EROWA® system solutions

Simple, accurate, good value
F-Tool Product Line

ftool
by erowa

ftool
by erowa

Global presence

F-Tool is the product line in the EROWA portfolio for manual work in workpiece holding. This product line is optimized for use in EDM sinking and wire EDM.
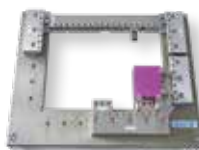
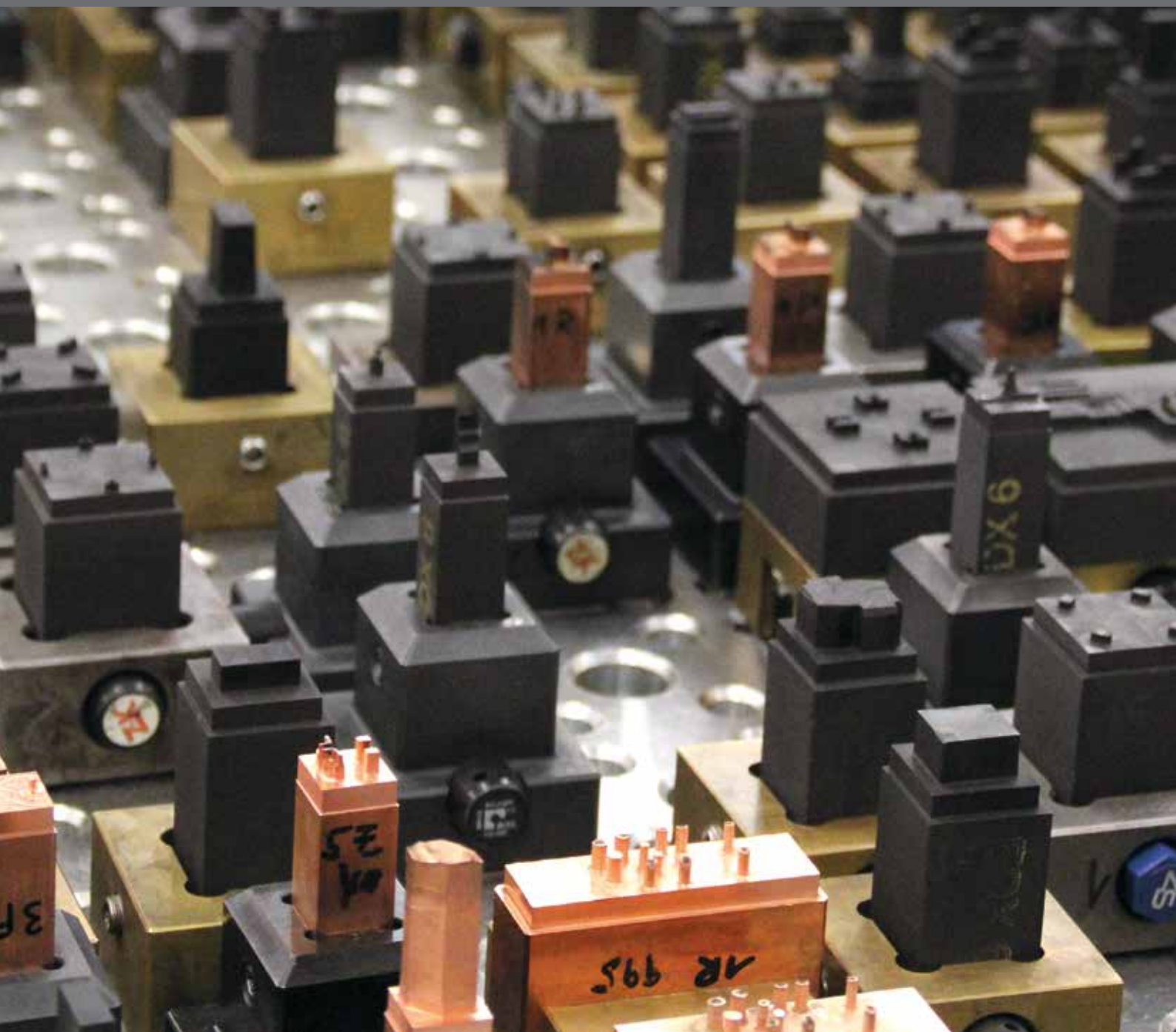**F-TOOL PALLETIZING- AND TOOLING SYSTEMS**

Everything you need for manual work during EDM.
100% compatible with EROWA products.

Ftool
by erowa

Accurate, manual, affordable

The F-Tool product line (by erowa) is aimed at cost-conscious new-comers to workpiece palletizing. But even experienced users will find some surprisingly useful products.
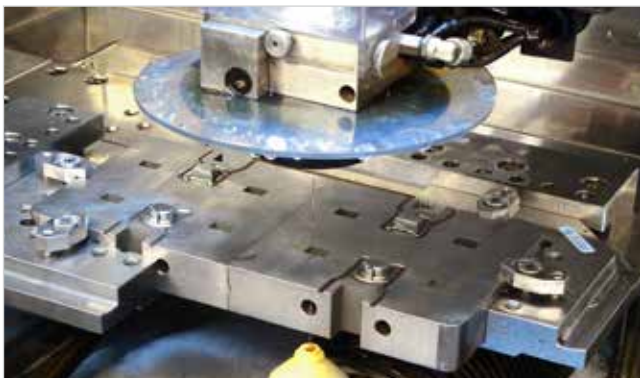
Increase productivity

In metalworking, productivity starts with eliminating machine downtime. This is achieved by capturing and using datum points/starting points. And this in turn is made possible by the use of F-Tool tooling systems.
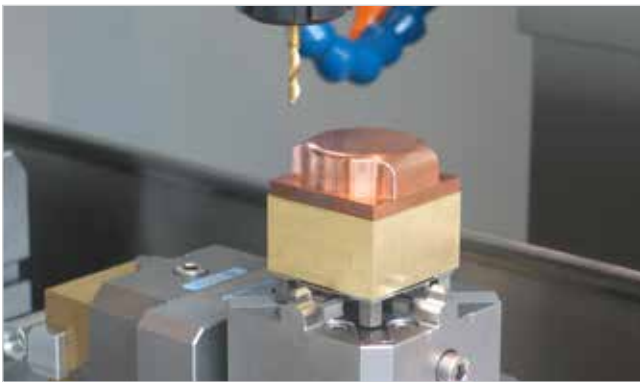
Complete electrode manufacturing - milling, drilling, turning.

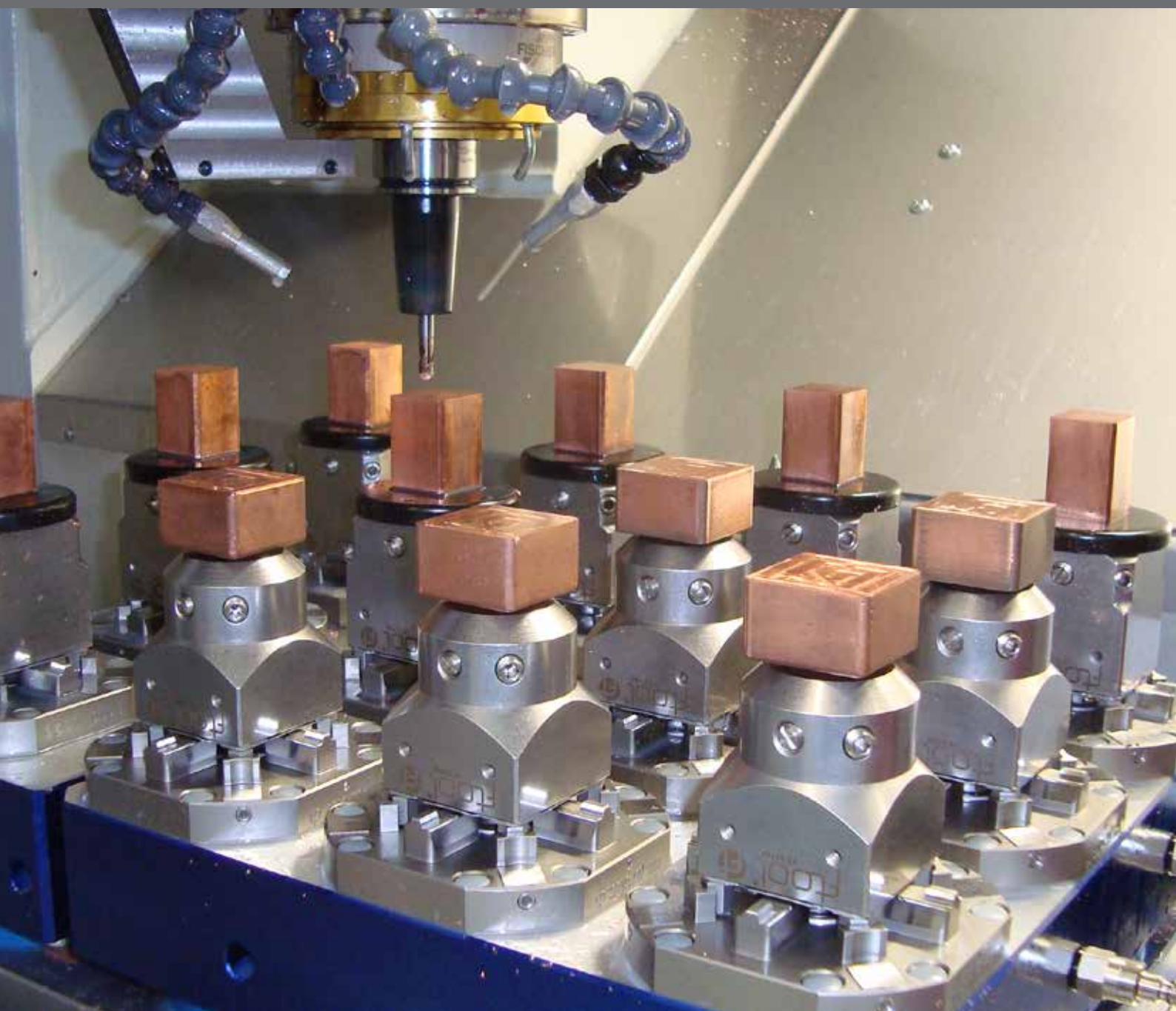Consistently from EDM sinking to ...

... wire EDM cutting..

THE FACTS

- Good value for money
- Accurate
- Practical
- Manual

Ftool
by erowa

Simple, convenient, good

Flexible and accurate clamping, robust machining, easy
set-up - these are the obvious advantages of the F-Tool
(by erowa) products in EDM applications.

Simplify the world of EDM sinking

Transparent investments for significant improvements.

Quality - the F-Tool (by erowa) product line also uses only the best materials and strict manufacturing tolerances are ensured.

Robustness - leaves nothing to be desired. Manually operated chucks - clamps are absolutely reliable.
The design of the housings ensures maximum stability.

Easy operation is included with all components. Without compressed air supply, installation on any machine table or in fixtures is extremely easy.

THE FACTS

- Easy installation
- Robust design
- Manual operation

ftool
by erowa

Consistent interface

EDM clamping solutions are ideally adapted to the
exacting requirements of tool and mold making and
precision mechanics.

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

7. Suited for submerged operation

8. Corrosion-resistant material

9. Suited for automatic operation

10. Handling with EROWA Robot gripper S

11. Handling with EROWA Robot gripper Combi

12. Handling with EROWA Robot gripper C

13. Handling with EROWA Robot gripper 72

14. Handling with EROWA Robot gripper 115

15. Handling with EROWA Robot gripper 148

16. Handling with EROWA Robot gripper RN PC 210

17. Handling with EROWA Robot gripper RCS

18. Handling with EROWA Robot gripper WGS-500

F-TOOL EDM TOOLING SYSTEM

For chip-removing processes

For EDM sinking

For WEDM

F-Tool
EDM Chucks

Technical data	Chucks
Repeatability	0,002 mm
Repeatability with pallet ø 148	< 0,004 mm
Indexing pallet / Clamping power 10 Nm:	max. 7000 N
Clamping	manually
Automatable	no
Mounting height	51 mm

FT 02110   Chuck 50

Application	ITS chuck system size 50, manual, corrosion-resistant. Fixing with 4 x M8, hole pattern 44 mm, from back side or with 4 x M6 with stud bolts and screw nut. Use on EDM / WEDM machines and for milling, rotation and grinding jobs.
Hint	Clamping force 4000 N.

FT 01043   Chuck 80P

Version	Manual ER chuck. Hardened, stainless steel. For the system sizes ER 50 and 100. Hole pattern ER chuck: 8 x M6 TK ø 6 1 x 45°.
Application	Grinded taper for the power centering. Strong floating clamping mechanism.
Hint	Tension force by hand with Allen key: 7'000 N.

FT 02443   Manual Chuck 150P

Version	Steel, hardened, corrosion-resistant. Rigid, stable housing (solid material) Repeatability 0.002 mm, Indexing 4 x 90°.
Application	The chuck can be opened and closed manually with a simple screw cap. Since there is no axial rotation of the chuck (spindle), the chuck is also suitable for grinding spindles and dividing heads.
Hint	Clamping power 3'400 N – 7'000 N.

FT 01768	Extension ER-chuck 50 / L = 100 mm

INOX

Version — Extension ER-Chuck 50 of stainless steel.

FT 01769	Extension ER-chuck 50 / L = 200 mm

INOX

Version — Extension ER-Chuck 50 of stainless steel.

FT 02120	EDM-BeautyCase Chuck 50

Set contains
- 2 x FT 01073 Chucking spigot F/A EDM
- 2 x FT 02139 Prisround 25 mm ALU
- 2 x FT 02143 Uniholder 20 mm ALU
- 2 x Allen key with hand grip 4mm
- 1 x FT 02110 ER-Chuck 50
- 1 x Miscellaneous screws
- 1 x FT 02110 ERC-50 mounted on FT 02127 adapter   plate with electric power and flushing connection for electrode manufacturing or for mounting on the head of an EDM machine.

F-Tool
EDM Electrode holders

FT 02131	Uniblank ALU (set of 10 pieces)

Version	Fitted without machining of body.
Application	To mount electrodes and workpieces of various shapes.
To fit blank	As required.

FT 02132	Uniblank ALU EWIS™ (set of 10 pieces)

Version	Fitted without machining of body.
Application	To mount electrodes and workpieces of various shapes¨.
To fit blank	As required.

FT 02133	Uniplate ALU (set of 10 pieces)

Version	Surface 50 x 50 mm faced, including 2 x M6 bolts for each unit.
Application	To mount electrodes and workpieces with a base surface of more than 50 mm.
To fit blank	With 2 x M6 bolts into the base surface.

FT 02134	Uniplate ALU EWIS™ (set of 10 pieces)

Version	Surface 50 x 50 mm faced, including 2 x M6 bolts for each unit.
Application	To mount electrodes and workpieces with a base surface of more than 50 mm.
To fit blank	With 2 x M6 bolts into the base surface.

FT 02135	**Prisround ALU 15 mm** **(set of 10 pieces)**

INOX

Version	Square 16.0 mm milled. Including 2 stud bolts. Fixed stop X, Y from the centre 7.5 +/- 0,05 mm. Clamping depth 19 mm, Fixed stop hZ = 22 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a shank size of less than 15 mm.
To fit blank	Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

FT 02136	**Prisround ALU EWIS™ 15 mm** **(set of 10 pieces)**

Version	Square 16.0 mm milled. Including 2 stud bolts. Fixed stop X, Y from the centre 7.5 +/- 0,05 mm. Clamping depth 19 mm, Fixed stop hZ = 22 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a shank size of less than 15 mm.
To fit blank	Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

FT 02137	**Prisround ALU 20 mm** **(set of 10 pieces)**

INOX

Version	Square 21.0 mm milled. Including 2 stud bolts. Fixed stop X, Y from the centre 7.5 +/- 0,05 mm. Clamping depth 19 mm, Fixed stop hZ = 22 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a shank size of less than 20 mm.
To fit blank	Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

FT 02138	**Prisround ALU EWIS™ 20 mm** **(set of 10 pieces)**

INOX

Version	Square 21.0 mm milled. Including 2 stud bolts. Fixed stop X, Y from the centre 7.5 +/- 0,05 mm. Clamping depth 19 mm, Fixed stop hZ = 22 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a shank size of less than 20 mm.
To fit blank	Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

F-Tool
EDM Electrode holders

FT 02139	**Prisround ALU 25 mm** **(set of 10 pieces)**

Version	Square 26.0 mm milled. Including 2 stud bolts. Fixed stop X, Y fr om the centre 7.5 +/- 0,05 mm. Clamping depth 25 mm, Fixed stop hZ = 22 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a shank size of less than 25 mm.
To fit blank	Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

FT 02140	**Prisround ALU EWIS™ 25 mm** **(set of 10 pieces)**

Version	Square 26.0 mm milled. Including 2 stud bolts. Fixed stop X, Y from the centre 7.5 +/- 0,05 mm. Clamping depth 25 mm, F ixed stop hZ = 22 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a shank size of less t han 25 mm.
To fit blank	Insert and tighten setscrews. If necessar y, center with spacer plate FT 01092.

FT 02141	**Uniholder ALU 15 mm** **set of 10 pieces**

Version	Slot 15.5 mm routed including 2 stud bolts. Clamping depth 13 mm. Fixed top hZ = 28 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a clamping width up to 15 mm.
To fit blank	Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

FT 02142	**Uniholder ALU EWIS™ 15 mm** **set of 10 pieces**

Version	Slot 15.5 mm routed including 2 stud bolts. Clamping depth 13 mm. Fixed top hZ = 28 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a clamping width up to 15 mm.
To fit blank	Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

FT 02143	Uniholder ALU 20 mm set of 10 pieces

Version	Slot 20.5 mm routed including 2 stud bolts. Clamping depth 13 mm. Fixed top hZ = 28 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a clamping width up to 20 mm.
To fit blank	Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

FT 02144	Uniholder ALU EWIS™ 20 mm (set of 10 pieces)

Version	Slot 20.5 mm r outed including 2 stud bolts. Clamping depth 13 mm. Fixed top hZ = 28 +/- 0.05 mm.
Application	To mount electrodes and work pieces with a clamping width up to 20 mm.
To fit blank	Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

F-Tool
EDM Electrode holders

FT 01077	Uniblank
	set of 10 pieces

Version | Fitted without machining of body.
Application | To mount electrodes and workpieces of various shapes.
To fit blank | As required.

FT 01079	Uniplate
	set of 10 pieces

Version | Surface 51 x 51 mm faced, including 2 x M6 bolts for each unit.
Application | To mount electrodes and workpieces with a base surface of more than 50 mm.
To fit blank | With 2 x M6 bolts into the base surface.

FT 01081	Prisround
	set of 10 pieces

Version | Square 26.5 mm milled. Including 2 setscrews for each unit.
Application | To mount electrodes and workpieces with a base surface of more than 50 mm.
To fit blank | Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

FT 01084	Uniholder
	set of 10 pieces

Version | Groove 20 mm faced. Including 2 setscrews for each unit.
Application | To mount electrodes and workpieces with shaft sizes of up to 20 mm.
To fit blank | Insert and tighten setscrews. If necessary, center with spacer plate FT 01092.

FT 01085	Collet chuck holder ETS32 / EWIS™

INOX

Ausführung	Parameter EROWA ITS 50 or on 3R basis element.
Anwendung	For collet chucks ETS32.
Hint	Delivered without chucking spigots.

FT 01581	Collet chuck holder ETS32 without adapter plate

| Version | The collet chuck holder ETS32 is rust-resistant and able for the water bath. |

FT 01129	15 square clamp EWIS™

INOX

| Version | Repeatability of the electrode blanks |
| Application | For graphite and electrode blanks 15 x 15 mm - Uttermost repeat accuracy - Non-sensitive to soil and cor rosion resistant |

FT 01131	25 Square Clamp EWIS™

INOX

| Version | Positioning / repeat accuracy of the electrode blanks |
| Application | - For graphite and electrode blanks 25 x 25 mm - Uttermost repeat accuracy - Non-sensitive to soil and cor rosion resistant |

F-Tool
EDM Electrode holders

FT 01762	Square 15 monobloc

Version	Square 15 of stainless, hardened INOX steel with collet EROWA - 3 linear s top surfaces, hardened and jigg rinded - Lateral flushing connection - Prepared for EWIS.
Repeat accuracy	Repeat accuracy +/- 0.005 mm, as well at changing electrodes in several holders.
Hint	Delivered without chucking spigot.

FT 01764	Square 15 front part
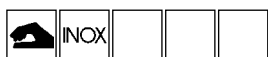
Version	Square front part of stainless, hardened INOX steel - 3 linear s top surfaces, hardened and jigg rinded - For the assembling on pallets and plates for multiple clamping.
Repeat accuracy	+/- 0.005 mm.
Hole pattern	for 4 x M6 ø 6.5 mm.

FT 01793	Collet chuck holder ETS32 incl. index adapter plate 80

Application	Collet chuck holder with clamping nut for collet chucks ETS 32. The collet chuck holder is corrosion-resistant and under careful care he could be also inserted in the water.

FT 01835	PowerPlate

Version	Centering plate with P-profile, compatible with FT 01043 F-Tool ER chuck 80P, FT 02443 manual chuck 150P plus all EROWA chucks with P-profile, EROWA PowerChuck and EROWA ProductionChuck 210 Combi.
Application	For the direct assembling on pallets and fixtures.
Hint	Highly friction centering.

F-Tool
EDM Clamping beams

FT 01809	PIN MultiClamp 105 x 72 mm B40 corrosion-resistant
FT 01810	PIN MultiClamp 105 x 72 mm ITS50 corrosion-resistant

Application   The F-Tool MultiClamp is a pull-down clamp with adjustable, hardened pull-down and stop jaws. It is cor rosion-resistant and hardened. The stop jaw can be set every 2 mm in the tooth grid. The support surface is put up on 25 ± 0.0 1 mm. The F-Tool MultiClamp fits for the insert as a multiple clamp on the T-slot pallet, ITS/UPC pallet and square block. The maximum clamping range on the MultiClamp 105 is 48 mm, on the MultiClamp 181/124 mm. The clamp travel of the clamping jaw is 3 mm.

FT 01920	MultiClamp 105/35 for EROWA P 148
FT 01921	MultiClamp 181/35 for EROWA P 148

Application   The MultiClamps 105/35 and 181/35 are designed to mount directly onto EROWA Standard pallets with hole pattern 4 x M8 ø 37 mm respective 4 x M8 110 x 50 mm. The table height is 35 mm ± 0.0 1 mm. The clamping range is identical to the FT 01809 respective FT 01811.

FT 01811	PIN MultiClamp 181 x 72 mm B40 corrosion-resistant

Version   The F-Tool MultiClamp is a pull-down clamp with adjustable, hardened pull-down and stop jaws. It is corrosion-resistant and hardened. The s top jaw can be set every 2 mm in the tooth grid. The support surface is put up on 25 ± 0.0 1 mm. The F-Tool MultiClamp fits for the insert as a multiple clamp on the T-slot pallet, ITS/UPC pallet and square block. The maximum clamping range on the MultiClamp 105 is 48 mm, on the MultiClamp 181/124 mm. The clamp travel of the clamping jaw is 3 mm.

F-Tool
EDM Clamping beams

FT 01882	MC railer 320 B72

Version | The multiclamp railer 320 B72 is made of rust-resistant material, hardened and precision ground.
Dimension | 320 x 72 x 35 mm, tooth grid 2 mm, hole grid ø 12 x 50 mm. The railer fits on the pallet with hole grid 50 mm.

FT 01862	Precisions-prism reversible jaw S-72h19
FT 01863	Grip-prism reversible jaw SG-72h19
FT 02011	Fix stop jaw soft alu 38 x72 x h19 mm set of 5 pieces

Application | The F-Tool prism reversible jaws 19 mm are the standard sizes and can be assembled in the grid of 2 mm on t he Multiclamp 105 and 181. According to the purpose of use, t he surface-grinded, the prism side or for blanks, the grip-prism reversible jaw is appropriate.

FT 01864	Grip-prism reversible jaw F-72h12
FT 01865	Flat-grip reversible jaw FG-72-h12

Application | The prism reversible jaws 12 mm are suitable for the clamping of rather flat work pieces. The function is otherwise identical with the standard prism reversible jaws 19 mm. They can be used on the multiclamp 105 and 181.

FT 01866	Flat-clamping jaw set FC24-h12 set of 3 pieces
FT 01867	Flat-grip-clamping jaw set FCG24-h12 Set of 3 pieces

Application | The flat-clamping jaws are suitable for the use with the prism reversible jaw 12 mm. Applicable on multiclamp 105 and 181 as well as on the clamping blocks B72.
Clamping force | 4-5 kN/Clamping jaw.

FT 01877	Grip-clamping jaw set SCG24-h19 set of 3 pieces
FT 01905	Clamping jaw set SC24-h19 set of 3 pieces

| Application | The F-Tool clamping jaws have a clamping range of 3 mm. They can be used on the multiclamp 105 and 181, as well as on the clamping blocks B72. The lateral slot allows the attachment of supports FT 01868 or extension jaws FT 01887. |
| Clamping force | 4-5 kN/clamping jaw. |

FT 01883	MC clamping block B72/20 L58

| Version | The clamping block with fixed stop fits the railer 320 B72 and 400 B72. Made of rust resistant material, hardened and ground. With the three clamping jaws a tension can be caused of 3.5 t. The clam ping principle of the clamping jaws produces an optimal pull-down effect. |

FT 01884	MC double clamping block B72/20 L84

| Application | The F-Tool double clamping block is suitable for the multiple clamping on the MC railer B72. |

FT 01885	MC stopper beam B20 / 30

| Application | Double acting stop to WEDM clamping beam B72 with 2 mm tooth rack, corrision resistant and hardened. |

F-Tool
EDM Clamping beams

FT 01886	MC stopper beam base B20 / 40

Application | On these MC stopper beam bases, aluminium jaws or the F-Tool prism reversible jaws can be assembled.

FT 01813	PIN parallel support set 16 mm set of 2 pieces

Application | The parallel support set is suitable for the flat clamping of work pieces, but can as well be used for parallel clamping. The bails avoid the drop-out while turning or while cleaning the vises with compressed air.

FT 01887	Extension jaw 22h13

Application | The F-Tool clamping jaws have a clamping range of 3 mm. They can be used on the multiclamp 105 and 181, as well as on the clamping blocks B72. The lateral slot allows the attachment of supports FT 01868 or extension jaws FT 01887.

Clamping force | 4-5 kN/clamping jaw.

FT 02038	Support set B72 h25 set of 2 pieces

Application | The F-Tool support set B72 h25 fits on the MC stopper beam FT 02035 and the clamping block FT 02036.

FT 01888	Alu jaw 72 x 60 x 14.5 mm

Application | On these MC stopper beam bases, aluminium jaws or the F-Tool prism reversible jaws can be assembled.
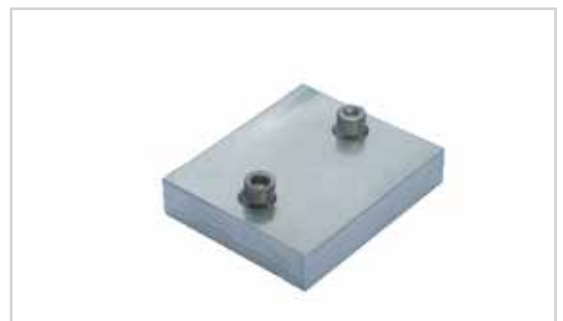
F-Tool
EDM Accessories

FT 01092	Insert plates 0.5 / 1 / 2 / 3 / 4 / 5 mm set of 300 pieces

Version	Corrosion-resistant, thicknesses from 0.5 to 5 mm.
Application	Centering of blanks in electrode holders.
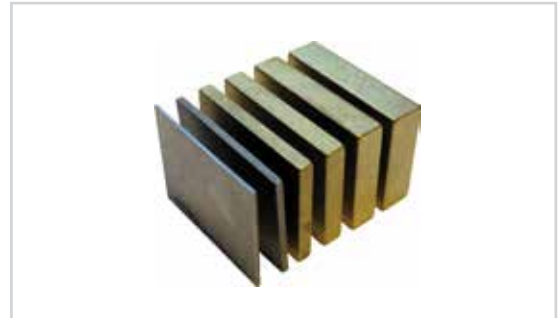
FT 01483	Square block chuck 80 / PIN chuck

Version	Accurate grinded square block, rustless, for the assembling of one or two ER chuck 80P (FT 01043), chuck 80 IF3R (FT 01044) or PIN center chuck (FT 01716) in vertical or horizontal position.
Application	For the application with brackets on divers tooling machines.
Hint	Spindle height at horizontal installation of the chuck: 75 mm.

FT 02106	Square block chuck 50

Application	The square block ERC-50 is hardened, rust-resistant and ground very precise. The block is qualified optimally for the use on electrode milling, as angle adapter or as extension.
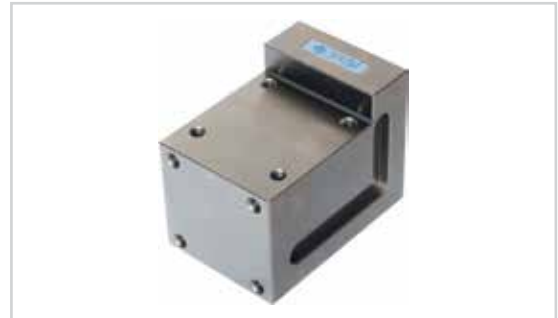
FT 02107	Universal adapter plate chuck 50 with flushing hole

Application	The universal adapter plate ERC 50 with flush connection and electric cable fixation can be used as quill adapter on EDM machines or assembling plate on the machine tool.

EDM Accessories

FT 02349	Chucking spigot F/M EDM manual with flushing (set of 10 pieces)

Version | Fixed type, manual. Bolt, lengt h 45 mm, with flushing hole.
Application | In ITS electrode holders.

FT 02352	Chucking spigot F/A EDM automatic with flushing (set of 10 pieces)

Version | Fixed type, automatic. Bolt, length 45 mm, with flushing hole.
Application | On all electrode holders that are changed automatically.

Ftool
by erowa

Modular, accurate, durable

**These are three characteristics of the F-Tool (by erowa)
equipment for wire EDM. Whether table equipment
or clamping device for the smallest parts, the solution
is already available in the F-Tool wire EDM range.**
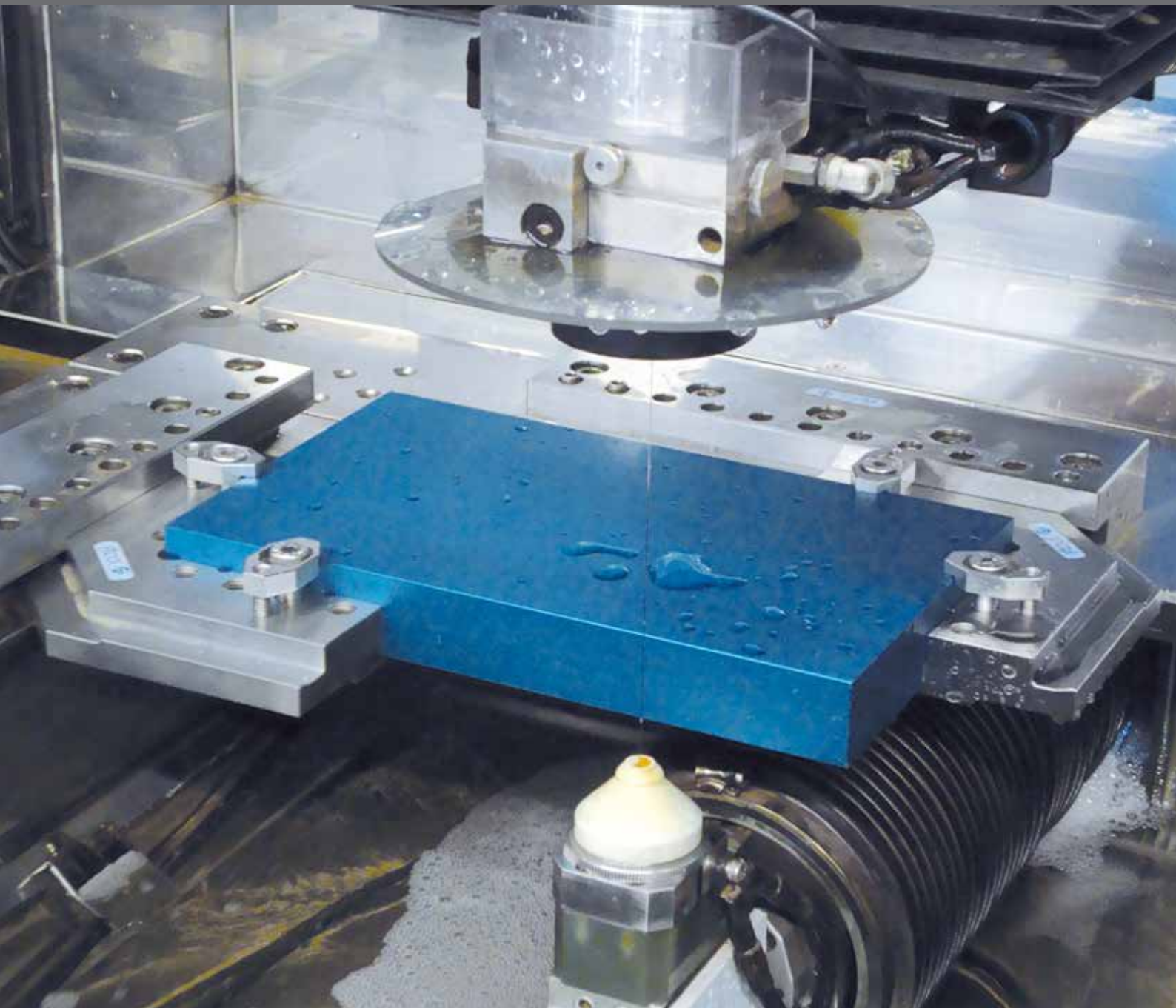
Simplify the world of wire EDM

Invest once and then use for a long time. The modular system of the wire EDM equipment opens up undreamt-of possibilities.
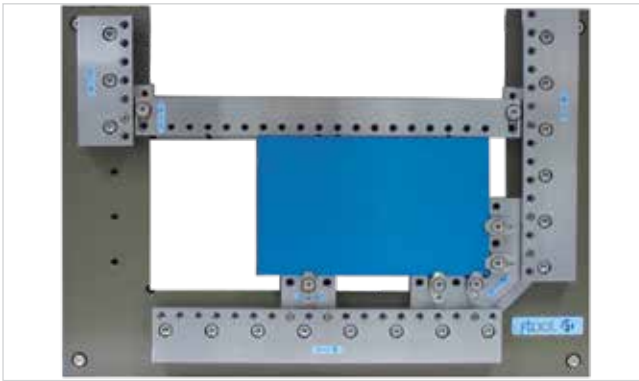
Ideal entry with the Rulerset. Ingeniously easy to use. Versatile for a wide range of workpiece shapes.
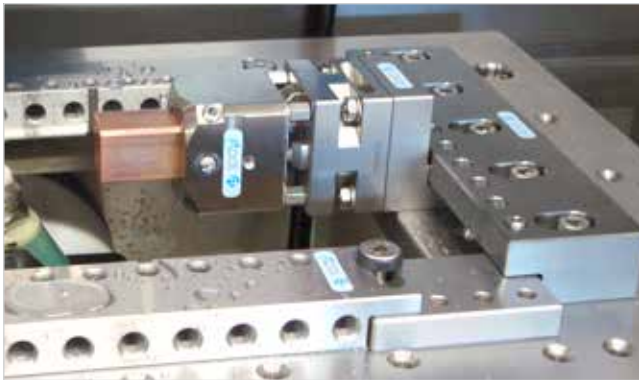
Extend your clamping possibilities exactly as required. Base rails for fast clamping of workpieces or other clamping elements in reference position.

The Mini universal clamping - simple and sophisticated. One of the many really useful parts in the F-Tool (by erowa) WEDM tooling system.

THE FACTS

• High quality
• Easy mounting
• Practical benefits

Consistent interface

Wire EDM clamping solutions optimally matched to the
exacting requirements of tool and mold making and
precision mechanics.

1. Manual operation

2. Operate with compressed air jet

3. Operate with manual valve

4. Operate with manual control unit

5. Operate with electro-pneumatic control unit

6. With central flushing clearance

7. Suited for submerged operation

8. Corrosion-resistant material

9. Suited for automatic operation

10. Handling with EROWA Robot gripper S

11. Handling with EROWA Robot gripper Combi

12. Handling with EROWA Robot gripper C

13. Handling with EROWA Robot gripper 72

14. Handling with EROWA Robot gripper 115

15. Handling with EROWA Robot gripper 148

16. Handling with EROWA Robot gripper RN PC 210

17. Handling with EROWA Robot gripper RCS

18. Handling with EROWA Robot gripper WGS-500

F-TOOL WEDM TOOLING SYSTEM

For chip-removing processes

For EDM sinking

For WEDM

F-Tool
WEDM Interfaces to machine table

FT 01344	Ruler set

Version	The F-Tool ruler set is an economic basis eq uipment. Suitable for all wire EDM machines with basis zero table and hole pattern 50 mm M8 and hole pattern from table edge 30 - 40 mm.
Set contains	- 2 x FT 01349 FT basic ruler 230 mm - 2 x FT 01350 front spanner - 1 x FT 01352 corner set 85 - 2 x FT 01376 stopper - 2 x FT 01457 Spacer Plate 100 x 29 x 3 mm - 2 x FT 01947 F-Tool Spacer plate 60 x 29 x h3 mm - comprehensive clamping applicances with support plates / brackets / screws / keys.

FT 02128	Ruler set Z +3 mm

Version	The F-Tool ruler set is an economic basis equipment. Suitable for all wire EDM machines with basis zero table and hole pattern 50 mm M8 and hole pattern from table edge 30 - 40 mm.
Set contains	- 2 x FT 01349 FT basic ruler 230 mm - 2 x FT 01790 Front spanner special +3 mm - 1 x FT 01789 Corner set 85 special +3 mm - 2 x FT 01376 stopper - comprehensive clamping applicances / brackets / screws / keys.

FT 01342	Ruler set ML

Version	The F-Tool ruler set ML is alike the ruler set FT 01344 but with basic rulers 230 mm ML. Suitable for all wire EDM machines with basis zero table and hole pattern 50 mm ML and hole pattern from table edge 30-55 mm.
Set contains	- 2 x FT 01780 basic ruler 230 mm ML - 2 x FT 01350 front spanner - 1 x FT 01352 corner set 85 - 2 x FT 01376 stopper - 2 x FT 01457 Spacer Plate 100 x 29 x 3 mm - 2 x FT 01947 F-Tool Spacer plate 60 x 29 x h3 mm - comprehensive clamping applicances with support plates / brackets / screws / keys.

FT 01347	Basic ruler 140 mm
FT 01348	Basic ruler 180 mm
FT 01349	Basic ruler 230 mm
FT 01486	Basic ruler 320 mm
FT 01487	Basic ruler 380 mm

Application	The basic ruler are adjusted to the coordinate system of the machine and provide afterwards a fast clamping of work pieces or F-Tool pallets and clamping elements in reference position.
Set contains	1 x basic ruler / 1 x FT 01376 stopper / the required attachement and pressure screws (FT 01373)
Basic rulers standard	Suitable for machine tables with hole pattern 50 mm from table edge 30-40 mm.

FT 01858	Basic ruler 140 mm ML
FT 01859	Basic ruler 180 mm ML
FT 01780	Basic ruler 230 mm ML
FT 01860	Basic ruler 320 mm ML
FT 01820	Basic ruler 380 mm ML

Application	The basic ruler are adjusted to the coordinate system of the machine and provide afterwards a fast clamping of work pieces or F-Tool pallets and clamping elements in reference position.
Set contains	1 x basic ruler / 1 x FT 01376 stopper / the required attachement and pressure screws (FT 01373).
Basic rulers with long hole	Suitable for machine tables with hole pattern 50 mm from table edge 30 -55 mm.

FT 01333	Chuck 50 with IF angle QC50

Application	ER-Chuck 50 (FT 02110) assembled on WEDM angle (FT 01337) for the fast clamping with the F-Tool basic ruler.
Arbor height	28 mm.

F-Tool
WEDM Interfaces to machine table

FT 01334	Chuck 80P with WEDM IF angle 80

INOX

Application — ER chuck 80P (FT 01043) assembled on WEDM angle (FT 01338). For the fast clamping with the F-Tool stop beads (basic ruler).
Arbor height — 40 mm.

FT 01345	Corner basic set 14/85

INOX

Application — The F-Tool corner basic set 14/85 is a simple, economic and flexible way to clamp the pieces in the wire cutting machine. The F-Tool corner 14/85 can be fixed in three different directions in the machine and can cut small as well as big work pieces with the best possible accessibility. The removable supporting bracket allows to cut the piece without any collision risk of the below wire guide in the highest precise and fastest zero position.

FT 02045	Corner Set 14/85

INOX

Application — The F-Tool corner set 14/85 supports the direct insert in the basic rulers.

FT 02044	Corner 14/85

INOX

Application — The F-Tool corner set 14/85 supports the direct insert in the basic rulers.

FT 01352 Corner set 85

| | INOX | | |

Application The corner set is the perfect pallet for wire EDM plants. The corner set can be fixed left side, right side as well as frontal over 45°. The parts can be clamped outside the machine in the corner set and afterwards be clamped with the bead stops (basic ruler) in reference position of the machine. The clamping lips are lying in basic position on zero level. This zero level can be hoisted 3 mm with the spacer plates.

Dimension Leg length 135 x 135 mm / height = 22 mm.

Set contains
- 1 x corner set
- 2 x FT 01070 spacer plate 100 x 29 x 3 mm
- screws / keys / brackets / support plates.

FT 01420 Corner 85

| | INOX | | |

Application The corner set is the perfect pallet for wire EDM plants. The corner set can be fixed left side, right side as well as frontal over 45°. The parts can be clamped outside the machine in the corner set and afterwards be clamped with the bead stops (basic ruler) in reference position of the machine. The clamping lips are lying in basic position on zero level. This zero level can be hoisted 3 mm with the spacer plates.

Dimension Leg length 135 x 135 mm / height = 22 mm.

Set contains 1 x Corner Set .

FT 01675 Corner set 85 special with adjusting screws

| | INOX | | |

Application The corner set is the perfect pallet for wire EDM plants. The corner set can be fixed left side, right side as well as frontal over 45°. The parts can be clamped outside the machine in the corner set and afterwards be clamped with the bead stops (basic ruler) in reference position of the machine. The clamping lips are lying in basic position on zero level. This zero level can be hoisted 3 mm with the spacer plates.

Dimension Leg length 135 x 135 mm / height = 22 mm.

Set contains
- 1 x corner set
- 2 x FT 01070 spacer plate 100 x 29 x 3 mm
- screws / keys / brackets / support plates.

F-Tool
WEDM Interfaces to machine table

FT 01789	Corner set 85 special +3 mm

Application	The corner set is the perfect pallet for wire EDM plants. The corner set can be fixed left side, right side as well as frontal over 45°. The parts can be clamped outside the machine in the corner set and afterwards be clamped with the bead stops (basic ruler) in reference position of the machine. The clamping lips are lying in basic position on zero level. This zero level can be hoisted 3 mm with the spacer plates.
Dimension	Leg length 135 x 135 mm / height = 22 mm.
Set contains	- 1 x corner set - screws / keys / brackets / support plates.

FT 01346	3D ViseSet 100

Application	Fast, precise and three-dimensional adjustment. A universal and multifunctional set. Quick assembling with the basic ruler 140 mm. Compatible to WEDM-machines with Z-reference height 0.
Set contains	- 1 x FT 01697 3D swivel head IF 22 - 1 x FT 01347 basic ruler 140 mm - 1 x FT 01319 vise 100F22 - diverse screws and keys delivered in a synthetic case.

FT 02046	3D ViseSet 220B28

Version	Fast, precise and three-dimensional adjustment. Flexible machining of cubic pieces of miscellaneous sizes in Z-zero position. Accurate, strong and centrically clamping, simplifies the adjustment.
Maximal clamping size	130 mm.
Maximal workpiece size	130 x 100 x 100 mm.
Maximal weight	10 kg.

FT 02047	3D ViseSet 220B28 incl. basic ruler 140

Version	Fast, precise and three-dimensional adjustment. Flexible machining of cubic pieces of miscellaneous sizes in Z-zero position. Accurate, strong ond centrically clamping, simplifies the adjustment.
Maximal clamping size	130 mm.
Maximal workpiece size	130 x 100 x 100 mm.
Maximal weight	10 kg.

FT 02108	3D ViseSet 320B28

Version | FT 01705 has been adapted to the customer needs and offers now the possibility to get beside FT 02046 also FT 02108 with the vise 320B28. With the FT 02108 F-Tool ViseSet 320B28, workpieces up to 230 x 100 x 100 mm can be adjusted independently in 3 axis.
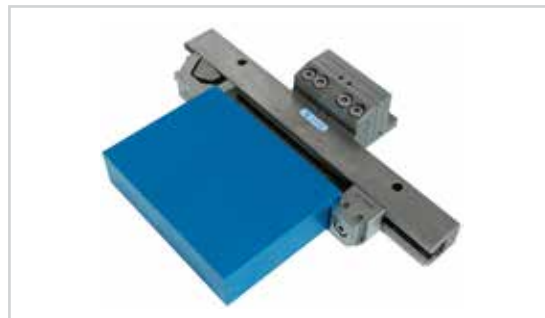
FT 01924	WEDM clamping beam 220 with sliding jaws B28

Version | The WEDM railer is prepared with a disc pull-down-system and a quickly adjustable clamping-slide. With the help of the basic rulers IF FT 01873 or with the two fixing holes ø 9 D200, the railer can be clamped horizontal in the EDM wire cutting machine.

Maximal holding capacity | 130 mm.

FT 01925	WEDM clamping beam 320 with sliding jaws B28

The WEDM railer is prepared with a disc pull-down-system and a quickly adjustable clamping-slide. With the help of the basic rulers IF FT 01873 or with the two fixing holes ø 9 D200, the railer can be clamped horizontal in the EDM wire cutting machine.

Maximal holding capacity | 2 x 0-88 mm or 1 x 0-230 mm.

FT 01926	Clamping beam 220 B28

Version | The F-Tool railer is hardened and made of rustless steel. The grinded cog-grid is 2 mm.

F-Tool
WEDM Interfaces to machine table

FT 01927	Clamping beam 320 B28

Version | The F-Tool railer is hardened and made of rustless steel. The grinded cog-grid is 2 mm.

FT 01929	High accuracy double stopper B28WEDM

Version | The double stopper is equipped with the disc-pull-down-system and a micro-pitch.

FT 01928	High accuracy clamping jaw B28WEDM

Application | The quickly adjustable clamping jaw is suitable for the EDM wire cutting or in the high-precision mechanics. The disc pulldown-system is suitable excellent for the clamping of grinded pieces. Additional with micro-pitch.

FT 01934	Clamping jaw B28 with pull down stopper
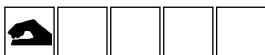
Application | With the spring borne pull-down clamping jaw you can clamp strongly in no time at all. The clamping range is 3 mm.

FT 02333   Micro Cutting StarterSet

▲ ≈ INOX

Version: The smaller a work pieces, the more challenging it is to clamp in a selected, aligned position. The F-Tool watch maker wire tool set is the suitable support, when flat plates or subtles tamps have to be clamped fast and accurate in the EDM wire cutting machine.

Set contains:
- 1x watch-maker wire tool set
- 1x basic ruler 230 mm
- 1x mini Universal clamping plate
- 6x small brackets
- 4x jack brass ø 9.5 x 10 mm for M6 - 1x allen key 3 mm (long)
- various screws.

FT 02150   Watch-maker wire tool set

▲ ≈ INOX

Version: The smaller a work pieces, the more challenging it is to clamp in a selected, aligned position. The F-Tool watch maker wire tool set is the suitable support, when flat plates or subtle stamps have to be clamped fast and accurate in the EDM wire cutting machine.

Set contains:
- 1x watch-maker wire tool set
- 4x small brackets
- 4x jack brass ø 9.5 x 10 mm for M6
- 1x allen key 3mm (long)
- various screws.

F-Tool
WEDM Clamping beams

| FT 01327	Beam L = 220 mm with clamping lips
FT 01063	Beam L=300 mm with clamping lips
FT 01064	Beam L=380 mm with clamping lips
FT 01065	Beam L= 460 mm with clamping lips

Application The beams are accurate grinded and consist of hardened, corrosion-resistant, alloyed high-grade steel. The beams are furnished with clamping lips for the work piece clamping on one side and on the other side they can be clamped frontal. With the spacer plates 3 mm (FT 01439) the 3 mm high clamping lip can be lifted over the collision zone. On the beams without Z-support you can assemble the Z-discs (FT 01911) and the Z-0 base plate (FT 01906).

Set contains
- 1 x beam
- 2 x FT 01439 spacer plate 60 x 20 x 3 mm
- 2 x FT 01441 countersunk screw corrosion-resistant M8 x 25 mm
- 2 x FT 01377 slide disc.
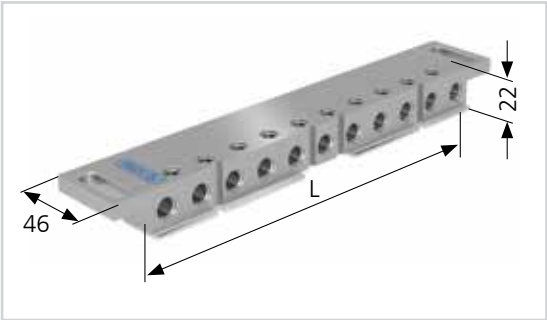
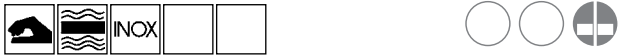| FT 01826	Clamping beam L = 300 / H22 without Z Support
FT 01827	Clamping beam L = 380 / H22 without clamping lip
FT 01828	Clamping beam L = 300 / H22 without Z Support

Application The beams are accurate grinded and consist of hardened, corrosion-resistant, alloyed high-grade steel. The beams are furnished with clamping lips for the work piece clamping on one side and on the other side they can be clamped frontal. With the spacer plates 3 mm (FT 01439) the 3 mm high clamping lip can be lifted over the collision zone. On the beams without Z-support you can assemble the Z-discs (FT 01911) and the Z-0 base plate (FT 01906).

Set contains
- 1 x beam
- 2 x FT 01439 spacer plate 60 x 20 x 3 mm
- 2 x FT 01441 countersunk screw corrosion-resistant M8 x 25 mm
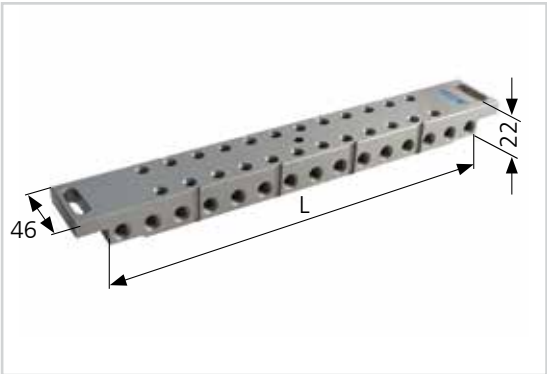- 2 x FT 01377 slide disc.

FT 01568	Interface plate 14 / 35 / 55 mm
FT 01569	Interface plate 14 / 45 / 75 mm
FT 01570	Interface plate 14 / 65 / 85 mm
FT 01825	Interface plate 14 /65 / 95 mm

Application   With the combination of F -Tool beam interfaces, span lengths in 5mm steps, from 70 mm to 170 mm can be bridged. The FT beams can be assembled side ways or lengthwise. At the insertion of the F-Tool basic ruler, the required bridging width calculates as follows: Hole distance assembling basic ruler (A) -20 mm -clamping beam length (L) = IF length total (C).

F-Tool beam IF

With the combination of F-Tool beam interfaces, span lengths in 5 mm steps, from 70 mm to 170 mm can be bridged. The FT beams can be assembled sideways or lengthwise. At the insertion of the F-Tool basic ruler, the required bridging width calculates as follows:

Hole distance assembling basic ruler (A) -20 mm -clamping beam length (L) = IF length total (C)
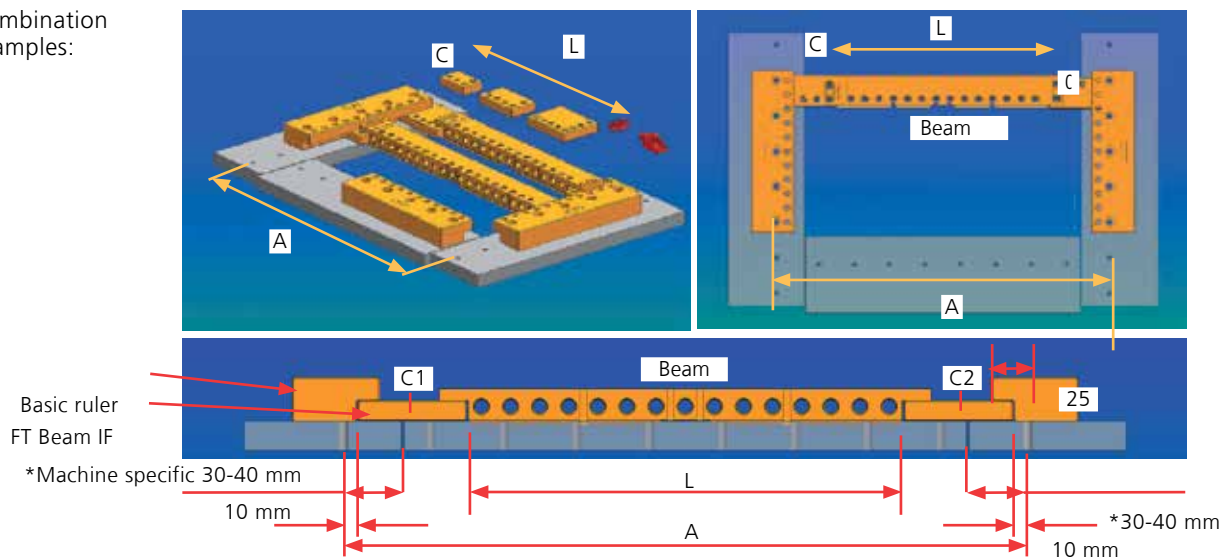
Example:
RFI2050A 320 -20 -L 220 = C 80   this corresponds the IF length C 1 / 35 mm und C 2 / 45 mm
AQ537LA 470 -20 -L 300 = C 150   this corresponds 2 x IF lengths C 1 / C 2 = 75 mm
or
AQ537LA 470 -20 -L 380 = C 70   this corresponds 2 x IF lengths C 1 / C 2 = 35 mm

Combination examples:

F-Tool
WEDM Clamping beams

| FT 02097	Brass corner jaw block M6 set of 2 pieces

Application The brass corner jaw block is an easy tool to clamp work pieces on Z-0 levels and miscellaneous F -Tool clamping elements with hole grids 20 mm, designed to pr eclude any collisions.

FT 02149	Universal clamping-beam support 108 x 80 x 14 mm, set of 2 pieces

Application The F-Tool universal clamping beam supporting plates can be clamped directly on the machine table, without basic rulers. Miscellaneous table sizes and beam lengths can be bridged by movement on the side. In the single application you can add a FT 01906 Z-0 base plate to the supporting plate and use it as a clamping plate.
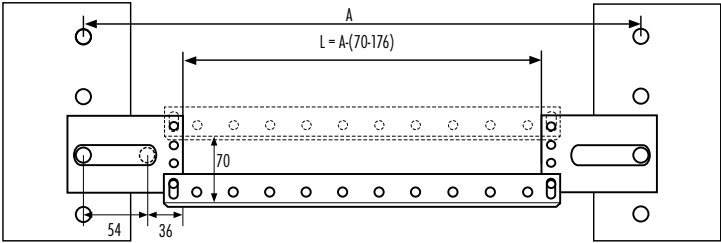
Choosing the clamping beam length (L)

Beam L		Article		A-Min.	A-Max.
220	+	FT 02149	=	290 mm	396 mm
300	+	FT 02149	=	370 mm	476 mm
380	+	FT 02149	=	450 mm	556 mm
460	+	FT 02149	=	530 mm	636 mm

FT 02149

Examples of use   FT 02149
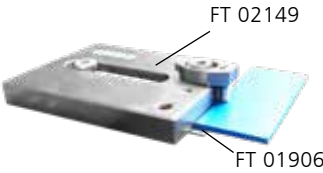
FT 01906

FT 02149 F-Tool Universal clamping beam supporting plate in the single application can be used with FT 01906 Z-0 support plate as clamping plate.

F-Tool
WEDM Adapters

FT 01873	Basic Ruler IF100/30

Application   The basic ruler IF100/30 adapter is suited for t he collet of the several beams, the front spanner 140 (FT 01572) or other installations directly into the ruler set (FT 01344).

FT 01878	Basic Ruler IF100/50

Application   The MC railer set 320 B72 is a perfect, upgradable basic initial equipment for general multiple-clamping-jobs in the daily business. The hole grid 50 mm matches for the direct assembling on UPC pallets. Max. clamping power 10 - 15 KN.

F-Tool
WEDM Front spanners

FT 01350	Front spanner

INOX

Version — The front spanner provides a support plate for small parts or can be used in combination with the side spanner (FT 01351), the corner set 85 (FT 01352) or with the distance support mini (FT 01066). The clamping lip lies in basic position on zero level. This zero level can be hoisted 3 mm with the spacer plates. Clamping section of front spanner +3 mm, is 3 mm above Z=0 to avoid collision with lower guide.

Dimension — 55 x 60 mm / height = 22 mm.

Set contains — - 1 x front spanner
- 2 x FT 01382 F-Tool bracket ER34 corrosion-resistant.

FT 01690	Front spanner Z-Vario

INOX

Application — The front spanner special + 3mm (FT 0 1790) is built in the way the clamping surface is +3 mm above Z = Zero. This allows the lower arm of the wire machine to work always outside of the collision zone.

Dimension — 55 x 68 mm / height = 22 mm.

FT 01790	Front spanner special +3 mm

INOX

Application — The front spanner provides a support plate for small parts or can be used in combination with the side spanner (FT 01351), the corner set 85 (FT 01352) or with the distance support mini (FT 01066). The clamping lip lies in basic position on zero level. This zero level can be hoisted 3 mm with the spacer plates. Clamping section of fr ont spanner +3 mm is 3 mm above Z=0 to a void collision with lower guide.

Dimension — 55 x 60 mm / height = 22 mm.

Set contains — - 1 x front spanner
- 2 x FT 0 1382 F-Tool bracket ER34 corrosion-resistant.

FT 01951	Mini Universal clamping plate Z+2// 60 x 54 x 12 mm

INOX

Application — The Mini Universal clamping plate, to fix thin plates in the F-Tool RulerSet. The z-lip suppor ts are just +2 mm above the 0-level to avoid any collision with the flushing nozzle. The z-lips on both sides of the clamping plate give a high flexible application range. The clamping plate can be mounted as a single-, or over the corner as a multifunc-tional clamping devise. The Mini clamping plate is deli-vered with two Mini brackets.

FT 01952	Mini Bracket 22 x 13 x 3.8 mm

Version — Brackets corrosion-resistant for the miscellaneous clamping elements.

FT 01351	Side spanner

Application — The F-Tool side spanner has two bearing sides and provides a support of larger plates. The side spanner is suited excellent in combination with the corner set 85 (FT 01352) or with the front spanner (FT 01350).

Dimension — 215 x 50 mm / height = 22 mm.

Set contains — - 1 x side spanner
- 1 x FT 01439 spacer plate 60 x 20 x 3 mm.

FT 01572	Front Spanner 140 x 30 x 35 mm complete with brackets

Application — For the direct collet of miscellaneous work pieces. As option to the swivel table IF 90° (FT 01356), to the 3D swivel with front spanner (FT 01693) and to the WEDM square block-index-table 80 (FT 01791).

FT 01679	V-block corrosion-resistant

Application — The V-Block is qualified for the fast clamping of arbores, punches and pushers up to ø 32 mm. It can be assembled frontally or from the back on diverse F-Tool holders. The best compatibility is with the uniplate EWIS (FT 01080), the F-Tool ER-plate EWIS (FT 01435), the F-Tool basic plate IF3R (FT 01135) and the F-Tool universal index adapter plate 80 with graduation (FT 01792). For the application on EDM, WEDM and grinding machines.

F-Tool
WEDM Front spanners

FT 01600	Z-Flex

FT 01350

FT 01600

ca. 0.2 mm

Application The Z-Flex could be clamped frontal in all clamping beams with cross holes ø M10, distance 20 mm, or in the front spanners FT 01350 and FT 01572. With the Z-Flex you could adjust the supporting surface in state of the clamped work piece on 0.2 mm.Appropriate for the levelling of plates and work pieces. Delivered with brackets and allen keys.
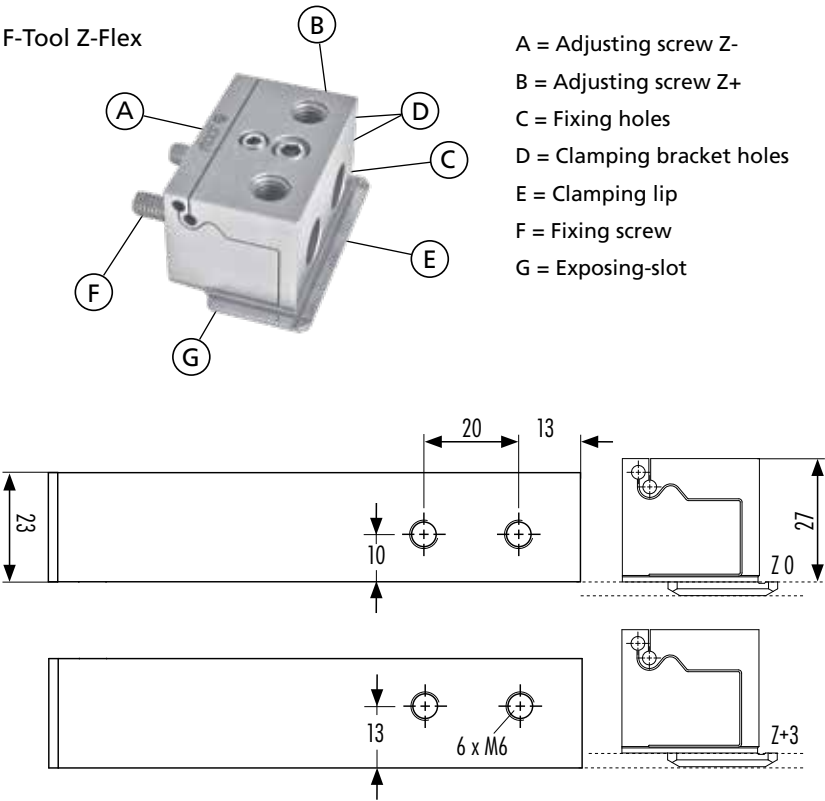
FT 01760	Z-Flex support 170 mm
FT 02307	Z-Flex mini support 80 mm

Application The Z-Flex support is ideal for clamping big plates. The Z-Flex support can be clamped directly on the machine table. In compination with the Z-Flex the workpiece can be levelled after clamping. The Z-Flex can be mounted in front, at right or at left hand of the Z-Flex support. The Z-Flex support can be fixed on both sides and allows, in cobination with the Z-Flex, the clamping of the workpiece on Z0 or Z+3 mm.
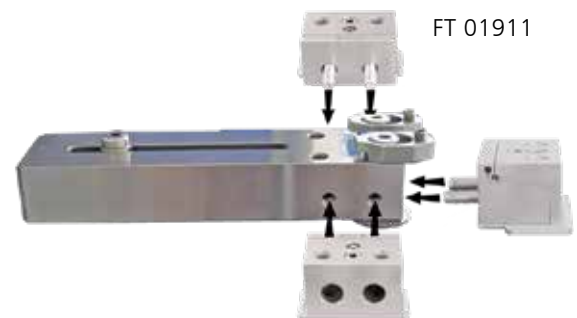
Combination examples:

F-Tool Z-Flex

A = Adjusting screw Z-
B = Adjusting screw Z+
C = Fixing holes
D = Clamping bracket holes
E = Clamping lip
F = Fixing screw
G = Exposing-slot

F-Tool Z-Flex support
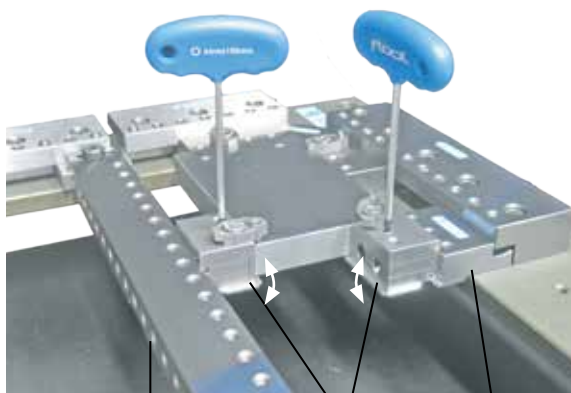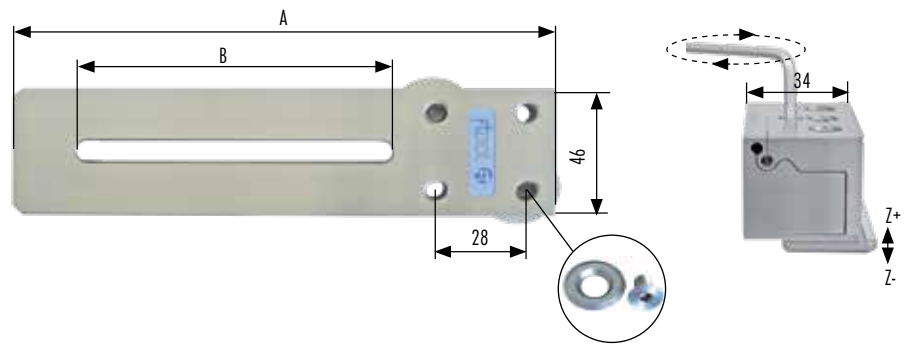
FT 01063-65 / FT 01327   FT 01600   FT 01350

FT 01911

The F-Tool Z-Flex (FT 01600) can be assembled on the front, the left and the right side of the Z-Flex support (FT 01760).

F-Tool
WEDM Vises

FT 01318	WEDM vise 55F18

Application — Handy, flat accurate vise (18 mm) with pull-down spring return effect for wire EDM plants. Can be inserted in the F-Tool ruler set, in the ER swivel, in the swivel table or in the palletset W. Made of corrosion-resistant, hardened high-grade steel.

Clamping length — 55 mm.

Clamping height — 18 mm.

FT 01319	WEDM vise 100F22

Application — Handy, flat accurate vise (22 mm) with pull-down spring return effect for wire EDM plants. Can be inserted in the F-Tool ruler set, in the ER swivel, in the swivel table or in the palletset W. Made of corrosion-resistant, hardened, grinded high-grade steel.

clamping length — 100 mm.

clamping height — 22 mm.

FT 01326	Magnetic table 140 x 50 x 44 mm

Application — Small, corrosion-resistant magnetic table for the insertion on EDM, wir e EDM and grinding machines.

Hole pattern from behind — 4 x M8 / 25 x 1 27 mm.

F-Tool
WEDM 3D Swivel head

The 3D swivel head can be adjusted quickly, precisely and three-dimensio-
nally. In addition to many F-Tool clamping elements, it is compatible with
EROWA and 3R clamping systems. It can be prepared and aligned outside
the machine on a measuring station and is clamped on the F-Tool base
strip of the machine table.

FT 01697

80

53

60

44

22

FT 01695

FT 01318

FT 01358

3R Link

3R Link

FT 01319

FT 01572

ER Link

FT 02045

FT 02150

FT 01339   FT 01326

FT 02049

FT 01924

FT 01693

Z
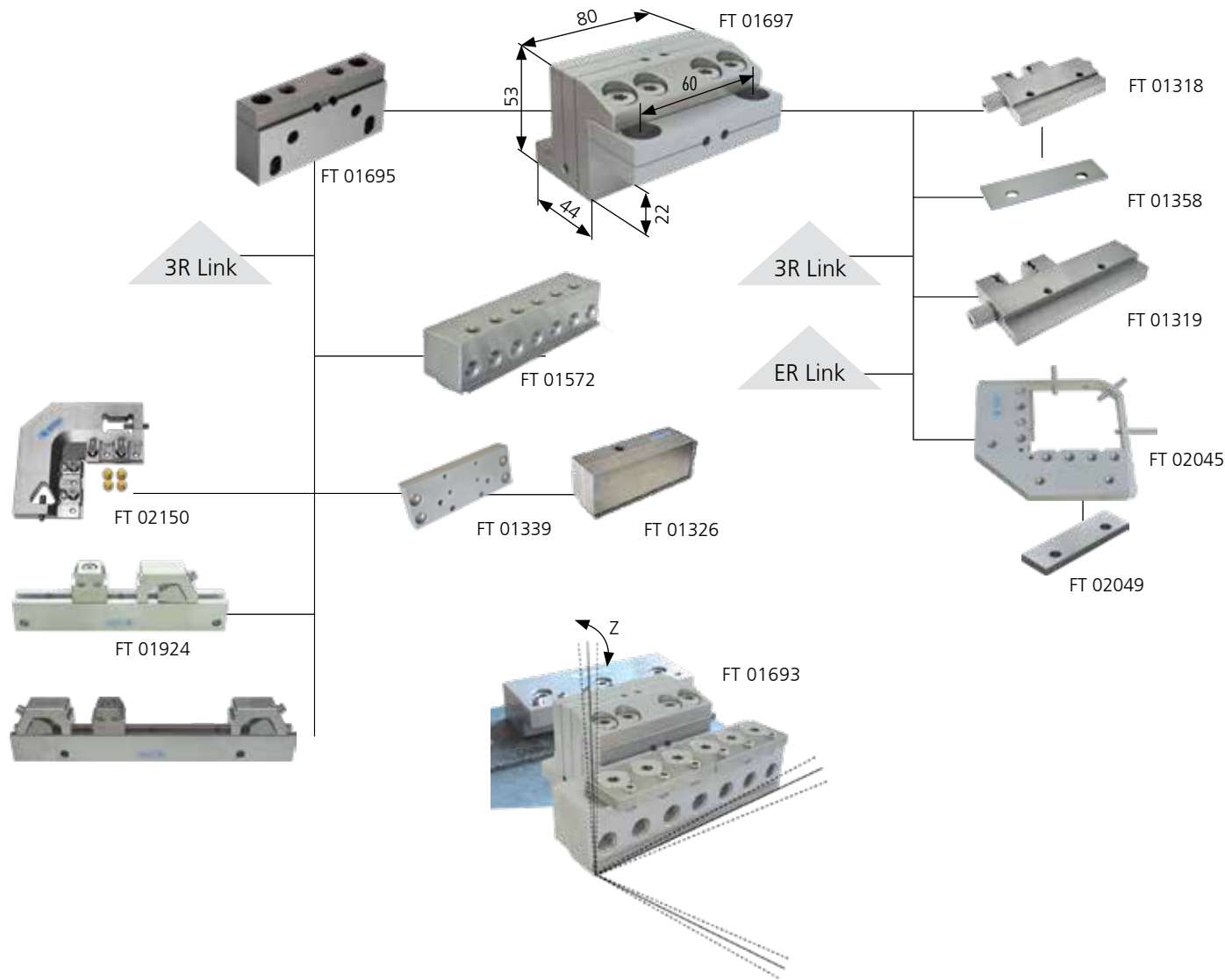
FT 01693	3D swivel head with front spanner 140

INOX

Application   The F-Tool 3D swivel head with front spanner 140 is deli-
              vered completely with screws, brackets and allen keys. The
              prism holder (FT 01593) and the yoke 140 mm (FT 01594)
              can be fixed frontal into the FT 01693. The yoke can be
              used directly on the beams and on the front spanner to
              clamp square pieces as well.
Options   - FT 01593 Prism holder 110 mm complete
              - FT 01594 Yoke 140 mm.

FT 01697	3D swivel head IF 22

Application The 3D swivel head IF 22 can be used in combination with many F-Tool clamping elements. Furthermore, this article is compatible with some EROWA PalletSet W elements.

Options
- FT 01318 WEDM vise 55F18
- FT 01319 WEDM vise 100F22
- FT 01358 Spacer plate 100 x 29 x 4 mm
- FT 01360 Frame pallet 100 x 22 mm
- FT 01361 Universal pallet 22 mm
- FT 01362 Blank pallet 22 mm
- FT 01363 RefTool IF pallet 14 mm
- FT 01448 Spacer plate 100 x 29 x 12 mm
- FT 01573 Frame pallet 75 x 75 x 10 mm without clamping beam
- FT 01574 Frame pallet 135 x 75 x 10 mm without clamping beam.

FT 01705	3D swivel head IF 90°

Application The 3D swivel head IF 90° is used for the frontal collet of clamping elements and adapter plates.

Options
- FT 01320 Vise 80VL50
- FT 01321 Vise 20VL24
- FT 01326 Magnetic table 140 x 50 x 44 mm
- FT 01339 Interface plate 146 x 56 x 16 mm
- FT 01343 Interface uniplate for vise 20VL24
- FT 02150 Watch-maker wire tool set
- FT 01924 WEDM clamping beam 220.

FT 01706	3D swivel head IF 15 / 3R

Application The 3D swivel head is compatible with many 3R clamping elements.

FT 01694	IF 22 for 3D swivel head
FT 01695	IF 90° for 3D swivel head
FT 01696	IF 15 / for 3D swivel head

FT 01695
FT 01696
FT 01694
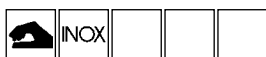
Application For every application the right adapter.
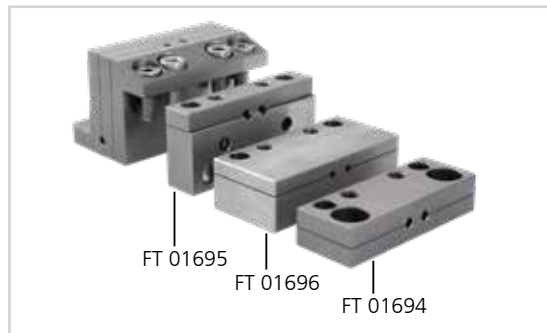
F-Tool
WEDM Square block-index-table

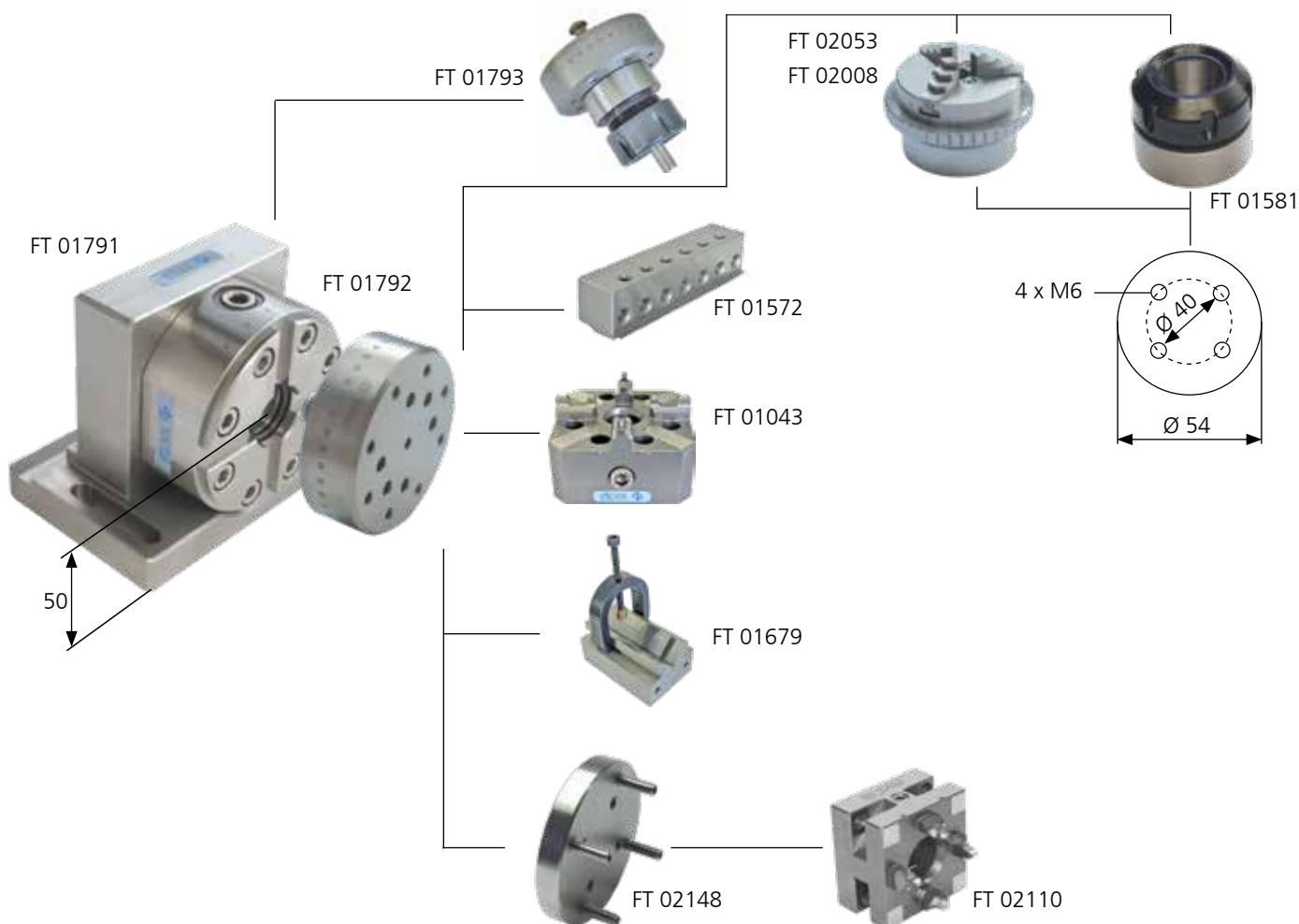| FT 01791	WEDM square block-index-table 80 corrosion-resistant

INOX

Application
The F-Tool center chuck with spring-steel centering, 90° raster-indexation or stageless indexation with graduation. Able for the direct application on the drilling machine, on the WEDM-machine table with hole pattern 50 mm or to clamp with the F-Tool basic rulers (arbour height 50 mm). Delivered with a universal index adapter plate 80 with graduation (FT 01792) to adapt the ER chuck 80P (FT 01043), chuck 80 IF3R (FT 01044), collet chuck holder (FT 01580/FT 01581), electrodes or working pieces.

Dimension
120 x 79 x 92 mm / Spindle height 50 mm.

Combination examples:

FT 02053
FT 02008

FT 01793

FT 01581

FT 01791

FT 01792

FT 01572

4 x M6
Ø 40
Ø 54

FT 01043

50

FT 01679

FT 02148

FT 02110

FT 01717	PIN center chuck with graduation

Version The PIN center chuck is a compact reference system and is able for the collet of electrodes and work pieces. It's also the base of the F-Tool PIN ZeroPoint centering system. The centering, respective the positioning happens in two steps. The first step is the pre-centering with the PIN centering bolt. The precise centering is done, if the cone of the spigot is intervening on the flexible centering plate, and the piece is drawn to the clamping area. With the intervention of the PIN index 8 mm into the cross slot, the angle coat is defined.

FT 01792	Universal index adapter plate 80 with graduation, corrosion resistant

Application Universal adapter plate 80 with nonius-display to adapt the ER chuck 80P (FT 01043), chuck 80 IF3R (FT 01044), collet chuck holder (FT 01580/FT 01581), electrodes or working pieces. Hole pattern: 8 x M8 reference circle 61 for ER chuck 80P & chuck 80 IF3R.

Hole pattern For 6 x M6 circle diameter 40 mm (to adapt collet chuck holder, front spanner FT 01572 or electrodes respective working pieces).

FT 02008	3 Jaw scroll chuck DBF63 rustless 0-56 m ø 20 x 20 mm 70 mm L = 32 mm

Suitable for the application on EDM wire cutting machines under water. Hardened clamping jaws for the clamping of outside diameter ø 1 - ø 60 mm and inside diameter of ø 12 - ø 66 mm. Hole pattern 4 x M6, reference circle 40 mm.

Hint Clamping accuracy ± 0.01 mm.
Maximum work piece weight: 2 kg.

52

F-Tool
WEDM Accessories

FT 01071	WEDM tool set

Application | The WEDM tool set contains a practical assortment of corrosion-resistant screws, keys, brackets, support plates and bases. We recommend the set to every wire EDM user.

FT 01322	Jack ø 20 x 10mm for M8 ALU
FT 01323	Jack extension ALU ø 20 x 20 mm
FT 01456	Jackset adjustable ø 20 x 20-26 mm
FT 01492	Jack brass ø 9.5 x 10 mm for M6
FT 01493	Jack extension brass ø 9.5 x 20 mm

Version | The jacks can be used as bracket supports or as screw extensions on the universal pallet and the miscellaneous frame pallets. The soft material prevents the marking by the brackets and the screws on the work piece.

FT 01381	Bracket 70 corrosion-resistant
FT 01382	Bracket 34 corrosion-resistant
FT 01383	Bracket 45 corrosion-resistant

Version | Brackets corrosion-resistant for the miscellaneous clamping elements.

FT 01447	Multi bracket 60 x 26 x H6 mm corrosion-resistant

Version | Brackets corrosion-resistant for the miscellaneous clamping elements.

FT 01389	Distance piece hexagonal M8 EL 40
FT 01390	Distance piece hexagonal M8 EL 60

Application | Distance piece hexagonal M8.
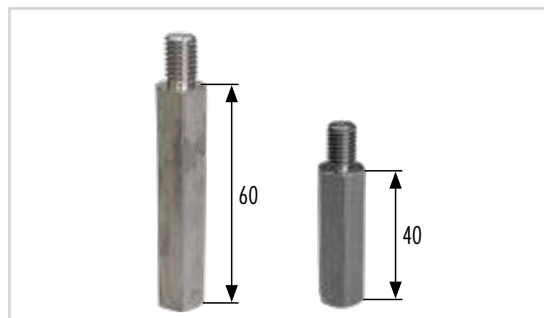
FT 01403	Allen key with hand grip 4 mm L = 100 mm
FT 01404	Allen key with hand grip 5 mm L = 150 mm
FT 01405	Allen key with hand grip 6 mm L = 150 mm

Version | Allen keys with hand grip.
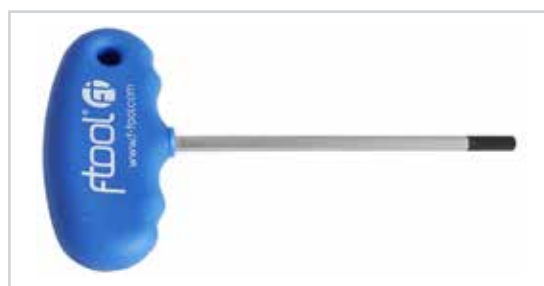
FT 01455	Spacer plate 28 x 14 x 2 mm for beam 75 mm (set of 2 pieces)
FT 01439	Spacer plate 60 x 20 x 3 mm for beam (set of 2 pieces)

Application | The spacer plate 60/3 mm can be used for the lifting of 3 mm of the clamping beams, the front spanners or the side spanners. To protect against collision of the clamping lips and flushing nozzles on machines with closed, no flexible flushing nozzles.

FT 01070	Spacer Plate 100 x 29 x 3 mm with 2 x hole ø 8 mm

Application | The spacer plate H 3 mm (FT 0 1070) can be used as well for the lifting of the F-Tool clamping elements with clamping lips. To protect against collision of the clamping lips and flushing nozzles on machines with closed, no flexible flushing nozzles.

F-Tool
WEDM Accessories

FT 01457	**Spacer plate 100 x 29 x H3 mm**
FT 01947	**Spacer plate 60 x 29 x H3 mm**

Application | The spacer plate H 3 mm can be used as well for the lifting of the F-Tool clamping elements with clamping lips. To protect against collision of the clamping lips and flushing nozzles on machines with closed, no flexible flushing nozzles.

FT 01944	**Square block for index-table and chuck 80, 120 x 79 x 92 mm**

Application | Angle base for chuck.
Can be mounted directly on the WEDM table or on the RulerSet base.

FT 02010	**Clamping unit PIN center chuck FT 01716**

Version | Spare part for F-Tool PIN center chuck FT 01716 and FT 01717.

FT 02051	**Z-0 base plate 3.3 mm 69 x 22 x 3.4 mm**
FT 01906	**Z-0 base plate 4/9 mm 69 x 31 x 3.4 mm**

Application | The Z-0 base plate, made of corrosion-resistant, grinded steel, can be assembled on beams without clamping lips. Depending on the direction, respective the clamping function, the lip overlap 4 mm or 9 mm from the support.

FT 02337	HighPower Magnet ø 20 mm h7 (100 N/cm2) slug holder

INOX

Application | These extra powerful mini magnetic sets are used in holding slugs during wire EDM process until the cut is finished. Avoid wire breakings and interruptions during the wire EDM process.

FT 02351	Chucking spigot M long without flushing (set of 10 pieces)

Version | Fixed type, manual. Bolt 12.9, length 50 mm, without flushing hole.
Application | In pallets for chip-cutting machining processes.

| FT 02354	Chucking spigot A Inox set of 10 pieces

auto

Version | Fixed type, automatic. Bolt, length 45 mm, with flushing hole.
Application | On all electrode holders that are changed automatically.

The next step

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

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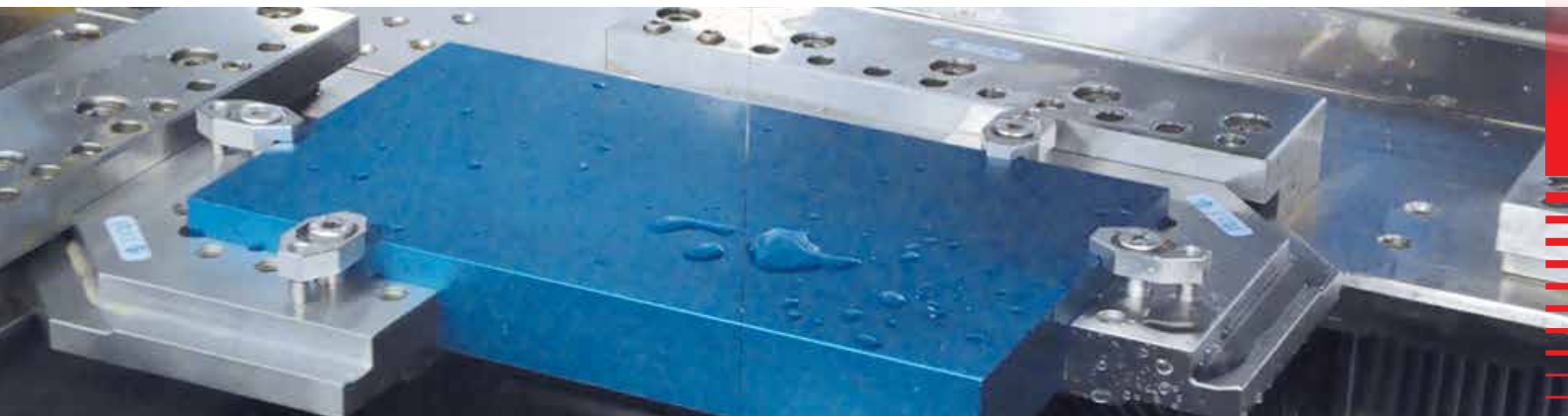
USA
EROWA Technology, Inc.
North American Headquarters
2535 South Clearbrook Drive
Arlington Heights, IL 60005
USA
Tel. 847 290 0295
Fax 847 290 0298
e-mail: info@erowa.com
www.erowa.com

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

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

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

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

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

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

Spain
EROWA Technology Ibérica S.L.
c/Via Trajana 50-56, Nave 18
E-08020 Barcelona
Spain
Tel. 093 265 51 77
Fax 093 244 03 14
erowa.iberica.info@erowa.com
www.erowa.com

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

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

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

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

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