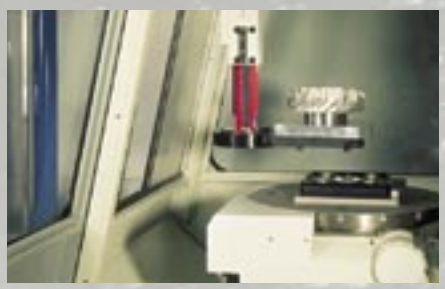
UPC Pallet Alu DG – light and handy.



The advantage on the horizontal machining center: five sides are accessible, the pallet indexes 4 x 90°.









Multiple fixture on UPC pallet.



UPC was designed for automatic loading without any compromise.

Heavy cutting processes with great precision: this is the moment of truth for any tooling system. UPC does not need to be afraid of anything here. Whether afraid of big electrodes on the quill of EDM centers, big workpieces in milling machines, or heavy loads anywhere: - UPC holds what there is to hold, and stands what there is to stand.

The repeatability of 2µm leaves no precision wishes open.









EDM with UPC magnetic pallet.









Short setting-up times with flexible clamping elements: EROWA ClampSet vises on UPC grid pallet.

UPC - also for big workpieces: profiling on UPC pallet.

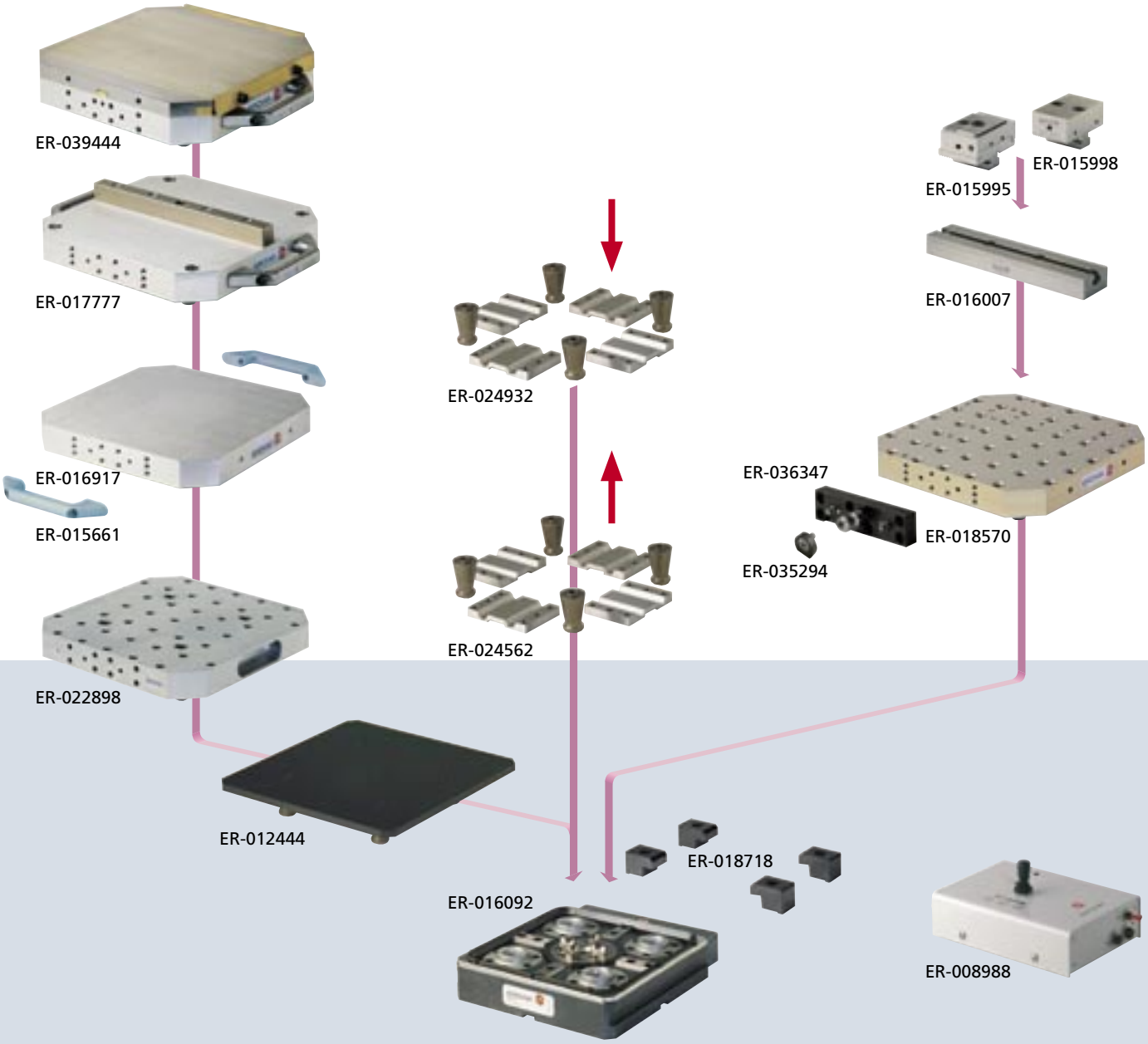
Reliable resistant
to dirt, robust, developed for continuous operation.

EROWA®

UPC

EROWA UPC
Palletizing System

The components





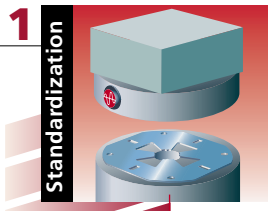
EROWA Lift, the manual handling device permanently installed next to the machining center.
For information, please refer to page 286.



LiftGear UPC, for easy loading of the UPC chuck by means of an overhead crane.
For information, please refer to page 284.



PreSet Basic UPC, to mount and preset pallets, gauges and workpieces.
For information, please refer to page 258.



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 Combi gripper
12. Handling with EROWA Robot gripper 72
13. Handling with EROWA Robot gripper 115
14. Handling with EROWA Robot gripper 148
15. Handling with EROWA RCS gripper

For chip-removing processes

For EDM sinking

For WEDM

EROWA UPC palletizing system

	Page
UPC chucks	48
UPC pallets	49
UPC auxiliary equipment	50

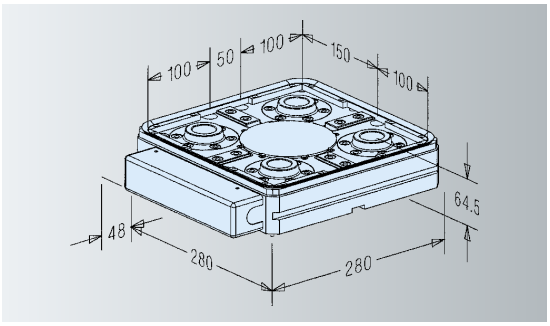
UPC

EROWA

Technical data	UPC	UPC P «Production»
Repeatability	0.002 mm	0.002 mm
Indexing, pallet position-oriented	4 x 90°	4 x 90°
Chuck clamping power	32000 N	50000 N
Generated by	spring power	spring power
Chuck opens, air pressure dry	min. 6 bar	min. 6 bar

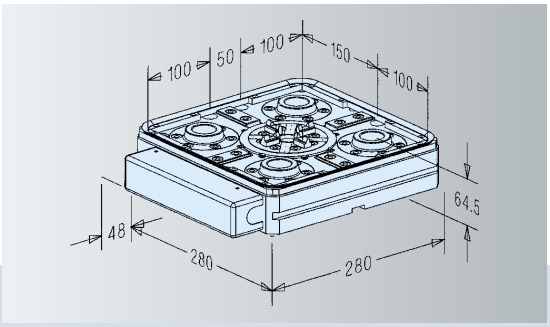
ER-016093 UPC Universal Power Chuck

Version Standard type.
Connections On the side.
Application On milling, grinding, drilling and EDM sinking centers. In production lines.



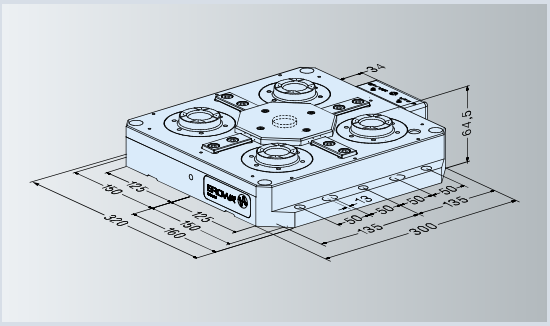
ER-016092 UPC chuck with ITS

Version UPC with ITS central chuck fitted and aligned.
Connections On the side.
Application On milling, grinding, drilling and EDM sinking centers. In production lines.



ER-016841 UPC P «Production»

Version Chuck for high machining forces during chip removal.
Connections Through the base and on the side.
Application On milling, grinding and drilling centers and in production lines.

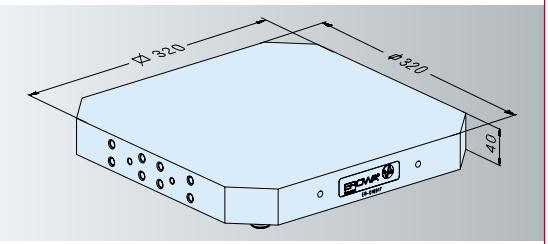


EROWA UPC
Pallets

ER-016917 UPC pallet 320 x 320 x 40

auto

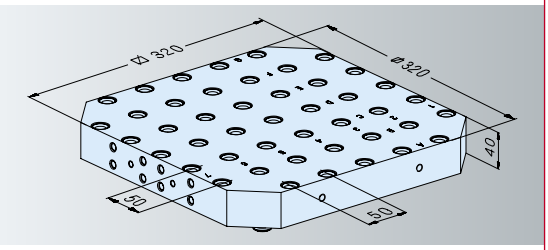
Version Aluminum, centering segments and chucking spigots fitted.
Application To clamp workpieces and gauges.
Please note Holes to be drilled as required.



ER-018570 UPC pallet alu R50 320 x 320, elox
ER-016003 UPC pallet alu R50 320 x 320

auto

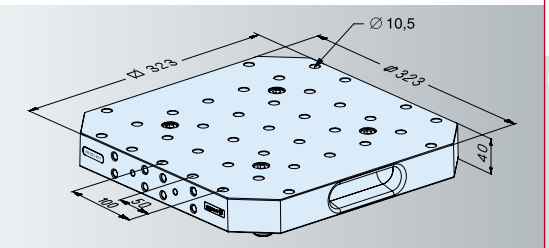
Version Aluminum with 50 mm pattern boreholes. Centering segments and chucking spigots fitted. Height 40 mm.
Application Basis for gauges and workpieces.
Info Pattern borehole ø 12F7, thread M12.
Please note The elox version is not suited for use in EDM machines.



ER-022898 UPC pallet alu DG/AUT.
ER-022896 UPC pallet alu DG-S/AUT.

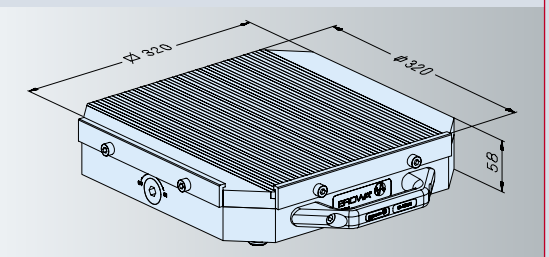
auto

Version Cast Aluminum. Hole grid 50 mm. Chucking spigots fitted, handles integrated
Application To clamp workpieces and gauges.
Please note DG: Centering segments integrated in aluminum.
DG-S: With steel centering segments fitted.
AUT: Prepared for coupling ER-036347.



ER-039444 UPC magnet plate

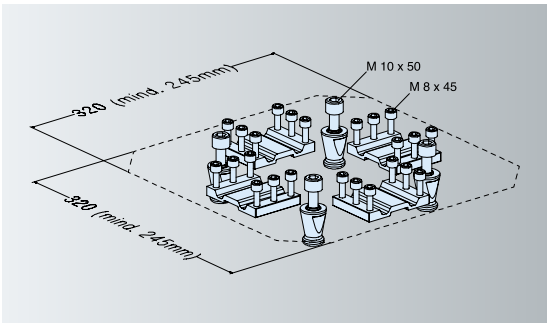
Version Magnet plate assembled as a UPC pallet 320 x 320 mm.
Application To clamp workpieces for surface and profile grinding, EDM sinking, and high speed milling.



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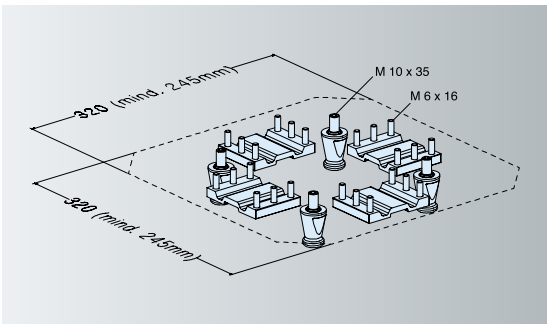
ER-024932 UPC centering segments and chucking spigots

Version	Four segments and chucking spigots for UPC, including bolts.
Application	To produce special UPC pallets.
Mounting	With bolts through the pallet from above.
Note	Easy to assemble on the UPC chuck.



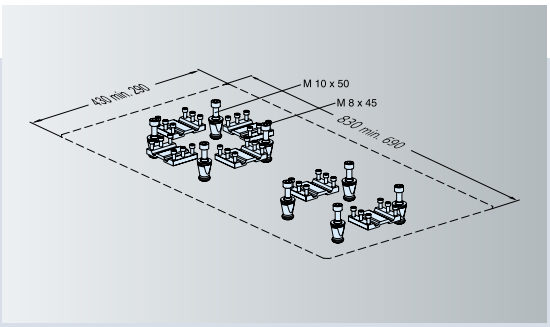
ER-024562 UPC centering segments (U) and chucking spigots

Version	Four segments and chucking spigots for UPC, including bolts.
Application	To produce special UPC pallets.
Mounting	With bolts through the pallet from below.
Note	Easy to assemble on the PreSet Basic UPC presetting station ER-014309.



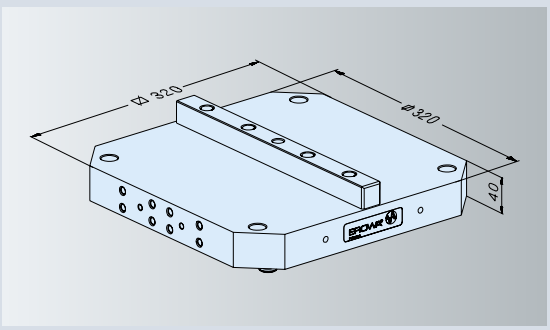
ER-025820 UPC DUO centering segments

Version	Six segments and eight chucking spigots for UPC, including bolts.
Application	To build special UPC pallets.
Mounting	With bolts from the top through the pallet.
Note	Assembling on two aligned UPC chucks.

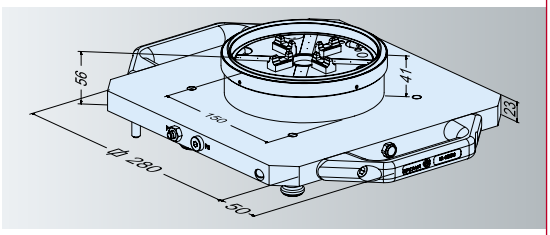


ER-017777 Alignment pallet Version UPC pallet with ground rail

Application	To align angular position and to determine the center of UPC chucks.
Please note	System parallelism <0.005 mm. Borehole concentricity <0.005 mm.

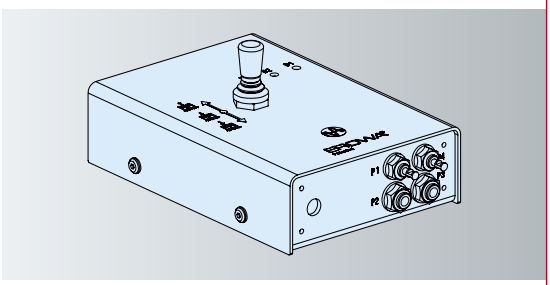


ER-029453 PowerChuck P on UPC pallet



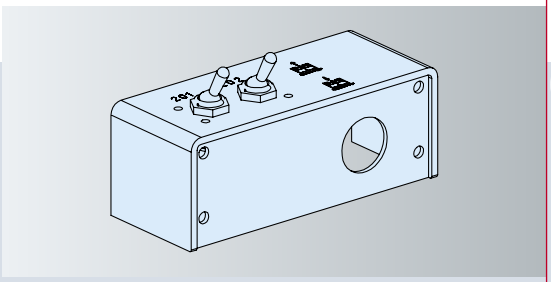
Version Adapter pallet UPC - PowerChuck P.
Connections Via the side of the pallet.
Application On machining centers. Operate with air-jet or fixed connection.
Note Manual change into UPC. Possible automatic change into PowerChuck P.

ER-008988 Manual control unit



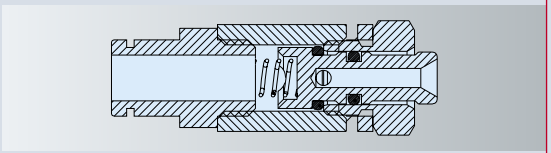
Version Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC. Open/reclamp/clean.
Application Operation of chucks on machines.

ER-039466 Additional valve, double



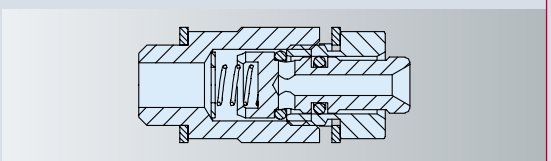
Version For mounting to the manual control unit ER-008988, incl. set of hoses.
Application Operating of two separate chucks with one single control unit.

ER-016531 UPC air jet connection



Version Valve for the manual operation of UPC ER-016092 and ER-016093 with an air jet.
Application To be fitted on UPC cover.

ER-018168 UPC P air jet connection

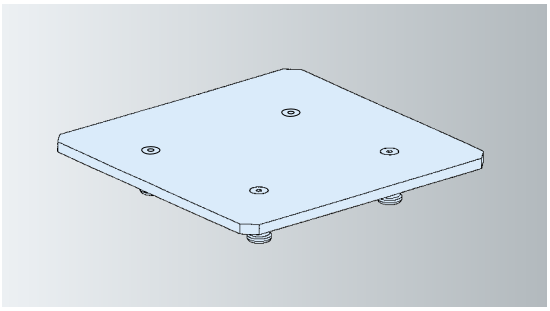


Version Valve for the manual operation of UPC P ER-016841 with an air jet.
Application To be fitted on UPC P cover.

EROWA®

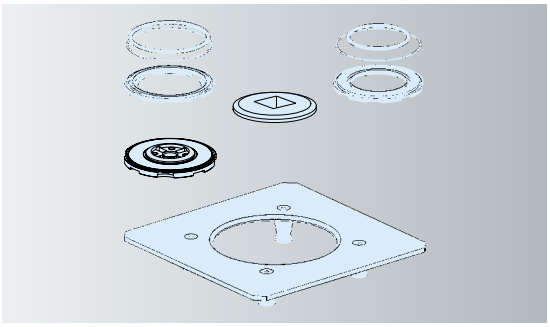
ER-012444 Cover for UPC

Version Aluminum.
Application Cover for UPC.



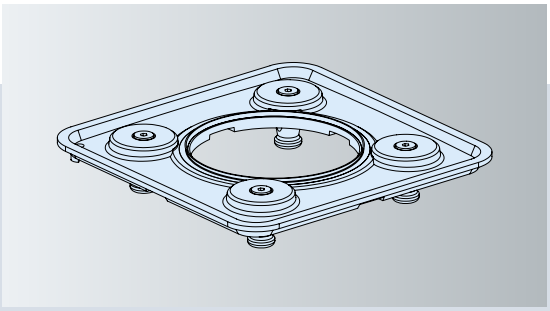
ER-012441 Cover set for UPC/ITS

Version Aluminum with inserts for ø 72, ø 115, ø 148 pallets and for electrode holders for UPC ER-016092.



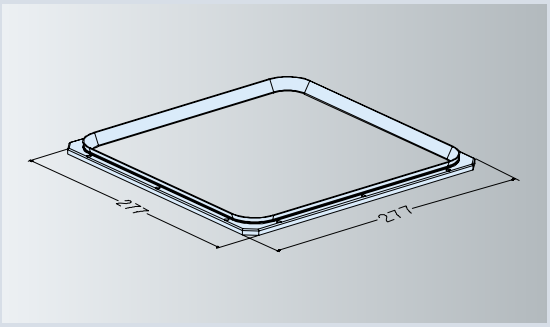
ER-018247 Cover for UPC pallet ø 148

Version Aluminum. Cover for UPC ER-016092.
Application Protects UPC system when ø 148 mm pallets are used in the ITS central chuck.



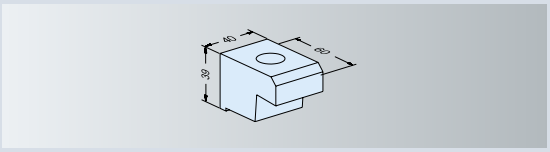
ER-016650 UPC sealing Kit

Version Rubber seal and frame.
Application To seal the UPC P against chips.
Mounting With supplied bolts.
Please note Fits UPC No. ER-016092/ER-016093/ER-016841.

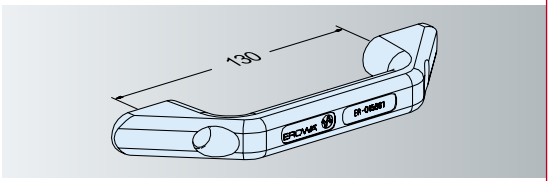


ER-018718 Clamps for UPC two pairs

Version High tension steel, mounting accessories not included.
Application To mount UPC chucks to machine tables.
Please note Fits UPC chuck No. ER-016092/ER-016093/ ER-016841.

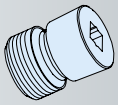


ER-015661 Handles for UPC pallets



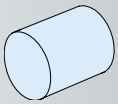
Version Aluminum die-casting, set of 2 units.
Application Safe handles for UPC pallets.
Mounting With the enclosed bolts to the prepared threads.

ER-018817 M12 sealing bolt



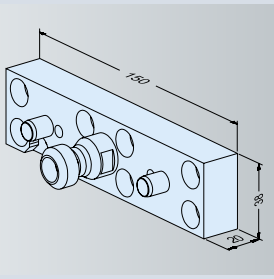
Version Set of 50, including square wrench.
Application Plastic bolts to seal grid boreholes that are not in use. Suitable for ER-018570 and ER-016003.

ER-022646 Plug



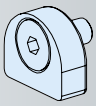
Version Set of 50.
Application Plastic plug to seal grid boreholes that are not in use. Suitable for ER-022898 and ER-022896.

ER-036347 GripperLink RCS/EWIS Rapid



Version Coupling for UPC pallets, mounting accessories included.
Application Suited for UPC pallets to be used on EROWA handling devices with the «RCS coupling system».

ER-035294 EWIS chip with holder/RCS

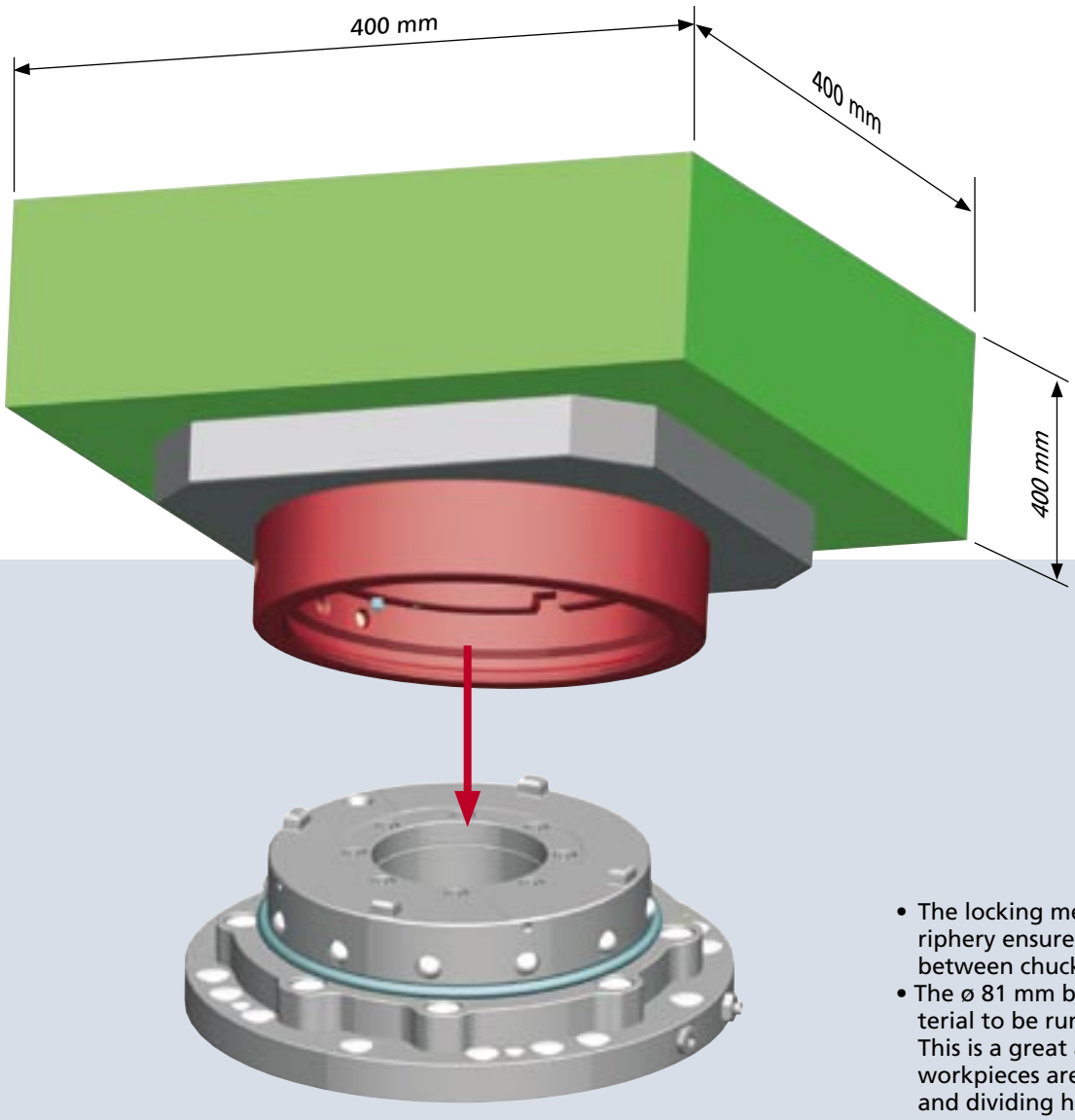


Version Holder with built-in datacarrier.
EWIS Chip: read only.
Application To build into RCS coupling, PalletSet W holder and Basic WEDM holder.

EROWA®

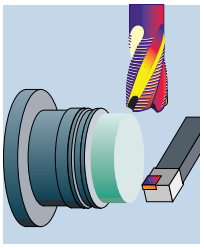
EROWA ProductionChuck 210

The EROWA ProductionChuck 210 ingeniously combines the endurance-tested EROWA precision with the flexible operation of a palletizing system such as required by modern parts manufacturing.

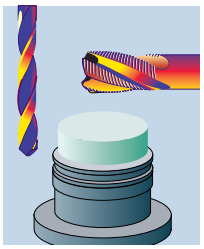


- The locking mechanism on the periphery ensures a stable connection between chuck and pallet.
- The ø 81 mm borehole enables material to be run through the center This is a great advantage when workpieces are machined on lathes and dividing heads.
- All the pallets are indexable 4 x 90°.
- The system can be operated manually or automatically.
- The system is suitable for the palletizing of workpieces with volumes of up to 400 x 400 x 400 mm.

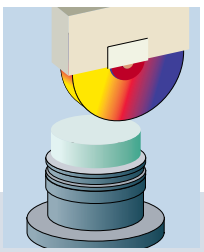
Applications



Milling/Turning

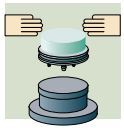


Drilling/Milling



Grinding

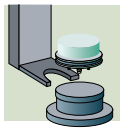
Handling



Manual

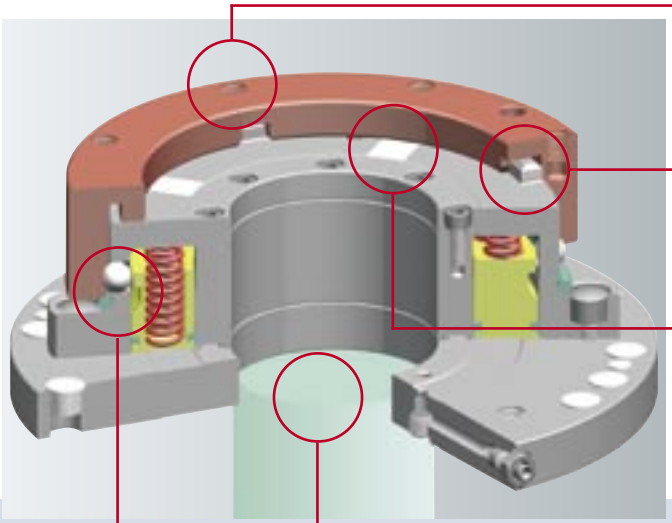


Loading facility



Robot

Function



Workpieces, fixtures and plates are directly mounted on the PC 210 pallet.

The widely spaced centering system enables the transfer of maximum torque.

The Z-supports are far apart ensuring the best possible absorption of the tilting moment. The Z-supports are automatically cleaned by air. Check with dynamic pressure whether a pallet is in place.

The self-locking ball lock generates a clamping power of 20000 N. Compressed air is necessary to open the chuck and to clean the Z-supports.

Stock of up to ø 81 mm can be led directly through the chuck.

Technical data

	ProductionChuck 210
Repeatability	<0.004 mm
Pallet indexation	4 x 90°
Clamping power	20000 N
Clamping power (central PowerChuck P)	10000 N
Generated by	spring power
Opening with compressed air	8 bar
Chuck fits directly to:	
– machine tables with T-slots	50, 63, 100 mm
– round tables with T-slots	4 x 90°, 45°

EROWA®

EROWA ProductionChuck 210

Palletizing system with central material feed.

The ProductionChuck 210 pallet serves as a workpiece and fixture carrier.
A borehole in the center of the pallet also enables material up to a diameter of 81 mm to be led through the ProductionChuck 210.





The Z-supports are placed as far on the outside that they provide a stable and precise support even for bigger workpieces.



Working space well exploited! 5-side machining in one clamping process thanks to optimal accessibility.







Particularly suitable for use on lathes. The ProductionChuck 210 is the only precision palletizing system with a borehole for central material feed.

Would you like to automate? We will gladly advise you as to how an EROWA handling facility will increase your productivity up to three times.





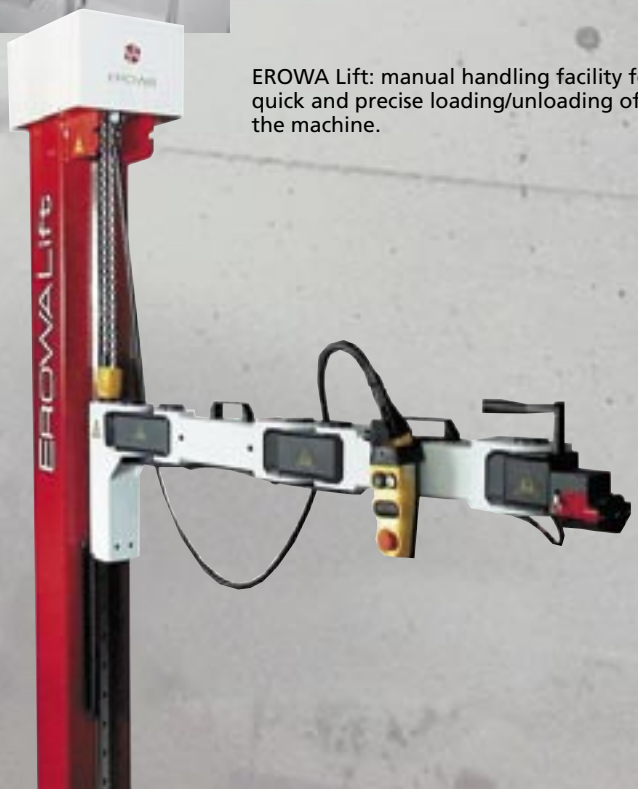




Fixture stability. Access from all sides. Best use of horizontal/vertical milling machines.



Another advantage: the workpiece or the fixture can be fitted directly on the PC pallet 210.

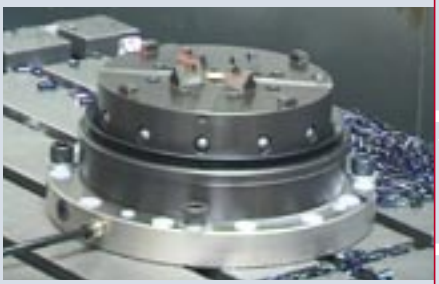


EROWA Lift: manual handling facility for quick and precise loading/unloading of the machine.



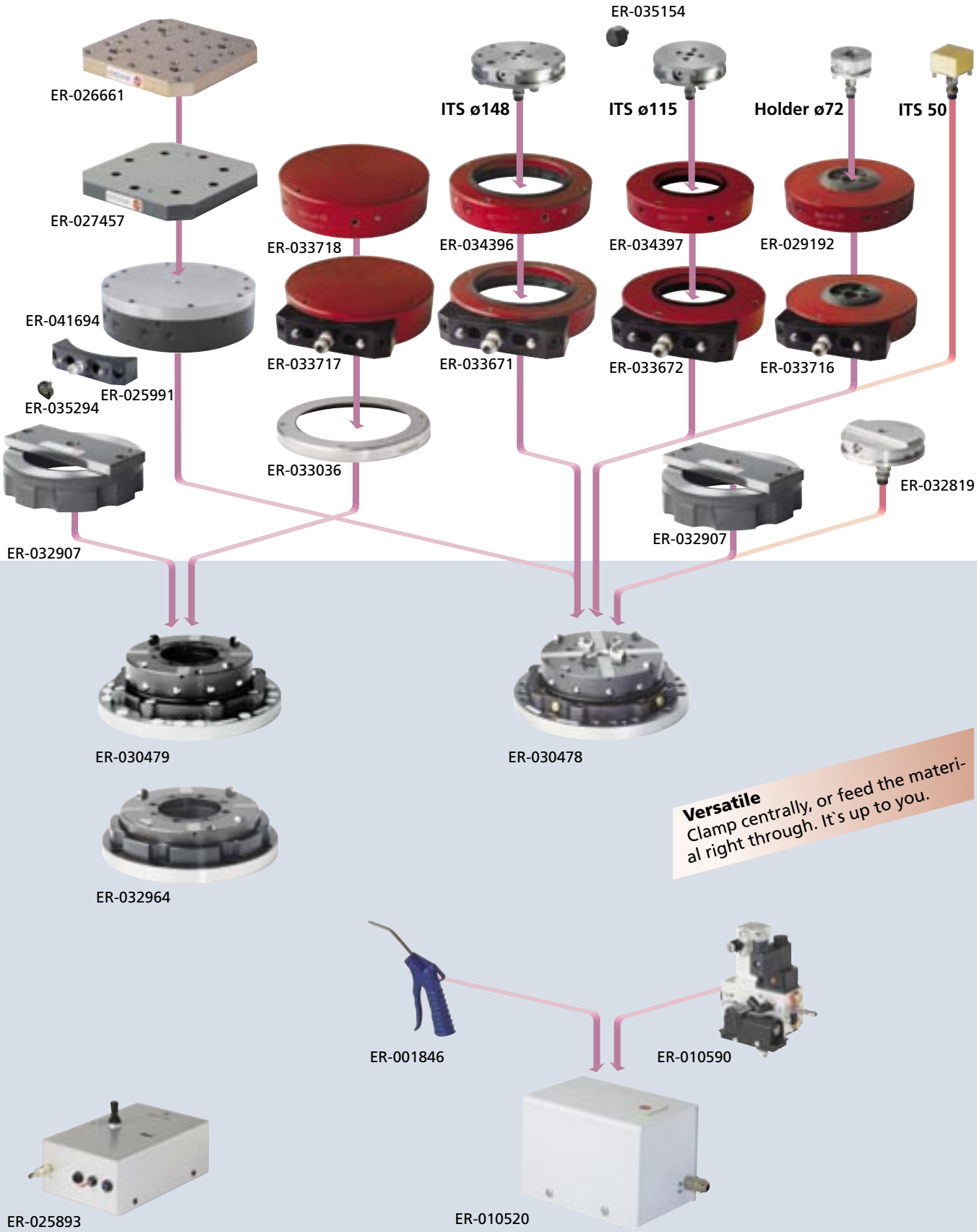
The existing attachment boreholes enable the ProductionChuck 210 to be quickly fitted to any common machine tables.

Mixed use of ITS and ProductionChuck 210 pallets.

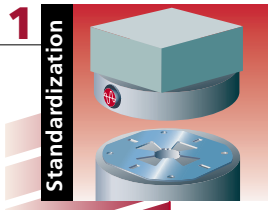




The components



Versatile
Clamp centrally, or feed the material right through. It`s up to you.



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 Combi gripper
12. Handling with EROWA Robot gripper 72
13. Handling with EROWA Robot gripper 115
14. Handling with EROWA Robot gripper 148
15. Handling with EROWA RCS gripper

For chip-removing processes

For EDM sinking

For WEDM

EROWA ProductionChuck 210 palletizing system

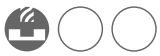
	Page
ProductionChuck 210 Chucks	60
ProductionChuck 210 Workpiece carriers	62
ProductionChuck 210 Auxiliary Equipment	64
EROWA PM Chuck	68

EROWA

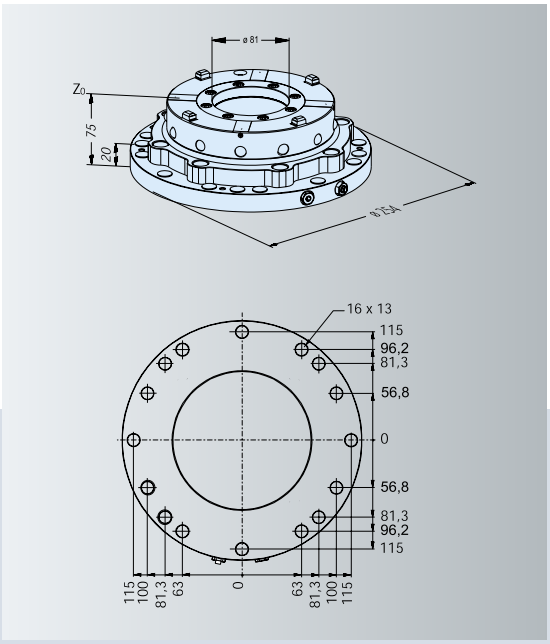
Technical data	ProductionChuck 210
Repeatability (PC pallets)	< 0.004 mm
Repeatability (ITS pallets)	0.002 mm
Indexing	4 x 90°
Clamping power	20000 N
Clamping power (central PowerChuck P)	10000 N
Generated by	spring power
Opening with compressed air	min. 8 bar

ER-030479 ProductionChuck 210





Version Chuck for high machining forces in chip cutting. Low design. Through-borehole ø 81 mm.
Connections Laterally or from below with two lines.
Operation With air gun, laterally. With control unit, through the two connections laterally or from below.
Application On milling machines, lathes and grinding machines. To clamp PC pallets 210.

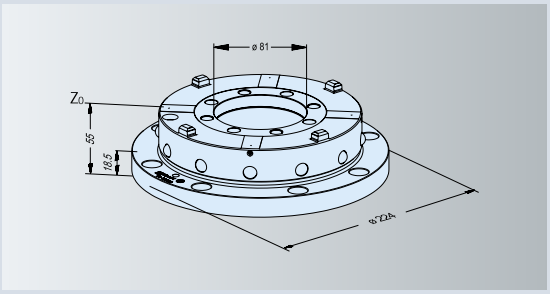


ER-032964 ProductionChuck 210 without base plate



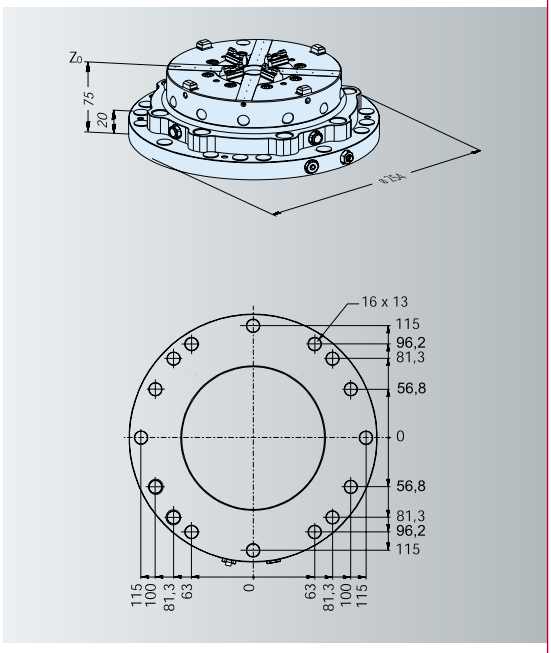


Version Chuck for high machining forces in chip cutting. Low design. Through-borehole ø 81 mm.
Connections On milling machines, lathes and grinding machines. To clamp PC pallets 210.
Operation 2 air connections: on the sides and from below through customized base plate.
Application With air gun or control unit.
Note Base plate must be customized.



ER-030478 ProductionChuck 210 Combi





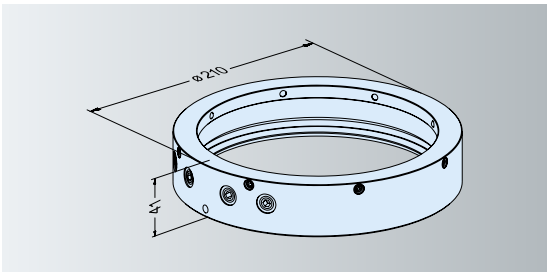
Version	Chuck for strong machining forces in chip-cutting operations. PC 210 with integrated PowerChuck P.
Connections	Laterally or from below with two lines.
Operation	With air gun, laterally. With control unit, through the two connections laterally or from below.
Application	On milling machines, lathes, grinding machines and EDM centers. To clamp PC pallets 210, ITS pallets ø 148, ø 115 and ITS 50 holders.

Note	ProductionChuck 210 Combi without base plate on request.

EROWA

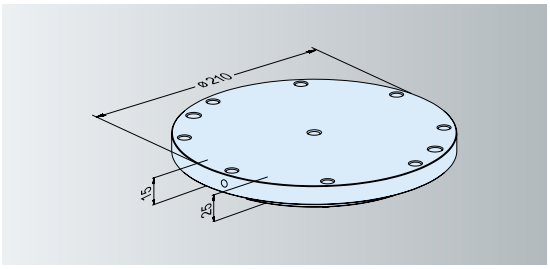
ER-042867 PC Clamping ring 210

Version Steel, hardened.
Application Clamping ring fro PC centering pallet 210 and PC centering pallet 210/81.



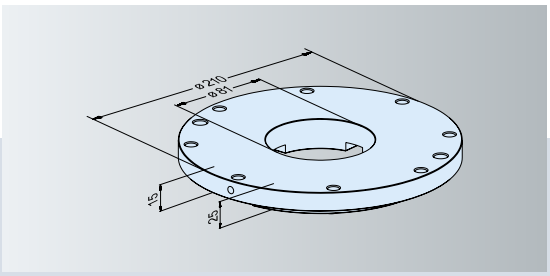
ER-042865 PC Centering pallet 210

Version Steel. Centering segments integrated.
Fitting 8 x M10 attachment threads and two ø 10 H7 bore-holes for straight pins.
Application To accommodate workpieces, clamping jigs and PC plates.



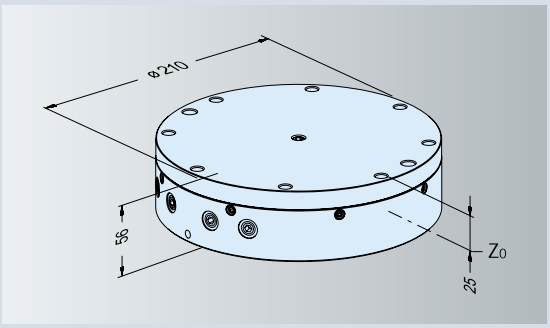
ER-042866 PC Centering pallet 210 / 81

Version Steel. Like ER-042864, but without clamping ring (option ER-042867).
Fitting 8 x M10 attachment threads and two ø 10 H7 bore-holes for straight pins.
Application To accommodate workpieces, clamping jigs and PC plates.



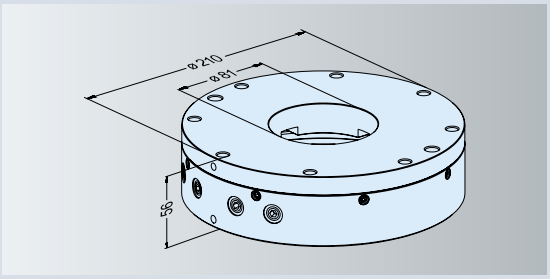
ER-041694 PC Pallet 210

Version Hardened steel. Centering segments integrated.
Assembly 8 x M10 attachment threads and two ø 10 H7 bore-holes for straight pins.
Application To clamp workpieces, clamping jigs and PC pallets.

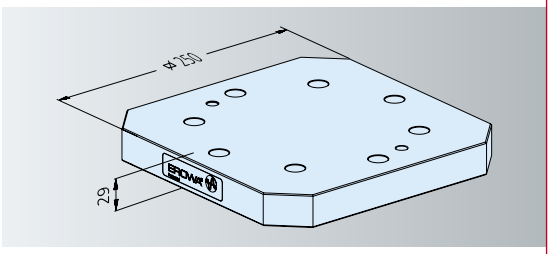


ER-042864 PC Pallet 210 / 81

Version Steel. Centering segments integrated.
Trough borehole ø 81 mm.
Fitting 8 x M10 attachment threads and two ø 10 H7 bore-holes for straight pins.
Application To accommodate workpieces, clamping jigs and PC plates.

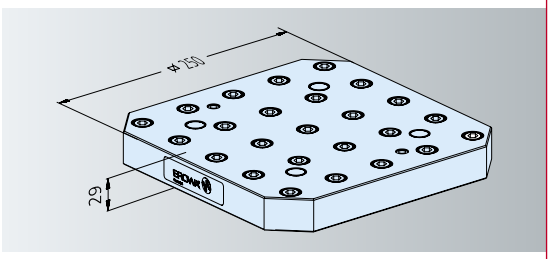


ER-027457 PC plate 250 x 250



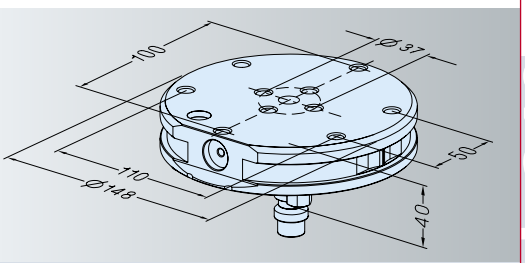
Version Steel (not hardened).
Application To clamp workpieces and clamping jigs. Attachment borehole pattern to be drilled according to requirements.
Assembly On PC pallet 210. (8 x M10 and 2 x ø 10 h6 straight pin).

ER-026661 PC plate 250/R50



Version Aluminum, anodized with 50 mm grid boreholes of ø 12 F7 and M12 thread.
Application To clamp workpieces and clamping jigs.
Assembly On PC pallet 210. (4 x M10 and 2 x ø 10 h6 straight pin).
Note Not suitable for application on EDM centres.

ER-041912 Pallet P ø 148 INOX
ER-041924 Pallet P ø 148 INOX, Set of 4 pallets

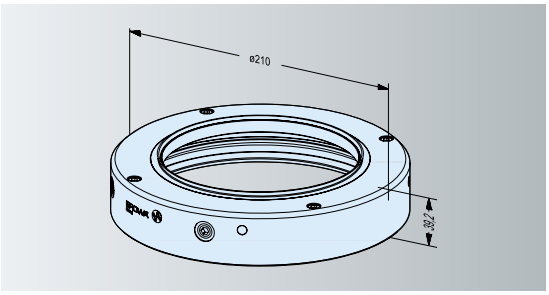


Version Steel, corrosion-resistant. Centering integrated in the pallet.
Application For use on all EROWA PowerChucks P and ProductionChuck 210 Combi. To accommodate workpieces and fixtures in chip-cutting machining processes.
Mounting Through pallet with M8 bolts or through blank with M10 bolts.

EROWA

ER-034396 ProductionChuck seal ring holder 148

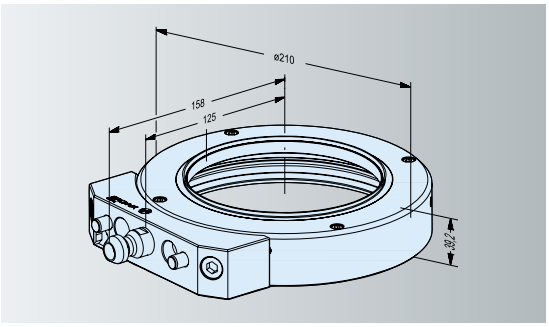
Version Aluminum cover for PC 210 Combi ER-030478.
Application Protects the PC 210 Combi when it is used with pallets ø 148 in the integrated PowerChuck P.



ER-033671 PC Seal ring holder 148 with RCS

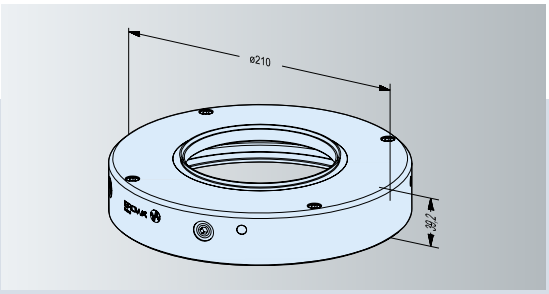
auto

Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the ProductionChuck 210 by application of EROWA ITS pallets ø 148. For automatic handling.



ER-034397 ProductionChuck seal ring holder 115

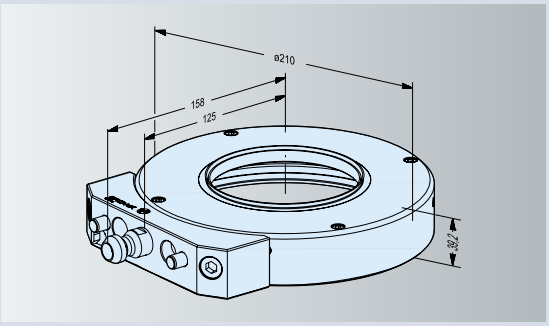
Version Aluminum cover for PC 210 Combi ER-030478.
Application Protects the PC 210 Combi when it is used with pallets ø 115 in the integrated PowerChuck P.



ER-033672 PC Seal ring holder 115 with RCS

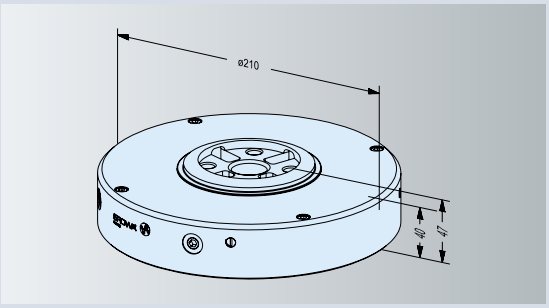
auto

Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the ProductionChuck 210 by application of EROWA ITS pallets ø 115. For automatic handling.



ER-029192 PC 210 Seal ring holder ø 72

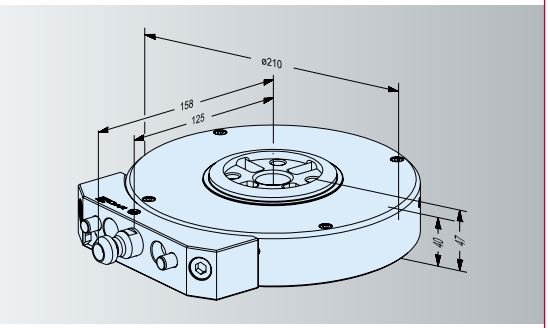
Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the ProductionChuck 210 by application of EROWA Holders ø 72.



ER-033716 PC 210 Seal ring holder ø 72 / RCS

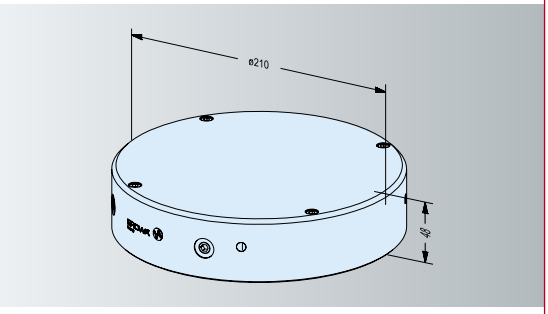
auto

Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the ProductionChuck 210 by application of EROWA Holders ø 72. For automatic handling.



ER-033718 PC 210 Cover

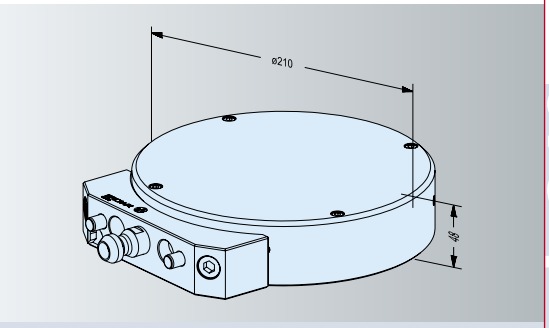
Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the ProductionChuck 210.



ER-033717 PC 210 Cover with RCS

auto

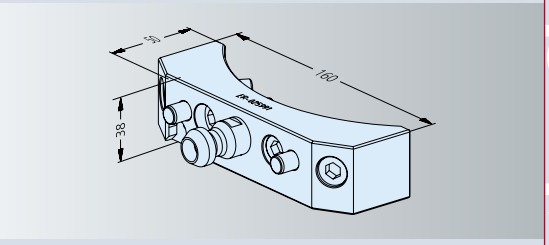
Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the ProductionChuck 210. For automatic handling.



ER-025991 PC Gripper Link RCS

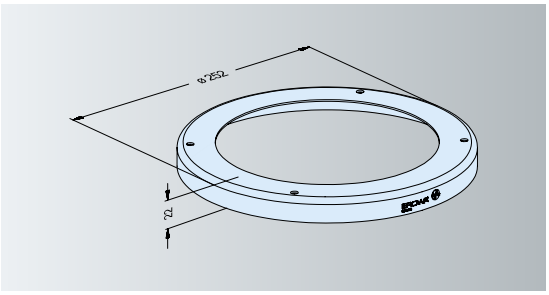
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Version Coupling part, including bolt set for assembly on PC pallet 210 and PC 210 sealing ring holder.
Application For PC pallets and PC centrering rings 210 on EROWA handling facilities which are directly equipped with the «RCS coupling system».



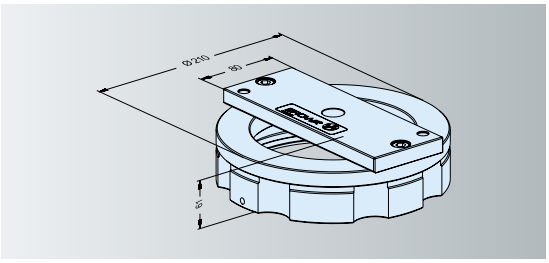
EROWA®

ER-033036 Covering ring PC 210



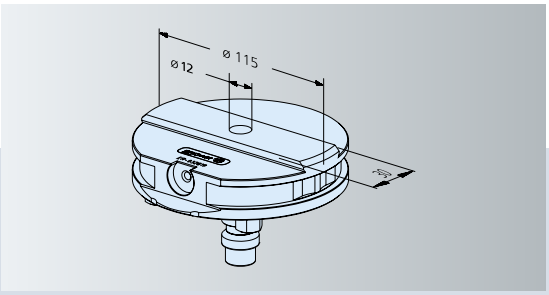
Application Coverring ring for the attachment bolts of the PC 210: ER-030479, ER-030478 (Recommended for application on lathes).

ER-032907 PC 210 alignment pallet



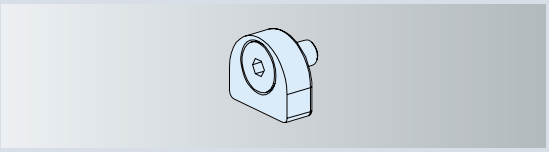
Version PC alignment pallet with ground rail and central borehole.
Application Alignment of angular position, and determination of the center of PC 210 chucks.

ER-032819 Alignment pallet ø 115



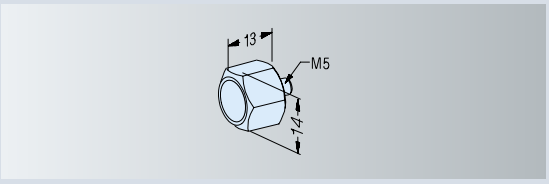
Version Pallet ø 115 mm, alignment length 110 mm, center borehole ø 12 mm.
Application Alignement of radial, axial and angular position of ITS chucks, PowerChuck P and PC 210 Combi chucks.

ER-035294 EWIS chip with holder/RCS



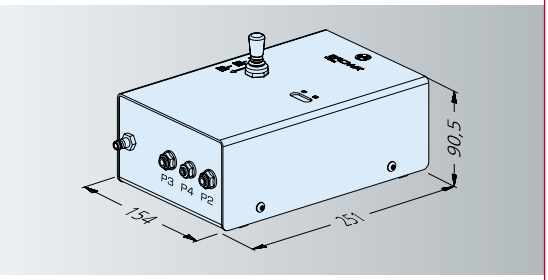
Version Holder with built-in datacarrier.
EWIS Chip: read only.
Application To build into RCS coupling, PalletSet W holder and Basic WEDM holder.

ER-035154 EWIS Holder SW 14 with Chip



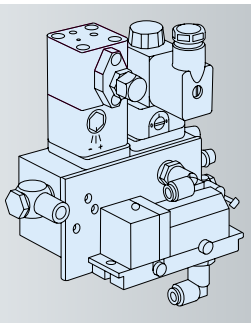
Version Sleeve fitting with built-in datacarrier.
EWIS Chip: read only.
Application In any EROWA electrode holder and pallet which have been prepared for it.

ER-025893 Manual control unit with booster



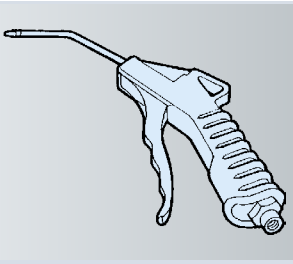
Version Manual valve to control the EROWA chucks: Opening/Reclamping/Cleaning.
Application Operation of: EROWA ITS Compact Combi Chuck, ITS, UPC, MTS, PC 210 chucks and PowerChuck P.
Note Integrated booster with load ratio 1:2 (up to supply pressure of 10 bar max.).

ER-010590 Control unit with monitoring



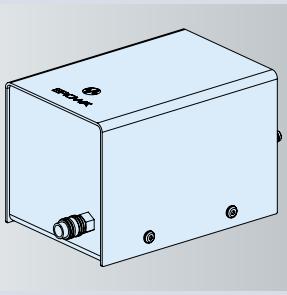
Version Electropneumatic valve. Outputs for chuck: open/clean/reclamp. 24 V, incl. mounting accessories and 3 m connection hose.
Application Operation and monitoring of machine-integrated chucks via e.g. M-function.

ER-001846 Air jet



Version Plastic, smooth regulation of air flow, connection 1/4", inside thread.
Application Operation of manual chucks.

ER-010520 Pressure booster



Version Quick-connect couplings for hose ø i = 8 mm. Output pressure: 8 bar. Compression ratio: 1:2
Application On insufficient system pressure and on pressure fluctuations.
Installation Integrate in air circuit near application.

EROWA®

EROWA PM Chuck

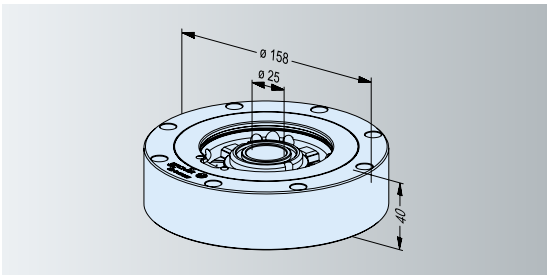
Chuck for pallets 85

Technical data	PM chuck
Repeatability	0.002 mm
Indexing	4 x 90°
Open with compressed air (dry)	min. 6 bar
Clamping	Spring power

ER-040697 PM chuck for pallet 85







Version Steel, hardened, corrosion-resistant.
Through borehole ø 25.

Clamping power 9000 N.

Connections At the rear, with two lines.

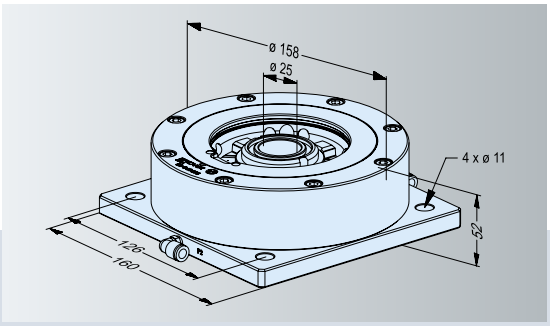
Operation With control unit.

Application On milling machines, lathes, EDM/WEDM centers and powder presses.
To accommodate pallets PM85.

ER-040696 PM chuck for pallet 85 with base plate







Version Steel, hardened, corrosion-resistant.
Through borehole ø 25.

Clamping power 9000 N.

Connections On the side, with two lines.

Operation With control unit.

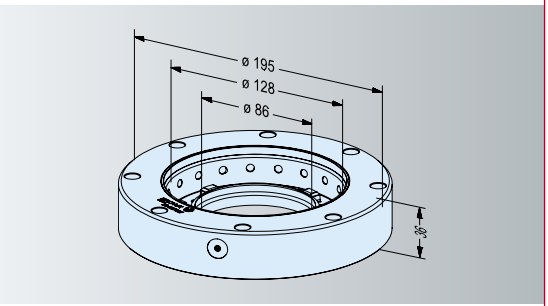
Application On milling machines, EDM/WEDM centers and powder presses.
To accommodate pallets PM85.

EROWA PM Chuck

Die plate chuck

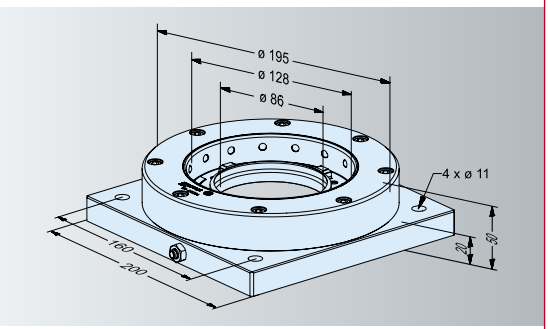
ER-037207 PM chuck for die plate P with reclamping

Version	Steel, hardened. Through borehole ø 86.
Clamping power	Reclamped at 6 bar: 23000 N.
Connections	At the rear, with two lines.
Operation	With control unit.
Application	On milling machines and powder presses. To accommodate PM die-plate pallets P.



ER-035504 PM chuck for die plate P with base plate

Version	Steel, hardened, corrosion-resistant. Through borehole ø 86.
Clamping power	7000 N.
Operation	On the side. with air gun.
Application	On milling machines, lathes and EDM/WEDM centers. To accommodate PM die-plate pallets P.

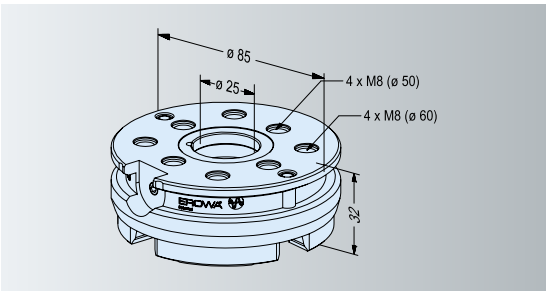


EROWA

ER-040701 Pallet PM85







Version Steel, hardened, corrosion-resistant. Centering integrated in pallet.

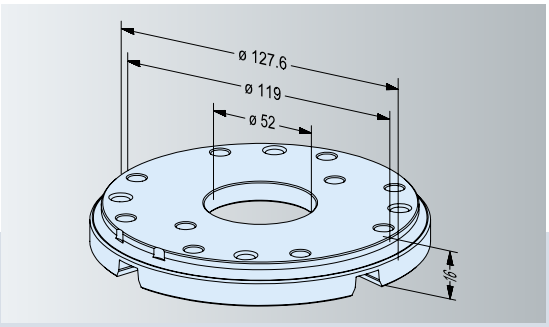
Application For use on EROWA PM Chuck (85), ProductionChuck 210 Combi, PowerChuck P, ITS Chuck 100 und QuickChuck 100 P. (Requires chucking spigot ER-039837). To accommodate workpieces and fixtures on chip-cutting machines, EDM/WEDM centers and powder presses.

Mounting Through the pallet with M6 bolts or through the workpiece with M8 bolts.

ER-034680 PM die plate P







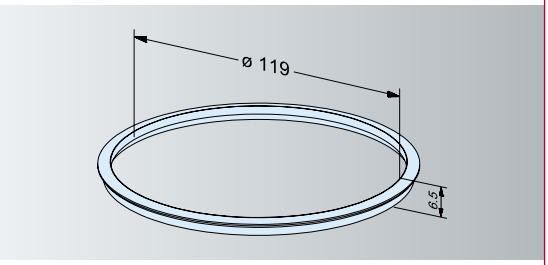
Version Steel, hardened, corrosion-resistant. Centering integrated in pallet.

Application For use on EROWA PM chuck for die plate P. To accommodate die plates, workpieces and fixtures for chip-cutting, EDM/WEDM and powder presses.

Mounting Through the pallet with M6 bolts or through the workpiece with M8 bolts.

ER-035256 Upper seal

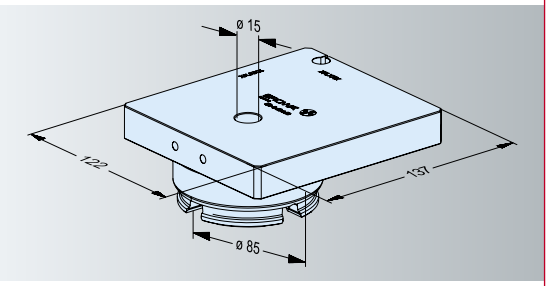
Version Synthetic.
Application Prevents dirt from penetrating into PM chuck for die plate P with the use of PM die-plate pallets P.



ER-042440 Alignment pallet PM85

INOX

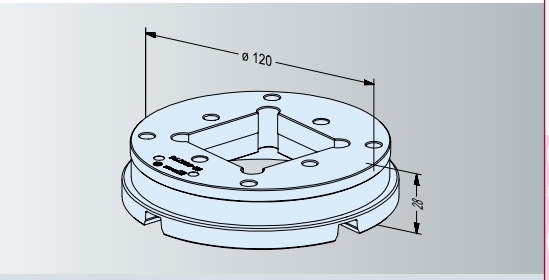
Version Pallet PM85, alignment surface, center borehole ø 15, position borehole ø 10.
Application Alignment of the angle position and determination of the center of the PM chuck for pallet 85.



ER-035796 PM alignment pallet PM chuck die plate P

INOX

Version Steel, hardened, corrosion-resistant.
Application Alignment of the angle position and determination of the center of the PM chuck for die plate P.

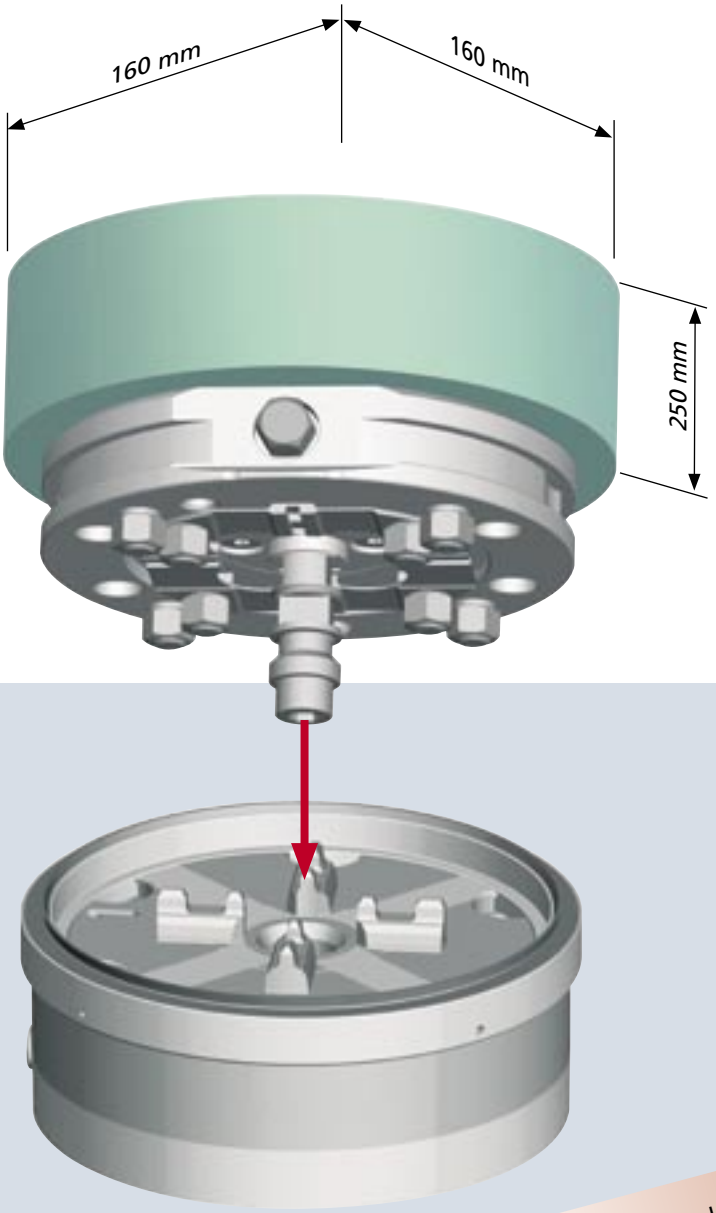


EROWA

EROWA PowerChuck P

accessible from all sides

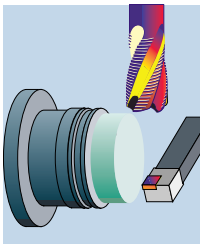
EROWA PowerChucks are quick and easy to integrate on a wide variety of machining centers.



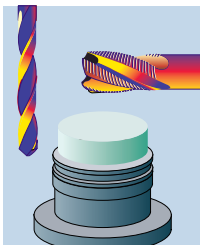
- Whether affixed to the T-slot table or built into the integrated axis, there is always a good solution.
- Access from all five open sides is particularly important with horizontal machining. The low height of the chuck plays a significant role on smaller machines.
- Operation is manual with an air jet, or with one of the pneumatic control units through the permanently screwed-in connections.
- In automatic operation, the presence and proper position of the pallets in the chuck is monitored (EROWA standard). Support surfaces are automatically cleaned.
- The different variants enable the chuck to be optimally fitted to the existing machine base.

Clean
Through automatic cleaning of contact surfaces.

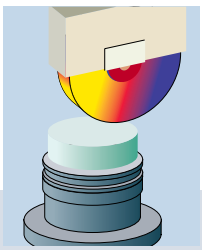
Applications



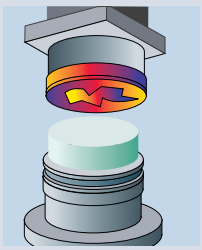
Milling / Turning



Drilling / Milling

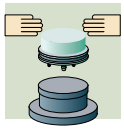


Grinding



EDM sinking

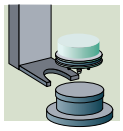
Handling



Manual

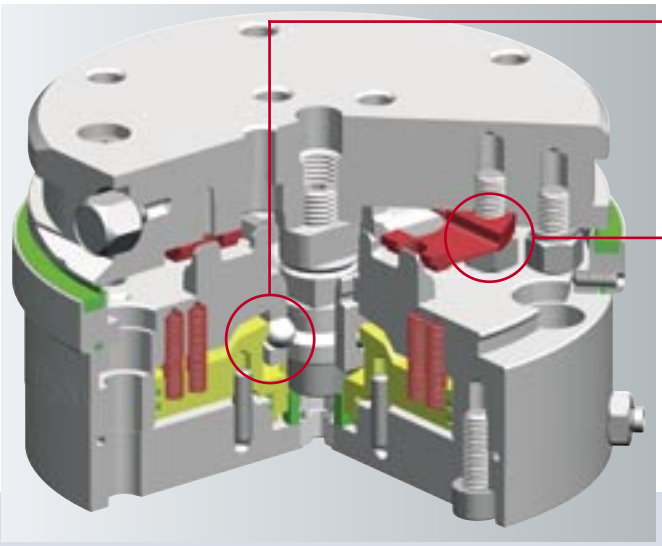


Loading facility



Robot

Function



The G-centering plates with their ground centering slots and their 0.7-mm-thick spring plate ensure clean and powerful poitioning.

The self-locking ball lock generates a clamping power of 10000 N; full clamping power is even retained in the case of a pressure failure.

During the clamping process, the contact surfaces of the supports are cleaned with compressed air.

Technical data

	PowerChuck P
Pallet size	ø 115 mm, ø 148 mm and ITS 50
Chuck dimensions H x ø	H = 51 mm x ø 156 mm
System height (chuck and pallet)	H = 91 mm
Recommended workpiece size	up to 160 x 160 x 250 mm
Repeatability	0.002 mm
Indexing	4 x 90°
Clamping power	10000 N
Generated by	springs
Release	compressed air, min. 6 bar
Operation	control unit or air jet

EROWA®

EROWA ITS PowerChuck P

powerful, flexible, universally applicable

Manufacturing is virtually inconceivable anymore without PowerChucks. Whether on milling or drilling machines, whether on profile-grinding or surface-grinding machines, whether on spindles of dividing heads or lathes: wherever it is, they fit like a glove.













Clamped with µm-accuracy with one movement of the hand.



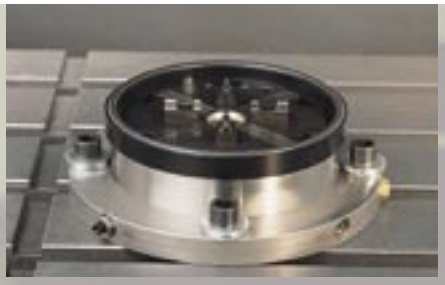
Universal combination of EROWA clamping systems with automatic handling.



Prepare, clamp and complete the job.









Economical with low profile. Can be fitted to suit any machine.





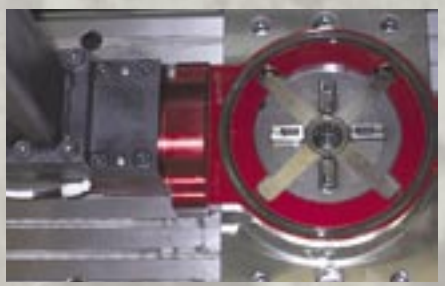


We would like to advise you. Please describe your clamping problem to us.

Grinding or milling: EROWA power chucks are just right.



Practical clamping elements for universal operation.



Automatic loading of the chuck with sealing rings for every EROWA workpiece holder



Six sides - one system:
Side 1: in a vise.
Side 2: in a vertical ITS chuck.
Side 3 to 6: in a horizontal ITS chuck on a dividing head.

EROWA®

The components


ER-016010


ER-035154


ER-015042


ER-015899


ER-015777


ER-032819


ER-036658


ER-041912


ER-010742

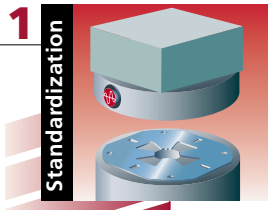

ER-029391


ER-024312


ER-029392


ER-008988


ER-001846



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 Combi gripper
12. Handling with EROWA Robot gripper 72
13. Handling with EROWA Robot gripper 115
14. Handling with EROWA Robot gripper 148
15. Handling with EROWA RCS gripper

For chip-removing processes

For EDM sinking

For WEDM

EROWA PowerChuck P palletizing system

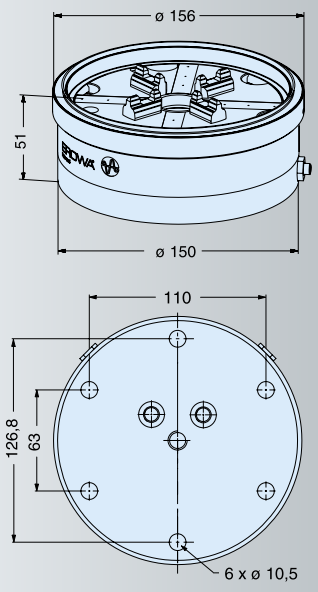
	Page
PowerChuck P Chucks	78
PowerChuck P Workpiece carrier	80
PowerChuck P Auxiliary Equipment	82

EROWA®

Technical data	PowerChuck
Repeatability	0.002 mm
Pallet indexation	4 x 90°
Clamping power	10000 N
Generated by	spring power
Opening with compressed air	min. 6 bar

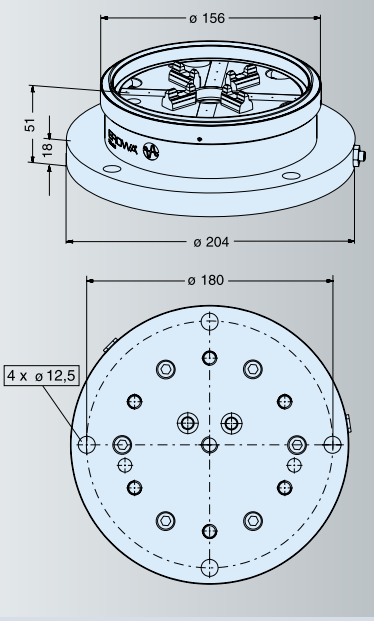
ER-029391 PowerChuck P ø 150

Version Extra-flat version. Height 51 mm.
Base plate ø 150 mm.
Connections On the side or at the rear with two lines.
Operation With airjet, laterally. With control unit through the two lines on the side and at the rear.



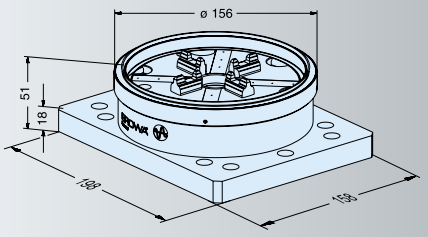
ER-029392 PowerChuck P ø 204

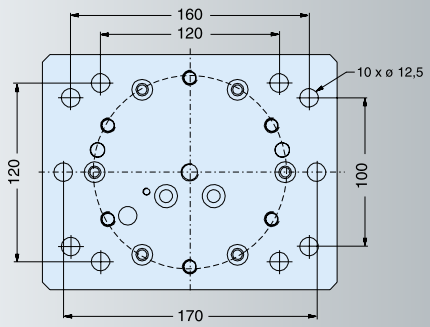
Version Extra-flat version. Height 51 mm.
Base plate ø 204 mm.
Connections On the side or at the rear with two lines.
Operation With airjet, laterally. With control unit through the two lines on the side and at the rear.



ER-024312 PowerChuck P 158 x 198

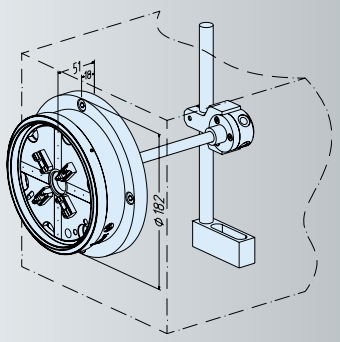
Version Extra-flat version. Height 51 mm.
Base plate 158 mm x 198 mm.
Connections On the side or at the rear with two lines.
Operation With airjet, laterally. With control unit through the two lines on the side and at the rear.

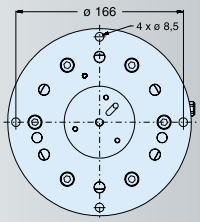




ER-029422 PowerChuck P/R

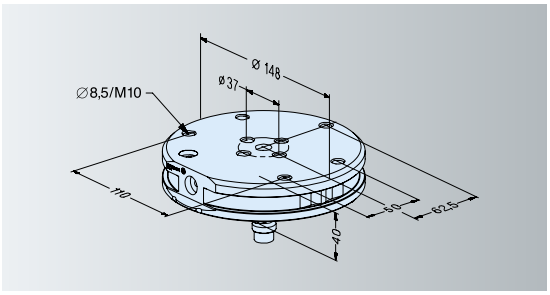
Version PowerChuck P with rotatable connection, max. 50 rpm.
Connections Two lines to the rotatable connection.
Operation With control unit, manually and automtically.
Application For use on dividing heads and round tables.





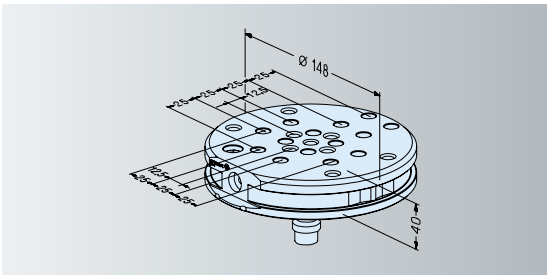
EROWA

ER-015777 Pallet ø 148 mm G
ER-032732 Pallet ø 148 mm G, Set of 4 pallets



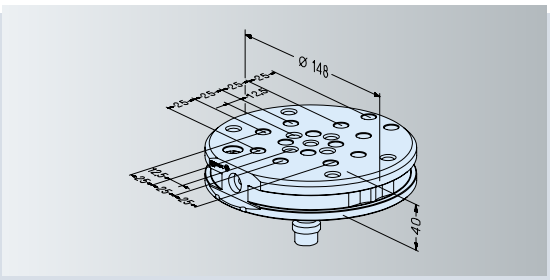
Version Standard type, ground centering plates.
Application To accommodate workpieces and fixtures in chip-cutting machining processes.
Mounting Through pallet with M8 bolts or through blank with M10 bolts.

ER-015899 Pallet ø 148 G R25
ER-033053 Pallet ø 148 G R25, Set of 4 pallets



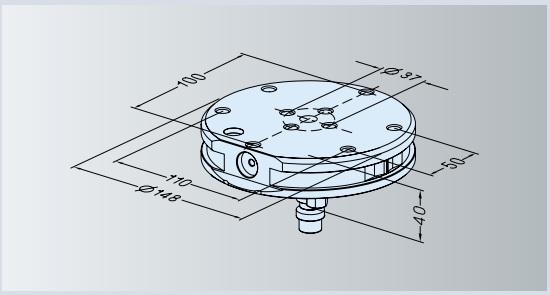
Version Steel, nitride coated, with borehole pattern 25, ø 10 F7, thread M10.
Application To accommodate EROWA ClampSet Base 220 or specially constructed fixtures and gauges.

ER-015042 Pallet ø 148 MS ALU R25
ER-033051 Pallet ø 148 MS ALU R25, Set of 4 pallets



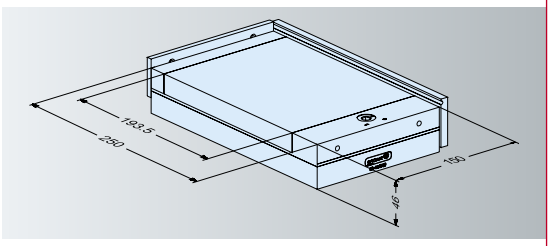
Version Body of casted aluminum with borehole pattern 25, ø 10 F7, thread M10.
Application Palletizing of workpieces and electrodes, mounting of fixtures and ClampSet Base 220.
Mounting Through pallet with M8 bolts or through blank with M10 bolts.

ER-041912 Pallet P ø 148 INOX
ER-041924 Pallet P ø 148 INOX, Set of 4 pallets



Version Steel, corrosion-resistant. Centering integrated in the pallet.
Application For use on all EROWA PowerChucks P and ProductionChuck 210 Combi. To accommodate workpieces and fixtures in chip-cutting machining processes.
Mounting Through pallet with M8 bolts or through blank with M10 bolts.

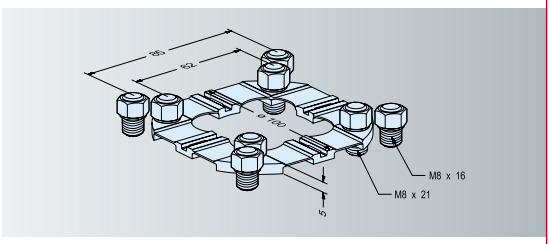
ER-038189 ITS Magnetic clamping plate



Version Magnetic clamping plate of steel with M8 attachment boreholes for ITS Pallet ø 148.

Application To clamp workpieces for surface and profile grinding, WEDM and high-frequency milling.

ER-036658 Centering plate G INOX

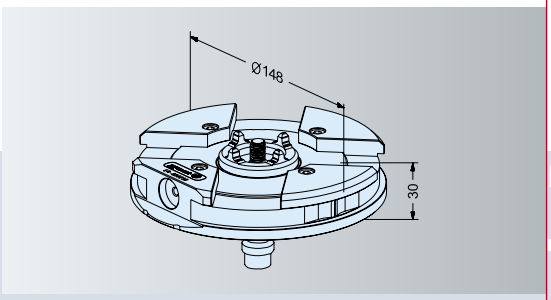


Version Set of 5 plates. Ground including 8 supporting feet M8 per plate.

Application For workpieces, jigs and fixtures in chip-removal machining.

Mounting According to accompanying fitting instructions.

ER-022250 Compact ITS Adapter ITS 50 / ø 148

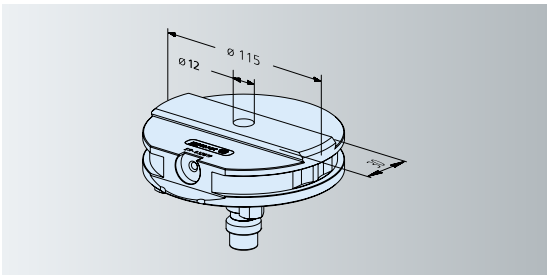


Version ITS system size 100.
Lock with central M 10 locking bolt.

Application To accommodate ITS Electrode holders system 50.
Lock with central M10 locking bolt.
For automatic handling.

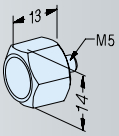
More workpiece carriers for the EROWA PowerChuck P palletizing system you will find on page: 118.

ER-032819 Alignment pallet ø 115



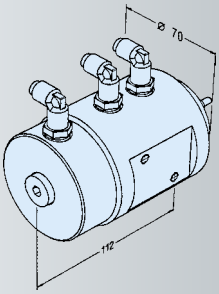
Version Pallet ø 115 mm, alignment length 110 mm, center borehole ø 12 mm.
Application Alignement of radial, axial and angular position of ITS chucks, PowerChuck P and PC 210 Combi chucks.

ER-035154 EWIS Holder SW 14 with Chip



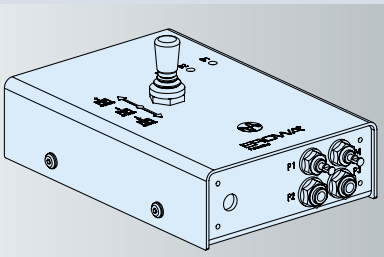
Version Sleeve fitting with built-in datacarrier.
EWIS Chip: read only.
Application In any EROWA electrode holder and pallet which have been prepared for it.

ER-011362 Twin rotatable pneum. con.
ER-011412 Triple rotatable pneum. con.



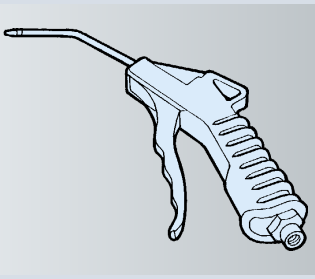
Version Non machine specific connection flange. Two (three) air lines.
Max. speed: 6000 rpm.
Max. operating pressure: 10 bar.
Application Air supply to EROWA chucks on rotatable spindles.
Operation Only operate when spindle is at stand still!

ER-008988 Manual control unit



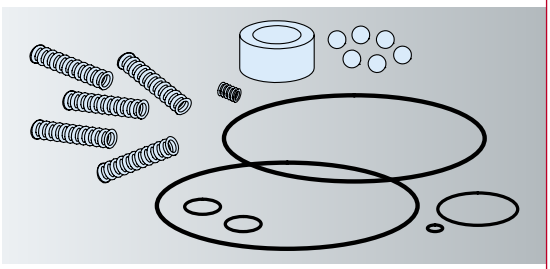
Version Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC. Open/reclamp/clean.
Application Operation of chucks on machines.

ER-001846 Air jet



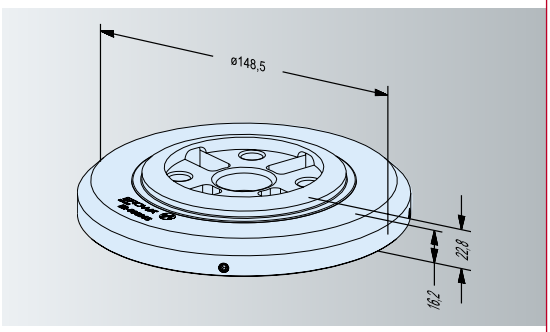
Version Plastic, smooth regulation of air flow, connection 1/4", inside thread.
Application Operation of manual chucks.

ER-015962 Repair kit PowerChuck P



Version All the wear parts of PowerChuck P.
Application Dismantle chuck according to instructions supplied, replace parts.
Please note Every chuck is supplied with instructions. Please keep in a safe place.

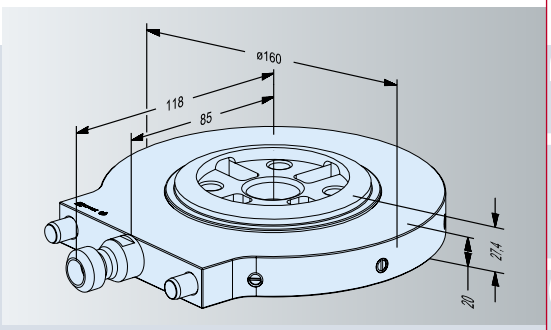
ER-035365 Seal ring PowerChuck P / ø 72



Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA Holders ø 72.

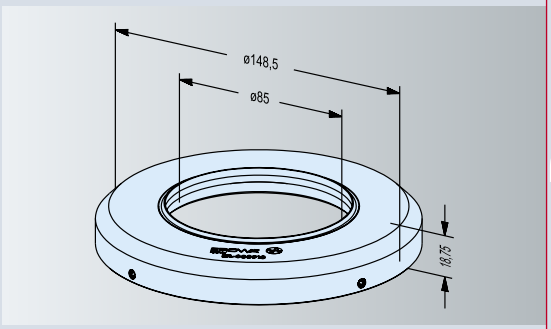
ER-029202 Seal PowerChuck P / ø 72 RCS

auto



Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA Holders ø 72. For automatic handling.

ER-038918 Seal ring PowerChuck P / ø 85



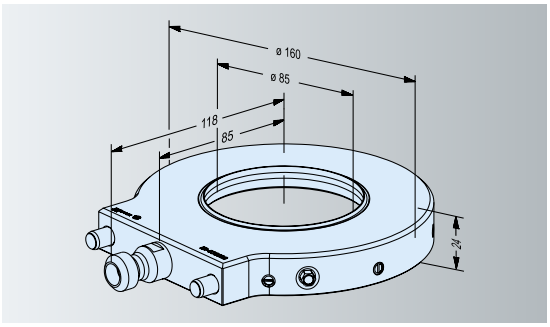
Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA pallets PM85.

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ER-038920 Seal PowerChuck P / ø 85 RCS

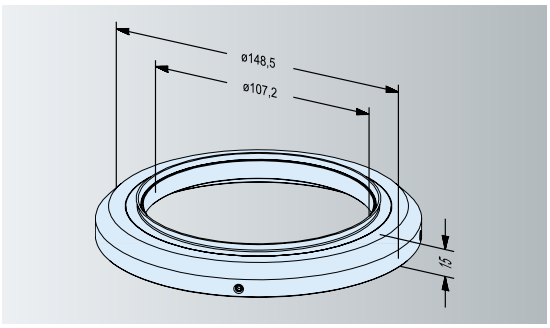
auto

Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA pallets PM85 For automatic handling.



ER-016142 Seal ring holder ø 115 for PowerChuck P/F

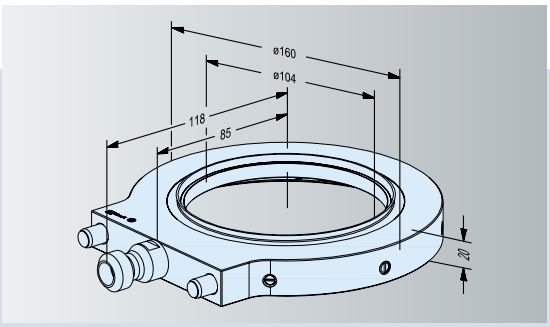
Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the Power-Chuck P by application of EROWA ITS pallets ø 115.



ER-029206 Seal PowerChuck P / ø 115 RCS

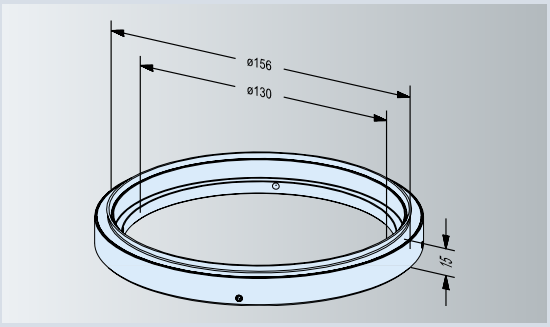
auto

Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the Power-Chuck P by application of EROWA ITS pallets ø 115. For automatic handling.



ER-016131 Seal ring holder ø 148

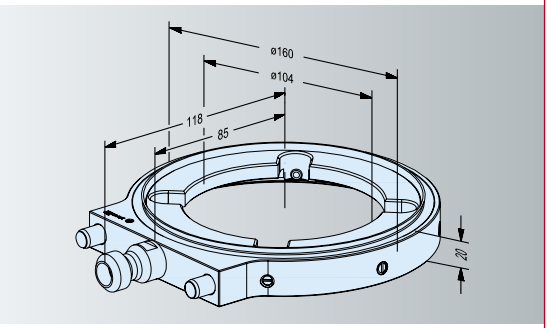
Version Steel black oxide coated.
Application Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA ITS pallets ø 148.



ER-029208 Seal PowerChuck P / ø 148 RCS

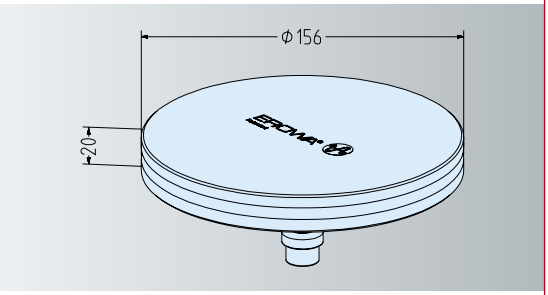
auto

Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA ITS pallets ø 148. For automatic handling.



ER-008972 Cover for PowerChuck P

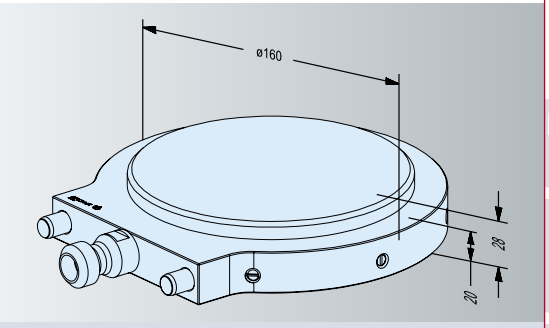
Version Aluminum. Without centering plate and supports.
Application Protects the PowerChuck P from chips and cooling water when not in use.



ER-033719 Cover PowerChuck P with RCS

auto

Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the PowerChuck P. For automatic handling.

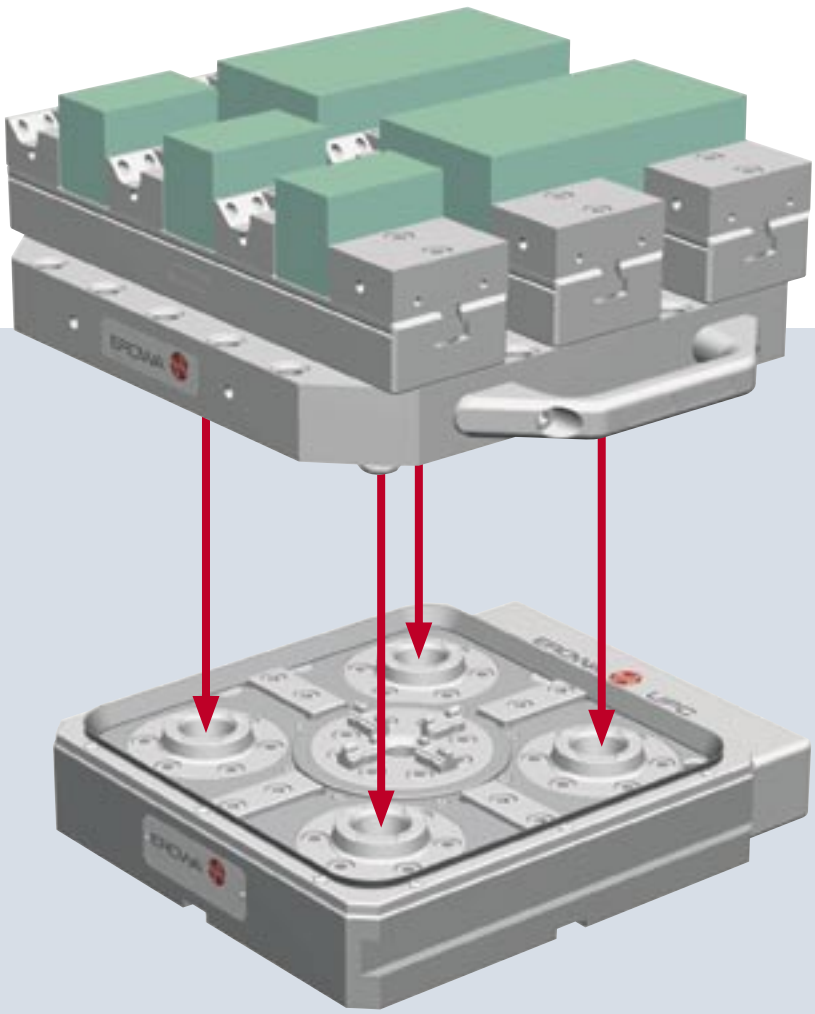


EROWA

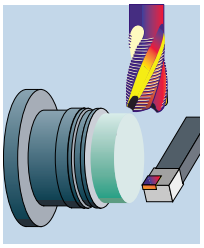
EROWA ClampSet

EROWA ClampSet is the modular system for clamping workpieces. It is universally applicable throughout the EROWA Manufacturing Concept.

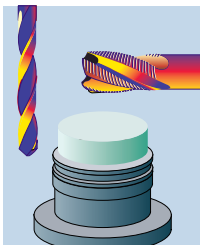
- The ClampSet offers enormous flexibility. A great number of various precise clamping elements are available.
- It serves to clamp both machined workpieces and blanks.
- A variety of jaws enable many different workpiece forms to be clamped.
- A maximum clamping range of 225 mm also provides room for large workpieces.
- Workpieces are set up and preset outside the machine; this makes for an optimal use of time and cuts costs.
- Once the ClampSet has been palletized, it is immediately suitable for the automatic loading of machines.



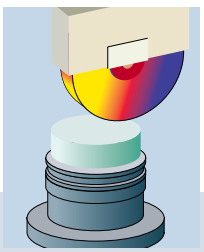
Applications



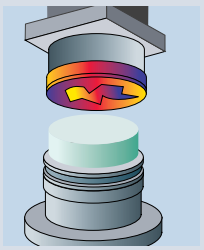
Milling/Turning



Drilling/Milling

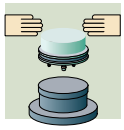


Grinding



EDM sinking

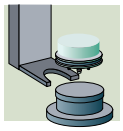
Handling



Manual

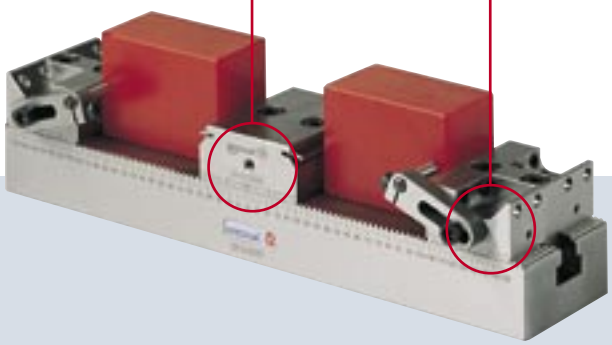


Loading facility



Robot

Function



ClampSet Block N:
the pull-down jaw in combination with the ClampSet Standard Block offers the ideal pull-down effect.

ClampSet Stop:
the lateral stop can be attached to any ClampSet jaw.

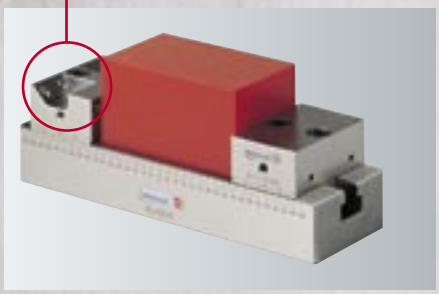
Technical data

	ClampSet Base 220	ClampSet Base 320
Clamping range	max. 126 mm	max. 225 mm
Material	steel, hardened, ground	

EROWA

EROWA ClampSet – modular, flexible, precise

Whether it´s drilling, milling, grinding or EDM, ClampSet will reduce set-up times.

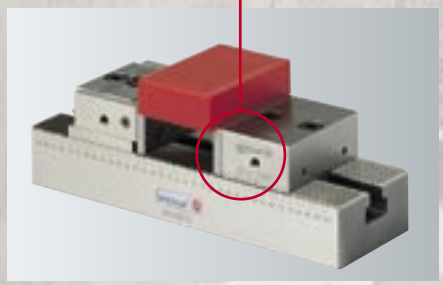


The Standard Block with 4 ball pressure bolts at an angle of 3° to the base surface for an optimal pull-down function.

Base 220, ClampSet Standard Block and ClampSet Block F (hard jaw) to clamp blanks. For ClampSet Block S (soft jaw), see page 96.

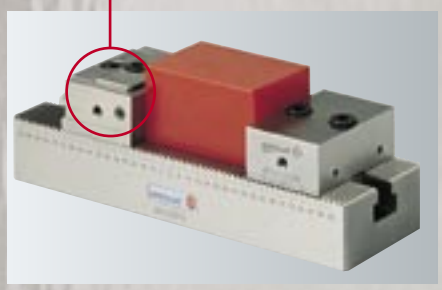
Flexible
For vertical and horizontal use.

Support N; to clamp flat, low workpieces.



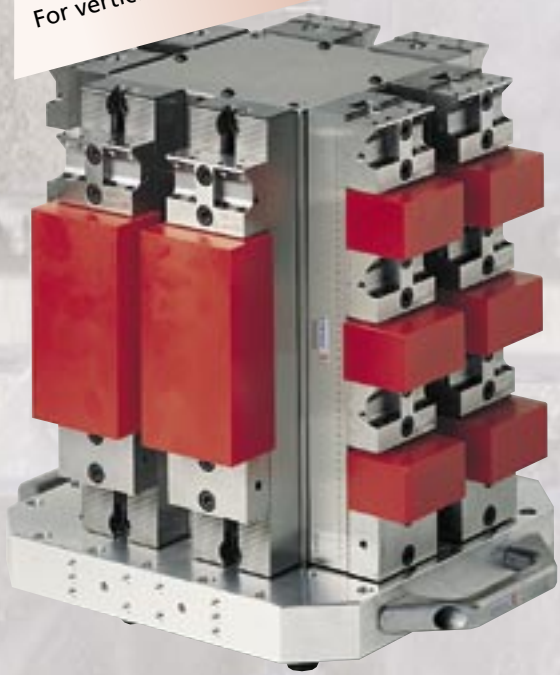
Base 220, ClampSet Slide, Block F and Support N (in two parts). For additional workpiece supports, see pages 96/97.

Universal
Adapted elements for use throughout the EROWA Manufacturing Concept.



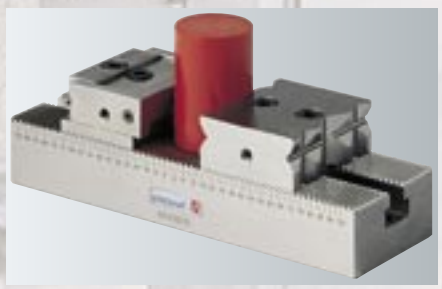
ClampSet Slide; the precision clamping jaw for multiple clamping.

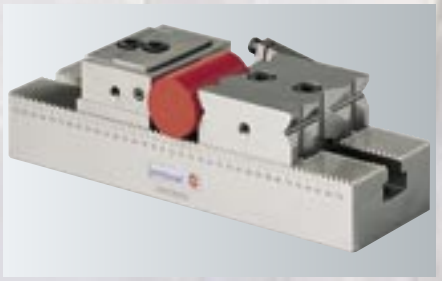
Base 220, ClampSet Slide and Block F to clamp machined parts (grinding vise).



The multiple fixture on Cube and the UPC pallet for horizontal machining.

Automatic
To load machine tools automatically.







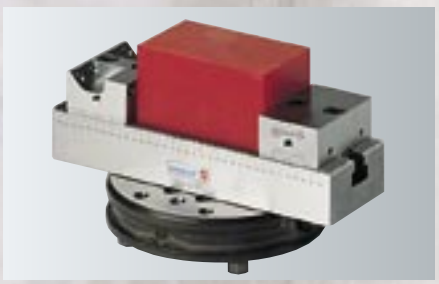




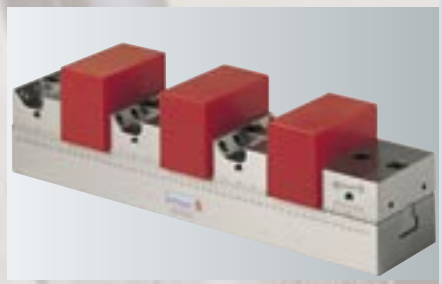
Base 220, ClampSet Slide and prismatic jaw to clamp various cylindrical parts, both horizontally and vertically.



ClampSet vise on ITS pallet. Positioning to µ-accuracy and ready for use within seconds.



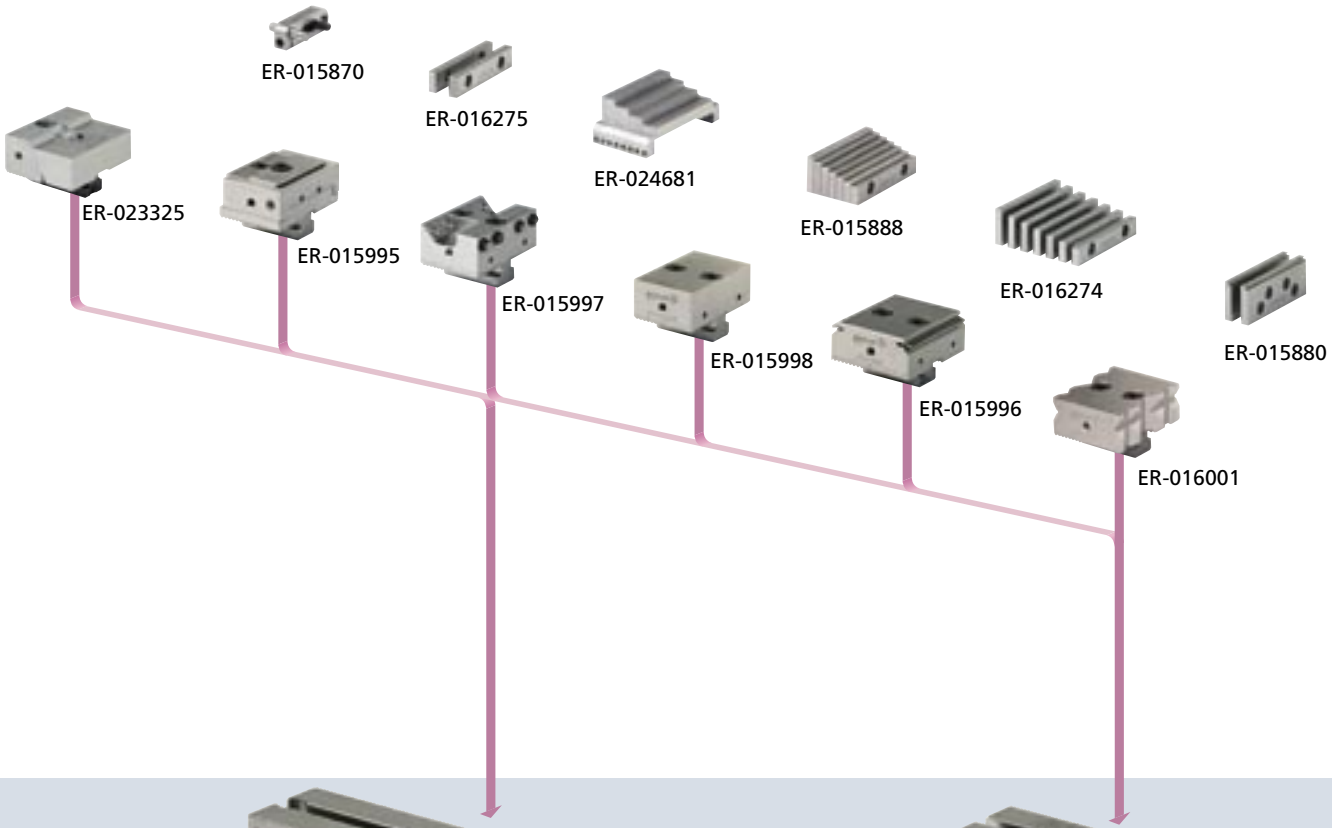
A fixture with Base 220 on an ITS pallet ø 148 mm.

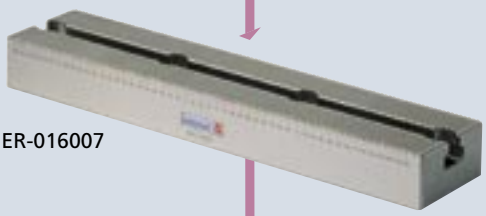


Base 320 with 3 ClampSet Standard Blocks and Block F for multiple fixtures.

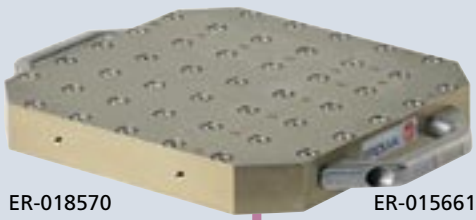
EROWA®

The components

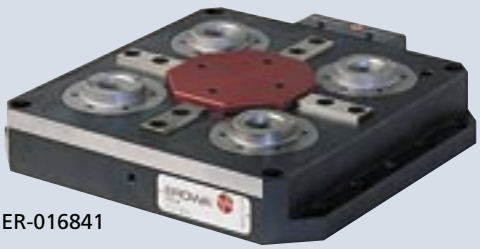



ER-016007

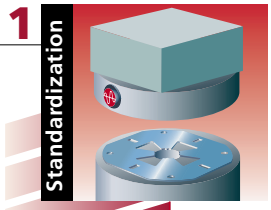

ER-016010


ER-018570 ER-015661


ER-015899


ER-016841


ER-024312



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 Combi gripper
12. Handling with EROWA Robot gripper 72
13. Handling with EROWA Robot gripper 115
14. Handling with EROWA Robot gripper 148
15. Handling with EROWA RCS gripper

For chip-removing processes

For EDM sinking

For WEDM

EROWA ClampSet

	Page
ClampSet technical data	92
ClampSet Base	94
ClampSet clamping elements	95

EROWA

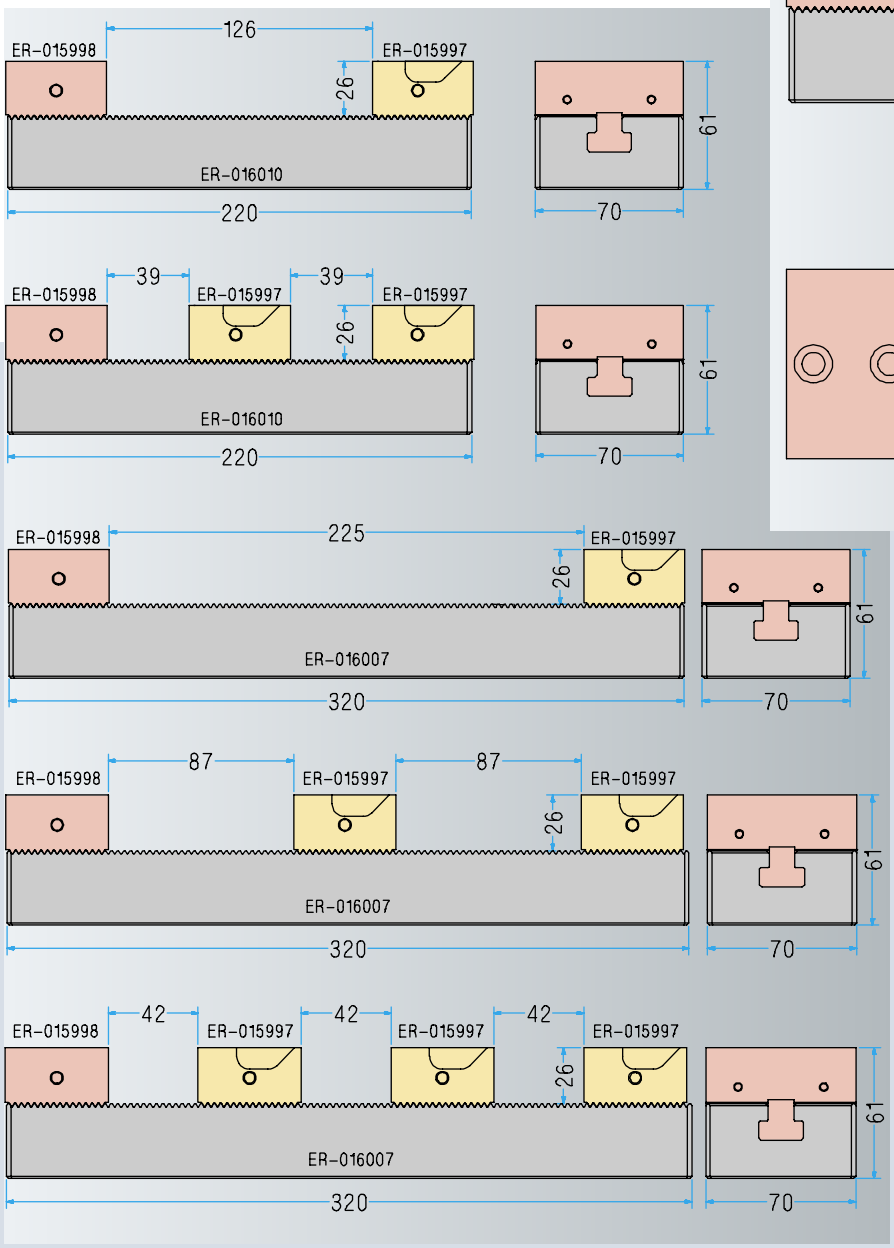
Application ClampSet Standardblock

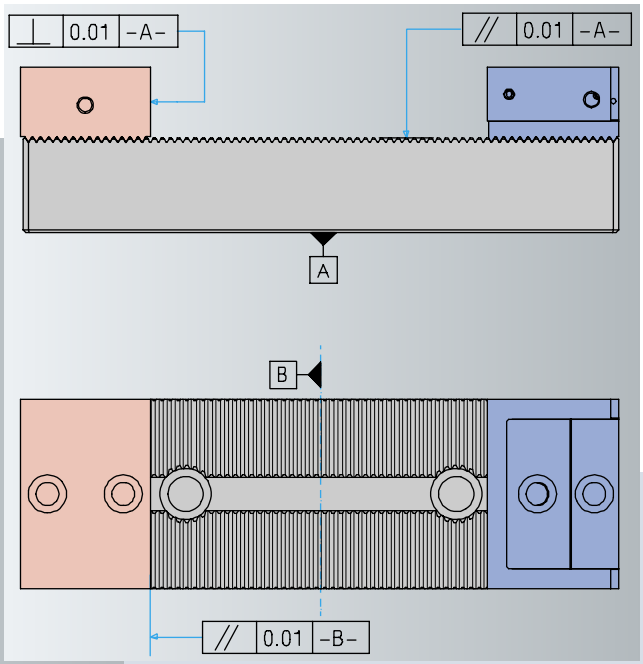
ER-015997	**ClampSet Standardblock**
ER-015998	**ClampSet Block F**
ER-016010	**ClampSet Base 220**
ER-016007	**ClampSet Base 320**

ClampSet Standard Block	**Clamping power in kg** ±10%		
Number of	at a torque of		
ball-pressure bolts	5 Nm	10 Nm	15 Nm
2	900	1750	2500
4	1450	2750	3900

For the sake of clamping precision and safety, it is very important to tighten the bolts with a torque wrench.

Data given are guiding values, which may be impaired by dirt and other environmental influences.



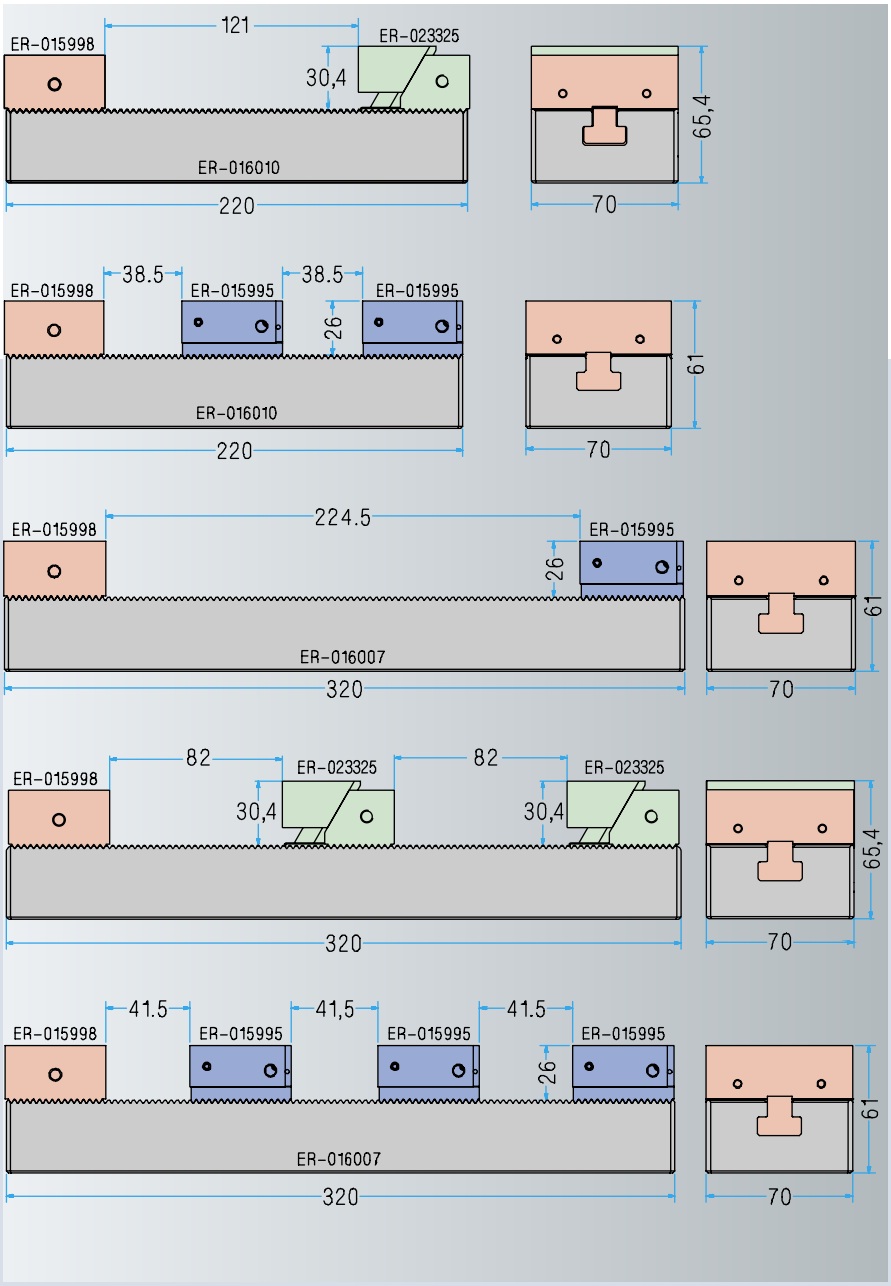


Position tolerances

Application ClampSet Slide/Jaw

ER-015995	**ClampSet Slide**
ER-023325	**ClampSet Jaw**
ER-015998	**ClampSet Block F**
ER-016010	**ClampSet Base 220**
ER-016007	**ClampSet Base 320**

	Clamping power in kg ±10% at a torque of			
	5 Nm	10 Nm	15 Nm	20 Nm
ClampSet Slide	250	500	750	1000
ClampSet Jaw	300	600	900	1200

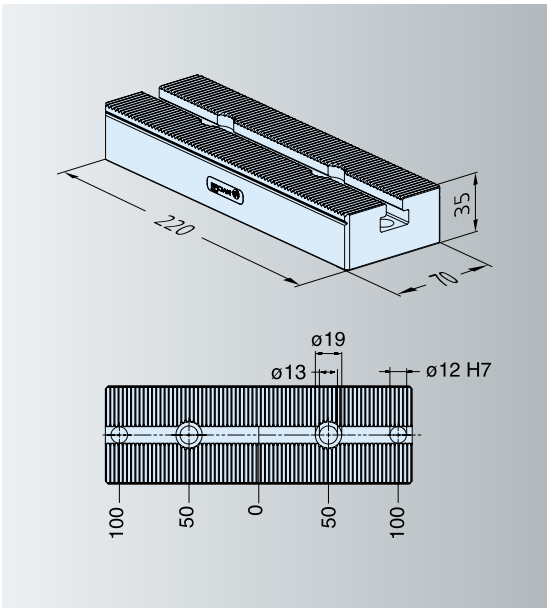


Modular
Different clamping jaws for many workpiece shapes.

EROWA®

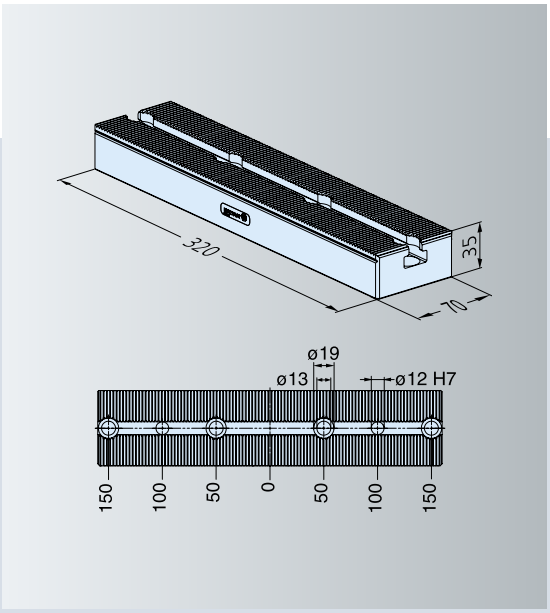
ER-016010 ClampSet Base 220

Version	Steel, hardened, ground. Clamping element carrier with 3 mm positioning grid.
Application	On ITS pallets 148 with 25 mm grid and on UPC pallets with 50 mm grid, as a base for the various ClampSet clamping jaws.
Mounting	On all EROWA grid pallets.
Note	R40 subject to consultation.

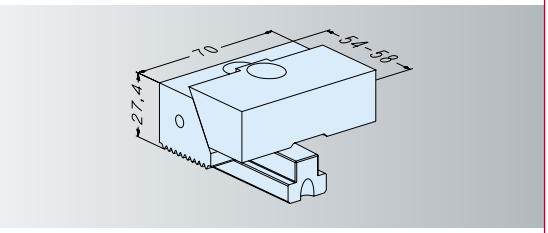


ER-016007 ClampSet Base 320

Version	Steel, hardened, ground. Clamping element carrier with 3 mm positioning grid.
Application	On UPC grid pallets R50 or Cube R50, as a base for the various ClampSet clamping jaws.
Mounting	On EROWA UPC grid pallets R50 or Cube R50.
Note	R40 subject to consultation.

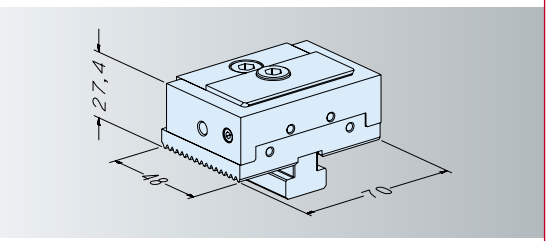


ER-023325 ClampSet Jaw



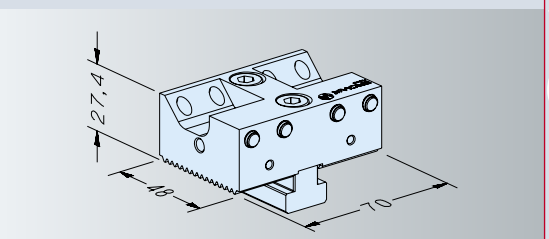
Version	Steel, hardened, including tenon block for attachment.
Application	To clamp workpieces with machined surfaces.
Mounting	On ClampSet Base 320 or 220 with tenon block supplied.
Note	Favorably priced alternative to the Clamp Set Slide. The fixed stop side enables multiple fixtures.

ER-015995 ClampSet Slide



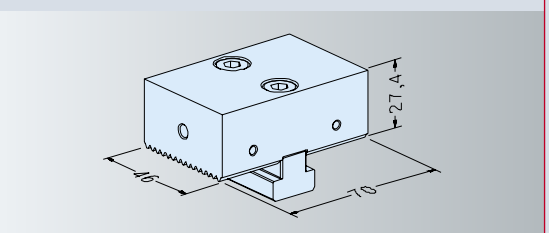
Version	Steel, hardened, incl. T-nut for fixation.
Application	To clamp workpieces with machined sides.
Mounting	On ClampSet Base 320 or 220 with the T-nut supplied.
Note	Fixed stop side for the multiple fixture of machined workpieces. The precision clamping jaw in the ClampSet system.

ER-015997 ClampSet Standardblock M8



Version	Steel, hardened, incl. T-nut for attachment.
Application	The blanks are clamped with the M8 stud bolts. A clamping jaw in EROWA´s modular vise system.
Mounting	On ClampSet Base 320 or 220 with the T-nut supplied.
Note	The fixed stop side allows for multiple fixtures.

ER-015998 ClampSet Block F

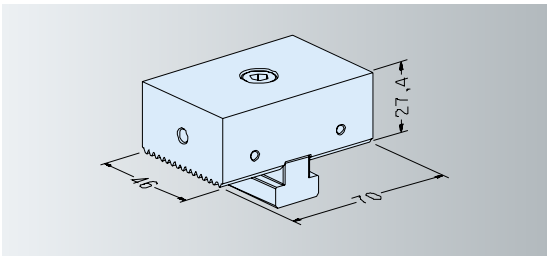


Version	Steel, hardened, incl. T-nut for attachment.
Application	Hard jaw in EROWA´s modular vise system.
Mounting	On ClampSet 320 or 220 with the T-nut supplied.

EROWA®

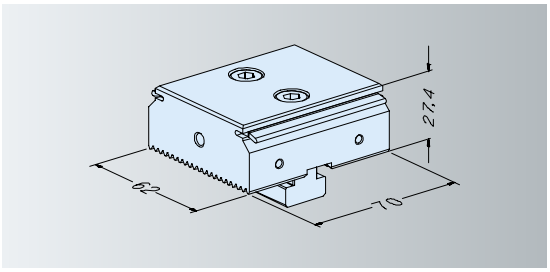
ER-015999 ClampSet Block S

Version Steel, soft, incl. T-nut for attachment.
Application The soft block serves to produce a workpiece-specific hard jaw.
Mounting On ClampSet 320 or 220 with the T-nut supplied.



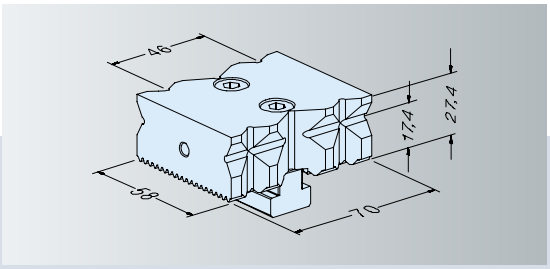
ER-015996 ClampSet Block N

Version Steel, hardened, incl. T-nut for attachment.
Application To clamp blanks. Hard jaw in EROWA´s modular vise system.
Mounting On ClampSet 320 or 220 with the T-nut supplied.
Note Pull-down function when clamping.



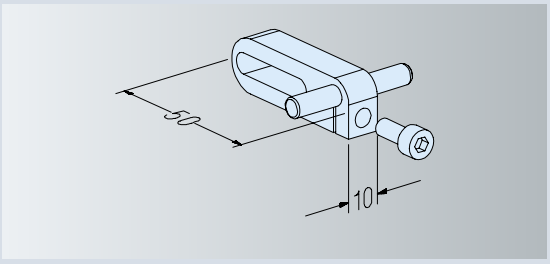
ER-016001 ClampSet Block Prisma

Version Steel, hardened, incl. T-nut for attachment.
Application To clamp round parts. Hard jaw in EROWA´s modular vise system.
Mounting On ClampSet 320 or 220 with the T-nut supplied.



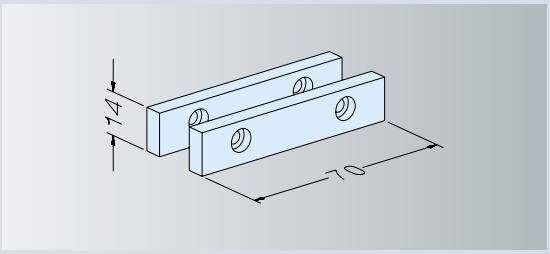
ER-015870 ClampSet Stop

Version Adjustable stop, steel.
Application Lateral stop for every ClampSet element.
Mounting Laterally to the relevant ClampSet block with the bolts supplied.

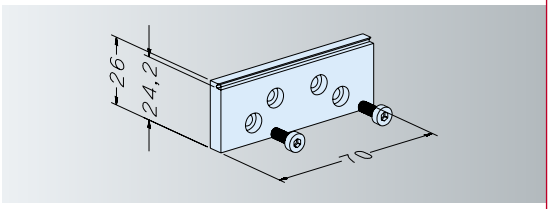


ER-016275 ClampSet Support Kit 14 mm

Version Ground support (1 pair), 14 mm high, with four bolts.
Application Support for the height positioning of workpieces.
Mounting To the ClampSet Standard Block with the bolts supplied.

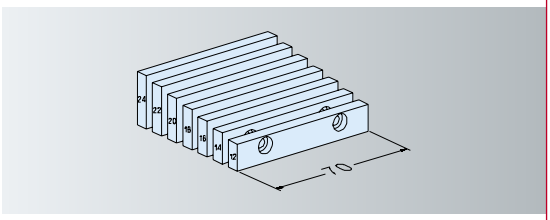


ER-015880 ClampSet Support N (1 pair)



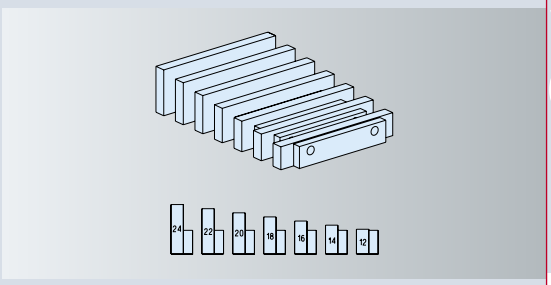
Version Steel, hardened, ground, with bolts.
Application Pull-down element for ClampSet Slide and ClampSet Block. To clamp workpieces of aluminum and non-ferrous heavy metal.
Mounting To ClampSet Slide and ClampSet Block with the bolts supplied.
Note Also suitable for clamping workpieces of low height.

ER-015888 ClampSet Support Kit, 7 parts



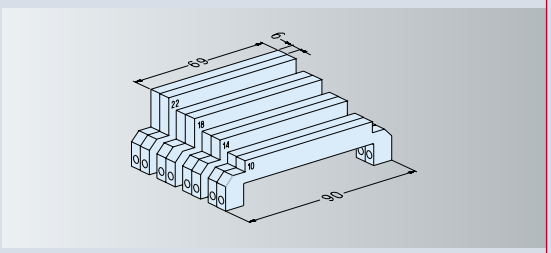
Version Set of 7 ground supports; 12, 14, 16, 18, 20, 22 and 24 mm high; with bolts.
Application Supports for the height positioning of workpieces.
Mounting To the various ClampSet Blocks with the bolts supplied.

ER-016274 ClampSet Support Kit, offset, 7 parts



Version Set of 7 ground, offset supports, with bolts.
Application Supports for the height positioning of workpieces.
Mounting To ClampSet Slide with the bolts supplied.

ER-024681 ClampSet Support Set



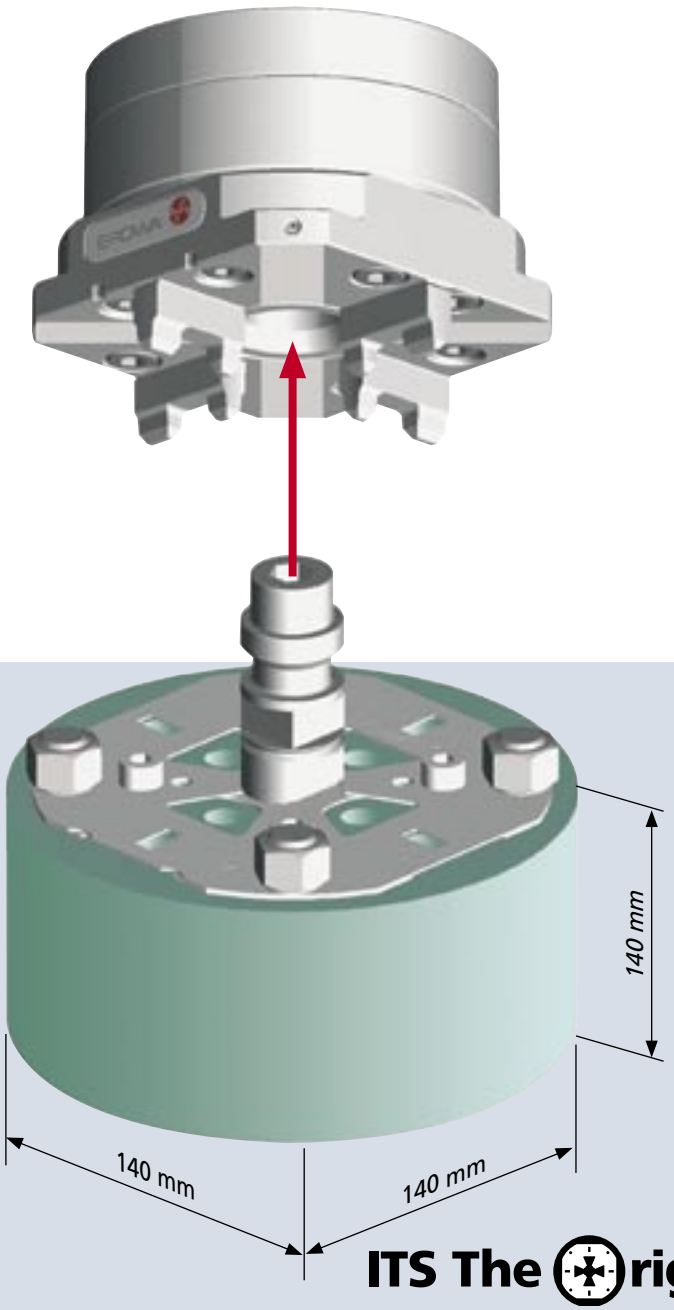
Version Set of 8 ground supports, heights 10, 14, 18 and 22 mm.
Application Support for the height positioning of workpieces.
Mounting The supports are clamped on the base from above.

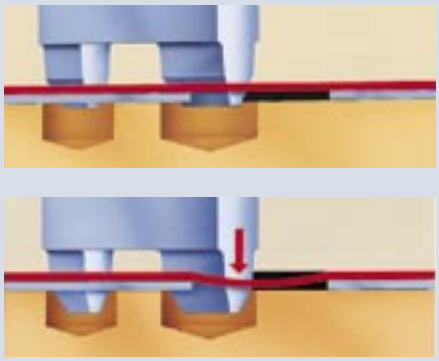
EROWA®

EROWA ITS chuck – simple, practical, good

EROWA's ITS chuck operates on a principle that is as simple as it is ingenious. It holds both tools and workpieces with equal precision and with a high degree of repeatability. Its applications are so numerous that it forms the basis for a well thought-out modular tooling system.

- Tens of thousands of ITS chucks are in daily operation worldwide - with their guaranteed 2-µm accuracy and with a reliability they have earned for themselves in practical working application.
- Integrated on milling, grinding and drilling machines, on EDM sinking and WEDM centers or on measuring and presetting stations, ITS helps us week after week to achieve a profitable use of production time.



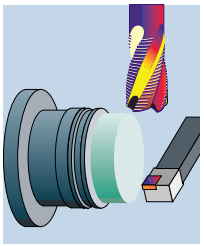


The two pictures illustrate the ITS patent. After a rough precentering process, the reference position is only reached when the centering plate is flexed. Together with the contact points, this flexing action creates the stability of the frictional connection. This is how positioning accuracy is created between the flexible centering plate and the rigid centering prisms.

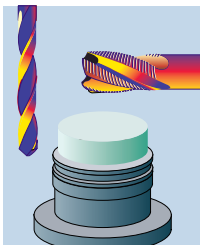
ITS The Original.

Nothing is copied as fast as a pioneering invention. But then a copy always lags behind the times. It won't be different with the next innovative idea. We will ensure that you continue to do well if you invest your money in originals. In originals by EROWA.

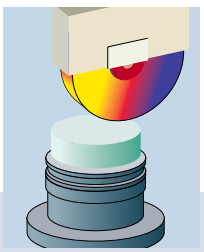
Applications



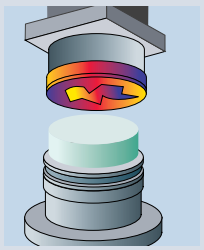
Milling / turning



Drilling / milling



Grinding

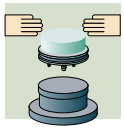


EDM sinking



The second important effect: the flexing plate wipes off any dirt. Centering plate and prism only touch on one line. A small contact area also reduces the possibility of interference by chips and dirt particles.

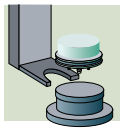
Handling



Manual

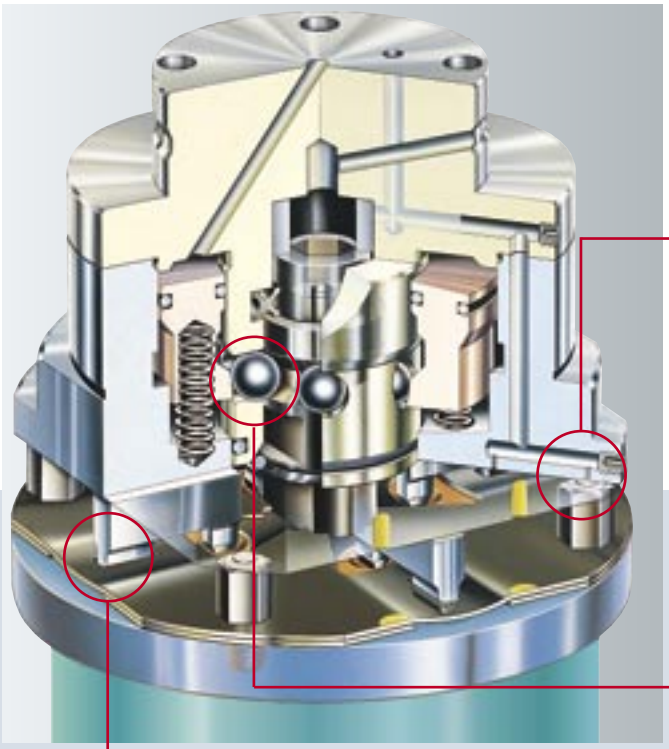


Loading facility



Robot

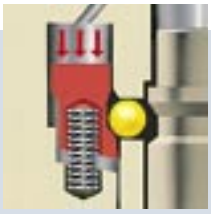
Function

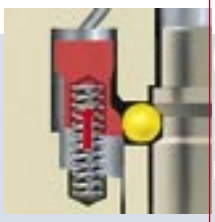






Experience shows that precision and dirt are do not go hand in hand. This is why the contact points of the support feet are cleaned with compressed air at the very moment of clamping. This also functions when the chuck is submerged in liquid.





The reliable clamping mechanism with the self-locking ball lock generates a clamping power of up to 7000 N (NSF) and does not unlock even if the pressure fails.

Technical data

	ITS chuck, pneumatic
System sizes	50 and 100
Repeatability	0.002 mm
Indexing	4 x 90°
Clamping power	2500 N (NSF chuck: 7000 N)
Recommended workpiece sizes	up to 140 x 140 x 140 mm
Generated by	springs (+ 6 bar NSF chucks)
Opening	compressed air min. 6 bar
Operation	air jet, valve, manual control unit

EROWA®

EROWA ITS chucks – a suitable version for each job

The applications of ITS chucks are as numerous as the jobs to be done in precision mechanics and in tool and mold manufacturing. This is why we offer such a diverse variety of chucks.







Save time
Machine changes and in-process-control without loss of time thanks to fixed reference position.

Ideally suitable for milling, drilling, grinding, turning . . .

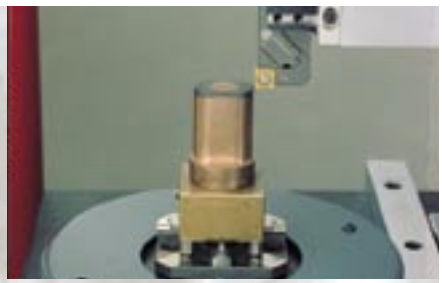
The centering plate is fitted directly on to the electrode or the workpiece…
…which is then transferred to the ITS chuck at once!





Exploit marginal and night hours by loading EDM machines automatically: ITS provides you with the necessary prerequisites.



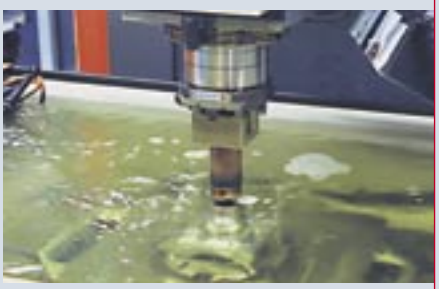


Checking outside the machine: quick, simple, precise.





ITS chucks: Perfectly suited for integration in special fixtures.



Precision and reliability in the tank and on the quill of the EDM machine.



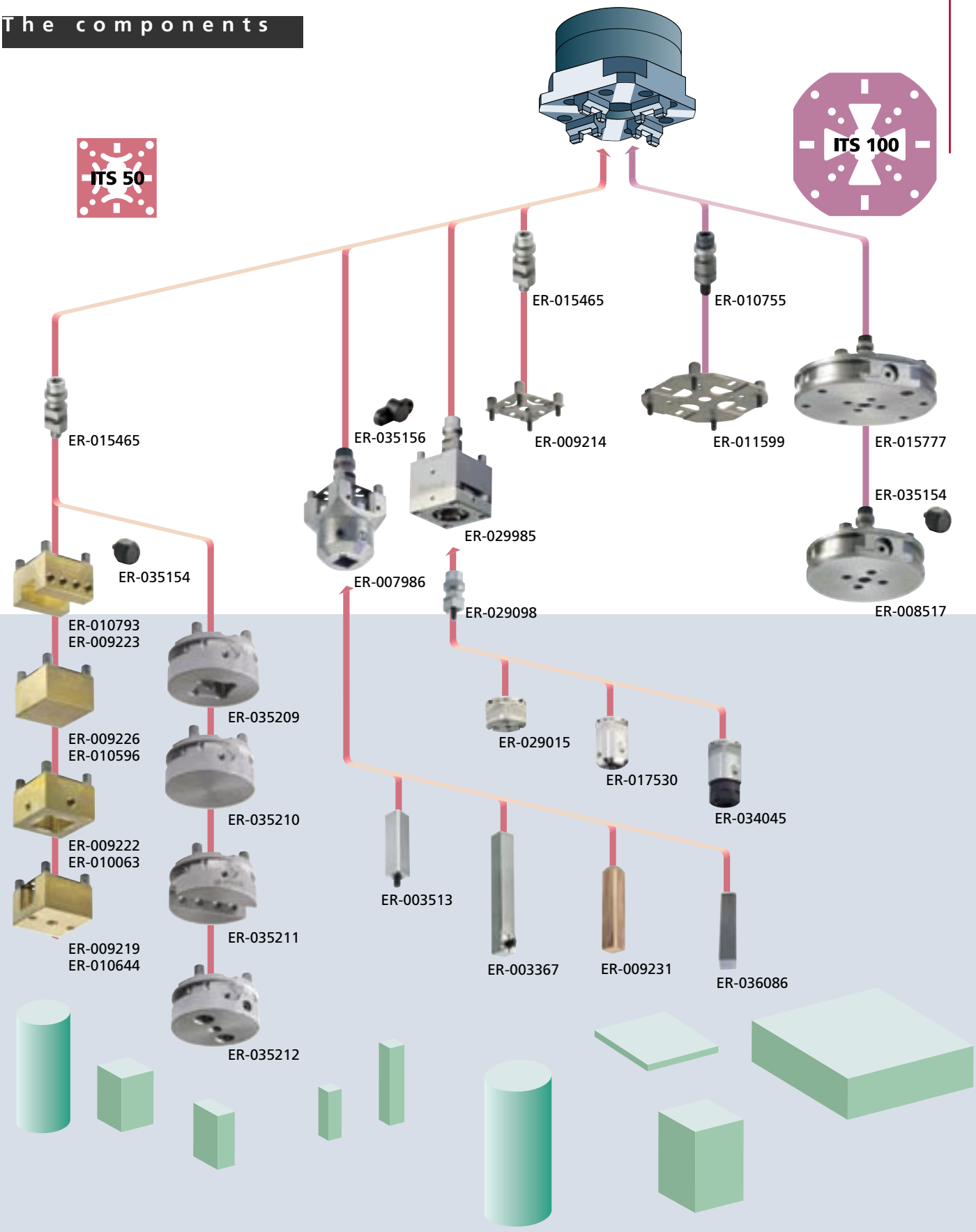


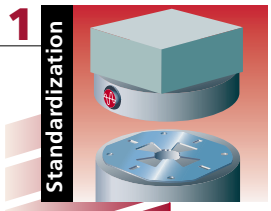
Loading machines with preset parts will increase your capacity.



EROWA®

The components





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 Combi gripper
12. Handling with EROWA Robot gripper 72
13. Handling with EROWA Robot gripper 115
14. Handling with EROWA Robot gripper 148
15. Handling with EROWA RCS gripper

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For chip-removing processes

For EDM sinking

For WEDM

EROWA

The chucks

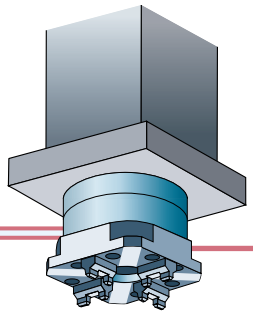
Pneumatically activated


ER-001846


ER-010590


ER-010538


ER-008988



Quill chucks


ER-007523


ER-007521


ER-007580

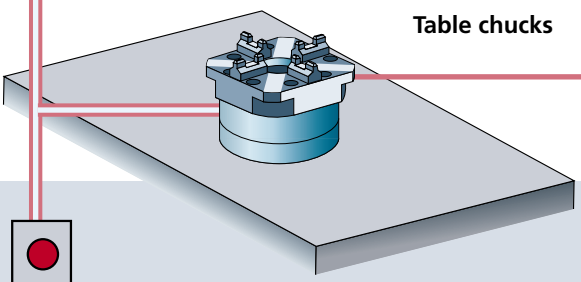


Table chucks


ER-037970

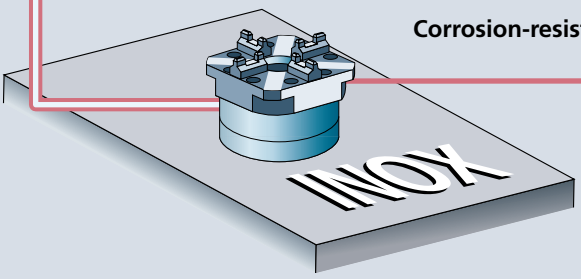

ER-035519


ER-007604

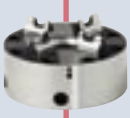

ER-012299

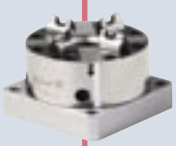

ER-012297


ER-007612



Corrosion-resistant table chucks


ER-043123


ER-043124


ER-039324

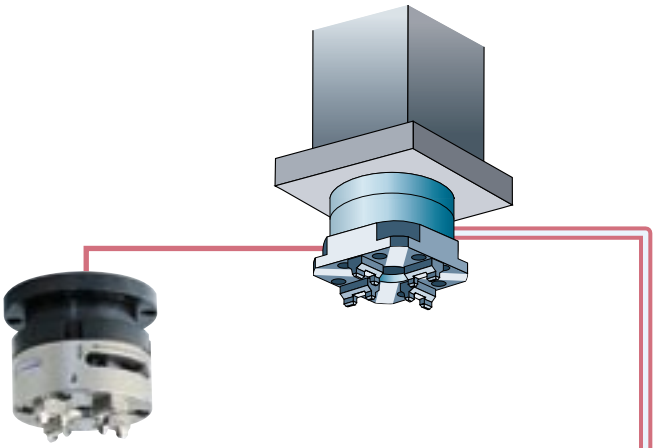

ER-039325


ER-011803


ER-008186

Mechanically activated

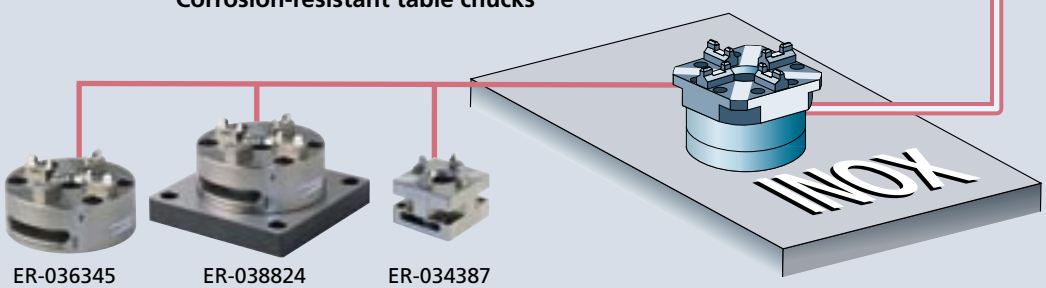
Quill chucks



ER-038826

ITS - the original
Tens of thousands in successful operation and patented worldwide since 1984.

Corrosion-resistant table chucks



ER-036345 ER-038824 ER-034387

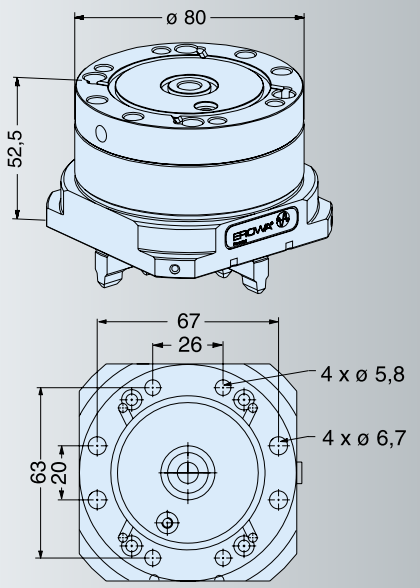
EROWA

EROWA ITS chucks
pneumatic, quill

Technical data	Chuck	Chuck «NSF» (with reclamping)
Repeatability	0.002 mm	0.002 mm
Indexing	4 x 90°	4 x 90°
Generated by	springs	springs
Opening	min. 6 bar	min. 6 bar
Reclamp		min. 6 bar

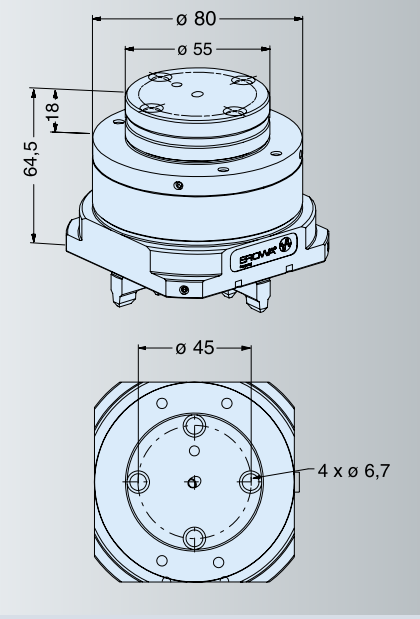
ER-007521 Rapid-action chuck automatic

Version Standard type. Clamping power up to 2500 N.
Connections On back.
Application EDM sinking machines with automatic electrode change, machine tools with automatic loading, production lines.



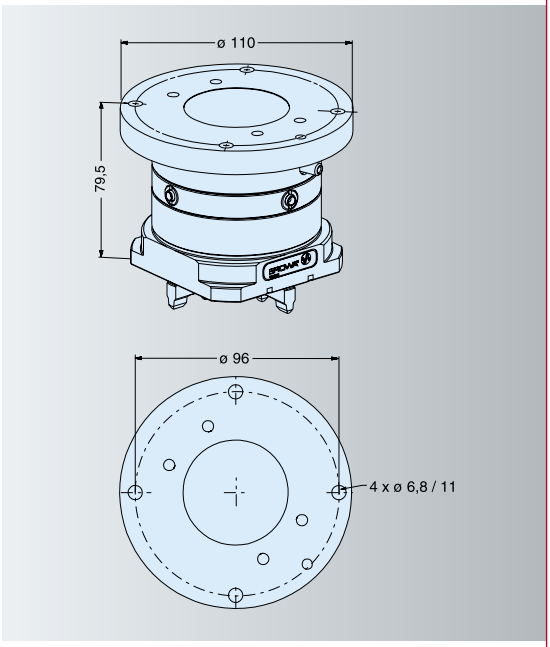
ER-007523 Rapid-action chuck automatic

Version Shoulder for flushing connection. Clamping power up to 2500 N.
Connections On back.
Application EDM sinking machines with automatic electrode change.



ER-007580 Manual rapid-action chuck

Version With flange ø 110 mm. Clamping power up to 2500 N.
Connections Hose coupling fitting on side.
Application Retrofitting on EDM sinking machines.



EROWA ITS chucks

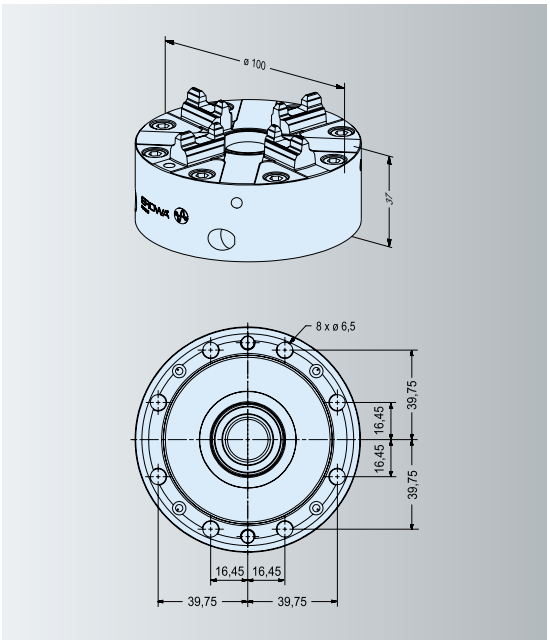
pneumatic, table, able to automate

ER-037970 ITS chuck 100





Version	Steel, hardened.
Clamping power	6000 N.
Connections	At the rear, with two lines.
Operation	With control unit.
Application	To accommodate pallets ø 115 / ø 148, electrode holders and pallets PM85.

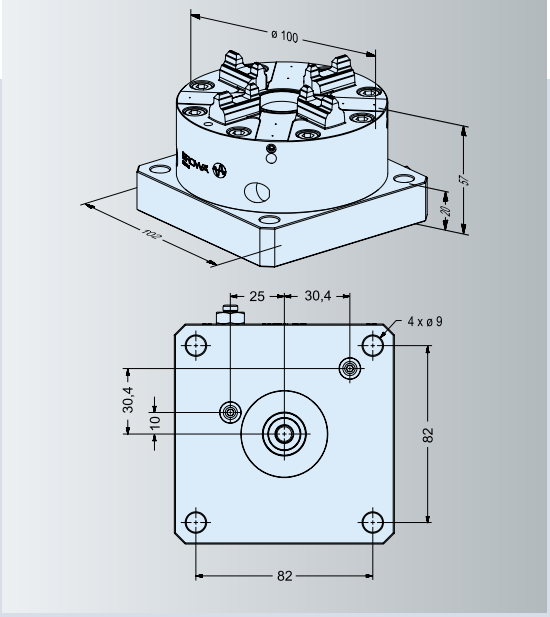


ER-035519 ITS chuck 100 with base plate





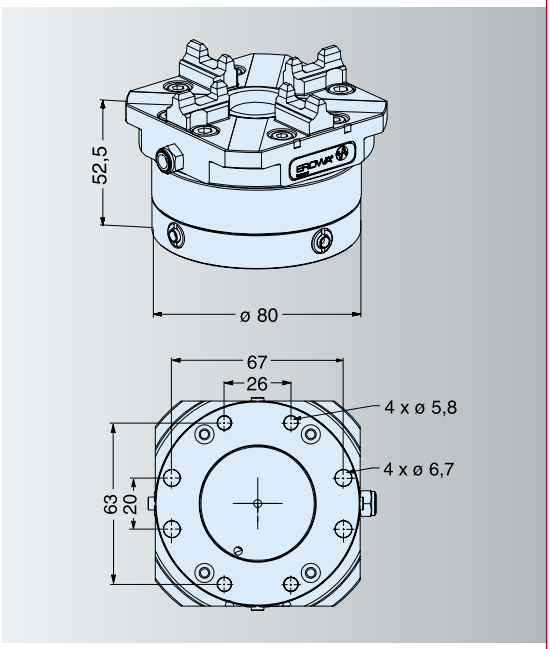
Version	Steel, hardened.
Clamping power	6000 N.
Connections	On the side or at the rear, with two lines.
Operation	With control unit or with air gun.
Application	To accommodate pallets ø 115 / ø 148, electrode holders and pallets PM85.



EROWA
ITS chucks
pneumatic, table, manual

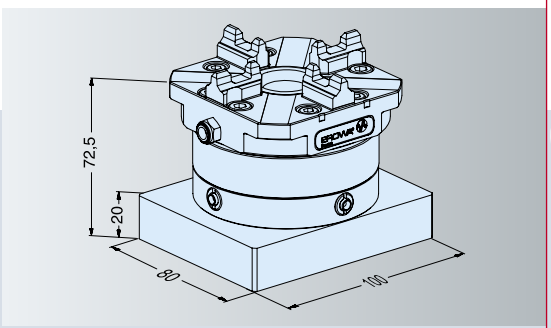
ER-007604 Manual rapid-action chuck «NSF»

Version	NSF = increased clamping power up to 7000 N.
Connections	Pneumatic valves on side, flushing on back.
Application	Electrode fabrication general.
Note	Basic chuck for ER-012299 and ER-012297



ER-012299 Rapid-action chuck «NSF» on plate

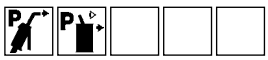
Version	NSF = increased clamping power up to 7000 N.
Connections	Pneumatic valves on side.
Application	Electrode fabrication. For use in horizontal and vertical positions.



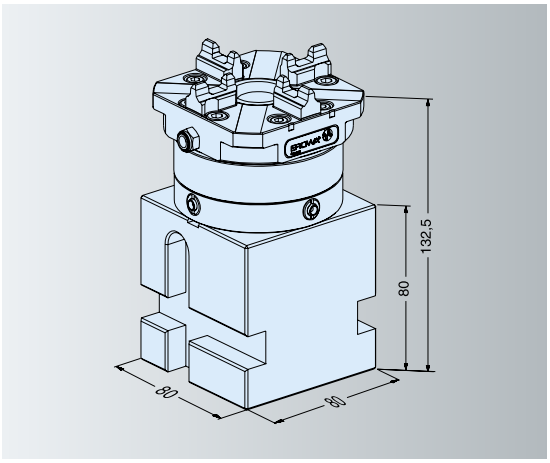
ITS

EROWA

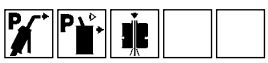
ER-012297 Rapid-action chuck «NSF» on block



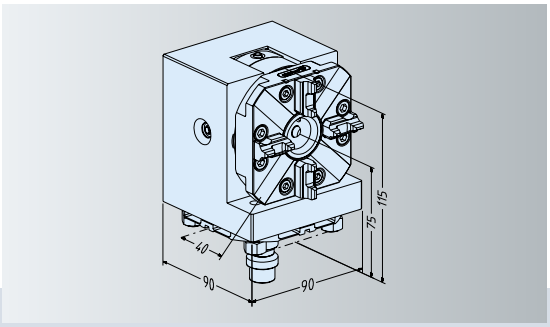
Version NSF = increased clamping power up to 7000 N.
Connections Pneumatic valves on side.
Application Electrode fabrication. For use in horizontal and vertical positions.



ER-007612 Rapid-action chuck on angle plate



Version Standard type on type G angle plate.
NFS = increased clamping power up to 7000 N.
Connections Air valves on the side, flushing through chucking spigot.
Application To produce electrodes, and on EDM quill.

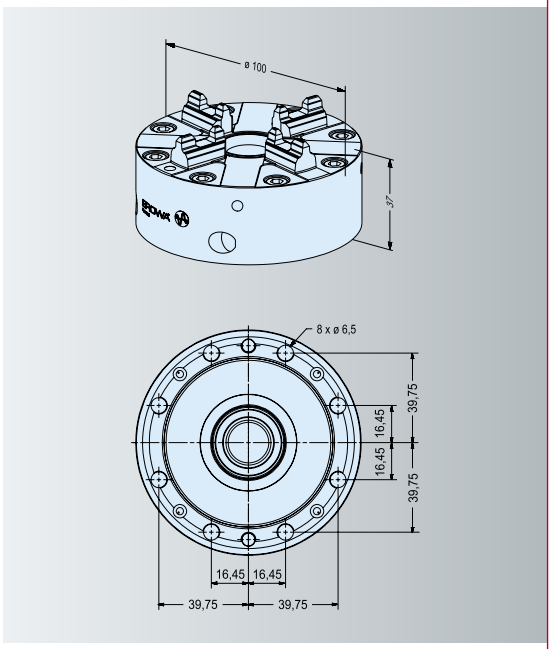


EROWA
ITS chucks pneumatic, table, able to automate, INOX

ER-043123 ITS chuck 100 stainless



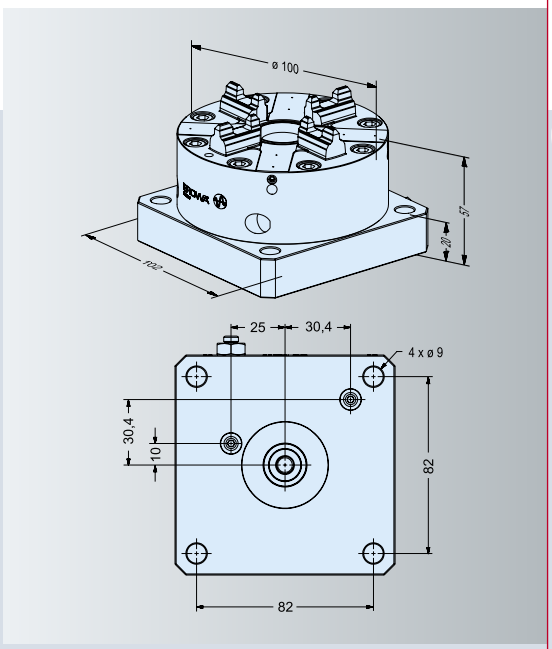
Version	Stainless steel, hardened.
Clamping power	5000 N.
Connections	At the rear, with two lines.
Operation	With control unit.
Application	When potentially corrosive cooling/flushing water is used. To accommodate pallets ø 115 / ø 148, electrode holders and pallets PM85.



ER-043124 ITS chuck 100 with base plate, stainless



Version	Stainless steel, hardened.
Clamping power	5000 N.
Connections	On the side or at the rear, with two lines.
Operation	With control unit or with air gun.
Application	When potentially corrosive cooling/flushing water is used. To accommodate pallets ø 115 / ø 148, electrode holders and pallets PM85.



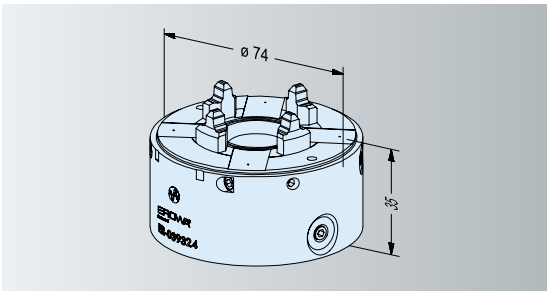
ITS

EROWA

EROWA ITS chucks

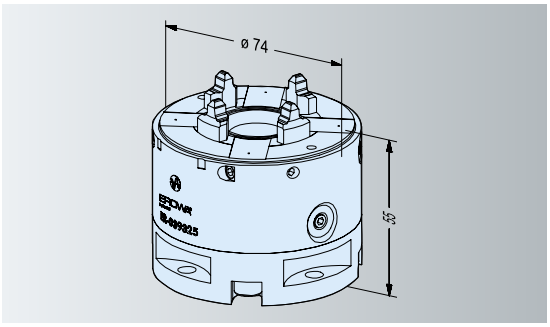
pneumatic, table, able to automate, INOX

ER-039324 ITS Chuck 50



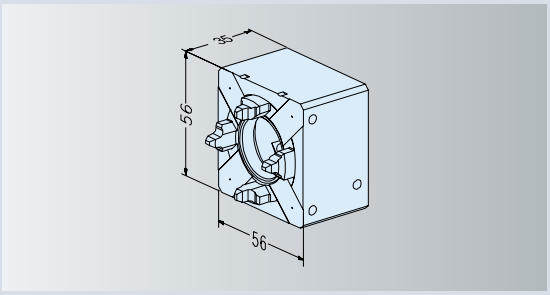
Version	System size 50, corrosion-resistant.
Clamping power	2800N.
Attachment	With 4 M6 bolts from the rear.
Application	On holders designed by the customer.
Note	Chuck can be operated manually or automatically. Air connections on the side or at the rear.

ER-039325 ITS Chuck 50 with base plate



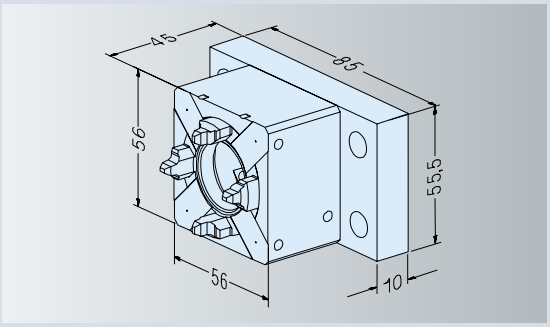
Version	System size 50, corrosion-resistant.
Clamping power	2800 N.
Attachment	Through the base plate with 4 M6 threaded pins and hex nuts.
Application	On turning, milling, grinding or EDM/WEDM machines.
Note	Chuck can be operated manually or automatically. Air connections on the side or at the rear.

ER-011803 Chuck 50 RSA



Version	Chuck 50 RSA, automatic with pneumatic valve.
Clamping power	2800 N.
Attachment	With 4 M6 bolts from the rear.
Application	ITS basis for the manual loading of ITS elements or for automatic operation.
Note	Can be used both horizontally and vertically.

ER-008186 Chuck 50 RSA

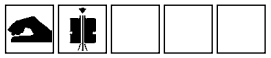


Version	Chuck 50 RSA, automatic, with pneumatic valve.
Clamping power	2800 N.
Application	ITS basis for the manual loading of ITS elements or for automatic operation.
Note	Can be used both horizontally and vertically.

EROWA
ITS chucks manual, quill

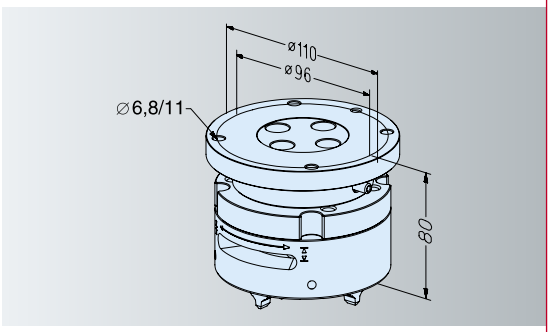
Technical data	ITS chuck, manual
Repeatability	0.002 mm
Indexing	4 x 90°
Operation/clamping	manually with clamping lever

ER-038826 QuickChuck 100 P/R





Version On a ø 110 mm base plate with a rotatable flushing connection.
Attachment 4 x M6 screws.
Application On EDM sinking machines with quill rotation.

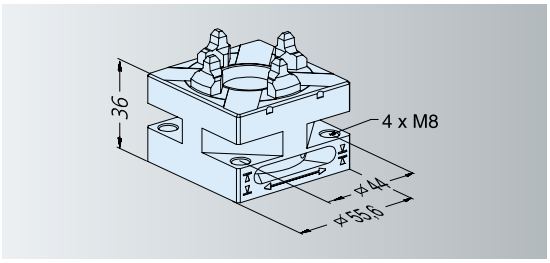


EROWA

ER-034387 QuickChuck 50

INOX

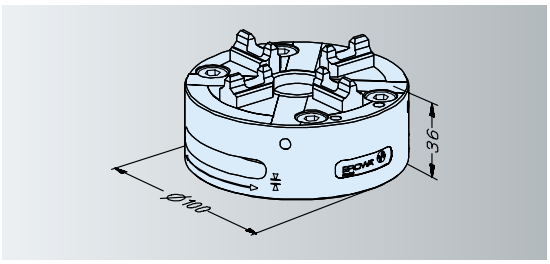
Version	Chuck 50, manual, stainless.
Attachment	4 x M8 from the rear or 4 x M6 stud bolts with nuts.
Application	On EDM/WEDM centers for light milling and grinding work. Max. revolutions on rotating axes 200min¹
Note	Clamping power 4000 N.



ER-036345 QuickChuck 100 P

INOX

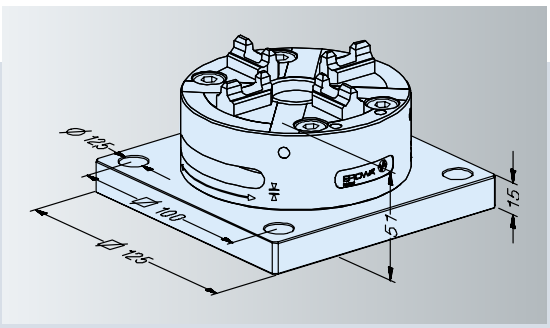
Version	System size 100, manual, corrosion-resistant.
Mounting	With four M8 bolts supplied.
Application	Turning, milling, grinding or EDM/WEDM machines, in dividers and fixtures.
Note	Clamping power: 10000 N.



ER-038824 QuickChuck 100 P with base plate

INOX

Version	System size 100, manual, corrosion-resistant, with baseplate.
Mounting	With bolts or clamps.
Application	Milling, grinding or EDM machines.
Please note	Clamping power: 10000 N.



EROWA
ITS screw chucks manual

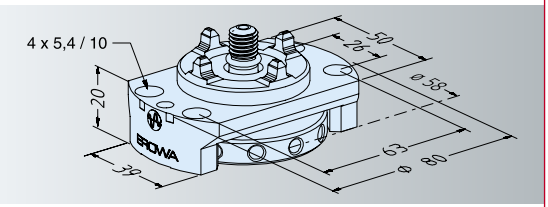
Technical data	ITS screw chuck, manual
Repeatability	0.002 mm
Indexing	4 x 90°
Operation/clamping	manually with locking bolt

ER-007697 Screw chuck 50 D



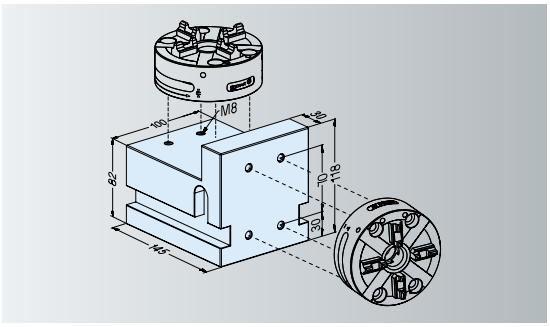


Version Only 20 mm overall height. For holders of system size 50.
Connections Central flushing possible.
Application Small lathes, on cones, flanges and jigs and fixtures.



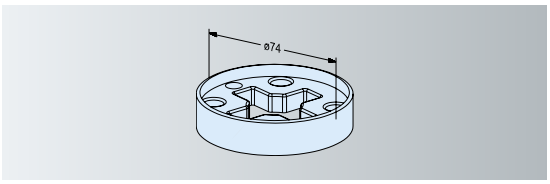
EROWA

ER-019424 Square block for QuickChuck 100 P



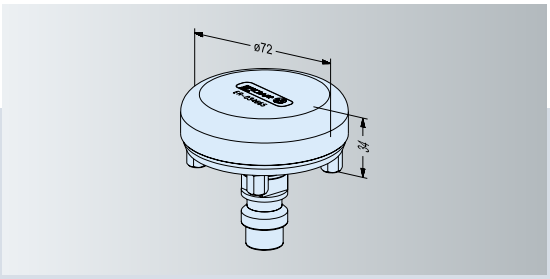
Version Steel, hardened, corrosion-resistant.
Application To attach one or two QuickChucks 100 P ER-036345 and ER-022511 in a horizontal and/or vertical position.

ER-032832 Seal ring ITS Chuck 50



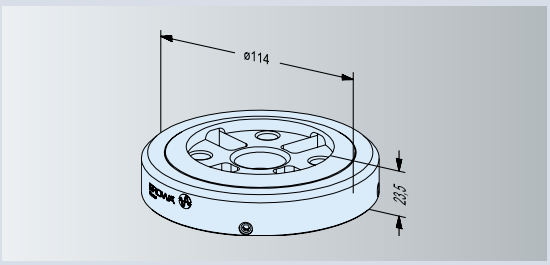
Version Plastic.
Application Prevents penetration of chips and dirt into the ITS Chuck 50 by application of EROWA Holders ø 72.

ER-034665 Cover ITS Chuck 50



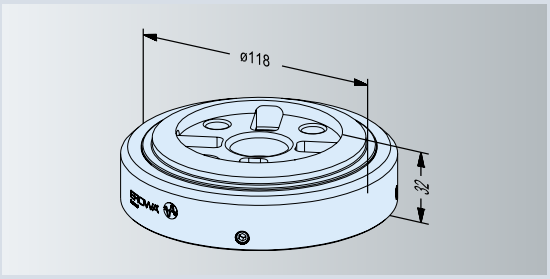
Version Aluminium anodized. Without centering plate.
Application Prevents penetration of chips and dirt into the ITS Chuck 50 in combination with the seal ring ER-032832.

ER-034735 Seal SSF / ø 72



Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the rapid action chuck by application of EROWA Holders ø 72.

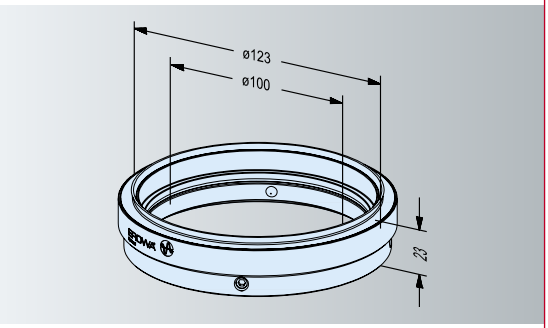
ER-035356 Seal ring QC/RSA 100 / ø 72



Version Aluminium anodized.
Application Prevents penetration of chips and dirt into the QuickChuck of RSA 100 by application of EROWA Holders ø 72.

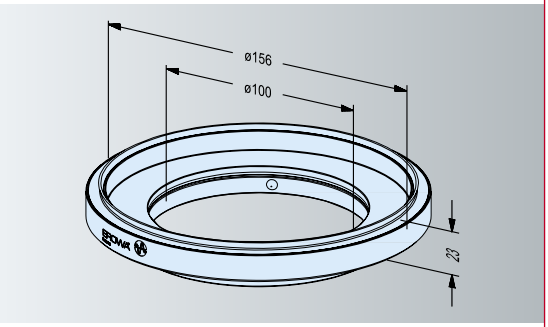
ER-016455 Chip guard ø 115 QuickChuck / RSA 100

Version Aluminium, for ø 115 mm pallets.
Application Seals QuickChuck 100 P against liquids and chips when ø 115 mm pallets are used. Can be combined with ER- 029313.



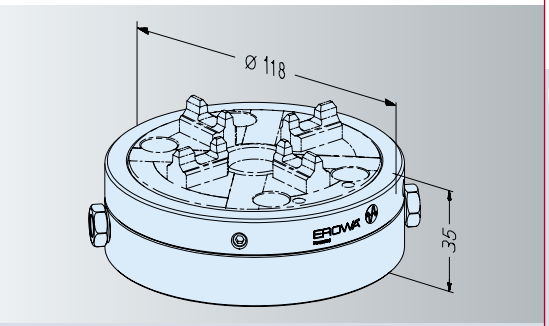
ER-016456 Chipguard ø 148 QuickChuck / RSA 100

Version Aluminium for ø 148 mm pallet.
Application Seals QuickChuck 100 P against liquids and chips when ø 148 mm pallets are used. Can be combined with ER-029313.



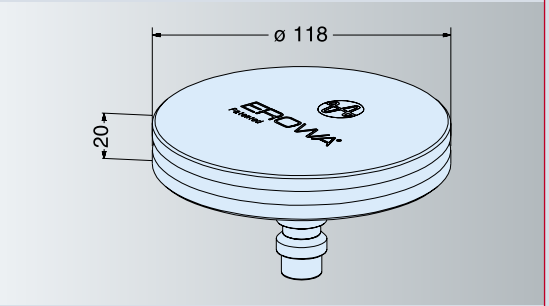
ER-029313 Chip Guard for QuickChuck 100 P

Version Aluminum.
Application Seals the locking mechanism of the QuickChuck 100 P against the penetration of liquids and chips.



ER-007618 Cover for rapid-action chuck

Version Aluminum, without supports and centering plate.
Application To protect rapid-action chucks from dirt.

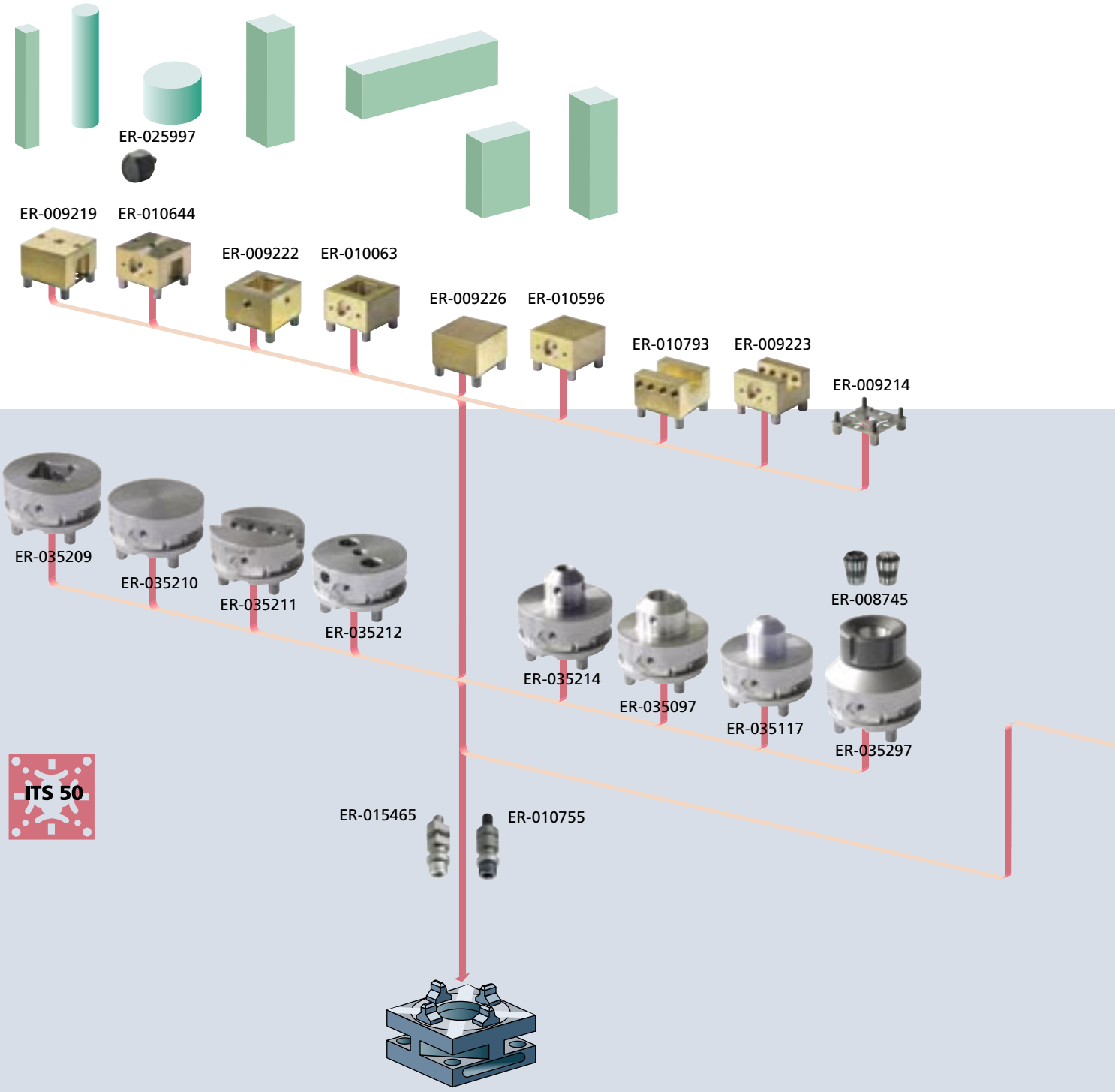


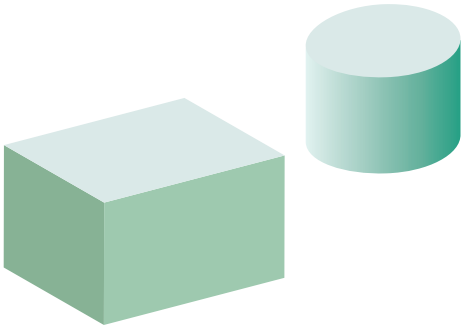
EROWA ITS System carriers

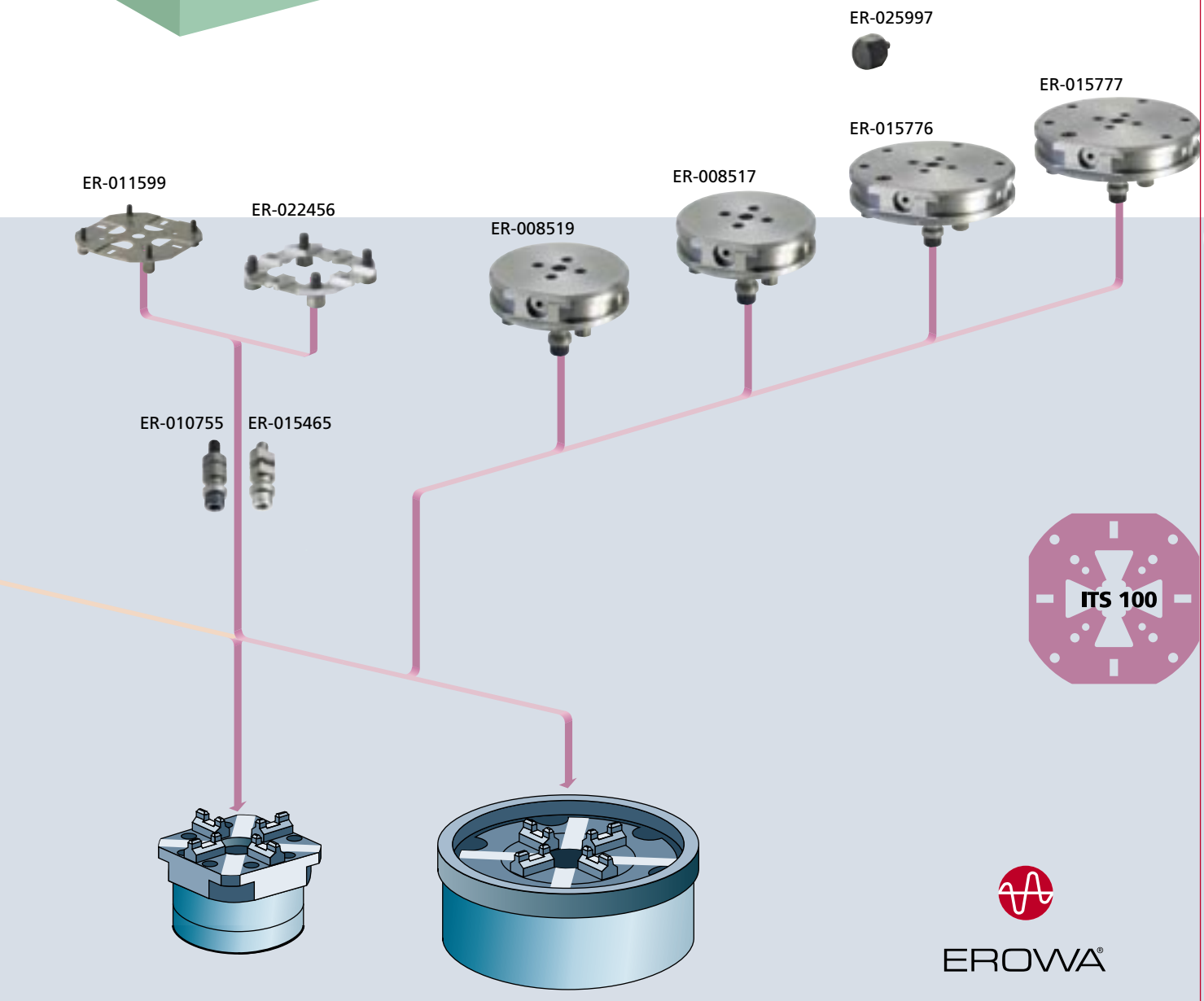
Standard electrode holders, centering plates and pallets

The components

Universality starts with the system carrier. Whether you use completely prepared electrode holders, pallets or the very economically priced centering plates, they all depend on the application. However, the workpiece will be ready for universal and flexible use in any case.






ER-025997
ER-015777
ER-015776
ER-008517
ER-011599
ER-022456
ER-008519
ER-010755
ER-015465
ITS 100

EROWA®

ITS centering plates

The centering plates are the most cost-effective base for clamping electrodes. They are mounted directly onto the blanks. This way, jigs and fixtures are also ITS compatible. The hole pattern for mounting is simply drilled into the blank with a drilling template, or by means of an NC program.

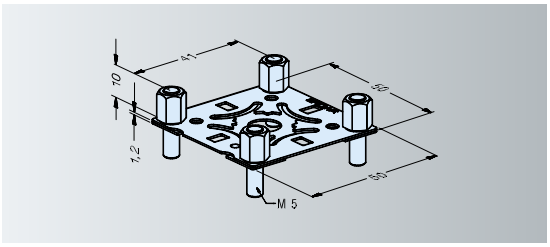
Technical data	ITS centering plates
Material	corrosion-resistant
System accuracy in chuck	0.002 mm
Versions:	
Centering plate 50	small electrode weights
Centering plate 100 M8	workpieces and electrodes
Centering plate G	workpieces, jigs and fixtures for chip-removal machining
Handling	with EROWA Handlingsystems or electrode changer.

ER-009214 Centering plate 50





Version Set of 50 plates, corrosion-resistant, including 4 supporting feet each.
Application Small electrode weights.
Mounting Mounted directly on plane surface of blank.

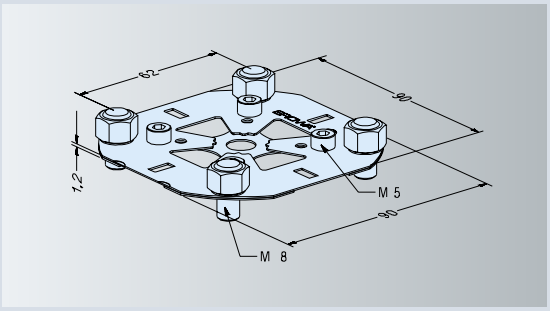


ER-011599 Centering plate 100 M8





Version Set of 10 plates, corrosion-resistant, including 4 supporting feet M8 and 4 x M5 screws per plate.
Application Workpieces and electrodes.
Mounting Mounted directly on of blank plane surface of blank.

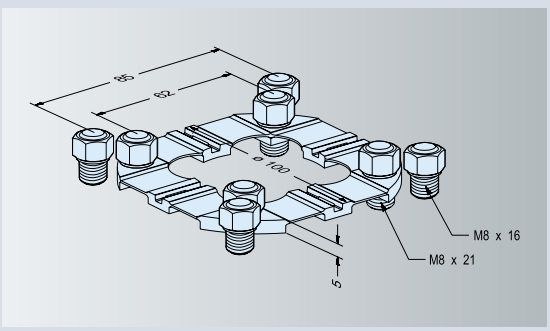


ER-036658 Centering plate G INOX





Version Set of 5 plates. Ground including 8 supporting feet M8 per plate.
Application For workpieces, jigs and fixtures in chip-removal machining.
Mounting According to accompanying fitting instructions.



EROWA

ITS standard electrode holders

Standard electrode holders are used to contain electrodes for the entire machining cycle and for storage. Their economical unit price enables users to stock such holders in large quantities. The standard holders are supplied without chucking spigots.

Technical data	ITS standard electrode holders
Material	body: brass centering plate: corrosion-resistant
System accuracy in chuck	0.002 mm
Recommended max. weight with electrode	20 kg / 44 lbs
Handling	with EROWA Handlingsystems or electrode changer.

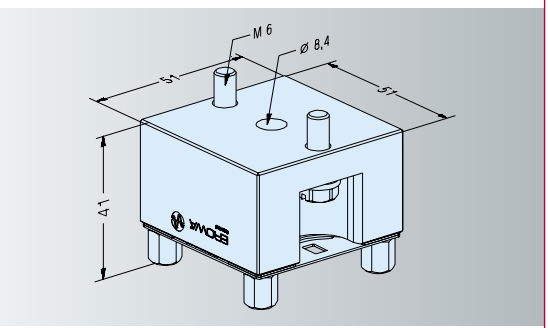
ER-009219 Uniplate



Version Set of 12 units, surface 51 x 51 mm faced, including 2 x M6 bolts for each unit.

Application To mount electrodes and workpieces with a base surface of more than 50 mm.

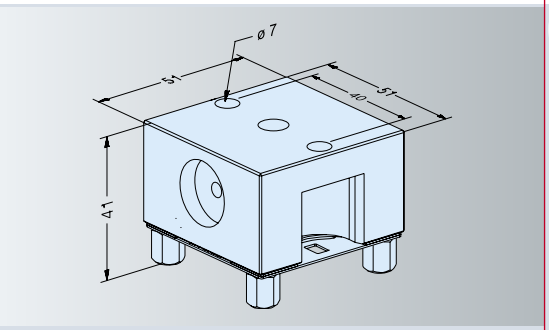
To fit blank With 2 x M6 bolts into the base surface.



ER-010644 Uniplate EWIS



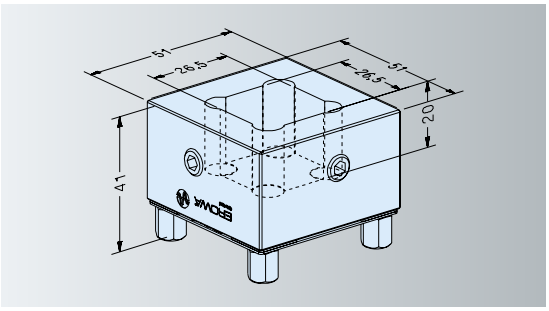
Version Set of 12 units, prepared for the installation of the code carrier. Order EWIS chip, ER-035154 separately!



EROWA

ITS standard electrode holders

ER-009222 Prisround

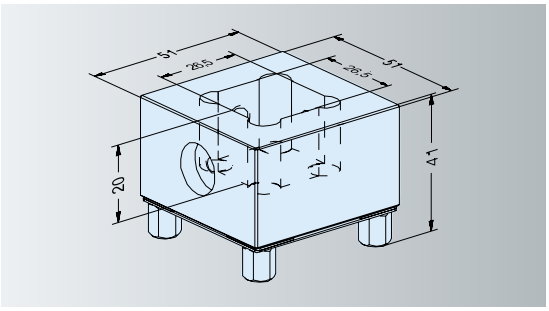


Version Set of 12 units, square 26.5 mm milled, including 2 setscrews for each unit.

Application To mount electrodes and workpieces with a base surface of more than 50 mm.

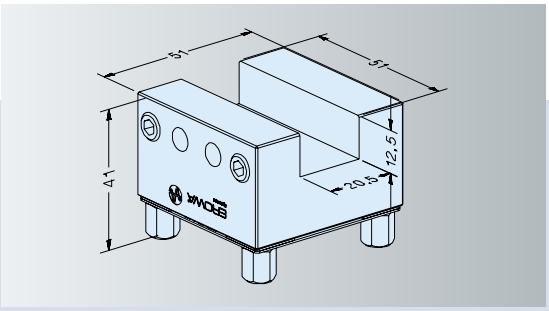
Mounting Insert and tighten setscrews. If necessary, center with spacer plate ER-010532.

ER-010063 Prisround EWIS



Version Set of 12 units, prepared for the installation of the code carrier. Order EWIS chip, ER-035154 separately!

ER-010793 Uniholder

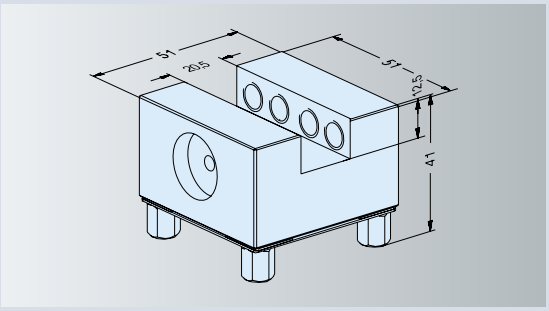


Version Set of 12 units, groove 20 mm faced, including 2 setscrews for each unit.

Application To mount electrodes and workpieces with shaft sizes of up to 20 mm.

Mounting Insert and tighten setscrews. If necessary, center with spacer plate ER-010532.

ER-009223 Uniholder EWIS

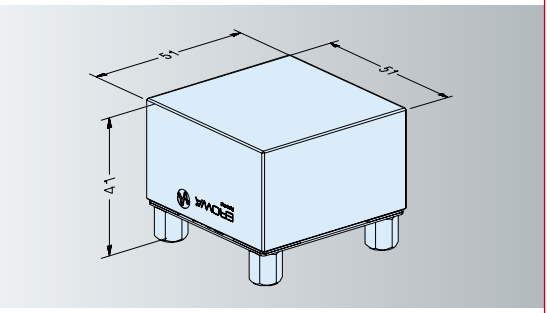


Version Set of 12 units, prepared for the installation of the code carrier. Order EWIS chip, ER-035154 separately!

ER-009226 Uniblank

INOX auto

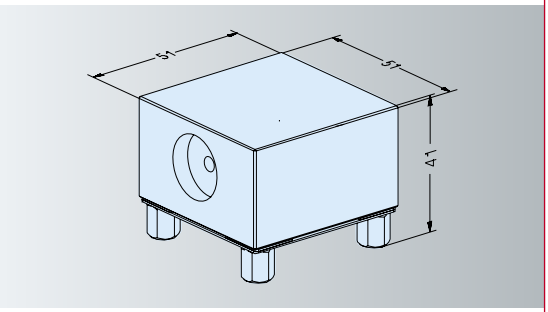
Version Set of 12 units, fitted without machining of body.
Application To mount electrodes and workpieces of various shapes.
Mounting As required.



ER-010596 Uniblank EWIS

INOX auto

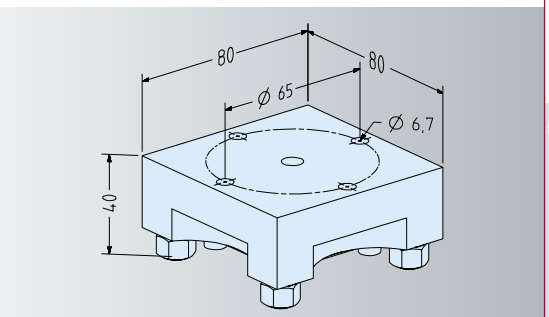
Version Set of 12 units, prepared for the installation of the code carrier. Order EWIS chip, ER-035154 separately!



ER-010627 Uniplate ALU

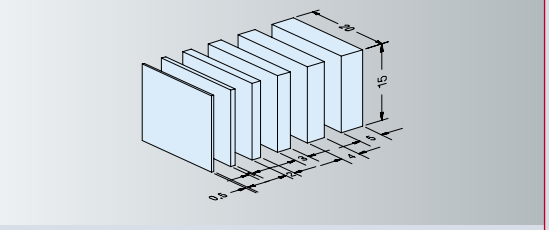
INOX auto

Version Set of 4 units, aluminum, system size 100, with M8 supports.
Application To mount electrodes and workpieces with a base surface of more than 70 mm.
Mounting With 4 x M6 bolts into the base surface.



ER-010532 Insert plates

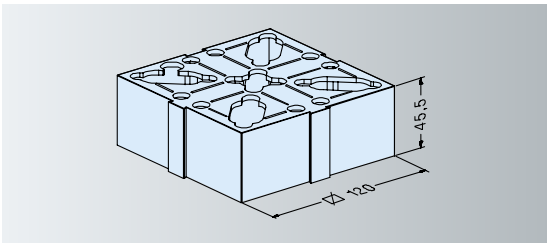
Version Set of 300 plates. Corrosion-resistant. Thicknesses from 0.5 mm to 5 mm.
Application Centering of blanks in electrode holders.



EROWA®

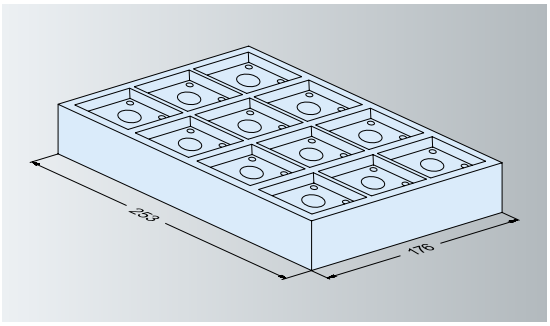
ITS standard electrode holders

ER-013913 System stand



Version Plastic, set of 10.
Application As a rack for four electrode holders 50 or a pallet ø 115/148 mm.
Please note System racks can be stuck together without any gaps, e. g. to be stored in drawers.

ER-011591 System stand 12-fold



Version Set of 10 styrene stands.
Application Storage and transport of electrode holders system size 50.

EROWA

Holder ø 72

The EROWA holders ø 72 in combination with covers provides maximum protection against the contamination of table chucks. The holders are the optimal solution for automatic production.

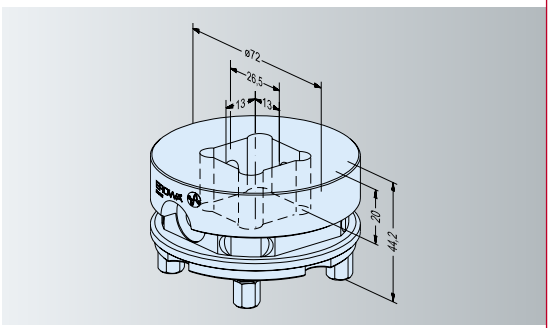
Technical data	EROWA Holder ø 72
Material	steel, corrosion-resistant
System accuracy, chuck	0.002 mm
Recommended max. weight with electrode	20 kg / 44 lbs
Handling	with EROWA handling systems or electrode changers.

ER-035209 Prisround ø 72



Version Set of 6 units, system size ITS 50.
Without chucking spigots.

Application To mount electrodes and workpieces with shafts of up to square 25 mm.



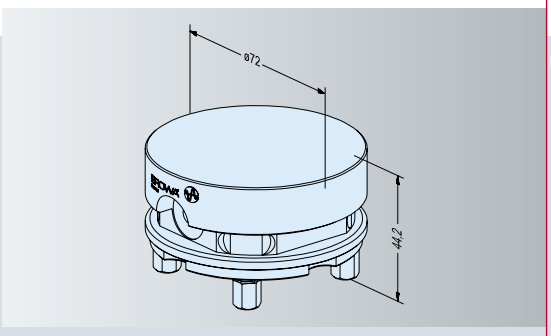
ER-035210 Uniblank ø 72



Version Set of 6 units, system size ITS 50.
Without chucking spigots.

Application To mount electrodes and workpieces of various shapes.

Mounting Attachment boreholes to be drilled according to requirements.



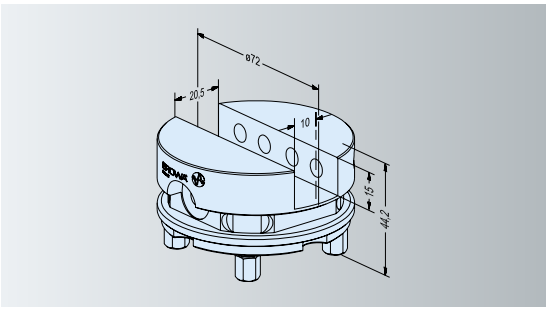
EROWA

ER-035211 Uniholder ø 72



Version Set of 6 units, system size ITS 50.
Without chucking spigots.

Application To mount electrodes and workpieces with shaft of up to 20 mm.



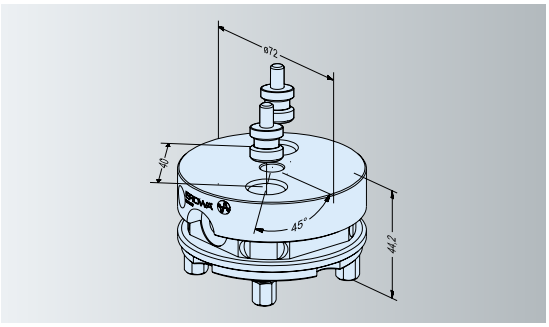
ER-035212 Uniplate ø 72



Version Set of 6 units, includes 12 PinLock locking pins.
System size ITS 50, without chucking spigots.

Application To mount electrodes and workpieces with surface more than square 40 x 40 mm or ø 50 mm.

Mounting With two PinLock locking pins.

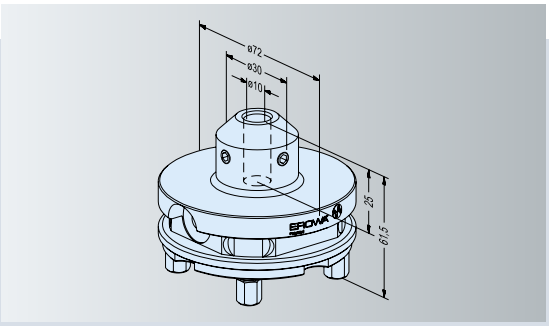


ER-035114 Blank holder ø 10 / ø 72



Version Set of 6 units, system size ITS 50.
Without chucking spigots.

Application To clamp cylindrical parts with ø 10 mm.

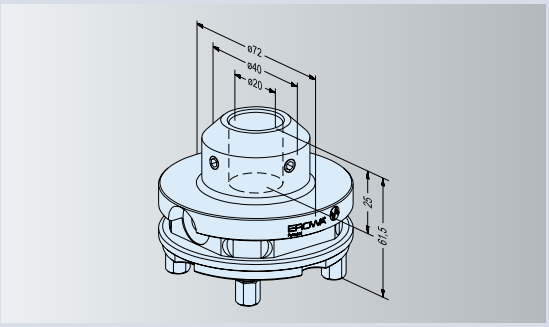


ER-035097 Blank holder ø 20 / ø 72



Version Set of 6 units, system size ITS 50.
Without chucking spigots.

Application To clamp cylindrical parts with ø 20 mm.

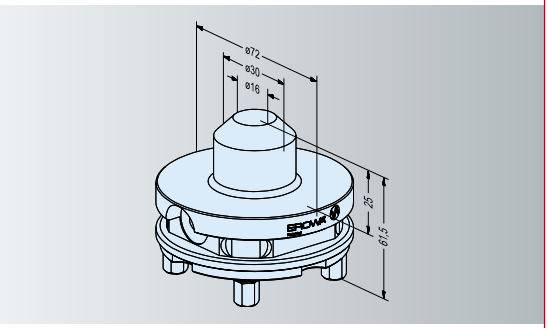


ER-035117 Blank holder ø 72





Version Set of 6 units, system size ITS 50.
Without chucking spigots.
Application To clamp cylindrical parts.
Mounting Attachment borehole up to max. ø 12 mm to be drilled according to requirements.

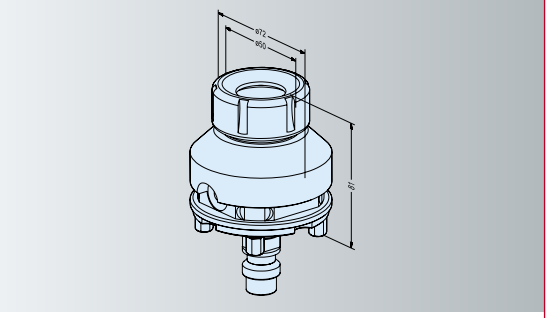


ER-035297 Collet chuck holder ø 72





Version One collet chuck holder with chucking spigot.
System size ITS 50.
Application To clamp cylindrical parts.
Clamping range ø 2 mm - ø 20 mm.
Please note Order collet chucks separately.



EROWA®

ITS precision pallets

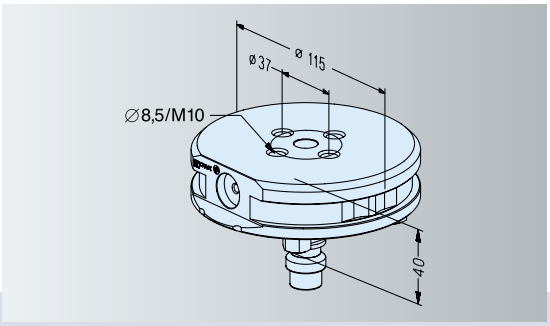
ITS precision pallets are used to accommodate both workpieces and electrodes. The pallets are prepared for automatic handling. Night hours and marginal hours are put to productive use.

Technical data	ITS precision pallets
Material	corrosion-resistant
System accuracy in chuck	0.002 mm
Variants	
Paletts MS	die cut centering plates
Paletts G	ground centering plates
Borhole pattern	standard, can be supplemented
Handling	with EROWA Handlingsystems
Unit supplied	pallet including chucking spigot

ER-008519 Pallet ø115 mm MS
ER-032730 Pallet ø 115 mm MS, Set of 4 pallets



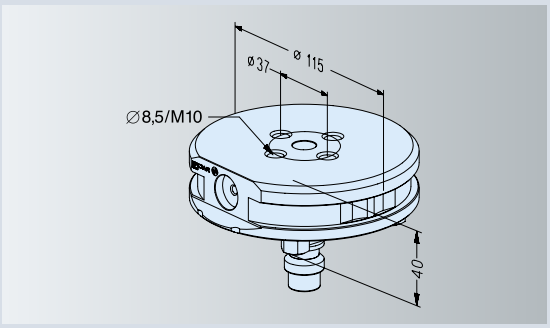
Version Standard type, ground centering plates.
Application For electrodes and workpieces in EDM
Mounting Through pallet with 4xM8 bolts or through blank with 4xM10 bolts.



ER-008517 Pallet ø 115 mm G
ER-032729 Pallet ø 115 mm G, Set of 4 pallets



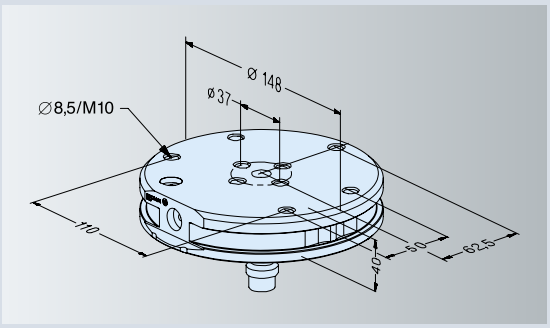
Version Standard type, ground centering plates.
Application For electrodes and workpieces in EDM.
Mounting Through pallet with 4xM8 bolts or through blank with 4xM10 bolts.



ER-015776 Pallet ø 148 mm MS
ER-032731 Pallet ø 148 mm MS, Set of 4 pallets



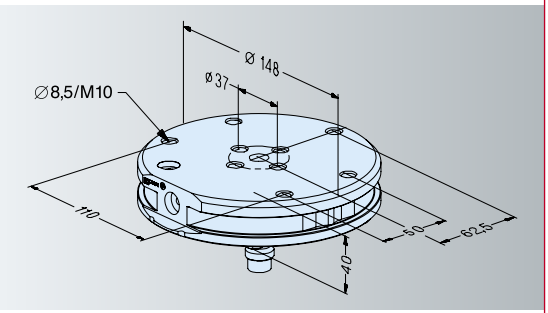
Version Standard type, punched centering plates.
Application For electrodes and workpieces, and for the construction of fixtures.
Mounting Through pallet with M8 bolts or through blank with M10 bolts.



ER-015777 Pallet ø 148 mm G
ER-032732 Pallet ø 148 mm G, Set of 4 pallets

INOX auto 148

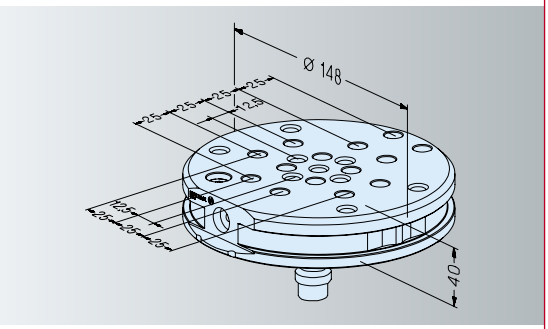
Version Standard type, ground centering plates.
Application To accommodate workpieces and fixtures in chip-cutting machining processes.
Mounting Through pallet with M8 bolts or through blank with M10 bolts.



ER-015042 Pallet ø 148 MS ALU R25
ER-033051 Pallet ø 148 MS ALU R25, Set of 4 pallets

auto 148

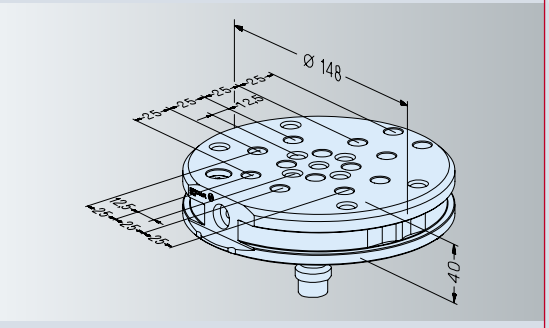
Version Body of casted aluminum with borehole pattern 25, ø 10 F7, thread M10.
Application Palletizing of workpieces and electrodes, mounting of fixtures and ClampSet Base 220.
Mounting Through pallet with M8 bolts or through blank with M10 bolts.



ER-015899 Pallet ø 148 G R25
ER-033053 Pallet ø 148 G R25, Set of 4 pallets

auto 148

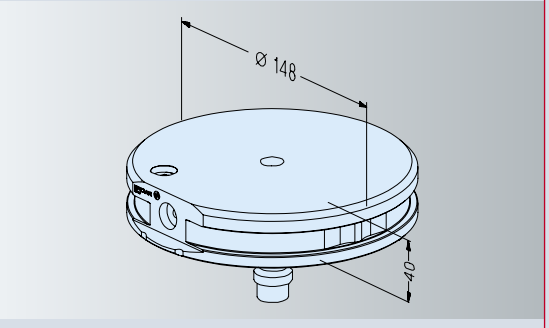
Version Steel, nitride coated, with borehole pattern 25, ø 10 F7, thread M10.
Application To accommodate EROWA ClampSet Base 220 or specially constructed fixtures and gauges.



ER-032699 Palett ø 148 mm G
ER-033048 Palett ø 148 mm G, Set of 4 pallets

INOX auto 148

Version Without boreholders apart from center borehole and borehole for reference bolt.
Application For workpieces machined in chip-cutting machining.
Mounting According to your preference.



EROWA

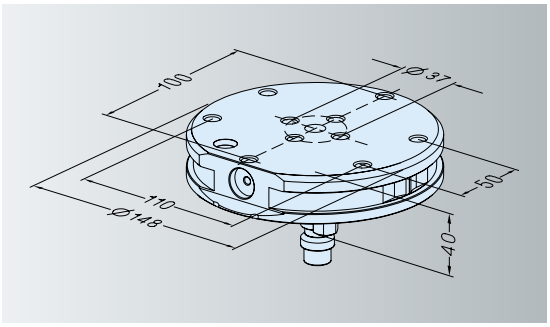
ER-041912 Pallet P ø 148 INOX
ER-041924 Pallet P ø 148 INOX, Set of 4 pallets

INOX auto 148

Version Steel, corrosion-resistant. Centering integrated in the pallet.

Application For use on all EROWA PowerChucks P and ProductionChuck 210 Combi. To accommodate workpieces and fixtures in chip-cutting machining processes.

Mounting Through pallet with M8 bolts or through blank with M10 bolts.

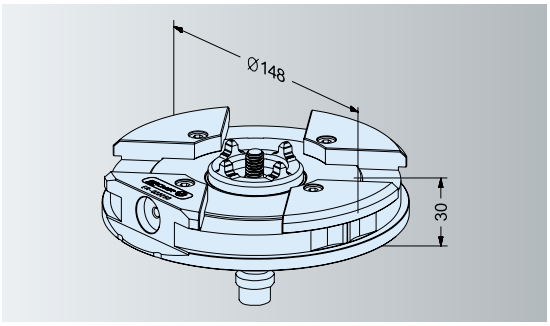


ER-022250 Compact ITS Adapter ITS 50 / ø 148

INOX auto 148

Version ITS system size 100.
Lock with central M 10 locking bolt.

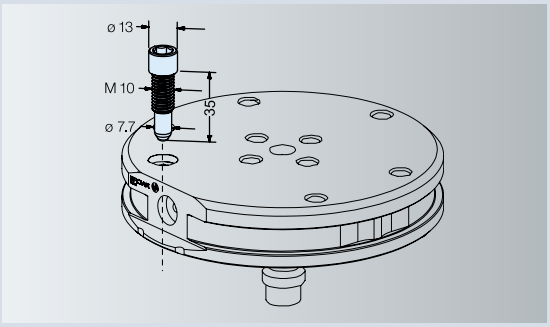
Application To accommodate ITS Electrode holders system 50.
Lock with central M10 locking bolt.
For automatic handling.



ER-008571 Reference bolt

Version Set of 10 bolts. Bolts have been reworked.

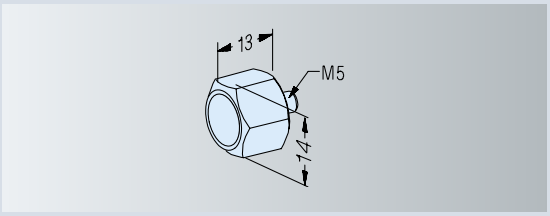
Application On pallets ø 148 mm: for positional orientation in power chucks and Robot magazines.



ER-035154 EWIS Holder SW 14 with Chip

Version Sleeve fitting with built-in datacarrier.
EWIS Chip: read only.

Application In any EROWA electrode holder and pallet which have been prepared for it.



EROWA
Pallet PM85

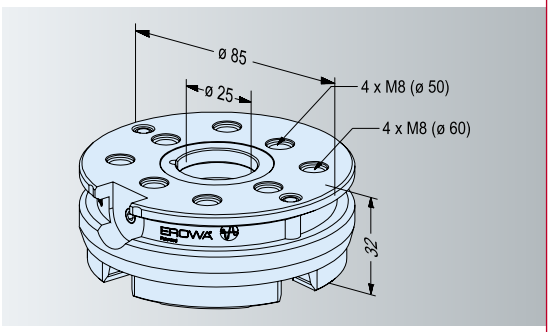
ER-040701 Pallet PM85



Version Steel, hardened, corrosion-resistant.
Centering integrated in pallet.

Application For use on EROWA PM Chuck (85), ProductionChuck 210 Combi, PowerChuck P, ITS Chuck 100 und QuickChuck 100 P. (Requires chucking spigot ER-039837).
To accommodate workpieces and fixtures on chip-cutting machines, EDM/WEDM centers and powder presses.

Mounting Through the pallet with M6 bolts or through the workpiece with M8 bolts.

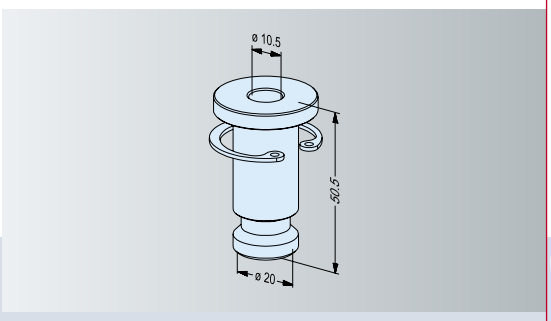


ER-039837 Chucking spigot PM85 Manual

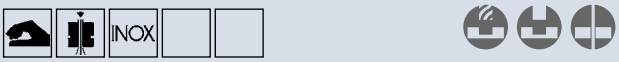


Version Steel, hardened. Manual with borehole ø 10.5.
Set of 12.

Application In pallets PM85. To be fitted with securing ring.

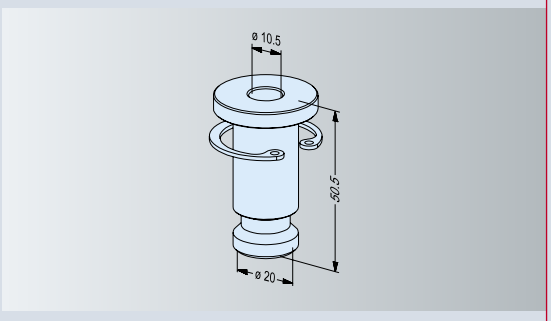


ER-043119 Chucking spigot PM85 Manual, stainless



Version Steel, hardened, stainless. Manual with borehole ø 10.5. Set of 12.

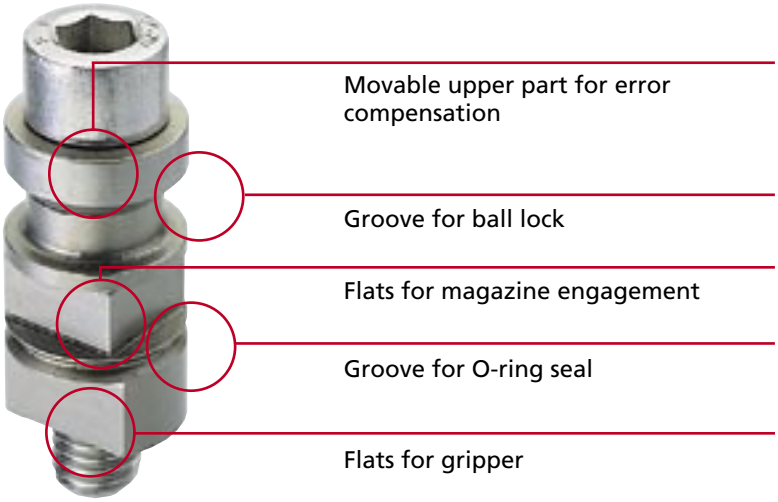
Application In pallets PM85. To be fitted with securing ring.



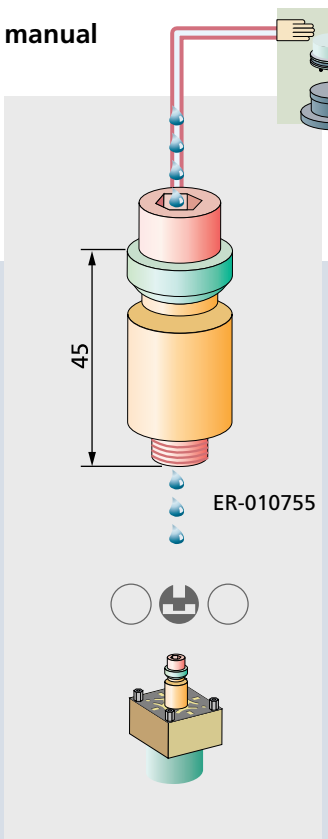
EROWA

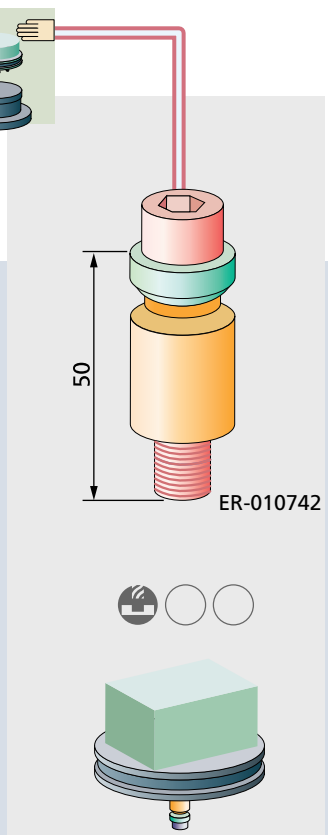
Chucking spigots

The various versions are exactly tailored to individual applications.

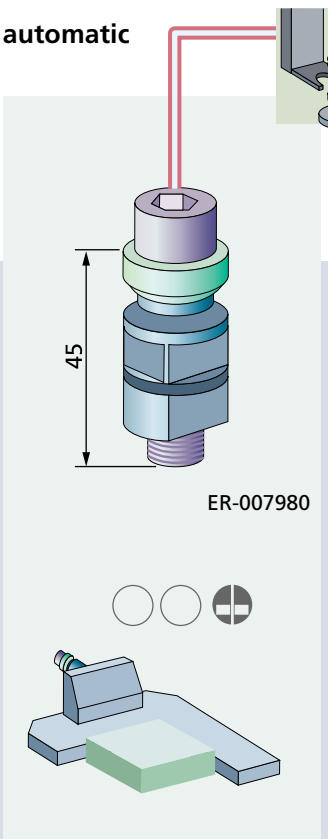


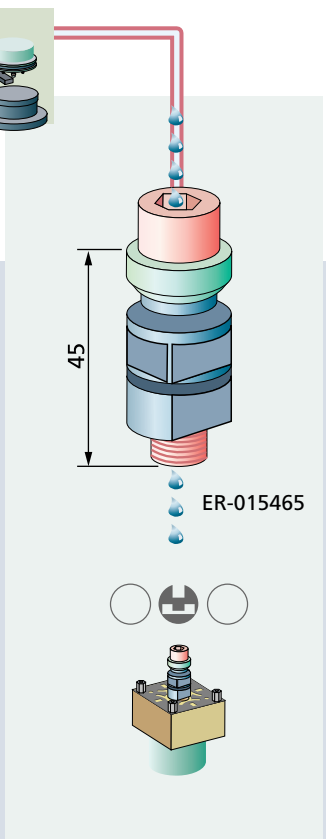
manual





automatic











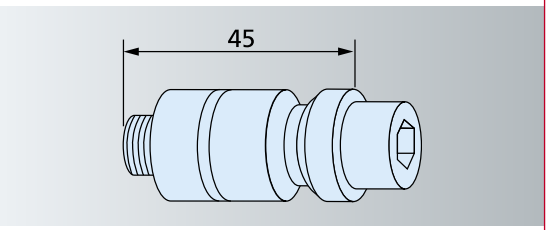


Chucking spigots are screwed into the holder or into the pallet for the **machining cycle** only. Since it has no influence on the reference position, it is removed for the purpose of **space-saving storage** and only screwed in again when the holder or pallet is used next time.

Technical data	ITS Chucking spigot
Material	Steel, hardened
Bolt	M10

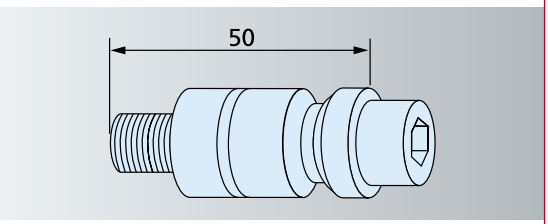
ER-010755 Chucking spigot F/M EDM

Version Fixed type, manual. Bolt with flushing hole. Set of 20 spigots.
Application In electrode holders.



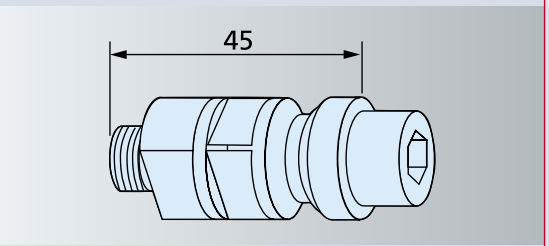
ER-010742 Chucking spigot F/M Production

Version Fixed type, manual. Bolt 12.9, without flushing hole. 1 spigot.
Application In pallets for chip-cutting machining processes.



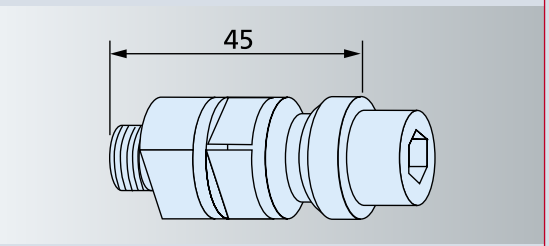
ER-007980 Chucking spigot F/A INOX

Version Fixed type, automatic. Bolt stainless, without flushing hole. Set of 20 spigots.
Application On all holders used on UnoSet.



ER-015465 Chucking spigot F/A EDM

Version Fixed type, automatic. Bolt with flushing hole. Set of 20 spigots.
Application On all electrode holders that are changed automatically.



Square Electrode System and System Plus

EROWA square holders are higly suitable for the manufacture of small electrodes. Their applications consists of milling, turning, grinding, as well as EDM sinking and WEDM. Used in addition to the System Plus, they represent a well-rounded, well thought-out range of products for everyone who works with many small electrodes.





Save space
Store up to 1600 square electrodes safe and handy on 1 m².

System Plus
The stamped centering profile directly on the blank forms the system reference.



1. Preparation
Stamp in the centering profile.



2. Milling
On a straight System Plus holder.

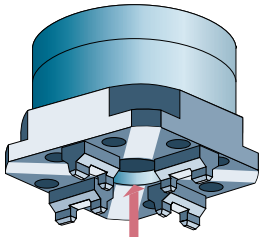


3. WEDM
On an angle holder.



4. EDM
On a straight holder.

The components



ER-035154



ER-036156



ER-007986

ITS 50

ER-003367

ER-003513



ER-009866



ER-009231



ER-036086



ER-010497



ER-010490



ER-010495



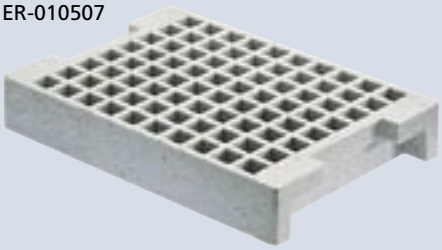
ER-010585



ER-010586



ER-010507



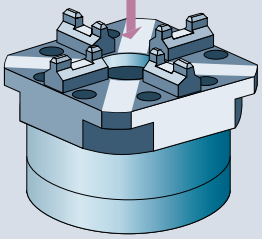
ER-010502



ER-032785



ITS 100



EROWA

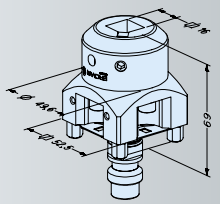
ITS

Square Electrode Clamping System 15

ER-007986 Square 15 electrode holder
ER-010907 Square 15 holder Set of 12 holders

INOX auto

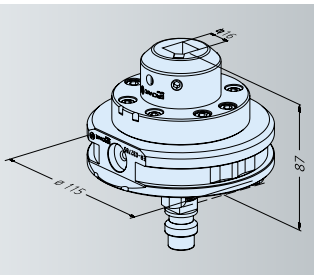
Version ITS system size 50.
Application EDM/WEDM.



ER-032785 Square 15 holder EWIS

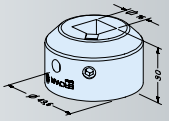
INOX auto

Version ITS system size 100
Application EDM and chip-cutting processes.



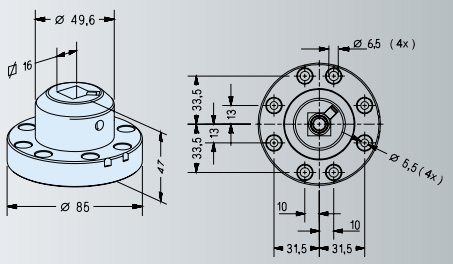
ER-007870 Square 15 holder, front part

Version Only clamping part of the holder.
Application For the construction on multiple fixtures.



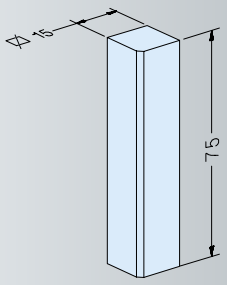
ER-015627 Square 15 holder on adapter ø 85

Version Clamping part fitted to flange, positioned with rods.
Application For the construction on multiple fixtures.
Mounting From above through the flange into the base.



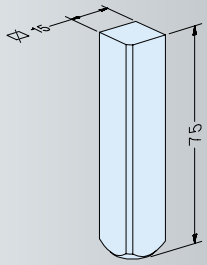
ER-036086 Set Graphite 555 15 x 15 / H = 75

Version Graphite. Set of 24 blanks.
Density (g/cm3): 1.82
Medium grain size (µm): 4
Application Blank for electrodes of up to 15 mm square.



ER-009231 Square 15 electrode blank

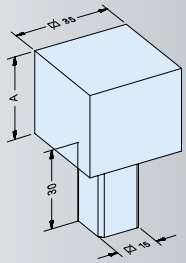
Version Set of 40 blanks. EDM copper, drawn profile.
Application Blank for electrodes of up to 15 mm square.



ER-010490 Square 15 electrode blank A = 30 mm

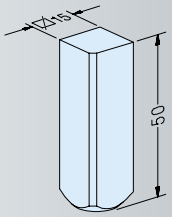
ER-010494 Square 15 electrode blank A = 50 mm

Version Set of 12 blanks, EDM copper, forged profile.
Application Blank for electrodes of up to 50 mm square.



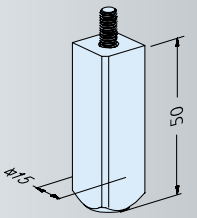
ER-009866 Square 15 electrode shaft

Version Set of 40 shafts, drawn steel.
Application To solder or bond to copper or graphite electrode blanks.



ER-010497 Square 15 electrode shaft M5

Version Set of 10 blanks, hardened, ground, including M5 bolts.
Application To screw on to electrode blanks.

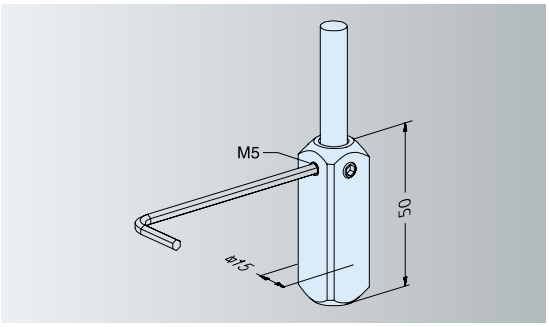


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Square Electrode Clamping System 15 and System Plus

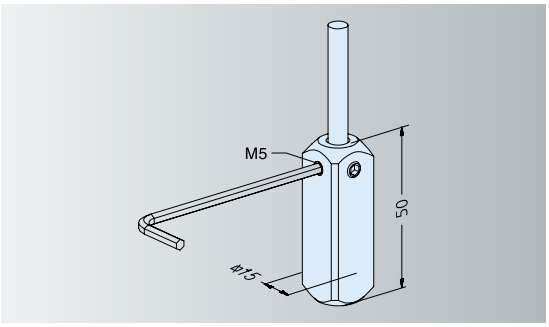
ER-010585 Square 15 blank holder ø 8 mm

Version Steel, hardened, ground.
Application To clamp round parts of ø 8 mm.



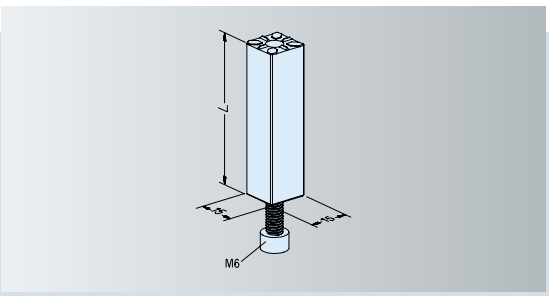
ER-010586 Square 15 blank holder ø 6 mm

Version Steel, hardened, ground.
Application To clamp round parts of ø 6 mm.



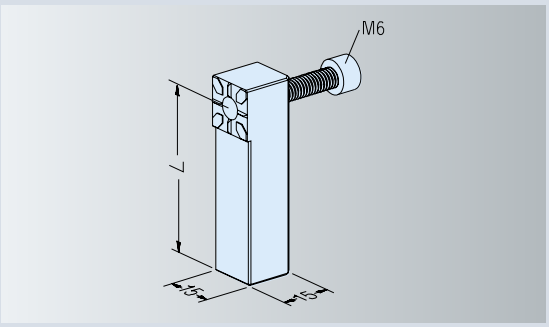
ER-003467 Holder straight 15x15x37 mm
ER-003513 Holder straight 15x15x57 mm

Version Steel, hardened, ground. Centering profile 15 mm.
Holder incl. bolt.
Application For electrodes of copper or graphite.
Fitting according to supplied instructions.



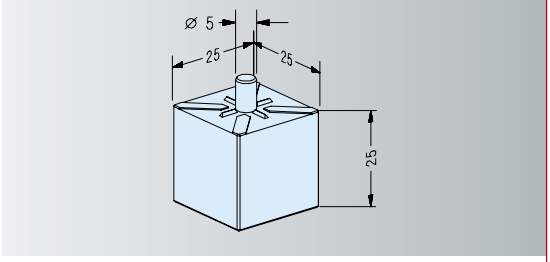
ER-003470 Angle holder 15x15x50 mm
ER-003367 Angle holder 15x15x100 mm

Version Steel, hardened, ground. Centering profile 15 mm.
Holder incl. bolt.
Application For electrodes of copper or graphite.
Fitting according to supplied instructions.



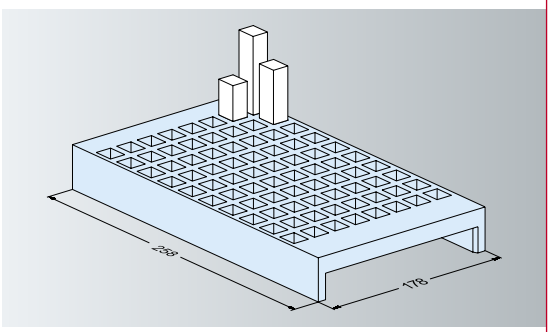
ER-003422 Prism die size 15

Version Steel, hardened, ground. Embossed profile 15 mm.
Application Embossing of centering prisms in blanks.



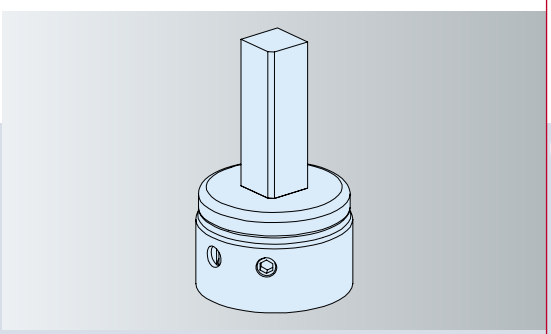
ER-010507 Square 15 electrode stand

Version Set of 10 stands, styrene.
Application Storage and transport of blanks and electrodes.



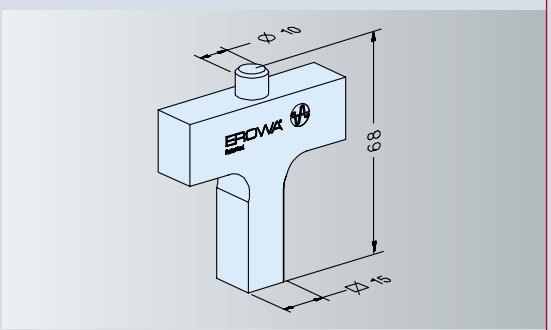
ER-010502 Square 15 chip guard

Version Set of 10 guards, oil-resistant rubber.
Application Protection against chips during electrode manufacturing.



ER-010495 Square 15 alignment rail

Version Steel, hardened, ground.
Application Testing of concentricity and angular accuracy of holder to ITS system.



ITS

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EROWA ITS Square 15
Element Set

This will provide you with the complete basic equipment to work with EROWA´s square 15 system. Additional material, particularly consumables, can be ordered according to requirements.



ER-010515 Square 15 Electrode Set

This material is packaged in a solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-006641	Socket wrench SW4 for square holder	2	1
ER-007986	Square 15 electrode holder 50, for use on EDM centers	2	1
ER-009231	Square 15 electrode blank, copper	20	40
ER-009866	Square 15 electrode shaft, steel	20	40
ER-032785	Square 15 holder EWIS, for chip-cutting processes	1	1
ER-010495	Square 15 checking pin	1	1
ER-010497	Square 15 electrode shaft, M5	8	10
ER-010502	Square 15 chip guard	10	10
ER-010507	Square 15 electrode stand, styrene	2	10

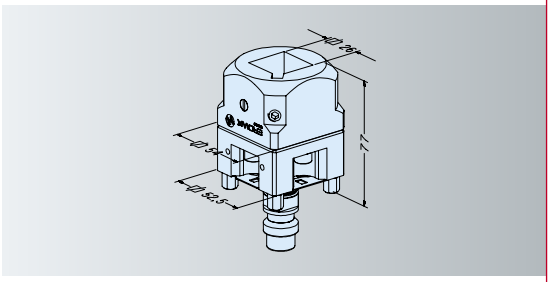
EROWA ITS

Square Electrode Clamping System 25

ER-010607 Square 25 electrode holder
ER-010611 Square 25 electrode holder Set of 12 holders

INOX auto

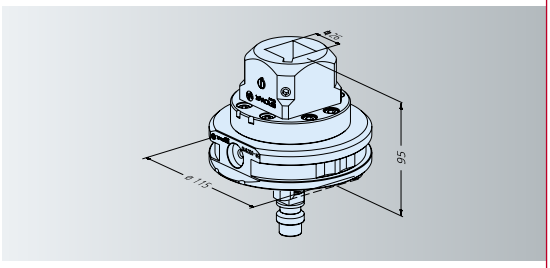
Version ITS system size 50.
Application EDM/WEDM.



ER-032810 Square 25 holder EWIS

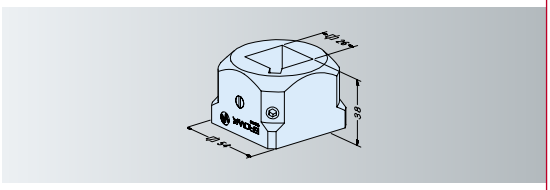
INOX auto

Version ITS system size 100.
Application EDM and chip-cutting processes.



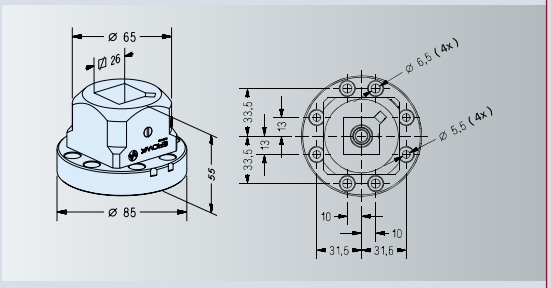
ER-010622 Square 25 holder, front part

Version Only clamping part of the holder.
Application For the construction on multiple fixtures.



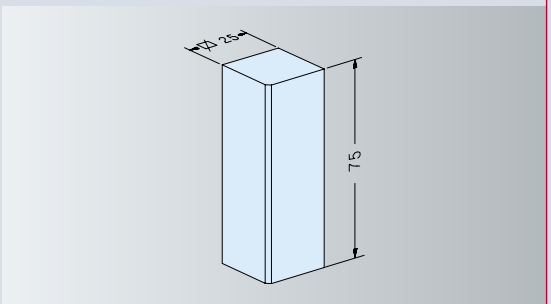
ER-015629 Square 25 holder on adapter ø 85

Version Clamping part fitted to flange, fixed with rods.
Application For the construction on multiple fixtures.
Mounting From above through the flange into the base.



ER-036089 Set Graphite 555 25 x 25 / H = 75

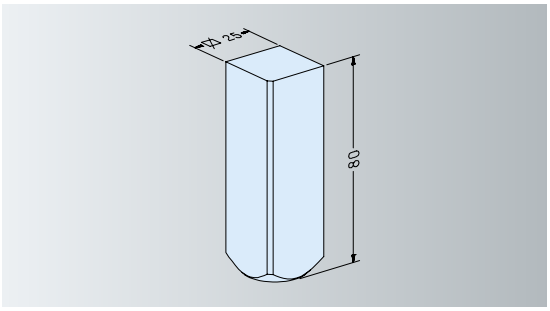
Version Graphite. Set of 12 blanks.
Density (g/cm3): 1.82
Medium grain size (µm): 4
Application Blank for electrodes of up to 25 mm square.



EROWA

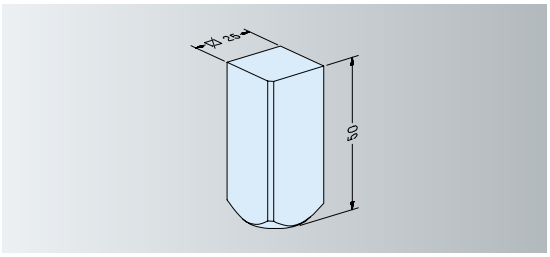
ER-009209 Square 25 electrode blank

Version Set of 24 blanks. EDM copper, drawn profile.
Application Blank for electrodes of up to 25 mm edge square.



ER-010491 Square 25 electrode shaft

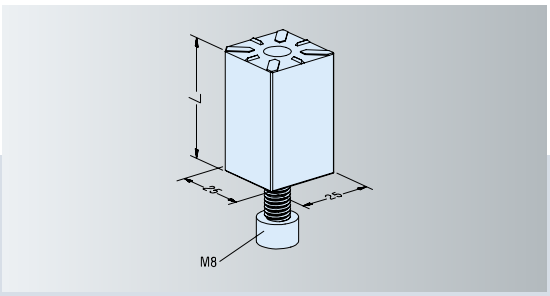
Version Set of 24 shafts, soft steel, drawn profile.
Application To solder or bond to blanks of up to 40 mm square.



ER-003405 Holder straight 25x25x40 mm
ER-003439 Holder straight 25x25x65 mm

INOX

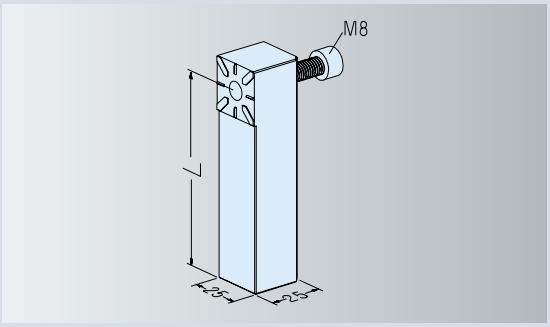
Version Steel, hardened, ground. Centering profile 25 mm.
Holder incl. bolt.
Application For electrodes of copper or graphite.
Fitting according to supplied instructions.



ER-003393 Angle holder 25x25x90 mm

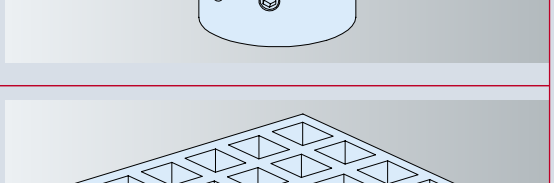
INOX

Version Steel, hardened, ground. Centering profile 25 mm.
Holder incl. bolt.
Application For electrodes of copper or graphite.
Fitting according to supplied instructions.



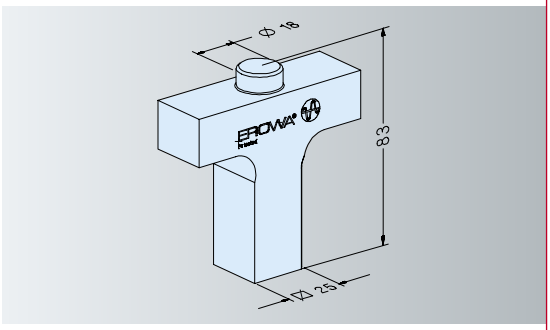
ER-003489 Prism die size 25

Version Steel, hardened, ground. Embossed profile 25 mm.
Application Embossing of centering prisms in blanks.



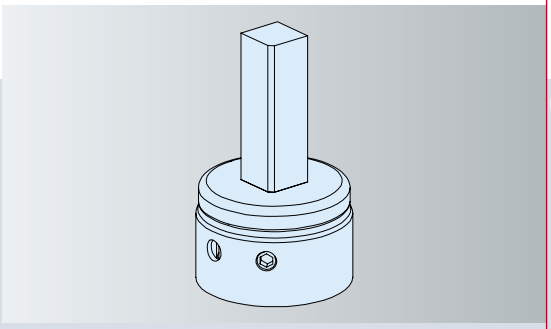
ER-010592 Square 25 alignment rail

Version Steel, hardened, ground.
Application Testing of concentricity and angular accuracy of the holder to the ITS system.



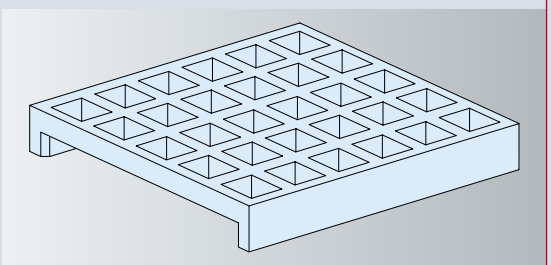
ER-010505 Square 25 chip guard

Version Set of 10 guards, oil-resistant rubber.
Application Protection against chips during electrode manufacturing.



ER-010511 Square 25 electrode stand

Version Set of 10 styrene stands.
Application Storage and transporting of blanks and electrodes.



EROWA

EROWA ITS Square 25
Element Set

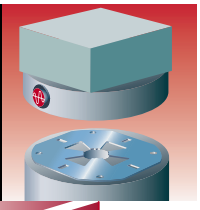
This will provide you with the complete basic equipment to work with EROWA´s square 25 system. Additional material, particularly consumables, can be ordered according to requirements.



ER-010541 Square 25 Electrode Set

This material is packaged in a solid plastic box.

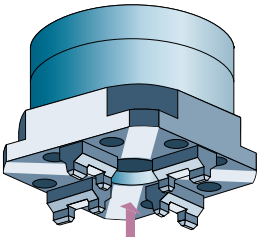
Order number	Description	Units per set	Units supplied by order number
ER-032810	Square 25 holder EWIS, for chip-cutting processes	1	1
ER-006641	Socket wrench SW4 for square holder	3	1
ER-009209	Square 25 electrode blank, holder	24	24
ER-010491	Square 25 electrode shaft, steel	24	24
ER-010505	Square 25 electrode chip guard	10	10
ER-010511	Square 25 electrode stand, styrene	2	10
ER-010592	Square 25 checking pin	1	1
ER-010607	Square 25 electrode holder 50, for use on EDM centers	2	1



EROWA®

ITS Special Electrode Holders

These holders support the manufacturing of special electrodes. Thanks to their adjustable angular and axial positions, existing electrodes can be integrated into the system. One of each of these holders should be kept ready for use in every workshop.



Save time
Machine changes and in-process-control without loss of time thanks to fixed reference position.

ITS 50


ER-008551


ER-008458


ER-008595


ER-015465


ER-009219
ER-010644


ER-035154


ER-010583


ER-009235


ER-033654


ER-039204


ER-035156

ER-008566

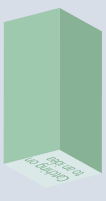

ER-008745


ER-010671

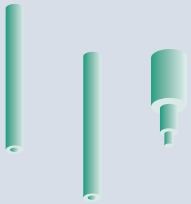

ER-010689





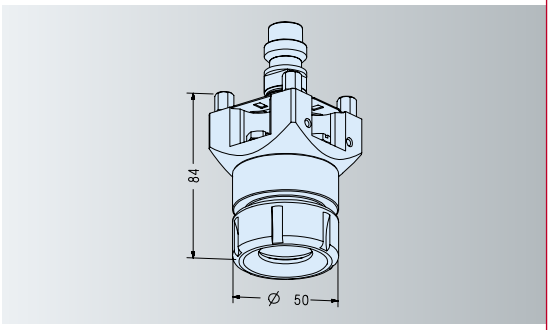






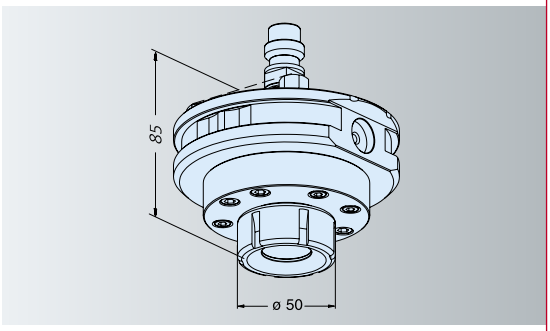
ER-008566 Collet chuck holder 50

Version System size 50.
Application For round material up to ø 20 mm.



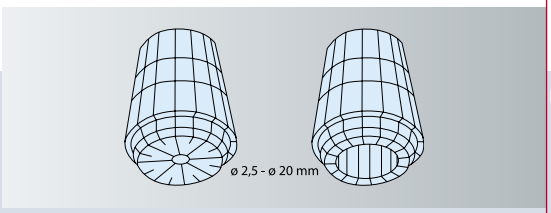
ER-032815 Collect Chuck holder 100

Version System size 100
Application For round material up to ø 20 mm.



ER-008745 Set of collet chucks

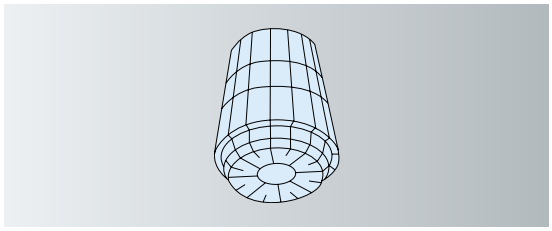
Version 19 collet chucks from ø 2.5 mm to ø 20 mm.
Application For round material up to ø 20 mm.



EROWA®

ITS Special Electrode Holders

ER-006700	Collet chuck ø 2.5 mm
ER-006701	Collet chuck ø 3 mm
ER-006702	Collet chuck ø 4 mm
ER-006703	Collet chuck ø 5 mm
ER-006704	Collet chuck ø 6 mm
ER-006705	Collet chuck ø 7 mm
ER-006706	Collet chuck ø 8 mm
ER-006707	Collet chuck ø 9 mm
ER-006708	Collet chuck ø 10 mm
ER-006709	Collet chuck ø 11 mm
ER-006710	Collet chuck ø 12 mm
ER-006711	Collet chuck ø 13 mm
ER-006712	Collet chuck ø 14 mm
ER-006713	Collet chuck ø 15 mm
ER-006714	Collet chuck ø 16 mm
ER-006715	Collet chuck ø 17 mm
ER-006716	Collet chuck ø 18 mm
ER-006717	Collet chuck ø 19 mm
ER-006718	Collet chuck ø 20 mm



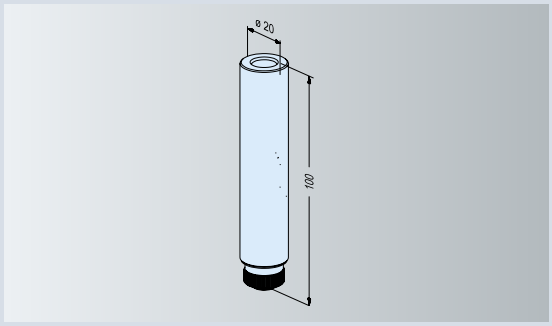
Version Delivered separately, clamping range per collet chuck:
ø 2.5 mm = 0.5 mm
ø 3-20 mm = 1 mm

Application Round material from ø 2 mm to ø 20 mm.

ER-010671 Mini collet chucks holder

Version Steel ground ø 20 mm.

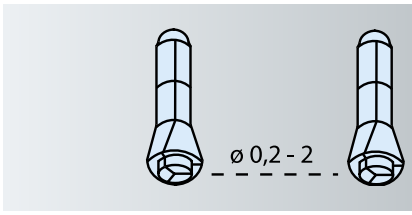
Application In ø 20 mm adapter or in ø 20 mm collet chuck for mini collet chucks of ø 0.2 mm to ø 2 mm.



ER-010689 Set of Mini collet chucks



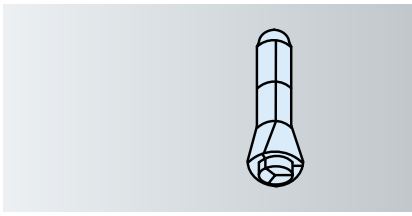




Version Set of 19 collet chucks ø 0.2 mm to ø 2.0 mm, steel ground, with brass seal for appropriate diameter.

Application Clamping of small electrode tubes ø 0.2 mm to ø 20 mm.

ER-002403 Mini collet chuck ø 0.2 mm
ER-002404 Mini collet chuck ø 0.3 mm
ER-002405 Mini collet chuck ø 0.4 mm
ER-002406 Mini collet chuck ø 0.5 mm
ER-002407 Mini collet chuck ø 0.6 mm
ER-002408 Mini collet chuck ø 0.7 mm
ER-002409 Mini collet chuck ø 0.8 mm
ER-002410 Mini collet chuck ø 0.9 mm
ER-002411 Mini collet chuck ø 1.0 mm
ER-002412 Mini collet chuck ø 1.1 mm
ER-002413 Mini collet chuck ø 1.2 mm
ER-002414 Mini collet chuck ø 1.3 mm
ER-002415 Mini collet chuck ø 1.4 mm
ER-002416 Mini collet chuck ø 1.5 mm
ER-002417 Mini collet chuck ø 1.6 mm
ER-002418 Mini collet chuck ø 1.7 mm
ER-002419 Mini collet chuck ø 1.8 mm
ER-002420 Mini collet chuck ø 1.9 mm
ER-002421 Mini collet chuck ø 2.0 mm





Version Steel, ground, with brass seal for appropriate diameter.

Application Clamping of small electrode tubes.

ITS

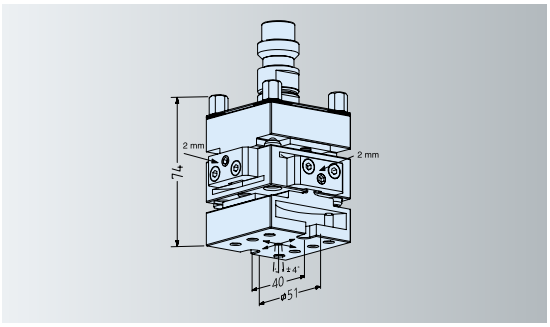
EROWA®

ITS Special Electrode Holders

ER-008595 Zekant

Version Electrode holder with cross slide (2 mm travel) and pendulum movement (+/– 4°).

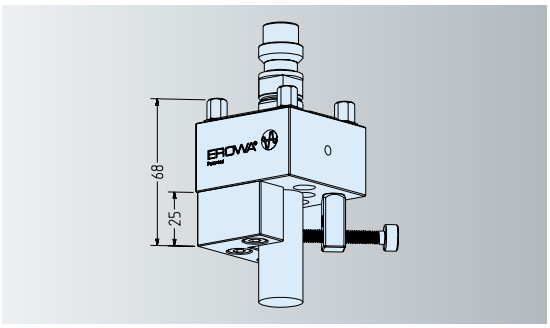
Application Clamping and alignment of electrodes. Not suitable for chip-machining.



ER-008458 V-block holder stainless

Version Prism ground bearing surfaces 10 mm +/– 0.005 mm from the center.

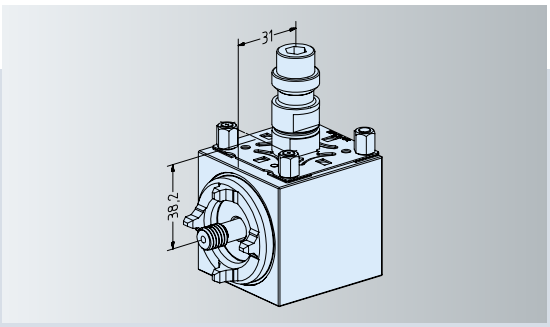
Application Clamping from outside, precision machined electrodes or small workpieces.



ER-008551 Horizontal holder

Version Hardened and ground 90° angle and centering accuracy 0.005 mm.

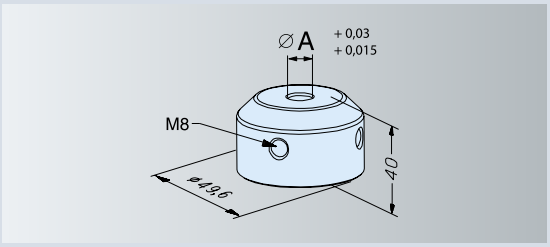
Application Clamping of electrode holders in horizontal position, may not be used for chip-machining.



ER-010583 Blank holder ø 10 mm
ER-010581 Blank holder ø 12 mm
ER-010577 Blank holder ø 20 mm

Version Steel, hardened, ground bore.

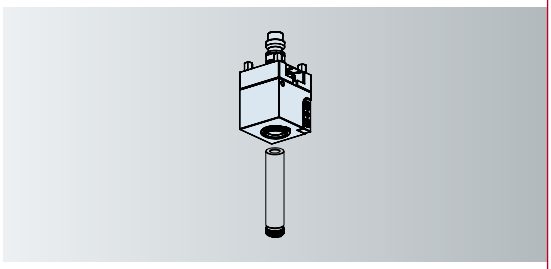
Application Fit to Uniplate ER-009219 for clamping of precision copper tubes or bars.



ER-009235 Adapter ø 20 mm



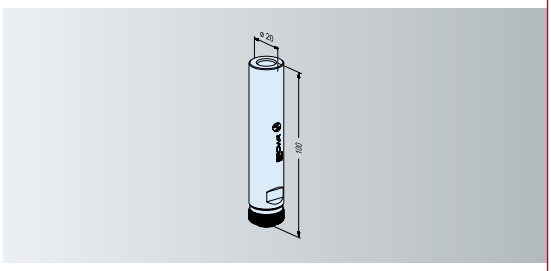




Version Hydraulic holding of ø 20 mm shafts.
Application Recommended to hold the 20 mm EROWA thread holder.

ER-033654 Thread holder M3
ER-033655 Thread holder M4
ER-033656 Thread holder M5
ER-033657 Thread holder M6

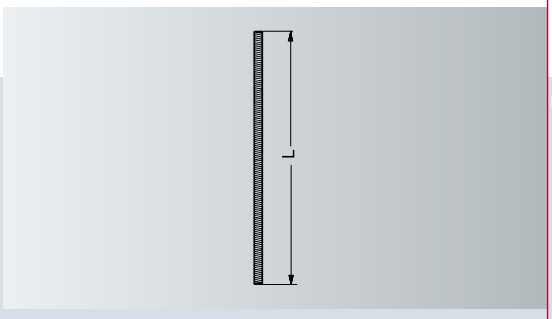




Version Ground 20 mm shaft.
Application Defined positioning of threaded EROWA electrodes.
Note Systems for M3, M4, M5 and M6.

ER-033204 Threaded electrode M3
ER-033205 Threaded electrode M4
ER-033206 Threaded electrode M5
ER-033207 Threaded electrode M6



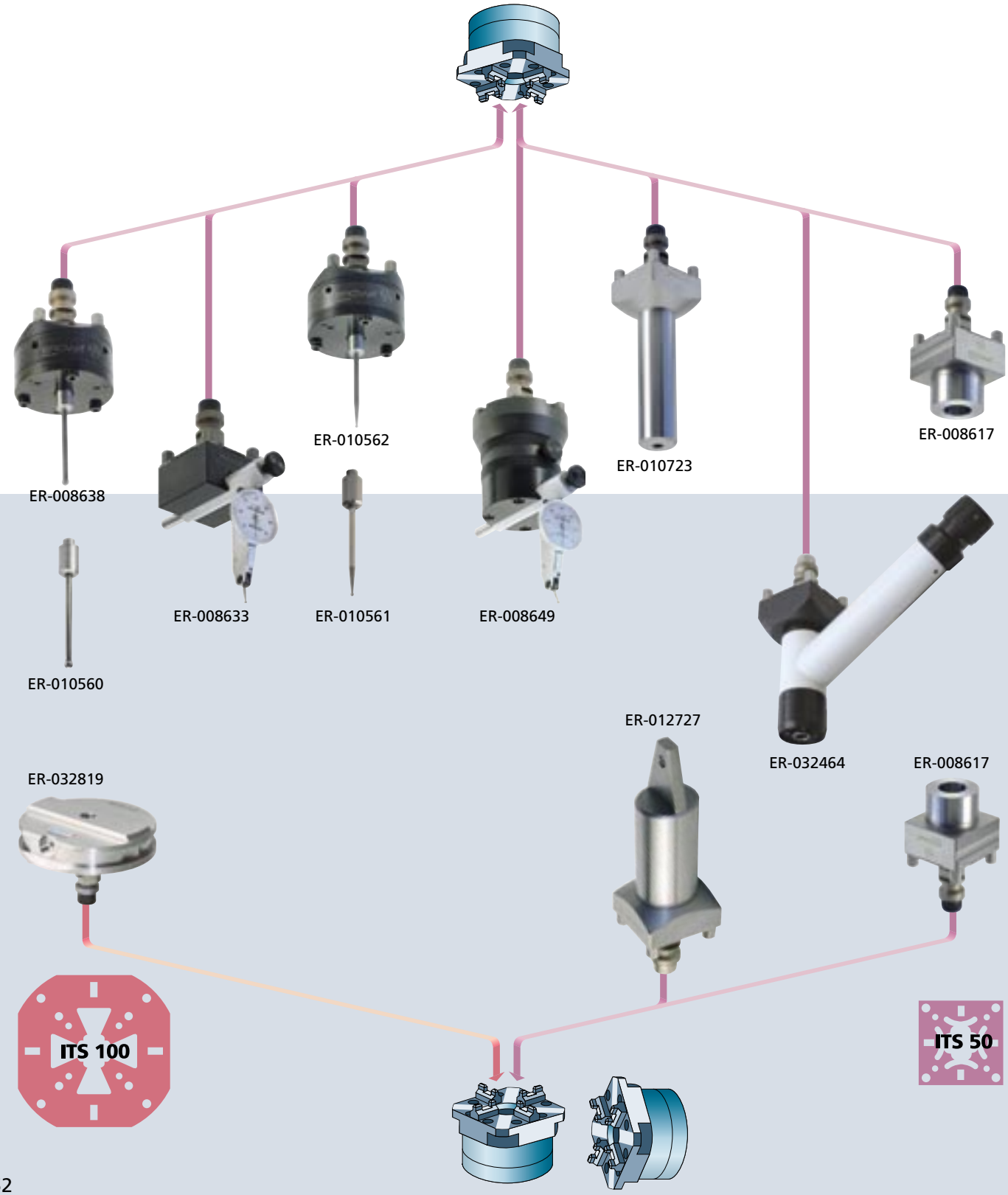


Version EDM copper with precision thread.
Application For EDM-ing threads with EROWA Thread holder System.
Note Sizes available for: M3, M4, M5 and M6.

EROWA®

Measuring and Checking Elements

Trusting is good - checking is better. These specially designed elements will make it easier for you to check your production equipment. These elements are for use both in chip-cutting applications and in EDM sinking and WEDM.

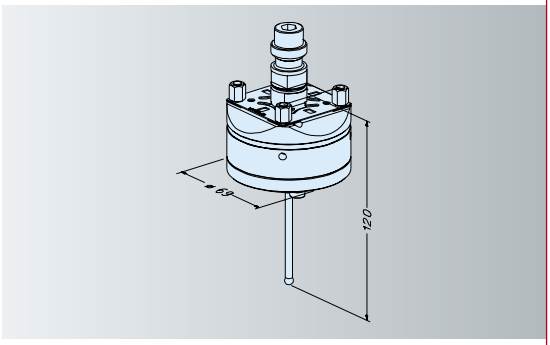


ER-008638 Sensor with ball ø 5 mm
ER-010562 Sensor with ball ø 2 mm

auto

Version Holder with spring-loaded sensing pin and tungsten carbide ball. Overrun protection : X, Y, Z 1 mm. Repetition accuracy : X, Z, Y 0.002 mm.

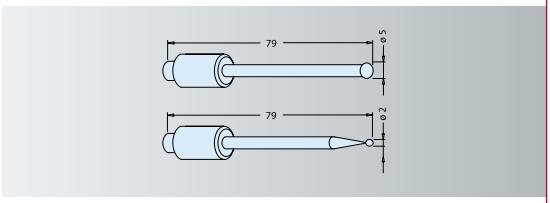
Application Automatic measurement of workpieces in CNC EDM sinking centers.



ER-010560 Replac. sensor pin ø 5 mm
ER-010561 Replac. sensor pin ø 2 mm

Version Tungsten carbide, incl. adapter part, without spacer washer

Application Replacement of pins in sensors ER-008638 and ER-010562 Attention : spacer washer is matched to the respective sensor.

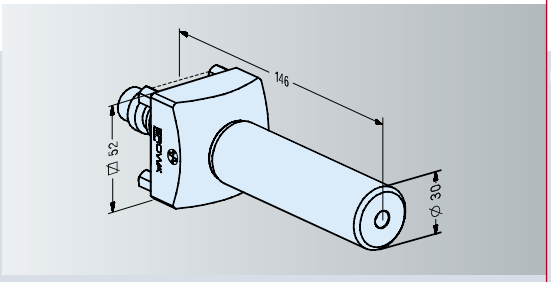


ER-010723 Checking pin

INOX

Version Hardened, ground.

Application Alignment of radial, axial and angular position of ITS chucks.

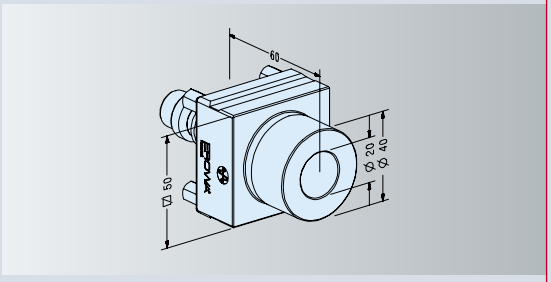


ER-008617 Gauging pin

INOX

Version Hardened, ground.

Application Alignment of ITS chucks in radial, axial and angular position.

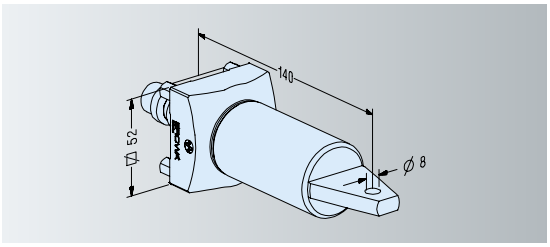


EROWA

ER-012727 Reference pin Unoset

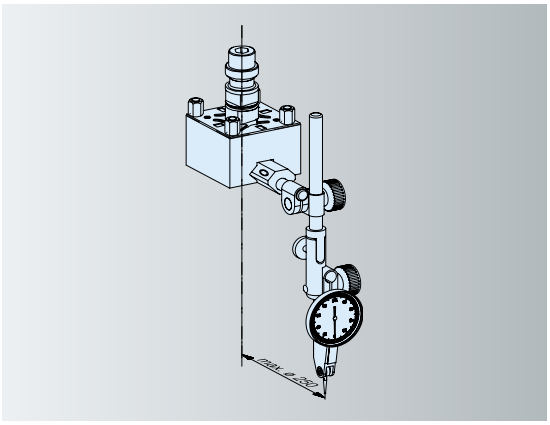
INOX

Version Hardened, ground, borehole ø 8 mm.
Application To determine reference measurements on horizontal chucks.



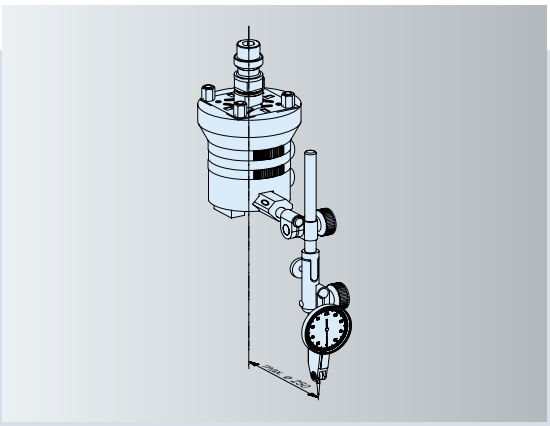
ER-008633 Fixed centering device

Version Holder with sliding part and metric dial gauge mm. Scale graduation: 0.01 mm.
Application Concentricity measurement of workpieces on machines with C-axis or rotating spindle.



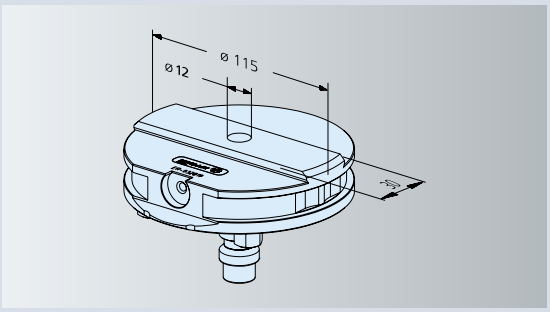
ER-008649 Rotatable centering device

Version Holder with rotating and sliding part, including metric dial gauge mm. Scale graduation: 0.01 mm.
Application Concentricity measurement of workpieces on machines without rotating axis.

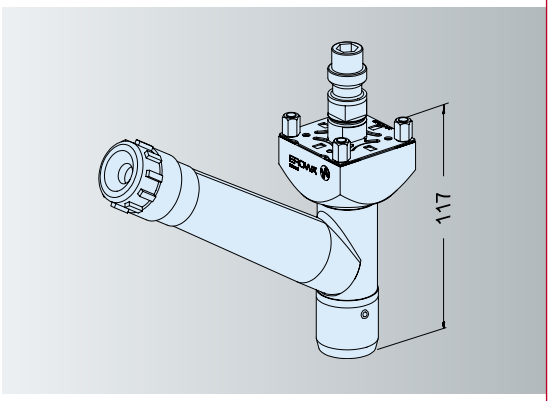


ER-032819 Alignment pallet ø 115

Version Pallet ø 115 mm, alignment length 110 mm, center borehole ø 12 mm.
Application Alignement of radial, axial and angular position of ITS chucks, PowerChuck P and PC 210 Combi chucks.



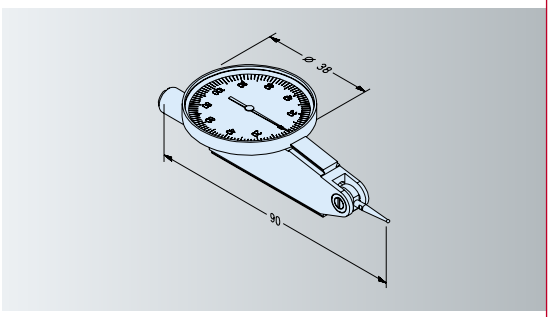
ER-032464 Microscope with pointed checking pin



Version Amplification factor: 40x
Illumination: 5 V, Tansformer: 100-240 V.

Application Determination of dimensions for complicated contours. The checking pin with tip serves for adjustment of the optical system.

ER-001565 Dial gauge 0.002 mm



Version Measuring range +/- 0.2 mm Graduation 0.002 mm.

Application On PreSet setup and pre-setting cells, and on ITS centering devices.

ITS Element Set
My first EROWA

We have compiled practical sets for newcomers to the modern ITS Integrated Tooling System. Additional material, particularly consumables, ca be ordered according to requirements.

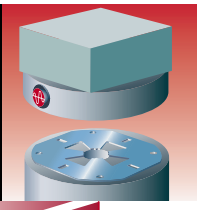
Starting set for newcomers, with ITS chuck on the EDM quill.



ER-023239 My first EROWA

This material is packaged in a solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-009219	Uniplate	3	12
ER-009222	Prisround	3	12
ER-009226	Uniblank	3	12
ER-010438	Setscrew M8 x 16 for Prisround	6	25
ER-010441	Setscrew M8 x 16 for Uniholder	6	25
ER-010577	Blank holder ø 20 mm	1	1
ER-010581	Blank holder ø 12 mm	1	1
ER-010583	Blank holder ø 10 mm	1	1
ER-010634	Hex bolt with slot M6 x 20 for Uniplate	6	12
ER-010723	Checking pin	1	1
ER-010793	Uniholder	3	12
ER-010906	Toolkit ITS	1	1
ER-038824	QuickChuck 100 P with base plate	1	1
ER-015465	Chucking spigot F/A EDM	5	20



EROWA®

ITS Element Set

EDM Set

We have compiled practical sets for newcomers to the modern ITS Integrated Tooling System. Additional material, particularly consumables, can be ordered according to requirements.

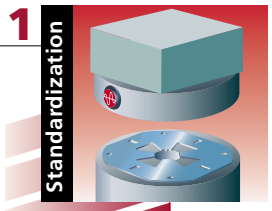
User set for manual or CNC EDM centers with ITS quill chuck. The supplied chuck has been designed for manual electrode manufacture.



ER-021098 QuickChuck 100 EDM Set

This material is packaged in two solid plastic boxes.

Order number	Description	Units per set	Units supplied by order number
ER-000974	M10 x 20 hex socket head bolt	1	1
ER-001483	Key for collet chuck holder	1	1
ER-006702	Collet chuck ø 4 mm	1	1
ER-006704	Collet chuck ø 6 mm	1	1
ER-006706	Collet chuck ø 8 mm	1	1
ER-006708	Collet chuck ø 10 mm	1	1
ER-006710	Collet chuck ø 12 mm	1	1
ER-006718	Collet chuck ø 20 mm	1	1
ER-008458	Prism holder, stainless	1	1
ER-008566	Collet chuck 50	1	1
ER-009214	Centering plate 50 with washer	20	50
ER-011599	Centering plate 100 M5 with washer	5	10
ER-009219	Uniplate	6	12
ER-009222	Prisround	6	12
ER-010438	Setscrew M8 x 16 for Prisround	12	25
ER-010441	Setscrew M8 x 16 for Uniholder	12	25



ER-021098 QuickChuck 100 EDM Set

This material is packaged in two solid plastic boxes.

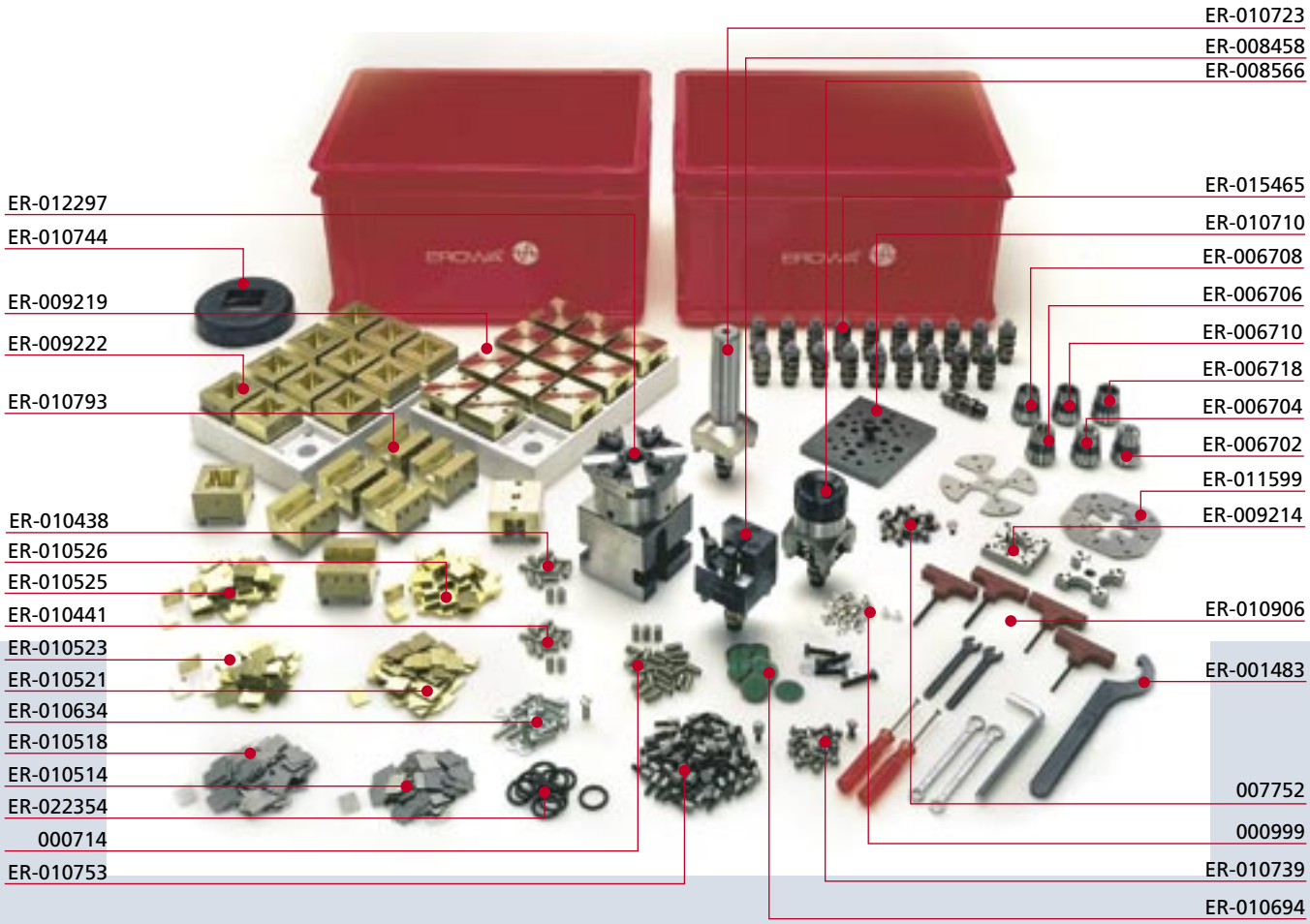
Order number	Description	Units per set	Units Artikel-Nummer
ER-010514	Spacer plate 0,5 mm	50	50
ER-010518	Spacer plate 1 mm	50	50
ER-010521	Spacer plate 2 mm	50	50
ER-010523	Spacer plate 3 mm	50	50
ER-010525	Spacer plate 4 mm	50	50
ER-010526	Spacer plate 5 mm	50	50
ER-010634	Hex bolt with slot for Uniplate	12	25
ER-010694	Sealing washers	12	24
ER-010710	Drilling template for borehole patterns, centering plates 50 and 100	1	1
ER-010723	Checking pin	1	1
ER-010753	Support feet M5	100	100
ER-010793	Uniholder	6	12
ER-010906	Toolkit ITS	1	1
ER-038824	QuickChuck 100 P with base plate	1	1
ER-015465	Chucking spigot F/A EDM	10	20
007752	M8 support foot	20	–
000999	M5 x 8 socket head bolt	20	–

ITS Element Set

EDM Standard Set

We have compiled practical sets for newcomers to the modern ITS Integrated Tooling System. Additional material, particularly consumables, can be ordered according to requirements.

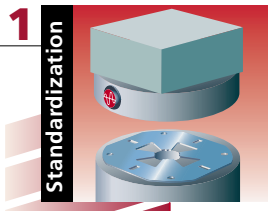
User set for manual or CNC centers. Containing, among other things, 50 electrode holders and a chuck.



ER-010874 EDM Standard Set

This material is packaged in two solid plastic boxes.

Order number	Description	Units per set	Units supplied by order number
000714	Setscrew M8 x 16	25	1
ER-001483	Key for collet chuck holder	1	1
ER-006702	Collet chuck ø 4 mm	1	1
ER-006704	Collet chuck ø 6 mm	1	1
ER-006706	Collet chuck ø 8 mm	1	1
ER-006708	Collet chuck ø 10 mm	1	1
ER-006710	Collet chuck ø 12 mm	1	1
ER-006718	Collet chuck ø 20 mm	1	1
ER-012297	Rapid-action chuck, manual, on block	1	1
ER-008458	Prism holder	1	1
ER-008566	Collet chuck holder 50	1	1
ER-009214	Centering plate 50 with washer	20	50
ER-011599	Centering plate 100 M8 with washer	5	10
ER-009219	Uniplate	12	12



ER-010874 EDM Standard Set

This material is packaged in two solid plastic boxes.

Order number	Description	Units per set	Units supplied by order number
ER-010438	Setscrew M8 x 16 für Prisround	25	25
ER-010441	Setscrew M8 x 16 for Uniholder	12	25
ER-010514	Spacer plate 0,5 mm	100	50
ER-010518	Spacer plate 1 mm	100	50
ER-010521	Spacer plate 2 mm	100	50
ER-010523	Spacer plate 3 mm	100	50
ER-010525	Spacer plate 4 mm	100	50
ER-010526	Spacer plate 5 mm	100	50
ER-010634	Hex bolt with slot for Uniplate	25	25
ER-010694	Sealing washers	12	24
ER-010710	Drilling template for borehole patterns, centering plates 50 and 100	1	1
ER-010723	Checking pin	1	1
ER-010739	Supports M5, adjustable	12	24
ER-010744	Chip guard for rapid-action chuck	1	1
ER-010753	Supports M5	100	100
ER-010793	Uniholder	6	12
ER-010906	Toolkit ITS	1	1
ER-015465	Chucking spigot F/A EDM	20	20
ER-022354	O-ring for chucking spigot	10	50
007752	M8 support foot	20	–
000999	M5 x 8 socket head bolt	20	–

EROWA ITS Compact Combi

Three in one

Seamless integration into the existing ITS system.
The ITS Compact CombiChucks have the same mounting borehole grid as the conventional EROWA ITS chucks.
Universal clamping of three systems in one single chuck.
High precision and great performance due to the patented EROWA tooling technology.
Whether on the machine table or in the tool quill: EROWA´s ITS Compact CombiChucks can be used everywhere.

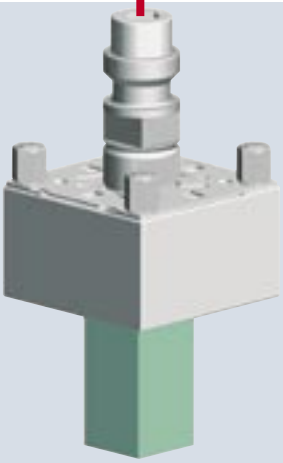


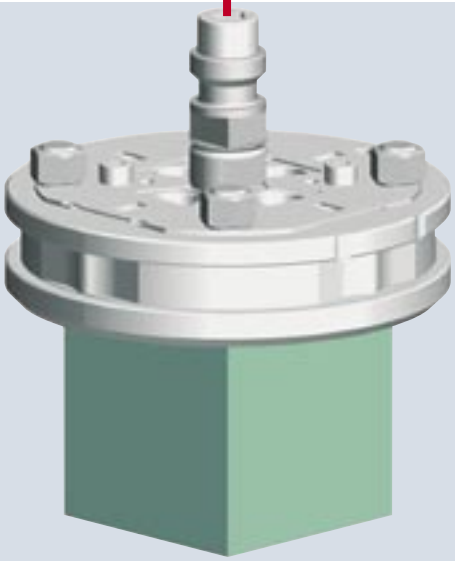


CompactChuck

ITS Compact CombiChuck





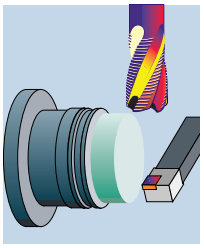


Compact Electrode holder

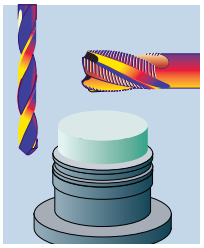
ITS 50 Electrode holder

ITS 100 Electrode holder

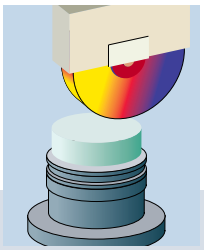
Applications



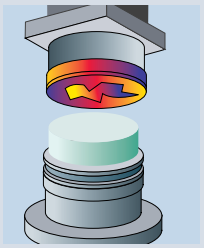
Milling / turning



Drilling / milling

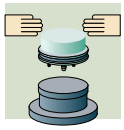


Grinding



EDM sinking

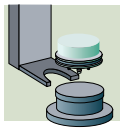
Handling



Manual

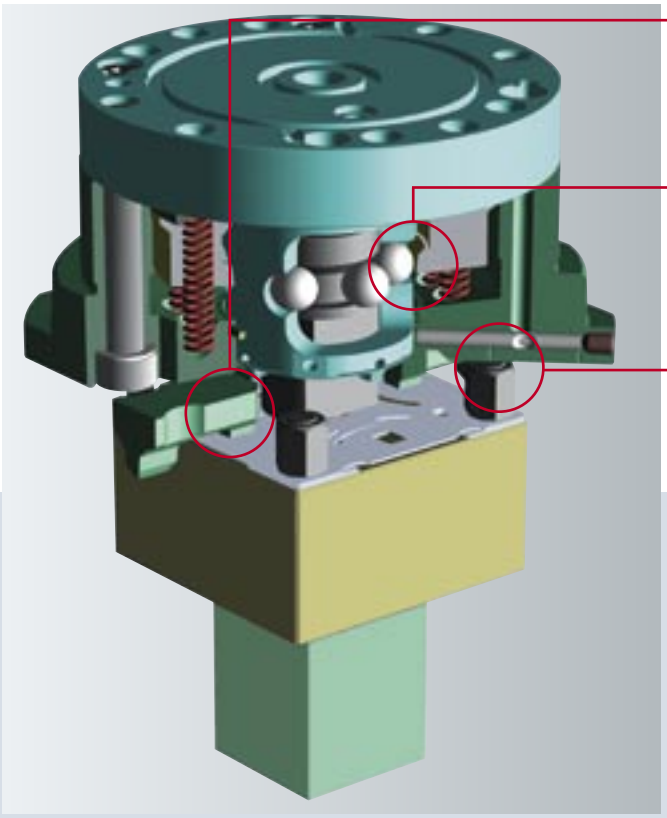


Loading facility



Robot

Function



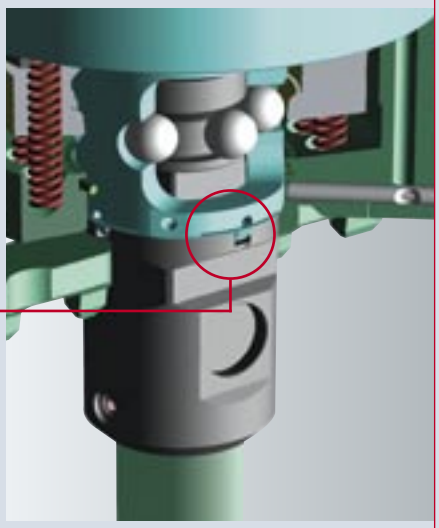
ITS Compact CombiChuck with **ITS** holder.

After latching into the centering plate, the prismatic spigots ensure powerful and high-precision positioning.

The self-locking ball-lock generates a clamping power of 5000 N (with reclamping) and does not open even if the pressure fails.

The support feet are cleaned during the clamping process.

After latching to the centering plate, the prismatic spigots in combination with the spring slots ensure powerful and high-precision positioning.



ITS Compact CombiChuck with **Compact** holder.

Technical data

	ITS Compact CombiChuck
System sizes	Compact 30, ITS 50 and ITS 100
Indexing	4 x 90°
Clamping power	3000 N, 5000 N with reclamping
Clamping	Spring power
Opening	Compressed air min. 6 bar
Operation	With manual or electropneumatic control unit

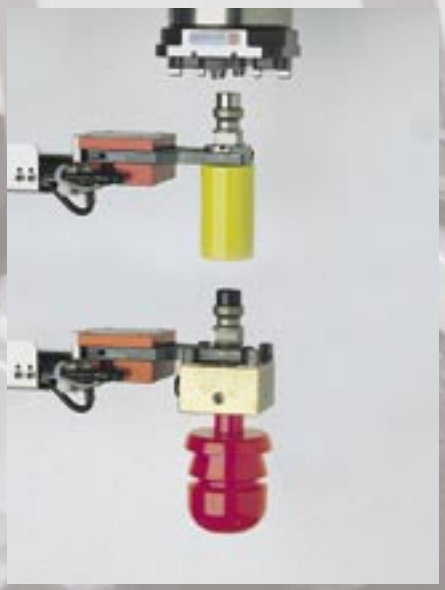
EROWA®

EROWA ITS Compact Combi

Compact – the best investment value tooling system for electrodes up to ø 50 mm. Compactness, precision, great performance. EROWA´s Compact System consists of a complete range of chucks, electrode holders, electrode changers and accessories.



Mixed up in the electrode magazine.



Economical automation by a combined loading of the EDM center.

Three pallet sizes - one chuck.
EROWA ITS Compact CombiChuck.

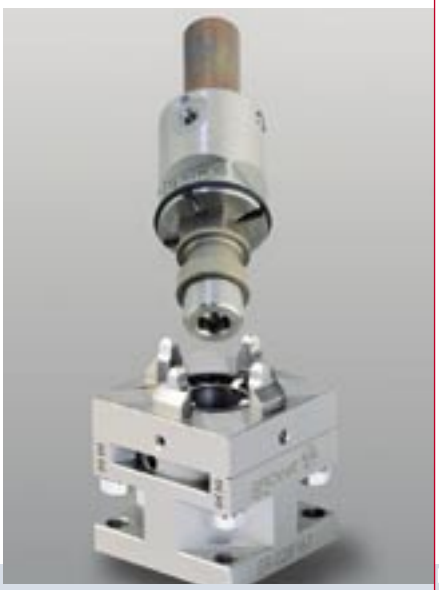




Storage capacity of up to 900 parts per square meter.



Compact chucking spigot Combi: for the integration of all Compact electrodes and electrode holders into the EROWA ITS Compact Combi system.



Quick and precise clamping of electrode holders with a fitted chip guard.



Ready - steady - GO! Insert chucking spigot and start machining. Use the ready made copper blank, you won´t find a quicker way.



Robust and precise. The Compact standard holder is the base for most clamping applications.

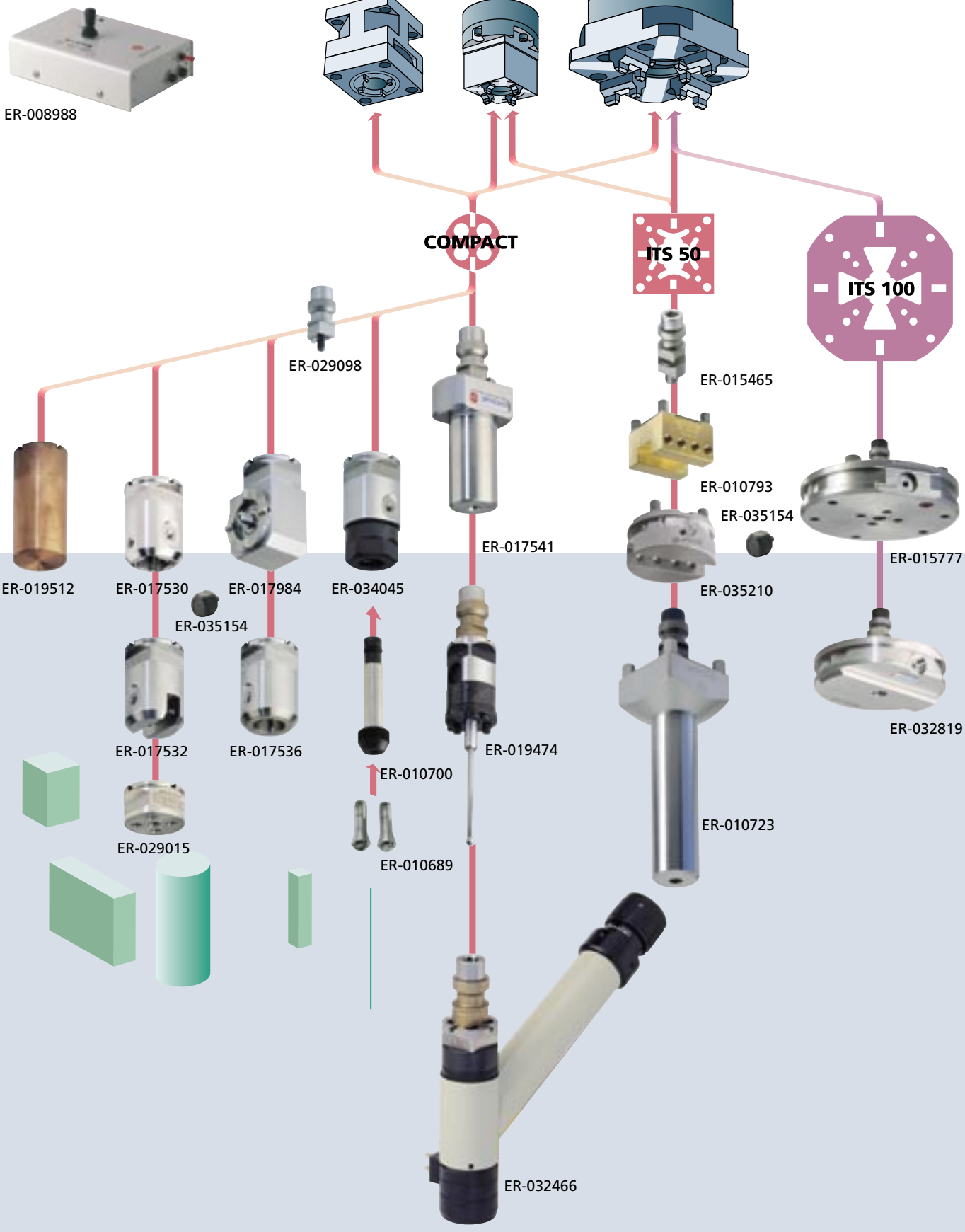
Setting-up and measuring outside the machine: quickl, simple and accurate.

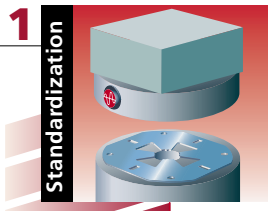


EROWA®

ITS Compact Combi

The components





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 Combi gripper
12. Handling with EROWA Robot gripper 72
13. Handling with EROWA Robot gripper 115
14. Handling with EROWA Robot gripper 148
15. Handling with EROWA RCS gripper

For chip-removing processes

For EDM sinking

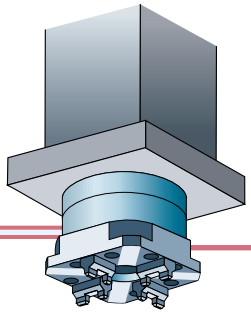
For WEDM

EROWA ITS Compact Combi Page

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Compact Electrode Holder Set	184

EROWA

The chucks pneumatically operated

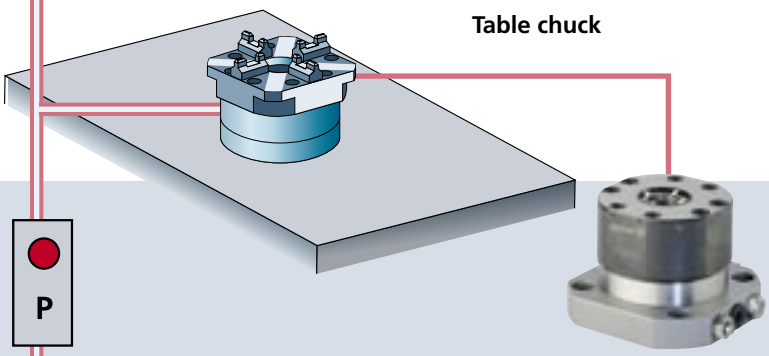


Quill chuck



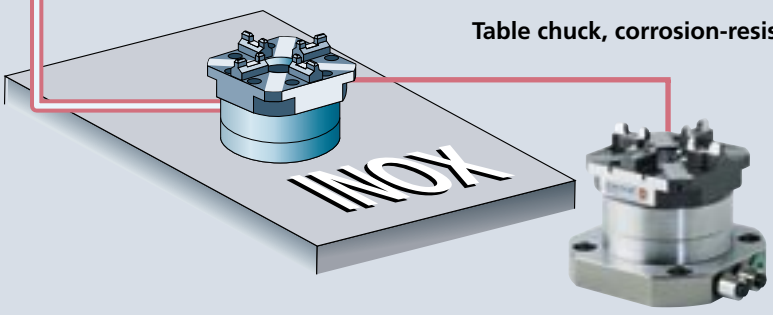
ER-020025 ER-020026 ER-035261 ER-035262

Table chuck



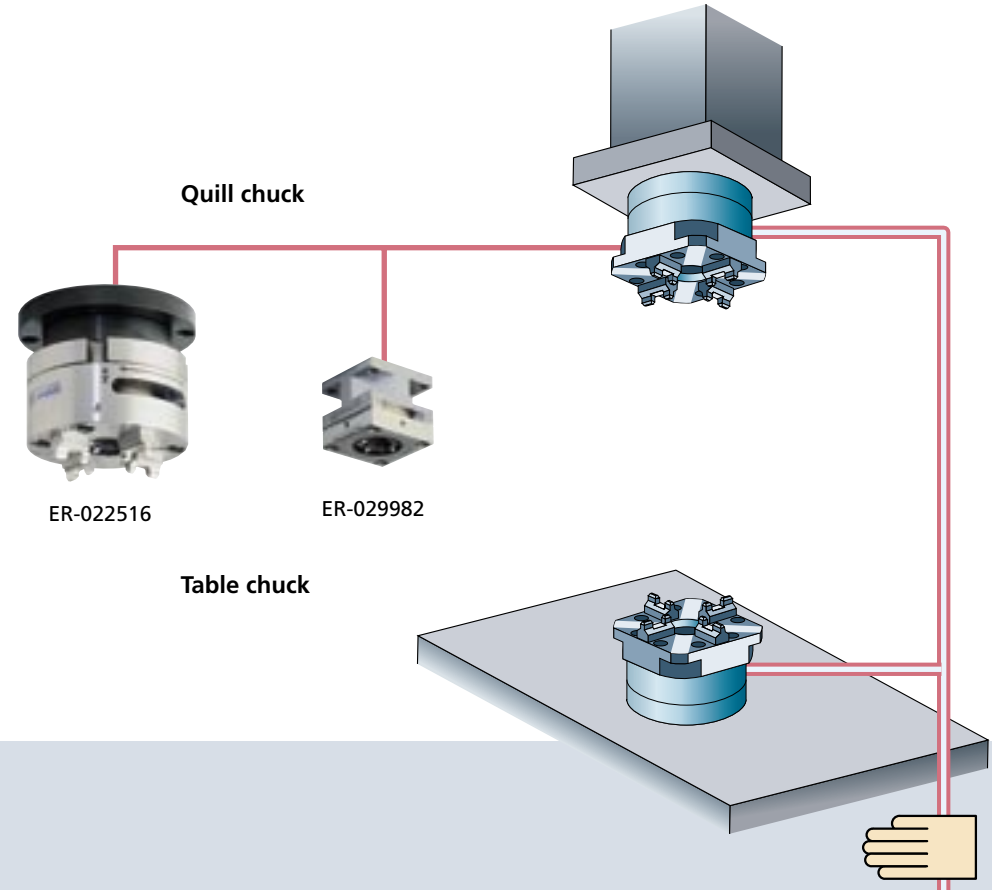
ER-020963

Table chuck, corrosion-resistant



ER-020027

mechanically operated



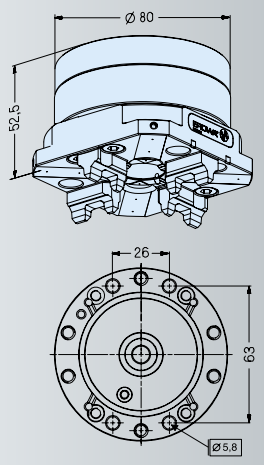
EROWA

EROWA
ITS Compact Combi
chucks

Technical data	ITS Compact CombiChuck	ITS 50 Compact CombiChuck
Repeatability	0.002 mm	0.002 mm
Indexing	4 x 90°	4 x 90°
Clamping power with reclamping 6 bar (without)	5000 N (3000 N)	(4000 N)
Generated by	springs	springs
Opening with compressed air, dry	min. 6 bar	min. 6 bar
Operation	with manual or electro-pneumatic control unit	with manual or electro-pneumatic control unit

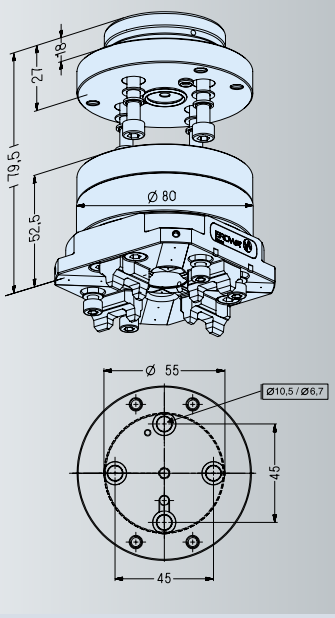
ER-020025 ITS Compact CombiChuck

Version ITS rapid-action chuck with built-in CompactChuck.
Connections At the rear.
Application EDM centers with automatic electrode change, machine tools with automatic loading of ITS and Compact electrode holders.



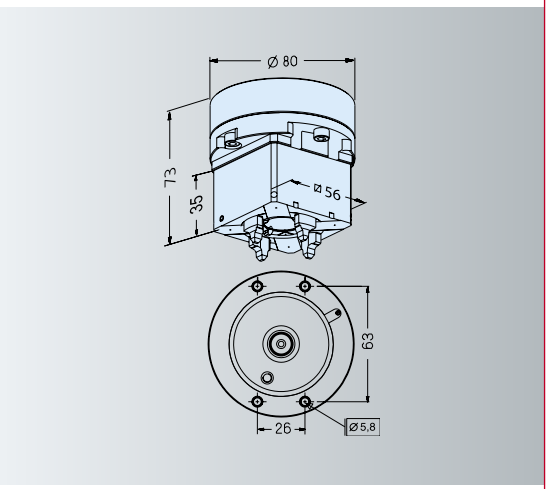
ER-020026 ITS Compact CombiChuck with collar

Version With flange ø 80/55 mm for flushing connection.
Connections At the rear.
Application EDM centers with automatic electrode change of ITS and Compact electrode holders.



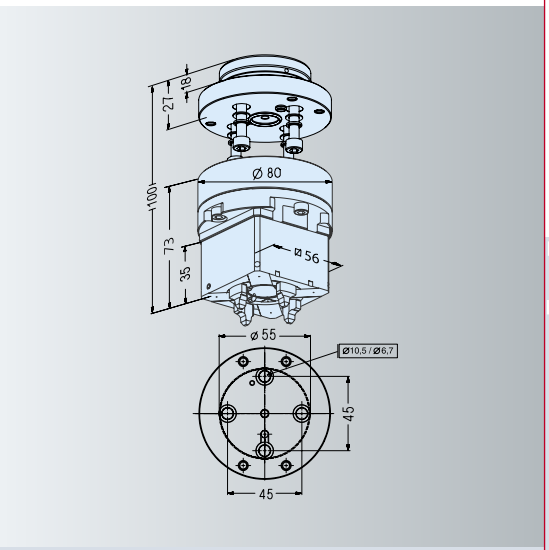
ER-035261 ITS 50 Compact CombiChuck

Version ITS QuickChuck 50 with built-in CompactChuck.
Connections At the rear.
Application EDM centers with automatic electrode change, machine tools with automatic loading of ITS and Compact electrode holders.



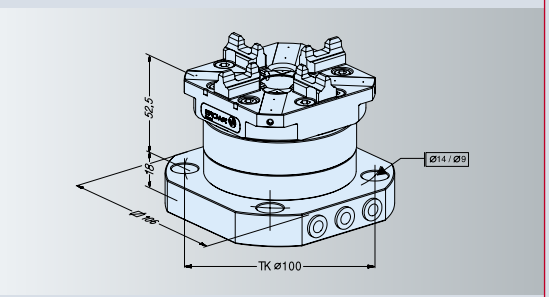
ER-035262 ITS 50 Compact CombiChuck with collar

Version With flange ø 80/55 mm for flushing connection.
Connections At the rear.
Application EDM centers with automatic electrode change of ITS and Compact electrode holders.



ER-020027 ITS Compact CombiChuck with clamping pallet

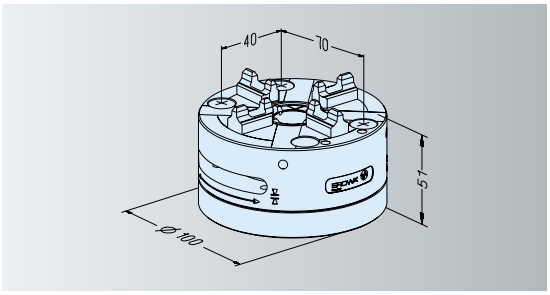
Version With clamping pallet 106 x 106 mm.
Connections With lateral clamping plate for manual and pneumatic control unit.
Application On milling, grinding and EDM centers with manual and automatic loading facilities.



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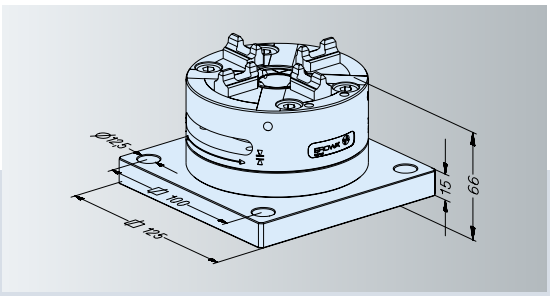
Technical data	QuickChuck 100 Combi	QuickChuck 50 Combi
Repeatability	0.002 mm	0.002 mm
Indexing	4 x 90°	4 x 90°
Max. clamping power	10000 N	4000 N
Operation	manual	manual

ER-022511 QuickChuck 100 Combi



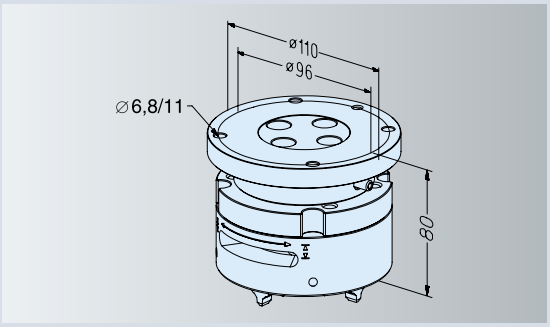
Version Combi system for EROWA ITS and Compact.
To fit With 4 x M8 bolts.
Operation Manual.
Application To clamp EROWA electrode holders and pallets of the system sizes Compact, ITS 50 und ITS 100.

ER-022514 QuickChuck 100 Combi P



Version Combi system for EROWA ITS and Compact with base plate.
Mounting With bolts or brackets.
Operation Manual.
Application To clamp EROWA electrode holders and pallets of the system sizes Compact, ITS 50 und ITS 100.

ER-022516 QuickChuck 100 Combi R

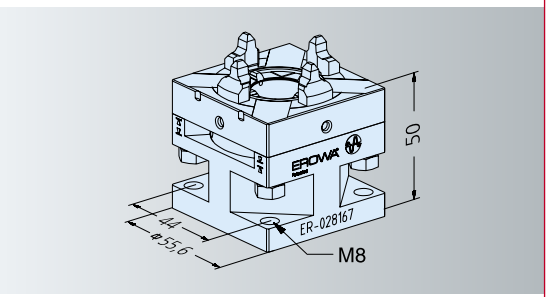


Version Combi system for EROWA ITS and Compact with rotatable flushing connection.
Mounting With 4 x M6 bolts.
Operation Manual.
Application To fit to rotating axes of EDM centers with lateral flushing connection.

ER-028167 QuickChuck 50 Combi

INOX

Version	Combi System for EROWA ITS and Compact.
Mounting	With 4 M8 bolts.
Operation	Manual.
Application	Clamping of EROWA electrode holders of the system size Compact and ITS 50.



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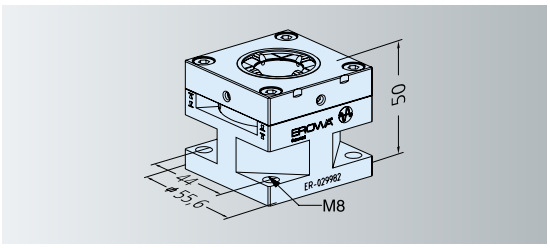
Technical data	CompactChuck
Repeatability	0.002 mm
Indexing	4 x 90°
Clamping power with reclamping 6 bar (without)	5000 N (2200 N)
Opening with compressed air	min. 6 bar
Operation mode	PA = Pneumatic, automatic PM = Pneumatic, manual M = Manual

ER-029982 CompactChuck M





Mounting With 4 M8 bolts.
Operation Rapid-action lock with lever.
Application Clamping of EROWA Compact electrode holders.
Note The CompactChuck M can also be used as a quill chuck.

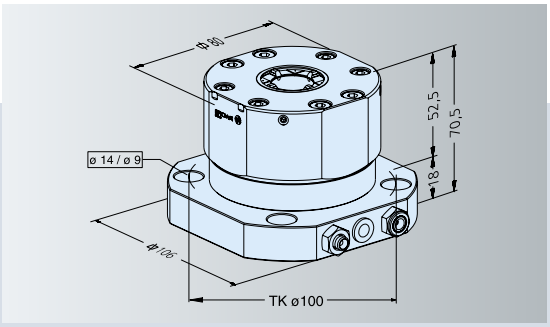


ER-020963 CompactChuck PM/PA





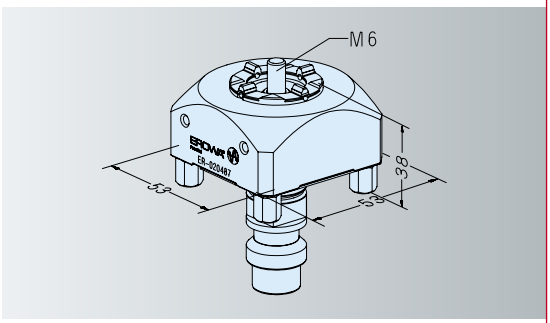
Version On 106 x 106 mm clamping plate.
Connections On the side on clamping plate.
Application On milling, grinding and EDM centers with manual operation.



EROWA
ITS Compact Combi
Compact ITS Adapter

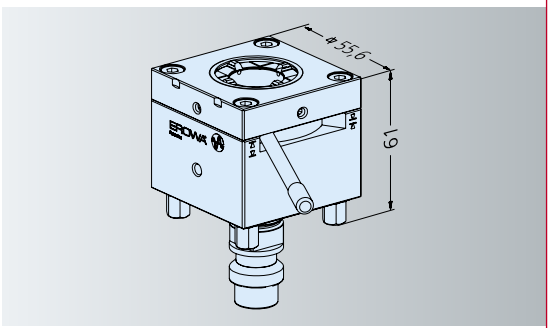
ER-020487 Compact ITS Adapter

Version ITS system size 50, lock with central locking bolt. Prepared to accommodate chip holder for EWIS chip.
Operation Tighten central locking bolt.
Application System adapter Compact - ITS.



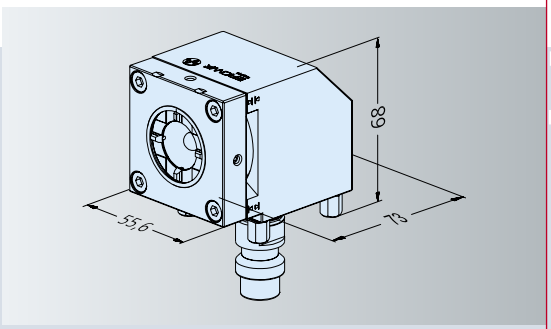
ER-029985 Compact ITS Adapter Chuck

Version ITS system size 50, QuickChuck lock.
Operation Rapid-action lock with lever.
Application As an independent chuck on machines which are equipped with ITS as a standard.



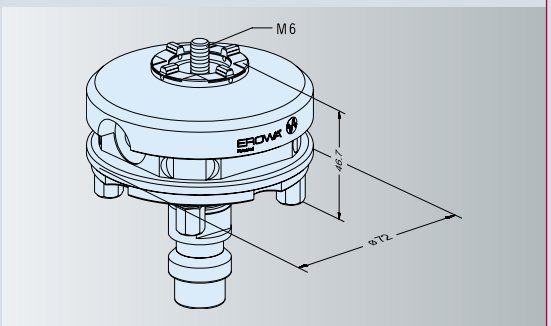
ER-029988 Compact ITS angle adapter

Version ITS system size 50, System QuickChuck. 90° angle.
Operation Rapid-action locking with lever.
Application Rapid-action interface between EROWA Compact and ITS.



ER-036272 Compact ITS Adapter ø 72

Version ITS system size 50 ø 72. Lock with central locking bolt. Prepared for chip holder identification system.
Operation Tighten central locking bolt.
Application System adapter Compact - ITS 50 ø 72 mm.

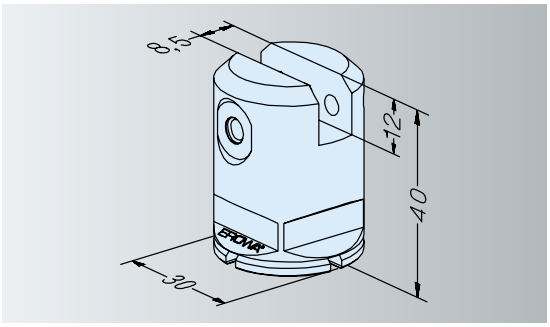


EROWA®

ER-017532 Compact Uniholder





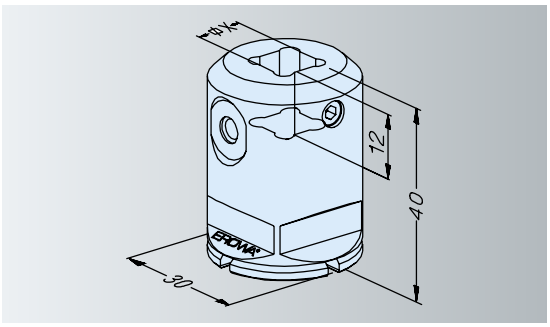


Version Set of 18 units.
Without chucking spigot.
Application To hold blanks up to 8 mm width.
To fit blank Insert and tighten M5 bolts.

ER-017529 Compact Prisround 10 mm
ER-017530 Compact Prisround 15 mm





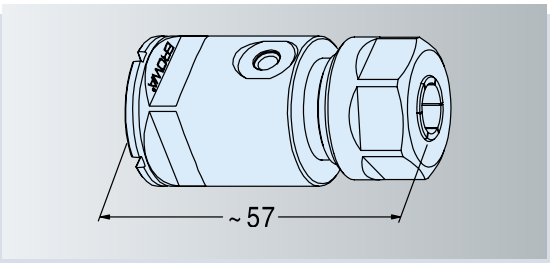


Version Set of 18 units.
Without chucking spigot.
Application To hold blanks with shaft of up to X = 10 (15) mm square.
Mounting Insert and tighten M5 bolts.

ER-034045 Compact Collect Chuck Holder







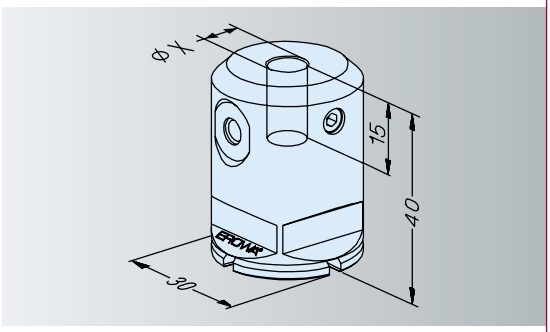
Version One unit.
Application To hold cylindrical parts with respective diameter.
Please note Order collect chucks ER 16 separately.

ER-002394 Collet chuck ER16 ø 2 mm
ER-002395 Collet chuck ER16 ø 3 mm
ER-002396 Collet chuck ER16 ø 4 mm
ER-002397 Collet chuck ER16 ø 5 mm
ER-002398 Collet chuck ER16 ø 6 mm
ER-002399 Collet chuck ER16 ø 7 mm
ER-002400 Collet chuck ER16 ø 8 mm
ER-002401 Collet chuck ER16 ø 9 mm
ER-002402 Collet chuck ER16 ø 10 mm



Version Clamping range 1 mm per collet chuck. Fits Collet Chuck Holder ER-017531.

ER-017533	Compact Electrode Holder 8 mm
ER-017535	Compact Electrode Holder 10 mm
ER-017534	Compact Electrode Holder 12 mm
ER-017536	Compact Electrode Holder 16 mm

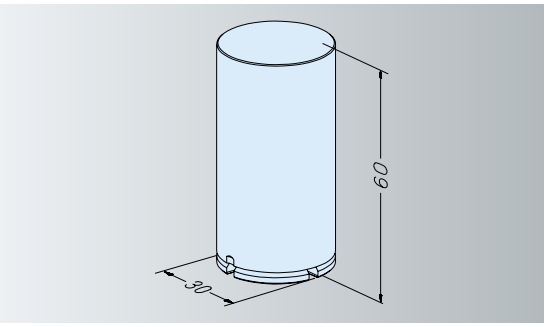


INOX auto

Version Set of 18 units.
Without chucking spigot.
Application To hold cylindrical parts with respective diameter.
Mounting Insert and tighten M5 bolts.

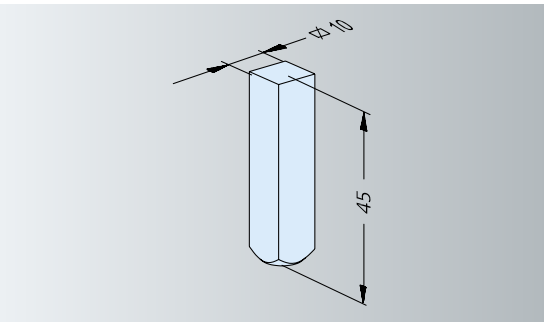
ER-019512 Compact Electrode ø 30 x 60

Version Electrode copper.
Set of 18 units. Without chucking spigot.
Application To produce electrodes up to ø 30 mm.



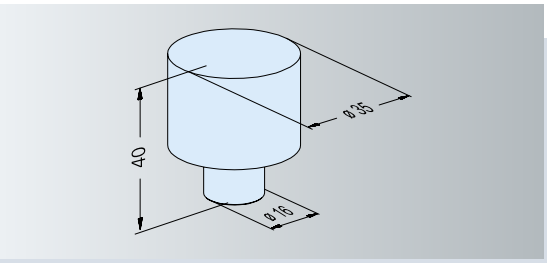
ER-030161 Compact electrode 10 x 10 x 45

Version Electrode copper. Set of 36.
Application Production of electrodes of up to 10 x 10 mm.



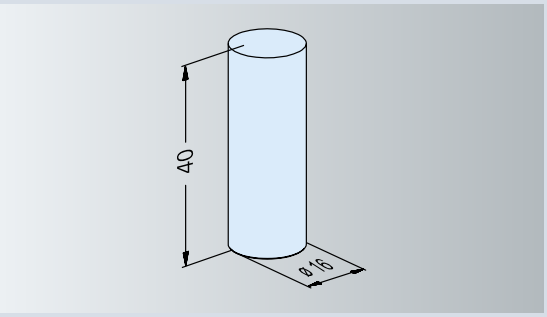
ER-030162 Compact electrode ø 16 / ø 35 x 40

Version Electrode copper. Set of 15.
Application Production of electrodes of up to ø 35 mm.



ER-030163 Compact electrode ø 16 x 45

Version Electrode copper. Set of 36.
Application Production of electrodes of up to ø 16 mm.



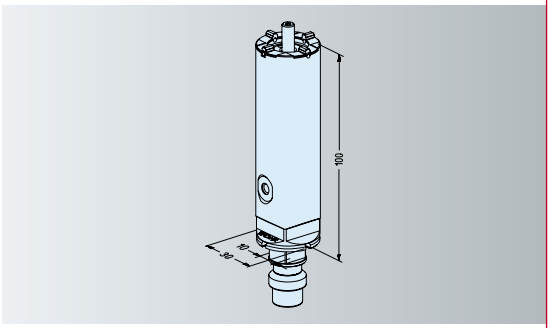
EROWA
ITS Compact Combi
Accessories

ER-017982 Compact Extension 100 mm





Version Shaft ø 30 x 100 mm.
Application Extends the electrode by 100 mm.
Operation Lock via central bolt through shaft.

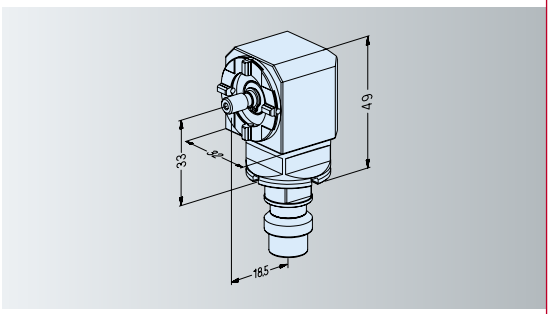


ER-017984 Compact Angle Chuck





Version Compact Chuck at 90° angle.
Operation Central locking bolt.
Application Change from vertical to horizontal machining position.

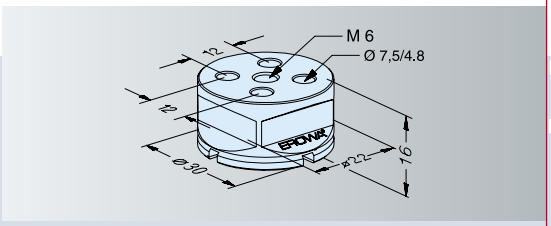


ER-029015 Compact Standard Holder





Version Set of 20 per package, without chucking spigot.
Application To fit electrodes and workpieces.
Note Attach blank through the center with the chucking spigot bolt or through the holder with four M4 bolts (option ER-023125, 100 M4 x 14 socket head bolts).

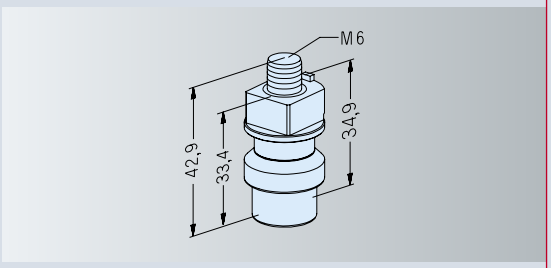


ER-029098 Compact chucking spigot Combi



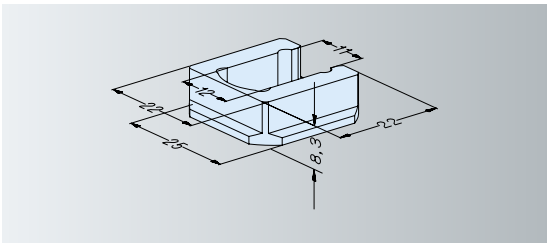


Version Set of 20.
Application To accommodate all the compact electrodes and electrode holders in ITS-Compact-CombiChucks and electrode changers. For handling with the EROWA Combi gripper.



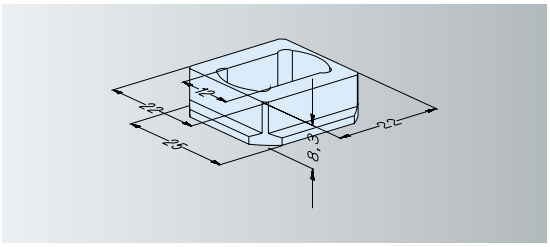
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ER-021486 Chucking spigot clip



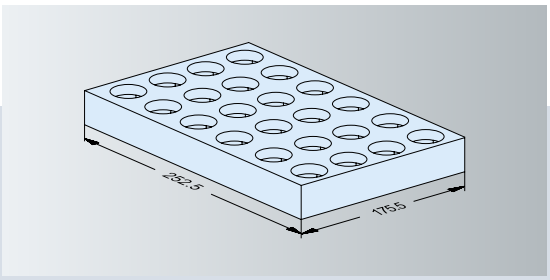
Version Plastic, set of 20.
Mounting To ITS chucking spigots F/A.
Application To clip on ITS chucking spigots F/A. To change ITS electrode holders and electrode holders with the EROWA Combi gripper.

ER-021524 Chucking spigot clip, closed



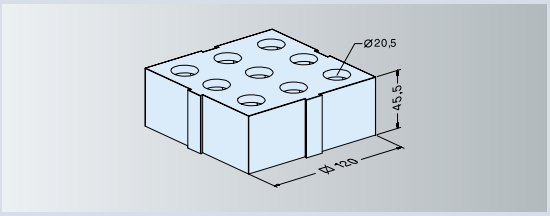
Version Plastic, set of 20.
Mounting To ITS chucking spigots F/A.
Application To fit to ITS chucking spigot F/A. To load/unload ITS electrodes and electrode holders with EROWA Combi grippers.

ER-020958 Compact System stand 24-fold



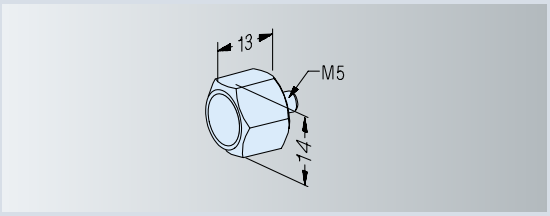
Version Styrene, set of 10.
Application Storage and transport of 24 parts each. Compact electrodes ø 30 mm, with fitted Compact chucking spigot.

ER-022045 System stand Compact Combi



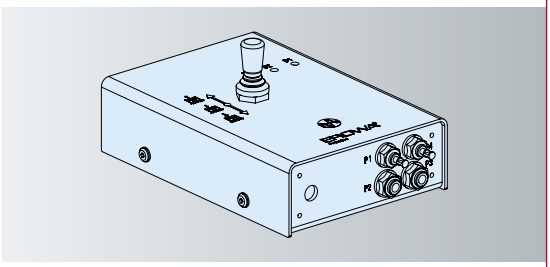
Version Plastic, set of 10.
Application Storage of 9 parts each. Compact electrodes with fitted Compact chucking spigot Combi.
Note The system stands can be fitted together to fill an entire surface, i.e. that of a drawer.

ER-035154 EWIS Holder SW 14 with Chip



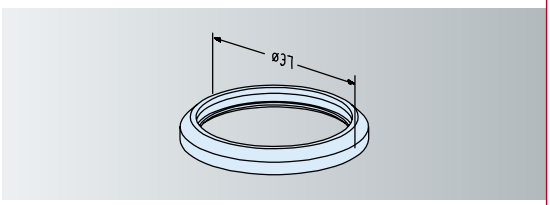
Version Sleeve fitting with built-in datacarrier.
EWIS Chip: read only.
Application In any EROWA electrode holder and pallet which have been prepared for it.

ER-008988 Manual control unit



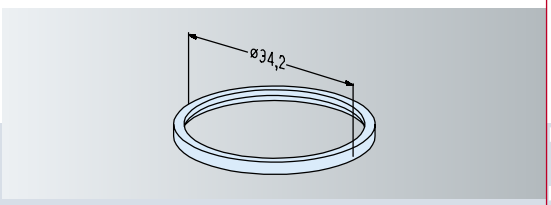
Version Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC. Open/reclamp/clean.
Application Operation of chucks on machines.

ER-022921 Chip guard for CompactChuck



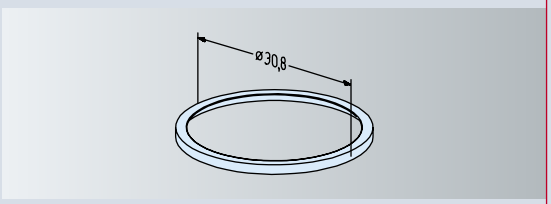
Version Rubber seal to attach to all the CompactChucks. Set of 10.
Application Protects CompactChuck and prevents the intrusion of liquids and chips. To be used in combination with sealing ring ER-022922.

ER-022923 Chip guard for CombiChuck



Version Plastic seal, set of 10.
Application Protects CombiChuck and prevents the intrusion of liquids and chips. To be used in combination with sealing ring ER-022922 or Combi sealing ring ER-022924.

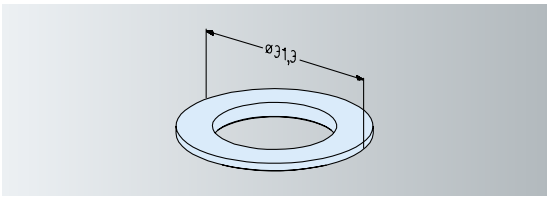
ER-022922 Sealing ring for Compact holder



Version Rubber seal, set of 50.
Application To be fitted to Compact holder. In combination with chip guards ER-022921 or ER-022923, this prevents the intrusion of liquids and chips into the CompactChuck and the CombiChuck.

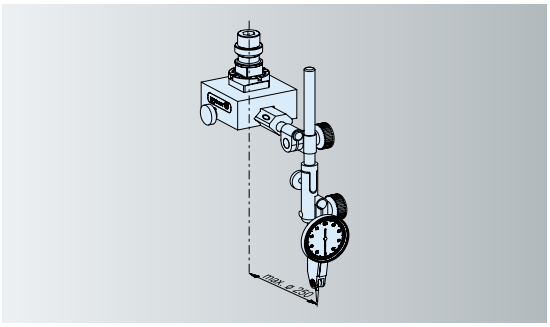
EROWA

ER-022924 Combi sealing ring/ ITS chucking spigot



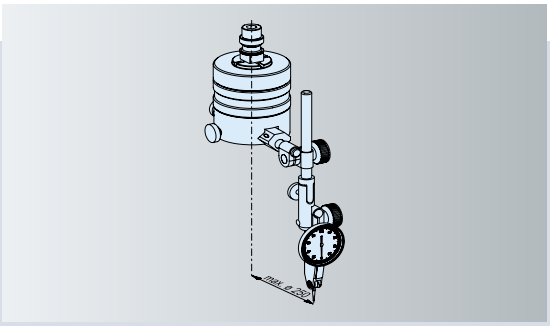
Version Plastic seal, set of 20.
Application To be fitted to ITS chucking spigots. In combination with the chip guard ER-022923, this prevents the intrusion of liquids and chips into the CombiChuck.

ER-019979 Compact centering equipment, fixed



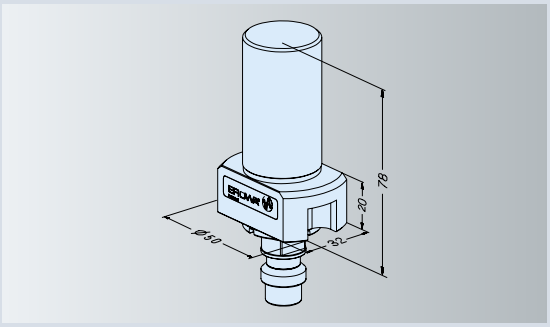
Version Holder with slide and metric dial gauge. Gradation: 0.01 mm.
Application Centric alignment of workpieces on machines with C-axes or rotation spindles.

ER-019951 Compact centering equipment, rotate



Version Holder with slide and metric dial gauge. Gradation: 0.01 mm.
Application Centric alignment of workpieces on machines without rotation axis.

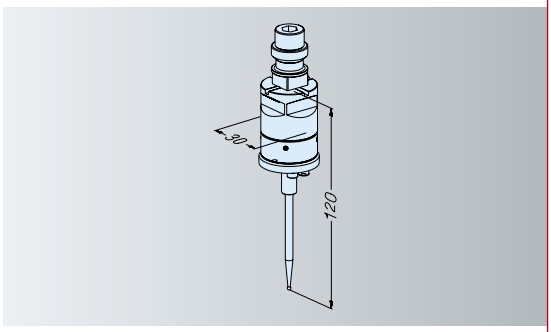
ER-017541 Compact checking pin



Version Hardened, ground, corrosion-resistant.
Application To align radial, axial and angular position of Compact chucks.

EROWA
ITS Compact Combi
Measuring equipment

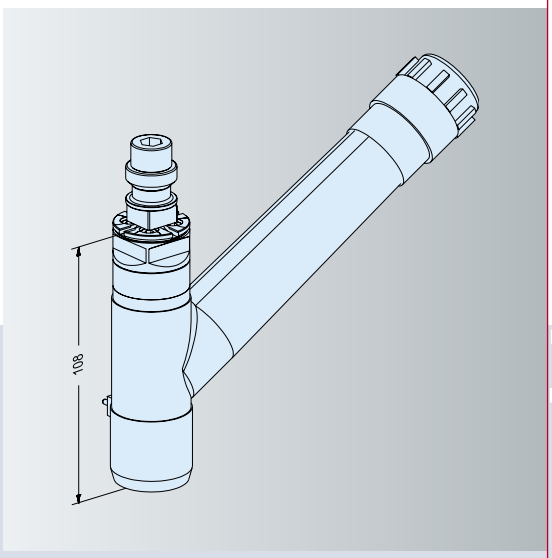
ER-019473 Compact ball probe ø 2 mm
ER-019474 Compact ball probe ø 5 mm



Version Version with spring-mounted probe and carbide bolt.
Overrun protection: X-, Y-, Z-axes, 0.3 mm.
Repeatability: X-, Y-, Z-axes, 0.002 mm.

Application Automatic measuring of workpieces in CNC EDM centers.

ER-032466 Compact Microscope



Version Magnification: 40x
Supply voltage: 12 Volt
Lighting: 6 Volt
Adapter: 110/220 Volt.

Application Determination of measurements on complicated contours. The pointed checking pin serves to adjust the optic position.

EROWA

Compact Electrode holder Set

We have compiled a helpful set for the introduction of the EROWA Compact System. Additional material, particularly consumable parts, can be ordered according to your requirements.

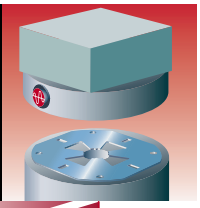


ER-018858 Compact Electrode holder Set

The material is packaged in a practical plastic box.

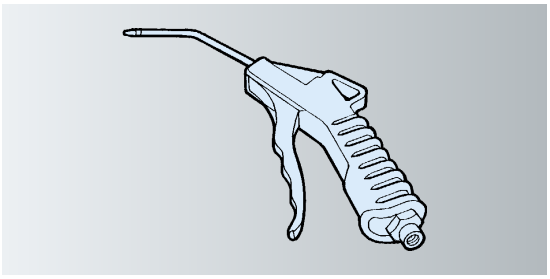
Article number	Description	Number of units in the set	Number supplied according to article number
000682	Stud bolt M5 x 8	4	1
018293	Stud bolt M5 x 10	12	1
018294	Stud bolt M5 x 6	16	1
ER-017529	Compact Prisround 10 mm	4	18
ER-017530	Compact Prisround 15 mm	4	18
ER-017532	Compact Uniholder	2	18
ER-017533	Compact Electrode holder ø 8 mm	2	18
ER-017535	Compact Electrode holder ø 12 mm	2	18
ER-017536	Compact Electrode holder ø 16 mm	2	18
ER-029015	Compact Standard holder	6	20

Order chucking spigots according to requirements.



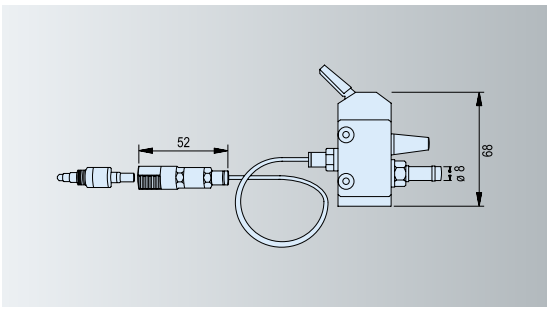
EROWA®

ER-001846 Air jet



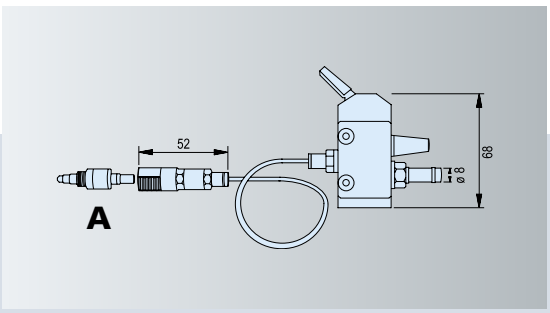
Version Plastic, smooth regulation of air flow, connection 1/4", inside thread.
Application Operation of manual chucks.

ER-010538 Manual valve



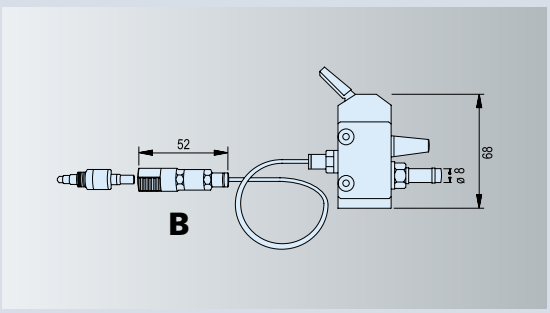
Version Lever valve, incl. 2 m hose and coupling fittings A and B.
Application Operation of chucks with an air connection for opening.

ER-011598 Rapid-action coupling – chuck side (A)



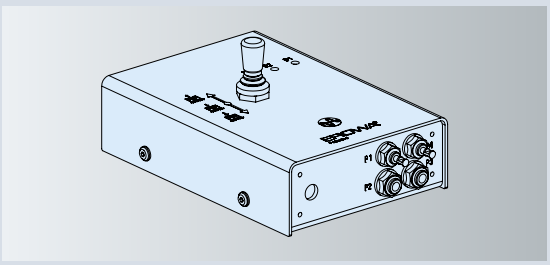
Version Fast coupling for compressed air.
Application Screw into a suitable EROWA chuck. Cf. manual.

ER-011597 Rapid-action coupling – hose side (B)



Version Fast coupling for compressed air
Application For use on the air supply

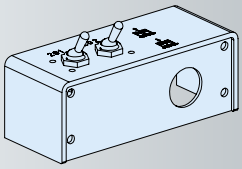
ER-008988 Manual control unit



Version Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC. Open/reclamp/clean.
Application Operation of chucks on machines.

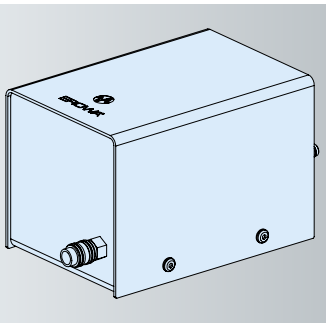
ER-039466 Additional valve, double

Version For mounting to the manual control unit ER-008988, incl. set of hoses.
Application Operating of two separate chucks with one single control unit.



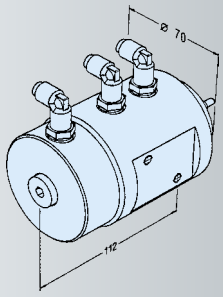
ER-010520 Pressure booster

Version Quick-connect couplings for hose ø i = 8 mm.
Output pressure: 8 bar. Compression ratio: 1:2
Application On insufficient system pressure and on pressure fluctuations.
Installation Integrate in air circuit near application.



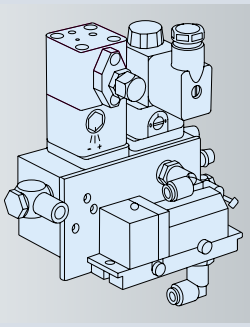
ER-011362 Twin rotatable pneum. con.
ER-011412 Triple rotatable pneum. con.

Version Non machine specific connection flange. Two (three) air lines.
Max. speed: 6000 rpm.
Max. operating pressure: 10 bar.
Application Air supply to EROWA chucks on rotatable spindles.
Operation Only operate when spindle is at stand still!



ER-010590 Control unit with monitoring

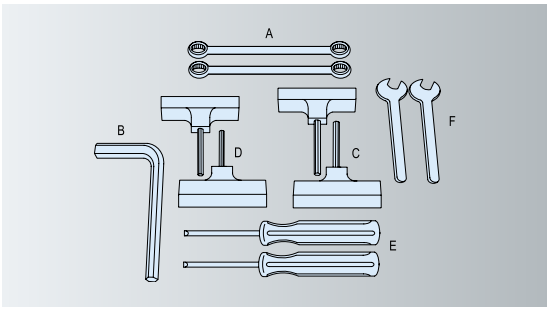
Version Electropneumatic valve. Outputs for chuck: open/clean/reclamp. 24 V, incl. mounting accessories and 3 m connection hose.
Application Operation and monitoring of machine-integrated chucks via e.g. M-function.



EROWA

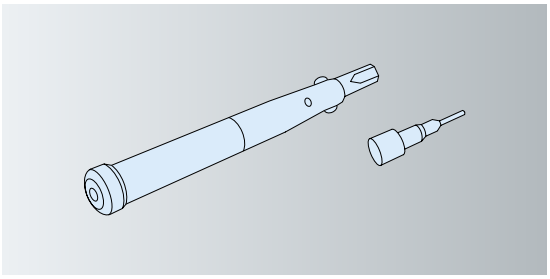
ER-010906 Set of tools

Application
A = Box wrench 8/10 mm for supporting feet M5
B = Key 8 mm for chucking spigot
C = Key with handle 4 mm
D = Key with handle 3 mm
E = Screwdriver for slotted screws in Uniplate
F = Open-end wrench 8 mm



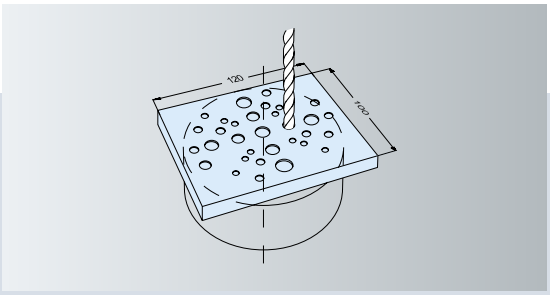
ER-011600 Torque wrench

Version Torque range up to 20 Nm, inc. 3, 4, 5 mm key and one WS 8 mm bit.
Application Service and fitting work on ITS system parts.



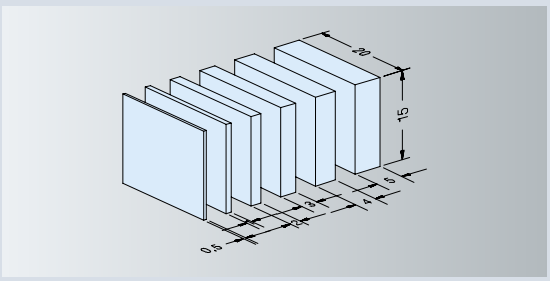
ER-010710 Drilling template

Version Steel, hardened, precision guide bores.
Application Fast drilling of hole pattern for ITS centering plates 50 and 100.



ER-010532 Insert plates

Version Set of 300 plates. Corrosion-resistant. Thicknesses from 0.5 mm to 5 mm.
Application Centering of blanks in electrode holders.

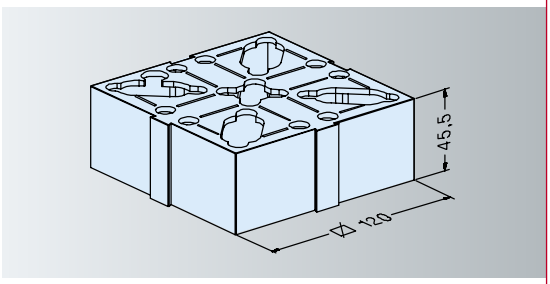


ER-010514 Insert plates 0,5 mm
ER-010518 Insert plates 1 mm
ER-010521 Insert plates 2 mm
ER-010523 Insert plates 3 mm
ER-010525 Insert plates 4 mm
ER-010526 Insert plates 5 mm

Version Set of 50 plates. Corrosion resistant.

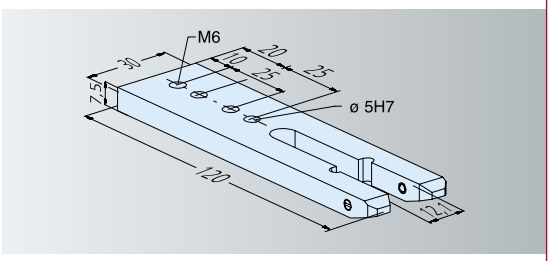
ER-013913 System stand

Version Plastic, set of 10.
Application As a rack for four electrode holders 50 or a pallet ø 115/148 mm.
Please note System racks can be stuck together without any gaps, e. g. to be stored in drawers.



ER-010661 Carrier fork

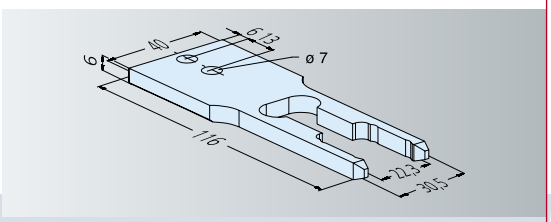
Version Steel, hardened, ground.
Application To build simple electrode changers, suitable for ER-007521 and ER-007523



ER-023712 Pick-up fork Combi

INOX

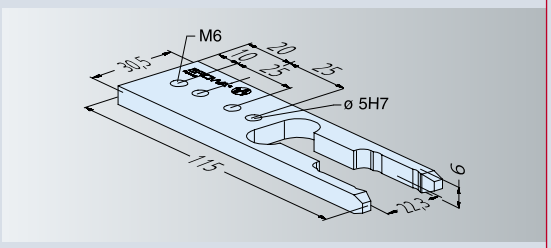
Version Corrosion-resistant steel.
Application To refit to AGIE linear changers on the EROWA ITS Compact CombiChuck.



ER-024808 Pick-up fork Combi

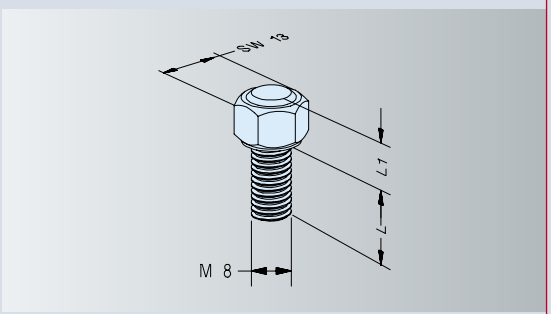
INOX

Version Corrosion-resistant steel.
Application To make simple electrode changers suitable for chucks ER-020025 and ER-020026.



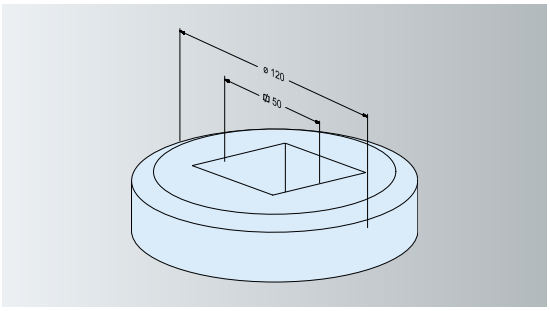
ER-022457 Support. Foot, SW 13H, L = 16, L1 = 11.4
ER-008547 Support foot, SW 13, L = 16, L1 = 10.2
ER-008553 Support. foot SW 13, L = 21, L1 = 10.2

Application Set of 20 feet supporting, foot
L = 16 for punched centering plates,
L = 21 for the G centering plates.



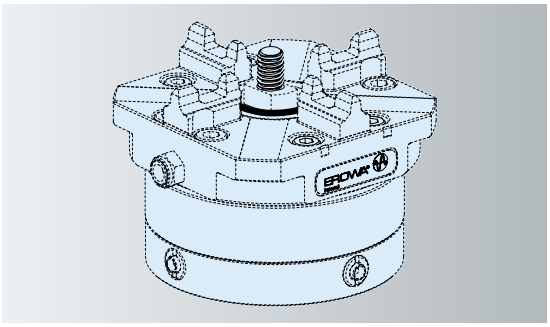
ER-010744 Chip guard 50 x 50 mm for Rapid-action chuck

Application On Uniplate, Prisround and all other standardholders.



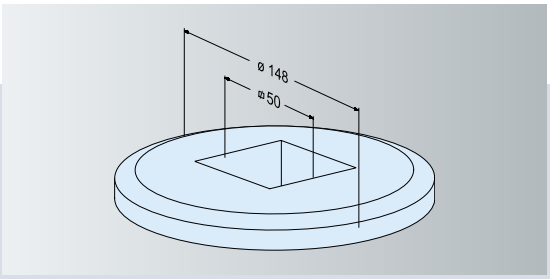
ER-022355 O-ring for Rapid-action chuck

Application Set of 50 sealing rings. Sealing between chucking spigot and Rapid-action chuck.



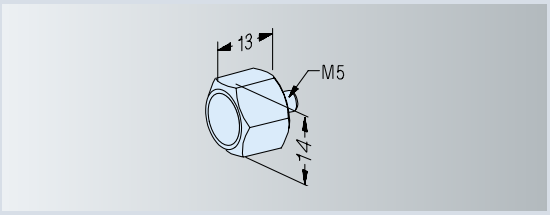
ER-008475 Chip guard 50 x 50 mm for power chucks

Application On Uniplate, Prisround and all other standard holders.



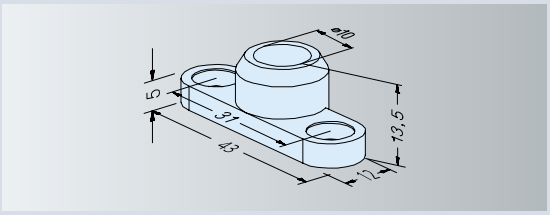
ER-035154 EWIS Holder SW 14 with Chip

Version Sleeve fitting with built-in datacarrier.
EWIS Chip: read only.
Application In any EROWA electrode holder and pallet which have been prepared for it.

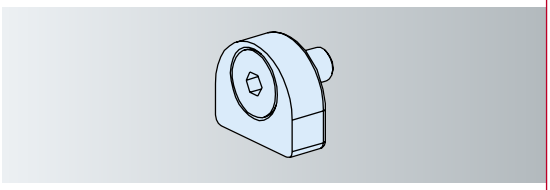


ER-035156 EWIS Chip with holder long

Version Holder with built-in datacarrier.
EWIS Chip: read only.
Application With EROWA Collet Chuck holders and Square 15/25 holders.
Mounting With supplied M4 bolts.



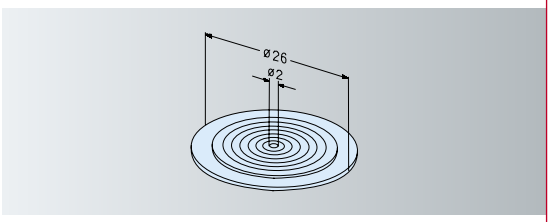
ER-035294 EWIS chip with holder/RCS



Version Holder with built-in datacarrier.
EWIS Chip: read only.

Application To build into RCS coupling, PalletSet W holder and Basic WEDM holder.

ER-010694 Sealing washer

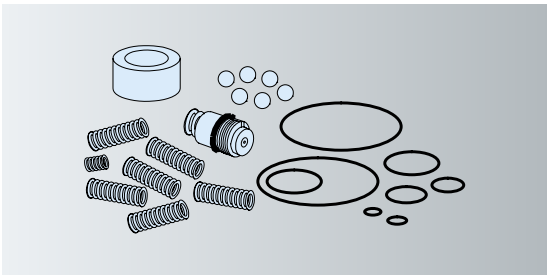


Application Set of 24 washers. Insertion in Prisround for sealing on central flushing.

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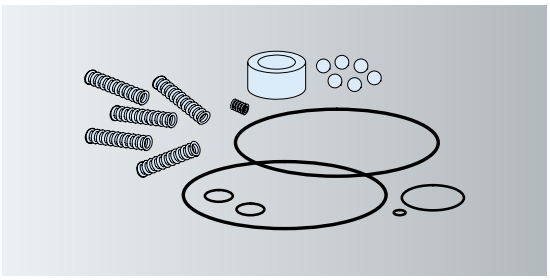
ER-013062 Repair kit, ITS chucks

ER-015985 Repair kit, ITS chucks, INOX



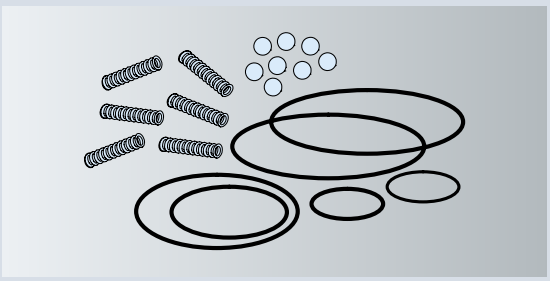
Version All the wear parts of ITS rapid-action chucks.
Application Dismantle chuck according to instructions supplied, replace parts.
Please note Every chuck is supplied with instructions. Please keep in a safe place.

ER-015962 Repair kit PowerChuck P



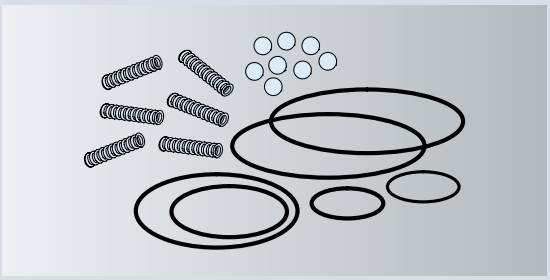
Version All the wear parts of PowerChuck P.
Application Dismantle chuck according to instructions supplied, replace parts.
Please note Every chuck is supplied with instructions. Please keep in a safe place.

ER-023121 UPC repair kit



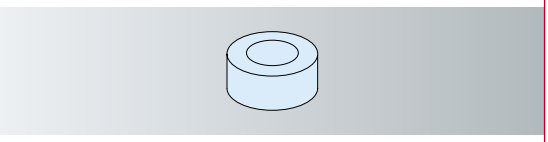
Version All the wearing parts of UPC ER-016092 and ER-016093.
Application Dismantle UPC according to instructions supplied, replace parts.
Note Each UPC is supplied with an operating manual, which you will please keep.

ER-023120 UPC P repair kit



Version All the wear parts of UPC P ER-016841.
Application Dismantle UPC P according to instructions supplied, replace parts.
Note Each UPC P is supplied with an operating manual, which you will please keep.

ER-009007 Viton seal

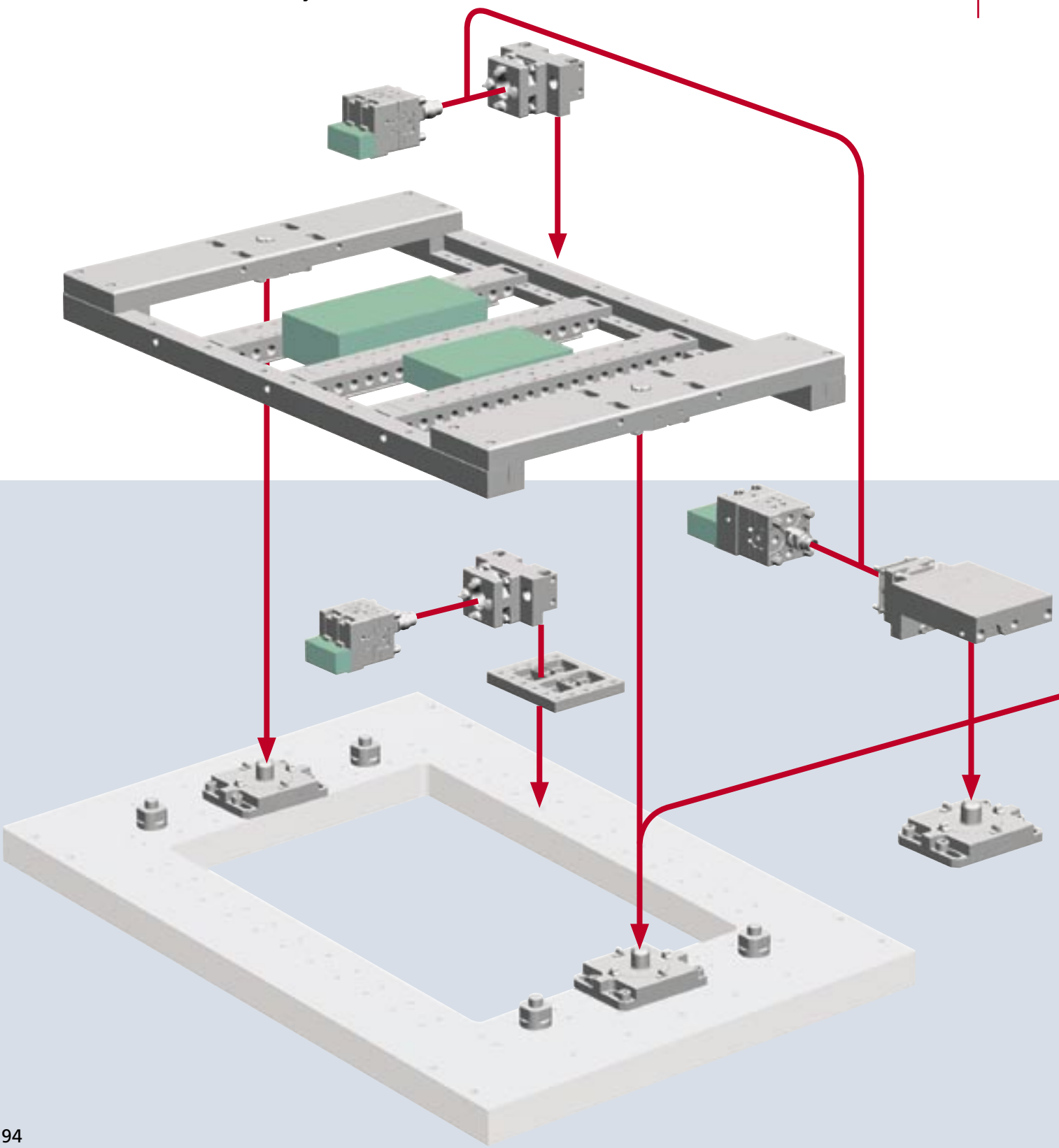


Version Set of 10 seals.
Application To fit ITS rapid-action and power.

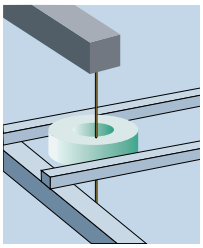
EROWA®

EROWA Wire EDM Tooling

EROWA tooling systems make WEDM centers considerably more flexible and productive. Down-times can be virtually eliminated. Expensive machines can work round the clock.
Our program contains system components for newcomers, for those who would like to extend the use of ITS, and for top-end users.
You define the framework and you are bound to win.

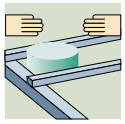


Applications

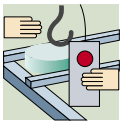


Wire EDM

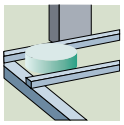
Handling



Manual



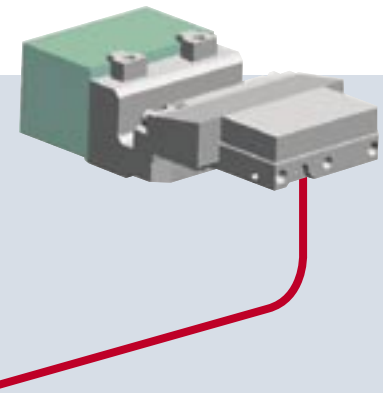
Loading station



Robot

Advantages

- Modular tooling system.
- Single and multiple palletization.
- Repeatability of clamping elements 0.002 mm.
- WEDM basic kits for all popular WEDM centers.
- Can be automated with EROWA handling facilities.



Technical data

	Flat clamping chuck		Chuck RSA 50	QuickChuck 50 RSM
	pneumatic	manual		
Repeatability	0.002 mm	0.002 mm	0.002 mm	0.002 mm
Indexing			4 x 90°	4 x 90°
Clamping power	with reclamping 7000 N	without reclamping 3000 N	2800 N	4000 N
Clamping process	Spring tension	Spring tension	Spring tension	Spring tension
Opening, compressed air, dry	min. 6 bar			min. 6 bar
Operation	pneumatically	mechanically	pneumatically	mechanically
Max. weight of pallet	30 kg (with support)	30 kg (with support)		

EROWA®

Find a workpiece you can´t clamp!

The right solution for every application.
With well-thought-out combinations of vises, clamping elements and clamping beams, any conceivable workpiece can be clamped. The repeatability of EROWA´s Wire EDM tooling system allows for workpieces to be preset outside the machine and for safe automatic loading. Ongoing jobs can be interrupted for express jobs and then continued later.



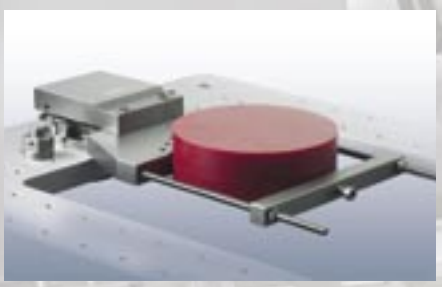
Free access to wire guides even if the workpieces is only a few milimeters thin.



The flat vise for free wire-guide access.



Use removable supports where they make sense. Thread in EDM wire through the special grooves.



Special fixture for **cylindrical parts**. Fitted to a pendulum holder, the workpiece can be adjusted in three axes.



Combination of frame and UnoSet for electrode machining.

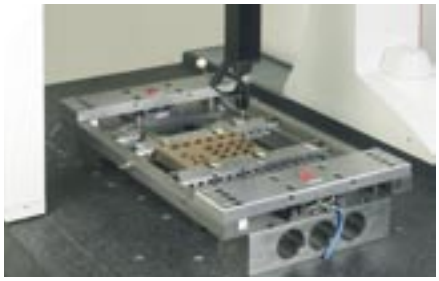


Adjustable in all axes: the pendulum holder with fitted flat vise.

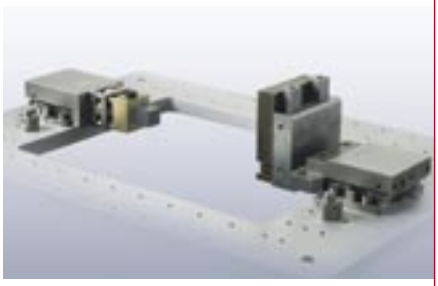




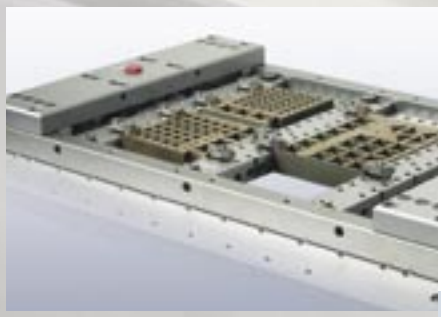
Presetting the workpieces saves time.



PreSet 3D CNC – presetting made easy. While the WEDM center is in operation, the next job is being preset quickly and accurately on the EROWA PreSet station.



Single palletization in a manned shift: this is where the tricky jobs are done.





EDM electrode holders are positioned on the WEDM center for machining both quickly and with high precision.



EROWA Lift – to take care of your back and easy on the machine.



Loading Robot – for more machine autonomy at night and on weekends.

EROWA®

EROWA Wire EDM Tooling:
clamping elements for all workpieces

Clamping elements
for fixtures

ER-033958

ER-031952

ER-016914

ER-008231

ER-008875

ER-008873

ER-007990

ER-008220

ER-008221

ER-029229

ER-029228


Fixtures
for adapters

ER-018940

ER-025895

ER-018938

ER-019248

ER-038891

ER-039505

ER-031945

ER-017645

ER-030110

ER-018941

ER-025115

ER-018937

ER-028425

ER-036508


Adapters
for interfaces

ER-008814

ER-008842

ER-035294

ER-035156

ER-038710

ER-033974

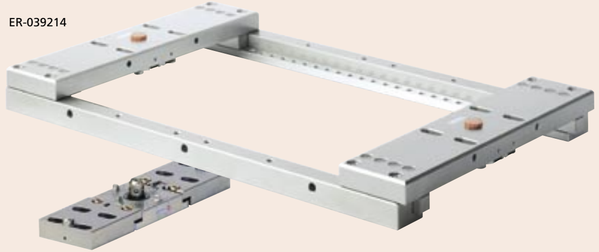
ER-007935

ER-008856

ER-016691

ER-033955

ER-031942

ER-039214

ER-030678

ER-039795

ER-014722

ER-014698

ER-039504

ER-037888

ER-032035

ER-030923

ER-033933

ER-012727

ER-007877

ER-038711

ER-028471

Interfaces
to machine table

ER-040641

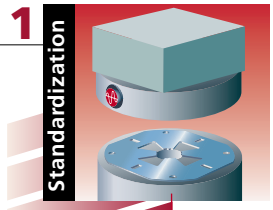
ER-035714

ER-035715

ER-017198

ER-007852

ER-022583



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 Combi gripper
12. Handling with EROWA Robot gripper 72
13. Handling with EROWA Robot gripper 115
14. Handling with EROWA Robot gripper 148
15. Handling with EROWA RCS gripper

For chip-removing processes

For EDM sinking

For WEDM

EROWA Wire EDM Tooling

Interfaces to machine table	202
Adapters for interfaces	207
Fixtures for adapters	213
Clamping elements for fixtures	222
Wire EDM Tooling system accessories	225
Wire EDM Tooling Kits	230
Clamping equipment sets	232
Wire EDM Tooling - PM Chuck	240

EROWA

Interfaces to machine table

Technical data	Flat chuck	
	pneumatic	manual
Repeatability	0.002 mm	0.002 mm
Clamping power	with reclamping	without reclamping
	7000 N	3000 N
Generated by	spring power	mechanic
Opening with compressed air, dry	min. 6 bar	
Operation	pneumatic	manual
Max. pallet weight	30 kg (with support)	30 kg (with support)

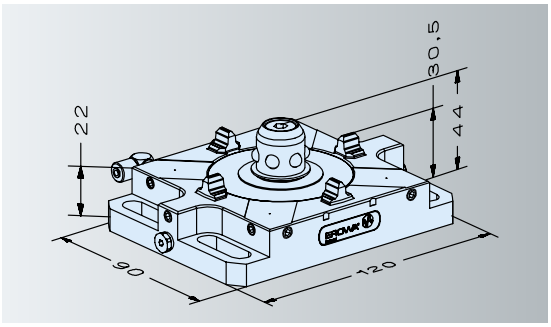
ER-035714 Flat chuck (FSF) pneumatic PalletSet W / FrameSet



Version Pneumatic chuck for a direct fit to the Z = 0 base of the WEDM center.

Application On WEDM centers with manual or automatic workpiece loading.

Connections On the side for opening, cleaning, reclamping.



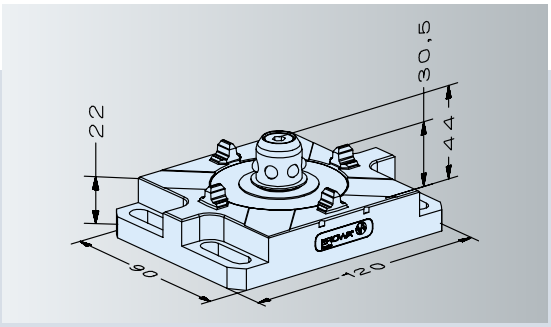
ER-035715 Flat chuck (FSF) manual PalletSet W / FrameSet



Version Mechanical chuck for a direct fit to the Z = 0 base of the WEDM center.

Application On WEDM centers with manual workpiece loading.

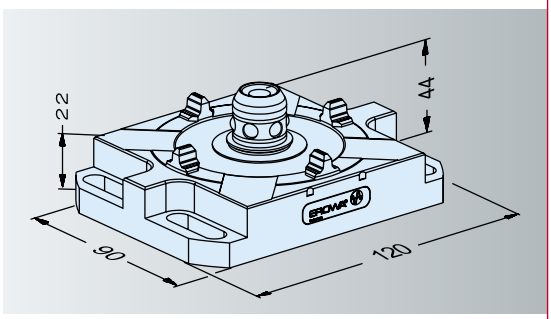
Operation With a manually operated ball lock.



Technical data	Basic WEDM chuck manual
Repeatability	0.002 mm
Clamping power	without reclamping 8000 N
Generated by	mechanic
Operation	manual
Max. pallet weight	15 kg (without support)

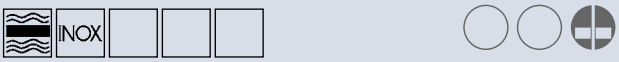
ER-040641 Basic WEDM chuck Basic Tooling FrameSet Basic

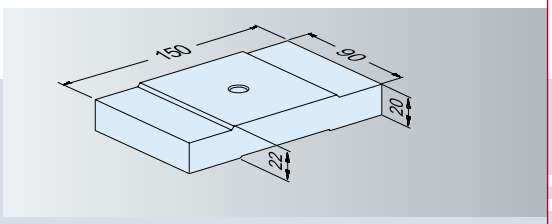




Version Mechanical chuck for a direct fit to the Z = 0 base of the WEDM center.
Application On WEDM centers with manual workpiece loading.
Operation With a manually operated ball lock.

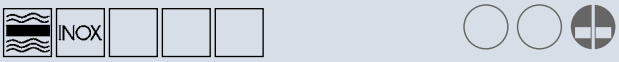
ER-042842 Fix plate for FrameSet Fix 150 mm FrameSet Fix

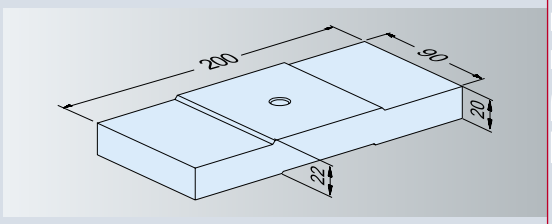




Version Plate to attach the FrameSet clamping frame.
Application On WEDM centers with FrameSet clamping frames, to be mounted directly on the Z=0 base.
Mounting to the base according to operating instructions.

ER-040497 Fix plate for FrameSet Fix 200 mm FrameSet Fix





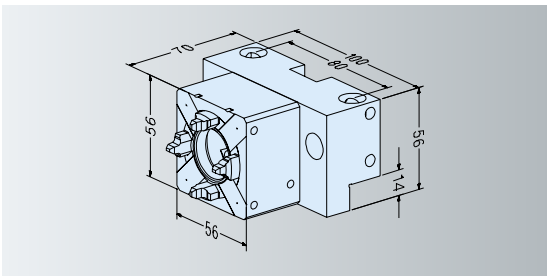
Version Plate to attach the FrameSet clamping frame.
Application On WEDM centers with FrameSet clamping frames, to be mounted directly on the Z=0 base.
Mounting to the base according to operating instructions.

EROWA

Interfaces to machine table

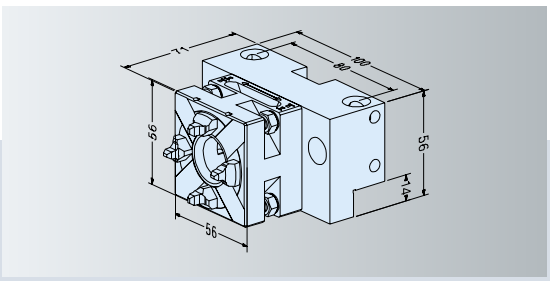
Technical data	Chuck RSA 50	QuickChuck 50 RSM
Repeatability	0.002 mm	0.002 mm
Indexing	4 x 90°	4 x 90°
Clamping power	2800 N	4000 N
Clamping	Spring power	mechanical
Opening with compressed air, dry	min. 6 bar	
Operation	pneumatic	mechanical

ER-007851 Chuck 50 RSA on universal plate UnoSet



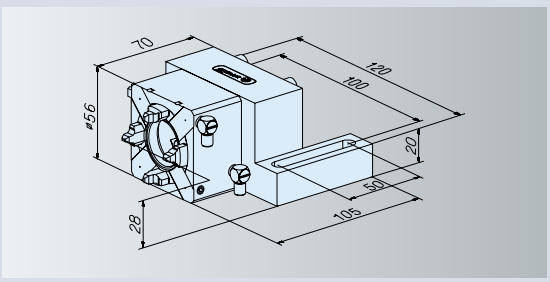
Version Automatic, with pneumatic valve.
Application ITS base for the manual or automatic loading of ITS elements.
Use On all machine bases and FrameSet beams.
Can be used both horizontally or vertically.

ER-007852 Chuck 50 RSM on universal plate UnoSet



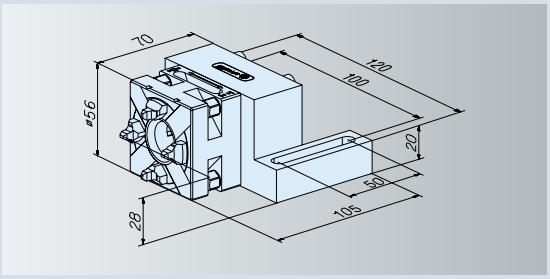
Version Manual.
Application ITS base for the manual loading of ITS elements.
Use On all machine bases and FrameSet beams.
Can be used both horizontally or vertically.

ER-022583 Chuck 50 RSA UnoSet



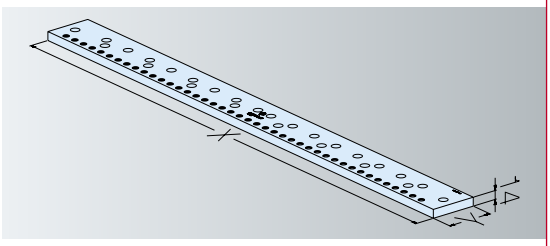
Version Chuck 50 on adapter plate, manual.
Application To be fitted directly to any machine bases with attachment boreholes in a 100 mm grid.

ER-022584 QuickChuck 50 RSM UnoSet



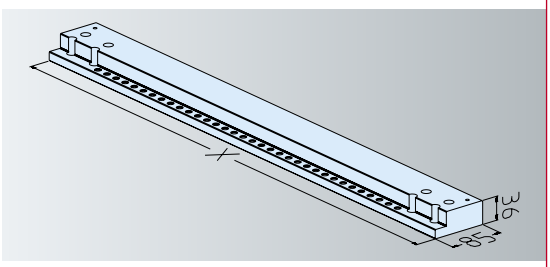
Version Chuck 50 on adapter plate, manual.
Application To be fitted directly to any machine bases with attachment boreholes in a 100 mm grid.

ER-035690 ManoSet rail P Length 890mm XXL



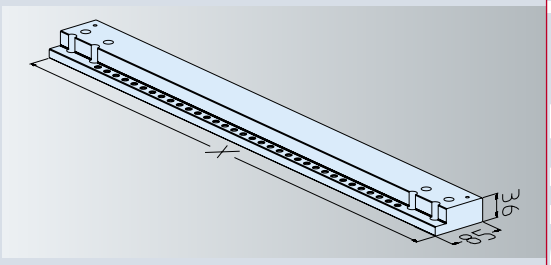
Version Supplied: 1 unit.
Rail for large WEDM centers.
X = 890 mm, Y = 75 mm.
Mounting directly on the Z=0 base.
Application To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 213).
Note ManoSet rail XXL suitable for Sodick AQ 750 L and Makino SP 64 (see page 230/231).

ER-038985 ManoSet rail L Length 850 mm XXL



Version Supplied: 1 unit.
Rail for large WEDM centers.
X = 850 mm.
Mounting directly on the Z=0 base.
Application To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 213).
Note ManoSet rail XXL suitable for Makino EU 64 and SP 64 (see page 230/231).

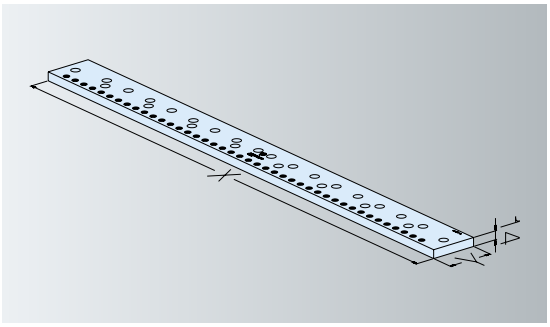
ER-012847 ManoSet rail P Length 947 mm XXL



Version Supplied: 1 unit.
Rail for large WEDM centers.
X = 947 mm.
Mounting Directly on the Z=0 base.
Application To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 213).
Note ManoSet rail XXL suitable for Charmilles CTFI60++ and Sodick AQ 750 L (see page 230/231).

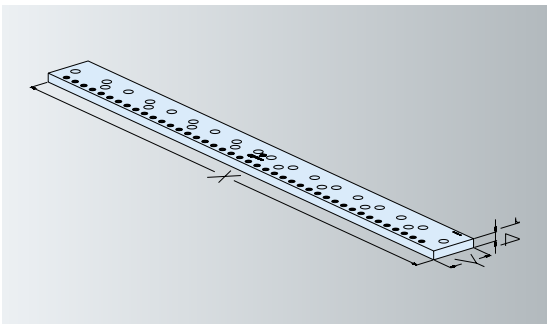
EROWA®

ER-042904 ManoSet rail P Length 890 mm XXL



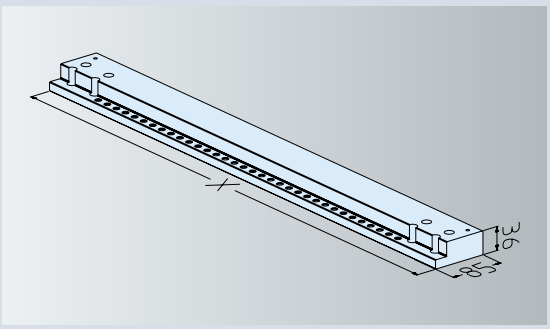
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 890 mm, Y = 75 mm.
Mounting	directly on the Z=0 base.
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 213).
Note	ManoSet rail XXL suitable for Charmilles CT FI 690++ and ONA AE 600 (see page 230/231).

ER-037976 ManoSet rail P Length 830 mm XXL



Version	Supplied: 1 unit. Rail for large WEDM centers. X = 830 mm, Y = 50 mm.
Mounting	directly on the Z=0 base.
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 213).
Note	ManoSet rail XXL suitable for Mitsubishi FA 30 and FX 30 (see page 230/231).

ER-041430 ManoSet rail L Length 1010 mm XXL

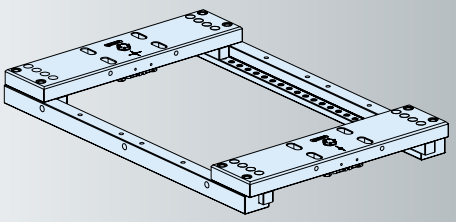


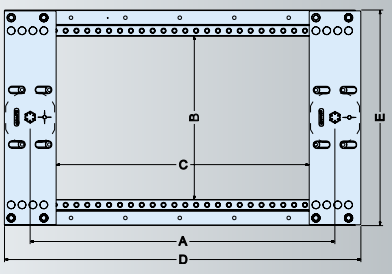
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 1010 mm.
Mounting	directly on the Z=0 base.
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 213).
Note	ManoSet rail XXL suitable for Makino U86 (see page 230/231).

EROWA
Wire EDM Tooling
Adapters for interfaces

ER-039211	Clamping frame 490 FrameSet
ER-039212	Clamping frame 430 FrameSet
ER-039213	Clamping frame 500 FrameSet
ER-039214	Clamping frame 560 FrameSet
ER-039215	Clamping frame 650 FrameSet
ER-039216	Clamping frame 650 FrameSet
ER-039217	Clamping frame 710 FrameSet







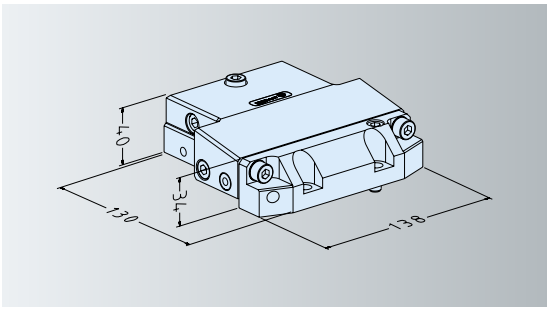
Version Clamping frame for the multiple palletization of workpieces.

Application To fit on EROWA flat chucks and FrameSet Fix plates (see page 203).

Options See Clamping beams and clamping elements for the EROWA Wire Tooling System, starting from page 213.

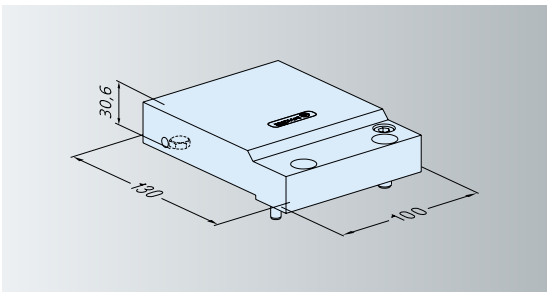
EROWA

ER-030923 Pendulum holder 3D PalletSet W



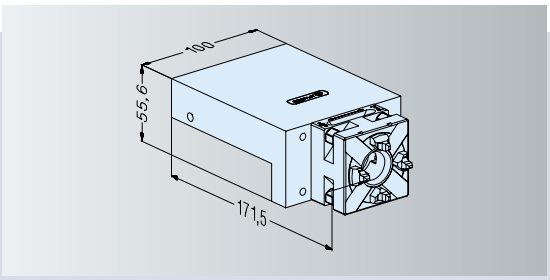
Version	Pendulum head for automatic and manual loading. G-Centerning plates for increased durability.
Application	Basis for all the other clamping elements such as UniVise square, frame pallet, vise and beam pallet.
Note	Adjustable in the X-, Y- and Z-axes. Slim Line Version 15 mm reduced in height for best access of lower wire guide

ER-030678 Fix holder PalletSet W



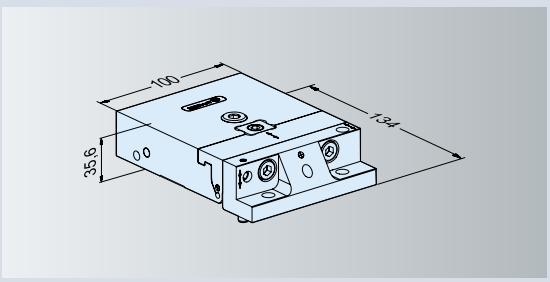
Version	Standard element for automatic and manual loading.
Application	Base for all other clamping elements such as UniVise square, frame plate, vise and beam pallet.
Note	Adjustable in the C-axis.

ER-030645 Uno Set Adapter PalletSet W



Version	System adapter of PalletSet W to UnoSet.
Application	Clamps workpieces of system size ITS 50 horizontally into the work space.
Note	Fits all UnoSet and ITS 50 clamping elements.

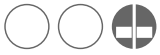
ER-031942 Basic WEDM pendulum holder Basic Tooling



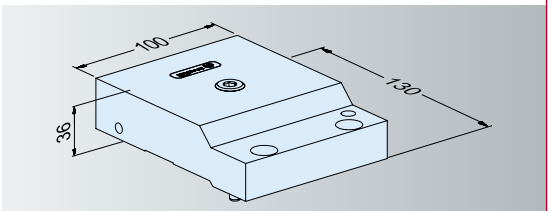
Version	Pendulum head for manual loading.
Application	For use on the Basic WEDM chuck. As a basis for all other clamping elements like UniVise, square, vise and beam pallet.
Note	Adjustable in the X-, Y- and Z-axes.

ER-033955 Basic WEDM fix holder Basic Tooling





Version	Standard element for manual loading.
Application	For use on the Basic WEDM chuck. As a basis for all other clamping elements like UniVise, square, vise and beam pallet.
Note	Adjustable in the C-axe.

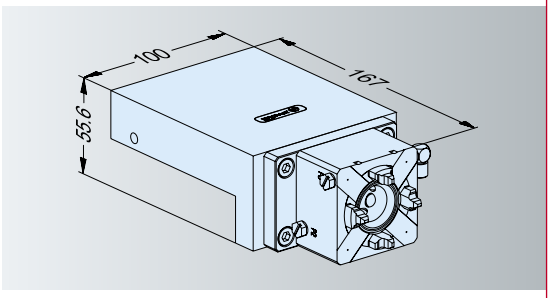


ER-030643 Adapter UnoSet with RSA 50 PalletSet W





Version	System adapter from Palletset W to UnoSet.
Application	Clamps workpieces of the ITS 50 system size horizontally into the workspace.
Clamping power	2800 N
Note	Suitable for all UnoSet and ITS 50 clamping elements.

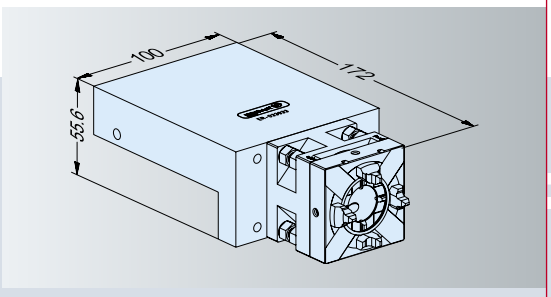


ER-033933 PSW Adapter QuickChuck 50 Combi PalletSet W





Version	System adapter from Palletset W to UnoSet and/or Compact.
Application	Clamps workpieces of the ITS 50 and Compact system sizes horizontally into the workspace.
Note	Suitable for all UnoSet and ITS 50 clamping elements and Compact clamping elements.

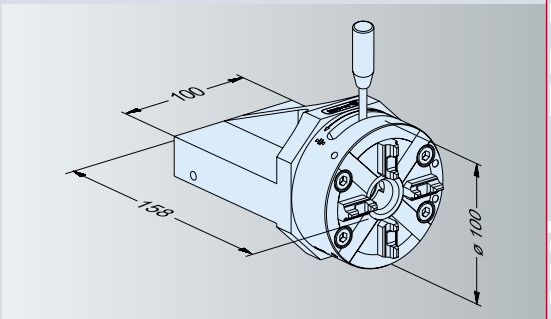


ER-033974 PSW Adapter QuickChuck 100 PalletSet W





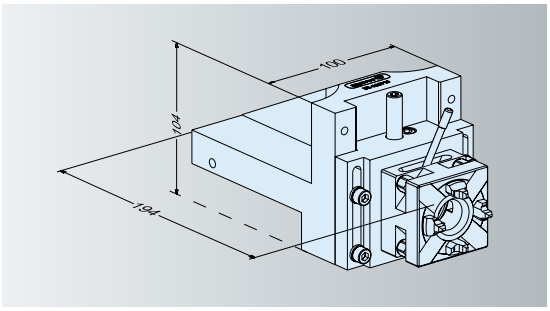
Version	System adapter from Palletset W to UnoSet, ITS 50, holder ø 72, and pallets 148, 115.
Application	Clamps workpieces of the ITS 50 and ITS 100 system sizes horizontally into the workspace.
Note	Suitable for all UnoSet clamping elements.



EROWA

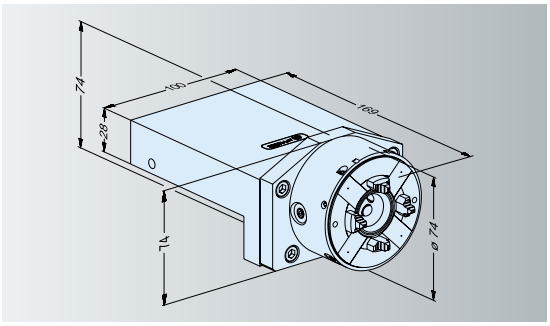
Adapters for interfaces

ER-038710 Adapter Z-Vario PalletSet W / UnoSet



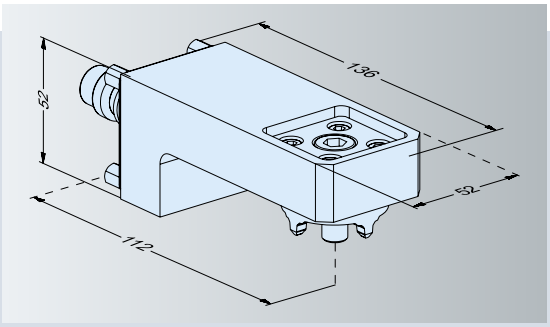
Version	System adapter from Palletset W to UnoSet. Z-axis height adjustable.
Application	To clamp UnoSet and electrodes/workpieces in the ITS 50 system size horizontally into the work-space.
Note	Suitable for use with the whole ITS 50 system and electrode holders.

ER-039795 Holder ø 72 PalletSet W



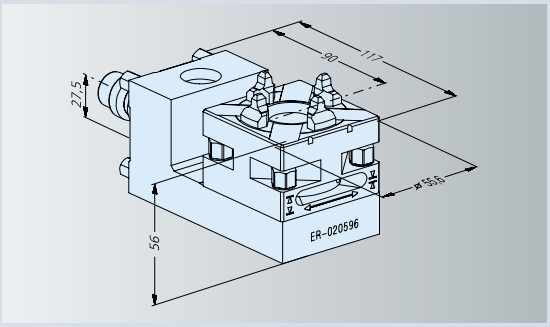
Version	System adapter from Palletset W to ITS 50 holder ø 72
Application	Clamps workpieces of holder ø 72 size horizontally into the workspace.
Operation	Pneumatically with air jet.
Note	Suitable for all holders ø 72 and ITS 50.

ER-038711 Extension arm Z-Vario PalletSet W / UnoSet



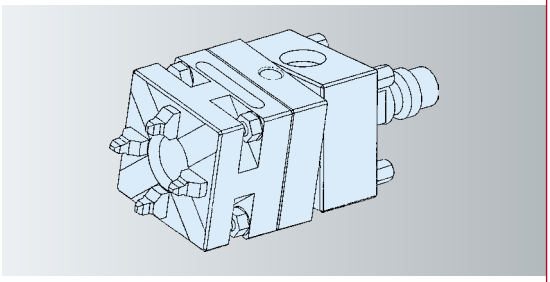
Version	Extension arm with centering system connection to ITS 50. Accommodates workpieces and electrodes.
Application	Accommodation of workpieces and electrodes for machining in a horizontal or vertical position.
Load	Max. 6 kg
Note	Can be used in combination with adapter Z-Vario PSW/UnoSet. Indexation around 4x90°.

ER-020596 Extension arm UnoSet



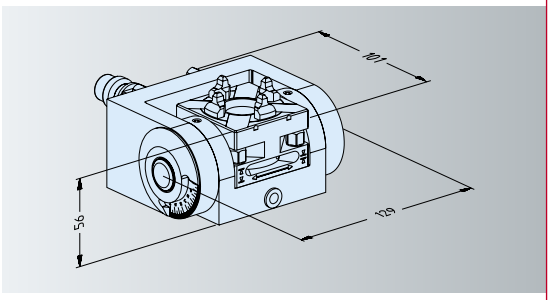
Clamping range	80 mm
Max. load	6 kg
Version	The extension arm UnoSet with QuickChuck 50 is suitable for the accommodation of workpieces and electrodes that have to be machined in a vertical and in a horizontal position.
Note	Indexable around 4x90°.

ER-007877 TurnFix 50 UnoSet



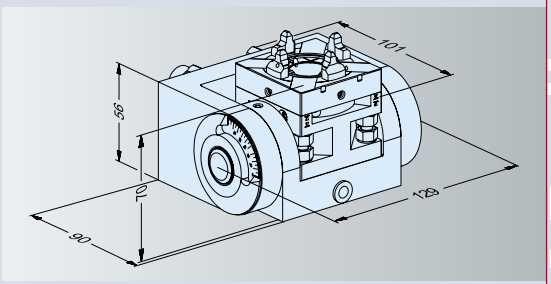
Version	Chuck 50, manual, with ITS base plate, continuously able to rotate round 360°.
Application	ITS base for the manual loading of ITS elements carrying workpieces that require angular positions.
Use	On any ITS chuck of system size 50.

ER-028471 Angled clamping unit for QuickChuck 50 UnoSet



Version	Chuck 50, angle to be set with the vernier.
Application	WEDM or EDM. To fit lateral sprues to casting tools.
Max. load	6 kg.
Max. workpiece size	100 x 100 x 100 mm.
Connections	Flushing connection in place.

ER-027640 Angled clamping unit for CompactChuck 50 Combi UnoSet



Version	CompactChuck 50 Combi. Angle to be set with the vernier. Angled clamping unit made of corrosion-resistant steel.
Application	WEDM or EDM.
Connections	Flushing connection in place.

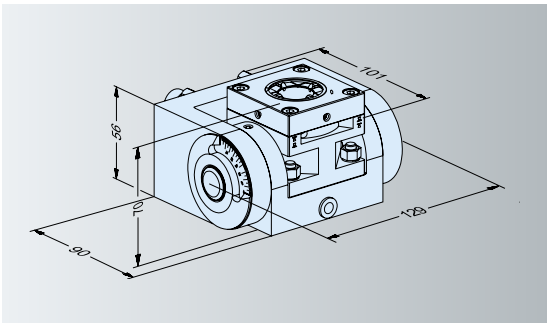
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ER-027641 Angled clamping unit for CompactChuck M UnoSet



Version CompactChuck manual.
Angle to be set with the vernier.
Angled clamping unit made of corrosion-resistant steel.

Application WEDM or EDM.



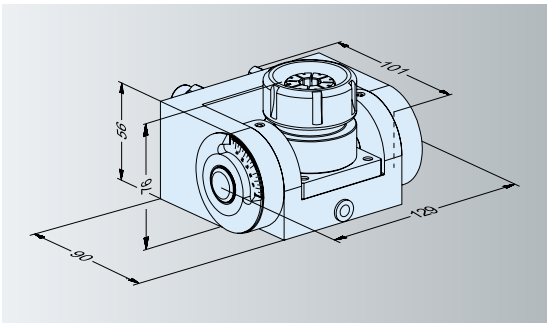
ER-028480 Angled clamping unit for electrode holder collets UnoSet



Version Angled clamping unit made of corrosion-resistant steel, except collet chuck unit.
Angle to be set with the vernier.

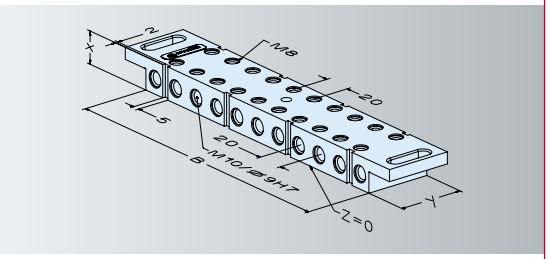
Application WEDM or EDM.

Connections Flushing connection in place.



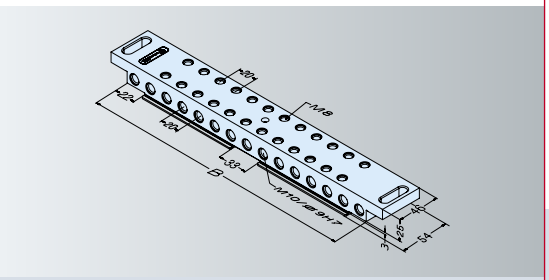
EROWA
Wire EDM Tooling
Fixtures for adapters

ER-017645 Clamping beam W = 220 mm
ER-017646 Clamping beam W = 300 mm
ER-017647 Clamping beam W = 380 mm
ER-017648 Clamping beam W = 460 mm



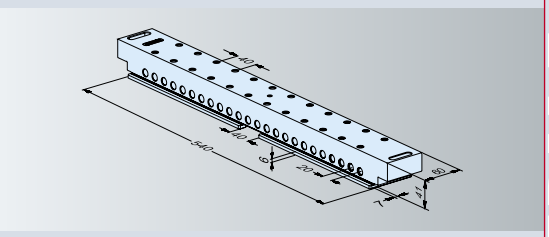
Application Clamping of workpieces with clamping claws on Z-washer.

ER-021126 Double-sided Clamping beam W = 300 mm
ER-021127 Double-sided Clamping beam W = 380 mm
ER-021128 Double-sided Clamping beam W = 460 mm



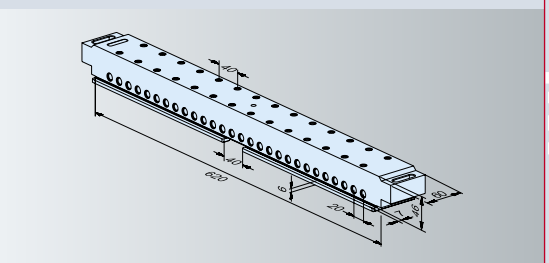
Application Clamping of workpieces with clamping claws on Z-support ledges.

ER-037307 Double-sided Clamping beam 540 ManoSet XXL



Application Clamping of workpieces with clamping claws on Z-support ledges.

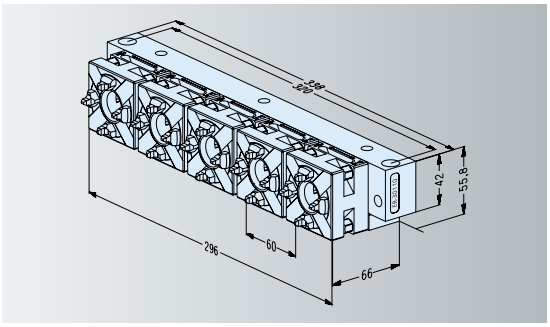
ER-034989 Double-sided Clamping beam 620 ManoSet XXL



Application Clamping of workpieces with clamping claws on Z-support ledges.

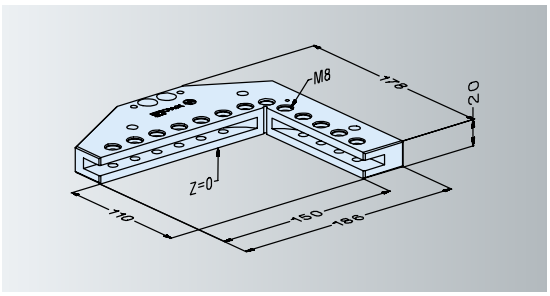
EROWA®

ER-030110 5-fold beam 300 QuickChuck



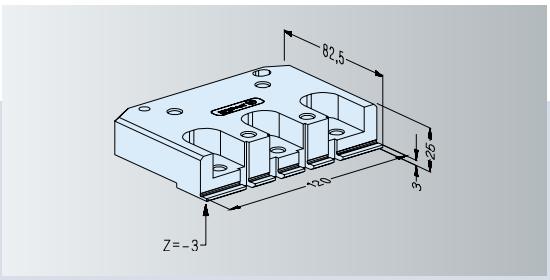
Version Five chucks 50, manual, in a row.
Application ITS adapter for the manual loading of five ITS elements.
Use On all FrameSet clamping frames, carrier plates and ManoSet bases. Width 300 mm.

ER-018938 UniVise square PalletSet W



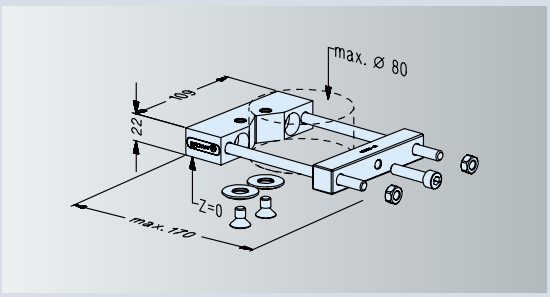
Version Square with all the clamping accessories.
Application To be fitted to fix holders or pendulum holders.
Note Max. load: 10 kg.

ER-018940 Vise PalletSet W



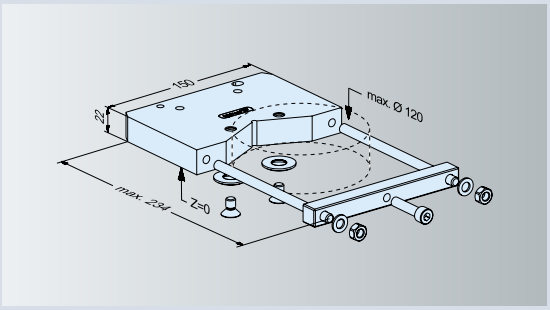
Version Clamping element with clips for one-sided attachment to workpieces.
Application To be fitted to fix holders or pendulum holders.
Note Max. load: 12 kg.

ER-019248 Prism holder 80 PalletSet W



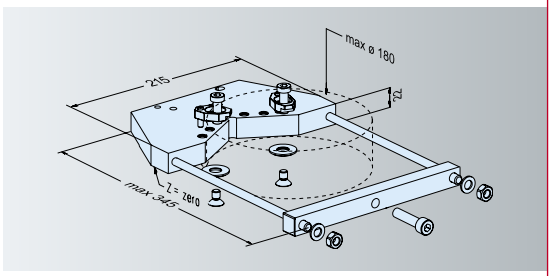
Version Prism and clamping part with detachable Z-supports.
Application Clamping of cylindrical workpieces of up to ø 80 mm.
Assembly To be fitted to the front of beam pallet ER-018937 or clamping beams (cf. page 213).

ER-031179 Prism holder PalletSet W



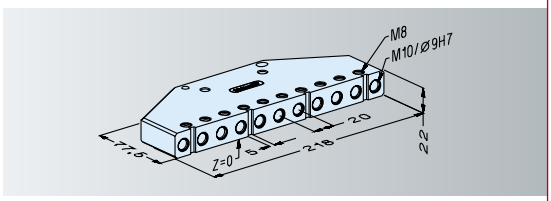
Version Prism and clamping bars with detachable Z-supports.
Application To clamp cylindrical workpieces of up to ø 120 mm.
Mounting directly to fixholder or pendulum holder.

ER-038891 Prism holder ø 10 - 180 PalletSet W



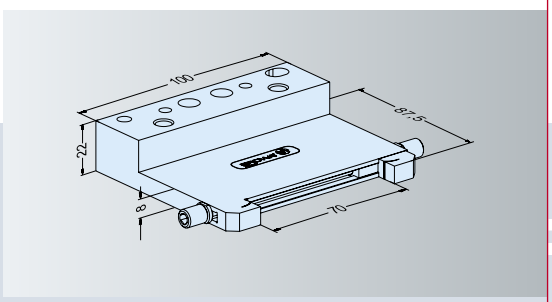
Version Prism and clamping bars with detachable Z-supports.
Application To clamp cylindrical workpieces of up to ø 180 mm.
Mounting directly to fixholder or pendulum holder.

ER-018937 Beam pallet PalletSet W



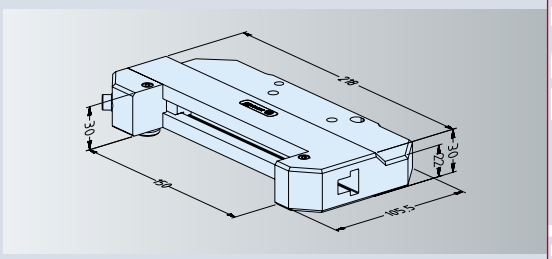
Version Pallet to accommodate various clamping elements. Includes Z-supports and clips.
Application To be fitted to fix holders or pendulum holders 3D.
Options Prism holders and BeamVise clamping elements.

ER-039505 Flat vise 8mm PalletSet W



Version One movable jaw and one fixed jaw. Hardened, ground and corrosion-resistant.
Clamping range 0 - 70 mm.
Max. load 5 kg.
Application Lateral clamping of workpieces machined outside of up to 70mm. To be fitted to fixholder or pendulum holder.

ER-028425 Flat vise 150 PalletSet W

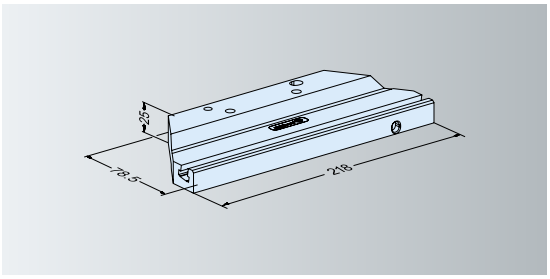


Version One movable and one fixed jaw. Hardened, ground and corrosion-resistant.
Clamping range max. 150 x 150 x 100 mm.
Max. load 12 kg.
Application Lateral clamping of workpieces of 0-150mm machined from the outside. To be fitted to fix or pendulum holders.

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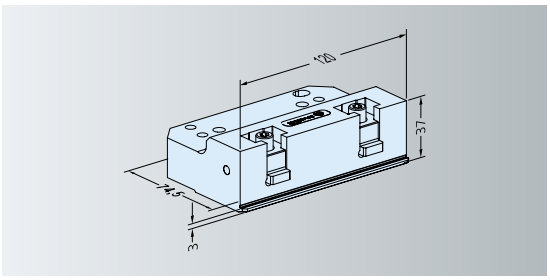
ER-031945 Basic holder PalletSet W

Version	To accommodate various clamping elements.
Application	To fit to fixholder or pendulum holder 3D.
Options	Jaw holder ER-033958 or bracket holder ER-031952.



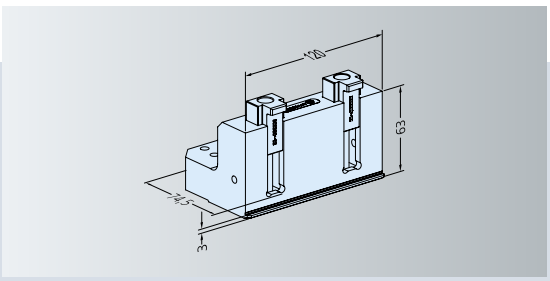
ER-025895 Vise PSW 40 PalletSet W

Version	Vise with fixed Z-lip and jaws attached from above. Hardened and ground.
Clamping range	max. 150 x 150 x 40 mm.
Max. load	12 kg
Application	Lateral clamping of workpieces of 0 -150 mm machined from the outside. To be fitted to fix or pendulum holders.



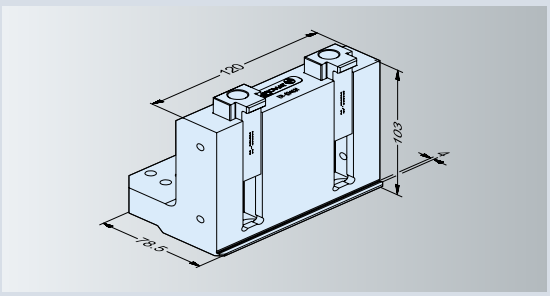
ER-025896 Vise 100 PalletSet W 100

Version	Vise with fixed Z-lip and jaws fitted from above.
Application	To clamp workpieces of up to 100 mm in height. To be fitted to fixholder or pendulum holder.
Max. clamping range	150 x 150 x 100 mm.
Max. load	12 kg

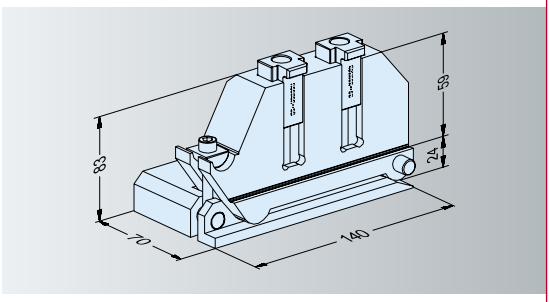


ER-034631 Vise PalletSet W 140

Version	Vise with fixed Z-lip and jaws fitted from above. Hardened and ground.
Application	To clamp workpieces of up to 140 mm in height. To be fitted to fixholder or pendulum holder.
Max. load	12 kg
Max. clamping range	150 x 100 x 140 mm

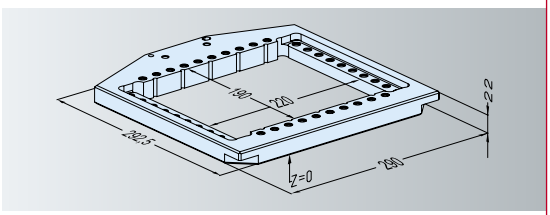


ER-036508 Sine vise PalletSet W



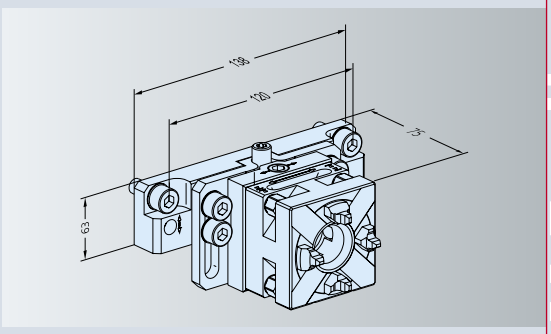
Version	Vise with adjustable angle position fixed Z-lip and jaws fitted from above. Hardened and ground.
Application	To clamp workpieces at angles adjustable between 0-90°. To fit to fixholder or pendulum holder.
Clamping range	Max. 150 x 150 x 100 mm
Max. load	12 kg

ER-018941 Frame pallet PalletSet W



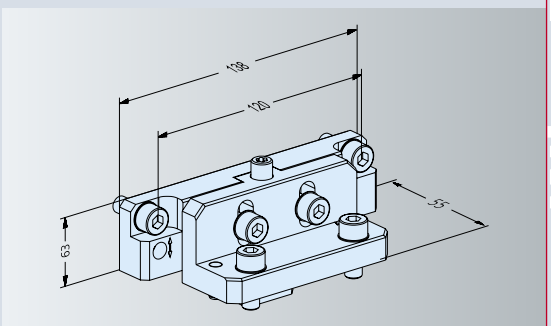
Version	Clamping frame for multiple palletization of work-pieces
Application	To be fitted to fix holders or pendulum holders.
Option	Clamping beam 220 ER-017645.
Note	To support the clamping frame, use Z-supports ER-020312. (Page 218/219).

ER-029228 Z-Vario QuickChuck PalletSet W



Version	Fits 3D ER-030923 pendulum holder. Hardened and ground.
Max. load	8 kg
Clamping range	max. height adjustement 30 mm.
Application	To machine electrodes in PSW which have to be adjusted in height.

ER-029229 Z-Vario clamping elements PalletSet W

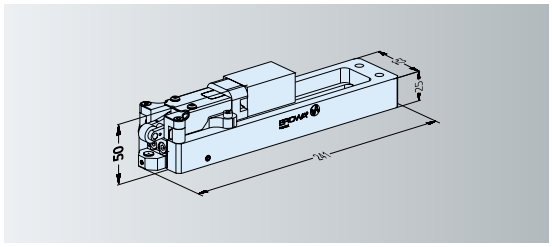


Version	Fits 3D ER-030923 pendulum holder. Hardened and ground.
Max. load	8 kg
Clamping range	max. height adjustment 30 mm.
Application	PSW clamping elements can also be adjusted in height.

EROWA®

ER-025115 Z-support universal PalletSet W pneumatic

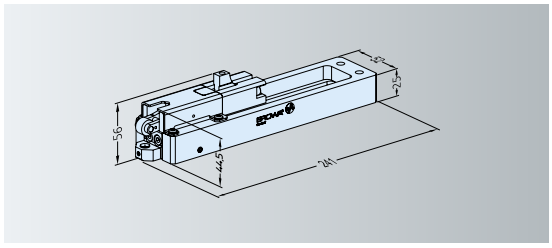




Version 1 pair of supports. Hardened and ground.
Mounting Directly on the Z=0 base of the WEDM center.
Operation With manual control unit.
Application Support and clamping of the frame plate with weights of up to 30kg. Stabilizes the frame plate in case of high flushing pressure.

ER-025116 Z-support universal PalletSet W manual





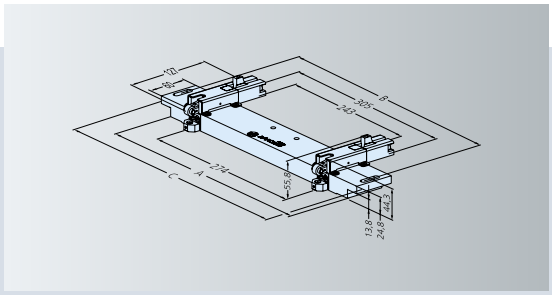
Version 1 pair of supports. Hardened and ground.
Mounting Directly on the Z=0 base of the WEDM center.
Operation Manually
Application Support and clamping of the frame plate with weights of up to 30 kg. Stabilizes the frame plate in case of high flushing pressure.

ER-025100 Z-support beam 300 PalletSet W manual

ER-025101 Z-support beam 380 PalletSet W manual

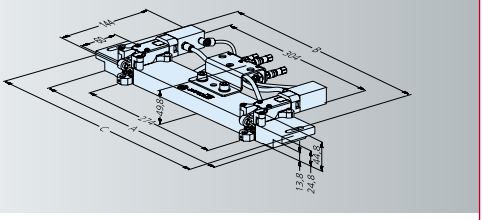
ER-027205 Z-support beam 460 PalletSet W manual





Version Support beam for use in EROWA ManoSet.
Operation Manually
Applicaton Support and clamping of the frame plate with weights of up to 30 kg in combination with EROWA ManoSet. Stabilizes the frame plate in case of high flushing pressure.

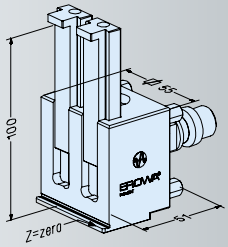
ER-025027 Z-support beam 300 PalletSet W pneumatic
ER-025030 Z-support beam 380 PalletSet W pneumatic
ER-028306 Z-support beam 460 PalletSet W pneumatic



INOX auto

Version Support beam for use in EROWA ManoSet.
Operation Pneumatically.
Application Support and clamping of the frame plate with weights of up to 30kg in combination with EROWA ManoSet. Stabilizes the frame plate in case of high flushing pressure.

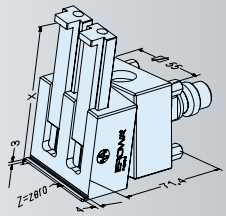
ER-008814 Precision vise 0 - 100 UnoSet



INOX

Clamping range Ranges from 0 to 100 mm.
Max. extension 40 mm at 100 mm workpiece height.

ER-007935 Rotary vise 0 - 100 UnoSet

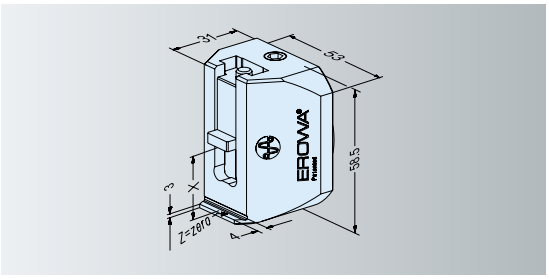


INOX

Clamping range 0–100 mm
Max. extension 40 mm with 100 mm part height.
Version Continuously able to rotate around 360°.
Set with three pairs of clamping jaws.

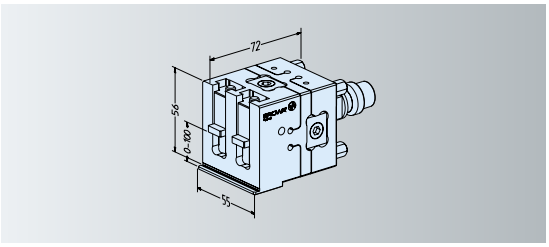
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ER-014698 VeeVise UnoSet



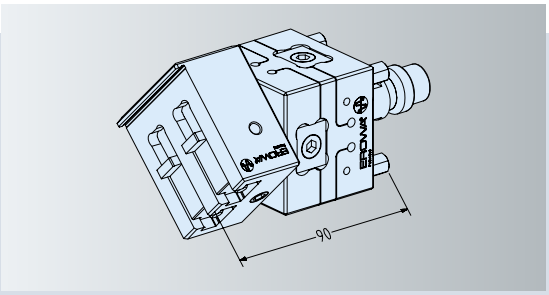
Clamping range 0–50 mm
Max. extension 40 mm with 100 mm part height.
Version Clamping component without ITS connection.
To fit to an existing pendulum rotating adapter.

ER-008842 Pendulum vise 0-100 UnoSet



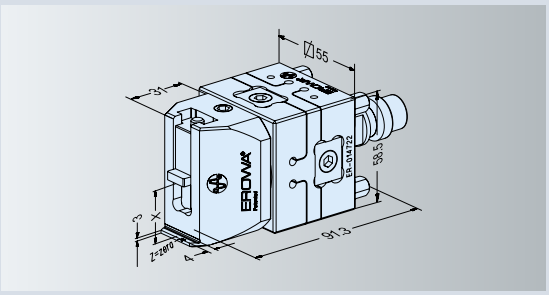
Clamping range Ranges from 0 to 100 mm.
Max. extension 40 mm at 100 mm workpiece height.
Version Workpiece adjustable in two axes. Including three sets of clamping jaws.

ER-008856 Rotatable pendulum vise 0 - 100 UnoSet



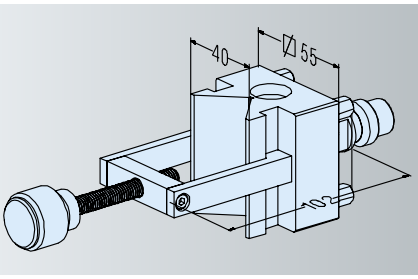
Clamping range 0–100 mm
Max. extension 40 mm with 100 mm part height.
Version For adjustable workpiece positioning in three axes.
Continuously able to rotate around 360°.
Set with three pairs of clamping jaws.

ER-014722 VeeVise TP UnoSet



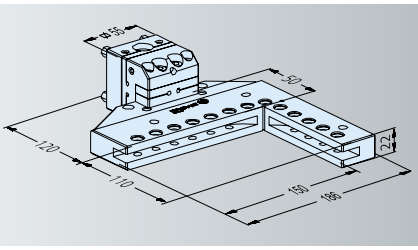
Clamping range 0–100 mm
Max. extension 40 mm with 100 mm part height.
Version For adjustable workpiece positioning in three axes.
Continuously able to rotate around 360°.
Set with three clamping jaws.

ER-016691 V-Block Holder UnoSet



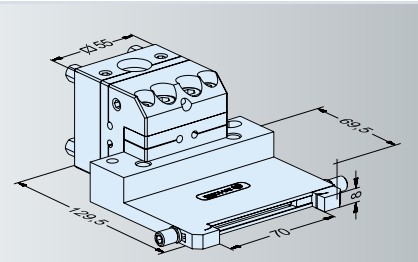
Clamping range Parts up to ø 40 x H 150 mm
Max. load 1.5 kg
Application To clamp parts in prismatic slot. Parallel and angular precision 0.01 mm.

ER-015670 UniVise P UnoSet



Clamping range Round parts: ø 5–85 mm
Flat parts: 140 x 100 mm
Max. load 5 kg
Version Complete set with all clamping accessories. Workpiece adjustable in three axes.

ER-039504 Flat vise 8mm UnoSet

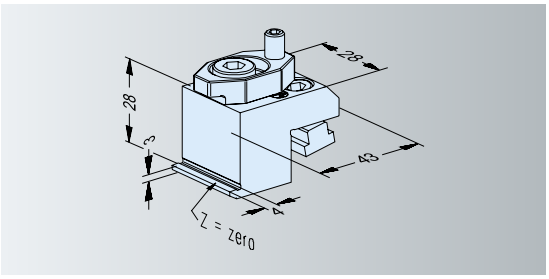


Version One movable jaw and one fixed jaw. Hardened, ground and corrosion-resistant.
Clamping range 0 - 70 mm.
Max. load 5 kg
Application Lateral clamping of workpieces machined outside of 70 x 70 x 50mm. To be fitted to fixholder or pendulum holder.

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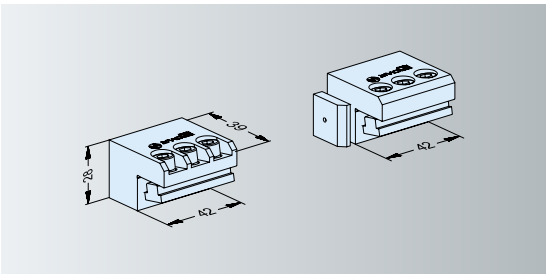
ER-031952 Bracket holder PalletSet W

Version	Two movable vertical jaws. Hardened, ground and corrosion-resistant.
Application	Variable vise to be fitted to basic holder PSW.
Mounting	Directly to basic holder ER-031945, using the fittings supplied.



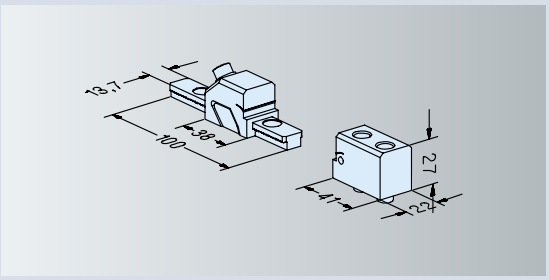
ER-033958 Jaw holder PalletSet W

Version	One movable jaw and one fixed jaw. Hardened, ground and corrosion-resistant.
Application	Variable vise to be fitted to basic holder PSW.
Mounting	Directly to basic holder ER-031945, using the fittings supplied.



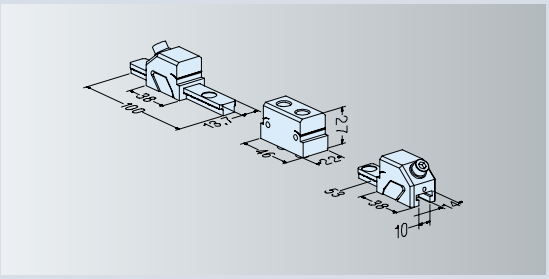
ER-016914 BeamVise single

Version	One movable and one fixed stop jaw. Hardened, ground, corrosion-resistant.
Application	Variable vise laterally on EROWA clamping beams.
Assembly	With the enclosed assembly elements to the desired clamping beam Pallet Set W ER-018937.

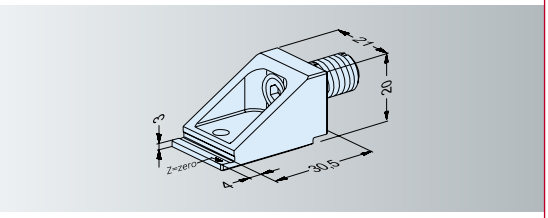


ER-016658 BeamVise twin

Version	Two movable stop jaws and one fixed stop jaw. Hardened, ground, corrosion-resistant.
Application	Variable vise laterally on EROWA clamping beams.
Assembly	With the enclosed assembly elements to the desired clamping beam PalletSet W ER-018937.

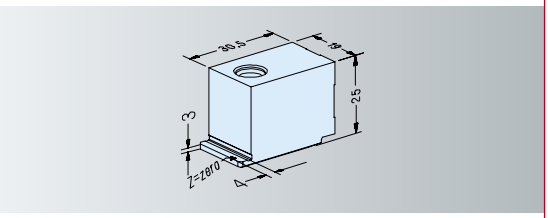


ER-008231 Mini distance support



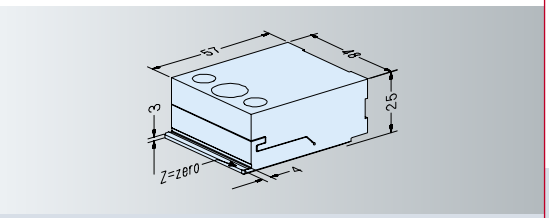
Application As side support for workpieces, or for clamping small, flat single parts.
Presetting The support surface height corresponds to Z = 0 and is not adjustable.
Use On all clamping and gripping beam ER-018937.

ER-008875 Fixed distance support



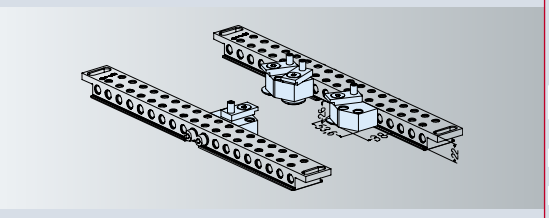
Application As side support for workpieces, or for clamping small single parts.
Presetting The support surface height corresponds to Z = 0 and is not adjustable.
Use On all clamping and gripping beams.

ER-008873 Adjustable distance support



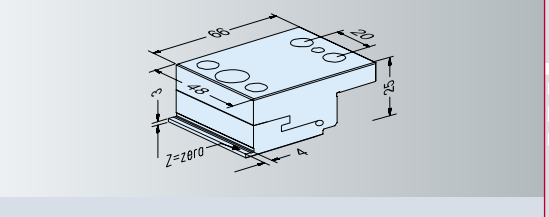
Application As side support for workpieces, or for clamping small single parts.
Presetting The support surface height corresponds to Z = 0 and is adjustable +/- 0.1 mm.
Use On all clamping and gripping beams.

ER-007990 DiaFix (set of 3 pieces)



Application For supporting round parts with diameters starting at 50 mm, or as a side support for rectangular workpieces.
Presetting The support surface height corresponds to Z = 0 and is not adjustable.
Use On all clamping beams.

ER-008221 Z beam

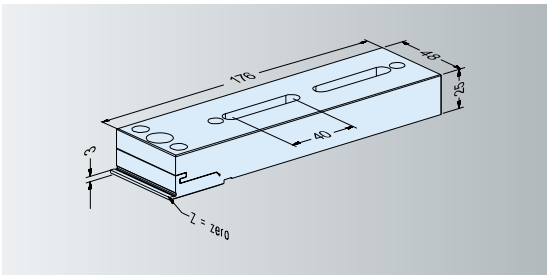


Application As side support for workpieces, or for clamping small single parts.
Presetting The support surface height corresponds to Z = 0 and is adjustable +/- 0.1 mm.
Use On all plates and beams with Z = + 14 mm.

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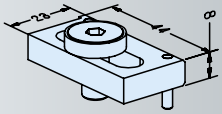
Clamping elements for fixtures

ER-008220 Z universal support



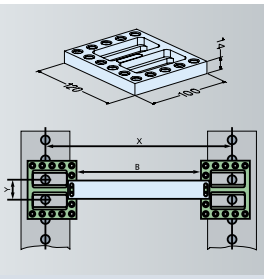
Application As side support for workpieces, or for clamping small single parts.
Presetting The support surface height corresponds to Z = 0 and is adjustable +/- 0.1 mm.
Use On all carrier plates and bases with Z = 0.

ER-016657 BeamStop Set



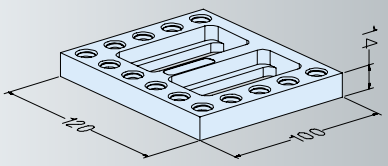
Version Set of two stops for EROWA beams. Hardened, ground, corrosion-resistant.
Application On ManoSet base rails, on Basic Adapter and in RoboSet Clamping frames.
Assembly With the enclosed bolts.

ER-016652 Basic Adapter Set



Version A pair of ground, hardened, corrosion-resistant steel plates with variable assembly hole grids, including BeamStop.
Application Base on WEDM machines unequipped with tooling system for the use of EROWA ManoSet clamping beams.
Assembly With the enclosed assembly elements directly onto the existing Z-zero machine structure.

ER-017198 Basic Adapter

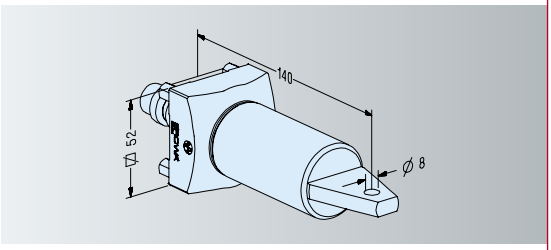


Version A ground, hardened, corrosion-resistant plate with variable assembly hole grids.
Application Base on WEDM machines with no tooling system. With chucks ER-007851/ER-007852.
Assembly With the enclosed bolts directly onto the existing Z-zero base.

EROWA
Wire EDM Tooling
Accessories

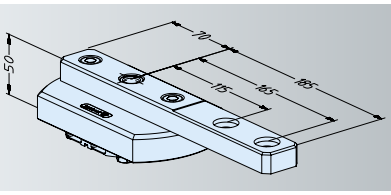
ER-012727 Reference pin Unoset

Version Hardened, ground, borehole ø 8 mm.
Application To determine reference measurements on horizontal chucks.



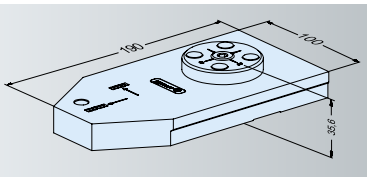
ER-032035 Alignment pallet PalletSet W

Version Hardened and ground pallet with a lateral reference surface and two defined reference boreholes.
Application To determine the tooling system datum point and to align the chucks.



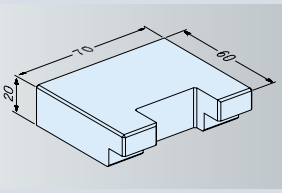
ER-037888 Alignment gauge Basic Tooling

Version Hardened and ground pallet with a lateral reference surface and one defined reference boreholes to determine the tooling system datum point.
Note Only use for Basic WEDM Tooling.



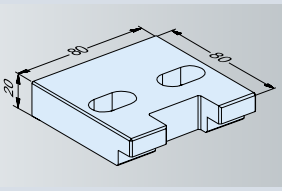
ER-022669 Bracket for flat chuck

Version Steel, unhardened. Set of 2.
Application To fit flat chucks to WEDM centers.



ER-022670 Bracket for Agie flat chuck

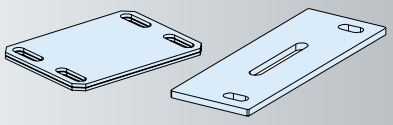
Version Steel, with attachment boreholes. Set of 2.
Application To fit flat chucks to Agie WEDM centers.



EROWA

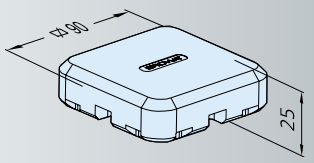
ER-028913 Insulation set PalletSet W

Application To fit underneath the flat chucks and Z-supports to insulate the tooling system.



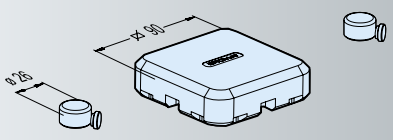
ER-026768 Cover for flat chucks

Version Cover for flat chucks
Application Protects flat chucks that are not in use against contamination and damage.



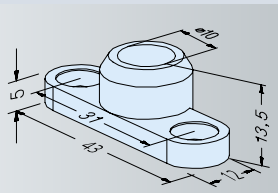
ER-027695 Cover for flat chucks PalletSet W

Version Set consisting of 2 covers for flat chucks and 4 covers for Z-supports.
Application Protects flat chucks and Z-supports that are not use against contamination and damage.



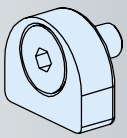
ER-035156 EWIS Chip with holder long

Version Holder with built-in datacarrier.
EWIS Chip: read only.
Application With EROWA Collet Chuck holders and Square 15/25 holders.
Mounting With supplied M4 bolts.

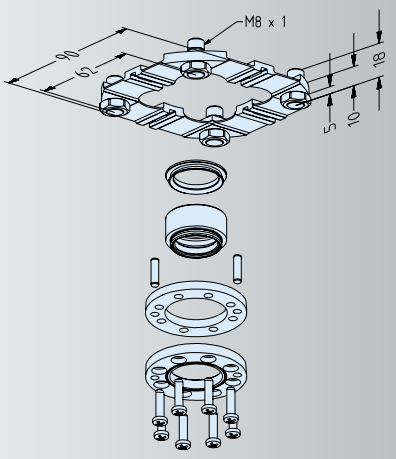


ER-035294 EWIS chip with holder/RCS

Version Holder with built-in datacarrier.
EWIS Chip: read only.
Application To build into RCS coupling, PalletSet W holder and Basic WEDM holder.

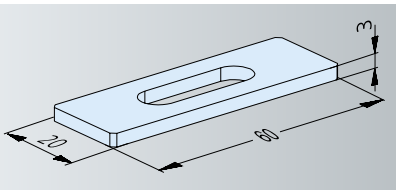


ER-030671 Centering plate, G100 M8 x 1, flat chucks PalletSet W



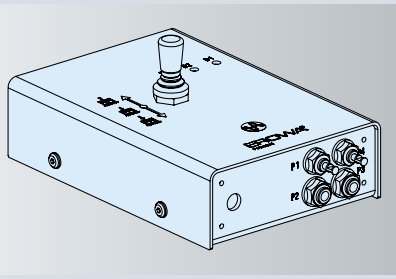
Version Set of 5, including support feet.
Application To be fitted directly to workpiece and electrodes to be used on flat chucks.

ER-008910 Spacer plate 3 mm



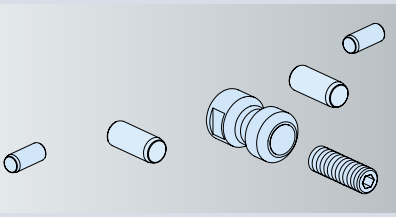
Version Set of 8 plates. Ground, hardened.
Application To fit underneath clamping beams to raise the Z-support by 3 mm. This prevents collisions in the working range of the lower flushing nozzles.

ER-008988 Manual control unit



Version Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC. Open/reclamp/clean.
Application Operation of chucks on machines.

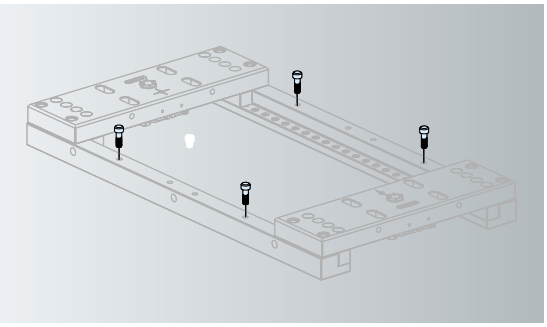
ER-018936 Gripper Link RCS



Version Gripper coupling for RCS gripper, consisting of 4 positioning pins and a chucking spigot.
Application On all EROWA handling devices equipped with the RCS coupling system.
Assembly Glue in pins according to instructions, fit chucking spigot with bolt.
Note Recess for EWIS chip (not included) in the chucking spigot.

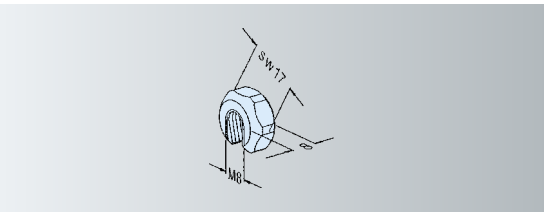
EROWA®

ER-034533 Gripper bolts FrameSet



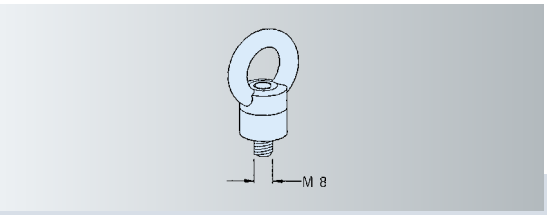
Version Set of 4 gripper bolts.
Application For FrameSet clamping frames with EROWA handling facilities.
Note Can only be used in connection with FrameSet gripper automation.

ER-008846 Slotted nut M8



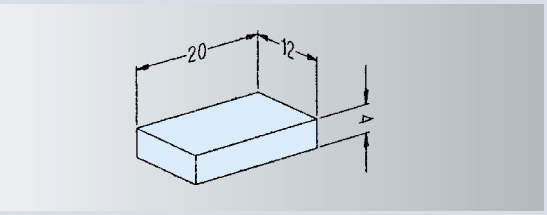
Quantity 10
Application On long setscrews, to avoid time-consuming nut tightening.

ER-008848 Eye bolt M8



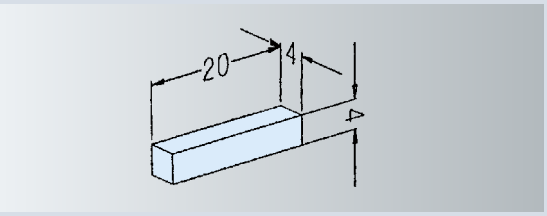
Quantity 2
Application To raise loaded clamping frames with a crane or lifting device.

ER-007799 Spacer plate, large



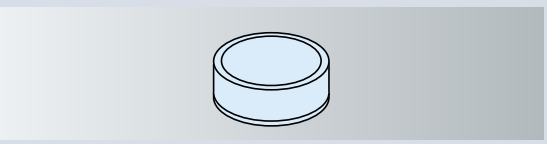
Quantity 50
Application As supports for chucking claws.

ER-007781 Spacer plate, small



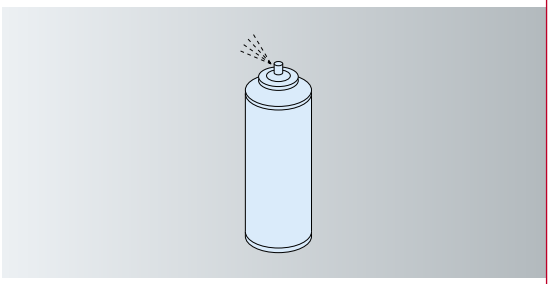
Quantity 50
Application As supports for chucking claws.

ER-001674 Erogrease



Version 1kg tin.
Application For the durable lubrication of guides, joints and threads submerged in water.

ER-010734 Branotec maintenance spray



Version 0.4 litre aerosol.
Application For the maintenance and conservation of all the clamping elements used for WEDM purposes.

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ER-009696	**UnoSet Basic Kit** manual
ER-007962	**UnoSet Basic Kit** pneumatic
Version	Basic tooling system equipment for WEDM centers.
Application	Suitable for the palletization of small and medium-sized workpieces.
Mounting	Depending on the machine base, we recommend the multi-adapter plate ER-017198.
Kit contains	1 chuck 1 UniVise universal vise
Note	Machine-specific information can be found at www.erowa.com/unoset or at your EROWA dealer.



ER-017198	**Multi-adapter plate**
Application	To fit the UnoSet chuck to the machine base
Mounting	Through the adjustable borehole grids with the bolts supplied.



ER-021502	**Starter Kit PalletSet W,** manual
ER-021503	**Starter Kit PalletSet W** pneumatic
Version	Basic tooling system equipment for WEDM centers.
Application	Suitable for the palletization of medium-sized workpieces.
Mounting	Directly to the machine base with the fittings supplied.
Kit contains	1 chuck 1 fixholder 1 vise 1 manual control unit (pneumatic)
Note	Machine-specific information can be found at www.erowa.com/palletset or at your EROWA dealer.

	Starter Kit FrameSet, fix
	Starter Kit FrameSet, basic
	Starter Kit Frameset, manual
	Starter Kit Frameset, pneumatic
Version	Basic frame tooling system equipment for WEDM centers. Manually or pneumatically controlled chucks according to your choice. With the FrameSet fix version, the clamping frames are firmly bolted to the machine base.
Application	Suitable for the palletization of small and medium-sized workpieces.
Mounting	directly to the machine base with the fittings supplied.
Kit contains	2 FrameSet fix plates or corresponding chucks 1 clamping frame of the machine-specific size 2 fitting clamping beams 1 set clamping equipment 1 set frame supports Fittings and pneumatic materials where necessary
Note	Machine-specific information can be found at www.erowa.com/frameset or at your EROWA dealer.





	ManoSet Kit XXL
Version	Basic frame tooling system equipment for WEDM centers. Fixed rails serve as the basis for the clamping beams.
Application	On large WEDM centers.
Mounting	Directly to the machine base with the fittings supplied.
Kit contains	1 set machine-specific base rails 2 fitting clamping beams 1 set clamping equipment
Note	Machine-specific information can be found at www.erowa.com/manoset or at your EROWA dealer.



EROWA®

EROWA set of clamping elements
for PalletSet W

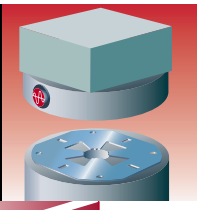
EROWA's extensive accessory sets contain a number of practical and economically priced auxiliaries which turn clamping jobs into fun.



ER-019989 Set of clamping elements, PalletSet W

These materials have been packaged in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-002611	Hex key SW 5	1	1
ER-007729	Z-washer 3 mm	10	1
ER-007768	Hex key SW 3	1	1
ER-007781	Spacer, small	50	50
ER-007799	Spacer, large	50	50
ER-008884	Clip, universal	10	4
ER-017920	Countersunk bolt M8 x 14	10	1
ER-022109	Socket head bolt M8 x 20	10	50
ER-022110	Socket head bolt M8 x 30	10	50
ER-022111	Socket head bolt M8 x 40	10	50
ER-022113	Socket head bolt M8 x 60	10	50
ER-022118	Threaded pin M6 x 12	10	50
ER-022119	Threaded pin M6 x 20	10	50
ER-022120	Threaded pin M6 x 30	10	50
ER-022121	Threaded pin M6 x 40	10	50
ER-022122	Threaded pin M6 x 50	10	50



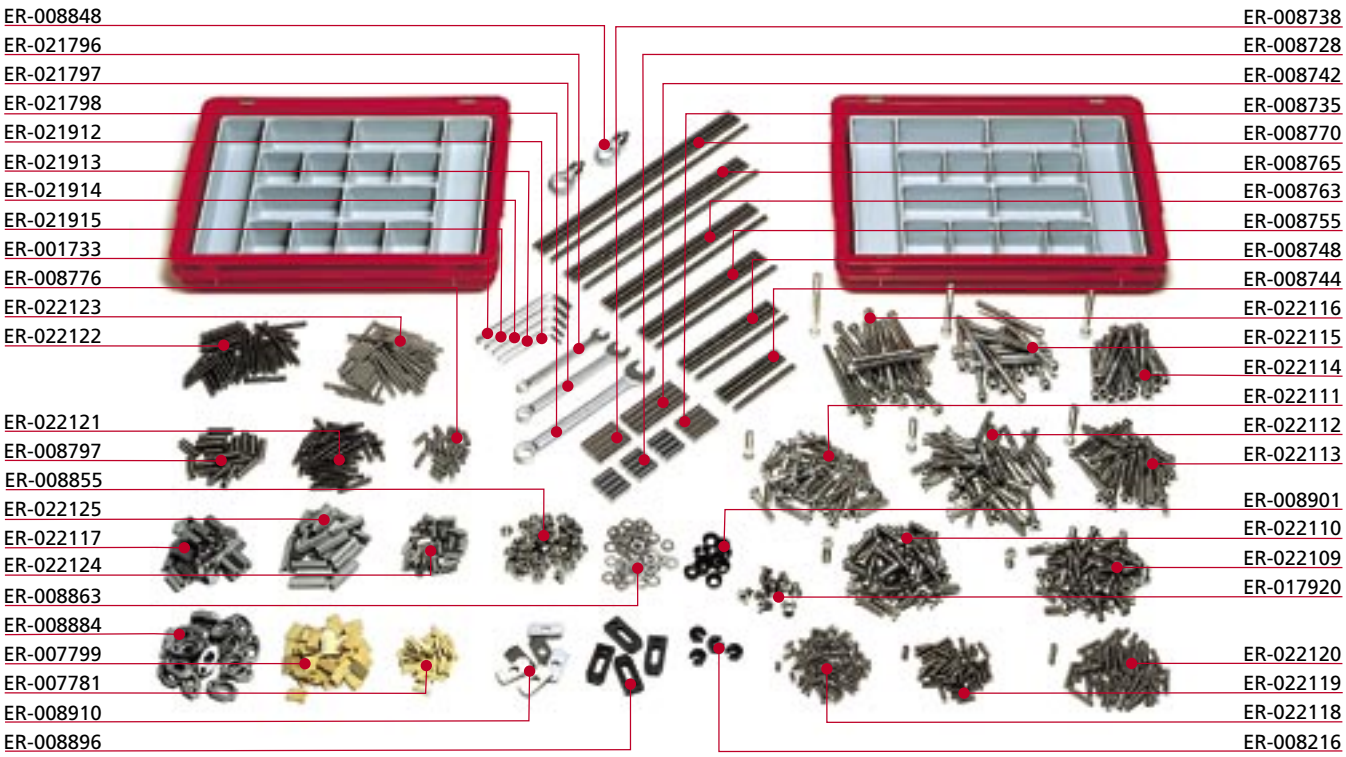
EROWA®

EROWA set of clamping elements

for Wire EDM Tooling

Standard

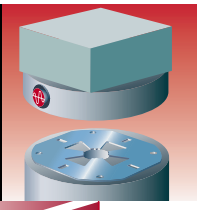
EROWA's extensive accessory sets contain a number of practical and economically priced auxiliaries which turn clamping jobs into fun.



ER-008868 Set of clamping elements, standard

These materials have been packaged in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-001733	Hex key SW 8	1	1
ER-007781	Spacer plate, small	50	50
ER-007799	Spacer plate, large	50	50
ER-008216	Slotted nut M8	4	4
ER-008728	Straight pin ø9 L = 30	12	4
ER-008735	Straight pin ø9 L = 40	4	4
ER-008738	Straight pin ø9 L = 50	4	4
ER-008742	Straight pin ø9 L = 80	4	4
ER-008744	Threaded rod M8 x 100	4	4
ER-008748	Threaded rod M8 x 150	4	4
ER-008755	Threaded rod M8 x 200	4	4
ER-008763	Threaded rod M8 x 250	4	4
ER-008765	Threaded rod M8 x 300	4	4
ER-008770	Threaded rod M8 x 350	4	4
ER-008776	Threaded pin, hex, M8 x 20	20	50
ER-008797	Threaded pin, hex, M10 x 30	20	50
ER-008848	Eye bolt	2	2
ER-008855	Hex nut, M8 x 0.8	50	50
ER-008863	Washer	50	50
ER-008884	Bracket, universal	20	4
ER-008896	Bracket	4	4
ER-008901	Sliding disk	10	20



ER-008868 Set of clamping elements, standard

These materials have been packaged in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-008910	Spacer plate	6	6
ER-017920	Countersunk head bolt M8 x 14	10	1
ER-021796	Ring spanner, SW 10	1	1
ER-021797	Ring spanner, SW 13	1	1
ER-021798	Ring spanner, SW 17	1	1
ER-021912	Hex key SW 3	1	1
ER-021913	Hex key SW 4	1	1
ER-021914	Hex key SW 5	1	1
ER-021915	Hex key SW 6	1	1
ER-022109	Socket head bolt, hex, M8 x 20	50	50
ER-022110	Socket head bolt, hex, M8 x 30	50	50
ER-022111	Socket head bolt, hex, M8 x 40	40	50
ER-022112	Socket head bolt, hex, M8 x 50	40	50
ER-022113	Socket head bolt, hex, M8 x 60	20	50
ER-022114	Socket head bolt, hex, M8 x 70	20	20
ER-022115	Socket head bolt, hex, M8 x 80	20	20
ER-022116	Socket head bolt, hex, M8 x 100	20	20
ER-022117	Hex extension nut M8	20	20
ER-022118	Threaded pin, hex, M6 x 12	100	50
ER-022119	Threaded pin, hex, M6 x 20	50	50
ER-022120	Threaded pin, hex, M6 x 30	50	50
ER-022121	Threaded pin, hex, M6 x 40	50	50
ER-022122	Threaded pin, hex, M6 x 50	50	50
ER-022123	Threaded pin, hex, M6 x 60	50	50
ER-022124	Extension nut, hex / M6	20	20
ER-022125	Spacer, hex / M6 / L = 40	20	20

EROWA®

EROWA set of clamping elements

for Wire EDM Tooling

Economy

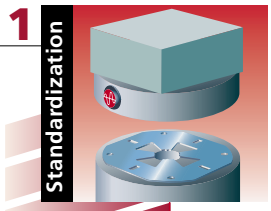
EROWA's extensive accessory sets contain a number of practical and economically priced auxiliaries which turn clamping jobs into fun.



ER-008215 Set of clamping elements, small

These materials have been packaged in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-001733	Hex key SW 8	1	1
ER-007781	Spacer plate, small	50	50
ER-007799	Spacer plate, large	50	50
ER-008216	Slotted nut M8	4	4
ER-008728	Straight pin, ø9 L = 30	12	4
ER-008735	Straight pin, ø9 L = 40	4	4
ER-008738	Straight pin, ø9 L = 50	4	4
ER-008742	Straight pin, ø9 L = 80	4	4
ER-008744	Threaded rod M8 x 100	4	4
ER-008748	Threaded rod M8 x 150	4	4
ER-008755	Threaded rod M8 x 200	4	4
ER-008763	Threaded rod M8 x 250	4	4
ER-008765	Threaded rod M8 x 300	4	4
ER-008770	Threaded rod M8 x 350	4	4
ER-008776	Threaded pin, hex, M8 x 20	10	50
ER-008797	Threaded pin, hex, M10 x 30	10	50
ER-008848	Eye bolt	2	2
ER-008855	Hex nut, M8 x 0.8	50	50
ER-008863	Washer	50	50
ER-008884	Bracket universal	15	4
ER-008896	Bracket	4	4
ER-008901	Sliding disk	10	20



ER-008215 Set of clamping elements, small

These materials have been packaged in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-008910	Spacer plate	6	6
ER-017920	Countersunk head bolt M8 x 14	10	1
ER-021796	Ring spanner, SW 10	1	1
ER-021797	Ring spanner, SW 13	1	1
ER-021798	Ring spanner, SW 17	1	1
ER-021912	Hex key SW 3	1	1
ER-021913	Hex key SW 4	1	1
ER-021914	Hex key SW 5	1	1
ER-021915	Hex key SW 6	1	1
ER-022109	Socket head bolt, hex, M8 x 20	20	50
ER-022110	Socket head bolt, hex, M8 x 30	10	50
ER-022111	Socket head bolt, hex, M8 x 40	10	50
ER-022112	Socket head bolt, hex, M8 x 50	10	50
ER-022113	Socket head bolt, hex, M8 x 60	10	50
ER-022114	Socket head bolt, hex, M8 x 70	10	20
ER-022115	Socket head bolt, hex, M8 x 80	10	20
ER-022116	Socket head bolt, hex, M8 x 100	10	20
ER-022117	Hex extension nut, M8	10	20
ER-022118	Threaded pin, hex, M6 x 12	20	50
ER-022119	Threaded pin, hex, M6 x 20	10	50
ER-022120	Threaded pin, hex, M6 x 30	10	50
ER-022121	Threaded pin, hex, M6 x 40	10	50
ER-022122	Threaded pin, hex, M6 x 50	10	50
ER-022123	Threaded pin, hex, M6 x 60	10	50
ER-022124	Extension nut, hex / M6	10	20
ER-022125	Spacer, hex/M6/L = 40	10	20

EROWA set of clamping elements
for Wire EDM Tooling
XL

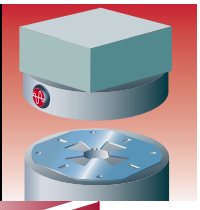
EROWA's extensive accessory sets contain a number of practical and economically priced auxiliaries which turn clamping jobs into fun.



ER-008301 Set of clamping elements, XL

These materials have been packaged in one solid plastic box.

Order number	Description	Units per set	Units supplied by order number
ER-001417	Wrench SW13	1	1
ER-002613	Hex key SW 5	1	1
ER-007781	Spacer plate, small, 4 x 4 x 20 mm	50	50
ER-007799	Spacer plate, large, 4 x 12 x 20 mm	50	50
ER-008744	Threaded rod M8 x 100	4	4
ER-008748	Threaded rod M8 x 150	4	4
ER-008755	Threaded rod M8 x 200	4	4
ER-008763	Threaded rod M8 x 250	4	4
ER-008765	Threaded rod M8 x 300	4	4
ER-008770	Threaded rod M8 x 350	4	4
ER-008776	Threaded rod M8 x 20	10	100
ER-008786	Threaded rod M8 x 30	10	50
ER-008790	Threaded rod M8 x 40	10	50
ER-008794	Threaded rod M8 x 50	10	50
ER-008812	Countersunk head bolt M8 x 40	20	40
ER-008855	Hex nut M8 x 0.8D	20	50
ER-008861	Hex nut M8 x 3D	4	10
ER-008863	Washer ø 15 x 8,4 x 1.6	20	50
ER-008896	Clamp 45 mm	8	4
ER-008901	Sliding disk	20	20
ER-010115	Clamps, aluminum, bronzed	4	4
ER-010120	Column, 100 mm	4	4
ER-010123	Column, 60 mm	4	4
ER-010126	Adjustment supports	4	4



EROWA®

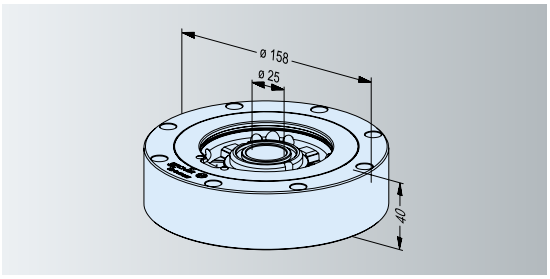
Technical data	PM Chuck
Repeatibiliy	0,002 mm
Indexing	4 x 90°
Opening with compressed air, dry	min. 6 bar
Clamping	Spring power

ER-040697 PM chuck for pallet 85





Version Steel, hardened, corrosion-resistant.
Through borehole ø 25.
Clamping power 9000 N.
Connections At the rear, with two lines.
Operation With control unit.
Application On milling machines, EDM/WEDM centers and powder presses.
To accommodate pallets PM85.

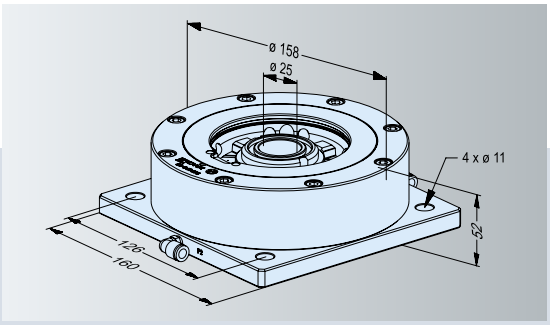


ER-040696 PM chuck for pallet 85 with base plate





Version Steel, hardened, corrosion-resistant.
Through borehole ø 25.
Clamping power 9000 N.
Connections On the side, with two lines.
Operation With control unit.
Application On milling machines, EDM/WEDM centers and powder presses.
To accommodate pallets PM85.



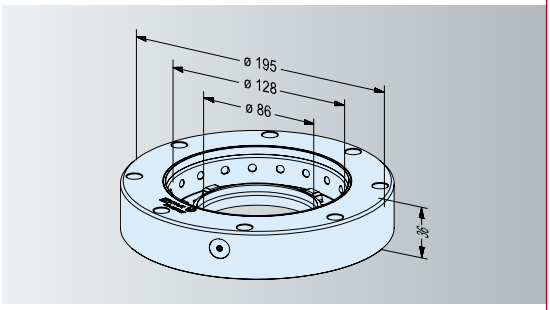
EROWA
Wire EDM Tooling
PM Chuck - Matrix chuck

ER-037207 PM chuck for die plate P with reclamping





Version	Steel, hardened. Through borehole ø 86.
Clamping power	Reclamped at 6 bar: 23000 N.
Connections	At the rear, with two lines.
Operation	With control unit.
Application	On milling machines and powder presses. To accommodate PM die-plate pallets P.

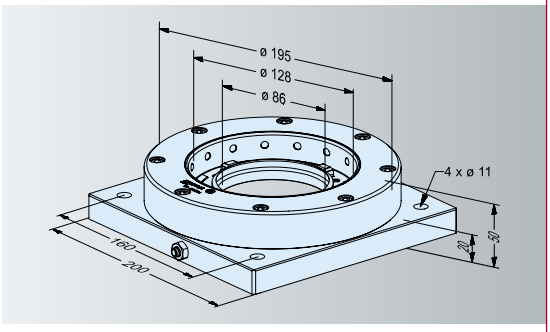


ER-035504 PM chuck for die plate P with base plate





Version	Steel, hardened, corrosion-resistant. Through borehole ø 86.
Clamping power	7000 N.
Operation	On the side. with air gun.
Application	On milling machines, lathes and EDM/WEDM centers. To accommodate PM die-plate pallets P.



EROWA

ER-040701 Pallet PM85

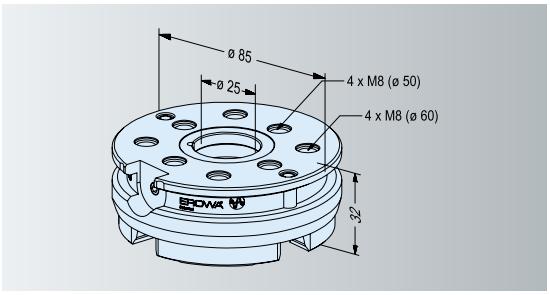




Version Steel, hardened, corrosion-resistant.
Centering integrated in pallet.

Application For use on EROWA PM Chuck (85), ProductionChuck 210 Combi, PowerChuck P, ITS Chuck 100 und Quick-Chuck 100 P. (Requires chucking spigot ER-039837). To accommodate workpieces and fixtures on chip-cutting machines, EDM/WEDM centers and powder presses.

Mounting Through the pallet with M6 bolts or through the workpiece with M8 bolts.



ER-034680 PM die plate P

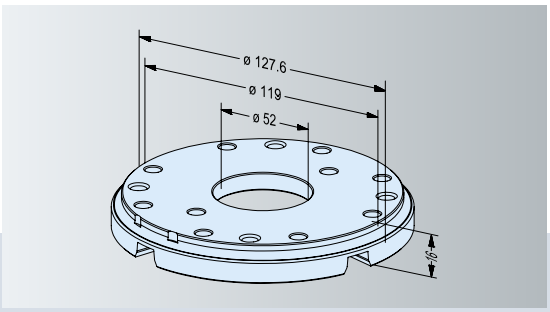




Version Steel, hardened, corrosion-resistant.
Centering integrated in pallet.

Application For use on EROWA PM chuck for die plate P. To accommodate die plates, workpieces and fixtures for chip-cutting, EDM/WEDM and powder presses.

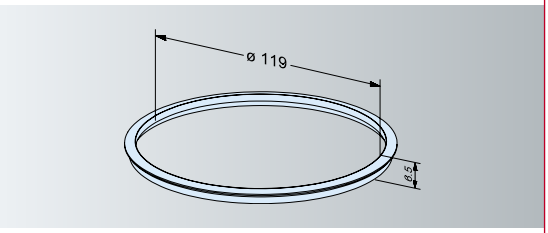
Mounting Through the pallet with M6 bolts or through the workpiece with M8 bolts.



EROWA
Wire EDM Tooling
PM Chuck - Accessories

ER-035256 Upper seal

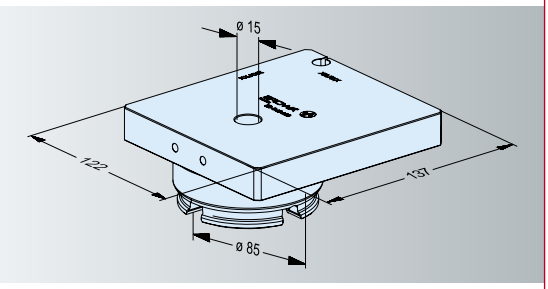
Version Synthetic.
Application Prevents dirt from penetrating into PM chuck for die plate P with the use of PM die-plate pallets P.



ER-042440 Alignment pallet PM8

INOX

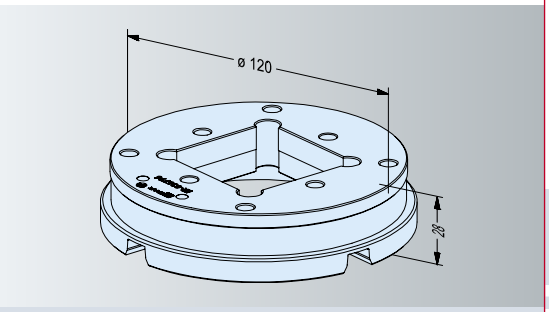
Version Pallet PM85, alignment surface, center borehole ø15, position borehole ø10
Application Alignment of the angle position and determination of the center of the PM chuck for pallet 85.



ER-035796 PM alignment pallet PM chuck die plate P

INOX

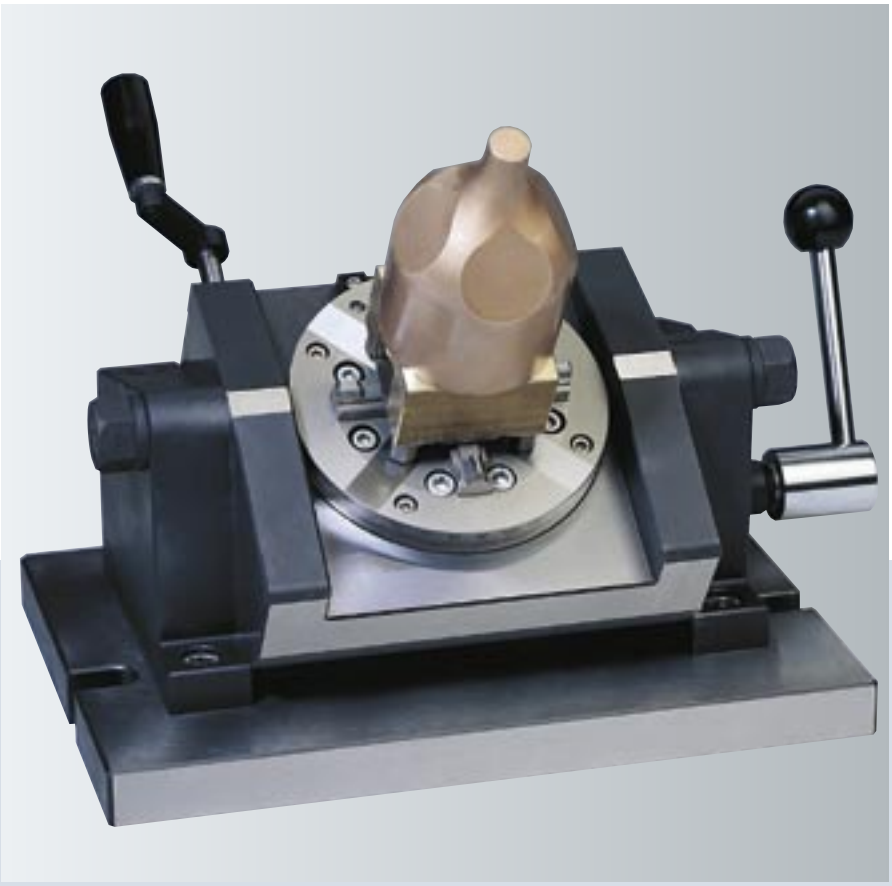
Version Steel, hardened, corrosion-resistant.
Application Alignment of the angle position and determination of the center of the PM chuck for die plate P.



EROWA

EROWA Sine Dividing Head ITS

The highest precision-the simplest handling



Your advantages
- Workpieces and electrodes are clamped and machined simply, quickly, and with precision.
- Thanks to the precision of the integrated ITS rapid-action chuck, workpieces need not be realigned when they are changed.
- Full ITS universality is guaranteed.
- Simple to fit on any milling, grinding or EDM center.



The EROWA Sine Dividing Head ITS is easy and quick to fit on the machine table, with only two bolts.



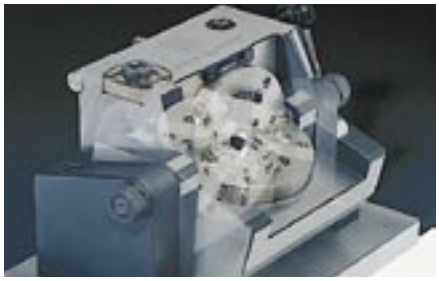
The workpiece is clamped with the precision of the ITS tooling system, with a repeatability of 0.002 mm.

Function

The Sine Dividing Head offers you the followingpossibilities:



ITS S rapid-action chuck, able to rotate round 360°, indexing vernier 5 minutes (0.08°).



. . . swivelable round 90° with . . .



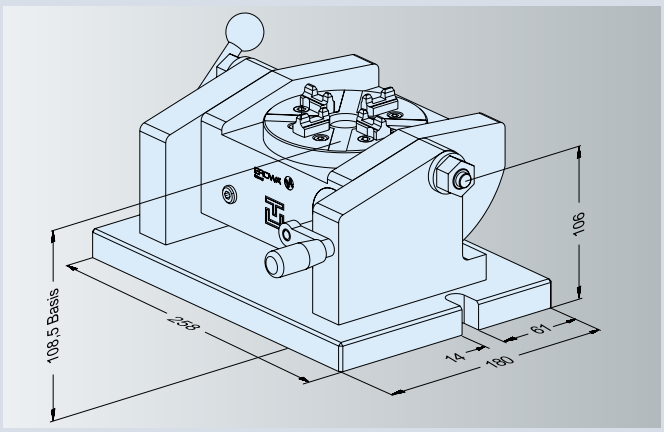
. . . sine function.

Technical data

ER-010427	**EROWA Sine Dividing Head**
Titling range	0°–90°
Rotating axis, rapid-action chuck	360°
Chuck indexing	4 x 90°
1 turn on crank	4.5°
Air connection	M5
Air pressure	7 bar
Weight	22 kg
Concentricity rapid-action chuck/rotating axis	± 0.015 mm
Axial load	500 N
Clamping, indexing and rotating axes	mechanical
Materials	Corrosion resistant

Option	
ER-010567	**Manual valve**





EROWA

EROWA Rotating Spindle

The smallest boreholes with the greatest precision.



The ITS tooling system allows for a simple and precise integration of the rotatring spindle into the machine. Electrodes of 0.2-10 mm in diameter are clamped and aligned with precision.

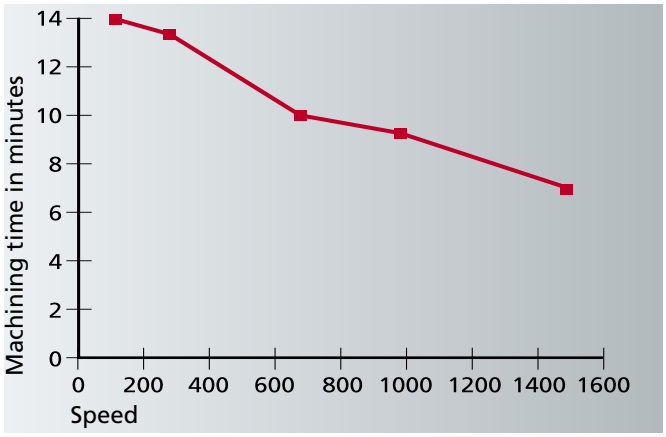
Your advantages

- Quick and easy mounting of the rotating spindle.
- Manufacturing of the smallest boreholes with the greatest precision.
- Short machining time thanks to an optimal synchronization of rotation speed and flushing pressure.
- Can be used on any EDM center, thanks to the ITS tooling system.



The wide range of speed helps achieve very good results, even with the finest tubes (see chart).

Material	hardened steel (x 210 CRW 12)
Thickness	8 mm
Flushing pressure	5 bar
Electrode	Cu ø 0.4 mm
Generator setting	constant



The right ratio between speed, electrode diameter, flushing pressure and generator setting ensures an optimal machining rate.

Technical data

ER-036000	EROWA **Rotating Spindle**
Speed:	100 to 2000 n-1
Clamping range:	ø 1–10 mm (without mini collet chucks)
Weight:	5.2 kg (without control box)
Mains:	220 V/110 V, switchable
Central flushing:	
up to 3 bar	through ITS chuck
up to 18 bar	through high-pressure connection (1/8“ thread)
Main cable	2.5 m
Connection cable	5 m



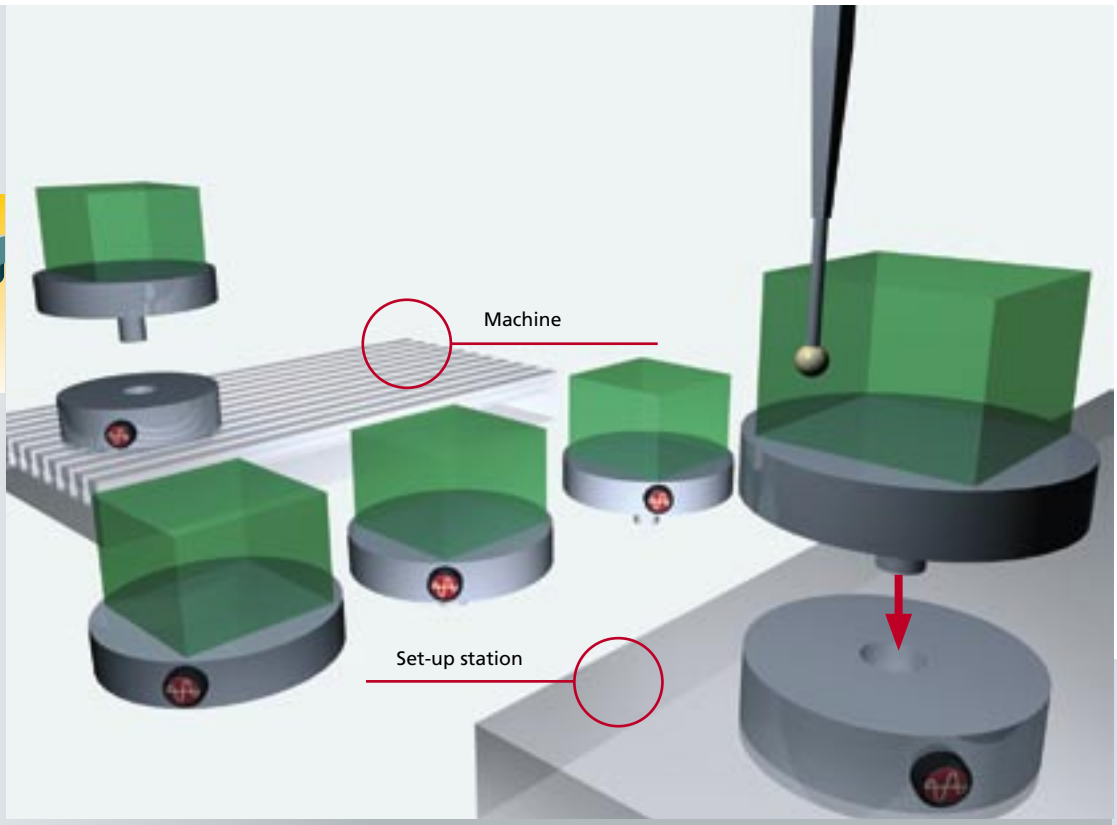
Mini-collet chuck holder



Mini-collet chuck set

Options	
ER-010700	**mini collet chuck holder** shaft ø 10 mm
ER-010689	**mini collet chuck set** ø 0.2–2 mm
	mini collet chucks, individual
ER-002403	ø 0.2 mm bis
ER-002421	ø 2 mm

EROWA®



Organization of electrodes and workpieces. All the workpieces and electrodes are set up outside the machine. If necessary, their offset values are determined outside the machine. Thus programs can be generated in advance, and automation becomes possible.

For chip-removing processes

For EDM sinking

For WEDM





up to 200 kg

EROWA PreSet 3D CNC







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up to 200 kg

EROWA PreSet 3D MAN







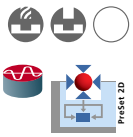
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Basic equipment

EROWA PreSet 3D CNC and 3D MAN

Page 254 - 255





up to 50 kg

EROWA PreSet 2D



Page 256 - 257





up to 60 kg

EROWA PreSet Basic PalletSet W



Page 258





up to 20 kg

EROWA PreSet Basic UNO



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bis 200 kg

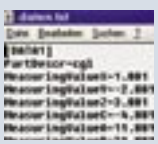
EROWA PreSet Basic UPC

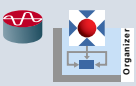


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Measuring tools and options

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EROWA JMS® Pro Organization

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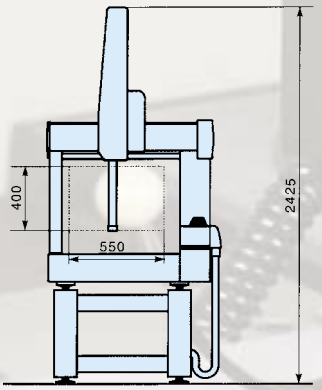
EROWA®

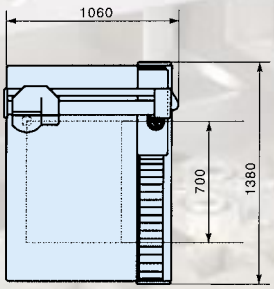
EROWA PreSet 3D
CNC

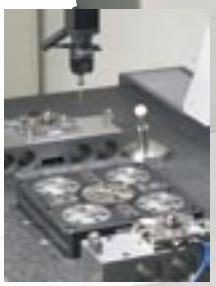
Machining centers must be relieved of any unproductive work as much as possible. Presetting and measuring workpieces and electrodes are jobs that can be more efficiently done on a measuring station.
The motto is presetting while the machine is working. With the PreSet 3D CNC, you provide your operators with a facility that has been optimally designed for such a purpose.

Automatic
Serial measurements with the integrated CNC control system are carried out automatically.











EROWA PreSet 3D CNC	ER-029500
– Measuring machine (working plate with borehole grid for all EROWA tooling systems)	
– Pneumatic control system	
– PC and color printer	
– Presetting software	
– Renishaw measuring probe	
– Calibration ball	

Technical data

	PreSet 3D CNC
Range, X-axis	550 mm
Range, Y-axis	700 mm
Range, Z-axis	400 mm
Maximum distance between table and probe holder (without probe)	543 mm
Maximum distance between the columns at table height	720 mm
Usable surface of the granite plate (with EROWA borehole pattern)	720 x 1300 mm
Resolution, scales	0.0005 mm
Measuring accuracy according to volume (according to M = 0.003 + ISO 10360/2)	M = 0.003 + 0.0035 x L
Axis movement speed	18 m/min
Machine dimensions	
Height	2425 mm
Surface	1060 x 1380 mm
Maximum workpiece load	650 kg
Maximum probe weight	1.2 kg
Machine weight (without load)	760 kg

For additional details, please contact your EROWA dealer.

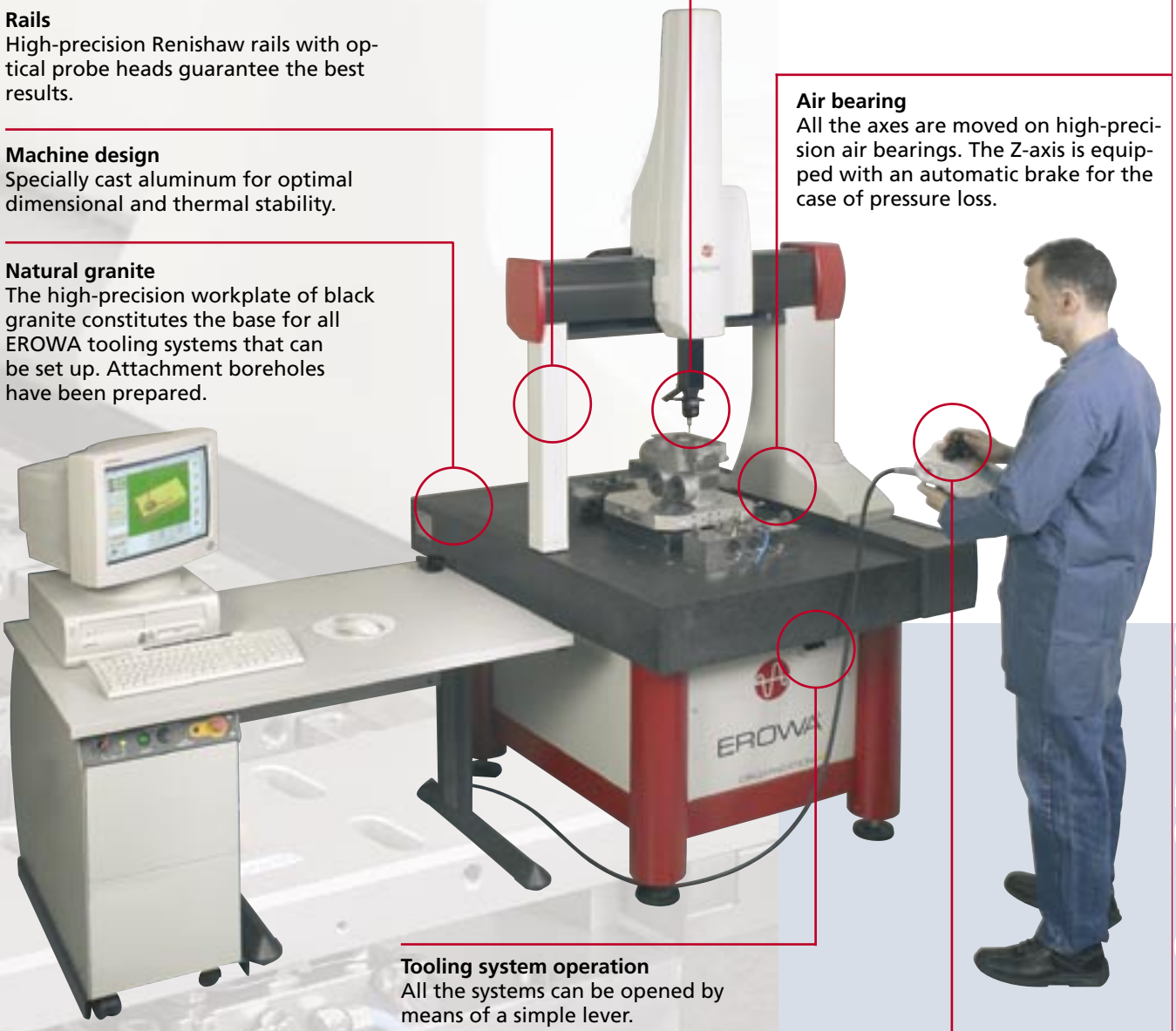
Renishaw probe unit MH20i/TP20
One of the best probing systems for three-dimensional measurement.

Rails
High-precision Renishaw rails with optical probe heads guarantee the best results.

Machine design
Specially cast aluminum for optimal dimensional and thermal stability.

Natural granite
The high-precision workplate of black granite constitutes the base for all EROWA tooling systems that can be set up. Attachment boreholes have been prepared.

Air bearing
All the axes are moved on high-precision air bearings. The Z-axis is equipped with an automatic brake for the case of pressure loss.



Tooling system operation
All the systems can be opened by means of a simple lever.

Software
JMS® Pro PreSet 3D CNC – this graphically designed aid will turn everyone into a measuring specialist.

Motorized axes
All the axes are driven by DC servo motors.

Joystick control
Optimal operation for safe measurement. One joystick for all the axes.

EROWA PreSet 3D CNC – a measuring and presetting cell with many advantages
- More than 60 animated PreSet programs
- Efficient database for all the measured values
- Safe workpiece identification possible with EWIS™
- Many postprocessors additionally available for the conversion of measured data into the machine language

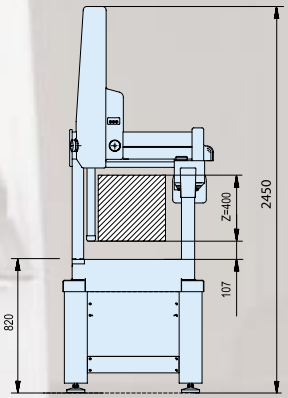
EROWA®

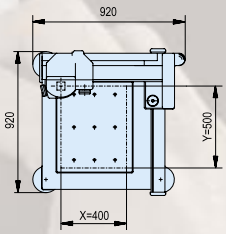
EROWA PreSet 3D
MAN

When it comes to thousandths of a millimeter, you can't do things by halves. PreSet 3D MAN satisfies the most exacting requirements. Due to its modular principle, the system can be flexibly adapted and extended. We assume the system responsibility for the project from installation and training right through to maintenance. Comfortably and competently.

Precision
Base plate, traverse and quill have been crafted from natural hard stone. Portal structure of specially cast aluminum for optimal form stability and temperature stability.









EROWA PreSet 3D MAN	ER-040500
– Measuring machine (working plate with borehole grid for all EROWA tooling systems)	
– Pneumatic control system	
– PC and color printer	
– Presetting software	
– Renishaw measuring probe	
– Calibration ball	

Technical data

Range X-axis	400 mm
Range Y-axis	500 mm
Range Z-axis	400 mm
Maximum distance between table and probe holder (without probe)	515 mm
Maximum distance between the columns at table height	590 mm
Usable surface of the granite plate (with EROWA borehole pattern)	460 x 556 mm
Resolution, scales	0.0005 mm
Measuring uncertainty (according to ISO 10360/2)	M = 0.0025 + 0.003 x L
Machine dimensions	
Height	2450 mm
Surface	920 x 920 mm
Maximum workpiece load	130 kg
Maximum probe weight	1.2 kg
Machine weight (without load)	255 kg

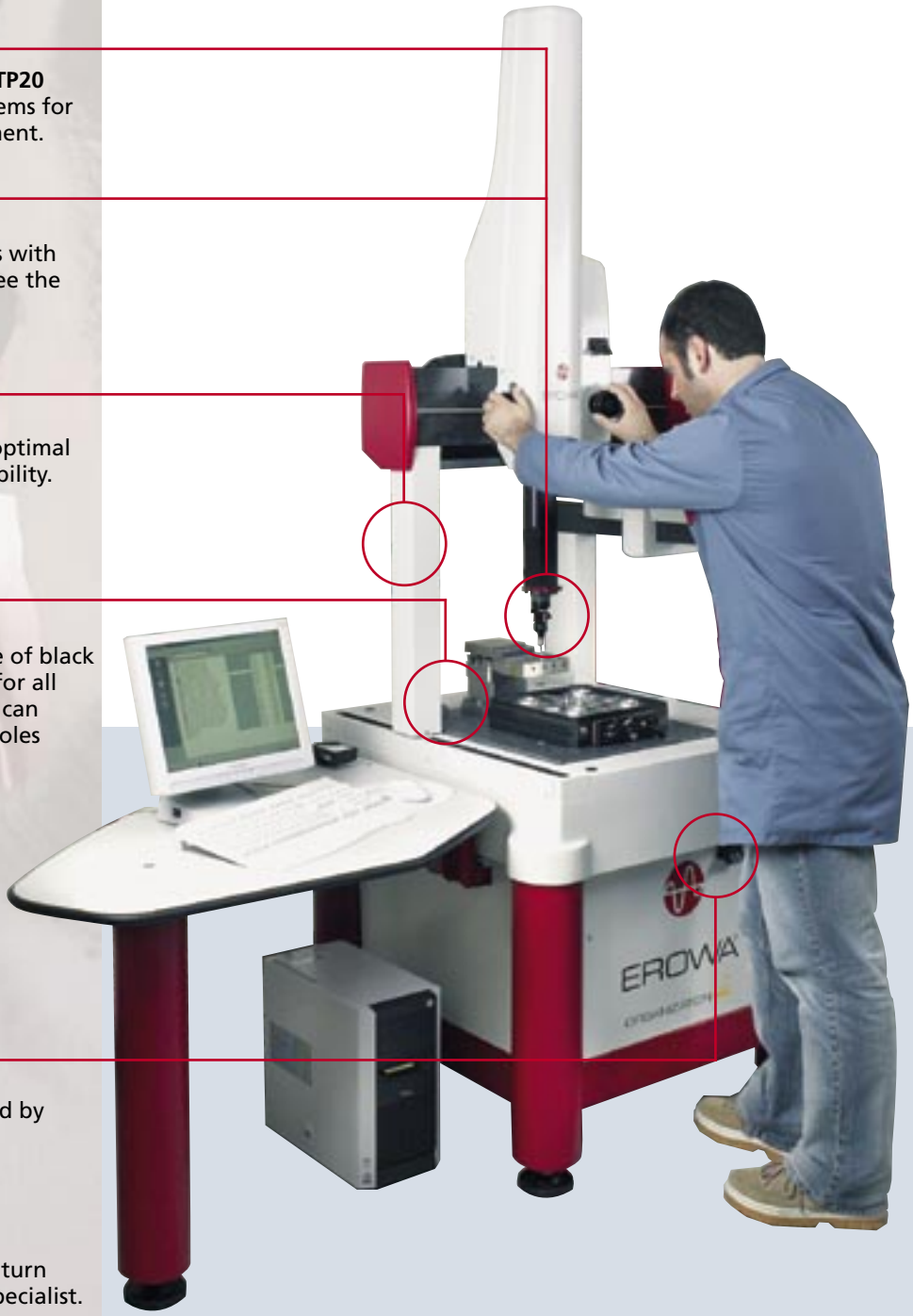
For additional details, please contact your EROWA dealer.

Renishaw probe unit MH20/TP20
One of the best probing systems for three-dimensional measurement.

Rails
High-precision Renishaw rails with optical probe heads guarantee the best results.

Machine design
Specially cast aluminum for optimal dimensional and thermal stability.

Natural granite
The high-precision workplate of black granite constitutes the base for all EROWA tooling systems that can be set up. Attachment boreholes have been prepared.



Tooling system operation
All the systems can be opened by means of a simple lever.

Software
JMS® Pro PreSet 3D CNC – this graphically designed aid will turn everyone into a measuring specialist.

EROWA PreSet 3D MAN –
a measuring and presetting cell with many advantages
- More than 60 animated PreSet programs
- Efficient database for all the measured values
- Safe workpiece identification possible with EWIS™
- Many postprocessors additionally available for the conversion of measured data into the machine language

EROWA®

PreSet 3D MAN

Basic equipment

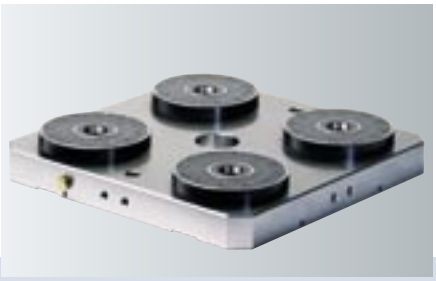
EROWA PreSet 3D CNC and 3D MAN

Measuring stations are equipped with EROWA tooling systems according to requirements. Some of these tooling systems can be mounted on one and the same table in combination.



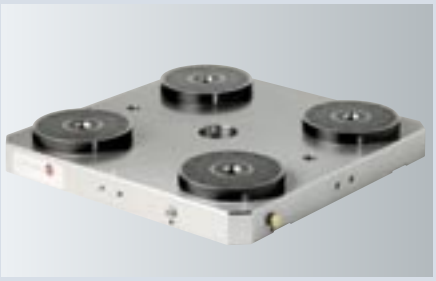
ER-035526 MTS Chuck 3D

Version Pneumatic MTS Single Chuck for PreSet 3D.
Mounting With clamping ring directly to prepared borehole pattern.
Application To accommodate MTS Single ITS 148 P pallets.
Combination The MTS Chuck 3D can be fitted in combination with one of the following systems: FrameSet (on 3D CNC only), PalletSet W, UnoSet, ITS Compact CombiChuck, Power Chuck P.



ER-035527 MTS 360 3D

Version MTS Base plate with four clamping units.
Plate dimension 360 x 360 mm.
Mounting With fitting accessories directly to prepared borehole pattern.
Application To accommodate MTS twofold and fourfold pallets with set-up distance of 200 mm.



ER-035528 MTS 410 3D

Version MTS Base plate with four clamping units.
Plate dimension 410 x 410 mm.
Mounting With fitting accessories directly to prepared borehole pattern.
Application To accommodate MTS twofold and fourfold pallets with set-up distance of 250mm.



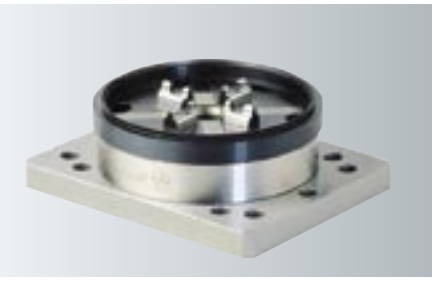
ER-020571 UPC Kit with RSA 100

Version UPC with integrated ITS chuck.
Mounting Directly to prepared borehole pattern.
Application To accommodate all UPC, ITS 148 and ITS 115 pallets, as well as holders 72 and 50.
Combination The UPC can be fitted in combination with one of the following systems: FrameSet (3D CNC only), PalletSet W, UnoSet.



ER-035529 PC 210 3D
ER-035530 PC 210 Combi 3D

Version Pneumatic chucks. PC 210 Combi 3D with integrated PowerChuck.
Mounting With fitting accessories directly to prepared borehole pattern.
Application To accommodate PC 210 pallets. In the combined version, pallets 148 and 115 and holder 72 and 50 can also be clamped.
Combination The PC 210 can be fitted in combination with one of the following systems: PalletSet W, UnoSet.



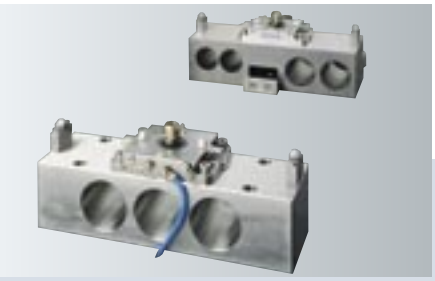
ER-029432 PowerChuck P 3D

Version Pneumatic chuck on base plate.
Mounting Directly to prepared borehole pattern.
Application To accommodate ITS 148 P, 148 and 115 pallets, as well as holders 72 and 50.
Combination The PowerChuck can be fitted in combination with one of the following systems: FrameSet (on 3D CNC only), PalletSet W, UnoSet, MTS chuck.



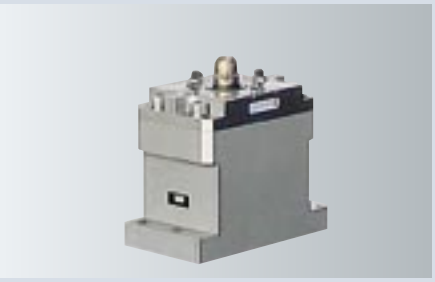
ER-025060 ITS Compact CombiChuck 3D

Version Chuck with integrated Compact Chuck.
Mounting Directly to prepared borehole pattern.
Application To accommodate ITS 148 and ITS 115 pallets, holders 72 and 50, and all the Compact 30 holders.
Combination The ITS Compact CombiChuck can be fitted in combination with one of the following systems: FrameSet (on 3D CNC only), PalletSet W, UnoSet, MTS chuck.



ER-026000 FrameSet Base 3D

Version Pneumatic chuck (only for PreSet 3D CNC).
Mounting With fitting accessories directly to prepared borehole pattern.
Application To accommodate FrameSet clamping frame.
Combination The FrameSet can be fitted in combination with one of the following systems: UPC, PowerChuck P, ITS Compact CombiChuck, MTS Single Chuck.



ER-022683 PalletSet W Base 3D

Version Pneumatic flat chuck mounted on column.
Mounting Directly to prepared borehole pattern.
Application To accommodate all PalletSet W holders.
Combination The PalletSet W can be fitted in combination with one of the following systems: UPC, PowerChuck P, ITS Compact CombiChuck, MTS Single Chuck, PC 210.



ER-012580 UnoSet Kit Support 3D

Version Pneumatic chuck mounted on column.
Mounting Directly to prepared borehole pattern.
Application To accommodate all UnoSet holders, as well as holders 72 and 50, in a horizontal position.
Combination The UnoSet can be fitted in combination with one of the following systems: UPC, PowerChuck P, ITS Compact CombiChuck, MTS Single Chuck, PC 210.

EROWA®

EROWA PreSet 2D

the mobile station that grows with you.

This set-up and presetting station for measurements in the X-, Y-, Z- and C-axes is often used for electrode production in tool and mold making. The table model has an integrated evaluation facility with monitor display.
The station can be optimally equipped with a trolley.

ER-039753 ITS Chuck 100 2D

Repeatability	0.002 mm
Clamping power	6´000 N
For systems	ITS 50/100 Palette P ø 148 PM Palette P ø 85



ER-038958 ITS Compact Combi Chuck 2D

Repeatability	0.002 mm
Clamping power	3´000 N
For systems	ITS 50/100 Compact



ER-038953 ITS Rapid-action chuck 2D

Repeatability	0.002 mm
Clamping power	2´500 N
For systems	ITS 50/100







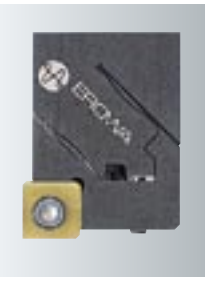
Trolley for PreSet 2D

Technical data

	ER-037930	ER-037940
2D Axis measuring device	**Basic 2D**	**Comfort 2D**
Range X/Y	160 mm	160 mm
Range Z	335 mm	335 mm
Fine adjustment, continuous X, Z, C	integrated	integrated
Scales, maintenance-free, resolution	0.001 mm	0.001 mm
Base with integrated C-axis		
Resolution, rotary encoder	0.002°	0.001°
Concentricity, air bearing	U 0.003 mm	U 0.001 mm
Maximum load	50 kg	50 kg
ITS Tooling System	integrated, select a variant	
HEIDENHAIN evaluation unit		
Special presetting software		
99 different coordination systems		
Interface for PreSoft 2D, EWIS™, QuickLink, printer	RS 232	RS 232
Probing system, EROWA 2D edge sensor		
Probing system X/Y and Z	integrated	integrated
Exchangeable probe elements	optional	optional
Weight, operational	160 kg	160 kg
Option		
EROWA JMS® Pro PreSet 2D	•	•

EROWA PreSet 2D

Options and accessories



EROWA 2D edge sensor **ER-040983**

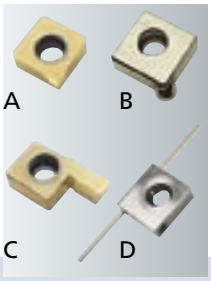
For the precise measurement of sharp edges, angles, diameters and lengths.



Taper adapter

ISO 30	**ER-008852**
ISO 40	**ER-008854**

To preset chip-cutting tools with the relevant taper holders.



Probe inserts

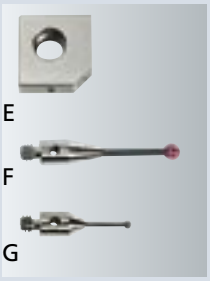
A	**ER-008623**
B	**ER-008562**
C	**ER-008831**
D	**ER-008628**

For the 2D edge sensor.



Compact ITS adapter **ER-020487**

To clamp the Compact system into the ITS system.



Probe insert 3 x M2

E	**ER-009899**
ø 2 mm F	**ER-003350**
ø 1 mm G	**ER-003358**

For the 2D edge sensor.



Fine adjustment Y-axis **ER-011110**

For 2D axis measurement device. Suitable for series measurements with the X- and Z-axes.



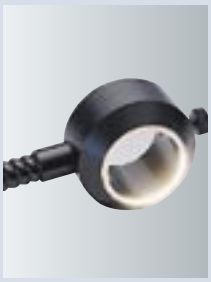
Microscope **ER-008756**

To determine profiles, recesses and boreholes. Magnification factor: 30.



Evaluation station **ER-007805**

To record and process data in JMS® Pro. Printer included.



Cold light

220 V	**ER-032916**
110 V	**ER-032917**

For microscope. For an optimal lighting of the magnification range.

EROWA®

EROWA PreSet Basic

PreSet Basic is the ideal set-up and presetting station for quick checks of Z-heights or for the alignment of workpieces in the Y-axis.



PreSet Basic PalletSet W	ER-023171
Trolley for PreSet PalletSet W	ER-023150
Adapter UnoSet with RSM 50	ER-030645



PreSet Basic UNO	ER-006620
Trolley for PreSet Basic UNO	ER-011936



PreSet Basic UPC	ER-015303
Trolley for PreSet Basic UPC	ER-011936



PreSet Basic PalletSet W Setting-up and presetting station with trolley.

Technical data

PreSet Basic	**PalletSet W**	**UNO**	**UPC**
Weight, operational	105 kg	90 kg	123 kg
Maximum load	30 kg	10 kg	100 kg symetric
Working range X	200 mm	200 mm	150 mm
Working range Y	220 mm	200 mm	280 mm
Working range Z	100 mm	100 mm	310 mm
Display, dial gauge	0.002 mm	0.002 mm	0.002 mm
Probe system	Flexible tower with granite base and analog dial		
Length with trolley	850 mm	750 mm	750 mm
Width with trolley	510 mm	510 mm	510 mm
Height with trolley	1000 mm	1000 mm	1000 mm



PreSet Basic

EROWA®

Measuring tools and options

for EROWA set-up and presetting stations.

A variety of sensible components make it easy for you to have everything under control in a practical manner. These products are invariably supplied with a quality certification.



Alignment pallet MTS 200 ER-037870
Alignment pallet MTS 250 ER-037875

To align the angular position and to establish the center of MTS chucks.

Pallet	396 x 198 mm
Alignment length	200 / 250 mm



Alignment gauge PalletSet W ER-032035

To align the angular position and to establish the center of flat chucks.

Pallet	PalletSet W



Alignment pallet MTS ø 148 ER-037877

To align the angular position and to establish the center of MTS single chucks.

Pallet	ø 148 mm
Alignment length	130 mm



Measuring pin ER-008617

Alignment of radial and axial and angular positions of ITS chucks.



Alignment pallet UPC ER-017777

To align the angular position and to establish the center of UPC chucks.

Pallet	320 x 320 mm
Alignment length	320 mm



Checking pin 50 ER-010723

Alignment of radial and axial positions of ITS chucks.



Alignment pallet PC 210 ER-032907

To align the angular position and to establish the center of PC-210 chucks.

Pallet	Clamping ring PC 210
Alignment length	210 mm



Checking pin for Compact ER-017541

To align the tooling system on the PreSet station.



Alignment pallet ITS ER-032819

To align the angular position and to establish the center of ITS chucks.

Pallet	ø 115 mm
Alignment length	110 mm



Reference pin UnoSet ER-017727

Determination of reference measurements on horizontal chucks.

Borehole	ø 8 mm



Zero master **ER-007796**
To check the «Z = 0 height».



EWIS™ identification system **ER-035990**
Hardware module.
Read/write head and evaluation unit.



Cleaning agent
DIACLEAN **ER-001516**
For granite tables.
Content: 0.1 l.



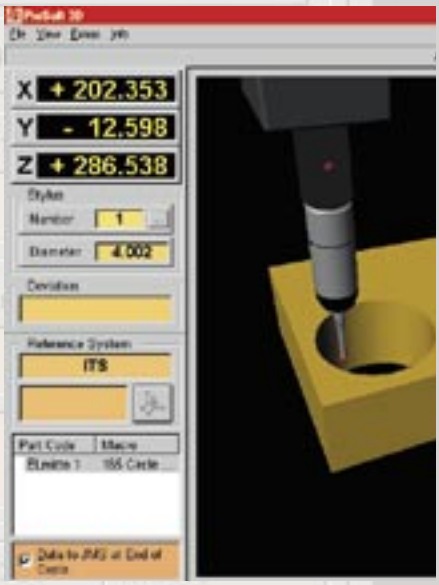
EWIS™ centering with chip **ER-035154**
For pallets and electrode holders.
EWIS™ Chip: read only.
Compatible with the EWIS™ Rapid system.

EROWA®

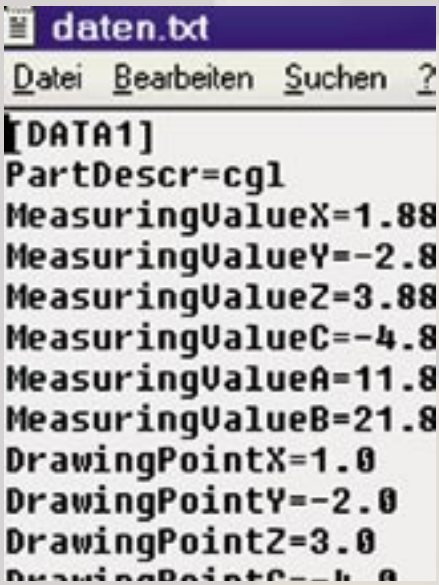
EROWA JMS® Pro Organization

Presetting and measuring made simple.

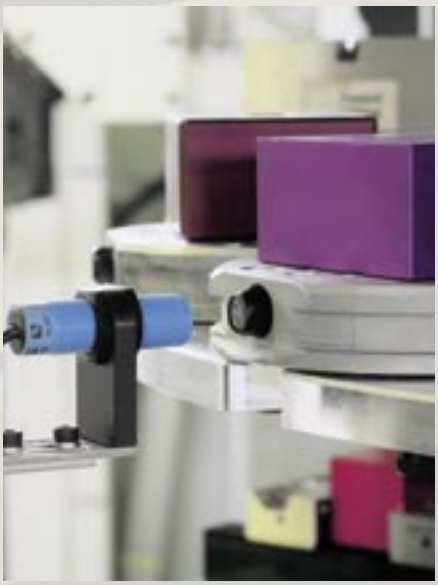
JMS® Pro Organization consists of program modules that are connected with data import, setting up and presetting.
Presetting data are the most important feature of job preparation. They must be accessible from everywhere at all times. For this reason, the EROWA JMS® Pro software stores all the data in a machine-neutral format. Only the relevant JMS® Pro Cell Integration products will convert the data into the desired machine format. The decision as to the center on which the job will be processed need not be made at the point in time when the part is preset. Any available machine can be chosen just before the job is done.



JMS® Pro PreSet 3D
the presetting software with user guidance and automatic data recording in JMS® Pro.



JMS® Pro PreSet Import
links up the most popular measuring stations with JMS® Pro. Data import is largely automatic.



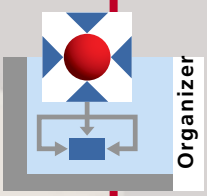
The **EWIS™ Rapid identification system** provides an overview of holders and pallets. With the modern transponder chips, every pallet can be identified at any time. The handling facilities examine the magazine loads automatically. Handheld reading heads are used on the set-up and measuring stations. (The EWIS™ Rapid equipment is available as an option).

Your advantages
- Entry into the EROWA **J**ob **M**anagement **S**ystem.
- A fully developed measuring software is included.
- More than 60 presetting programs are available.
- Quick change from presetting to measuring software with the help of a button.

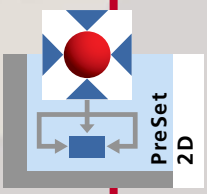
The EROWA JMS® Pro PreSet software package offers all the necessary tools for productive and standard presetting.

JMS® Pro Organization

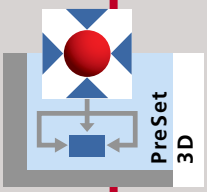
Contains products connected with data import, set-up and presetting.



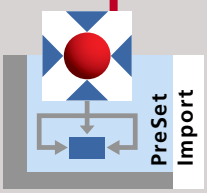
JMS® Pro Organizer
Data organization module for data management and for the set-up and identification of workpieces.



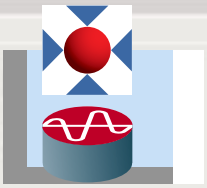
JMS® Pro PreSet 2D
Data organization module for the link-up with the time-tested electrode presetting station.



JMS® Pro PreSet 3D
Data organization module for the integration of the EROWA 3D measuring station.

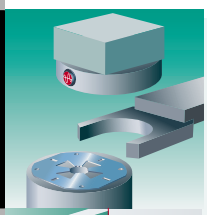


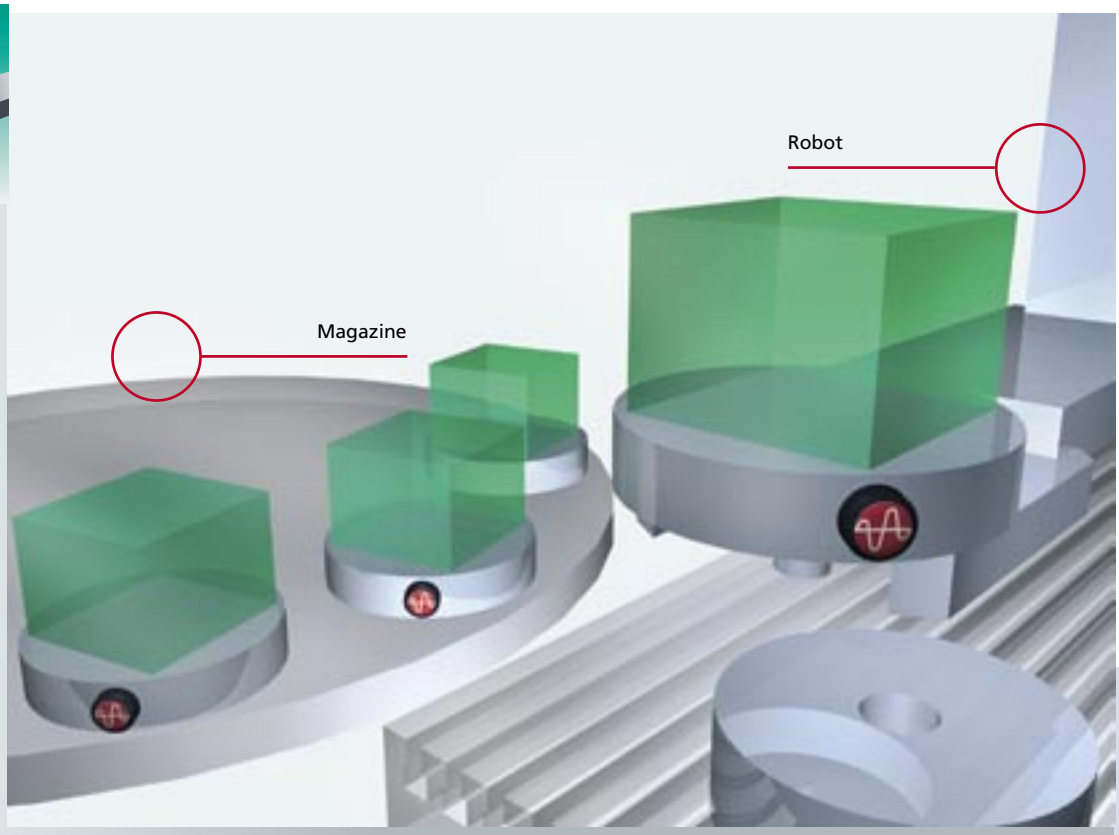
JMS® Pro PreSet Import
Data organization module for the import of data from other measuring stations.



EWIS™ Rapid identification system
The allocation of data to workpieces provides a useful overview. With the modern transponder chips, every pallet can be identified at any time. On set-up and measuring stations, identification is carried out with manual scanners. The EROWA handling facilities record the magazine loads automatically.

EROWA®





Automation of machine tools. This relieves personnel of monotonous work, while at the same time creating a multiple capacity for the output of part and for preparation. It also provides more space for your personnel's creativity.

For chip-removing processes

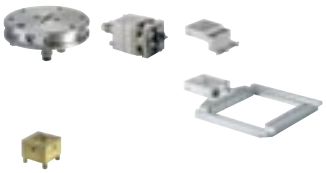
For EDM sinking

For WEDM



EROWA EasyChange^{XT}





up to 120 kg

Page 268 - 271



EROWA Robot Easy







up to 250 kg

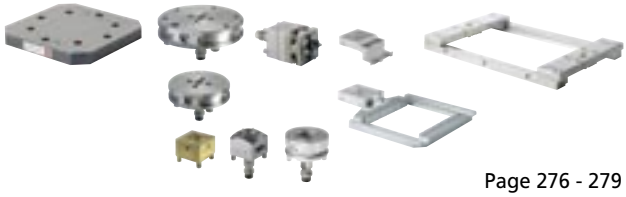
Page 272 - 275



EROWA Robot Multi







up to 80 kg

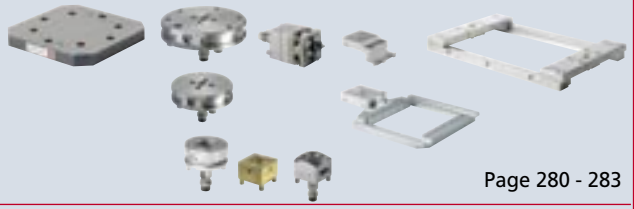
Page 276 - 279



EROWA Robot System ERS







up to 200 kg

Page 280 - 283



EROWA LiftGear





up to 200/250 kg

Page 284 - 285



EROWA Lift





up to 150 kg

Page 286 - 287

EROWA®

The automatic EROWA Handling Devices

Type	EasyChange^{xt} ITS	ITS 148	UPC	UnoSet	PalletSet W	Wire EDM	Robot Easy ITS 50 / 72	ITS 115/148	PalletSet W	PC 210	Robot Easy UPC	MTS 400	MTS 500	Robot Multi Rack	Rotary	ERS ERS Heavy transfer unit	ERS transfer unit	Rack	Rack Heavy	Rotary	Type
Tooling system/ magaz. pos. per level																					Tooling system/ magaz. pos. per level
Compact																					**Compact**
Combi															30					30	**Combi**
ITS 50	20						60								30					30	**ITS 50**
Holder 72							60								30					30	**Holder 72**
PM 85															30					30	**PM 85**
ITS 115								24							15					15	**ITS 115**
ITS 148		10						24							15					15	**ITS 148**
MTS 148															15					15	**MTS 148**
PC 210										12				5	10			2		10	**PC 210**
UPC			4								10			3	3/5			1/2		3/5	**UPC**
MTS 400												6		3	3			1	2	3	**MTS 400**
MTS 500													4	1				1	2		**MTS 500**
UnoSet				10/20											30*					30*	**UnoSet**
PalletSet W					8	8			15					7	15			3/4		15	**PalletSet W**
PalletSet W Frame					4				7					4	3			2		3	**PalletSet W Frame**
FrameSet														2				1			**FrameSet**
Transfer weight kg (incl. pallet)	20	40	120	8	30/15	15	20	40	30/15	130	130	250	250	80**	80**	200**	130**				Transfer weight kg (incl. pallet)
Gripper	S	ø148	RCS I	UnoSet	RCS I	RCS I	S/72	115/148	RCS I	RCS I	RCS I	RCS 5	RCS 5	all EROWA			all EROWA				Gripper
Gripper arm swiveling	–	–	–	–	–		–	–	–	–	–	–	–	option	option	–	option	–	–	–	Gripper arm swiveling
Double gripper	–	–	–	–	–		–	–	–	–	–	–	–	option	option	–	option	–	–	–	Double gripper
EWIS™ Rapid	EWIS™ Rapid ManoLink ManoLink					EWIS™ Rapid Auto-/ManoLink					EWIS™ Rapid Auto-/ManoLink			EWIS™ Rapid Auto-/ManoLink		EWIS™ Rapid Auto-/ManoLink					EWIS™ Rapid

* Suspended in the magazine
**Depending on gripper and tooling system

Technical modifications reserved.

EROWA EasyChange^{XT}
– easy, reliable, economical

The pallet changer for newcomers to automation.

Loading hatch for loading with overhead crane

Remote control unit with emergency off switch

Pneumatic unloading axis
Capacity: 120 kg

Pneumatic transfer axis

Fits existing machines

Interface with machine tool:
M-function / I/O-bit / RS 232

Gripper

Circular frame magazine with
electrical controlled drive

Service door:
– control,
– pneumatic system

Control for «Open door»
of the machine tool

Monitoring of the safety barrier

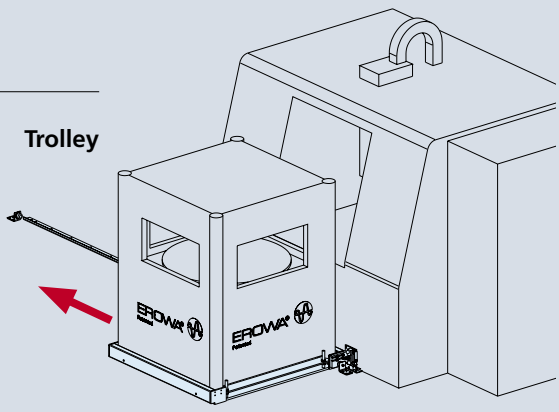
Integral chassis construction

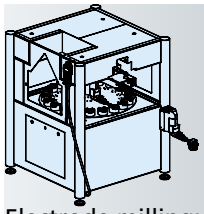
Level adjustment to machine tool



EasyChange^{XT} UPC

Option:
ER-040900 **Trolley**

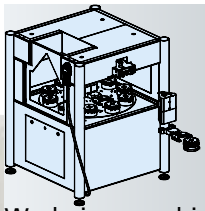




ITS 50



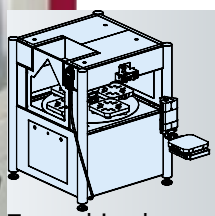
Electrode milling:
EasyChange^{XT} ITS 50



ITS 148



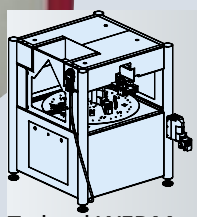
Workpiece machining:
EasyChange^{XT} ITS 148



UPC



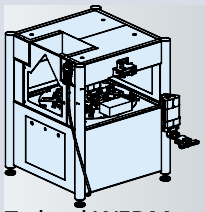
To machine large workpieces:
EasyChange^{XT} UPC



UnoSet



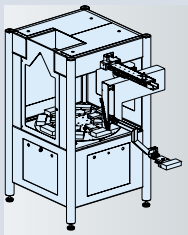
To load WEDM centers:
EasyChange^{XT} UnoSet



PalletSet W
– Frame
– Holder



To load WEDM centers:
EasyChange^{XT} PalletSet W



PalletSet W
– Holder



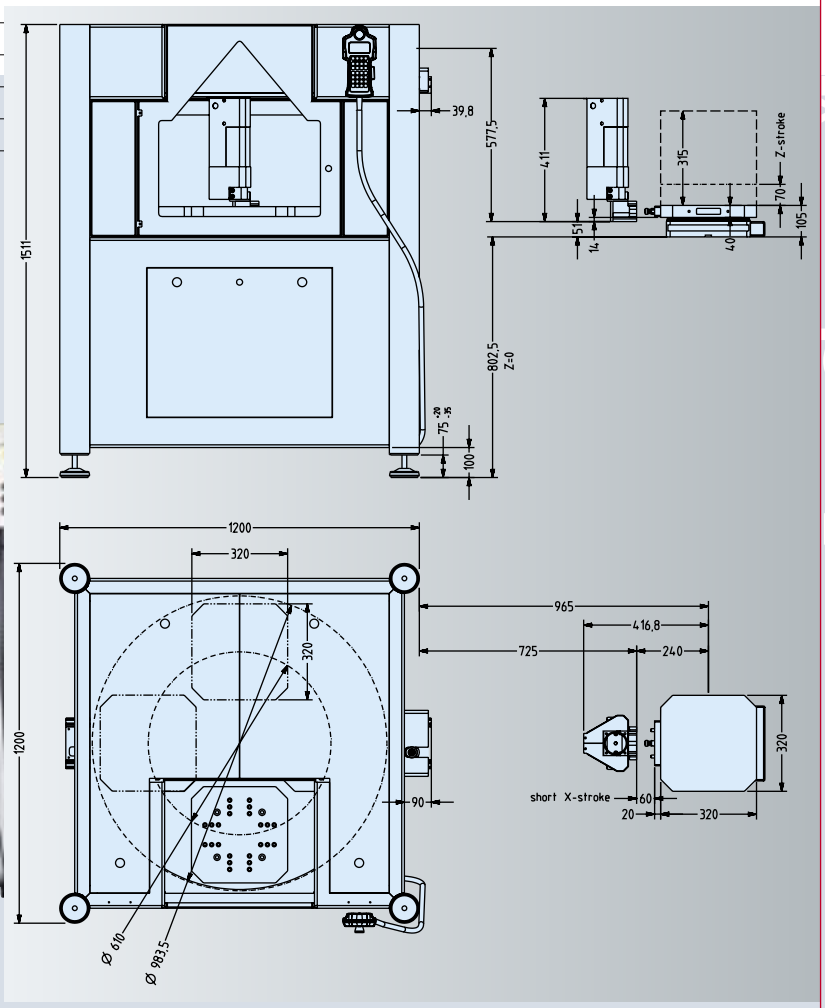
To load WEDM centers:
EasyChange^{XT} Wire EDM

Technical data

	EasyChange^{XT} UPC
Transfer weight	120 kg
Magazine positions	4
Magazine levels	1
Magazine load	max. 320 kg
Workpiece dimensions	320 x 320 x 315 mm
System gripper	UPC-RCS
Connections	
Pneumatic system min. pressure	5 bar
Pneumatic system consumption	150 l/min
Electrical system	
Voltage (V+PE)	230/115
Frequency (Hz)	50/60
Power (kVA)	0.15
Nominal current (A)	0.8
Control	
Type	SPS
Interface	M-function / I/O Bit / RS 232
Version	
Weight empty	400 kg
Weight, fully loaded	720 kg
Color columns / chassis	RAL 3000 / 7035
Safety aspects	
Emergency off	Yes
Stop	Yes
Stop external (barrier, door)	Yes
CE conformity	Yes



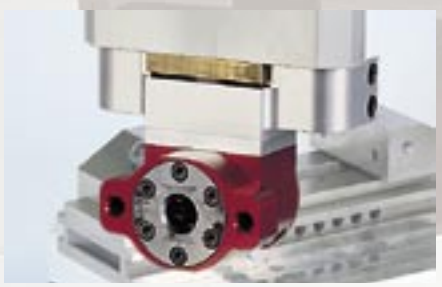
One concept, six alternatives. EasyChange^{XT} is the handling device to be fitted to existing and new machining centers.



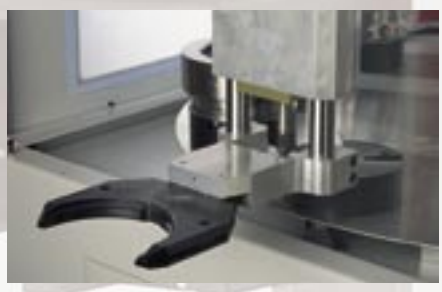
EROWA EasyChange^{XT}
– for a concerted use

One concept, six alternatives. EasyChange^{XT} is the handling device to be fitted to existing and new machining centers.

The grippers



Gripper RCS for UPC pallets
Strong transfer axis with pneumatic drive
Transfer weight: 120 kg

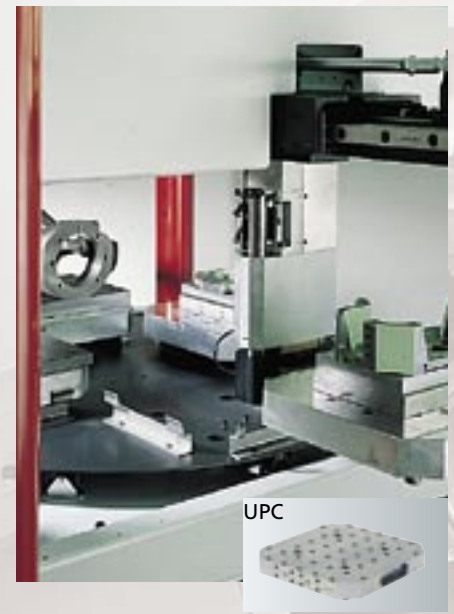


Grippers for ITS 148 pallets
Transfer weight: 40 kg



Grippers S for ITS holders and pallets
Transfer weight: 20 kg

The magazines



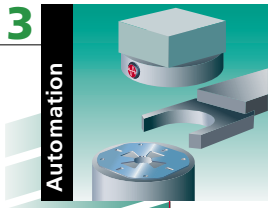
Magazine for 4 UPC P
320 x 320 x 315 mm



Magazine for 10 ITS 148 pallets
Max. workpiece size:
ø 270 x 290 mm



Magazine for 20 ITS holders 50
Max. workpiece size:
100 x 200 mm

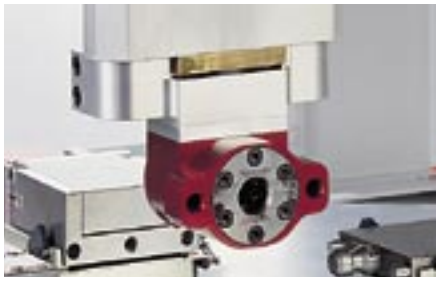


Functions
- Level adjustment to machine tool
- Drip pan for cooling liquid
- Control of the machine door
- Monitoring of the safety barrier

Spindle running time:
6000 hours/year
The handling devices load automatically, even outside working hours.



Gripper for UnoSet pallets
Transfer weight: 8 kg



Gripper RCS for PalletSet W
Transfer weight: 30 kg



Practical hatch for loading with LiftGear UPC and overhead crane.



Magazine for 10 UnoSet pallets
Max. workpiece size:
140 x 140 mm
Workpiece height:
max. 240 mm from Z = 0.



Magazine for 4 PalletSet W frames
Max. workpiece size: 290 x 390 mm



Remote control unit
Extremely easy operation with loading and unloading functions.

EROWA

EROWA Robot Easy – state-of-the-art handling facility for large and heavy workpieces

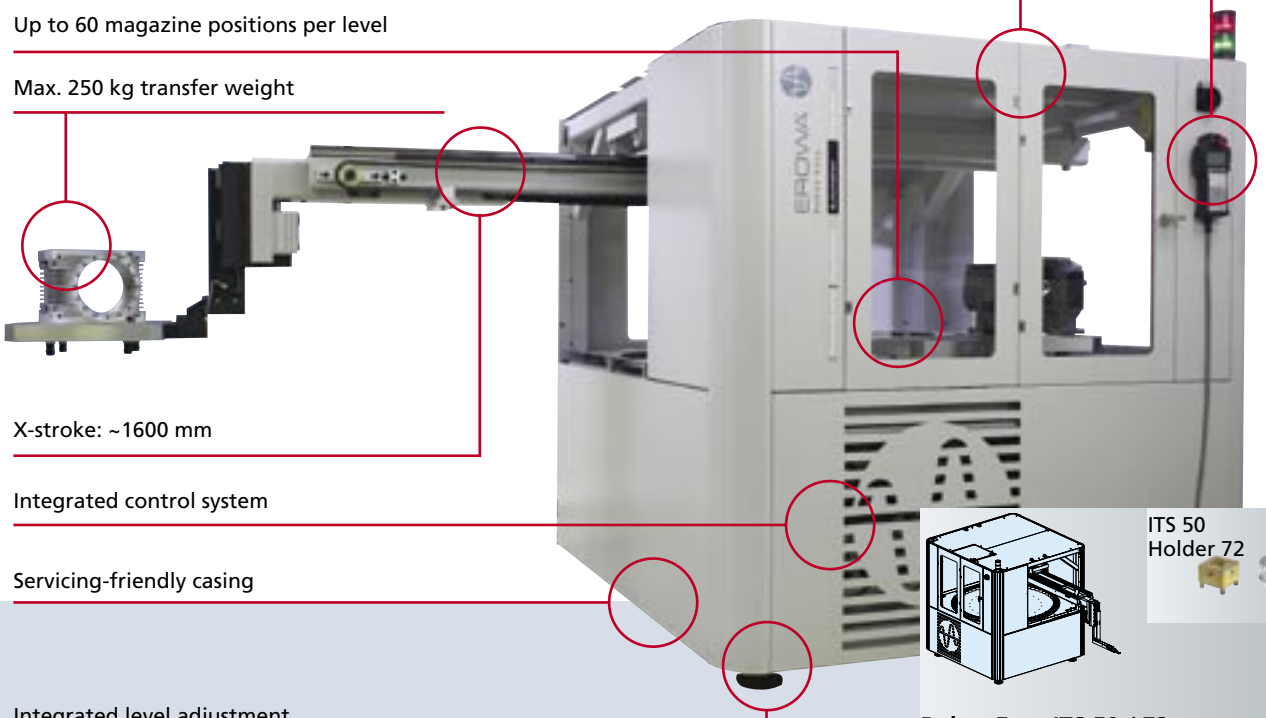
For heavy parts and great transfer distances.

Modern user guidance with logical structure

Simple magazine loading, accessible to loading crane

Up to 60 magazine positions per level

Max. 250 kg transfer weight



X-stroke: ~1600 mm

Integrated control system

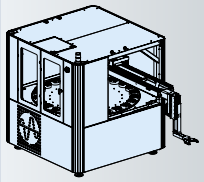
Servicing-friendly casing

Integrated level adjustment

EWIS™ AutoLink Rapid as an option

ITS 50
Holder 72

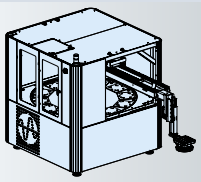
Robot Easy ITS 50 / 72



ITS 115/148



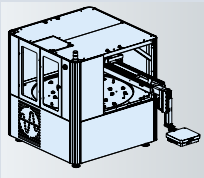
Robot Easy ITS 115 / 148



PC 210



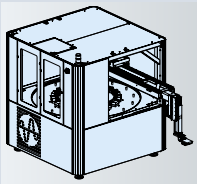
Robot Easy PC 210



MTS 400



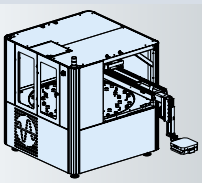
Robot Easy ITS MTS 400



PalletSet W
– Frame
– Holder



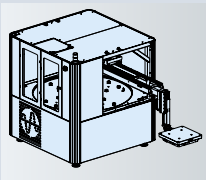
Robot Easy PalletSet W



UPC



Robot Easy UPC



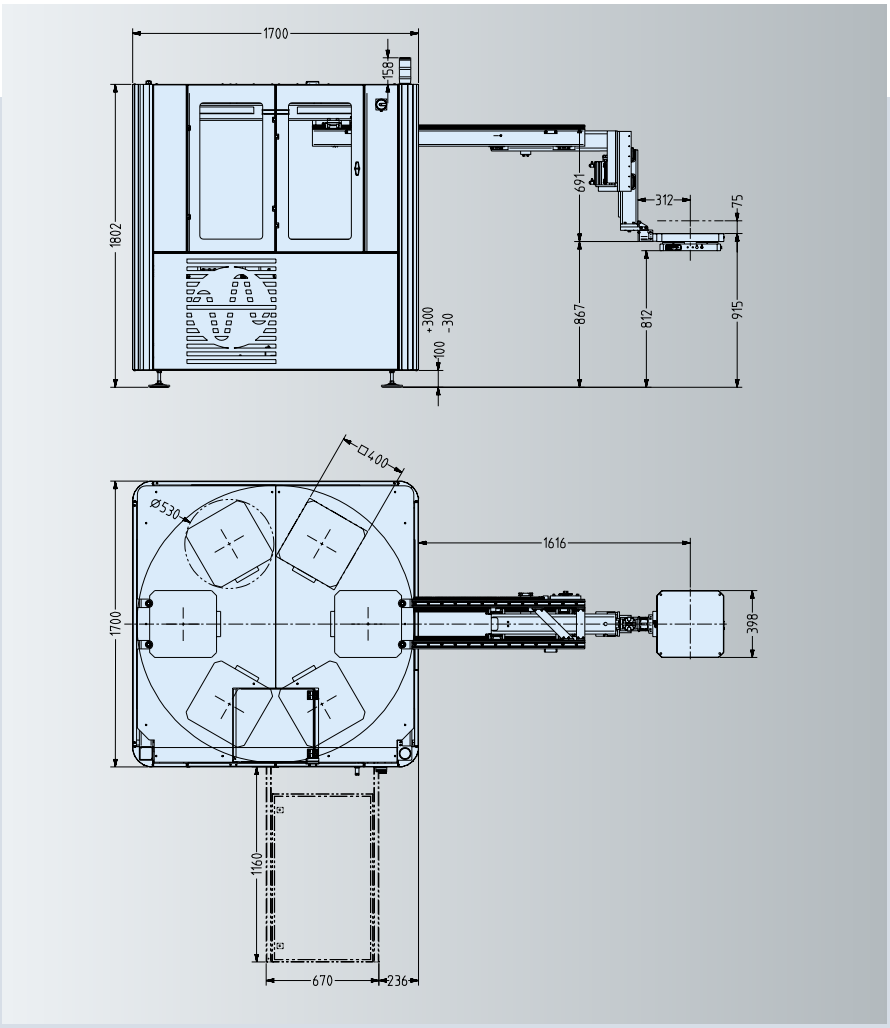
MTS 500



Robot Easy ITS MTS 500

Technical data

	EROWA Robot Easy MTS
Transfer weight	250 kg
Axes	
M- and X-axes controlled	X: stroke ~1600 mm
Z-axis pneumatic	Z: stroke 75 mm
Pneumatic system	
Min. pressure / max. consumption	5 bar / 200 l/min.
Electrical system	
Voltage (V+PE)	3x400
Frequency (Hz)	50/60
Power (VA)	710
Nominal current (A)	3.5
Control system	Embedded PC
Interface	Serial RS232 M-function parallel I/O Bit
Protocol	EROWA Standard EROWA EWIS
Remote diagnosis	Yes
Workpiece identification	EWIS™ Rapid
JobManagement	JMS® Pro



EROWA

EROWA Robot Easy –
for more productive time on machine tools

Reliable loading/unloading of workpieces of up to 250 kg in weight.

The grippers



Gripper RCS 5 for pallets MTS 400/500.
Transfer weight: 250 kg

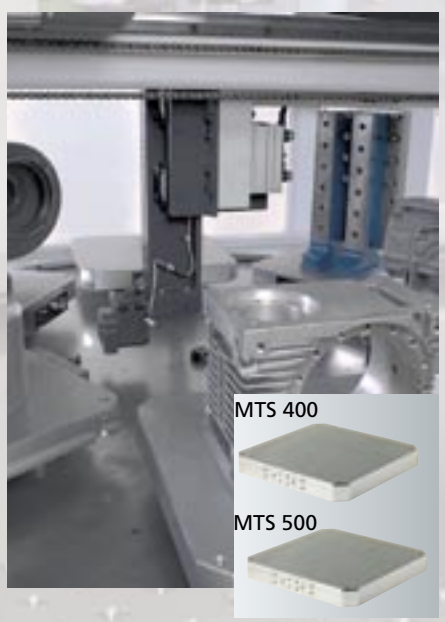


Gripper RCS I for PalletSet W holder and frame, PC 210 pallets and UPC pallets.
Transfer weight: 130 kg

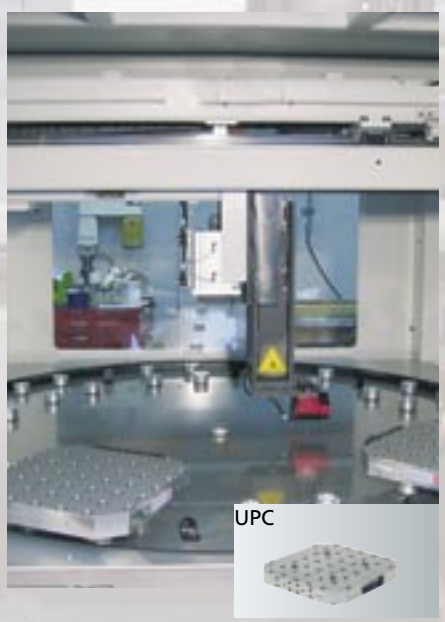


Gripper 115 for ITS pallets ø 115.
Gripper 148 for ITS pallets ø 148.
Transfer weight: 40 kg

The magazines



Magazine for 4 **MTS 500 pallets** or 6 **MTS 400 pallets**
Max. workpiece size:
MTS 500
510 x 510 mm or ø 600 mm
MTS 400
400 x 400 mm or ø 530 mm



Magazine for 10 UPC pallets
Max. workpiece size:
310 x 310 mm or ø 340 mm



Magazine for 12 pallets PC 210
Max. workpiece size:
260 x 260 mm or ø 325 mm

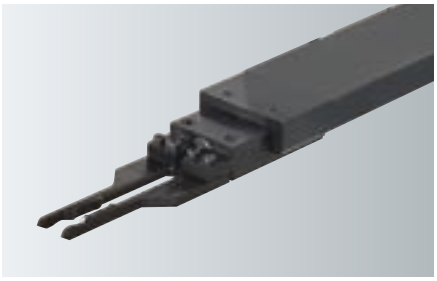


Logical user guidance

The navigation through the menu structure is as simple as with a mobile phone.



Gripper 72 for holder ø 72.
Transfer weight: 20 kg



Gripper S for ITS holder and pallets.
Transfer weight: 20 kg



Workpiece identification within seconds

EWIS™ Rapid identifies all the cell positions and transmits them to the cell computer.



ITS 115/148

Magazine for 24 **pallets ITS 115**
or 24 **pallets ITS 148**
Max. workpiece size:
24 x max. ø 180 mm



ITS 50
Holder 72

Magazine for 60 **ITS 50**
or 60 **holder ø 72**
Max. workpiece size:
60 x max. ø 70 mm or
30 x max. ø 140 mm



PalletSet W
– Frame
– Holder

Magazine for 15 **PalletSet W holder**
or 7 **PalletSet W frames**
Max. workpiece size: 220 x 225 mm

EROWA®

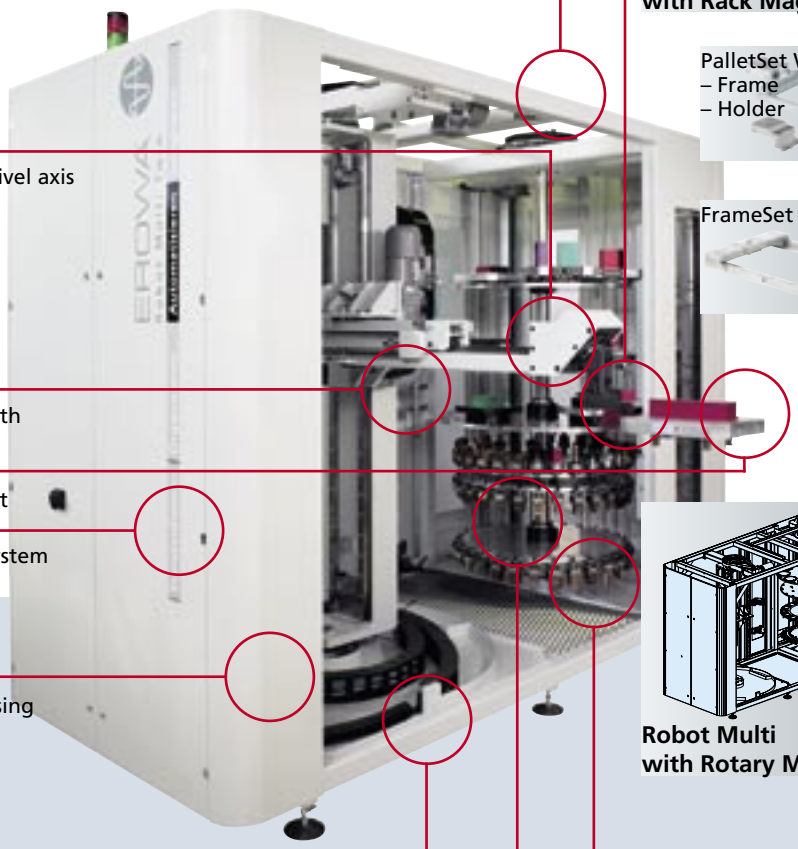
EROWA Robot Multi

for 270 workpieces and electrodes

To load one or two machines.

X-stroke 1200 mm

Magazine can be loaded from 3 sides and is accessible for loading crane



Gripper arm with swivel axis

Fast change times with double gripper

80 kg transfer weight

Integrated control system

Servicing-friendly casing

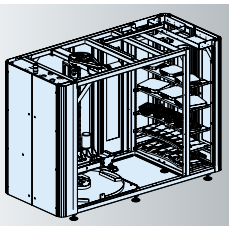
Short starting-up times through compact monobloc design

Up to 270 magazine positions

Reading time < 30 seconds for the whole magazine with workpiece identification EWIS™ Rapid

To load one or two machines with 6 chucks max.

Barriers attached to Robot



Robot Multi with Rack Magazine

PC 210



UPC

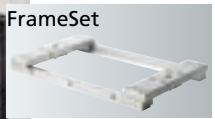


PalletSet W
– Frame
– Holder

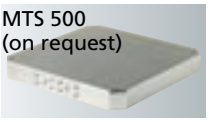
MTS 400



FrameSet



MTS 500
(on request)



Robot Multi with Rotary Magazine

Compact



ITS 50
Holder 72



PM 85
PM 56
PM 130



ITS 115/148
MTS 148



PC 210



UPC



PalletSet W
– Frame
– Holder

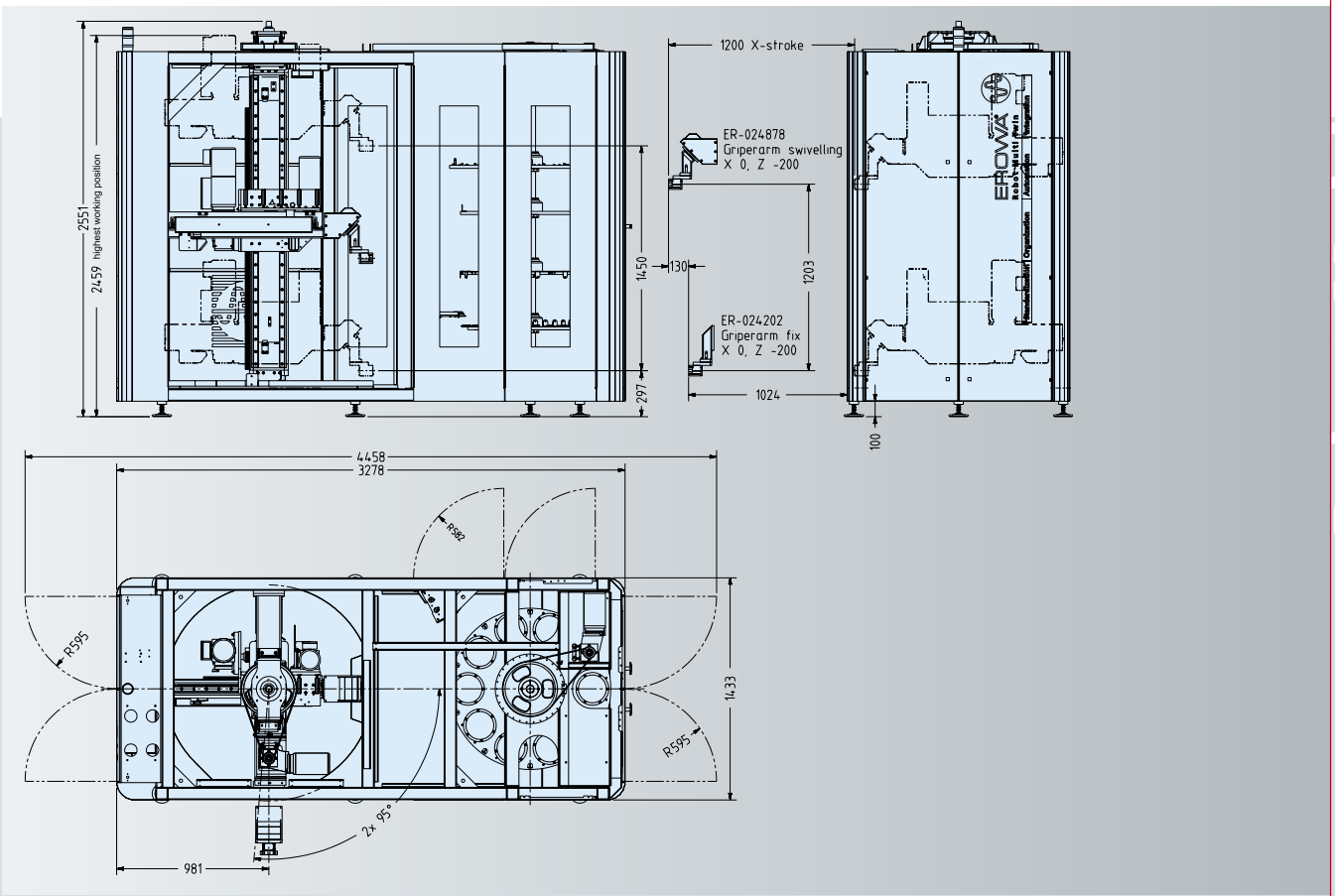


MTS 400



Technical data

	EROWA Robot Multi	
Transfer weight	80 kg	
Magazine levels, max.	Rotary 9	Rack 9
Magazine load max.	Rotary 1500 kg	Rack 1900 kg
Electrically driven and controlled	X-stroke 1200 mm	Z-stroke 1450 mm
Pneumatic system		
Min. pressure/max. consumption	5 bar / 200 l/min.	
Electrical system		
Voltage (V+PE)	3x400	
Frequency (Hz)	50/60	
Power (kVA)	3.6	
Control system	Embedded PC	
Interface	Serial RS232 / 422 M-function Parallel I/O Bit	
Protocol	EROWA Standard EROWA EWIS Divers	
Remote diagnosis	Yes	
Workpiece identification	EWIS™ Rapid	
JobManagement	JMS® Pro	



Robot Multi

EROWA®

EROWA Robot Multi – a great deal of autonomy for one or two machines

For milling, grinding, EDM or WEDM.

The magazines



5 PC 210



7 PalletSet W – Holder



3 UPC



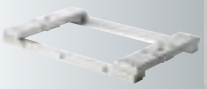
4 PalletSet W – Frame



3 MTS 400



1/2 FrameSet



1 MTS 500



The Robot Multi Rack Magazine

The individual boards are combined according to customer specifications. Up to nine levels are possible per rack.
Board, max. load/magazine position: 80 kg
Magazine, max. load: 1900 kg



30 Compact



30 ITS 50 Holder 72



10 PC 210



30 PM 85



3/5 UPC



30 UnoSet



15 ITS 115/148
15 MTS 148



3 MTS 400



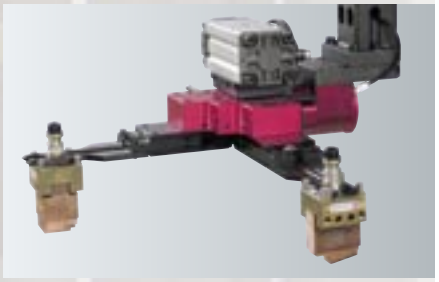
15 PalletSet W – Holder



3 PalletSet W – Frame



The grippers



Double gripper

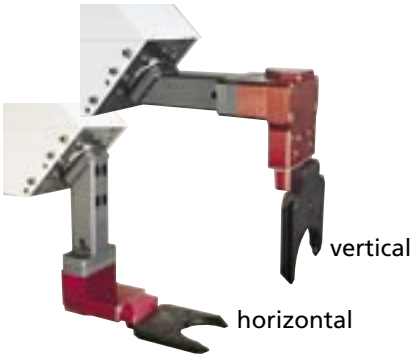
Fast workpiece change with double gripper. The gripper is automatically allocated and exchanged correctly.



Gripper change

The gripper arm and the grippers are defined according to application requirements. When a mixed tooling system is used, the corresponding grippers are exchanged automatically.

The **gripper station** stores all the required EROWA system grippers. It saves space, is protected and automatically accessible.



Horizontal:
The Robot Multi also serves CNC machines with vertically aligned chucks. The swiveling gripper arm turns the palletized workpiece into the right position.



Logical user guidance

The navigation through the menu structure is as simple as with a mobile phone.

Gripper type	Tooling system	Max. load in kg[2)] Vertical	Horizontal
RCS	MTS, UPC, PC 210, PalletSet W	80	80
RCS Gripper S	ITS 50, ITS115/148, Holder 72	20	10
RCS Gripper 115	ITS 115, RoboSet UNO	40	30
RCS Gripper 148	ITS 148	40	30
RCS Gripper Combi	ITS Compact Combi	8	5
RCS FrameSet	FrameSet	80	–

[2)] The maximum load refers to the gripper type.



Workpiece identification within seconds

EWIS™ Rapid identifies all the cell positions and transmits them to the cell computer.



EROWA Lift as an option

EROWA Lift (option ER-030087). Safe and quick loading and unloading of pallet magazines with heavy workpiece carriers.

EROWA®

EROWA Robot System ERS
– one for all

Handling facility for all EROWA tooling systems.



Transfer unit with X-, Z- and C-axis
130 kg transfer weight
Swivel range, C-axis: 350°

PC control
Interfaces prepared for
M-function, serial or parallel

Compact



ITS 50
Holder 72



PM 85
PM 56
PM 130



ITS 115/148
MTS 148



PC 210



UnoSet

UPC



PalletSet W
– Frame
– Holder

MTS 400



FrameSet

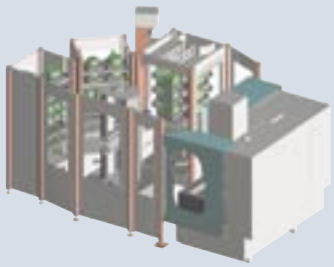


MTS 500



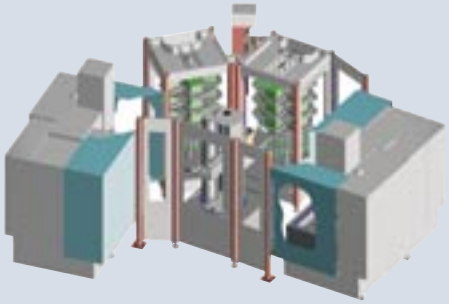


EROWA ERS Heavy to load/unload heavy workpieces.



Example of a facility for **"mixed production"**, consisting of:
- Transfer unit
- Gripper dock
- Two rack magazines UPC
- One rotary magazine UPC / ITS 50
- One EROWALift
- Safety barriers
- EROWA JMS® Pro Job Management System

This configuration is suitable for mixed production of small batch sizes.

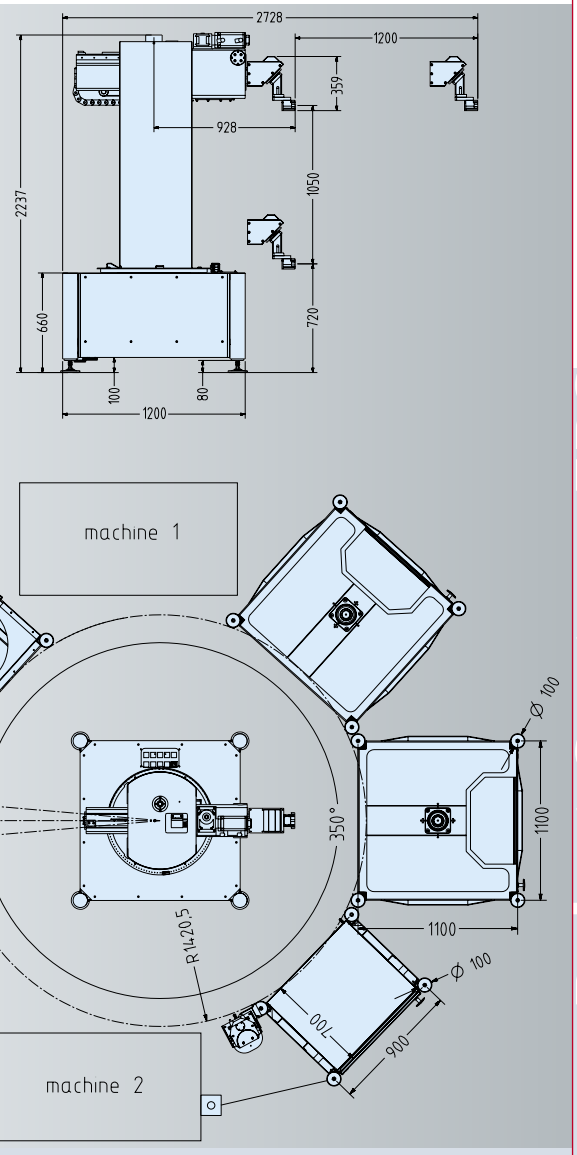


Example of a **"two-machine"** unit, consisting of:
- Transfer unit
- Gripper dock
- Two rotary magazines UPC / ITS 50
- One EROWA Lift
- Safety barriers
- EROWA JMS® Pro Job Management System

This configuration is particularly suitable for the flexible operation of two independent machining centers.

Technical data

Performance	ERS	ERS Heavy
Transfer weight	130 kg	200 kg
Magazine positions	variable <1000	variable
Magazine levels	up to 8	up to 8
Double gripper	Yes	–
Gripper change	Yes	Yes
Swivel range		
A-axis	±180°	–
C-axis	350°	350°
Movement X-axis	1200 mm	1200 mm
Movement Z-axis	1050 mm	1050 mm
Axis control	simultaneous	simultaneous
Connections		
Pneumatic system min. pressure	5 bar	
Consumption	150 l/min	
Electrical system		
Voltage (V+PE)	3 x 400	
Frequency (Hz)	50/60	
Power (kVA)	3	
Nominal current (A)	4.3	
Control		
EROWA interface	M-function serial (RS 232/422) I/O-Bit	
Protocol	EROWA Standard/ EROWA EWIS	
EWIS identification	Yes	
EROWA JMS® Pro integration	Yes	



EROWA

EROWA Robot System ERS – a handling facility for all tooling systems



ERS Loading Station

The loading station serves to accommodate all the pallets that are ready to be machined. The ERS then collects the workpieces from there and loads them onto a magazine position. When the parts are completed, the ERS returns them to the loading station. Heavy pallets can be handled with the EROWA Lift.
The loading station is also suitable for reclamping workpieces into fixtures.

The magazines



2 PC 210



3/4 PalletSet W – Holder



1/2 UPC



2 PalletSet W – Frame



1 MTS 400



1 FrameSet



1 MTS 500



ERS Rack magazine

The individual boards are combined according to customer specifications. Up to eight levels are possible per rack.

Board max. load 260 kg
Magazine max. load 1500 kg

ERS Heavy Rack magazine

Particularly stable magazine for heavy workpieces. Up to eight levels are possible per heavy rack magazine.

Board max. load 400 kg
Magazine max. load 2000 kg

2 MTS 400



2 MTS 500





30 Compact



30 ITS 50 Holder 72



10 PC 210



30 PM 85



3/5 UPC



30 UnoSet



15 ITS 115/148
15 MTS 148



3 MTS 400



15 PalletSet W – Holder



3 PalletSet W – Frame



The grippers



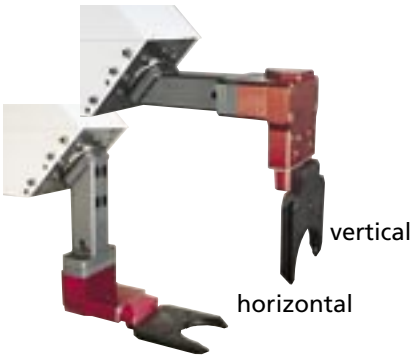
MMI remote control unit

The MMI remote control unit displays the current status of the handling facility in plain text.



ERS Gripper dock

The gripper station stores all the required EROWA system grippers. It saves space, is protected and automatically accessible.



Horizontal:
The ERS also serves CNC machines with vertically aligned chucks. The swiveling gripper arm turns the palletized workpiece into the right position.



Workpiece identification within seconds

EWIS™ Rapid identifies all the cell positions and transmits them to the cell computer.

Gripper type	Tooling system	Max. load in kg[1)] Vertical	Horizontal
RCS 5	MTS	130 / 200**	130 / 200**
RCS	UPC, PalletSet W, RoboSet DUO	130	130
RCS Gripper S	ITS 50, ITS115/148, Holder 72	20	10
RCS Gripper 115	ITS 115, RoboSet UNO	40	30
RCS Gripper 148	ITS 148	40	30
RCS Gripper Combi	ITS Compact Combi	8	5
RCS FrameSet	FrameSet	100	–

[1)] Maximum load depends on the gripper type.
**) ERS Heavy 200 kg; ERS 130 kg.



EROWA Lift as an option

EROWA Lift (option ER-030087). Safe and quick loading and unloading of pallet magazines with heavy workpiece carriers.

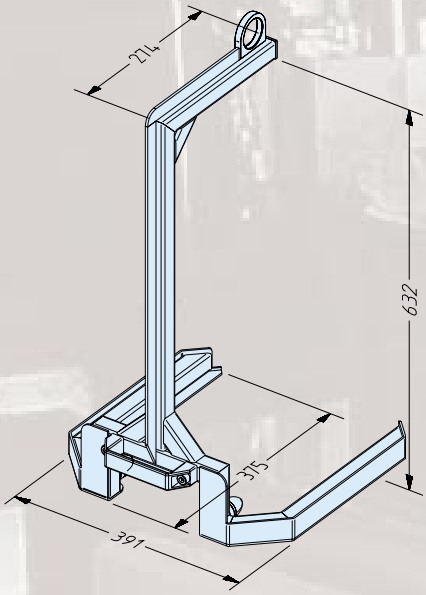
EROWA®

Pallets weighing more than 20 kg must be inserted into the UPCs or MTS chucks on the machine in a gentle and accurate manner. With the LiftGear and an overhead crane, this is child's play. Adjusted to use with the pallet system and the facilities that go with it, such as a PreSet station, and EasyChange^{XT} or an EROWA Robot Easy, the LiftGear is a must in every workshop.

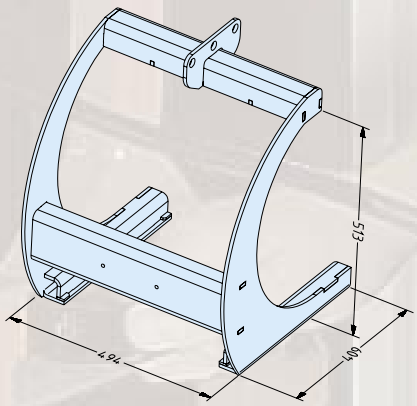
Your advantages
- Gentle machine loading.
- Increase in quality through careful and safe handling.
- Operators are relieved of potentially hazardous working processes in conformity with safety requirements.



Applications:
Loading of machine tools, pallet magazines, Robot magazines, presetting and measuring stations.



LiftGear UPC



LiftGear MTS

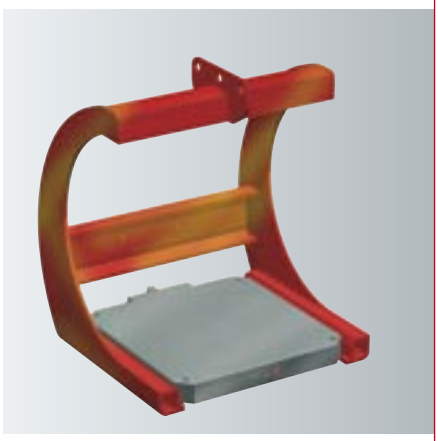


LiftGear UPC helps to change workpieces quickly, accurately and simply.





Loading of an EasyChange^{XT} UPC pallet changer with LiftGear.



LiftGear MTS.



LiftGear with a PreSet Basic UPC.



Insertion of a UPC pallet on a universal milling machine.

Technical data

	ER-037477	ER-042800	on request
	LiftGear UPC	**LiftGear MTS 400**	**LiftGear MTS 500**
Transfer weight	200 kg, incl. pallet	250 kg, incl. pallet	250 kg, incl. pallet
Pallet type	UPC 320 x 320 mm	MTS 400	MTS 500
Maximum workpiece dimensions L x W x H	400 x 500 x 500 mm	400 x 450 x 400 mm	500 x 500 x 450 mm

EROWA®

EROWA Lift

EROWA Lift is a loading device that satisfies the manufacturing professionals´ requirements. Machining times in this field average around 10–25 minutes per part. This means that there is a high frequency of pallet changes per day. To ensure that EROWA Lift is always ready when needed, it is permanently installed next to the machine.



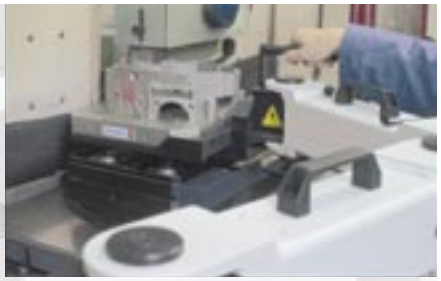
Good accessibility in the machining area thanks to a lean design.

Many advantages of EROWA Lift:
- Safe operation.
- Precise movements in the horizontal and vertical axes.
- Weights of up to 150 kg can be moved easily.
- Fits any CNC-machine with door.
- Serves any EROWA handling devices from EasyChange^{XT} to Robot System.
- Grippers available for all EROWA tooling systems.
- Safety-compatible relief for machine users.

The transport of heavy pallets is easy. EROWA Lift primarily loads and unloads the machine. This is why it is permanently installed. This is substantially simpler than a mobile version, with regard to safety regulations.

Applications:
Loading of machine tools, pallet magazines, Robot magazines, quill chucks, measuring stations.

EROWA Lift:
– Lift column
– Lift motor with control unit (two-phase)
– Extender arm
– Floor plugs



Precise and light movement even with high workpiece weights.



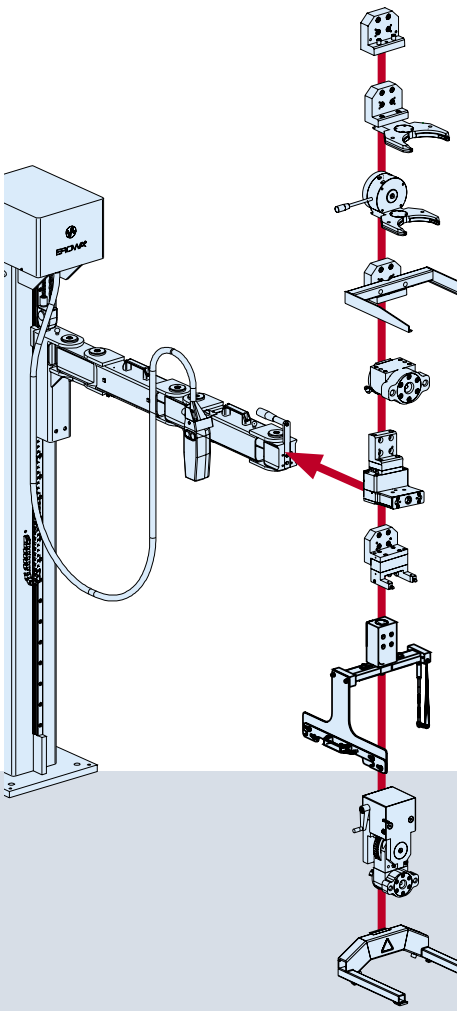
Fits any machine, thanks to a working range of 1200 mm and a flexible arm.



Safe operation even with heavy workpieces.



Lifting a pallet from the transport system.



ER-016362 (on request)	**Gripper UPC**
ER-030192	**ITS Gripper 148**
ER-030203	**UPC Gripper 320**
ER-030186	**Coupling RCS I**
ER-030176	**Coupling RCS II**
ER-030208	**Gripper RoboSet**
ER-030218	**Gripper FrameSet**
ER-033290 (on request)	**Gripper RCS swiveling**
ER-042568	**Gripper MTS 400**
ER-000000 (on request)	**Gripper MTS 500**

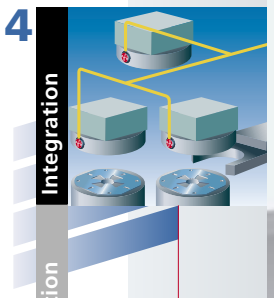
(Grippers to be ordered separately.)

Technical data

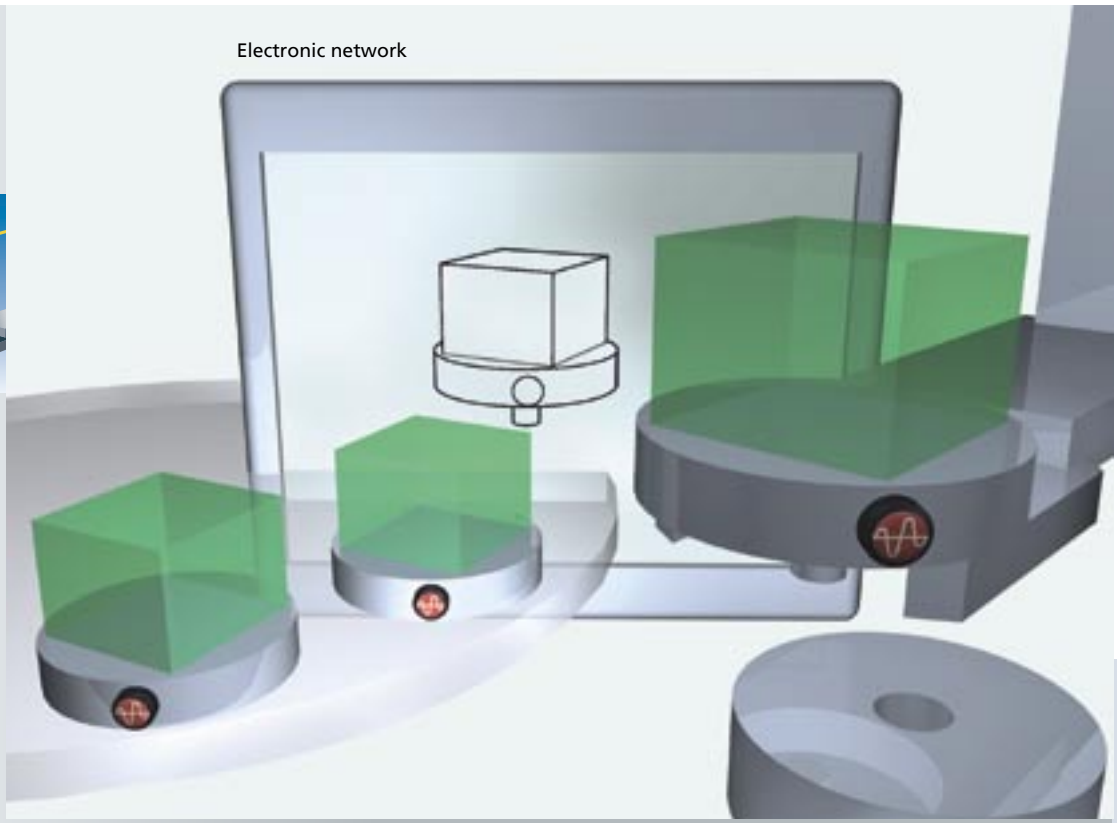
ER-030087	**EROWA Lift**
Transfer weight incl. pallet	150 kg
Kinetic system	Swivel range 360° Vertical axis 1340 mm (without gripper) Horizontal axis 1200 mm
Height	2255 mm
Pneumatic system, pressure	min. 5 bar/max. 6 bar
Electrical system	3 x 380/440 V (standard) 50 Hz* (standard)
Floor anchoring	4 x M12
Alignment	Leveling bolts

* additional voltages on request

EROWA®



Electronic network

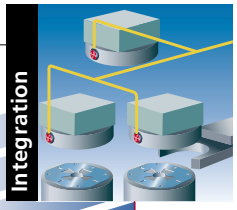


Integration of systems and communication channels. This precludes sources of error as much as possible, and will guarantee a faster flow of communication.

For chip-removing processes

For EDM sinking

For WEDM



Automatically documented production process

Page 290 - 291

EROWA JMS® Pro
Data and material flow under control

Page 292 - 293

EROWA JMS® Pro
From production cell to integrated manufacturing

Page 294 - 295

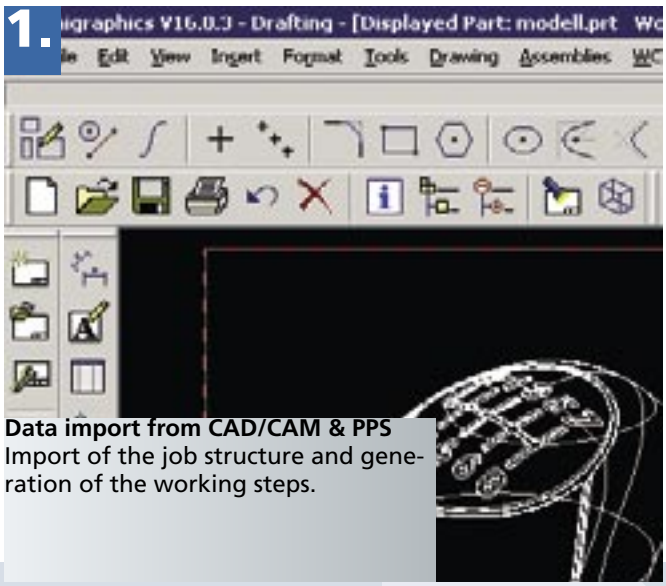
EROWA JMS® Pro
A survey of the products

Page 296 - 297

EROWA®

Automatically documented production process

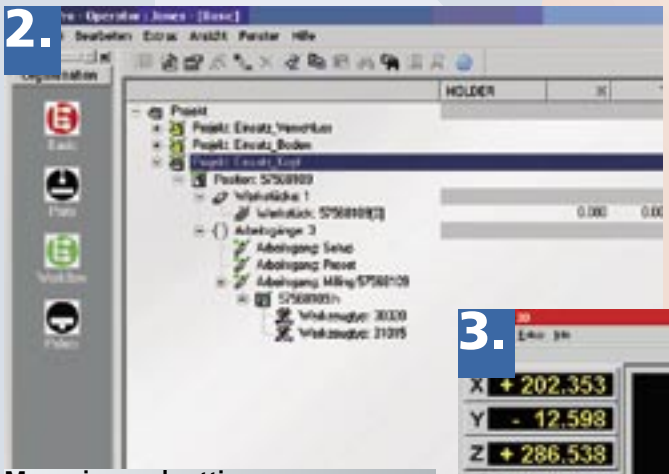
JMS® Pro Workflow Management is not a slogan but a program. By making the data completely universal, it allows for comprehensive control throughout the workshop. From the CAD/CAM data import to the reporting of the completed jobs, everything can be viewed online.



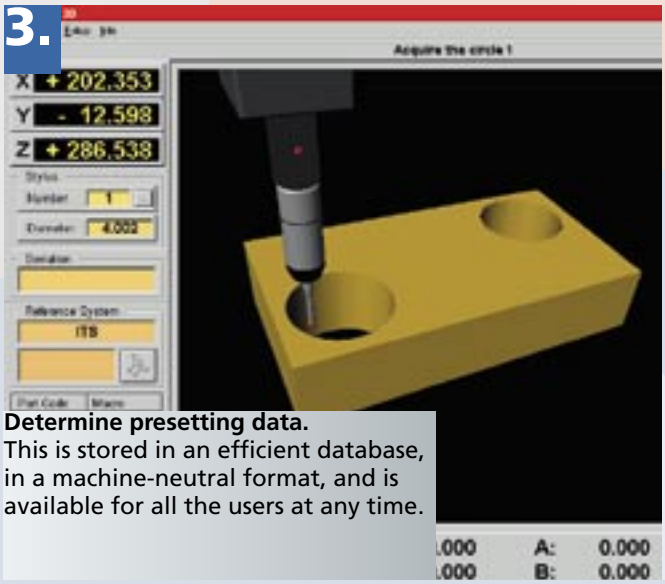
Data import from CAD/CAM & PPS
Import of the job structure and generation of the working steps.

Workflow-Management

Planning, control and monitoring of individual work processes . . .



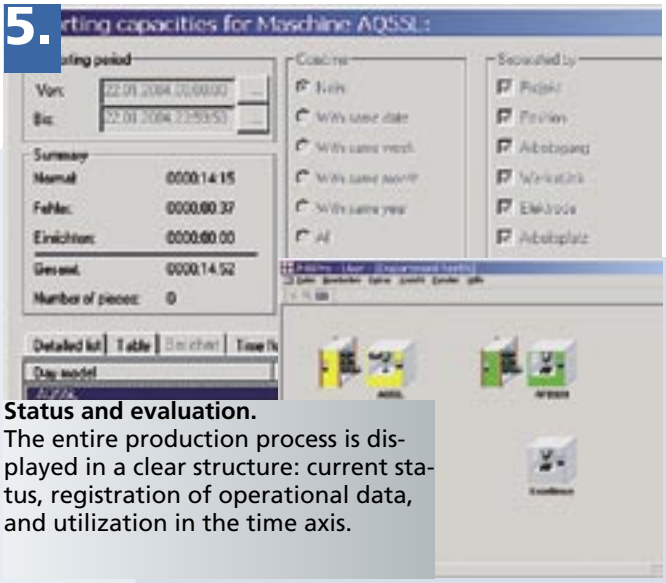
Managing and setting up.
Management of production data. Preparation of jobs while machine is at work. Identification of pallets through the electronic identification system EWIS™ Rapid. The pallets are automatically identified on the basis of the built-in chip. The data is then transmitted to JMS® Pro.



Determine presetting data.
This is stored in an efficient database, in a machine-neutral format, and is available for all the users at any time.



Monitoring.
Collects and transmits special events from the production cells. The relevant users are always informed.



Status and evaluation.
The entire production process is displayed in a clear structure: current status, registration of operational data, and utilization in the time axis.



Machining.
The production cell is controlled online. The user is able to influence all the priorities. This will guarantee a quick response.

- The production data is stored in a clear structure.
  You can access them at any time.
- The entire production process is displayed in JMS® Pro. You have an overview.
- Changes to the production process are effective online. You always know what is happening.
- JMS® Pro documents all the processes automatically. Traceability is guaranteed. You are in control of all the changes.
- The complete electronic dataflow from CAD to evaluation replaces the paper avalanche.
- JMS® Pro interlinks machines of a wide variety of technologies and generations.
  You choose yourself what should be part of the network.
- You determine the degree of integration yourself. Whether simple postprocessor or integrated workshop solution - we give you comprehensive advice.
- Workplaces become more interesting. With JMS® Pro users become machine managers.
- Whether EDM or WEDM, milling, drilling, turning, grinding or measuring: JMS® Pro integrates the facilities.

JMS® Pro

EROWA®

EROWA JMS® Pro

data and material flow under control

The process runs without paper and is updated at all times. Existing data is imported.

Data import from CAD/CAM & PPS

Every pallet is equipped with an ID chip. Re-identification is absolutely safe. This will increase production safety.

Management and setting up

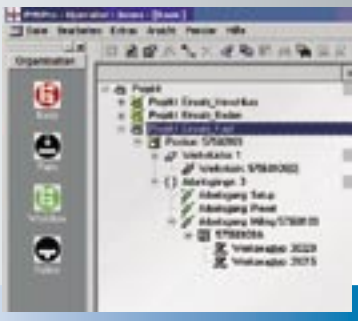
Thanks to the graphic user guidance, operators are able to preset parts autonomously.

Determine pre-setting data

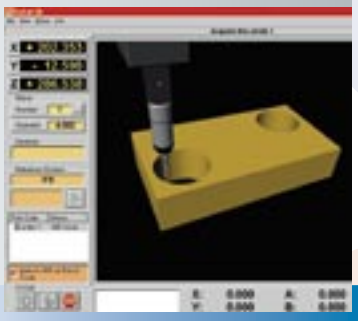
1.



2.



3.

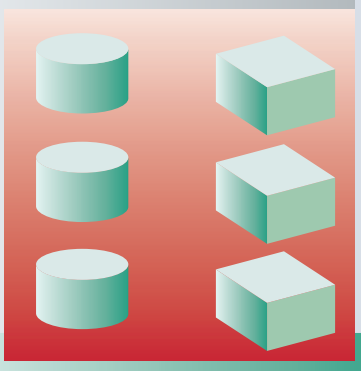


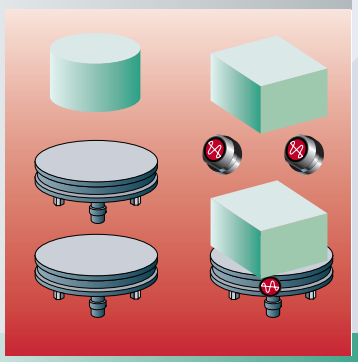
Data flow

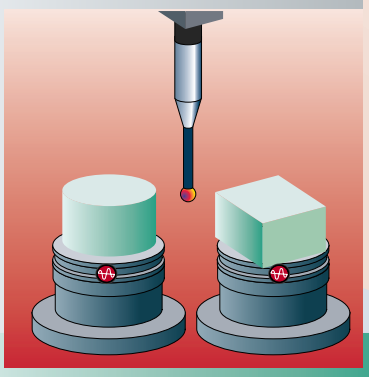
Existing job data is imported from the CAD/CAM or ERP system. The project structure is automatically generated in the JMS® Pro.

While the machine is productive, you are already setting up the next jobs. All the workpieces are mounted on pallets. The EWIS™ chips on the pallets are identified with a reading head and the data transmitted to the JMS® Pro system. This way, the workpieces and the pertinent data are unequivocally linked.

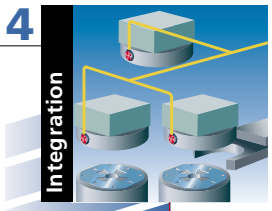
Presetting data is the be-all, end-all of each production process. They must be accessable at any time from anywhere. JMS® Pro stores this data in an efficient database, in a machine-neutral format. Each JMS® Pro application accesses exactly the same data.







Material flow



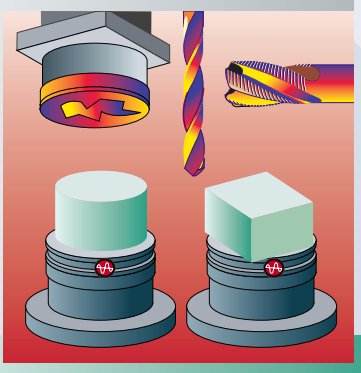
The machining cell is controlled online. The manufacturing sequence is influenced where the know-how is greatest. This makes for a quick and flexible response to express jobs.

Machining

4.



The load of the workpiece magazine is automatically read by the EWIS™ Rapid. The chip data is recorded with modern transponder technology and transmitted to the JMS® Pro system in next to no time. The right workpieces are automatically machined with the corresponding programs.



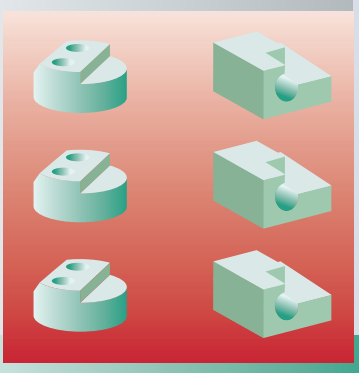
The process data is filled centrally and evaluated in a clear structure.

Online status and evaluation

5.



The entire production process can be viewed online. Each cell reports the current machining status, which you can call up centrally and examine. Operational data is registered and filed. The utilization of the facilities can be called up for any given period of time. This is of help for acknowledgement to the PPS system and for recalculations.



The status messages from the cells are collected. If necessary, they are sent to the operator.

Monitoring

6.



Any malfunctions of the machine, handling facility or the production process itself are analyzed and stored. JMS® Pro immediately sends to the relevant user a message by SMS or e-mail. The machines are monitored 24 hours a day.

EROWA®

EROWA JMS® Pro

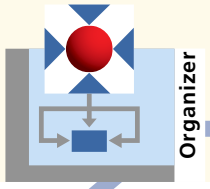
From production cell to integrated manufacturing

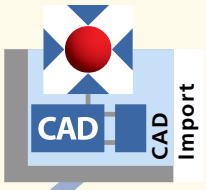
JMS® Pro is characterized by its consistent modular structure. Starting with a simple postprocessor which outputs the offset values as defined for a given machine format to the fully interlinked workshop, everything can be extended in small, manageable steps.

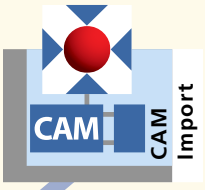
Work preparation

Workshop

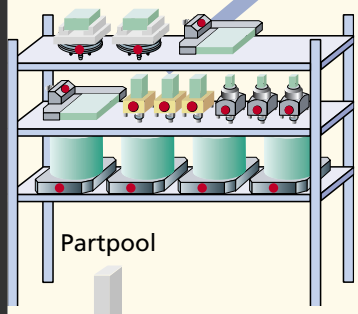
CAD/CAM Import



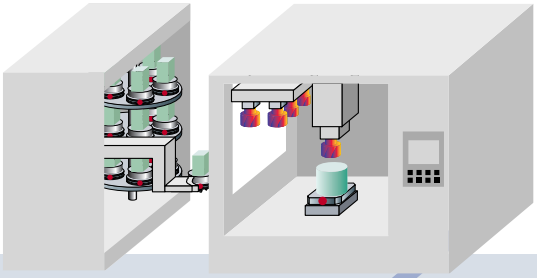




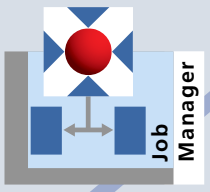
Setup, Presetting

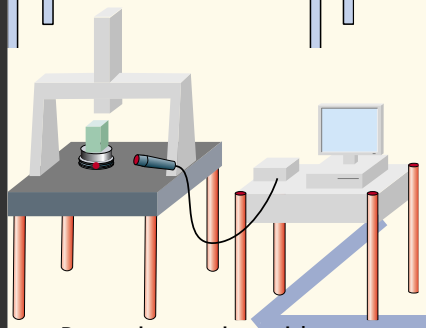


Partpool

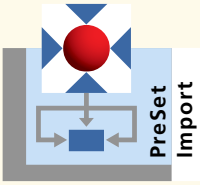


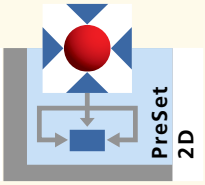
Machine with automatic pallet and workpiece changer

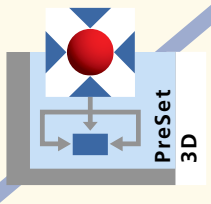


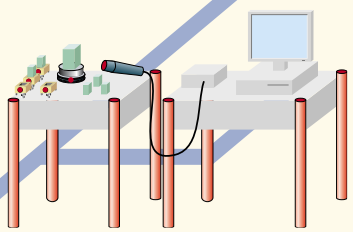


Presetting station with an EWIS™ Rapid identification system

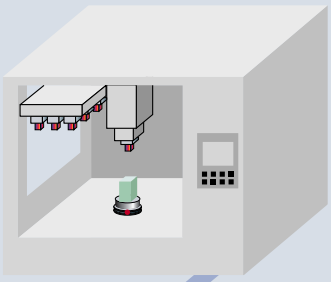




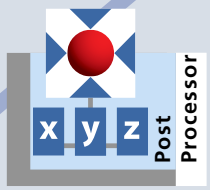


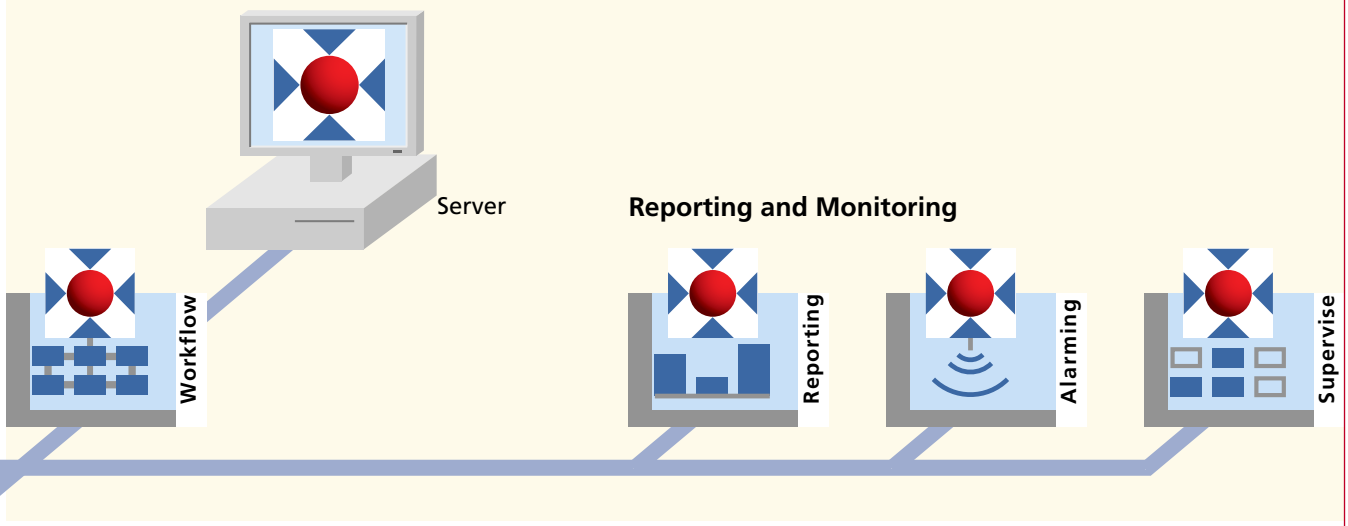


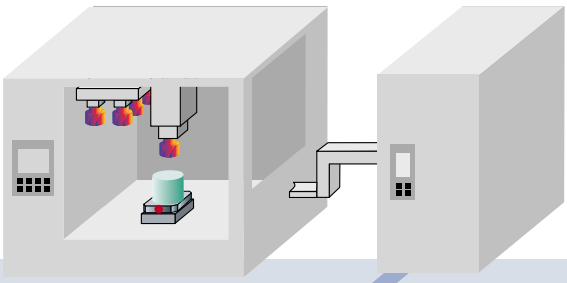
Setting-up station with an EWIS™ Rapid identification system



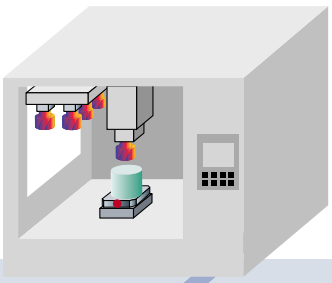
Machine for manual workpiece change



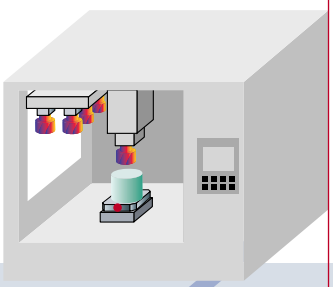




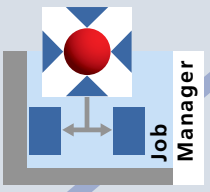
Machine with automatic workpiece and electrode change

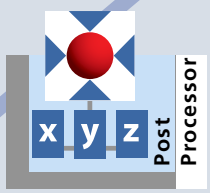


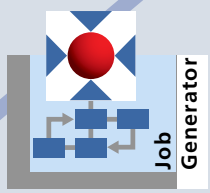
Machine with manual workpiece change



Machine with manual workpiece change

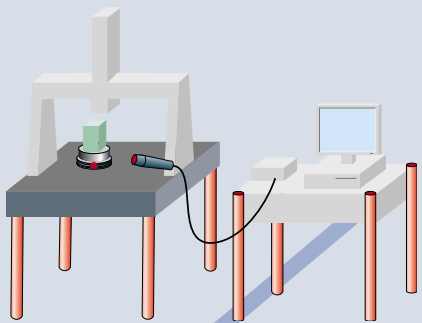




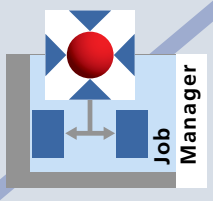




Production cell with two machines and one handling system



Quality control with the EWIS™ Rapid identification system



EROWA®

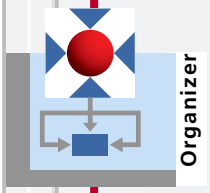
EROWA JMS® Pro

A survey of the products

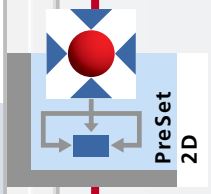
JMS® Pro is Workflow-Management not a slogan but a program. By making the data completely universal, it allows for comprehensive control throughout the workshop. Jobs can be released or, if necessary, blocked with a mouseclick. Each operator is informed about the current data status.

JMS® Pro Organization

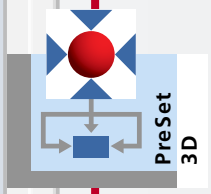
Includes products associated with data organization, setting up and presetting.



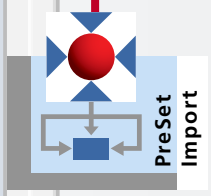
JMS® Pro Organizer
Data organization module for data management and for the setting-up and identification of workpieces.



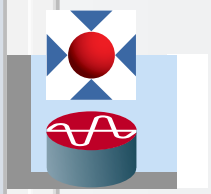
JMS® Pro PreSet 2D
Data organization module to link up with the timetested electrode presetting station.



JMS® Pro PreSet 3D
Data organization module for the integration of the EROWA 3D measuring station.



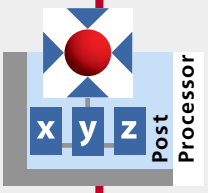
JMS® Pro PreSet Import
Data organization module for the import of data from other measuring stations.



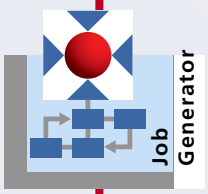
EWIS™ Identification system
The allocation of data to workpieces creates a clear picture. With the modern transponder chips, every pallet is identifiable at all times. On the setting-up and measuring stations, identification is carried out with manual scanners. The EROWA handling facilities record the magazine contents automatically.

JMS® Pro CellIntegration

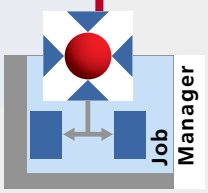
Contains the products for the control of production cells consisting of machines and handling facilities.



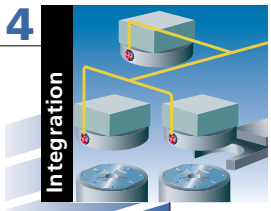
JMS® Pro PostProcessor
Converts the neutral presetting data into machine-specific offset values and transmits the data to the machine.

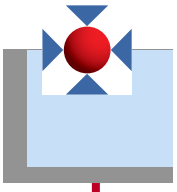


JMS® Pro JobGenerator
Creates offline «mega-jobs» in which the offset values and the loading data of the handling facility are compiled into machine-specific NC programs and transmitted.



JMS® Pro JobManager
Online control for machine and handling facility. All the production data are allocated automatically.

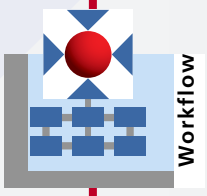




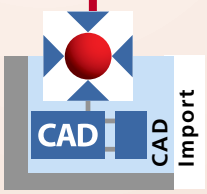
The name **JMS® Pro** covers an entire product family.

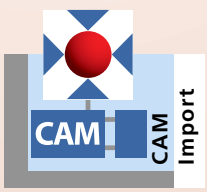
JMS® Pro WorkshopIntegration

Is a comprehensive control system and representation of all the processes in production throughout several production cells.



JMS® Pro Workflow
Monitors the individual steps of the entire production process from the generation of the CAD/CAM import files to the completion of the job. Checks the correctness of the working sequence.

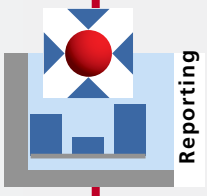




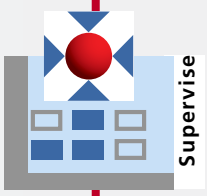
JMS® Pro CAD/CAM Import
Existing job data is imported from the CAD/CAM or ERP system. The project structure is automatically generated in the JMS® Pro.

JMS® Pro WorkshopSupervision

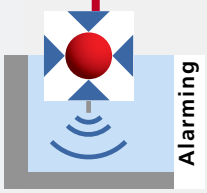
Includes the program for monitoring, alerting and evaluation.



JMS® Pro Reporting
is the interface for the evaluation of all the production data.



JMS® Pro Supervise
ensures the online visualization of individual cell status.



JMS® Pro Alarm
will contact the relevant user if this is necessary.

EROWA®

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This is where you will find all the EROWA order numbers in numerically ascending order, together with the numbers of the pages on which the products are presented in pictures.

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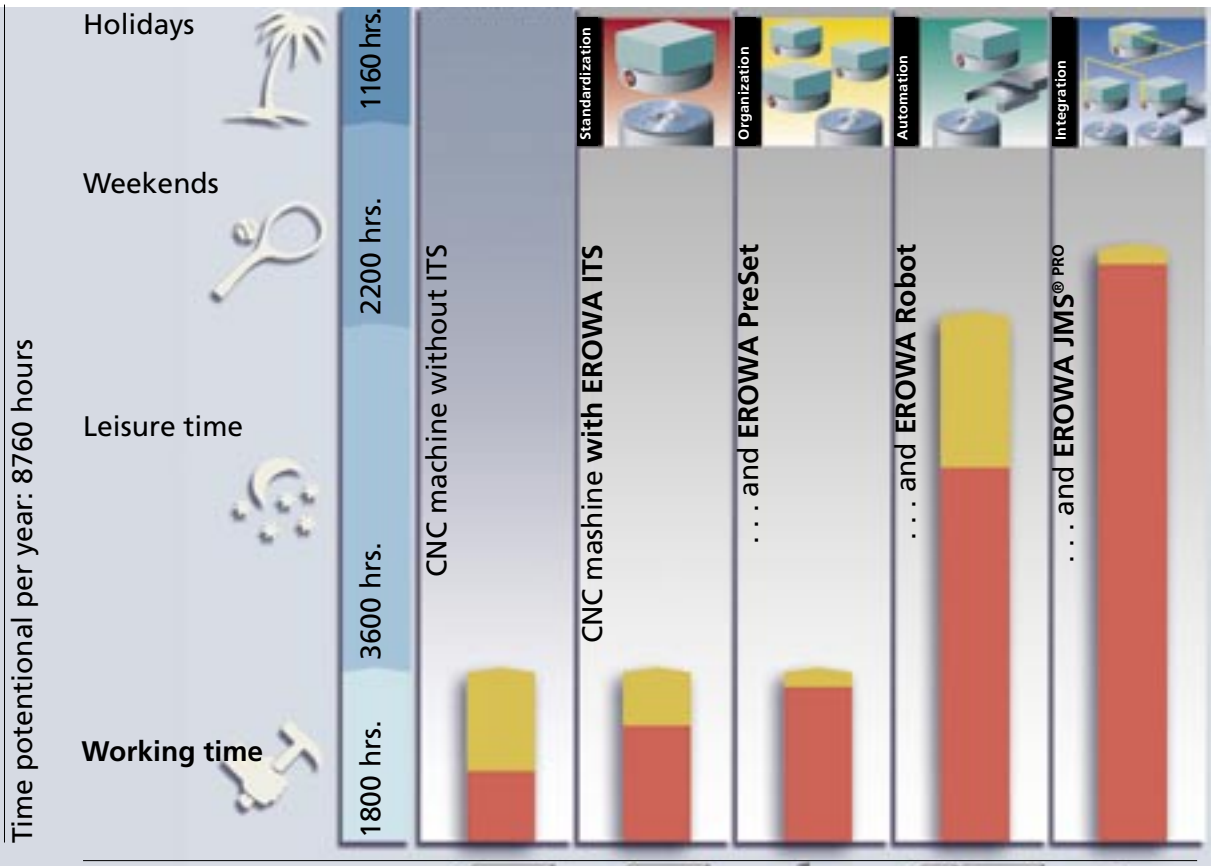
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Optimal use
of resources

As a responsible investor, you make sure that the resources in your company are used as well as possible. Machines must be utilized to the greatest possible extent. Only in this manner can competitive product prices be realized.
This is where EROWA's FMC concept comes in: productivity is increased through the elimination of setting-up work from the machines. The autonomy of the machines is improved through the automatic workpiece change during marginal hours and night hours. Round-the-clock production is achieved with one single manned shift. Flexibility in production planning is kept high with the use of the easy-to-handle JobManagement System.
You will put your machines to optimal use with appropriate EROWA components. We will be glad to give you the benefit of our long years of experience. You call us - we'll come round.



Machine/man performance potential					
Effective production time	800 hrs.	1200 hrs.	1600 hrs.	4000 hrs.	6000 hrs.
Machine down time	1000 hrs.	600 hrs.	200 hrs.	800 hrs.	200 hrs.

EROWA®

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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