Mini

The ancestor of the reference systems! The introduction of the Mini system in the early 1970s created the basis for efficient electrode production and spark-erosion machining. Electrodes could now be produced mounted on inexpensive holders. Subsequent alignment of the electrodes in the spark-erosion machine was eliminated. The Mini system introduced the precision and flexibility that had until then been absent from spark erosion technology.

Our Mini system provides rapid and exact mounting of electrode holders in hydraulic quick-change chucks. High change accuracy is achieved thanks to the hydraulic system's two chambers. These expand uniformly and provide symmetrical locking against the angularly located, fixed Z-reference.

The Mini system is a "reverse reference system" in which the chuck adapts itself to the electrode holder. This is why, to meet accuracy requirements, all electrode holders must be exactly alike (diameter, roundness, straightness and hardness).

Even today, the Mini system is probably the most widespread reference system in the world.

- Clamping force 4,000 N

ADVANTAGES

- Reduces set-up times
- Gives rapid and precise mounting
- Is suitable for automatic changing with System 3R's automation program

Mini – Chucks

UPGRADE OPTIONS

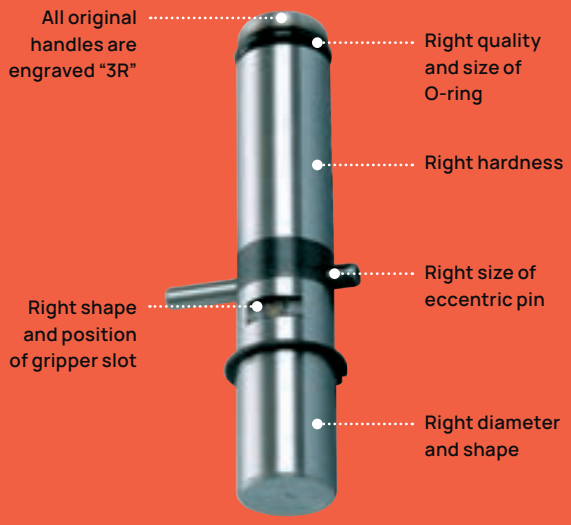
Midi-Mini

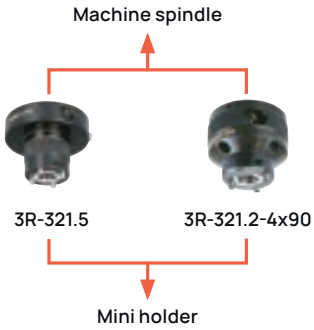
Conversion – Macro/Mini

Adapter – Macro/Mini

Note: Warranty undertakings only apply if genuine System 3R parts have been used.

What distinguishes originals from pirate copies?





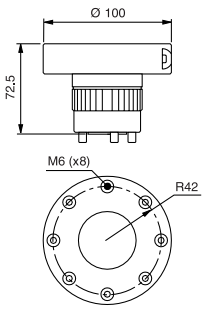
Spindle chucks	Article number	Feature
Manual	3R-321.5	Midi → Mini
Manual	3R-321-4x90	

Lathe chuck	Article number	Feature
Manual	3R-321.2-4x90°	

Manual chuck, 3R-321.5

Hydraulic chuck for mounting on machine spindle with 3R-A3620.

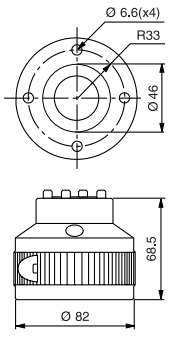
- Fixed index positions 4x90°
- Flushing connection
- Weight 1.8 kg.



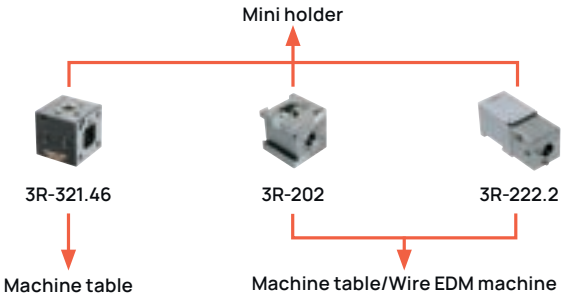
Manual lathe chuck, 3R-321.2-4x90°

Hydraulic chuck with set screws, for mounting on a lathe taper.

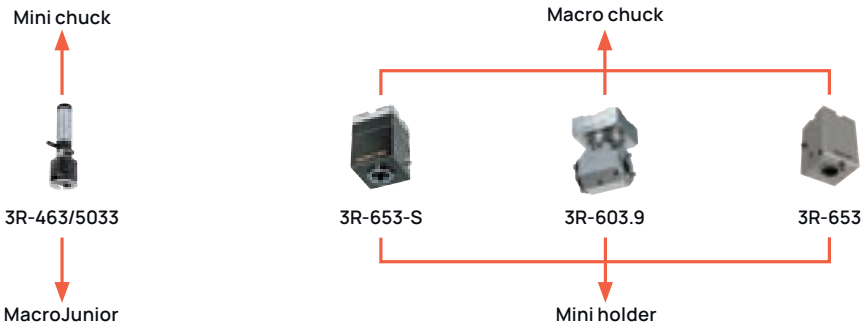
- Fixed index positions 4x90°
- Weight 1.3 kg.



Mini – Table chucks, chuck adapters & rotating spindle



Chuck adapters	Article number	Feature
Manual	3R-321.46	vertical and horizontal
Manual wire EDM	3R-202	Stainless steel. Vertical and horizontal
Manual wire EDM	3R-653-S	Macro → Mini



Chuck adapters	Article number	Feature
Manual	3R-463/5033	Mini → MacroJunior 50 mm
Manual	3R-603.9	Macro → Mini 90°, rust resistant
Manual	3R-653	Macro → Mini, rust resistant
Manual	3R-653-S	Macro → Mini

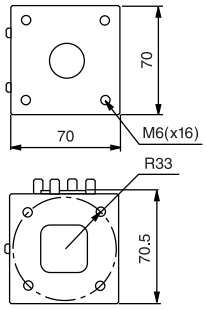
Rotating spindle	Article number	Feature
Vertical	3R-1.321-HS	tubular electrodes

Mini – Table chucks, chuck adapters & rotating spindle

MiniBlock, 3R-321.46

Manual hydraulic chuck for vertical or horizontal mounting on machine table.

- Fixed index positions 4x90°
- Weight 2.3 kg.

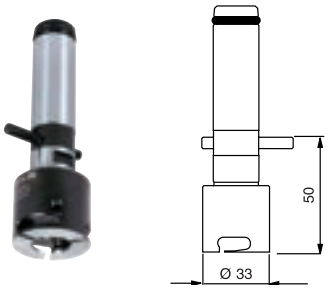


Manual chuck adapter, Mini-MacroJunior, 3R-463/5033

For mounting MacroJunior holders in the Mini system. Axial locking screw with channel for flushing through the electrode.

NOTE: **For EDM machining only.**

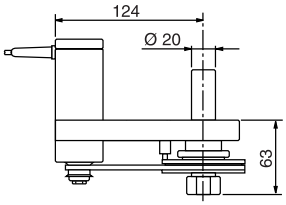
- Adapted for automatic changing
- Fixed index positions 3x120°
- Weight 0.8 kg.

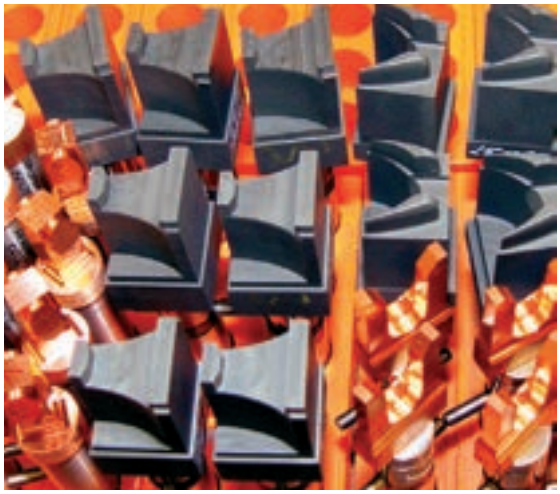


Rotating spindle, 3R-1.321-HS

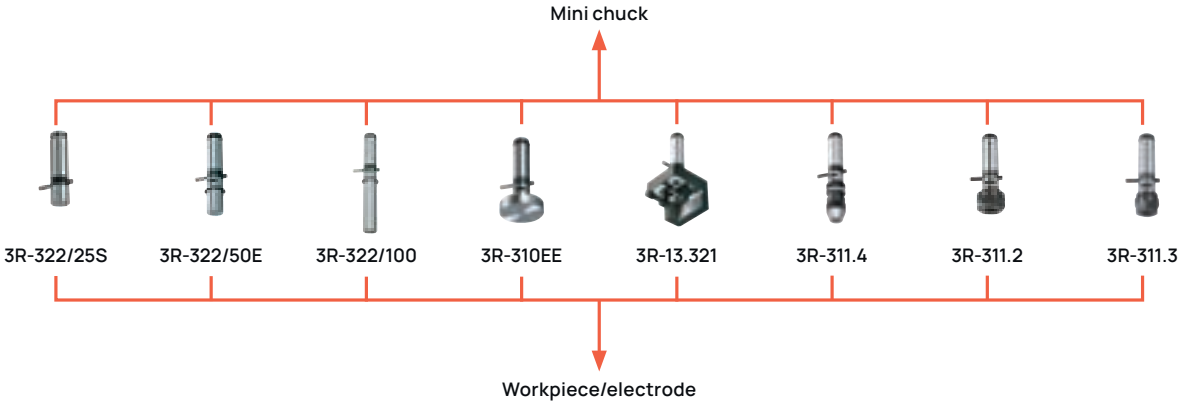
Electric spindle for tubular electrodes in ER16 collets.

- Supplied with collet set 3R-ER16E
- Electrode sizes Ø 0.5 – 10 mm
- Speed range 200 – 2,000 rpm
- Recommended maximum flushing pressure 1 bar (dynamic/rotating)
- Recommended maximum flushing pressure 10 bars (static/idle)
- Weight 1.4 kg.





Mini – Electrode holders



Electrode holder	Article number	Feature
Electrode holder Ø 20 mm	3R-322/25S	25 mm
Electrode holder Ø 20 mm	3R-322/50E	50 mm, automatic changing
Electrode holder Ø 20 mm	3R-322/100	100 mm, automatic changing
Electrode holder	3R-310EE	flange Ø 50 mm
Electrode holder	3R-13.321	square electrodes
Three-jaw chuck	3R-311.4	Ø 0.3 - 3 mm
Collet chuck	3R-311.2	< Ø 13 mm, ER20
Collet chuck	3R-311.3	< Ø 10 mm, ER16

Electrode holder Ø 20 mm

Holder with hardened reference part and unhardened electrode mounting part.

3R-322/25S

- Electrode mounting part 25 mm
- Flushing duct
- Supplied in sets of 30
- Weight per set 7 kg.

3R-322/50E

- Adapted for automatic changing
- Electrode mounting part 50 mm
- Flushing duct
- Supplied in sets of 30
- Weight per set 7.7 kg.

3R-322/100

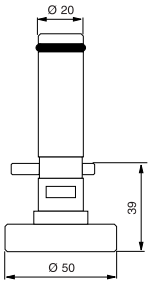
- Adapted for automatic changing
- Electrode mounting part 100 mm
- Flushing duct
- Supplied in sets of 10
- Weight per set 3.8 kg.

Mini – Electrode holders & accessories

Electrode holder, 3R-310EE

Holder with hardened reference part Ø 20 mm and unhardened flange Ø 50 mm.

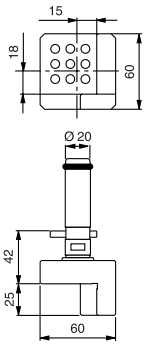
- Adapted for automatic changing
- Electrode mounting part 39 mm
- Flushing duct
- Supplied in sets of 10
- Weight per set 4 kg.



Electrode holder, 3R-13.321

Holder with hardened reference part Ø 20 mm for mounting square and flat electrodes.

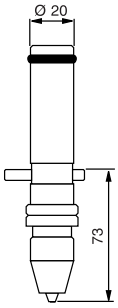
- Max. workpiece 32x28 mm
- Adapted for automatic changing
- Flushing duct
- Weight 1 kg.



Three-jaw chuck, 3R-311.4

Chuck Ø20 mm for Ø0.3-3 mm electrodes.

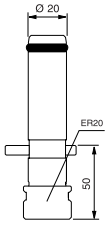
- Adapted for automatic changing
- Weight 0.3 kg.



Collet chuck ER20, 3R-311.2

Chuck Ø20 mm for collets ER20 with electrodes < Ø13 mm.

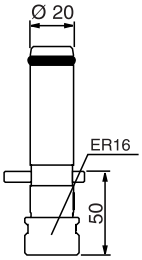
- Adapted for automatic changing
- Weight 0.2 kg.



Collet chuck ER16, 3R-311.3

Chuck Ø20 mm for collets ER16 with electrodes < Ø10 mm.

- Adapted for automatic changing
- Weight 0.2 kg.



Check mandrel, 3R-23

Ground C-reference.

- Measuring length 100 mm
- Weight 0.6 kg.

Mini – Accessories

Check ruler, 3R-314.2

For setting angular positions.

- Measuring length 96 mm
- Weight 0.4 kg.

Indicating spindle, 3R-3.321-2

For measuring centre holes.

- Dial indicator required
- Weight 0.4 kg.

Clip, 3R-301

For angular fixing of Mini holders.

- Supplied in sets of 10.

Electrode cassette, 3R-150/5

For Mini holder x30.

- Supplied in sets of 5.