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Unlocking the full potential of your machines



Welcome to the EROWA General Catalog





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<u>www.ionexedm.ru</u>

Competence means

understanding the facts.

EROWA products are based

on this competence.

The use of the EROWA

FMC concept only has

one single aim:

to increase

competitiveness.

We'll be glad to be

of assistance.

With practical advice.

Your EROWA Team

How to find

everything

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EROWA presetting systems

Overview

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EROWA loading systems

Overview

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Directory of search terms

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This is how the General Catalog works

To make it easier for you to find your bearings among all the applications of EROWA products, we use the following icons in all our documents:



1. Manual operation



2. Operate with compressed air jet



3. Operate with manual valve



4. Operate with manual

control unit



 \approx

INOX

auto

- 5. Operate with electropneumatic control unit
- 6. With central flushing clearance
 - 7. Suited for submerged operation
 - 8. Corrosion-resistant material
 - 9. Suited for automatic operation



72

148

210

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- 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



- 15. Handling with EROWA gripper RN PC 210
- 16. Handling with EROWA **RCS** gripper



For EDM sinking

For WEDM



Red marks everything that is connected with palletizing systems.



Yellow is used for measuring and presetting stations.



The color green directs you to handling facilities.



Software and process control systems are marked blue.





EROWA Palletizing systems





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 can be resumed. Therefore, machine down-times are reduced to a minimum.

> The datum point is defined! No alignment is necessary.

Minimum set-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 into production right away.

5-sided 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 500,000 clamping processes without any loss of power or reference accuracy.
- Clamping surfaces without recesses 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.



Grinding

Liquids can drain off. No dirt traps.

Opening, hydraulic

The hydraulic MTS chuck with 20,000 N clamping power only requires 25 bar opening pressure.

Opening, pneumatic

A mere 7 bar of opening pressure results in 12,000 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 press	ure
Opening pressure	min. 7 bar	min. 25 /max. 35 bar
Process monitoring	pneumatically	pneumatically
Clamping power	12,000 N/Chuck	20,000 N/Chuck



Practical work demonstrates the flexibility of the EROWA MTS tooling system. Whether it is a standard solution or a customized configuration, the system will adapt to virtually any machine situation.

The system's universality allows for a wide variety of workpiece carriers to be loaded and unloaded in next to no time. The automation of the workpiece loading/unloading cycle can be retrofitted at any time.



Customized solutions are included. We will gladly advise you.



manufacturing

EROWA MTS

The tooling

system

for your













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

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.

ROWA

Automatic pallet change in mixed operation with MTS and ITS pallets. Such combinations allow for an optimal use of the tooling system according to part sizes.



Thanks to the medium duct between chuck and pallet, workpieces may be clamped pneumatically, hydraulically or with a vacuum.

EROWA MTS palletizing system







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



Standardization



We'll be glad to advise you. No doubt we will find an optimal «clamping solution» for you, too.

RESSEL

3







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

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





Variable use of tombstones. The MTS system provides an interface to fixtures and vises. Refitting takes no time at all.





EROWA MTS Palletizing System

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 electropneumatic control unit



6. With central flushing clearance



INOX

- 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



- •••
- 16. Handling with EROWA RCS gripper

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For chip-removing processes

For EDM sinking







EROWA MTS palletizing system	Page
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1

Standardization

EROWA MTS Integral chucks

Technical data	MTS integral chucks	
	pneumatic	hydraulic
Repeatability	<0.005 mm	<0.005 mm
Indexation, pallet	4 x 90° (MTS Inte	gralChuck S)
Clamping	Spring power	Spring power
Opening pressure	min. 7 bar	min. 25 /max. 35 bar
Process monitoring	pneumatic	pneumatic
Clamping power	12,000 N/Chuck	20,000 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-036802 MT	S IntegralChuck S-P/A	k
ER-036803 MT	S IntegralChuck S-H/A	e 130_
4		
	direct integration in machine tables, plates, abstones, squares or dividing heads.	
	open: pneumatic or hydraulic. clean: pneumatic.	
Application To a	accommodate single or multiple pallets.	- 21

	EROWA MTS pa	alletizing system	
ER-033400	MTS IntegralChuck M-P	N	
ER-033401	MTS IntegralChuck M-H	Ø 130	
Version Connections Application	For direct integration in machine tables, plates, tombstones, squares or dividing heads. To open: pneumatic or hydraulic. To accommodate multiple pallets.		
ER-036800	MTS IntegralChuck M-P/A		
ER-036801	MTS IntegralChuck M-H/A		
Version Connections Application	auto Image: Constraint of the second sec		



NTS

EROWA MTS 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. 35 bar
Process monitoring	pneumatic	pneumatic
Clamping power	12,000 N/Chuck	20,000 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 Image: Constant of the second secon

4



ER-033804 or ER-033805.

VTS



EROWA MTS Base plates, 2-fold

MTS base plates, 2-fold	
pneumatic	hydraulic
<0.005 mm	<0.005 mm
1 x 180°	1 x 180°
Spring power	Spring power
min. 7 bar	min. 25 /max. 35 bar
pneumatic	pneumatic
24,000 N	40,000 N
(2 x 12,000 N)	(2 x 20,000 N)
	pneumatic<0.005 mm

- 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,
supplied	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,
supplied	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

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

on machine tables.

Connections Lateral, to open: pneumatic or hydraulic.

for ER-033300: 1 x ER-036672,

for ER-033301: 1 x ER-033504.

9

200 mm.

Version

Application

Accessories supplied

Note

Caution

EROWA MTS palletizing system



Technical data	MTS base plates, 4-fold			
	pneumatic	hydraulic		
Repeatability	<0.005 mm	<0.005 mm		
Indexation, pallet	4 x 90°	4 x 90°		
Clamping	Spring power	Spring power		
Opening pressure	min. 7 bar	min. 25 /max. 35 bar		
Process monitoring	pneumatic	pneumatic		
Clamping power	48,000 N	80,000 N		
	(4 x 12,000 N)	(4 x 20,000 N)		

Base plate, steel, unhardened; set-up distance

To accommodate multiple pallets. For direct assembly

Attachment boreholes can be drilled by customers. Do not drill through any air or oil ducts! Please order

> P H

operating instructions from your EROWA dealer.

4

- P = pneumatically operated
- H = hydraulically operated

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

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







EROWA MTS

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. 35 bar			
Process monitoring	pneumatic	pneumatic			
Clamping power	48,000 N	80,000 N			
	(4 x 12,000 N)	(4 x 20,000 N)			

- P = pneumatically operated
- H = hydraulically operated
- = able to automate А

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,						
supplied	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						
Caution							
	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

auto	
 	-

	2	auto		
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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,
supplied	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.

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EROWA MTS Base plates, 6-fold

EROWA MTS palletizing system



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. 35 bar			
Process monitoring	pneumatic	pneumatic			
Clamping power	72,000 N	120,000 N			
	(6 x 12,000 N)	(6 x 20,000 N)			

Attachment boreholes can be drilled by customers.

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

pneumatically operated Ρ =

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.



ER-033902 MTS base plate 410 x 660 P

supplied

Caution

Note

ER-033903 MTS base plate 410 x 660 H

Version	Base	plat	e, ste	el, u	nhar	dened; se	et-up dist	ance
	250 ı	nm.						
Connections	Late	ral, to	о оре	en: p	neun	hatic or h	ydraulic.	
Application	To ad	com	mod	ate n	nultij	ole pallet	s. For dir	ect assembly
	on m	nachi	ne ta	bles.				
Accessories	for E	R-03	3902	:1 x	ER-0	36672,		
supplied	for E	R-03	3903	:1 x	ER-0	33504.		
Note	Atta	chme	ent b	oreh	oles	can be dr	illed by c	ustomers.
Caution	Do n	ot dı	rill th	roug	ıh an	y air or o	il ducts!	Please order
	oper	ating	a inst	ructi	ons f	rom voui	⁻ EROWA	dealer.

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EROWA MTS 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. 35 bar		
Process monitoring	pneumatic	pneumatic		
Clamping power	96,000 N	160,000 N		
	(8 x 12,000 N)	(8 x 20,000 N)		

- P = pneumatically operated
 - = hydraulically operated

ER-033904 MTS base plate 360 x 760 P ER-033905 MTS base plate 360 x 760 H 9 Version Base plate, steel, unhardened; set-up distance 200 mm. Connections Lateral, to open: pneumatic or hydraulic. To accommodate multiple pallets. For direct assembly Application on machine tables. for ER-033904: 1 x ER-036672, Accessories for ER-033905: 1 x ER-033504. supplied Attachment boreholes can be drilled by customers. Note Do not drill through any air or oil ducts! Please order Caution operating instructions from your EROWA dealer.



ER-033906 MTS base plate 410 x 910 P

-		

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,
supplied	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-038374	MTS pallet 398 x 398 / 250 Hard Z support	, M12 (4x)
Version Application Accessories	Aluminum pallet, 4–fold, excluding chucking spigot (MTS chucking spigot set ER–041461 (M) / ER-041464 (A). To clamp workpieces, vises and gauges. ER–041461 (M) / ER-041464 (A) to be ordered separately.	
ER-044906	MTS Pallet 498 x 498/250 R50	
Version	Cast aluminum pallet (hard anodized), 4–fold, excluding chucking spigot (MTS chucking spigot set ER–041461 (M) / ER-041464 (A).	
Application Accessories	To clamp workpieces, vises and gauges. ER–041461 (M) / ER-041464 (A) to be ordered separately.	
ER-048314	MTS Pallet 498 x 498 / 250	
		M12 (4x)
Version Application Accessories	Cast aluminum pallet, 4–fold, excluding chucking spigot (MTS chucking spigot set ER–041461 (M) / ER-041464 (A). To clamp workpieces, vises and gauges. ER–041461 (M) / ER-041464 (A) to be ordered separately.	
ER-048315	MTS Pallet 498 x 498 / 250 Hard Z support	(M12 (4x)
Version Application Accessories	Cast aluminum pallet, 4–fold, excluding chucking spigot (MTS chucking spigot set ER–041461 (M) / ER-041464 (A). To clamp workpieces, vises and gauges. ER–041461 (M) / ER-041464 (A) to be ordered	
	separately.	
ER-054981	MTS pallet 600 x 800 x 57 / 250 Hard Z support	
Version	Cast aluminum pallet, 6–fold, excluding chucking spigot (MTS chucking spigot set ER–054710(A), ER-041432 (M).	
Application	To clamp workpieces, vises and gauges, for chip-cut- ting operations	A COLOR AND A COLO
Accessories	To be ordered separately ER–054710(A), ER-041432 (M).	~

EROW/ Single	A MTS pallets	EROWA MTS palletizing	system	Standardization
Version Alu ER-0 Application To o	TS pallet P ø 148 Alu Iminum pallet, fitted with centering 033600, including chucking spigot EF clamp workpieces and gauges. For m ndling.	R-039200.	8 148	- 12- 10

ER-033600 MTS centering plate P

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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 hand- ling and automatic operation.
Note	Compatible with EROWA PC210 CombiChuck and PowerChuck P (ITS chucking spigot ER-010742 required).

ER-040999 MTS chucking spigot P

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chmont h	al+ a	ad

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.







EROWA MTS Chucking spigots



EROV		alletizing system	Standardization
Chuc	king spigot set		Standa
ER-041460	MTS chucking spigot set 2		
Version Mounting	1 centering spigot, 1 compensation spigot / A. With the bolts supplied through the pallet or through the chucking spigot.		
ER-041461	MTS chucking spigot set 4		
Version Mounting	1 centering spigot, 1 compensation spigot / A, 2 chucking spigots / A. With the bolts supplied through the pallet or through the chucking spigot.		
ER-041464	MTS chucking spigot set 4 / A		
Version Mounting	auto 1 centering spigot / A, 1 compensation spigot / A, 2 chucking spigots / A. With the bolts supplied through the pallet or through the chucking spigot.		
			<u> </u>
ER-041462	MTS chucking spigot set 6		
Version Mounting	1 centering spigot, 1 compensation spigot / A, 4 chucking spigots / A. With the bolts supplied through the pallet or through the chucking spigot.		
ER-054710	MTS Chucking spigot set 6/A		
Version Mounting	auto Entering spigot / A, 1 compensation spigot / A, 4 chucking spigots / A. With the bolts supplied through the pallet or through the chucking spigot.		
ER-041463	MTS chucking spigot set 8	(09) 60n 60n	600
Version Mounting	1 centering spigot, 1 compensation spigot / A, 6 chucking spigots / A. With the bolts supplied through the pallet or through the chucking spigot.		

EROWA MTS Operation

ER-025893 Manual control unit with booster

640

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 output pressure of 10 bar max.).



ER-039466 Additional valve double

Version	For mounting to the manual control units ER-008988 and ER-025893, incl. set of hoses.
Application	Operating of two separate chucks with one single control unit.



ER-001846 Airjet

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



ER-010520 Pressure booster

640

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

- VersionManual pump to control the EROWA MTS chucks
(hydraulic versions).NoteIntegrated pressure reducing valve, set to the neces-
sary operating pressure (25 bar). Complete with
 - sary 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 (A) and MTS pallets (B).
- ER-044426 Nipple for MTS base plates

ER-044428 Coupling for MTS pallets

ApplicationThe coupling for MTS pallets ER-044428, in combination with the nipple for MTS base plates ER-044426, serves as an interface for the medium connection between MTS base plates (A) and MTS pallets (B).For usewith oil up to 250 bar
with compressed air
with vacuum

ER-034822 ER-034820 A

Standardization



VITS



EROWA MTS Tube set

ER-034361 Tube set for MTS chuck 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 Cross 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 for MTS chuck 2/4-H

Application	All the necessary fittings for the hydraulic control of 2 or 4 MTS chucks. Max. operating 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 for MTS chuck 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.



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Standardization

ER-034360 Tube set for MTS chuck 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 MTS Connector block 1/8" double

Version	Connector block made of steel, excluding attachment bolts.
Application	To receive pneumatic and hydraulic threaded connectors, nipples and couplings.









EROWA MTS Accessories

8

ER-042038 MTS cover

Version Aluminum cover, anodized, 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. To attach MTS chucks onto the machine table. Application



ø 140

ER-033805	MTS bracket 1 piece	
Version Application Note	Bracket made of steel, excluding attachment bolt. To attach MTS chucks onto the machine table. Four brackets are necessary per MTS chuck.	

ER-037967 MTS stopper

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.









EROWA MTS Accessories



	EROWA MTS palletizing system		
ER-014326	Straight threaded connector		
Application	Pneumatic.	1/8″ Ø 6	
ER-002814	Angled connector		
Application		1/8″ Ø 6	
ER-014366	Threaded T-connector		
Application	Pneumatic.	ø 6 1/8" ø 6	
ER-014333	T-connector		
Application	Pneumatic.	ø 6 ø 6	
ER-034095	Cross-connector	ø 6	
Application	Pneumatic.	Ø 6 Ø 6 Ø 6	
ER-002023	Tube ø 6/4 black		
Application Order unit	Pneumatic. Max. operating pressure: 9 bar. Meters.		
ER-036672	MTS air jet valve		
Application	Pneumatic. For air jet ER-001846.	1/8"	
		*	

EROWA

EROWA MTS Accessories

ER-033492	Straight threaded joint				
Application Note	Hydraulic and pneumatic. Hydraulic operation requires support sleeve ER-033496.	1/8" Ø 4			
ER-033565	Angular connector				
Application Note	Hydraulic and pneumatic. Hydraulic operation requires support sleeve ER-033496.	√ 0 4 1/8"			
ER-033566	Angled T-connector				
Application Note	Hydraulic and pneumatic. Hydraulic operation requires support sleeve ER-033496.	ø 4 ø 4 1/8" ø 4			
ER-033960	Threaded joint T				
Application Note	Hydraulic and pneumatic. Hydraulic operation requires support sleeve ER-033496.	04 04			
ER-033494	Cross union				
		ø 4			
Application Note		04 04 04 04 04			
Note	Hydraulic and pneumatic. Hydraulic operation requires support sleeve	ø 4 6 6 4			
	EROWA MTS pa	illetizing system		Standardization	
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ER-034098	Reduction nipple G1/4" - G1/8"				
Application	Hydraulic and pneumatic.	1/8"		1/4"	
ER-001539	Double nipple MS 1/8" - 1/8"	4 10 11			
Application	Hydraulic and pneumatic.	1/8"		1/8"	
ER-034372	Reduction bushing IG1/8" - IG1/4"				
Application	Hydraulic and pneumatic.	1/8"	SERIO	1/4"	
ER-034373	Reduction bushing IG 1/8" - IG 1/8"				
Application	Hydraulic and pneumatic.	1/8"	SERIO	1/8"	
ER-034375	Reduction nipple AG 1/4" - IG 1/8"		_		
Application	Hydraulic and pneumatic.	1/4"	Series and the series of the s	1/8"	5
ER-001617	Threaded plug 1/8″				
Application	Hydraulic and pneumatic.		Q	1/8″	2



EROWA MTS Accessories

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 Rapid-action coupling 1/8" IG

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



EROWA MTS palletizing system









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- μ m 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









Robot

Function

facility

É

Presetting



Milling / turning



Drilling / milling



Grinding



EDM sinking





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 50,000 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 the pallet and chuck. Release and cleaning are achieved by means of compressed air.

1

Standardization

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 and pallet)	105 mm	105 mm
Recommended workpiece sizes	\leq 500 x 500 x 350 mm	\leq 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		ure
Air pressure, dry	min. 6 bar	min. 6 bar
Operation	manually or with auto	matic control unit
Process monitoring pneumatically, evaluation electro-pneumatically		on electro-pneumatically
Clamping power	32,000 N	50,000 N





EROWA UPC in operation

universal, powerful,

The UPC tooling system is suitable for flexible use. Whether big electrodes on the quill of EDM centers or big workpieces in milling machines: the UPC has been designed to cope with them, and it does. micronaccurate

With a repeatability of 2 μm , the UPC does not leave any wishes unfulfilled with regard to precision, either.



On a clamping surface of up to 500x500mm, even large workpieces or fixtures can be attached to the UPC pallet without any problems.

The UPC on the machine table constitutes the interface with the workpiece carrier. Resetting takes next to no time, and production can resume.













Practical! EDMing on the UPC magnet pallet.



Multiple fixture on a UPC pallet.

Suitable PreSet stations are available for setting up and presetting - manual or CNC.







42

EROWA UPC palletizing system









UPC was designed for automatic loading without any compromise.



Reliable - resistant to dirt. Robust - developed for

continuous operation.

Standardization



UPC Pallet Alu DG - light and handy.









Miles (



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



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







EROWA UPC Palletizing System



EROWA Lift, the manual handling device permanently installed next to the machining center.

For information, please refer to page 292.

LiftGear UPC, for easy loading of the UPC chuck by means of an overhead crane.

For information, please refer to page 290.

PreSet Basic UPC, to mount and preset pallets, gauges and workpieces. For information, please refer to page 264.

	EROWA UPC palletizing system	
To make it easier for you to find your way about the fields of application for EROWA products, we use the fol- lowing symbols in all our documents:		age 46
1. Manual operation	UPC pallets UPC auxiliary equipment	47 48
2. Operate with compressed air jet		
3. Operate with manual valve		
4. Operate with manual control unit		
P 24 C 24 C		
6. With central flushing clearance		
7. Suited for submerged operation		
8. Corrosion-resistant MOX material		
9. Suited for automatic Outo 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	For chip-removing processes	
15. Handling with EROWA gripper RN PC 210	For EDM sinking	
16. Handling with EROWA RCS gripper	For WEDM EROVA	45

EROWA UPC Chucks

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	32,000 N	50,000 N
Generated by	spring power	spring power
Chuck opens, air pressure dry	min. 6 bar	min. 6 bar

ER-016093 UPC Universal Power Chuck



(4) (+)

Version **Connections** On the side. Application

Version

Version

UPC, prepared to accommodate an ITS central chuck. On milling, grinding, drilling and EDM sinking centers. In production lines.



ER-016092 UPC chuck with ITS

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

auto



ER-016841 UPC P chuck

	Chuck for high machining for	prces during chip removal.
5	Through the base and on th	e side.

Connections	Through the base and on the side.
Application	On milling, grinding, drilling and EDM centers and in
	production lines.
Option	UPC Sealing-Set ER-016650.



ER-030581	UPC P / PowerChuck P Kit automatic
Version	UPC P with air dock for the automatic operation of
	PowerChuck P.
Content	1 x ER-028784, UPC P with air duct and UPC seal kit
	1 x ER-030580, PowerChuck P on UPC pallet with air
	duct
	1 x Pneumatic tube.
Require- ments	At least 4 air ducts available on the machine table.



lon **EROWA UPC** palletizing system **EROWA UPC** Standardizat **Pallets** ER-016917 UPC pallet Alu 320 x 320 x 40 •••• auto Version Aluminum, with centering segments and chucking spigots fitted. Hard Z-support. E COMP () To clamp workpieces and gauges. Application Please note Holes to be drilled as required. ER-018570 UPC pallet Alu R50 320 x 320 40 eloxed ER-016003 UPC pallet Alu R50 320 x 320 x 40 auto Aluminum with 50mm grid. Centering segments and Version chucking spigots fitted. Hard Z-support. Application Basis for gauges and workpieces. Pattern borehole ø 12F7, M12 thread . Info The elox version is not suited for use in EDM **Please note** machines. ER-022898 UPC pallet ALU diecast Ø 10,5 ER-022896 UPC pallet ALU diecast S **H** auto Version Aluminum with 50mm grid. Chucking spigot fitted. Handles integrated. Steel Z-support. Application To clamp workpieces and gauges. **Please note** ER-022898: centering segment integrated in aluminum (repeatability: 0.005 mm) ER-022896: with steel centering segment fitted (repeatability:0.002 mm) ER-039444 UPC magnet plate Neomicro auto Magnet plate assembled as a UPC pallet 320 x 320 x Version 58 mm. To clamp workpieces for surface and profile grinding, Application EDM sinking, and high speed milling.

EROWA

EROWA UPC Auxiliary equipment

ER-024932	UPC centering segments and chucking spigots	M 10 x 50
Version Application Mounting Note	Four segments and chucking spigots for UPC, including bolts. To produce special UPC pallets. With bolts through the pallet from above. Easy to assemble on the UPC chuck.	STA INTERNET
ER-024562	UPC centering segments and spigots to mount from lower side	
Version Application Mounting Note	Four segments and chucking spigots for UPC, including bolts. To produce special UPC pallets. With bolts through the pallet from below. Easy to assemble on the PreSet Basic UPC presetting station.	M 10 x 40 M 5 x 16 M 5 x 16
ER-025820	UPC DUO centering segments	
Version Application Mounting Note	Six segments and eight chucking spigots for UPC, including bolts. To build special UPC pallets. With bolts from the top through the pallet. Assembling on two aligned UPC chucks.	
ER-048377	UPC alignment pallet	
Application Please note	To align angular position and to determine the center of UPC chucks. System parallelism 0.005 mm. Borehole concentricity 0.005 mm.	





EROWA UPC Auxiliary equipment

ER-012444	Cover for UPC	
Version Application	Aluminum. Cover for UPC.	
ER-012441	Cover set for UPC / ITS	
Version	Aluminum with inserts for ¤51, ø 72, ø 115, ø 148 pallets and for electrode holders for UPC ER-016092.	
ER-018247	Cover for UPC pallet ø 148	
Version Application	Aluminum. Cover for UPC ER-016092. Protects UPC system when ø 148 mm pallets are used in the ITS central chuck.	
ER-016650	UPC sealing kit	
Version Application Mounting Please note	Rubber seal and frame. To seal the UPC P against chips. With supplied bolts. Fits UPC No. ER-016092/ER-016093/ER-016841.	
ER-018718	Clamps for UPC 4 pieces	
Version Application Please note	High tension steel, mounting accessories not included. To mount UPC chucks to machine tables. Fits UPC chuck No. ER-016092/ER-016093/ ER-016841.	



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.



- 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.
- Its round design enables tools with optimal accessibility to workpieces.





Applications

Milling/Turning



Handling



Drilling/Milling



Grinding

The self-locking ball lock generates a clamping power of 20,000 N. Compressed air is necessary to open the chuck and to clean the Z-supports.

Technical data

	ProductionChuck 210
Repeatability	<0.002 mm
Pallet indexation	4 x 90°
Clamping power	20,000 N / 30,000 N
Clamping power (central PowerChuck P)	10,000 N
Generated by	spring power
Opening with compressed air	7.5 bar
Chuck fits directly to:	
– machine tables with T-slots	50, 63, 100 mm
- round tables with T-slots	4 x 90°, 45°



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

The widely spaced centering system enables the transfer of maximum

The Z-supports are positioned on the far outside, thus accommodating the tilting moment in the best possible

The Z-supports are automatically cleaned with air. Dynamic pressure is used to check whether a pallet is in place.

Rod material of up to ø 81mm can be

The ø 81mm boreholes also provides for air, hydraulic and vacuum lines to operate the fixtures that are clamped

led directly through the chuck.

torque.

way.

on pallets.

ProductionChuck 210

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.









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.



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









10



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.

0

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The RN PC 210 gripper takes workpieces to your machine with safety and precision.





The existing attachment boreholes allow for quick mounting on all well-established machines.





- PC 210 is an tooling system that is ideal for rotary transfer machines:
 quick fixture change,
 sufficient room to dock on the hydraulic system to operate the fixtures.









EROWA ProductionChuck 210

The components



ProductionChuck 210 Auxiliary Equipment

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:

	5]
1		

1. Manual operation



2. Operate with compressed air jet 3. Operate with manual valve

control unit

4. Operate with manual

5. Operate with electro-



P 7



- || -

 \approx

INOX

7. Suited for submerged operation

clearance

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



210

14. Handling with EROWA Robot gripper 148



- • •
- 16. Handling with EROWA RCS gripper

	ł
D	
	F

For chip-removing processes

For EDM sinking









Standardization

62

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EROWA ProductionChuck 210 Chucks

Technical data	ProductionChuck 210
Repeatability	0.002 mm
Indexing	4 x 90°
Clamping power	20,000 N
Clamping power (central PowerCh	uck P) 10,000 N
Generated by	spring power
Opening with compressed air	min. 8 bar

ER-030479 ProductionChuck 210

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





ProductionChuck 210 Combi without base plate on request.





EROWA ProductionChuck 210

Workpiece carriers





ER-041912	Pallet P ø 148 Inox	
ER-041924	Pallet Kit P ø 148 Inox 4 pieces	
		/
Version	Steel, corrosion-resistant. Centering integrated in the pallet.	
Application	For use on all EROWA PowerChucks P and Production-	
Mounting	Chuck 210 Combi. To accommodate workpieces and fixtures in chip-cutting machining processes. Through pallet with M8 bolts or through blank with	
	M10 bolts.	



ER-045541	Chucking spigot for PC 210	
Version	Fixed type manual 1 spigot	

Version Application

Fixed type, manual. 1 spigot. In pallets PC 210 for chip-cutting machining processes.





EROWA ProductionChuck 210

Auxiliary Equipment

ER-045983	Seal ring holder RN ø 148 PC 210	Ø 210 -
Version Application	Aluminium anodized. Prevents penetration of chips and dirt into the ProductionChuck 210 by application of EROWA ITS pallets ø 148. For automatic handling with gripper RN PC 210 (option).	
ER-046456	Seal ring holder RN ø 115 PC 210	
		ø 210
Version Application	Aluminium anodized. Prevents penetration of chips and dirt into the ProductionChuck 210 by application of EROWA ITS pallets ø 115. For automatic handling with gripper RN PC 210 (option).	
FR-046460	Seal ring holder RN ø 72 PC 210	
ER-046460	Seal ring holder RN ø 72 PC 210	ø 210
ER-046460 Version Application	Seal ring holder RN Ø 72 PC 210 auto Aluminium anodized. Prevents penetration of chips and dirt into the ProductionChuck 210 Combi by application of EROWA ITS pallets Ø 72. For automatic handling with gripper RN PC 210 (option).	
Version	Aluminium anodized. Prevents penetration of chips and dirt into the ProductionChuck 210 Combi by application of EROWA ITS pallets ø 72. For automatic handling	
Version Application	Aluminium anodized. Prevents penetration of chips and dirt into the ProductionChuck 210 Combi by application of EROWA ITS pallets ø 72. For automatic handling	





EROWA ProductionChuck 210

Auxiliary Equipment

ER-045249	Wiper for pallet PC 210 ø 81	
Version Application	Rubber Prevents penetration of chips and dirt into the ProductionChuck 210 in use with pallets PC 210 / ø 81.	
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).	S COLOR
ER-035294	EWIS™chip with holder / RCS	
	000	$\bigcirc P$
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™ chip with holder SW14	13 -
Version Application	Sleeve fitting with built-in datacarrier. EWIS chip: read only. In any EROWA electrode holder and pallet which have been prepared for it.	M5

ER-025893 Manual control unit with booster

640

500	
if the second se	

Standardization

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 output pressure of 10 bar max.).

ER-010590 Control unit with monitoring

Version	Electropneumatic valve. Outputs for chucks: opening/ cleaning/reclamping. 24 V, incl. mounting accessories
	and 3 m connection hose.
Application	Operation and monitoring of machine-integrated
	chucks, for instance through the CNC 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

	660
Version	Quick-connect couplings for hose \emptyset 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 PowerChuck P

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

accessible from all sides

- 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.



Applications

H



Milling / Turning

Handling



facility

unction

Manual



Drilling / Milling



Grinding



EDM sinking



The self-locking ball lock generates a clamping power of 10,000 N; full clamping power is even retained in the case of a pressure failure.

Standardization

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

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	10,000 N
Generated by	springs
Release	compressed air, min. 6 bar
Operation	control unit or air jet



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 μ m-accuracy with one movement of the hand.







Prepare, clamp and complete the job.









Universal combination of EROWA clamping systems with automatic handling.

68







Standardization

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

Flexible and automatic loading of a machine tool with an EROWA handling unit. The ratio of productive hours is considerably increased.





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

Practical clamping elements for universal operation.



Horizontal chuck on a dividing head.



Grinding or milling: EROWA PowerChucks are just right.





EROWA PowerChuck P

The components



						1 :	
				EROWA PowerChuck P	tooling system	Standardization	
						andar	
- 1	•.					St	
way ab	out	easier for you to find your the fields of application					
		A products, we use the fol- nbols in all our documents:	EROW	A PowerChuck P		Daga	
				palletizing system PowerChuck P Chucks		Page 72	
				PowerChuck P Workpie	ece carrier	74	
2	1.	Manual operation		PowerChuck P Auxiliar		76	
	2.	Operate with com- pressed air jet					
	3.	Operate with manual valve					
P1	4.	Operate with manual control unit					
P 7 2 2 4 4 4	5.	Operate with electro- pneumatic control unit					
	6.	With central flushing clearance					
	7.	Suited for submerged operation					۵.
INOX	8.	Corrosion-resistant material					YU
auto	9.	Suited for automatic operation					
-	10	. Handling with EROWA Robot gripper S					erC
	11	. Handling with EROWA Combi gripper					owe
1 2	12	. Handling with EROWA Robot gripper 72					
	13	. Handling with EROWA Robot gripper 115					
148	14	. Handling with EROWA Robot gripper 148		For chip-removing processes			
210	15	. Handling with EROWA gripper RN PC 210	Đ	For EDM sinking			
	16	. Handling with EROWA RCS gripper	0	For WEDM	EROV	VA	74
							71

EROWA PowerChuck P Chucks

PowerChuck
0.002 mm
4 x 90°
10,000 N
spring power
min. 6 bar

ER-029391 PowerChuck Pø150

VersionExtra-flat version. Height 51 mm.
Base plate ø 150 mm.ConnectionsOn the side or at the rear with two lines.OperationWith 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.










EROWA PowerChuck P

Workpiece carriers

ER-015777 ER-032732	4 pieces	Ø 8,5/M10
Version Application Mounting	NOX auto Standard type, ground centering plates. To accommodate workpieces and fixtures in chip-cutting machining processes. Through pallet with M8 bolts or through blank with M10 bolts.	The second secon
ER-015899	Pallet ø 148 G R25	
ER-033053	Pallet Kit ø 148 G R25 4 pieces	Ø 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.	100-7
ER-015042	Pallet ø 148 MS ALU R25	h.
ER-033051	Pallet Kit ø 148 MS ALU R25 4 pieces	× 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.	40.
Mounting	Through pallet with M8 bolts or through blank with M10 bolts.	
	Pallet P ø 148 Inox	
ER-041924	Pallet Kit P ø 148 Inox 4 pieces	15 0 0 30
Version	Steel, corrosion-resistant. Centering integrated in the pallet.	
Application	For use on all EROWA PowerChucks P and Production- Chuck 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 Power	Chuck P tooling system	
ER-038189	ITS magnetic clamping plate permanent 250 x 150 x 46		
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.	- 10 - 4	
	5 1 7 5		
ER-036658	Centering plate G Inox 5 pieces	*	
Version Application	Ground including 8 supporting feet M8 per plate. For workpieces, jigs and fixtures in chip-removal	M5 x 16	
Mounting	machining. According to accompanying fitting instructions.	₩ M8 x 21	
Mounting	According to accompanying fitting instructions.		
ER-022250	Adapter pallet ITS 50 / ø 148		
EK-022250		α.	
Marrian		Ø148	
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: 112.



EROWA PowerChuck P

Auxiliary Equipment

ER-032819	Alignment pallet ø 115	
Version Application	Pallet ø 115 mm, alignment length 110 mm, center borehole ø 12 mm. Alignement of radial, axial and angular position of ITS chucks, PowerChuck P and PC 210 Combi chucks.	
ER-035154	EWIS™ chip with holder SW14	
Version Application	Sleeve fitting with built-in datacarrier. EWIS chip: read only. In any EROWA electrode holder and pallet which have been prepared for it.	M5
ER-011362	Twin rotatable pneumatic connector	N
ER-011412	Triple rotatable pneumatic connector	
Version	Non machine specific connection flange. Two (three) air lines.	
Application Operation	Max. speed: 6000 rpm. Max. operating pressure: 10 bar. Air supply to EROWA chucks on rotatable spindles. Only operate when spindle is at stand still!	
ER-008988	Manual control unit	
Version Application	Manual valve to control all the functions of ITS, ITS Compact CombiChuck, PowerChuck P and UPC: opening/reclamping/cleaning. Operation of chucks on machines.	
ER-001846	Air jet	
Version Application	Plastic, smooth regulation of air flow, connection 1/4", inside thread. Operation of manual chucks.	

	EROWA Power	Chuck P tooling system	
ER-015962 Version Application Please note	Repair kit PowerChuck P All the wear parts of PowerChuck P. Dismantle chuck according to instructions supplied, replace parts. Every chuck is supplied with instructions. Please keep in a safe place.		
ER-035365	Seal ring PowerChuck P ø 72		
Version Application	Aluminium anodized. Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA Holders ø 72.		
ER-055761	Sealing ring for holder 72 PowerChuck P		
		0148	

	INOX auto
Version	Rust-resistant steel
Application	Prevents penetration of chips and dirt into
	the PowerChuck P by application of
	EROWA Holders 72.





PowerChucl

EROWA PowerChuck P

Auxiliary Equipment



VersionAluminium anodized.ApplicationPrevents penetration of chips and dirt into the
PowerChuck P by application of EROWA pallets PM85.

ER-038918 Seal ring PowerChuck P / ø 85





ER-016142 Seal ring holder ø 115

VersionAluminium anodized.ApplicationPrevents penetration of chips and dirt into the Power-
Chuck P by application of EROWA ITS pallets ø 115.



ER-055751	Sealing ring for pallet ø115 PowerChuck P	8160
Version Application	NOX auto Rust-resistant steel. Prevents penetration of chips and dirt into the PowerChuck P by application of EROWA ITS pallets ø 115.	





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.







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

EROWA ClampSet – modular, flexible, precise

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 90.

Support N; to clamp flat, low workpieces.

Universal Adapted elements for use throughout the EROWA Manufacturing Concept. Base 220, ClampSet Slide, Block F and Support N (in two parts). For additional workpiece supports, see pages 90/91.



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.

Flexible For vertical and horizontal use.









Standardization











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.









	•	1 5
	EROWA ClampSet	Standardization
To make it easier for you to find your way about the fields of application		S
for EROWA products, we use the fol- lowing symbols in all our documents:	EROWA ClampSet	Page
5,7	ClampSet technical data	86
	ClampSet Base	88
1. Manual operation	ClampSet clamping elements	89
2. Operate with compressed air jet		
3. Operate with manual valve		
4. Operate with manual control unit		
P f t c c c c c c c c c c		
6. With central flushing clearance		
7. Suited for submerged operation		
8. Corrosion-resistant INOX 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	For chip-removing processes	
15. Handling with EROWA gripper RN PC 210	For EDM sinking	
16. Handling with EROWA RCS gripper	For WEDM	<u>ب</u>
		85

Application ClampSet Standardblock

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

Clamping power in kg ±10%

10 Nm

1750

15 Nm

2500

at a torque of

5 Nm

900

ClampSet Standard Block

Number of

2

ball-pressure bolts

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.





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%

	Clamp	ng power	$m kg \pm 10$	70	
	at a to	rque of			
	5 Nm	10 Nm	15 Nm	20 Nm	
ClampSet Slide	250	500	750	1000	
ClampSet Jaw	300	600	900	1200	



ER-016010 ClampSet Base 220

Version	Steel, hardened, ground. Clamping element carrier
V CIDIOII	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.
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 and MTS grid pallets R50 or Cube
	R50.
Note	R40 subject to consultation.





Mounting On ClampSet Base 320 or 220 with the T-nut supplied. The fixed stop side allows for multiple fixtures. Note

Steel, hardened, incl. T-nut for attachment.

Hard jaw in EROWA's modular vise system.

On ClampSet 320 or 220 with the T-nut supplied.

ER-015998 **ClampSet Block F**

Version

Application

Mounting







89

ER-015999 ClampSet Block S steel soft

@ U ()

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 Pull-down jaw



Version	Steel, hardened, incl. T-nut for attachment.
Application	To clamp blanks. Hard jaw in EROWA's modular vise
Mounting Note	system. On ClampSet 320 or 220 with the T-nut supplied. 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
Mounting	vise system. On ClampSet 320 or 220 with the T-nut supplied.



ER-015870 ClampSet Stop adjustable stop







ER-016275 ClampSet Support Kit 14mm

Ű	4	\bigcirc

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-024681 ClampSet Support Set

22 mm.

Version

Application Mounting



Support for the height positioning of workpieces.

The supports are clamped on the base from above.





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.



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





 \mathbf{H}





RODOL

unction



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.





Standardization

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 7,000 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	2,500 N (NSF chuck: 7,000 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



93

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.



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





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

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.

EROWA ITS chuck





Checking outside the machine: quick, simple, precise.



ITS chucks: Perfectly suited for integration in special fixtures.



Loading machines with preset parts will increase your capacity.







1

Standardization



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





EROWA ITS

Integrated tooling system



EROWA ITS chuck

way ab for ERC	oout SWA	easier for you to find your the fields of application A products, we use the fol-	EROWA ITS chucks	Page
lowing	i syn	nbols in all our documents:	ITS chucks - a survey	98
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P	2.	Operate with com- pressed air jet	ITS chuck, pneumatic, table, manual	103
	3.	Operate with manual	ITS chuck, pneumatic, table, able to automate, INOX	105
		valve	ITS chuck, manual, quill	107
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		control unit	ITS screw chuck, manual	109
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P 7 24 24		pneumatic control unit	EROWA ITS system carriers	112
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		clearance	ITS standard electrode holders	115
~	7.	Suited for submerged	Holder ø 72	119
*		operation	ITS precision pallets	122
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	9.	Suited for automatic	Square electrode clamping system 15/System Plus	130
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72	12	EROWA Robot gripper 72	Toolroom accessories	190
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- 14. Handling with EROWA Robot gripper 148
- 15. Handling with EROWA gripper RN PC 210 210



16. Handling with EROWA RCS gripper

For chip-removing processes



For WEDM

For EDM sinking



1

Standardization

S



EROWA ITS chucks





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

		t 🗼 auto	P / / /	P
--	--	----------	----------------	---

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	
		ø 80 ø 55
Version	Shoulder for flushing connection. Clamping power up to 2500 N.	
Connections Application	On back. EDM sinking machines with automatic electrode	64.5
	change.	
		∞ 45
		(

	Ē	EROWA ITS chuck	Standardization
ER-007580	Manual rapid-action chuck		
Version Connections Application	With flange ø 110 mm. Clamping power u 2500 N. Hose coupling fitting on side. Retrofitting on EDM sinking machines.	ap to	



4 x ø 6,8 / 11

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EROWA ITS chucks

pneumatic, table, able to automate







EROWA ITS chucks

6000 N.

pneumatic, table, manual

ER-058250 ITS Chuck 100 P with base plate ø100

Steel, hardened, with P-profile.

68

EROWA ITS chuck

Version Clamping power Operation Application

Connections Air valves, lateral. With air gun. To hold pallet ø 115 / ø 148 and pallets PM56, PM60, PM85 Precise.



39.75

Standardization

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	To clamp pallets of ø 115 / ø 148, ø 72 and electrode holder 50. Pallets with P centering system are excluded.







EROWA ITS chucks pneumatic, table, manual

ER-012299 Rapid-action chuck NSF on plate

P\°₊ P

Version

Note

NSF = increased clamping power up to 7000 N. **Connections** Pneumatic valves on side. Application Electrode fabrication, e.g. on magnetic plate. To hold pallets ø 115 / ø 148, electrode holders, with the exception of pallets with a P-profile.

(4) (4)



ER-012297 Rapid-action chuck NSF on block

2	P♪°₊		
P ¹	_		

Version	NSF = increased clamping power up to 7000 N.
Connections	Pneumatic valves on side.
Application	Electrode fabrication. For use in horizontal and vertical positions.
Note	To hold pallets ø 115 / ø 148, electrode holders, with the exception of pallets with a P-profile.



ER-007612 Rapid-action chuck NSF on angle plate

Pir i P

Version	Standard type on type G angle plate.
VCISION	
	NFS = increased clamping power up to 7000 N.
Connections	Pneumatic valves on the side, flushing through
	chucking spigot.
Application	To produce electrodes, and on EDM quill.
Note	To hold pallets ø 115 / ø 148, electrode holders,
	with the exception of pallets with a P-profile.

C

EROWA ITS chuck EROWA Standardiza **ITS chucks pneumatic,** table, able to automate, INOX ER-043123 ITS chuck 100 P Inox without base plate P\$* P3 24 V INOX auto Version Steel, hardened, INOX. Clamping 5000 N. power **Connections** At the rear, with two lines. Operation With control unit Note To hold pallets ø 115 / ø 148, electrode holders and pallets PM56, PM60 and PM85 Precise. ER-043124 ITS chuck 100 P Inox 102 x 102 Steel, hardened, INOX. Version Clamping 5000 N. power **Connections** On the side or at the rear, with two lines. Operation With control unit or with air gun. Application To hold pallets ø 115 / ø 148, electrode holders Ø and pallets PM56, PM60 and PM85 Precise. ER-047743 ITS chuck 100 P Inox 118 x 118

Steel, hardened, stainless

Version Clamping power Operation Application

5,000 N Connections Laterally or at the rear, with two lines. With control unit or with compressed-air gun. To hold pallets ø 115 / ø 148, electrode holders and pallets PM56, PM60 and PM85 Precise.



EROWA ITS chucks

pneumatic, table, able to automate, INOX

ER-048519 ITS chuck 50 Inox

Version	System size 50, corrosion-resistant.
Clamping power	2800 N.
To be fitted Application Note	With 8 M5 bolts from the front. For fixtures produced by users themselves. Chuck can be operated manually or automatically. Air connections laterally or at the rear.



ER-055294	ITS Chuck 50 INOX with base platet 80 x 120	
Version	System size 50, corrosion-resistant.	
Clamping	2800 N.	r ^e
power		Ĺ
Attachment	With 4xM8 bolts from the front.	
Application	On milling and grinding machines and on EDM/	
	WEDM centers.	
Note	Chuck can be operated manually or automatically.	-
	Pneumatic connections on the side of the chuck.	











EROWA ITS chuck ITS chucks manual, quill Technical data ITS chuck, manual Repeatability 0.002 mm

8

Indexing4 x 90°Operation/clampingmanually with clamping lever

ER-038826 QuickChuck 100 P / R



Version	On a ø 110 mm base plate with a rotatable flushing
	connection.
Attachment	With 4 x M6 bolts.
Application	On EDM centers with quill rotation.
Note	Clamping power: 10000 N.



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Standardization



EROWA ITS chucks manual, table, INOX

ER-034387	QuickChuck 50	
	System size 50, manual, corrosion resistant. 4 x M8 from the rear or 4 x M6 stud bolts with nuts. On EDM/WEDM centers for light milling and grinding work. Max. revolutions on rotating axes 200 rpm. Clamping power 4000 N.	4 x M8

ER-036345 QuickChuck 100P

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 Nm. max. 3000 rpm.		



ER-038824	QuickChuck 100 P with base plate	
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.	A the
ITC assessed allowables and		
-------------------------------	-------------------	--
ITS screw chucks m	EROWA ITS chuck	
Technical data ITS screw c	huck, manual	
Repeatability 0.002 mm		
Indexing 4 x 90°		
Operation/clamping manually w	vith locking bolt	

 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.



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	v	2

EROWA ITS chucks

Accessories

ER-019424 Version Application Note	Square block for QuickChuck 100 P Steel, hardened, corrosion-resistant. For attaching 1 or 2 chucks in horizontal and/or vertcal position. Fits ITS chucks, QuickChuck 50, QuickChuck 100. Delivery without chucks.	
ER-032832	Seal ring ITS chuck 50	
Version Application	Plastic. Prevents penetration of chips and dirt into the ITS Chuck 50 by application of EROWA Holders ø 72.	074
ER-034665	Cover ITS chuck 50	N.
Version Application	Aluminium anodized. Without centering plate. Prevents penetration of chips and dirt into the ITS Chuck 50 in combination with the seal ring ER-032832.	
ER-034735	Seal Rapid Action Chuck / ø 72	
Version Application	Aluminium anodized. Prevents penetration of chips and dirt into the rapid action chuck by application of EROWA Holders ø 72.	
ER-035356	Seal ring QuickChuck 100 P ø 72	-
Version Application	Aluminium anodized. Prevents penetration of chips and dirt into the QuickChuck of RSA 100 by application of EROWA Holders ø 72.	





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EROWA ITS System carriers Standard electrode holders, centering plates

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.

components





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.	







EROWA ITS system carriers

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.	20 kg / 44 lbs
weight with electrode	
Handling	with EROWA Handlingsystems
	or electrode changer.

ER-009226	Uniblank 12 pieces
Version Application	Set of 12 units, fitted without machining of body. To mount electrodes and workpieces of various shapes.
Mounting	As required.



Standardization

ER-010596	Uniblank EWIS™ 12 pieces
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	12 pieces	
Version	INOX auto Image: Constraint of the second secon	
Application	To mount electrodes and workpieces with a base surface of more than 25 mm.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Mounting	Insert and tighten setscrews. If necessary, center with spacer plate ER-010532.	
ER-010063	Prisround EWIS™ 12 pieces	St St T
Version	INOX auto INOX Control of the contr	

ER-010793	Uniholder 12 pieces	
Version Application Mounting	Image: Nox auto Image: Constraint of the second	

ER-009223	Uniholder EWIS™ 12 pieces	
Version	INOX auto Image: Constant of the installation of the code carrier. Order EWIS™ chip, ER-035154 separately!	



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	EROWA ITS syst	tem carriers	
ER-009219	Uniplate 12 pieces	M 6 Ø B.4	
Version	Set of 12 units, surface 51 x 51 mm faced, including		
Application	2 x M6 bolts for each unit. To mount electrodes and workpieces with a base		
To fit blank	surface of more than 50 mm. With 2 x M6 bolts into the base surface.		
ER-010644	Uniplate EWIS™ 12 pieces	ø7	
Version	INCX auto Set of 12 units, prepared for the installation of the code carrier. Order EWIS™ chip, ER-035154 separately!		
ER-010627	Uniplate Alu 80 x 80 4 pieces		
Version Application Mounting	Set of 4 units, aluminum, system size 100, with M8 supports. To mount electrodes and workpieces with a base surface of more than 70 mm. With 4 x M6 bolts into the base surface.	80 0 0 0 0 0 0 0 0 0 0 0 0 0	
ER-010532			
Version Application	300 pieces 6 x 50 plates. Corrosion-resistant. Thicknesses from 0.5 mm to 5 mm. Centering of blanks in electrode holders.		
		EROVVÅ	17

EROWA ITS standard electrode holders

ER-013913 System stand 10 pieces

Version Application	Plastic, set of 10. 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 50 12-fold 10 pieces

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





EROWA ITS system carriers

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.	20 kg / 44 lbs	
weight with electrode		
Handling	with EROWA handling systems	
	or electrode changers.	

ER-035210	Uniblank ø 72 6 pieces	
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.	
	requirements.	



Standardization

ER-035209	Prisround ø 72 6 pieces
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.





EROWA Holder ø 72

ER-035211	Uniholder ø 72 6 pieces	- 07n
Version Application	Image: NOX auto Image: Constraint of the system size ITS 50. Set of 6 units, system size ITS 50. Without chucking spigots. To mount electrodes and workpieces with shaft of up to 20 mm.	

ER-035212	Uniplate ø 72 6 pieces	N72~
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.	AST D
Mounting	With two PinLock locking pins.	

ER-035114	Blank holder ø 10 / ø 72 6 pieces	
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 6 pieces	
	🗼 INOX auto 🗲 🚺	
Version	Set of 6 units, system size ITS 50. Without chucking spigots.	
Application	To clamp cylindrical parts with ø 20 mm.	



	EF	ROWA ITS system carrie	ers Standardization	
ER-035117 Version Application Mounting	Blank holder ø 72 without borehole 6 pieces NOX auto > 20 Set of 6 units, system size ITS 50. Without chucking spigots. To clamp cylindrical parts. Attachment borehole up to max. ø 12 mm o drilled according to requirements.	940		
ER-035297 Version	1 piece auto > (2) One collet chuck holder with chucking spig System size ITS 50.	ð 🕁 🔾 ot.		
Application Please note	To clamp cylindrical parts. Clamping range ø 2 mm - ø 20 mm.			



EROWA ITS precision pallets

ITS precision pallets are workpiece and electrode carriers. The pallets are prepared for automatic handling and to accommodate EWIS chips. Marginal and night hours are thus put to productive use.

Technical data	ITS precision pallets
Material	corrosion-resistant
System accuracy in chuck	0.002 mm
Run-out	< 0.01 mm
Variants	
Pallets MS	die cut centering plates
Pallets G	ground centering plates
Pallets P	Centering integrated in the pallet
Borehole pattern	standard, can be supplemented
Handling	with EROWA Handlingsystems
Unit supplied	pallet including chucking spigot



ER-032729 Pallet Kit G ø 115 4 pieces INOX auto Standard type, ground centering plates. Application Mounting Through pallet with 4xM8 bolts or through blank with 4xM10 bolts.











EROWA ITS precision pallets

ER-041912	Pallet P ø 148 Inox	
ER-041924	Pallet Kit P ø 148 Inox 4 pieces	150 0 0 00 00 00 00 00 00 00 00 00 00 00
Version	Steel, corrosion-resistant. Centering integrated in the pallet.	10 53 10 53
Application	For use on all EROWA PowerChucks P and Production- Chuck 210 Combi. To accommodate workpieces and fixtures in chip-cutting machining processes.	-40
Mounting	Through pallet with M8 bolts or through blank with M10 bolts.	
ER-022250	Adapter pallet ITS 50 / ø 148	N
		Ø148

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-046221	Reference bolt 10 pieces	
Version Application	Set of 10 bolts. Bolts have been reworked. On pallets ø 148 mm: for positional orientation in power chucks and Robot magazines.	

ER-035154	EWIS™ chip	with	holder SW14	
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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 ITS system carriers





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EROWA ITS Chucking spigots

The various versions are exactly tailored to individual applications.



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Standardization



saving storage and only screwed in again when the holder or pallet is used next time.

ITS Chucking spigot
Steel, hardened
M10

Bon	NTTO NOTION		
ER-010755 Version Application	Chucking spigot F/M EDM for flushing 20 pieces Fixed type, manual. Bolt with flushing hole. Set of 20 spigots. In Electrode Holders.		
	For EDMing and easy machining.		
ER-010742	Chucking spigot F/M production 1 unit	50	
ER-051381	Chucking spigot F/M Production 20 pieces		
Version Application	Fixed type, manual. Bolt 12.9, without flushing hole. In pallets for chip-cutting machining processes.		S
ER-007980	Chucking spigot F/A Inox 20 pieces	45	
Version	INOX auto 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 M10 x 45		
	for flushing / 20 pieces	<u>45</u>	
	🔹 auto 🛌 🖉		
Version	Fixed type, automatic. Bolt with flushing hole. Set of 20 spigots.		
Application	For electrode holder to be changed automatically. For EDM-ing and and machining with light cutting force.		



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.



Square Electrode Clamping System 15

ER-007986	Square 15 electrode holder, ITS 50 1 unit	
ER-010907	Square 15 holder, ITS 50 12 pieces	
Version Application	ITS system size 50. EDM/WEDM.	
ER-032785	Square 15 holder EWIS ^{™,} ITS 100	
Version Application	ITS system size 100 EDM and chip-cutting processes.	
ER-007870	Square 15 holder, front part	~
Version Application	Only clamping part of the holder. For the construction on multiple fixtures.	







Square Electrode Clamping System 15 and System Plus









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, consumables in particular, can be ordered according to requirements.



ER-010515 Square 15 Electrode Set

This material is packed into one 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





Square Electrode Clamping System 25 and System Plus

ER-009209 Version Application	Square 25 electrode blank 24 pieces Set of 24 blanks. EDM copper, drawn profile. Blank for electrodes of up to 25 mm edge square.	
ER-010491	Square 25 electrode shaft 24 pieces	
Version Application	Set of 24 shafts, soft steel, drawn profile. To solder or bond to blanks of up to 40 mm square.	
ER-003405	Holder straight 25 x 25 x 40mm	
ER-003439	-	7
Version Application	Steel, hardened, ground. Centering profile 25 mm. Holder incl. bolt. For electrodes of copper or graphite. Fitting according to supplied instructions.	MB
ER-003393	Angle holder 25 x 25 x 90mm	M8
Version Application	NOX Steel, hardened, ground. Centering profile 25 mm. Holder incl. bolt. For electrodes of copper or graphite. Fit according to supplied instructions.	





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, consumables in particular, can be ordered according to requirements.



ER-010541 Square 25 Electrode Set

This material is packed into one 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 square electrode system









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.



		EROWA ITS Spe	cial Electrode Holders	
ER-008566	Collet chuck holder 50			
Version Application	System size 50, incl. wrench. For round material up to ø 20 mm.			
ER-032815	Collect Chuck holder 100			
Version Application	Image: System size 100 For round material up to ø 20 mm.			
ER-008745	Set of collet chucks ø 2.5 - 20mm			
Version Application	19 collet chucks from ø 2.5 mm to ø 20 r For round material up to ø 20 mm.	** • • • • • • • • • • • • • • • • • •	ø 2,5 - ø 20 mm	S



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EROWA ITS Special Electrode Holders

ER-006700	Collet chuck ø 2.5mm	
	Collet chuck ø 3mm	
	Collet chuck ø 4mm	H+++H
	Collet chuck ø 5mm	
	Collet chuck ø 6mm	
	Collet chuck ø 7mm	V.L.S
	Collet chuck ø 8mm	
	Collet chuck ø 9mm	
	Collet chuck ø 10mm	
	Collet chuck ø 11mm	
	Collet chuck ø 12mm	
	Collet chuck ø 13mm	
	Collet chuck ø 14mm	
	Collet chuck ø 15mm	
	Collet chuck ø 16mm	
	Collet chuck ø 17mm	
	Collet chuck ø 18mm	
	Collet chuck ø 19mm	
ER-006718	Collet chuck ø 20mm	
Version	Delivered separately, clamping range per collet chuck: ø 2.5 mm = 0.5 mm	
	ø 2.5 mm = 0.5 mm ø 3-20 mm = 1 mm	
Application		
ER-010671	Mini collet chucks holder	► ² 20
Version Application	Steel ground ø 20 mm. In ø 20 mm adapter or in ø 20 mm collet chuck for	
Application	mini collet chucks of ø 0.2 mm to ø 2 mm.	

	EROWA ITS Sp	ecial Electrode Holders	
ER-0106	89 Set of mini collet chucks		
Version	Set of 19 collet chucks ø 0.2 mm to ø 2.0 mm, steel		
Applicati	ground, with brass seal for appropriate diameter. on Clamping of small electrode tubes ø 0.2 mm to	ø <u>0,2-2</u>	
Applicati	ø 20 mm.		
ER-0024	03 Mini collet chuck ø 0.2mm		
ER-0024	04 Mini collet chuck ø 0.3mm	$\widehat{\square}$	
ER-0024	05 Mini collet chuck ø 0.4mm	\square	
ER-0024	06 Mini collet chuck ø 0.5mm	<i>H</i>	
ER-0024			
	08 Mini collet chuck ø 0.7mm		
	09 Mini collet chuck ø 0.8mm		
ER-0024			
	11 Mini collet chuck ø 1.0mm		
	12 Mini collet chuck ø 1.1mm		
ER-0024	13 Mini collet chuck ø 1.2mm 14 Mini collet chuck ø 1.3mm		
ER-0024			
	16 Mini collet chuck ø 1.5mm		
	17 Mini collet chuck ø 1.6mm		
	18 Mini collet chuck ø 1.7mm		
	19 Mini collet chuck ø 1.8mm		
ER-0024	20 Mini collet chuck ø 1.9mm		
ER-0024	21 Mini collet chuck ø 2.0mm		
Version	Steel, ground, with brass seal for appropriate diameter.		
Applicati	on Clamping of small electrode tubes.		



EROWA ITS Special Electrode Holders

ER-008595	Zekant	
Version Application	Electrode holder with cross slide (2 mm travel) and pendulum movement (+/– 4°). 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	
version	from the center.	Elever & o
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 10mm	
ER-010581	Blank holder ø 12mm	
ER-010577	Blank holder ø 20mm	
Version	Image: Steel, hardened, ground bore.	
Application	Fit to Uniplate ER-009219 for clamping of precision copper tubes or bars.	








EROWA ITS

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.



	EROWA ITS Me	easuring device	
		easuring device	3
	Sensor with ball ø 5mm Sensor with ball ø 2mm	8	
Version Application	Automatic measurement of workpieces in CNC EDM sinking centers.		
ER-010560	Replacement sensor pin ø 5mm		
ER-010561 Version	Replacement sensor pin ø 2mm		
Application	Replacement of pins in sensors ER-008638 and ER-010562 Attention: spacer washer is matched to the respective sensor.		
ER-010723	Checking pin 50		
		146.	
Version Application	Hardened, ground. Alignment of radial, axial and angular position of ITS chucks.		
ER-008617	Gauging pin		
Version Application	Hardened, ground. Alignment of ITS chucks in radial, axial and angular position.		
		EROVA	147

EROWA ITS

Measuring and Checking Elements



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 complete

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



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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.	



EROWA ITS Measuring device		asuring device
ER-032464 Version Application	Microscope with pointed checking pin Amplification factor: 40x Illumination: 5 V, Tansformer: 100-240 V. Determination of dimensions for complicated contours. The checking pin with tip serves for adjustment of the optical system.	

ER-001565 Dial gauge ø 38 0.002mm



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, consumables in particular, can be ordered according to requirements.



ER-023239 My first EROWA

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



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ITS Element Set EDM Set

We have compiled practical sets for newcomers to the modern ITS Integrated Tooling System. Additional material, in particular 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 manufacturing.



ER-021098 QuickChuck 100 EDM Set

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 holder 50	1	1
ER-006702	Collet ø 4 mm	1	1
ER-006704	Collet ø 6 mm	1	1
ER-006706	Collet ø 8 mm	1	1
ER-006708	Collet ø 10 mm	1	1
ER-006710	Collet ø 12 mm	1	1
ER-006718	Collet ø 20 mm	1	1
ER-008458	Prism holder, stainless	1	1
ER-008566	Collet holder 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

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, in particular 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

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

Order number	Description	Units per set	Units supplied by order number
ER-009222	Prisround	12	12
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	Seal ring for chucking spigot	10	10
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.



Compact Electrode holder

ITS 50 Electrode holder

ITS 100 Electrode holder

Applications



Milling / turning





Manual Loading facility



RUDU

unction



Drilling / milling



Grinding







ITS Compact CombiChuck with **ITS** holder.

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

Technical data

	ITS Compact CombiChuck
System sizes	Compact 30, ITS 50 and ITS 100
Indexing	4 x 90°
Clamping power	3,000 N, 5,000 N with reclamping
Clamping	Spring power
Opening	Compressed air min. 6 bar
Operation	With manual or electropneumatic
	control unit

ITS Compact CombiChuck with **Compact** holder.



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

Standardization

The self-locking ball-lock generates a clamping power of 5,000 N (with reclamping) and does not open even if the pressure fails.

The support feet are cleaned during the clamping process.



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.



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



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





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

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.









EROWA ITS Compact Combi



Standardization

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



 Operate with manual valve



4. Operate with manual control unit



5. Operate with electropneumatic control unit



6. With central flushing clearance



INOX

- 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



210

14. Handling with EROWA Robot gripper 148



- 16
- 16. Handling with EROWA RCS gripper

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For chip-removing processes



For WEDM



EROWA ITS Compact Combi Page **ITS Compact CombiChuck - a survey** 162 **ITS Compact CombiChuck** 164 Compact chuck 168 **ITS Compact Combi Compact ITS Adapter** 169 **ITS Compact Combi Electrode Holder** 170 **ITS** Compact Combi Electrode 172 **ITS Compact Combi Accessories** 173 **ITS Compact Combi Measuring equipment** 176 Compact Electrode Holder Set 178



EROWA ITS Compact Combi





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)	(4,000 N)	
Generated by	springs	springs	
Opening with compressed air, dry	min. 6 bar	min. 6 bar	
Operation	with manual or electro-	with manual or electro-	
	pneumatic control unit	pneumatic control unit	

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ER-020025 ITS Compact CombiChuck



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





Version Application

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







EROWA ITS Compact Combi chucks

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	10,000 N	4,000 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

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



	EROWA ITS Co	mpact Combi tooling system	
ER-028167	QuickChuck 50 Combi	A	
Version Mounting Operation Application	Combi System for EROWA ITS and Compact. With four M8 bolts or four M6 bolts and nuts. Manual. Clamping of EROWA electrode holders of the system size Compact and ITS 50.	ER-028/67 M8	



EROWA ITS Compact Combi Compact chucks

Technical data	CompactChuck
Repeatability	0.002 mm
Indexing	4 x 90°
Clamping power with	
reclamping 6 bar (without)	5,000 N (2,200 N)
Opening with compressed air	min. 6 bar
Operation mode	PA = Pneumatic, automatic
	PM = Pneumatic, manual
	M = Manual

ER-029982 CompactChuck M



Mounting Operation Application Note	With four M8 bolts or with four M6 bolts and nuts Rapid-action lock with lever. Clamping of EROWA Compact electrode holders. 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.		



Standardization **EROWA ITS Compact Combi tooling system EROWA ITS Compact Combi Compact ITS Adapter Compact ITS adapter** ER-020487 -M 6 A \mathbf{H} 💁 INOX 🗩 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 **A** INOX auto 🏽 🗩 $\mathbf{\Delta}$ Version ITS system size 50, QuickChuck action for Compact holders. 0 Operation Quick locking mechanism with lever. Application Individual Compact chuck for machines which are equipped with standard ITS. System adapter Compact - ITS.

ER-029988	Compact ITS angle adapter	\sim 1
Version	ITS System size 50, QuickChuck locking mechanism of 90° angle chuck.	
Operation	Quick locking mechanism with lever.	
Application	Systeme adapter Compact - ITS.	-550

ER-036272 Compact ITS Adapter ø 72Image: Second stateImage: Second stateVersionITS system size 50 ø 72. Lock with central locking bolt.
Prepared for chip holder identification system.OperationTighten central locking bolt.
System adapter Compact - ITS 50 ø 72 mm.





J

EROWA ITS Compact Combi

Electrode Holder

ER-017532	Compact Uniholder 18 pieces		8:5
Version	Set of 18 units.	640	Contraction of the second seco
Application To fit blank	Without chucking spigot. To hold blanks up to 8 mm width. Insert and tighten M5 bolts.		

ER-017529	Compact Prisround 10mm 18 pieces	-ter-
ER-017530	Compact Prisround 15mm 18 pieces	
	INOX auto	
Version	Set of 18 units. Without chucking spigot.	40
Application	To hold blanks with shaft of up to $X = 10$ mm square (ER-017529), up to $X = 15$ mm square (ER-017530).	
Mounting	Insert and tighten M5 bolts.	

ER-034045	Compact Collect Chuck Holder 1 unit	
Version Application Please note	INOX auto Image: Constraint of the second secon	~57

ER-002394	Collet chuck	ER16 ø	2mm	
ER-002395	Collet chuck	ER16 ø	3mm	
ER-002396	Collet chuck	ER16 Ø	4mm	
ER-002397	Collet chuck	ER16 ø	5mm	
ER-002398	Collet chuck	ER16 ø	6mm	
ER-002399	Collet chuck	ER16 ø	7mm	
ER-002400	Collet chuck	ER16 Ø	8mm	
ER-002401	Collet chuck	ER16 Ø	9mm	
ER-002402	Collet chuck	ER16 ø	10mm	
				68



Version

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

		EROWA ITS Cor	npact Combi tooling syst	em
ER-017533	Compact Electrode Holder 8mm 18 pieces		0+ ×	
ER-017534	Compact Electrode Holder 10mm 18 pieces			
ER-017535	Compact Electrode Holder 12mm 18 pieces		1 E	12
ER-017536	Compact Electrode holder 16mm 18 pieces			40
	INOX auto	840		
Version	Set of 18 units. Without chucking spigot.			
Application	To hold cylindrical parts with respective	diameter.		

Mounting Insert and tighten M5 bolts.



EROWA ITS Compact Combi Electrode







EROWA ITS Compact Combi

Accessories

ER-051968	Chucking spigot clip 2 open electroconductive / 20 pieces	
Version To be fitted Application	NOX auto Synthetic, set of 20. Electroconductive. to ITS chucking spigot F/A. To fit on ITS chucking spigot F/A. To load/unload ITS electrodes and electrode holders with EROWA Combi gripper.	Contraction of the second seco
ER-051969	Chucking spigot clip 2 closed electroconductive / 20 pieces	
Version To be fitted Application	NOX auto La Construction Synthetic, set of 20. Electroconductive. to ITS chucking spigot F/A. To fit to ITS chucking spigot F/A. To load/unload ITS electrodes and electrode holders with EROWA Combi gripper.	No Co
	2.11.2.	
ER-020958	Compact System stand 24-fold 10 pieces	
Version Application	Styrene, set of 10. Storage and transport of 24 parts each. Compact elec- trodes ø 30 mm, with fitted Compact chucking spigot.	
ER-022045	System stand Compact Combi 10 pieces	-Ø20,5
Version Application Note	Plastic, set of 10. Storage of 9 parts each. Compact electrodes with fitted Compact chucking spigot Combi. The system stands can be fitted together to fill an entire surface, i.e. that of a drawer.	d'une
ER-035154	EWIS™ chip with holder SW14	.0 z
Version Application	Sleeve fitting with built-in datacarrier. EWIS chip: read only. In any EROWA electrode holder and pallet which have been prepared for it.	M5





EROWA ITS Compact Combi

Measuring equipment / Accessories

 $\Theta \Theta$

ER-022924 Combi sealing ring / ITS chucking spigot 20 pieces

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

H

	EROWA ITS Compact Combi tooling system				
	Compact Combi	ent		Stan	
	Compact probe with ball ø 2 mm Compact probe with ball ø 5mm				
Version Application	Version with spring-mounted probe and Overrun protection: X-, Y-, Z-axes, 0.3 m Repeatability: X-, Y-, Z-axes, 0.002 mm. Automatic measuring of workpieces in centers.	ım.	120		
ER-032466	Compact Microscope				
Version Application	Magnification: 40x Supply voltage: 12 Volt Lighting: 6 Volt Adapter: 110/220 Volt. Determination of measurements on cor contours. The pointed checking pin serv the optic position.				
				9	



Compact Com

EROWA Compact Electrode holder Set

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



ER-018858 Compact Electrode holder Set

The material is packed 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 ITS Compact Combi tooling system





EROWA FTS Fine Tooling System

The significance of setting up while the machine is at work is not a function of workpiece size. Rather, it is the time spent on changing from one production batch to another that has a crucial impact on machine productivity. Even with very small parts on machines designed for fine and finest processes, setting up outside the machine can be a critical success factor for production.

The FTS Fine Tooling System has been adapted to exactly these circumstances. With a positioning accuracy of less than 0.002mm and its extremely flat design, it contributes toward an optimal exploitation of the working range of small machines.





- The pallet is positioned and clamped with special profiles.
- The pallet has to be raised only 4mm before it can be removed from the chuck.
- The precision pallet is made of one piece.
- The chuck centers and clamps the pallet by means of spring tension. Thus functional safety is also guaranteed in the case of air-pressure failure.
- The compressed air required to open and clean the chuck is supplied through the lateral connections or directly through the base plate.
- Central through borehole of ø 18 mm.
- The seals ensure that the pallet is neatly and precisely clamped and positioned.


Grinding



Wire EDM



Technical data

FTS Fine Tooling System	
Repeatability	< 0.002 mm
Indexation	4 x 90°
Clamping power	400 N
Recommended workpiece size	depends on machining power
Clamping	by spring tension
Opening	by compressed air, min. 6 bar
Operation	control unit or air gun



EROWA FTS Fine Tooling System High precision

Have a closer look at EROWA's FTS Fine Tooling System. All its components are made of stainless steel. The chucks can be fitted to a wide variety of machine tables, either directly or with adapter plates. A standard pallet covers the main range of applications



FTS in operation on a laser marking machine. The system's high positioning accuracy ensures the quality of signage even on the smallest of workpieces.

Chuck height: only 23 mm!



- low design





Positioning accuracy is below 0.002 mm on all machines. Precision is retained after every machining process change.



EROWA FTS tooling system for micro-machining



The cover prevents penetration of chips and dirt into the FTS chuck.



€

4 mm vertical movement to remove the pallet. This, too, saves space.

Standardization



The flat precision pallet is the basis for all clamping processes.







FTS is ideally suitable for the high-precision machining of small and smallest workpieces.





EROWA FTS Fine Tooling System

The components



L Standardization

way ab for ER	te it easier for you to find your yout the fields of application DWA products, we use the fol- symbols in all our documents:	EROWA FTS Fine Tooling System	Page
	-,	FTS chucks	186
		FTS auxiliary equipment	187
	1. Manual operation		
	2. Operate with com- pressed air jet		
₽₩	 Operate with manual valve 		
Pì ⊧	4. Operate with manual control unit		
P 7 1 2 4 V 4	5. Operate with electro- pneumatic control unit		
	6. With central flushing clearance		
*	7. Suited for submerged operation		
	8. Corrosion-resistant material		
auto	9. Suited for automatic operation		<u> </u>
-	10. Handling with EROWA Robot gripper S		
	11. Handling with EROWA Combi gripper		
72	12. Handling with EROWA Robot gripper 72		
(15)	13. Handling with EROWA Robot gripper 115		
148	14. Handling with EROWA Robot gripper 148	For chip-removing processes	
210	15. Handling with EROWA gripper RN PC 210	For EDM sinking	
	16. Handling with EROWA RCS gripper	For WEDM ERO	
			185

EROWA FTS Fine Tooling System Chucks

FTS Fine Tooling System	
Repeatability	< 0.002 mm
Indexation	4 x 90°
Clamping power	400 N
Recommended workpiece size	depends on machining power
Clamping	by spring tension
Opening	by compressed air, min. 6 bar
Operation	control unit or air gun

ER-057334 FTS chuck manual lnox

Version To fit Connections Operation	Preumatic FTS chuck. With M3x7 bolts through the chuck. Lateral for opening. With manual valve ER-010538.	A REAL PROPERTY OF THE REAL PR
ER-057335	FTS chuck pneumatic Inox	
Version To fit	Preumatic FTS chuck. With M3x7 bolts through the chuck.	
Connections Operation	At the rear for opening and cleaning/monitoring. With manual control unit ER-008988.	a the second sec

ER-056950 FTS chuck with base plate Inox

@ # 0

Version	Pneumatic FTS chuck with base plate.
To fit	With M3x4 bolts on grid dimension 63mm through
	the base plate.
Connections	Lateral for opening and cleaning/monitoring.
Operation	With manual control unit ER-008988.



EROV	VA	EROWA FTS too	oling system for micro-machin	ing I I I I I I I I I I I I I I I I I I I	
FTS F	ine Tooling Sys	stem		ing Standardization	
Auxi	liary equipmen	t			
ER-042223	Pallet FTS				
Version Application To fit blanks	Steel pallet, hardened, including position safe positioning. With central borehole of To accommodate workpieces or fixtures. Through the pallet with M3x4 bolts.	ø18 mm.	000	3.9	
ER-045285	Cover FTS				
Version Application Note	Aluminum, with elox finish. To protect chucks that are not in operation machine. CANNOT be used as a pallet.	ion on the		000000000000000000000000000000000000000	
FR-044023	Alignment pallet FTS				
Version Application	INOX Image: Steel and the start and the			State State	
Note	machine. All the axes – X, Y and Z – as well as the checked with the same alignment pallet			1	



EROWA ITS Auxiliary Equipment Chuck operation

ER-001846 Airjet

	640
Version	Plastic, smooth regulation of air flow, connection 1/4", inside thread.
Application	Operation of manual chucks.



ER-010538 Manual valve

	640
Version	Lever valve, incl. 2 m hose and coupling fittings A and B.
Application	Operation of chucks with an air connection for opening.
Note	Connecting thread M10x1



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

Version	Fast coupling for compressed air.
Application	Screw into a suitable EROWA chuck. Cf. manual.
Note	For connecting thread M10x1



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

For use on the air supply

Fast coupling for compressed air





ER-008988 Manual control unit

|--|

Version	Manual valve to control all the functions of ITS,
	ITS Compact CombiChuck, PowerChuck P and UPC:
	opening/reclamping/cleaning.
Application	Operation of chucks on machines.



Version

Application

	ITS Auxiliary Eq	uipment
ER-039466	Additional valve double	
Version Application	For mounting to the manual control units ER-008988 and ER-025893, incl. set of hoses. Operating of two separate chucks with one single control unit.	
FD 010520	Duessium hoosten	
EK-010520	Pressure booster	
Version Application Installation	Quick-connect couplings for hose ø i = 8 mm. Output pressure: 8 bar. Compression ratio: 1:2 On insufficient system pressure and on pressure fluctuations. Integrate in air circuit near application.	
ER-011362	Twin rotatable pneumatic connector	N
ER-011412	Triple rotatable pneumatic connector	× 70
Version Application Operation	Non machine specific connection flange. Two (three) air lines. Max. speed: 6000 rpm. Max. operating pressure: 10 bar. Air supply to EROWA chucks on rotatable spindles. Only operate when spindle is at stand still!	SE
ER-010590	Control unit with monitoring	
Version	Electroppeumatic valve Outputs for chucks: opening/	

Version Electropneumatic valve. Outputs for chucks: opening/ cleaning/reclamping. 24 V, incl. mounting accessories and 3 m connection hose.
 Application Operation and monitoring of machine-integrated chucks, for instance through the CNC M-function.





EROWA ITS Auxiliary Equipment Toolroom accessories

ER-010906 Set of tools

Application

		4	$\mathbf{\Phi}$
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

Ű	4	2

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



ER-010532	Spacer plate
	300 pieces







Version	6 x 50 plates. Corrosion-resistant.
	Thicknesses from 0.5 mm to 5 mm.
Application	Centering of blanks in electrode holders.

ER-010514	Insert plates 50 pieces	0.5mm
ER-010518	Insert plates 50 pieces	1mm
ER-010521	Insert plates 50 pieces	2mm
ER-010523	Insert plates 50 pieces	3mm
ER-010525	Insert plates 50 pieces	4mm
ER-010526	Insert plates 50 pieces	5mm

	ITS Auxiliary Eq	uipment Standardization
ER-013913	System stand 10 pieces	
Version Application Please note	Plastic, set of 10. As a rack for four electrode holders 50 or a pallet ø 115/148 mm. System racks can be stuck together without any gaps, e. g. to be stored in drawers.	Grand Strand
ER-010661	Carrier fork for electrode changer	- ^{M6}
Version Application	Steel, hardened, ground. To build simple electrode changers, suitable for ER-007521 and ER-007523	0 5H7
ER-024808	Pick-up fork Combi	с M6
Version Application	NOX Corrosion-resistant steel. Corrosion-resistant steel. Corrosion-resistant steel. To make simple electrode changers suitable for chucks ER-020025 and ER-020026.	0 5H7



EROWA ITS Auxiliary Equipment Toolroom accessories

ER-010744	Chip guard 50 x 50mm	
	G-centering plates, Position outside the centering plate. ER-008547 L = 16 for punched centering plates, ER-008553 L = 21 for G-centering plates.	
Version	Set of 20 supportfeet. ER-022457 L = 16 in combination with.	M 8 -
ER-008553	Support. foot SW13/L=21/L1=10.2 20 pieces	
ER-008547	Support foot SW13/L=16/L1=10.2 20 pieces	
ER-022457	Supporting foot SW13H/L=16/L1=11.4 20 pieces	

for rapid-action chuck

	4	0

Application On Uniplate, Prisround and all other standardholders.



(b)

ER-022355	Sealing ring for ITS chucking spigot 50 pieces	
Application	Set of 50 sealing rings. Sealing between chucking spigot and Rapid-action chuck.	



	ITS Aux	kiliary Equipment	Standardization	
	EWIS™ chip with holder SW14		Sta	
EK-035154			- 13 - M5	
Version	Sleeve fitting with built-in datacarrier. EWIS chip: read only. In any EROWA electrode holder and pallet which		M5	
Application	have been prepared for it.	•	7	
:R-035156	EWIS™ Chip with holder long			
	@ t		I CONTRACTOR	
/ersion	Holder with built-in datacarrier. EWIS™ Chip: read only.			
Application	With EROWA Collet Chuck holders and Square 1 holders.	5/25		
Mounting	With supplied M4 bolts.			
ER-035294	EWIS™ chip with holder / RCS			
	66			
Version	Holder with built-in datacarrier. EWIS chip: read only.			
Annlingtion	Evvis chip. read only.	n al		

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



EROWA ITS Auxiliary Equipment Spare parts

	-0
	et of 24 washers. Insertion in Prisround for sealing to central flushing.
ER-013062 Re	epair kit, ITS chucks
ER-015985 Re	epair kit, ITS chucks, INOX
Application Dis rep Please note Ev	I the wear parts of ITS rapid-action chucks. smantle chuck according to instructions supplied, place parts. rery chuck is supplied with instructions. Please keep a safe place.

ER-015962 Repair kit PowerChuck P

	640
Version Application	All the wear parts of PowerChuck P. Dismantle chuck according to instructions supplied, replace parts.
Please note	Every chuck is supplied with instructions. Please keep in a safe place.



	ITS Auxiliary Eq	uipment Standardization	
ER-023121	O-rings, springs, balls		
Version	All the wearing parts of UPC ER-016092 and ER-016093.		
Application	Dismantle UPC according to instructions supplied, replace parts.	(\bigcirc)	
Note	Each UPC is supplied with an operating manual, which you will please keep.		
R-023120	UPC P repair kit O-ring, springs, balls		-
/ersion Application Note	All the wear parts of UPC P ER-016841. Dismantle UPC P according to instructions supplied, replace parts. Each UPC P is supplied with an operating manual,		
	which you will please keep.		
R-009007	Viton seal 10 pieces	\bigcirc	V

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

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.

....



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 chuo	ck	Chuck RSA 50	QuickChuck 50 RSM	
pneumatic	manual			
0.002 mm	0.002 mm	0.002 mm	0.002 mm	
		4 x 90°	4 x 90°	
with reclamping	without reclamping			
7,000 N	3,000 N	2,800 N	4,000 N	
Spring tension	Spring tension	Spring tension	Spring tension	
min. 6 bar			min. 6 bar	
pneumatically	mechanically	pneumatically	mechanically	
30 kg	30 kg			
(with support)	(with support)			
	pneumatic 0.002 mm with reclamping 7,000 N Spring tension min. 6 bar pneumatically 30 kg	0.002 mm0.002 mmwith reclamping 7,000 Nwithout reclamping 3,000 NSpring tensionSpring tensionmin. 6 barmechanicallypneumaticallymechanically30 kg30 kg	pneumaticmanual0.002 mm0.002 mm0.002 mm4 x 90°with reclampingwithout reclamping7,000 N3,000 N2,800 NSpring tensionSpring tensionmin. 6 barspring tensionpneumaticallymechanicallypneumatically30 kg30 kg	pneumaticmanual0.002 mm0.002 mm0.002 mm0.002 mm0.002 mm0.002 mm4 x 90°4 x 90°with reclampingwithout reclamping7,000 N3,000 N2,800 NSpring tensionSpring tensionSpring tensionSpring tensionmin. 6 barmechanicallypneumaticallymechanically30 kg30 kg







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.

EROWA Wire EDM Tooling



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.



dardization

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.





Standardization EROWA Wire EDM Tooling To make it easier for you to find your way about the fields of application for EROWA products, we use the fol-**EROWA Wire EDM Tooling** Page lowing symbols in all our documents: Interfaces to machine table 204 Adapters for interfaces 209 **Fixtures for adapters** 215 1. Manual operation Clamping elements for fixtures 224 Wire EDM Tooling system accessories 227 2. Operate with compressed air jet Wire EDM Tooling Kits 232 Clamping equipment sets 234 3. Operate with manual valve 4. Operate with manual P\$ D control unit 5. Operate with electro-P 7 pneumatic control unit 6. With central flushing clearance -∥. 7. Suited for submerged operation \approx 8. Corrosion-resistant INOX material 9. Suited for automatic auto 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 115 Robot gripper 115 14. Handling with EROWA 148 For chip-removing processes Robot gripper 148 15. Handling with EROWA For EDM sinking 210 gripper RN PC 210 16. Handling with EROWA For WEDM •• RCS gripper EROWA

Vire EDM Tooling

EROWA Wire EDM Tooling **Interfaces to machine table**

Technical data	Flat chuck		
	pneumatic	manual	
Repeatability	0.002 mm	0.002 mm	
Clamping power	with reclamping	without reclamping	
	7,000 N	3,000 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 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 work-
	piece loading.
Connections	On the side for opening, cleaning, reclamping.



ER-035715	Flat chuck 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.		



Standardization	
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Technical data	Basic WEDM chuck	
	manual	
Repeatability	0.002 mm	
Clamping power	without reclamping	
	8´000 N	
Generated by	mechanic	
Operation	manual	
Max. pallet weight	15 kg (without support)	

ER-040641	Basic WEDM chuck Basic Tooling	
Version	Mechanical chuck for a direct fit to the Z = 0 base of the WEDM center.	
Application Operation	On WEDM centers with manual workpiece loading. With a manually operated ball lock.	A CONTRACT OF A

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.
wounting	to the base according to operating instructions.





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EROWA Wire EDM Tooling 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	2,800 N	4,000 N
Clamping	Spring power	mechanical
Opening with compressed a	ir, dry min. 6 bar	
Operation	pneumatic	mechanical



	EROWA Wire E	DM Tooling	
ER-035690	ManoSet rail P 890mm XXL	A A A A A A A A A A A A A A A A A A A	
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 890 mm, Y = 75 mm.	1444000 	
Mounting Application	directly on the Z=0 base. To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 215).	1 Star	
Note	ManoSet rail XXL suitable for Sodick AQ 750 L and Makino SP 64 (see page 232/233).		
ER-038985	Length 850mm XXL		
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 850 mm.		
Mounting Application	directly on the Z=0 base. To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 215).	A A A A A A A A A A A A A A A A A A A	
Note	ManoSet rail XXL suitable for Makino EU 64 and SP 64 (see page 232/233).		
			2
ER-012847	ManoSet rail P length 947mm XXL		00
Version	Supplied: 1 unit. Rail for large WEDM centers. X = 947 mm.	+ 101111111110 ° ° · · · · · · · · · · · · · · · · ·	
Mounting Application	Directly on the Z=0 base. To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989 (see page 215).		
Note	ManoSet rail XXL suitable for Charmilles CTFI60++ and Sodick AQ 750 L (see page 232/233).		Wire



EROWA Wire EDM Tooling

Interfaces to machine table

ER-042904	ManoSet rail P length 890mm XXL	\sim
		9. 00 0 0 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Version	Supplied: 1 unit.	1.4.4.9.0
	Rail for large WEDM centers. X = 890 mm, Y = 75 mm.	+ + + + + + + + + + + + + + + + + + +
Mounting	A = 890 mm, $Y = 75$ mm. directly on the Z=0 base.	144.90 44.40 44.40 44.40 40 40 40 40 40 40 40 40 40 40 40 40 4
Application	To clamp large workpieces with XXL clamping beams	
	540, ER-037307 or clamping beams 620, ER-034989 (see page 215).	
Note	ManoSet rail XXL suitable for Charmilles	
	CT FI 640cc, CT FI 690 and ONA AE 600 (see page 232/233).	
ER-043487	ManoSet Beam P length 860mm XXL	
Version	Supplied: 1 unit.	Constant of the second of the
	Rail for large WEDM centers. X = 860 mm, Y = 50 mm.	+
Mounting	directly on the $Z = 0$ base.	Here 1990
Application	To clamp large workpieces with XXL clamping beams 540, ER-037307 or clamping beams 620, ER-034989	
•• ·	(see page 215).	
Note	ManoSet rail XXL suitable for Mitsubishi FX 30 / FA30, CT FI6050, Makino SP64 (see page 232/233).	
ER-041430	ManoSet rail L Length 1010mm XXL	
		A Contraction of the second se
Version	Supplied: 1 unit.	
	Rail for large WEDM centers.	
Mounting	X = 1010 mm. directly on the Z = 0 base.	
Application	To clamp large workpieces with XXL clamping beams	ACTURE OF THE
	540, ER-037307 or clamping beams 620, ER-034989 (see page 215).	12 ser
Note	ManoSet rail XXL suitable for Makino U86 (see page	
	232/233).	

EROWA Wire EDM Tooling Adapters for interfaces ER-045555 Clamping frame FrameSet 430/220-335 ER-039212 Clamping frame FrameSet 430/300-335 ER-039211 Clamping frame FrameSet 490/220-395 ER-039213 Clamping frame FrameSet 500/300-405 ER-039214 Clamping frame FrameSet 500/300-405 ER-039215 Clamping frame FrameSet 500/300-455 ER-039216 Clamping frame FrameSet 650/300-555 ER-039217 Clamping frame FrameSet 650/380-555 ER-039217 Clamping frame FrameSet 710/380-615

Version	Clamping frame for the multiple palletization of
	workpieces.
Application	To fit on EROWA flat chucks and FrameSet Fix plates
	(see page 205).
Options	See Clamping beams and clamping elements for the
	EROWA Wire Tooling System, starting from page 215.

	Α	В	С	D	E
ER-045555	430	220	335	525	396
ER-039212	430	300	335	525	396
ER-039211	490	220	395	585	316
ER-039213	500	300	405	595	396
ER-039214	560	300	465	655	396
ER-039215	650	300	555	745	396
ER-039216	650	380	555	745	476
ER-039217	710	380	615	805	476





EROWA Wire EDM Tooling

Adapters for interfaces

ER-030923	Pendulum holder 3D PalletSet W	
Version Application Note	Pendulum head for automatic and manual loading. G-Centerning plates for increased durability. Basis for all the other clamping elements such as UniVise square, frame pallet, vise and beam pallet. 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 Application Note	Standard element for automatic and manual loading. Base for all other clamping elements such as UniVise square, frame plate, vise and beam pallet. Adjustable in the C-axis.	90E BOOK

ER-030645	UnoSet Adapter PalletSet W centering plate G	-150
Version Application Note	System adapter of PalletSet W to UnoSet. Clamps workpieces of system size ITS 50 horizontally into the workspace. Fits all UnoSet and ITS 50 clamping elements.	9:55 171.5
ER-031942	Basic WEDM pendulum holder Basic Tooling	

		EROWA Wire ED	M Tooling	
ER-033955	Basic WEDM fix holder Basic Tooling		-un-	
Version Application Note	Standard element for manual loading. For use on the Basic WEDM chuck. As a basis for all other clamping elemen UniVise, square, vise and beam pallet. Adjustable in the C-axe.	ts like	Se Co Co	
ER-030643	Adapter UnoSet with RSA 50 PalletSet W		t a	
Version Application Clamping power Note	Pie Pie INOX auto System adapter from Palletset W to Uno Clamps workpieces of the ITS 50 system horizontally into the workspace. 2800 N Suitable for all UnoSet and ITS 50 clamp	size		
ER-033933	PSW adapter QuickChuck 50 Com PalletSet W / centering plate G	bi	1 an	
Version Application Note	System adapter from Palletset W to Uno Compact. Clamps workpieces of the ITS 50 and Consizes horizontally into the workspace. Suitable for all UnoSet and ITS 50 clamp and Compact clamping elements.	mpact system		Tooling
ER-033974	PSW adapter QuickChuck 100 PalletSet W		9	5
Version Application Note	System adapter from Palletset W to Uno holder ø 72, and pallets 148, 115. Clamps workpieces of the ITS 50 and ITS sizes horizontally into the workspace. Suitable for all UnoSet clamping elemen	100 system		Wire EDN



EROWA Wire EDM Tooling

Adapters for interfaces

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ER-038710	Adapter Z-Vario PalletSet W / UnoSet RSM	\sim
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 workspace.	
Note	Suitable for use with the whole ITS 50 system and electrode holders.	
ER-039795	Holder ø 72 PalletSet W	
		the second secon
Version Application	System adapter from Palletset W to ITS 50 holder ø 72 Clamps workpieces of holder ø 72 size horizontally into the workspace.	
Operation Note	Pneumatically with air jet. 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°.	





suitable for the accommodation of workpieces and electrodes that have to be machined in a vertical and in a horizontal position. Indexable around 4x90°.



Note

	EROWA Wire EI	DM Tooling
ER-007877	TurnFix 50 UnoSet	
Version Application Use	Chuck 50, manual, with ITS base plate, continuously able to rotate round 360°. ITS base for the manual loading of ITS elements carrying workpieces that require angular positions. On any ITS chuck of system size 50.	
ER-028471	Angled clamping unit UnoSet	
	for QuickChuck 50	
Version Application Max. load Max. work- piece size Connections	Chuck 50, angle to be set with the vernier. WEDM or EDM. To fit lateral sprues to casting tools. 6 kg. 100 x 100 x 100 mm. Flushing connection in place.	

ER-027640	Square clamping unit CompactChuck 50 Combi UnoSet QuickChuck		
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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EROWA Wire EDM Tooling

Adapters for interfaces



EROWA Wire EDM Tooling Fixtures for adapters

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



L Standardization

Application	To clamp workpieces with clamping claws on Z-discs.
Version	Cross boreholes, ground.

Spannbalken	Х	Y	
ER-017645	22 mm	46 mm	
ER-017646	25 mm	46 mm	
ER-017647	25 mm	46 mm	
ER-017648	36 mm	56 mm	

ER-021127	Double-sided clamping beam 300mm Double-sided Clamping beam 380mm Double-sided Clamping beam 460mm	
Application Version	To clamp workpieces with clamping claws on Z-support ledges. Cross boreholes, ground.	A CONTRACT OF CONTRACT.
ER-037307	Double-sided clamping beam 540 ManoSet XXL	(Contraction of the second se
Application	Clamping of workpieces with clamping claws on Z-support ledges.	
ER-034989		
Application	ManoSet XXL Clamping of workpieces with clamping claws on Z-support ledges.	

EROWA Wire EDM Tooling



EROWA Wire EDM Tooling

Fixtures for adapters

ER-030110	5-fold beam 300 QuickChuck	\sim	
Version Application Use	Five chucks 50, manual, in a row. ITS adapter for the manual loading of five ITS elements. On all FrameSet clamping frames, carrier plates and ManoSet bases. Width 300 mm.		
ER-018938	UniVise square PalletSet W		
Version Application Note	Square with all the clamping accessories. To be fitted to fix holders or pendulum holders. Max. load: 10 kg.		
ER-018940	Vise PalletSet W		
		82,5	
Version Application Note	Clamping element with clips for one-sided attach- ment to workpieces. To be fitted to fix holders or pendulum holders. Max. load: 12 kg.	Z=-3	
ER-019248	Prism holder 80 PalletSet W		
Version Application Assembly Note	Prism and clamping part with detachable Z-supports. Clamping of cylindrical workpieces of up to Ø 80 mm. To be fitted to the front of beam pallet ER-018937 or clamping beams (cf. p 215). Max. load: 6 kg.		
	Pulan haldan 420mm		
ER-031179 Version Application Mounting Note	Prism holder 120mm PalletSet W Prism and clamping bars with detachable Z-supports. To clamp cylindrical workpieces of up to ø 120 mm. directly to fixholder or pendulum holder. Max. load: 10 kg.		
	EROWA Wire E	DM Tooling	
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ER-038891	Prism holder ø 10 - 180 PalletSet W	h _{θX 8 180}	
Version Application Mounting Note	Prism and clamping bars with detachable Z-supports. To clamp cylindrical workpieces of up to ø 180 mm. directly to fixholder or pendulum holder. Max. load: 12 kg.		
ER-018937	Beam pallet PalletSet W	M ⁸ M ¹⁰ /Ø9H7	
Version Application Options	Pallet to accommodate various clamping elements. Includes Z-supports and clips. To be fitted to fix holders or pendulum holders 3D. Prism holders and BeamVise clamping elements.		
ER-054922	Flat vise 8mm PalletSet W		
Version	One movable jaw and one fixed jaw. Hardened, ground and corrosion-resistant.		
Clamping range Max. load Application	 0 - 100 mm. 5 kg. Lateral clamping of workpieces machined outside of up to 100mm. To be fitted to fixholder or pendulum holder. 	Contraction of the second seco	Fooling
ER-028425	Flat vise 150mm PalletSet W		
Version Clamping range Max. load Application	One movable and one fixed jaw. Hardened, ground and corrosion-resistant. max. 150 x 150 x 100 mm. 12 kg. Lateral clamping of workpieces of 0-150mm machined from the outside. To be fitted to fix or pendulum holders.		Wire EDN



Fixtures for adapters

ER-031945	Basic holder PalletSet W	
Version Application Options	To accommodate various clamping elements. To fit to fixholder or pendulum holder 3D. Jaw holder ER-033958 or bracket holder ER-031952.	A CONTRACTOR
ER-025895	Vise 40mm PalletSet W	-
Version Clamping range Max. load Application	Vise with fixed Z-lip and jaws attached from above. Hardened and ground. max. 150 x 150 x 40 mm. 12 kg Lateral clamping of workpieces of 0 -150 mm machined from the outside. To be fitted to fix or pendulum holders.	
ER-025896	Vise PalletSet W 100mm	
Version Application Max. clam- ping range Max. load	Vise with fixed Z-lip and jaws fitted from above. To clamp workpieces of up to 100 mm in height. To be fitted to fixholder or pendulum holder. 150 x 150 x 100 mm. 12 kg	

ER-034631	Vise PalletSet W 140mm	~
Version	Vise with fixed Z-lip and jaws fitted from above. Hardened and ground.	
Application	To clamp workpieces of up to 140mm in height. To be fitted to fixholder or pendulum holder.	
Max. load	12 kg	
Max. clam- ping range	150 x 100 x 140 mm	





Fixtures for adapters



ER-025116	Z-support universal PalletSet W manual 1 pair	
Version Mounting Operation Application	A BODY NOX A PART OF SUPPORTS. Hardened and ground. Directly on the Z=0 base of the WEDM center. Manually Support and clamping of the frame plate with	Same Same Same Same Same Same Same Same
	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 Operation	Support beam for use in EROWA ManoSet. Manually	50 C
Applicaton	Support and clamping of the frame plate with	.4

weights of up to 30 kg in combination with EROWA ManoSet. Stabilizes the frame plate in case of high

flushing pressure.

	EROWA Wire E	DM Tooling	
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		
		24.8-9 24.8-9	
Version Operation Application	Support beam for use in EROWA ManoSet. Pneumatically. 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	~	
Clamping range Max. exten- sion Zuladung Version	Anges from 0 to 100 mm. 40 mm at 100 mm workpiece height. max. 5 kg. Workpiece fixed. Including three sets of clamping	Z=2010	
	jaws.		\mathbf{O}



Fixtures for adapters

ER-007935	Rotary vise 0 - 100 UnoSet	~
sion	 ▲ ■ NOX 0-100 mm 40 mm with 100 mm part height. 	
Zuladung	max. 5 kg.	e sat
Version	Continuously able to rotate around 360°. Set with three pairs of clamping jaws.	

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ER-014698 VeeVise UnoSet

Clamping	0–50 mm
range	
Max. exten- sion	40 mm with 100 mm part height.
Zuladung	max. 5 kg.
Version	Clamping component without ITS connection. To fit to an existing pendulum rotating adapter.



ER-008842 Pendulum vise 0 - 100 UnoSet Clamping range from 0 to 100 mm. Ranges from 0 to 100 mm. 40 mm at 100 mm workpiece height. max. 5 kg. Version Workpiece adjustable in two axes. Including three sets of clamping jaws.

ER-008856 Rotatable pendulum vise 0 - 100 UnoSet

Clamping	0–100 mm
range	
Max. exten-	40 mm with 100 mm part height.
sion	
Zuladung	max. 5 kg
Version	For adjustable workpiece positioning in three axes.
	Continuously able to rotate around 360°.
	Set with three pairs of clamping jaws.







Clamping elements for fixtures

ER-031952	Bracket holder PalletSet W (1 pair)	
Version Application Mounting	Two movable vertical jaws. Hardened, ground and corrosion-resistant. Variable vise to be fitted to basic holder PSW. Directly to basic holder ER-031945, using the fittings supplied.	R co
ER-033958	Jaw holder PalletSet W	
Version Application Mounting	One movable jaw and one fixed jaw. Hardened, ground and corrosion-resistant. Variable vise to be fitted to basic holder PSW. Directly to basic holder ER-031945, using the fittings supplied.	
ER-016914	BeamVise single	
Version Application Assembly	One movable and one fixed stop jaw. Hardened, ground, corrosion-resistant. Variable vise laterally on EROWA clamping beams. 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	Z-Zelo SS-
	is not adjustable.	
Use	On all clamping and gripping beam ER-018937.	

	EROWA Wire E	DM Tooling	
	Fixed distance exposed		
Application Presetting Use	Fixed distance support As side support for workpieces, or for clamping small single parts. The support surface height corresponds to Z = 0 and is not adjustable. On all clamping and gripping beams.	CO PORTO	
ED 000072	Adjustable distance support		
ER-008873 Application Presetting Use	Adjustable distance support As side support for workpieces, or for clamping small single parts. The support surface height corresponds to Z = 0 and is adjustable +/- 0.15 mm. On all clamping and gripping beams.	To the second se	
ER-007990	DiaFix		
Application Presetting	3 pieces ▲ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★		D
Use	is not adjustable. On all clamping beams.		
ER-008221	Z beam	<u> </u>	0
Application Presetting	As side support for workpieces, or for clamping small single parts. The support surface height corresponds to Z = 0 and is adjustable +/- 0.15 mm.	Z-ZBIO	M To
Use	On all plates and beams with $Z = + 14$ mm.		
ER-008220	Z universal support		U
Application Presetting Use	As side support for workpieces, or for clamping small single parts. The support surface height corresponds to $Z = 0$ and is adjustable +/- 0.15 mm. On all carrier plates and bases with $Z = 0$.	The second secon	Wir
		EROWA	

Clamping elements for fixtures

ER-016657	BeamStop Set	
Version	Set of two stops for EROWA beams. Hardened,	
VEISION	ground, corrosion-resistant.	
Application	On ManoSet base rails, on Basic Adapter and in	
Assembly	RoboSet Clamping frames. With the enclosed bolts.	
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.	Ť.
Assembly	With the enclosed assembly elements directly onto	
,,	the existing Z-zero machine structure.	
ER-017198	Basic adapter	
		8999 A
Version	A ground, hardened, corrosion-resistant plate with	
Application	variable assembly hole grids. Base on WEDM machines with no tooling system	
Application	Base on WEDM machines with no tooling system.	it a

With chucks ER-007851/ER-007852.

Z-zero base.

With the enclosed bolts directly onto the existing

Assembly

	EDM Tooling	Wire EDM Tooling	
Acce	ssories		
ER-012727 Version Application	Reference pin UnoSet	ntal	
ER-055158	Alignment pallet PalletSet W		
Version Application	Hardened, ground gauge with lateral reference surfaces and two defined reference boreholes. To determine the reference point and to align che	ucks.	
ER-022669	Bracket for flat chuck		
Version Application	Steel, unhardened. Set of 2. To fit flat chucks to WEDM centers.		
FR 033670	Dresket for Aris flat shush		0)
Version Application	Bracket for Agie flat chuck		



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Accessories





Accessories

ER-034533	FrameSet gripper bolts 4 pieces	-95.
Version Application Note	Set of 4 gripper bolts. For FrameSet clamping frames with EROWA handling facilities. Can only be used in connection with FrameSet gripper automation.	
ER-008846	Slotted nut M8 10 pieces). ¢r
Quantity Application	10 On long setscrews, to avoid time-consuming nut tightening.	WB C
ER-008848	Eye bolt M8 1 couple	
Quantity Application	2 To raise loaded clamping frames with a crane or lifting device.	M 8
ER-007799	Spacer plate large 50 pieces	20-12-
Quantity Application	50 As supports for chucking claws.	
ER-007781	Spacer plate small 50 pieces	
Quantity Application	50 As supports for chucking claws.	
ER-001674	Erogrease 1kg	
Version	1kg tin.	
Application	For the durable lubrication of guides, joints and threads submerged in water.	

		EROWA Wire EDM Tooling		Standardization
ER-010734	Branotect maintenance spray 0.4 liter			
		$\bigcirc \bigcirc $	Č,	
Version Application	0.4 litre aerosol. For the maintenance and conservation clamping elements used for WEDM p			





EROWA Wire EDM Tooling Kits



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	· elecelecelece
Version	Basic frame tooling system equipment for WEDM	A Added and
	centers. Manually or pneumatically controlled	
	chucks according to your choice. With the FrameSet	- Correct
	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.	****





Standardization



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ER-019989 Set of clamping elements, PalletSet W

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 set of clamping elements for Wire EDM Tooling

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 packed in one solid plastic box.

Standard

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

Order number	Description	Units per set	Units supplied by order number
ER-008910	Spacer plate	8	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 set of clamping elements for Wire EDM Tooling

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

Economy



ER-008215 Set of clamping elements Economy

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 Economy

Order number	Description	Units per set	Units supplied by
			order number
ER-008910	Spacer plate	8	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 0 for Wire EDM Tooling EROWA's extensive accessory sets contain a number of practical and XL economically priced auxiliaries which turn clamping jobs into fun. ER-001417 ER-002613 ER-008744 ER-008748 ER-008770 ER-010120 ER-008765 ER-010126 ER-008763 ER-008755 ER-010123 ER-010115 ER-008896 ER-008901 ER-008861 ER-008855 ER-008812 ER-008863 ER-007781 ER-007799

ER-008301 Set of clamping elements, XL

24(

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	50
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	1
ER-010120	Column, 100 mm	4	1
ER-010123	Column, 60 mm	4	1
ER-010126	Adjustment supports	4	1







EROWA Sine Dividing Head ITS

The highest precision-the simplest handling





- 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:







... swivelable round 90° with ...



1

Standardization

... 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 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

SWISS

EROWA

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

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andardization

EROWA PM Tooling Pressing powder with system

Pressed-powder parts are become more and more refined. The special shapes are manufactured in small batch sizes. Powder presses have to be reset frequently. EROWA's PM Tooling cuts resetting time to less than 2 minutes!



The upper and lower punches as well as the die-plates are machined on the PM Tooling, right from the start until they are used in the press. Thanks to the system's positioning accuracy and stability, all the punches and die-plates produced on the system can be changed in the twinkling of an eye.



Technical data PM Precise

	PM56/PM60	PM85
Pressure absorption, max.	50 t	100 t
Repeatability	< 0.002 mm	< 0.002 mm
Automatable	yes	yes
Electronic identification	yes	yes



EROWA PM Tooling Universal from milling to pressing

Punches and die-plates are produced on pallets, with exact centricity. PM Tooling pallets are compatible with all EROWA P chucks. The EROWA PM Tooling allows for the complete automation of your machine.

Milling

Electrodes used to EMD the molds are machined on ITS system holders. The reference position is provided by the chuck.



Wire-EDM

The contours are produced on a WEDM center. The reference position is provided by the chuck.

EDM

Shapes in the surface of the punches are EDMed. The reference position is provided by the chuck.



Grinding

Punches may also be machined on cylindrical grinding machines. The reference position is provided by the chuck.



Powder pressing

Top and bottom punches and the dieplate are inserted into the press. The reference positions are provided by the precisely aligned chucks.







Changing variants i n 2 minutes



Pneumatically loosen die-plate and both punches.



Insert and clamp new die-plate and punches.



Produce new molds.

	EROWA PM Tooling	1 uiju
	-	Standardization
		Star
To make it easier for you to find your way about the fields of application for EROWA products, we use the fol-		
lowing symbols in all our documents:	EROWA PM Tooling	Page
	PM Tooling chucks PM Tooling Workpiece carrier	250
	PM Tooling Workpiece carrier PM Tooling Accessories	252 253
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 INOX material		S
9. Suited for automatic operation		
10. Handling with EROWA Robot gripper S		0
11. Handling with EROWA Combi gripper		Ĕ
12. Handling with EROWA Robot gripper 72		5
13. Handling with EROWA Robot gripper 115		
14. Handling with EROWA Robot gripper 148	For chip-removing processes	
15. Handling with EROWA gripper RN PC 210	For EDM sinking	
16. Handling with EROWA RCS gripper	For WEDM EROV	
		249

EROWA PM Tooling Chucks

PM chucks
0.002 mm
4 x 90°
6 bar min.
Spring pressure



ER-047566	Die-plate chuck PM128 II Precise with base plate		
Version	Steel, hardened, corrosion-resistant. Through borehole ø 86. External seal.		
Clamping power	20000 N.		
Operation	Laterally with compressed-air gun or with control unit.		
Application	On milling machines, lathes, grinding machines and EDM/WEDM centers. To accommodate die-plate pallets PM128 Precise		
	and Multi.		



ER-040697	Chuck	PIN85	Precise	

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



	EROWA PM	Tooling
ER-040696	Chuck PM85 Precise with base plate	¢ 158
Version Clamping power Connections Operation Application	Steel, hardened, corrosion-resistant. Through borehole ø 25. 9000 N. Laterally, with two lines. With control unit. On milling and grinding machines and on	
ER-055370	EDM/WEDM centers. To accommodate pallets PM85 Precise and Multi. Chuck PM60 Precise	
ER-055370		Ø 125
Version Clamping power Connections Operation Application	Steel, hardened, corrosion-resistant. Through borehole Ø 25. 6500 N. At the rear, with two lines. With control unit. On milling machines, lathes, EDM/WEDM centers and powder presses.	
	To accommodate pallets PM60 Precise.	
ER-047500	Chuck PM60 Precise with base plate	e 125
Version Clamping power Connections Operation Application	Steel, hardened, corrosion-resistant. Through borehole ø 25. 6500 N. Laterally, with two lines. With control unit. On milling and grinding machines and on	
	EDM/WEDM centers. To accommodate pallets PM60 Precise.	



EROWA PM Tooling

Workpiece carrier

ER-034680	Die-plate pallet PM128 ø 52 Precise 1 unit	Ø 127 c
		Ø 119
Version	Steel, hardened, corrosion-resistant. Centering integrated in pallet. Inside ø 52. 1 unit.	0000
Application	For use on die-plate chuck PM128 Precise. To accom- modate die plates, workpieces and fixtures for chip-cutting machines, EDM/WEDM centers and powder presses.	
Fitting blanks	Through the pallet with M6 bolts or through the workpiece with M8 bolts.	

ER-040701	Pallet PM85 Precise 1 unit	ø 85
Version Application	INOXautoSteel, hardened, corrosion-resistant.Centering integrated in pallet. Inside ø 25. 1 unit.For use on EROWA Chuck PM85 Precise.With chucking spigot ER-039839 on Production-	0 25 4 x M8 (ø 50) 4 x M8 (ø 60)
	Chuck 210 Combi, PowerChuck P, ITS Chuck 100 P and QuickChuck 100 P. To accommodate workpieces and fixtures for chip-cutting machines, EDM/WEDM	
	centers and powder presses.	
Fitting blanks	Through the pallet with M6 bolts or through the workpiece with M8 bolts.	

ER-055369	Pallet PM60 Precise 8 units	Ø 60
		4 x ø 6,5 (ø 42)
Version	Steel, hardened, corrosion-resistant. Centering integrated in pallet. Inside ø 25.	
Application	For use on EROWA Chuck PM60 Precise. With chucking spigot ER-041429 on Production- Chuck 210 Combi, PowerChuck P, ITS Chuck 100 P and QuickChuck 100 P. To accommodate workpieces and fixtures for chip-cutting machines, EDM/WEDM	C TER OSESSED
Fitting blanks	centers and powder presses. Through the pallet with M6 bolts.	




EROWA presetting systems



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







EROWA PreSet 3D CNC

2550 500-

1330

1089-

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.





EROWA PreSet 3D CNC	
---------------------	--

- Measuring machine (working plate with borehole grid for all EROWA tooling systems)
- Pneumatic control system
- PC and color printer
- Presetting software
- Renishaw measuring probe TPC 3
 Calibration ball
- Calibration ball

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EROWA

	PreSet 3D CNC
Range, X-axis	650 mm
Range, Y-axis	700 mm
Range, Z-axis	500 mm
Maximum distance between table and	
probe holder (without probe)	643.5 mm
Maximum distance between the columns at table height	820 mm
Usable surface of the granite plate	
(with EROWA borehole pattern)	820 x 1300 mm
Resolution, scales	0.0005 mm
Measuring accuracy according to volume	M = 0.003 +
(according to M = 0.003 + ISO 10360/2)	0.0035 x L
Axis movement speed	18 m/min
Machine dimensions	
Height	2550 mm
Surface	1089 x 1455 mm
Maximum workpiece load	650 kg
Maximum probe weight	1.2 kg
Machine weight (without load)	775 kg

For additional details, please contact your EROWA dealer.

256

EROWA PreSet 3D CNC

Renishaw probe unit RTP20 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

EROW

All the axes are moved on high-precision air bearings. The Z-axis is equipped with an automatic brake in case of pressure loss.

Tooling system operation All the systems can be opened by means of a simple lever.

Software PreSoft XP – 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 100 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

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

- Measuring machine (working plate with borehole grid for all EROWA tooling systems)
- Pneumatic control system
- PC and color printer
- Presetting software
- Renishaw measuring probe TPC 3
 Calibration ball
- 258

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ET 3D MAN

Range X-axis	400 mm
Range Y-axis	500 mm
Range Z-axis	440 mm
Maximum distance between table and	d
probe holder (without probe)	547 mm
Maximum distance between the	
columns at table height	590 mm
Usable surface of the granite plate	
(with EROWA borehole pattern)	590 x 840 mm
Resolution, scales	0.0005 mm
Measuring uncertainty	
(according to ISO 10360/2)	M = 0.0025 + 0.003 x L
Machine dimensions	
Height	2400 mm
Surface	920 x 920 mm
Maximum workpiece load	130 kg
Maximum probe weight	1.2 kg
Machine weight (without load)	210 kg
	For additional datails, also

For additional details, please contact your EROWA dealer.

Renishaw probe unit MH20/TP20 MH20i 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

PreSoft XP – 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 100 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



PRESET 3D MAI

Basic equipment

EROWA PreSet 3D CNC

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.

and 3D MAN



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 Application	With fitting accessories directly to prepared borehole pattern. 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 Application	With fitting accessories directly to prepared borehole pattern. To accommodate MTS twofold and fourfold pallets with set-up distance of 250mm.





ER-020571 UPC Kit with RSA 100

	with integrated ITS chuck. ctly to prepared borehole pattern.
Application To a	ccommodate all UPC, ITS 148 and ITS 115 pallets, as well as
Combination The	lers 72 and 50. UPC can be fitted in combination with one of the following ems: 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	n The PC 210 can be fitted in combination with one of the follo-
	wing systems: PalletSet W, UnoSet.





ER-029434 PowerChuck P 3D

Version
Mounting
ApplicationPneumatic chuck on base plate.
Directly to prepared borehole pattern.
To accommodate ITS 148 P, 148 and 115 pallets, as well as holders
72 and 50.CombinationThe 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.
	To accommodate ITS 148 and ITS 115 pallets, holders 72 and 50,
	and all the Compact 30 holders.
Combinatior	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-046080 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.
	The FrameSet can be fitted in combination with one of the follo- wing 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.







The electrode presetting station for every contingency. The matured design does justice to everyday life in the workshop. Measurements in the X-, Y-, Z- and C-axes can be carried out quickly and safely. The data output of the measured values are integrated. The presetting station can be equipped with various tooling systems.

EROWA PreSet 2D Electrode preset made easy



Order numbers

without C-axis		
ER-057208	PreSet 2D	UnoSet
ER-057209	PreSet 2D	PalletSet W
ER-057210	PreSet 2D	UPC
ER-057211	PreSet 2D	ITS Compact Combi
ER-057212	PreSet 2D	ProductionChuck 210
with C-axis		
ER-057213	PreSet 2D	+C ITS Chuck 100
ER-057214	PreSet 2D	+C ITS Compact Combi

2D probe



Simply ingenious: the 2D edge probe (EROWA patent) enables you to make the necessary measurements on radii, edges, corners and oblique surfaces.

Display



The practical user guidance in the EROWA mode shows step by step how offset values are determined.

Complete equipment

The measuring station is supplied with the following elements:

- Measuring slab with trolley
- Integrated chuck
 - PT880 digital display with presetting mac
 - Two-axis measuring facility
 - EROWA 2D edge probe
 - Instruction manual
 - Detergent for hard-stone slab

EROWA PreSet 2D EROWA PreSet 2D Options and accessories





EROWA 2D edge probeER-040983Precise probing of sharp edges,
angles, diameters and lengths.



Measuring pin ER-008617 Alignment of radial and axial and angular positions of ITS chucks.



 Probe inserts
 A ER-008623

 B ER-008562
 C ER-008831

 D ER-008628
 D ER-008628

 for 2D edge probe.
 Example of the second sec



MicroscopeER-008756To view profiles, indentations and
boreholes, with a magnifying
factor of 30.



3xM2 probe insert	E ER-009899
ø 2 mm	F ER-003350
ø 1 mm	G ER-003358
for 2D edge probe.	



Cold light	
220 V	ER-032916
110 V	ER-032917
For the microscope: for option on the area to be magnified	5



Lever gaugeER-059439Analogue gauge with a diameter of
38mm and a resolution of 0.002 mm.

QuickLink To record data and convert them into machine-specific formats.



QuickLink is a simple program for the data transfer from the EROWA PreSet 2D presetting station to machine control units. Presetting data are converted into a machine-specific format at the push of a button.



Technical data

	EROWA PreSet 2D
Movement X	240 mm
Movement Y	320 mm
Movement Z	335 mm
Evaluation unit	Heidenhain Positip 880 with EROWA
	presetting macros
Interface	Serial RS232 for data transfer to QuickLink /
	parallel output for printer
Probe system	EROWA 2D edge probe
Space requirements	500 x 800 x 1000 mm
Compressed-air supply	min. 6bar, dry

EROWA PreSet Basic

PreSet Basic is the ideal setting and presetting station for a quick check of the Z-plane or to align workpieces in the Y-axis. Its stable trolley enables you to place it wherever it makes most sense in terms of work.



ER-057206	PreSet Basic UPC
Version:	Presetting station with trolley, measuring top,
	UPC chuck and probe
Load:	100 kg
Application:	Setting and aligning of workpieces on
	UPC pallets

ER-057205	PreSet Basic PalletSet W
Version:	Presetting station with trolley, measuring top,
	PSW chuck and probe
Load:	25 kg
Application:	Setting and aligning of workpieces on
	PalletSet W holders
1 10 J	

ER-057204	PreSet Basic UnoSet	antititity a
Version:	Presetting station with trolley, measuring top,	Contraction of the second
/	UnoSet chuck and probe	
Load:	10 kg	
Application:	Setting and aligning of workpieces on	
	UnoSet holders	

Technical data

PreSet Basic	UPC	PalletSet W	UnoSet
Operational weight (kg)	230	220	230
Max. load (kg)	100	25	10
Gauge gradation (mm)	0.002	0.002	0.002
Probe system	analog	dial gauge on fle	xible stand
Space requirements (mm)	800 x 5	00 x 1000	

EROWA PreSet Basic







PreSet Basic

Measuring tools and options

for EROWA set-up

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.

and presetting stations



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 pinER-008617Alignment of radial and axial and an-
gular positions of ITS chucks.



Alignment pallet UPCER-017777To align the angular position and to
establish the center of UPC chucks.
Pallet320 x 320 mmAlignment length320 mm



Checking pin 50ER-010723Alignment of radial and axial positions of ITS chucks.



Alignment pallet PC 210ER-032907To align the angular position and to
establish the center of PC-210
chucks.Clamping ring
PC 210PalletClamping ring
PC 210Alignment length210 mm



Checking pin for Compact ER-017541 To align the tooling system on the PreSet station.



Alignment pallet ITSER-032819To align the angular position and to
establish the center of ITS chucks.PalletØ 115 mmAlignment length110 mm



Reference pin UnoSetER-012727Determination of reference measurements on horizontal chucks.BoreholeØ 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 I.



EWIS chip with holder SW14

ER-035154

For pallets and electrode holders. EWIS™ Chip: read only. Compatible with the EWIS™ Rapid system.



EROWA QuickLink^{x†}

QuickLink^{XT} is a simple program for the data transfer from the EROWA PreSet 2D presetting station to a machine control unit. Set up a PC, inset the CD, install the program, plug in the connecting cable between PC and display, and the comfortable data transfer to the machine or the programming station is ready.



EROWA QuickLink^{XT}





Receive measured data

QuickLink^{xT} is ready to take over the data from the presetting station. The transmission command is triggered in the control unit of the presetting station.

Software



- D 🗙

Presetting data of electrodes are transferred to the machine with ease and speed. The X-, Y-, Z- and C-values are determined on the PreSet 2D presetting station and transmitted to QuickLink^{XT} at the push of a button. All the data of one job are converted into the specific machine format.



EROWA JMS® Pro Organization

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.

Presetting and measuring made simple.

<complex-block>

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JMS^{® Pro} PreSet 3D the presetting software with user guidance and automatic data recording in JMS^{® Pro}.

Data to JMS at End of

Your advantages

- Entry into the EROWA
 - Job Management System.
 - 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.

🗉 daten.txt

<u>Datei Bearbeiten Suchen ?</u> [DATA1] PartDescr=cgl MeasuringValueX=1.88 MeasuringValueY=-2.8 MeasuringValueZ=3.88 MeasuringValueC=-4.8 MeasuringValueA=11.8 MeasuringValueB=21.8 DrawingPointX=1.0 DrawingPointY=-2.0 DrawingPointZ=3.0 DrawingPointZ=3.0

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).



B



The EROWA JMS^{® Pro} PreSet software package offers you all the necessary tools for productive, routine-informed presetting.





JMS^{® Pro} Organizer Data organization module for data management and to set up and identify workpieces.



JMS^{® Pro} JobManager CMM Control module for automatic quality measurements on PreSet 3D CNC.



JMS[®] Pro PreSet 2D Data organization module for the integration of the timetested electrode presetting station.



EWIS™ Rapid Identification System

The assignment of data to workpieces provides a good overiew. 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, while EROWA handling facilities identify their magazine content automatically.



JMS^{® Pro} PreSet 3D Data organization module for the integration of the EROWA 3D measuring station.

11 Measure the Point in Y



JMS^{® Pro} PreSet Import Data organization module for the import of data from other measuring stations.



2 Measure the Point in Z

Automatic quality control: The measuring station is equipped with a Robot. The JMS^{® Pro} JobManager will link up the right parts with the suitable measuring programs.



EROWA PreSoft XP

Presetting made easy

Presetting provides more productive time on machine tools. However, presetting must be as efficient as possible in itself. PreSoft XP takes this demand into account.



1. Graphic user guidance enables every operator to preset parts correctly within a short period of time. The processes can be learned intuitively. Knowledge of 3D measurements are not required.



2. The reference positions are controlled, which guarantees that the offset values always receive the correct reference point.

RENISH



3. The automatic assignment of offset values to the ID numbers of electrodes and workpieces creates a high degree of process safety.



4. Quick as-should-be/as-is comparisons of diameters or distances can be conducted thanks to simple measuring macros.



5. Generate your own macros for quick and safe measurements. Process safety will increase since the optimized macros cover exactly your requirements.



6. Already integrated: more than 100 frequently used measuring processes as macros. Select, move, done!



7. The animated arrow symbol shows the right measurement sequence: everyone can determine presetting data correctly without any prior training.



8. PreSoft XP is seamlessly integrated in JMS[®] Pro. The presetting function is activated by a mouseclick. The offset data that have been recorded are automatically transmitted from the measuring station into the JMS[®] Pro system.

EROWA PreSoft XP

EROWA PreSoft XP

Convincing advantages

PreSoft XP is more than a mere presetting software. Genuine quality measurements with proper protocols can be carried out after a certain amount of training.





The integrated Arco CAD module enables you to generate proper measurement protocols in accordance with the ISO standard. Arco is a product of Coord3. It is recommended that operators undergo specific training for the use of the measuring software.

On the basis of Arco, user guidance is generated with animated symbols. Every operator can move through this program intuitively and safely thanks to its graphic representation.





Arco CAD allows for CAD data to be integrated. The areas to be measured are selected and calculated on the basis of the imported data. This function is particularly suitable for the measurement of complex 3D shapes.



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EROWA loading systems



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



The automatic EROWA

The automatic EROWA Handling Devices Robot Compact Robot Multi EROWA Robot System Linerar Robot Heavy										3														
	0 / 0	ITS115 / 148	PSW	2		MTS 400	č ·	/72	5 148	•	, in the second se	Rotary	sfer unit	tary	Rack	Υνε	sfer unit	rie	Rack	Rack Heavy	Transfer unit	2	Rack 3	Туре
												_				-								
Tooling sys- tem/magaz. pos. per level																								Tooling sys- tem/magaz. pos. per level
Compact 🕴	-	-	-	-	-	-	•	1-1	-	-	-	30	-	30	-	-	-	30	-	-	-	-	-	Compact
ITS 50 🔹	60	-	-	-	-	-	-	11	-	-	-	30	-	30	-	-	-	30	-	-	-	-		¢ ITS 50
Holder 72 🛛 🖨	60	-	-	-	-	-	-	11	-	-	-	30	-	30	-	-	-	30	-	-	-	-	-	Holder 72
PM 56 🛛 🖕	-	-	-	-	/	-	-	11	-	-	-	30	-	30	-	-	-	30	-	-	-	-		a PM 56
PM 85 🛛 🛎	-	-	-		-		-	-	11	-	-	30	-	30	-	-	-	30	-	-	-	-	-	PM 85
M 130 🛛 🛎	-	-	-		-		-	-	5	-	-	15	-	15		-	•	15	-	-	-	-		■ PM 130
TS 115 🛛 👳	-	24	-			-	-	'	5	-	-	15	-	15		-	-	15	-	-	-	-		⇔ ITS 115
TS 148 👄	-	24	-	-	-		-	-	5	-	-	15	-	15	-	-	-	15	-	-	-	-		👄 ITS 148
VITS 148 💩	-	-	-	-	-	-	-		5	-	-	15	-	15	-	-	-	15	-	-	-	-	-	MTS 148
PC 210 📚	-	-	-	12	-	-	-	-	-	-	5	10	-	10	2	-	-	10	2	-	-	-		➢ PC 210
JPC 320	-	-	-	-	10	-	-		-		3	3/5	-	3/5	1/2	2/3	-	3/5	1/2	2/3				UPC 320
	-	-	-	-	-	6	- 4		-	-	3	3	-	3		2	-	3	1	2	-	- 1	1	MTS 400
VITS 500 📚	-	-	-				4			- 9		- 20*		- 20*	1	2		- 20*	1	2				MTS 500
JnoSet 🧶		-	- 15				-		-	3	- 7	30* 15	-	30* 15	- 3/4	-	-	30* 15	- 3/4	-		-		UnoSet
PalletSet W 🖙			15												5/4				5/4					← PalletSet W
PalletSet W Frame	-		7					-		2	4	3		3	2			3	2			-	_	PalletSet W Frame
FrameSet 🖗	-	-	-	-	-	-	-	-	-	-	2	-			1		-	-	1	-	-	-		FrameSet
																								- Tumoset
MTS 600 x 800	-	-	-		-	- /					-	- /						-	-	-	-	1	1	MTS 600 x 800
Transfer weight																								Transfer weight
kg (incl. pallet)	20	40	30/15	130	130	250	250	30	30	30	80**	80**	130/200**	-	-	-	130/200**	-	-	-	500	-		kg (incl. pallet)
the second																								N. baref
Number of possible																								Number of possible
machine levels	1	1	1	1	1	1		2 x 10	2 x 10	2 x 10	9	9		8	8	8	· · ·	8	8	8		2	3	machine levels
Gripper arm swiveling	-		-			-		-		-	option	option	option	-	-	-	option			-		-	-	Gripper arm swiveling
Automatic gripper change								option	option	option	option	option	option		_	_	option			_	_	_		Automatic gripper change
Double gripper		-	-		_	_	-	-	-	-	option	option	option	-	-		option			_	-	-		Double gripper
Loading station		-	-	-		-	-	-	-	-	option	option	option	-	-		option	-	-		option	-		Loading station
EWIS [™] Rapid	option	option	option	option	option	option	option	EV	NIS Scan optio	ion	option	option	option	-	-	-	option	-	-	-	option	-		EWIS™ Rapid
Remote diagnosis		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	Remote diagnosis
Flyer with additional information		040746	040746	040746	040746			057105		057105	039634 054193	039634 054193	036569	036569	036569	039576		056559	056559		053370	053370	053370	Flyer with additional
echnical modif			• • • • •											nded in the										Information

* Suspended in the magazine** Depending on gripper and tooling system

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For heavy parts and long loading/unloading movements

EROWA Robot Easy handling facility for large and heavy workpieces





Robot Easy PalletSet W 278 (Light axis) Robot Easy UPC



Technical data

	EROWA Robot Easy MTS
Transfer weight	40 kg/ 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)	1.8
Control system	
Interface	Serial RS232
	M-function
	Parallel I/O Bit
Protocol	EROWA Standard
	EROWA EWIS
Remote diagnosis	Yes
Workpiece identification	EWIS™ Rapid
JobManagement	JMS ^{® Pro} / EMC



Logical user guidance

The navigation through the menu structure is as simple as with a mobile phone.

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Workpiece identification within seconds

EWIS[™] Rapid identifies all the cell positions and transmits them to the cell computer.







EROWA Robot Compact Productivity on 2m²

Would you like to increase a machine's autonomy? Are the workpieces numerous but not very big? Do you only have a little room left around the machine? Do you want to serve two machines with the same handling facility? If you can answer one of these question with YES, then we are just what you're looking for. The EROWA Robot Compact is the answer to your requirements.

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*160 x ITS 50



* Examples of the number of possible magazine positions.

Max. 30kg transfer weight

or right of the machine

Symmetrical design for positioning to the left

X-stroke 1200mm

350° swivel axis to serve the two rack magazines and up to two machines

2 rack magazines with up to 160 magazine positions

Freely adjustable height of the magazine levels

Compact monobloc design on only 2m²

Layout (examples)

With longer machining times, it is worth using one Robot to serve two machines. The Robot's capacity is put to better use, and precious shop-floor space is optimally utilized.







Technical Data

	EROWA Robot Compact								
Transfer weight	30 kg								
Magazine positions, max.	160								
Magazine levels, max.	10 per side = 20 levels								
Magazine load, max.	1000 kg								
Electrically powered	X-stroke 1200 mm Z-stroke 1680 mm								
and controlled axes	min.								
Swivel range, C-axis	350°								
Axis control	Electrically controlled axes								
Connections									
Pneumatic system									
Min. pressure/max. consumption	5 bar / 150 l/min.								
Electric system									
Voltage (V+PE)	3x400								
Frequency (Hz)	50/60								
Power (kVA)	1.4								
Nominal current (A)	3.5								
Control system									
Interface	Serial RS232/422								
	M-function								
	Parallel I/O bits								
Protocol	EROWA Standard								
	EROWA EWIS								
	various								
Remote diagnosis	yes								
Workpiece identification	EWIS™ Scan								
JobManagement	JMS ^{® Pro} / EMC								



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Transfer axis

The ingeniously designed axis can swivel round 350° in a very small space. Correspondingly, it can serve both rack magazines and one or two machines. If required, the gripper change function for mixed operations with different pallets can be integrated.









The Robot can often only be placed on the operator's side of the machine. This blocks access for manual work. With the optional "DockOn" equipment, the facility can simply be moved to the side if the operator wants to do some manual work.







EROWA Robot Multi

for 270 workpieces and electrodes

To load one or two machines.



Technical data

	EROWA Robot Multi	
Transfer weight	80 kg [©]	
Magazine levels, max.	Rotary 9	Rack 9
Magazine level load, max.	Rotary 600 kg®	Rack 400 kg [®]
Magazine load max.	Rotary 1500 kg	Rack 1900 kg
electrically driven and controlled axes	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	
Nominal current (A)	3.5	
Control system		
Interface	Serial RS232 / 422	
	M-function	
	Parallel I/O Bit	
Protocol	EROWA Standard	
	EROWA EWIS	
	various	
Remote diagnosis	Yes	
Workpiece identification	EWIS™ Rapid	
JobManagement	JMS ^{® Pro}	



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Automation

Swiveling Gripper arm

The Robot Multi also serves CNC machines with vertically aligned chucks. The swiveling gripper arm turns the palletized workpiece into the right position.

 $^{\ensuremath{\textcircled{0}}}$ Depending on the tooling system



EROWA Robot System ERS - one for all The handling facility for all the tooling systems. With a transfer *2 x PC 210 weight of 130kg and a range of 1200mm, the ERS is suitable for the handling of many workpieces. It can be configured to serve one or more machines. *2 x UPC Transfer unit with X-, Z- and C-axis *3 x UPC ERS Rack Magazine 130 kg transfer weight ERS Heavy Rack Magazine k Heav Swivel range, C-axis: 350° PalletSet W *1 x MTS 400 *4 x Holder *2 x MTS 400 Up to 3 rotary or (Rack Heav 5 rack magazines. Mixed use also possible PalletSet W *1 x MTS 500 Reading time for the whole *2 x Frame *2 x MTS 500 magazine <30 seconds. (Rack Heav EWIS[™] Rapid workpiece 1 x FrameSet X-stroke: 1200 mm (Option: 1500mm) * Number of possible magazine positions per level *30 x Compact Open to various positioning option Magazines and transfer unit can be freely positioned within the range. 2. *30 x ITS 50 Holder 72 **ERS Rotary Magazine** *30 x PM 85 *15 x ITS 115/148 *15 x MTS 148 C I EROWA ERS Heavy to load/unload Example of a "two-machine" unit, consisting of: heavy workpieces up to 200kg. PalletSet W *10 x PC 210 • Transfer unit *3 x Frame Gripper dock • Two rotary magazines UPC / ITS 50 One EROWA Lift Ergonomic loading station for • Safety barriers pallet loading/unloading cycles. PalletSet W *5 x UPC EROWA JMS^{® Pro} Job Management *15 x Holder System This configuration is particularly suitable for the flexible operation of two independent machining *30 x UnoSet *3 x MTS 400 centers.

Technical data

	ERS	ERS Heavy	
Transfer weight	130 kg	200 kg	Part of the
Magazine positions	variable <1000	variable	
Magazine levels	up to 8	up to 8	
Magazine level load, max.	Rotary 650 kg	Rotary 650 kg	
	Rack 260 kg	Rack Heavy 400 kg	
Magazine load, max.	Rotary 1200 kg	Rotary 1200 kg	
	Rack 1500 kg	Rack Heavy 2000 kg	,
Double gripper	Yes	-	
Gripper change	Yes	Yes	Workpiece ider
Swifel range			seconds
A-axis	±180°	-	EWIS™ Rapid ide
C-axis	350°	350°	positions and tra
Movement X-axis	1200 mm	1200 mm	cell computer.
	option 1500 mm		cen computen
Movement Z-axis	1050 mm	1050 mm	2728
Axis control	simult	aneous	
Pneumatic system			
Min. pressure/max. consumption	5 bar / 300 l/min	100000	
Electrical system			928
Voltage (V+PE)	3 x 400		20
Frequency (Hz)	50/60	2237-	
Power (kVA)	3	_	
Nominal current (A)	4.3		<u>──</u>
Control system			50
EROWA interface	M-function		
	Serial (RS 232/422	2)	
	I/O-Bit	100	- 1200
Protocol	EROWA Standard	μ/	
	EROWA EWIS		
EWIS identification	Yes		<u> </u>
EROWA JMS ^{® Pro} Integration	Yes	— 🗞 machi	ne 1
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	Les din metation	Q	······································
	Loading station		
	Transfer unit		
	fransier unit		
EROWA		$T \setminus T$	R1420.5
Robot System	<u> </u>		
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Automation

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Rotary magazine 1

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Rotary magazine 2 001 Ø

Rack magazine

EROWA Robot System Linear Well-thought-out and modular

The ERS Linear can provide up to 8 machines with workpieces. Identical work processes can be conducted in parallel. It is also possible, however, to run one whole process through various machining types. The positioning accuracy on the linear axis guarantees smooth pallet changes. Nevertheless, the transfer unit travels from one machine to another at the remarkable speed of 2 m/sec.

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Eight milling centers are served by one Robot. For this purpose, 5 rotary magazines have been positioned in a compact way.

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Even after fast movement, the transfer unit positions itself in front of the machine with an accuracy of half a millimeter. Only in this way are reliable pallet changes possible.

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New workpieces are introduced into the linear cell with a loading station. This is also where completed workpieces are removed from the cell.

The whole process is controlled by the JMS^{® Pro} process control software. LineManager.

Pallet weights of up to 200kg are transported from magazine to machine both reliably and accurately.

Technical data

	EROWA Robot System Linear		
Transfer weight	130/200 kg		
Magazine positions	1200		
Linear axis length	20 meters		
Movement speed	2 m/s		
Number of machines served	8		
Number of chuck positions	18		
Double gripper	Yes		
Gripper change	Yes		
Automatic pallet identification	Yes		
EROWA standard user guidance	Yes		
Rack magazines	8		
Rotary magazines	max. 5		
Workpiece identification	EWIS™ Rapid		
Adapter pallet management	automatic		
Sealing ring management	automatic		
JobManagement	JMS ^{® Pro}		



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Quick and precise at 2 m/sec.

The axis drives are state of the art. Acceleration and final velocity of the linear axis are adapted to working conditions. At 2 m/sec, the Robot moves to the loading/ unloading positions quickly and precisely.

The linear axis can be up to 20m in length. Movement speed is a proud 2 m/s.

> The integrated measuring cell generates quality protocols without any intervention on the part of the operator. The certificates are filed for every job and can be traced in every case.

Magazines with work reserves are positioned in such a way that movements to the relevant machines are kept as short as possible.





A great deal of work reserve The control unit manages up to 5 rotar

The control unit manages up to 5 rotary magazines with more than 1000 positions or 8 rack magazines.



Linear axis of up to 20 meters

Everything is possible between 3 and 20 meters. The linear axis is of a modular design. It can also be extended to the full 20 meters at a later date.



EROWA Robot Heavy

*1 x MTS 400

Automatically loading 500kg onto the machine

Getting large parts to the machine is not always all that easy. Settingup times on the center are carried out at the expense of productivity. Setting-up while the machine is running and automatic loading/unloading cycles are the order of the day. The EROWA Robot Heavy solves this problem, even for one-off parts.





This ergonomic loading station for the setting-up and introduction of heavy pallets is integrated in the safety circuit.

Transferachse

The maximum range of 1500mm also allows for big machines to be served. The transfer weight of 500kg (pallet and workpiece) will satisfy all requirements.


Technical data

Transfer weight	500 kg
Magazine levels	2 or 3
Magazine load	1000kg with 2 levels
	1500kg with 3 levels
Connections	
Pneumatic system	
Min. pressure/max. consumption	5 bar / 450 l/min.
Electric system	
Voltage (V+PE)	3 x 400
Frequency (Hz)	50/60
Power (kVA)	4
Nominal current (A)	5,8
Control system	
EROWA interfaces	M-function
	Serial: RS 232/422
	Parallel: I/O bits
Protocol	EROWA Standard/EWIS™
Pallet identification	EWIS™ Rapid
	VisuLink/AutoLink
Job Management	EROWA EMC Cell Manager
-	EROWA JMS ^{© Pro} JobManager
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Gripper

The gripper has been designed for pallets of up to 600x800mm in size and takes weights of up to 500kg safely to the machine. The integrated draining basin ensures cleanness, as it collects chips and dripping-off coolants.







Magazine

for more information!

Basically, the magazine can be equipped with two or three racks. With two levels, loaded pallets can have a maximum height of 850mm.



EROWA LiftGear

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.

- Your advantages Gentle machine loading. Increase in quality through careful and safe handling.
- Safety-conforming work



LiftGear UPC

Applications: Loading of machine tools, pallet ma-gazines, Robot magazines, presetting and measuring stations.

LiftGear MTS

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LiftGear UPC helps to change workpieces quickly, accurately and simply.







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Vuto

LiftGear MTS.



LiftGear with a PreSet Basic UPC.



Insertion of a UPC pallet on a universal milling machine.

Technical data

n request
tGear MTS 500
0 kg, incl. pallet
TS 500
0 x 500 x 450 mm
fi T





EROWA Lift

Loading machines made easy.

The EROWA Lift has been designed for frequent pallet changes directly onto the machine or into the handling facility. Fitted in a fixed position next to the machine, it is always where it is needed and moves palletized workpieces from transport pallets even up to the topmost magazine rack.



EROWA Lift



We also supply special grippers, for instance for the handling of large grinding wheels.



Simple and safe handling even of heavy workpieces up to 250kg.



Flexible pallet positioning with the swivel arm.



Lifting the pallet from the transport system.



'echnical data

ER-046250	EROWA Lift
Transfer weight	max. 250 kg
Movements	Z = 1660 mm
	X = 1300 mm
	Swivel range 360°
Installation	4 M12 heavy-duty anchors,
	concrete strength min. C20/25
Pneumatic system	min. 5 bar
Voltage	3x380/400 V
Frequency	50Hz
Drive	High speed 4m/min
	Low speed 1m/min



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EROWA data transfer systems







EROWA EMC Simple & Ingenious

Cell control for production machines simplifies working activities. From the setting-up of jobs to the checking of available tool in the changer, everything is displayed in a simple and easy-to-view manner.

Made for milling! With EMC, it's easy to keep an overview. More productive hours are seen at a glance.

The Robot with magazine: the entire work reserve is on call and has been unequivocally identified by the chip ID system.

The machine tool with the EROWA table equipment, the automatic door and the tool magazine.



Cell control unit: the EROWA Manufacturing Control (EMC) software is the overriding tool through which the operator controls and monitors the cell.



The machine control unit transmits data from the tool changer to the EMC.

You can find more technical information in the special EMC flyer.





Det	tails Werk	zeug(e)			▲ <u>-</u> ₩ _ C
-	Ident	Name	Status	Gesperit	Lebensdauer
	1	NAME-1	Fehler	V	25%
	2	NAME-2	Bereit		50%
	3	NAME-3	Bereit		75%
	4	NAME-4	Fehler	✓	100%
	5	NAME-5	Fehler	~	125%
	6	NAME-6	Bereit		28%
	7	NAME-7	Bereit		80%
	8	NAME-8	Bereit		22%
	9	NAME-9	Bereit		78%

Everything at a glance: the machine

cells, which makes deputizing easier.

operator always sees what's going on. The user surface is the same for all the

Check the down times of the tools in use at a glance, and replace tools if necessary.

	Prioritat	Status	Werkstück	Positio	Bearbeitungsdauer	Vorgang	Start		٠
					00:01:00	Laden 1	07.12.2006 09:49		
	5	Bereit	EROWA	1	00.40.00	Bearbeitung	07.12.2006 09:50		
					00:01:00	Laden 3	07.12.2006 10:30		1
	9	Bereit	EROWA	3	00:40:00	Bearbeitung	07.12.2006 10:31		
					00.01:00	Laden 13	07.12.2006 11:11		
	10	Bereit	EROWA	13	00.40.00	Bearbeitung	07.12.2006 11:12		
					00:01:00	Laden 11	07.12.2006 11:52		
	20	Bereit	EROWA	11	00:40:00	Bearbeitung	07.12.2006 11:53		1
			Gesar	nte Bearbei	tungsdauer:7Stu	nden 6 Minuten			
Druck	ken							-	-

This is the work reserve that is available at this moment. Find out how the milling cell will remain productive at the touch of a button.



Should anything go wrong, the operator will be alerted. Information about the type of trouble is transmitted by e-mail or text message

	Heidenhain from iTNC 530	Heidenhain Millplus	Siemens	Fanuc	BTR
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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.

Automatically documented production process



<u>Workflow - Management</u>



Planning, control and monitoring of individual work processes . . .

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.



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} is characterized by its consistent modular structure. Starting with a simple postprocessor which outputs the offset values as de-fined for a given machine format to the fully interlinked workshop, everything can be extended in small, manageable steps.

cell to integrated manufacturing

preparation

0 7 8

≥

000 orkshop



EROWA JMS^{® Pro}





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Optimal use

of resources

Suitable EROWA components will enable you to put your machines to optimal use. We'll gladly assist you with our many years of experience.

You call - we'll come.







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