

KULLICK

Eroding Equipment LE

Fast Removal of Broken-off Taps,

twist drills, centre drills, reamers, screws, bolts.
Punching, slitting, marking of hard materials.

As easy as drilling a hole.



Mobile and quick use

If the tool breaks you have to remove the stuck shiver quick and easy without damage of the workpiece.

With KULLICK eroding equipment LE you are able to erode out the shiver at any tool machine with sleeve.

At a drilling machine, milling machine, at the tailstock of a lathe, using the magnetic eroding support on-site or on special eroding tables.

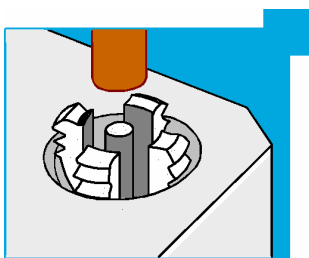
Without any damage of the thread or the inside borehole wall.

With the KULLICK-EEC-Control it will be quick and easy as drilling a hole.

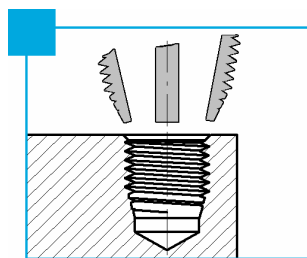


How it works

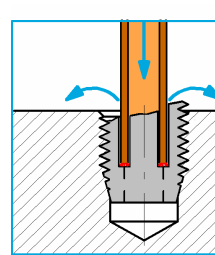
The equipment consists of a control unit, eroding head and coolant pump. For example to remove a tap from the workpiece, you have to clamp a tubular electrode with half diameter of the tap into the eroding head. You now lower the eroding head with the sleeve by hand. If the electrode contacts the tap-shiver a multitude of small electric arcs is ignited at the bottom of the electrode. Simultaneously cooling through the electrode with drilling water effects a disintegration of the material into smallest particles, which are flushed out by the coolant.



The core is eroded out.



Remove loose cutting edges.



By moving forward the electrode the core of the tap will be eroded out. Thereafter the cutting edges are loose and easy to remove.

The thread obtains unchanged.

Similarly it is possible to remove broken-off twist drills, centre drills or reamers.

Example of Eroding

Tap: M12 x 20 depth
Used electrode: Ø 6 mm
Eroding time: 1 - 1,5 minutes

Erodible Materials

HSS, hard metal (also steel and non-ferrous metals)

Further Applications

- Removal of broken-off screws, stud bolts, pins.
- Eroding of any shapes of holes, slits, markings in hardened steel, hard metal or in other electric conducting materials.

Eroding Equipment LE - therewith you get on quickly!

Eroding machines with KULLICK-EEC-Control.
Therewith we offer a leading product in electric-arc eroding.

EEC-control means:

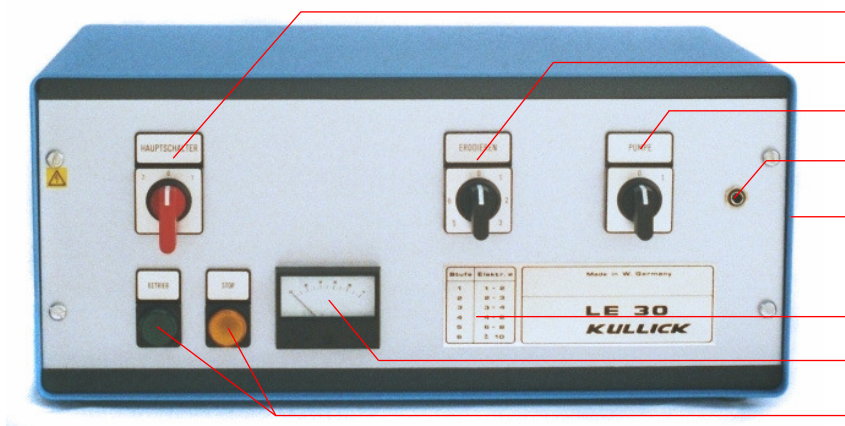
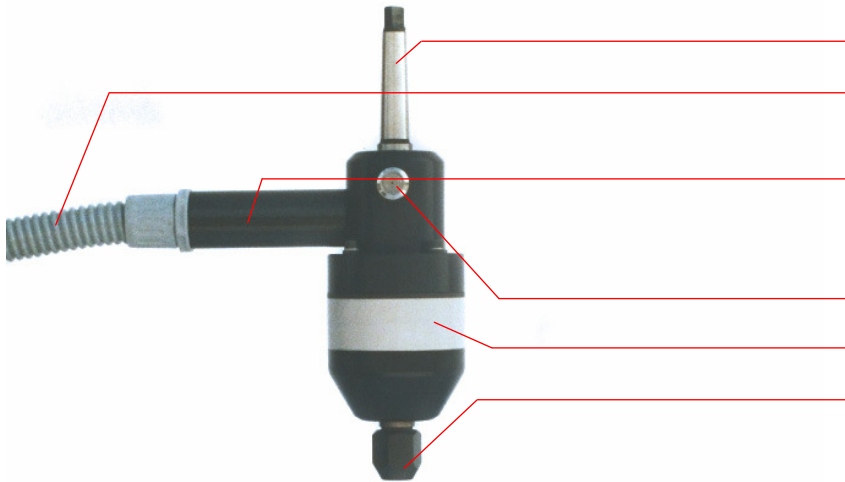
Automatic eroding current monitoring and regulation when eroding.

This has many advantages:

- Sturdy eroding voltages.
- Quick and simple eroding.
- No stick of the electrode.
- Considerably increased duty cycle and efficiency of the equipments.

Further advantages:

- Safe technology:
 - Eroding voltage always under 24 V.
 - Safety transformer in accordance to EN.
 - Temperature monitor.
- Automatic testing of rotary field:
 - Optimal terms of affiliation at any time.
- Eroding power display at the controller:
 - Precise viewable eroding process.
 - (for LE 30 standard, accessory for LE 16)
- Eroding head can be used in any position, applicable for vertical and horizontal.
- Everywhere closed eroding head:
 - Protection against dirt and coolant.
- Standard drilling water as coolant.
- Morse taper MT2 (or parallel shank Ø20)
- Solid supply hose with reinforced steel spiral.
- Counter grab handle for upward movement of clamping nut and protection of inner connections.
- Eroding power lamp
- Hardened anchor and clamping nut thread.
- Collet system:
 - Electrodes up to Ø12 can be inserted 130 mm deep into eroding head.



- Main switch
- Eroding step switch
- Pump On-Off
- Socket for test lamp
- Lateral load-bearing shells
- Eroding step chart
- Eroding power display
- Functional lamps

Backside: Eroding head connections, pump socket, fuses, power cable

Two Unit Sizes - 400 V, EEC, Performance without Compromise



Type	LE 16	LE 30
Application	Small to medium eroding operations	Small to larger eroding operations
Switch Steps	5	6
For Electrode Ø	1 - 10	1 - 30
For Thread Ø	M2 - M20	M2 - M50
Controller Weight	28 kg	33 kg
Controller Dimensions	B490 H225 T310	B490 H225 T310
Electrical Connected Load	400V 50Hz 16A	400V 50Hz 16A
Eroding Power Display	Accessory	Standard
Order No.	100.160	100.300

Standard Configuration

- **Controller** LE 16 or LE 30
 - **Eroding Head** with supply-hose 3 m
 - **Coolant Pump**, self-priming, with suction hose and strainer
 - **Accessoires:** earth-cable, clamping nut key, splash guard bags, technical documentation
- Additional you need electrodes and associated collets for your requirements.

Collets and Electrodes

Which electrode Ø is needed?

Broken-off tools	Electrode Ø
tap	0,5 x thread Ø
twist drill	0,5-0,7 x drill Ø
reamer	0,5-0,7 x reamer Ø

Which type of electrode is correct?

Eroding material	Type of electrode
HSS / steel / non-ferrous metal	CU-electrode
hard metal	WK-electrode

Dimensions available from stock:

COLLETS	Ø 1/ 1,5/ 2/ 2,5/ 3/ 3,5/ 4/ 4,5/ 5/ 6/ 7/ 8/ 10/ 12	Order no. 102.010,.....,102.120
CU-ELECTRODES	Ø 1/ 1,5/ 2/ 2,5/ 3/ 3,5/ 4/ 4,5/ 5/ 6/ 7/ 8/ 10/ 12 Ø 14/ 16/ 18/ 20/ 22/ 25/ 30 → for collets Ø 10	Order no. 105.010,.....,105.120 Order no. 105.140,.....,105.300
WK-ELECTRODES	Ø 1/ 1,5/ 2/ 2,5/ 3/ 3,5/ 4/ 4,5/ 5/ 6/ 7/ 8/ 10/ 12	Order no. 107.010,.....,107.120

Peripheral Equipment

Tool Trolley ① Order no. 110.000

For quick, mobile application and everything is completely accommodated.

- Closed, partitioned box for electrodes, collets, accessories.
- Big storage place, eroding head holder.
- Suitable for all unit sizes.

Coolant Reservoir ② Order no. 120.000

30 litres, with handles and cover.

Test Lamp ③ Order no. 130.000

For illuminating of boreholes.
3,5 V halogen, 3 m power cable
(connector at the controller, standard)

Eroding Power Display ④ Order no. 150.000

For controller LE 16 (for LE 30 standard configuration).
Precise viewable eroding process. Particularly advantageous:

- By applications in CNC-machines.
- For deep eroding holes.

Erodinghead-Hose Extension Order no. 170.000

Quick assembling without tools.
Extensions the erodinghead-hose
to 6 m total length if required.



Magnetic Eroding Support Order no. 160.000

For eroding on-site.

- Horizontal, vertical, longitudinal- and angular adjustment.
- Fine eroding stroke 130 mm
- MK2-Attachment
(or parallel shank - Ø20)
- 2 High-Performance magnets for safe hold with lever for setting up and removing.

(Detailed information
you will find in
separate brochures)



Eroding Tables

Modular constructed and in this way flexible in execution, table size and equipment.

3 Executions:

- Eroding table **TS** with clamping plate.
Mainly for stationary use.
- Eroding table **TSG** with clamping plate.
Separate tool trolley.
For stationary and mobile use.
- Mobile eroding table **TM** without clamping plate.
For on-site use at big workpieces.

Variable Table Sizes:

Compact, for small workpieces or for bigger, heavier parts (standard: 1000 x 800).

Equipment:

- Vertical- and horizontal-columns with variable lengths. Manual axial adjustments or with motor, with additional fine adjustment mechanism by hand.
- Sleeve head turnable and tiltable if necessary.
- Eroding stroke with sleeve as gear rack stroke, spindle finestroke or with automatic feed.
- Eroding machine equipment LE 16 or LE 30 or LE 50.

(Detailed information about eroding tables and LE 30E you will find in separate brochures.)



TS



TSG



TM

KULLICK

Günther Kullick Gerätebau
Auf der Alm 11
(Gewerbegebiet Ichenheim)
D-77743 Neuried
Tel. +49(0)7807 / 9591 10
Fax +49(0)7807 / 9591 30
info@kullick-geraetebau.de
www.kullick-geraetebau.de

Alterations reserved
© Kullick