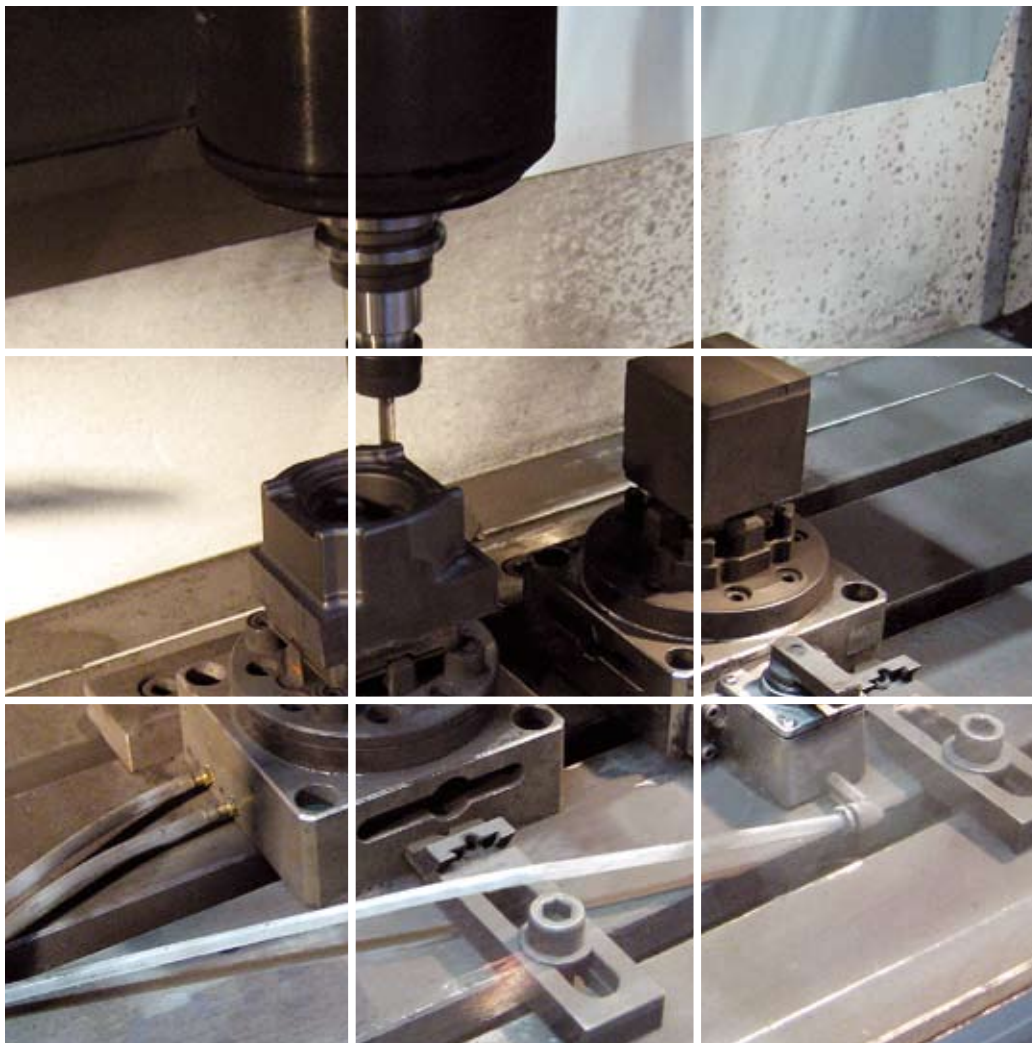


Reference systems for electrode manufacture
and die-sinking EDM.
The standard range.



A REFERENCE SYSTEM TAILORED

for modern EDM technology with automatic electrode changing and unmanned production.

The patented and compact MacroJunior system is intended mainly for small electrodes. Unlike other Macro systems, in MacroJunior the chuck, not the electrode holder, has positioning tongues. A design which means that the electrode holders can be supplied at a very attractive price.

The design with three reference points in the X-, Y- and Z-directions means that, despite any tolerance variations in the holder, the coupling repeats very accurately when it is locked with its screw connection.

Tests and calculations done by independent researchers and institutes have established that MacroJunior, despite its small size, offers greater torsional rigidity than other significantly larger and costlier systems on the market.

MacroJunior – small, but big enough for most electrodes.

*More compact than
any other system*

*Inexpensive
electrode holders
for good economy*

*Movable drawbar
eliminates
bending forces*

FACTS

Repetition accuracy
0.002 mm

Recommended tightening
torque, manual chucks,
4 Nm.

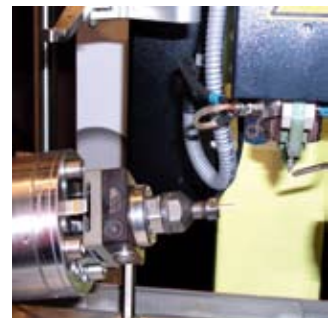
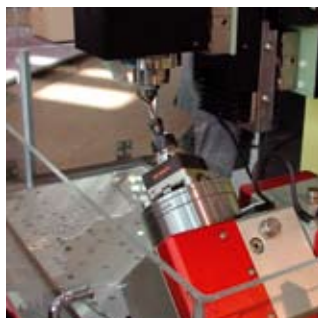
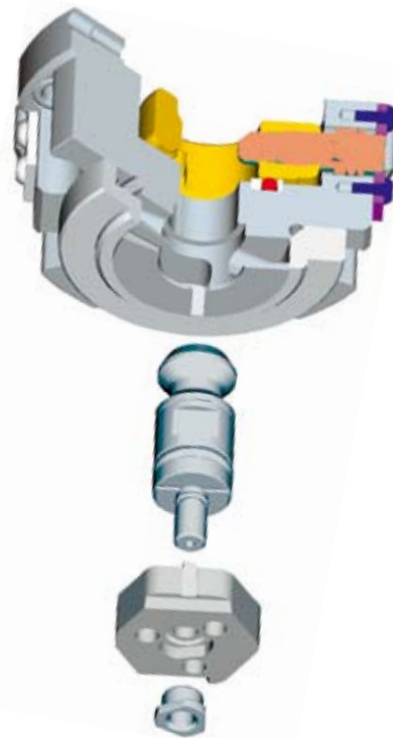
Permitted torque for
25 mm holder
10 Nm

Permitted torque for
30 mm holder
25 Nm

Maximum flushing pressure
15 bar*

Clamping force
5 000 N

**Manual chucks with axial
locking screw: 1 bar.*



OVERVIEW OF CHUCKS AND CHUCK ADAPTERS

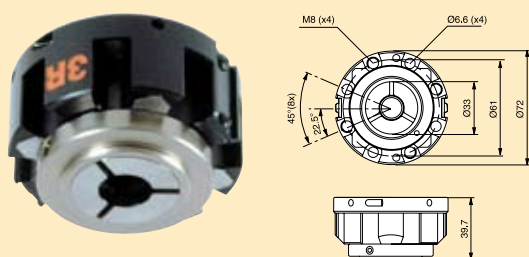
MacroJunior – spindle chucks				PAGE
MANUAL	3R-400.34			7
MANUAL	3R-400.24-11			7
PNEUMATIC AUTOMATIC / MANUAL	3R-410.1-M			8
MacroJunior – lathe chuck				
MANUAL	3R-400.32			8
MacroJunior – table chucks				
MANUAL	3R-400.34			7
MANUAL	3R-410.31-5	HP		8
MacroJunior – built-in chucks				
MANUAL	3R-400.34			7
MANUAL	3R-SP19143	RUST-RESISTANT		8
PNEUMATIC AUTOMATIC / MANUAL	3R-410.1-M			8
MacroJunior – chuck adapters				
MANUAL	3R-467.9-1	90°		8
MANUAL GATE CHUCK	3R-US90-400			8
MANUAL	3R-446.11	MACRO → MACROJUNIOR		17
MANUAL	3R-466.4033	MACRO → MACROJUNIOR		17
MANUAL	3R-466.4033-S	MACRO → MACROJUNIOR		17
MANUAL	3R-466.4033-XS	MACRO → MACROJUNIOR		17
MANUAL	3R-406.9	MACRO → MACROJUNIOR 90°		17
MANUAL	3R-466.10033	MACRO → MACROJUNIOR 100 mm		17
MANUAL	3R-466.15033	MACRO → MACROJUNIOR 150 mm		17
MANUAL	3R-443AEC	MINI → MACROJUNIOR 65 mm		66
MANUAL	3R-463/5033	MINI → MACROJUNIOR 50 mm		67



Manual chuck 3R-400.34

For mounting in the machine spindle by means of 3R-A11489, or on the machine table by means of 3R-A19724 or alternatively 3R-A21944, or in a fixture.

- Required drawbar 3R-405.11
- Fixed index positions 3x120°
- Weight 1.2 kg

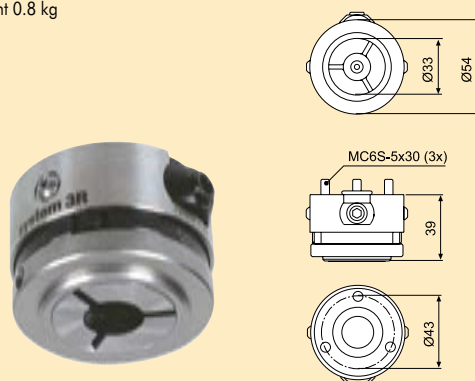


Manual chuck 3R-400.24-11

For mounting on machine spindle with 3R-SP15275.

Note: Adapter plate 3R-A15275 is manufactured to order.

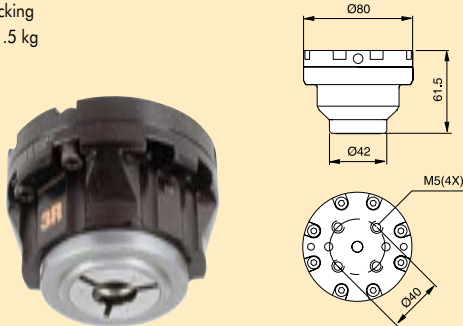
- Required drawbar 3R-405.11
- Fixed index positions 3x120°
- Weight 0.8 kg



Pneumatic chuck 3R-410.1-M

For mounting on the machine spindle or in a fixture on the machine table.

- Required drawbar 3R-405.11
- Required air pressure 6 ± 1 bar
- Fixed index positions $3 \times 120^\circ$
- Air-blast cleaning of Z-references
- Turbo locking
- Weight 1.5 kg

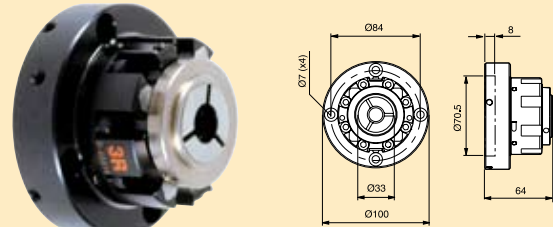


Manual lathe chuck 3R-400.32

For mounting on a lathe taper.

Note: When ordering a lathe taper, use the order form at the end of the catalogue.

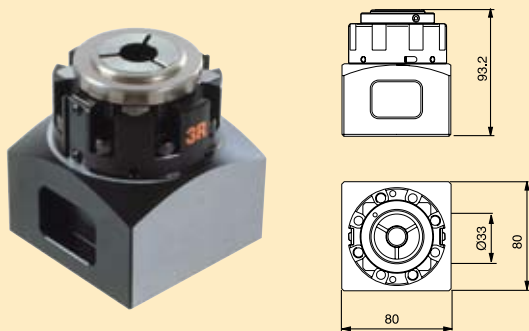
- Required drawbar 3R-405.11
- Fixed index positions $3 \times 120^\circ$
- Weight 2.3 kg



Manual chuck 3R-410.31-5

Chuck in High Performance version. Five ground surfaces for vertical or horizontal mounting on the machine table.

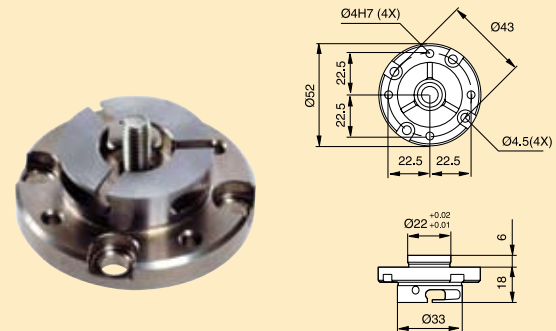
- Required drawbar 3R-405.11
- Fixed index positions $3 \times 120^\circ$
- Weight 3.5 kg



Manual chuck 3R-SP19143

Stainless steel chuck with ground flange $\text{Ø}22 \times 6$ mm for mounting in a fixture or the WEDM system. Axial locking screw with channel for flushing through the electrode.

- Fixed index positions $3 \times 120^\circ$
- Weight 0.8 kg

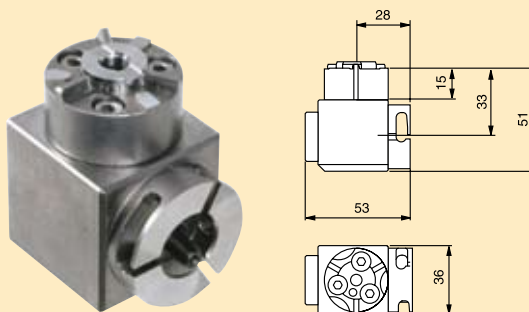


Manual chuck adapter 3R-467.9-1

For horizontal mounting of MacroJunior holders. Screw locking.

Note: For EDM machining only.

- Fixed index positions $3 \times 120^\circ$
- Weight 0.6 kg



Gate chuck 3R-US90-400

Fixed indexing positions at 0, 30, 45, 60 and 90 degrees. Other angles are set with a sine rule.



OVERVIEW OF HOLDERS

MacroJunior – holders

		PAGE
Ø25 mm	3R-491E	9
Ø25 mm WITHOUT GRIPPER STOP	3R-491E-MONDO	9
Ø25 mm PARALLEL-GROUND	3R-491E-HP	9
Ø26 mm PARALLEL-GROUND / JOURNAL Ø8.8 mm	3R-461-8.8-HP	10
Ø28 mm TAPP Ø10 mm	3R-461.1E-GA	9
Ø28 mm CONE	3R-465.1E-A	10
ELECTRODES Ø0.1-2 mm	3R-469-10	10
ELECTRODES Ø0.5-10 mm	3R-469-16	10
ELECTRODES Ø1-4 mm	3R-465-VE	10
ELECTRODES Ø4-8 mm	3R-465-LE	10
3READY-TO-RUN	3R-494-XXX	11

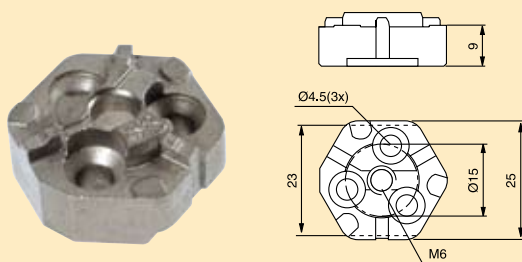


Holders 25 mm 3R-491E

For copper or graphite electrodes.

NOTE: The electrode is installed with screw and adhesive assembly, or alternatively brazing.

- Adapted for automatic changing
- Supplied in sets of 30



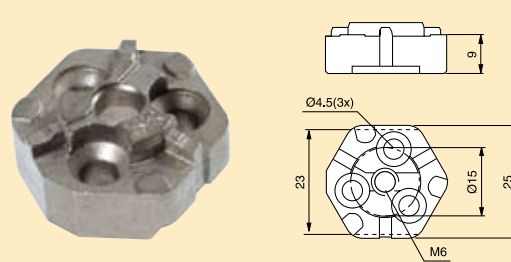
Holders 25 mm 3R-491E-Mondo

For copper or graphite electrodes.

NOTE: The electrode is installed with screw and adhesive assembly, or alternatively brazing.

NOTE: The holder does not have a gripper stop.

- Adapted for automatic changing
- Supplied in sets of 30

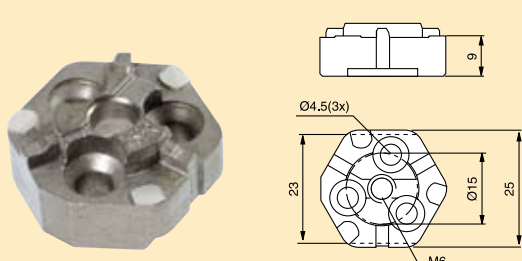


Ground holder 25 mm 3R-491E-HP

Top and bottom faces parallel-ground to within 0.002 mm.

NOTE: The electrode is installed with screw and adhesive assembly, or alternatively brazing.

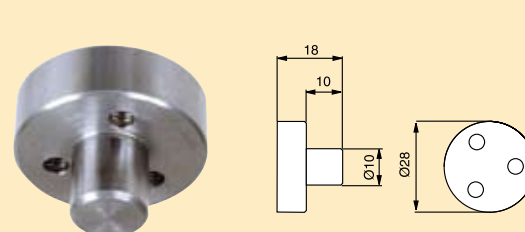
- Adapted for automatic changing
- Supplied in sets of 30



Holder with journal 3R-461.1E-GA

Journal Ø10x10 mm. Intended mainly for graphite electrodes. To be mounted on 3R-491E with three M4 screws and adhesive.

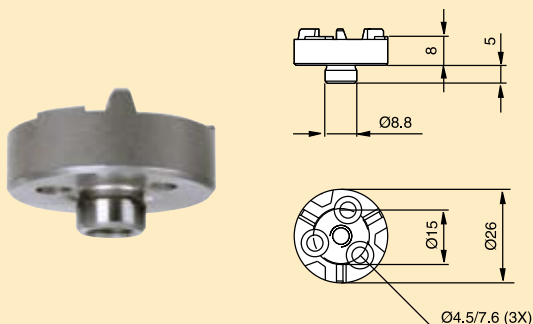
- Supplied in sets of 30



Holder 25 mm 3R-461-8.8-HP

Upper and lower faces ground parallel within 0.002 mm.
Locating pin Ø8.8 mm (0/0.05 mm).

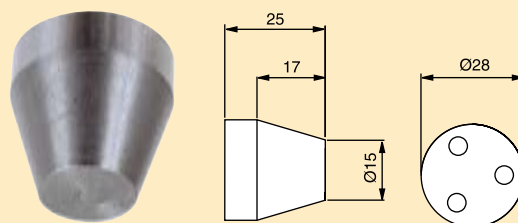
- Not intended for automatic changing
- Supplied singly



✓ Holder with taper 3R-465.1E-A

The taper is machined suitably for attaching very small electrodes. To be mounted on 3R-491E with three screws MFT 4x12.

- Supplied in sets of 30



Collet chucks

3R-469-10

- ETS10
- Electrode sizes 0.1-2 mm
- Building-in height 43 mm
- Weight 0.1 kg

3R-469-16

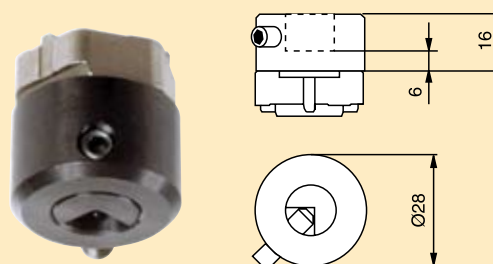
- ER16
- Electrode sizes 0.5-10 mm
- Building-in height 50 mm
- Weight 0.2 kg



Holder 3R-465-VE

For small electrodes Ø1-4 mm, maximum height 30 mm.

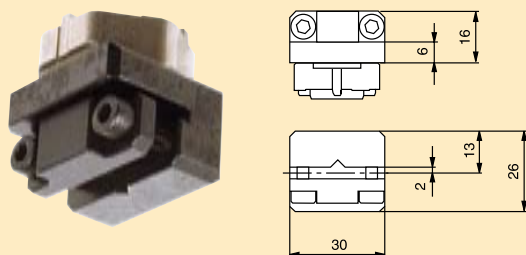
- Supplied in sets of five



Holder 3R-465-LE

For round electrodes Ø4-8 mm or square < 8x18 mm,
and with maximum height 30 mm.

- Supplied in sets of five





3Ready-to-Run 3R-494-XXX

The stock range is matched to local preferences and ways of working. This applies to electrode materials, different grades of graphite and copper, and to dimensions. Contact your local 3R representative for further information.

The Vällingby factory can supply holders with factory-mounted copper blanks in sets of ten, as shown in the table.

Article number

Dimensions

3R-494-D10x50	Round blank Ø10x50 mm
3R-494-D12x50	Round blank Ø12x50 mm
3R-494-D16x50	Round blank Ø16x50 mm
3R-494-D22x50	Round blank Ø22x50 mm
3R-494-D26x50	Round blank Ø26x50 mm
3R-494-D32x50	Round blank Ø32x50 mm
3R-494-D40x50	Round blank Ø40x50 mm
3R-494-D50x50	Round blank Ø50x50 mm
3R-494-S12x50	Square blank 12x12x50 mm
3R-494-S22x50	Square blank 22x22x50 mm
3R-494-S26x50	Square blank 26x26x50 mm
3R-494-S32x50	Square blank 32x32x50 mm
3R-494-S40x50	Square blank 40x40x50 mm
3R-494-32x22x50	Square blank 32x22x50 mm
3R-494-40x22x50	Square blank 40x22x50 mm



Drawbar 3R-405.11E

Drawbar Ø15 mm to mount MacroJunior holders in chucks 3R-400.XX and 3R-460.XX.

- Supplied in sets of ten



Check rulers 3R-406.11

For setting angular positions and for centring.

- Measuring length 60 mm



Check mandrel 3R-406.23

Check mandrel with ground C-reference.

- Measuring length 50 mm
- Weight 0.6 kg



Microscope 3R-4.450

- Magnification x25
- Field of view Ø4 mm
- Weight 0.6 kg



Fixed measuring probes

3R-US400.3

For machines with measurement cycle function.

- Measuring ball Ø3 mm
- Overall length 103 mm
- Weight 0.6 kg



3R-US400.5

For machines with measurement cycle function.

- Measuring ball Ø5 mm
- Overall length 103 mm
- Weight 0.6 kg



Plate 5.5 mm 3R-SP19270

Used in combination with 3R-491E when electrode blanks are mounted with adhesive and screw. Permits mounting in MacroCombi chucks.

- Supplied in sets of 30



Plate 10 mm 3R-SP19269

Used in combination with 3R-491E when soldering round (<50 mm) or square (<40 mm) copper blanks. Permits mounting in MacroCombi chucks.

- Supplied in sets of 30





Self-tapping TORX screws 3R-PI4.5x14E

For mounting electrode blanks.

- Length 14 mm
- Supplied in sets of 100



Self-tapping TORX screws 3R-PI4.5x20E

For mounting electrode blanks.

- Length 20 mm
- Supplied in sets of 100



TORX screwdriver 3R-333-T20



TORX screws M4 3R-MFT4x12E

For mounting electrode blanks.

- Length 12 mm
- Supplied in sets of 100, including a TORX screwdriver



Soldering kit 3R-404-25

For soldering electrode blanks on 3R-491E.
Supplied with flux.

- Supplied in sets of 100



Cassette insert 3R-650/8-JR

For storing MacroJunior holders in 3R-650/8x5 and 3R-150/5.

- Supplied in sets of eight



Ring with code carrier 3R-863.25-10

With pre-programmed unique identity, designed for MacroJunior 25 mm.

- Supplied in sets of 10



Ring with code carrier 3R-863.30-10

With pre-programmed unique identity, designed for 3Ready-to-Run.

- Supplied in sets of 10



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system 3R the Pioneer

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