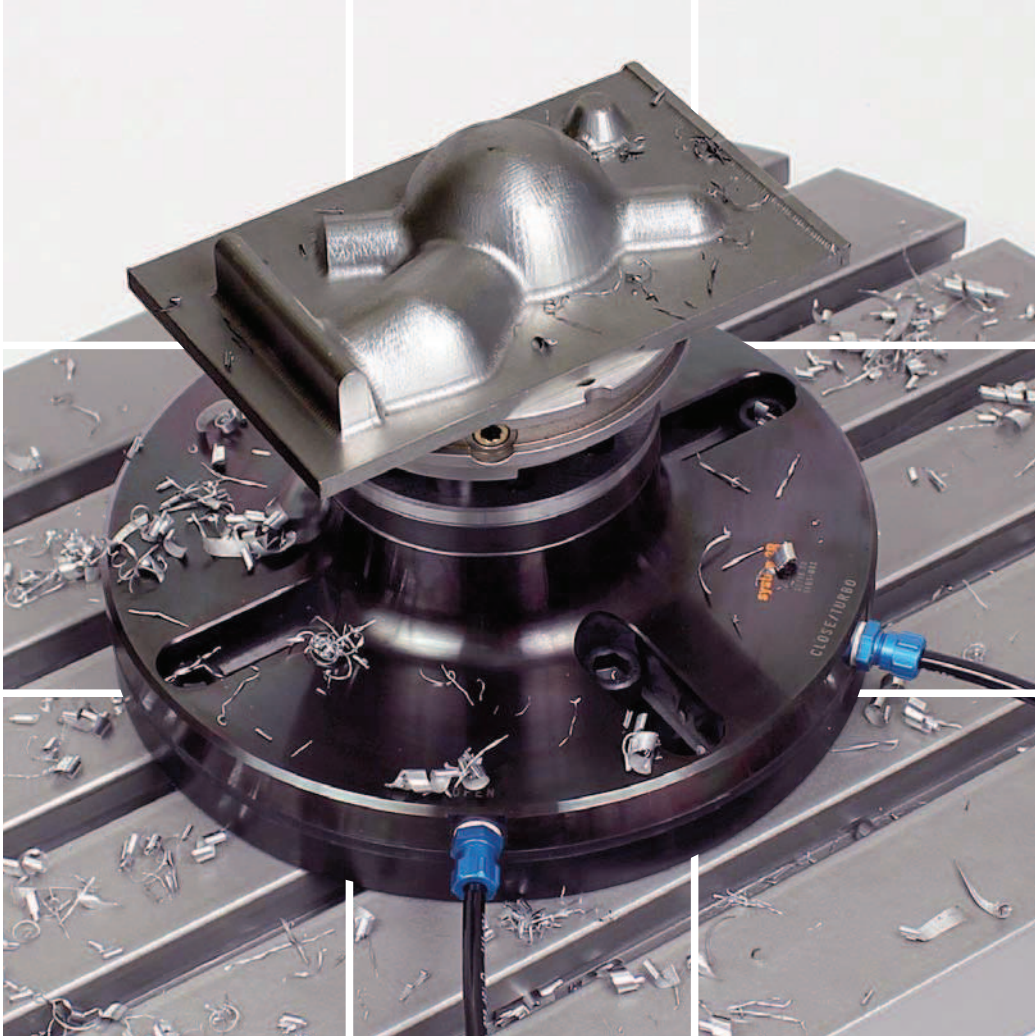
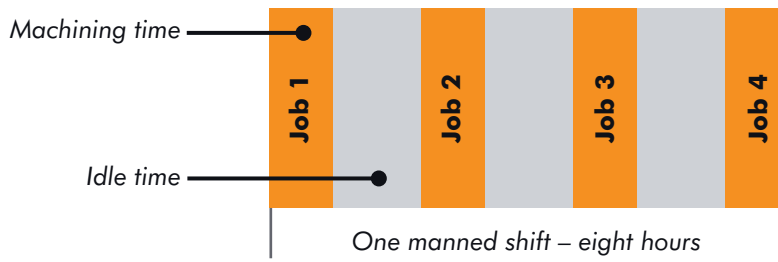


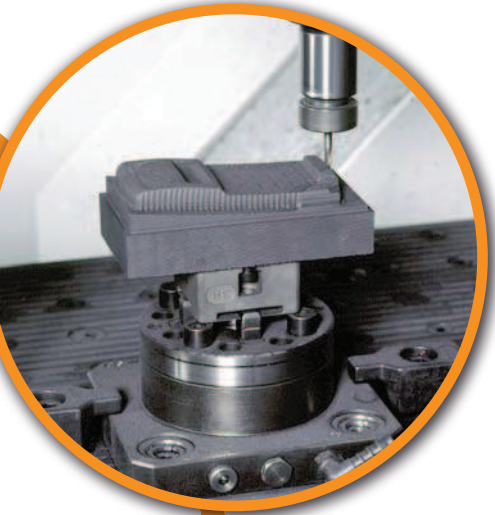
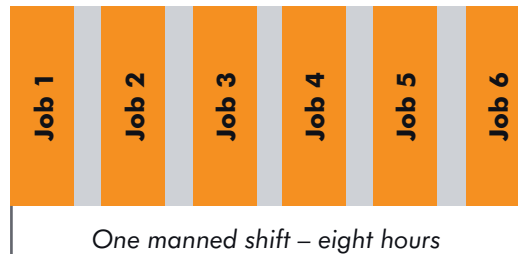
Reference systems for precision machining



Conventional setting-up



Pallet system



Higher productivity, calculation example:

	Conventional setting-up	Pallet system
Working time per day	8	8
Setting-up time per day (hours)	-4	-0.5
Spindle time per day	=4	=7.5
Working days per week	x5	x5
Spindle time per week	= 20	=37.5

Faster payback, calculation example:

	Conventional setting-up	Pallet system
Hourly invoicing (€)	50	50
Spindle time / week (hours)	x20	x37.5
Revenue / week (€)	=1 000	=1 875
Capital cost of machine (€)	150 000	150 000
Capital cost pallet system (€)	0	+10 000
Total capital outlay (€)	=150 000	=160 000
Paybacktime (weeks)	150	85



A reference system minimises setup times

Every minute that can be converted from internal to external setting time increases the spindle time of the machine and with it the productivity of the business.

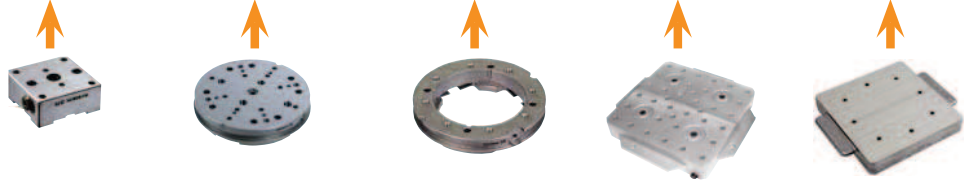
Big earnings are within your reach

The machine generates revenue when its spindle is turning – and only then.

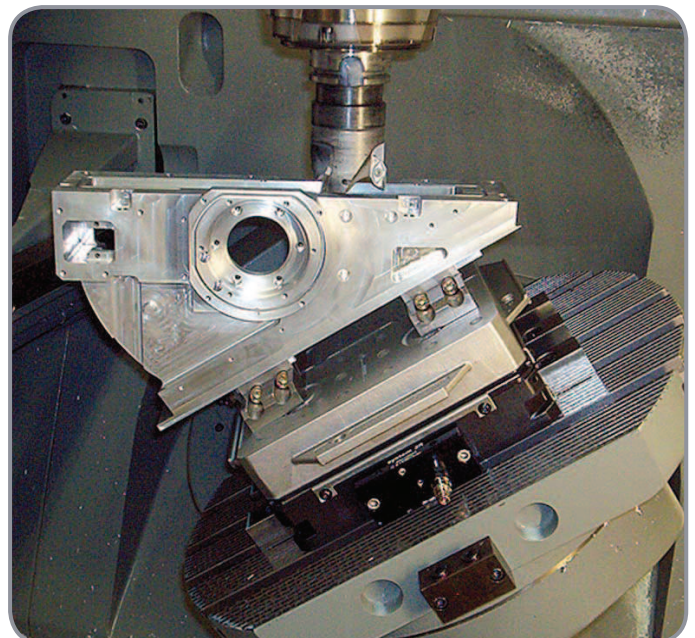
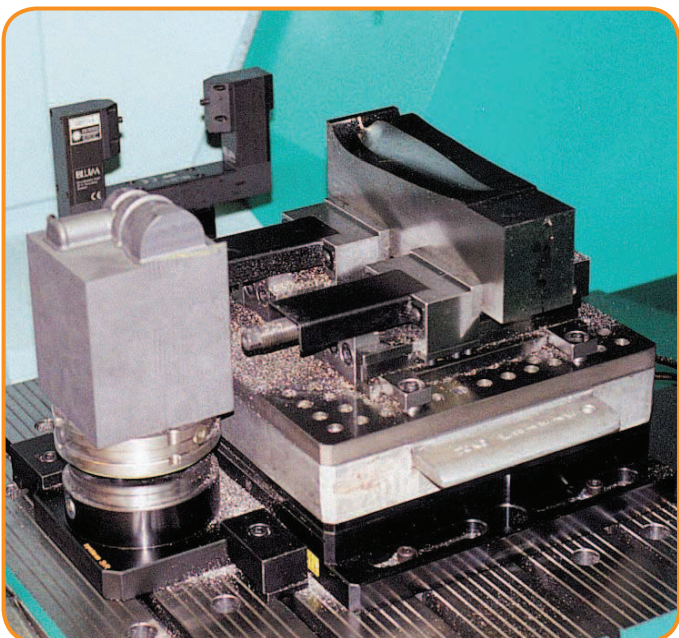
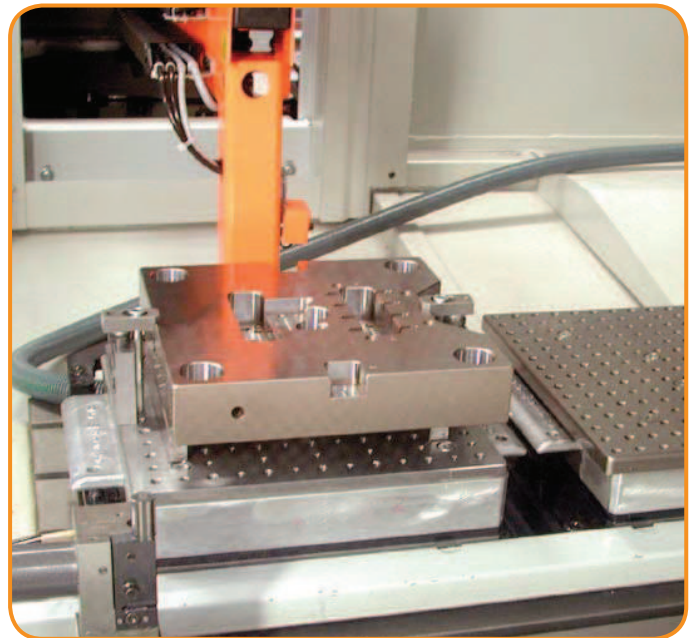
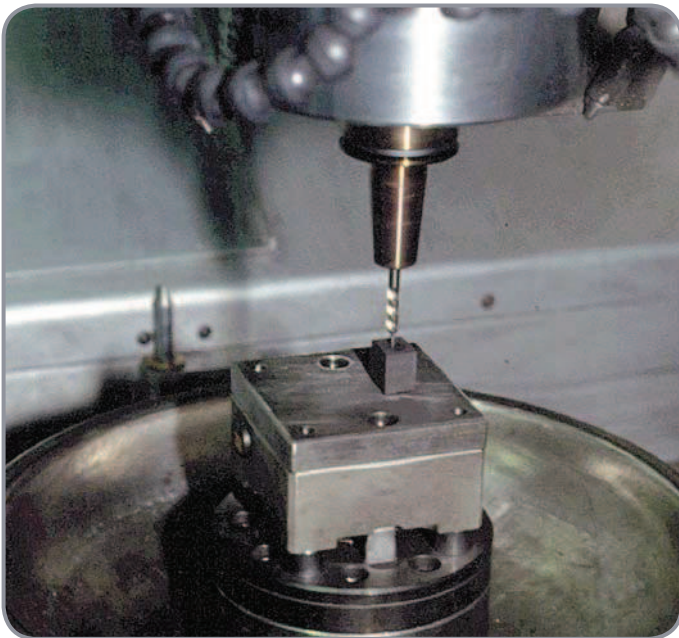
Work smarter, not harder.

Introduction – Rough guidance to tooling

Intervall of pallet size (mm)	Reference system / max workpiece weight kg				
	Macro	MacroMagnum	Matrix	GPS240	Dynafix
∅52-54	5 kg	5 kg			
∅54-∅75	10 kg	10 kg			
∅110-116	50 kg	50 kg	50 kg		
∅142-185	50 kg	100 kg	100 kg		
∅220-260		100 kg	200 kg	100 kg	
∅280-400					250 kg



Above list is only a rough guidance which may deviate between article number of pallets as well as individual application. Please check with local 3R representative for more detailed confirmation.



Macro

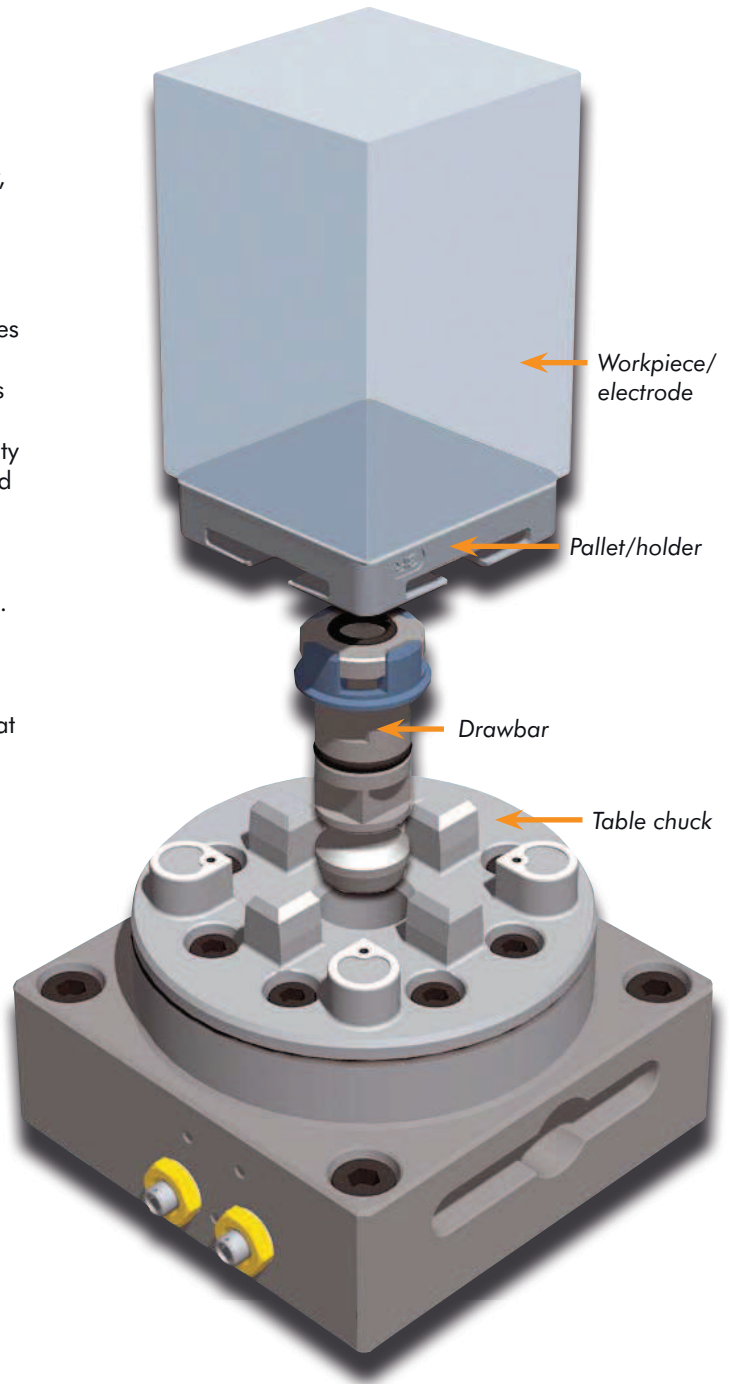
- ... reduces setting-up times.
- ... ensures precision and quality.
- ... has automatic air-blast cleaning of the references in the pneumatic chucks.
- ... has higher locking force in the pneumatic chucks – turbo locking.
- ... has references of cemented carbide or hardened ground steel.
- ... is suitable for automatic changing with System 3R's automation program.

If you want to compete in the global manufacturing industry, you need to study every aspect of efficiency. It's a matter of extracting the highest possible number of spindle-hours from each machine, every day of the week. And here, the importance of a high-class reference system can never be over-estimated. A reference system which reduces setup times to a few minutes.

Macro is such a reference system. A system that minimises the throughput time, and which, thanks to its accuracy, practically eliminates rejects. A system that increases flexibility and profitability. A system that increases competitiveness and ensures the success of its users.

Among users world wide, the Macro system is a byword for precision. And with good reason, since very single Macro product is thoroughly checked before it is dispatched. But precision can be graded too. The Macro products are therefore "classified" in terms of accuracy, material and life – but always with full compatibility – as Standard, High Performance and Nano. Even so, it's worth remembering that the accuracy of a system is determined by the product with the lowest classification.

- Repetition accuracy:
 - MacroNano – within 0.001 mm
 - MacroHighPerformance – within 0.0015 mm
 - MacroStandard – within 0.002 mm
- Locking force – 6000 N
- Fixed index positions 4x90°
- Required air pressure, pneumatic chuck – 6 ± 1 bar
- Recommended tightening torque, manual chuck – 6 Nm
- Recommended max workpiece weight – 50 kg.



Macro – Chucks

Lathe chucks	Article number	Drawbar	Feature
Manual Std	3R-600.22	3R-605.2	Mounting flange
Manual HP	3R-600.20	3R-605.1 / 3R-605.4	Carbide references, 4 Nm
Pneumatic Std	3R-600.1-30	3R-605.1 / 3R-605.4	

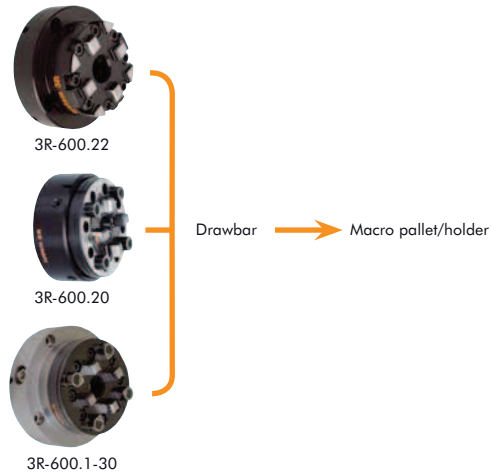
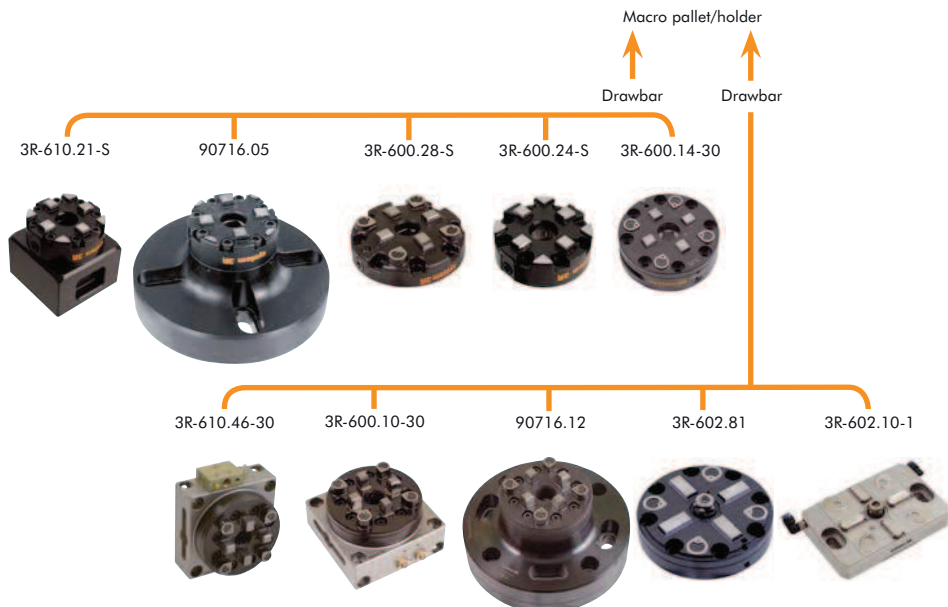


Table chucks	Article number	Drawbar	Feature
Manual Std	3R-610.21-S	3R-605.2	horizontal and vertical, 6 Nm
Manual Std	90716.05	3R-605.2	vibration-damped, 6 Nm, Ø75 mm
Manual VDP	3R-600.28-S	3R-605.2	low profile, 6 Nm, Ø100 mm
Manual Std	3R-600.24-S	3R-605.2	6 Nm, Ø75 mm
Pneumatic Std	3R-610.46-30	3R-605.1 / 3R-605.4	horizontal and vertical
Pneumatic Std	3R-600.10-30	3R-605.1 / 3R-605.4	
Pneumatic Std	3R-600.14-30	3R-605.2	low profile
Pneumatic HP	3R-610.19	3R-605.1 / 3R-605.4	horizontal and vertical. 3Rrefix Ø20
Pneumatic VDP	90716.12	3R-605.1 / 3R-605.4	vibration-damped
Pneumatic Std	3R-602.81	3R-605.10	low profile
Pneumatic HP	3R-602.10-1	3R-605.10	rust-resistant

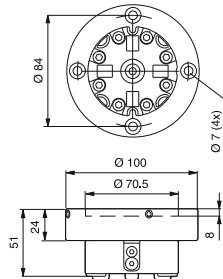


Macro – Chucks

Manual lathe chuck, MacroStd 3R-600.22

With setting screws for centring

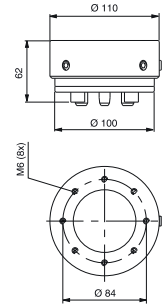
- Required drawbar 3R-605.2
- Fixed index positions 4x90°
- Weight 2.1 kg



Manual chuck, MacroHP 3R-600.20

For mounting on the machine spindle with 3R-A3620 or on a lathe taper with centring ring 3R-612.6.

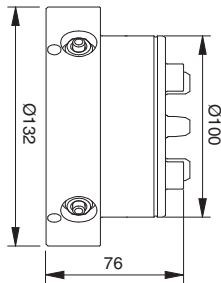
- Required drawbar 3R-605.1 or 3R-605.4
- Fixed index positions 4x90°
- Tightening torque 4 Nm
- Weight 3.6 kg



Pneumatic chuck, MacroStd 3R-600.1-30

Pneumatic chuck for permanent mounting on the machine spindle or onto the machine table.

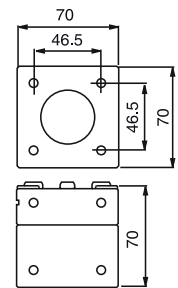
- Required drawbar 3R-605.1
- Fixed index positions 4x90°
- Turbo locking
- Weight 4 kg



Manual chuck, MacroStd 3R-610.21

Three ground faces for vertical or horizontal mounting on the machine table.

- Required drawbar 3R-605.2
- Fixed index positions 4x90°
- Flushing duct
- Weight 2.2 kg



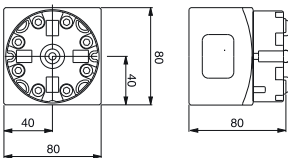
Manual chuck, MacroStd 3R-610.21-S

Two ground faces for vertical or horizontal mounting on the machine table.

- Required drawbar 3R-605.2
- Fixed index positions 4x90°
- Flushing duct
- Weight 3.5 kg

90842

- Required drawbar 3R-605.1, otherwise as 3R-610.21-S

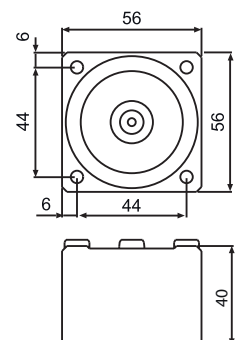


Except 90842

Pneumatic chuck, MacroHP 3R-600.15-3

Pneumatic chuck for permanent mounting on the machine table.

- Drawbar 3R-605.2RS included
- Required air pressure 6±1 bar
- Fixed index positions 4x90°
- Rust resistant
- Weight 0.8 kg

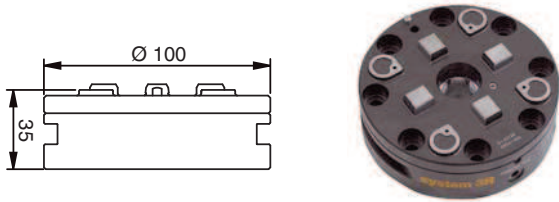


Macro – Chucks

Pneumatic chuck (low profile), MacroStd 3R-600.14-30

Pneumatic chuck for permanent mounting on the machine table.

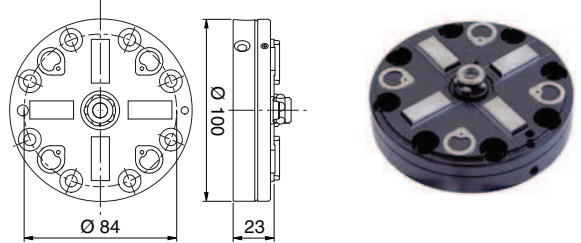
- Required drawbar 3R-605.2
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Weight 2 kg



Pneumatic chuck (low profile), MacroStd 3R-602.81

Pneumatic chuck for permanent mounting on the machine table.

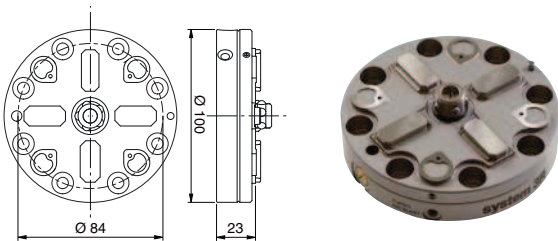
- Required drawbar 3R-605.10
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Weight 1 kg



Pneumatic chuck (low profile), MacroHP 3R-602.81RS

Pneumatic chuck for permanent mounting on the machine table.

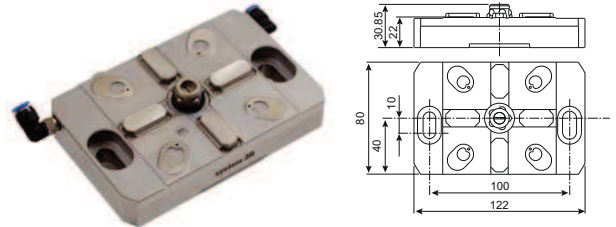
- Required drawbar 3R-605.10
- Clamping force 6000 N
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of Z-references
- Rust resistant
- Weight 1 kg



Pneumatic chuck, MacroHP 3R-602.10-1

Pneumatic chuck for Macro holders. Supplied with drawbar 3R-605.10 and protective cover.

- Clamping force 7000 N
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of Z-references
- Weight 1.0 kg



Pneumatic table chuck, VDP 3R-602.10-V

Pneumatic vibration-damped chuck, low-profile version.

- Required drawbar 3R-605.10
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of the Z-references
- Turbo locking

VDP[®]



Pneumatic table chuck, VDP 90716.09

Pneumatic vibration-damped chuck.

- Required drawbar 3R-605.1 or 3R-605.4
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of the Z-references
- Turbo locking
- Weight 6 kg

VDP[®]

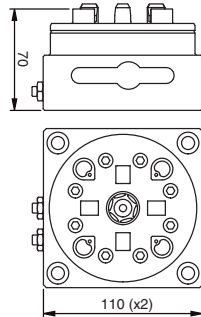


Macro – Chucks

Pneumatic table chuck, MacroStd 3R-600.10-30

Pneumatic chuck locked/opened with air gun.

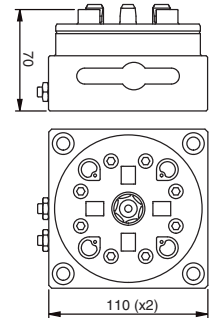
- Required drawbar 3R-605.1 or 3R-605.4
- All references of hardened and ground steel
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of the Z-references
- Turbo locking
- Weight 4.4 kg



Pneumatic chuck, MacroHP 3R-600.10-3

Pneumatic chuck locked/opened with air gun.

- Required drawbar 3R-605.1 or 3R-605.4
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of the Z-references
- Carbide XY-References
- Turbo locking
- Weight 4.4 kg

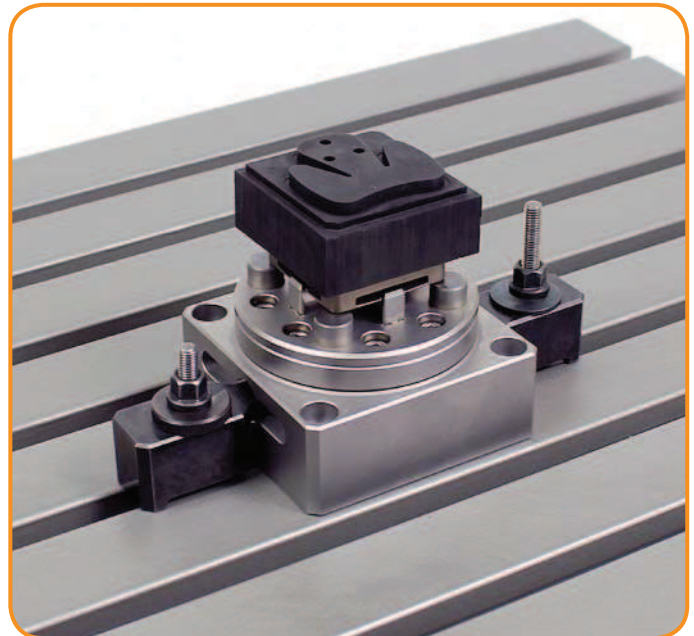
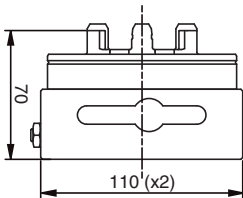


Pneumatic table chuck, MacroStd 3R-600.10-31

Pneumatic chuck locked/opened with air gun.

Note: For debris guard 3R-SP27962.

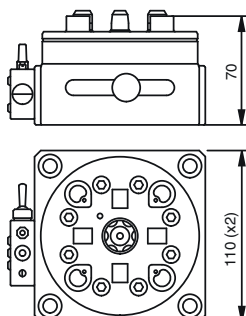
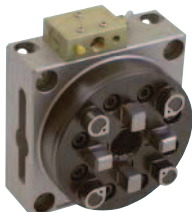
- Required drawbar 3R-605.1 or 3R-605.4
- All references of hardened and ground steel
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of the Z-references
- Turbo locking
- Weight 4.4 kg



Pneumatic chuck, MacroStd 3R-610.46-30

Pneumatic chuck for horizontal or vertical use.

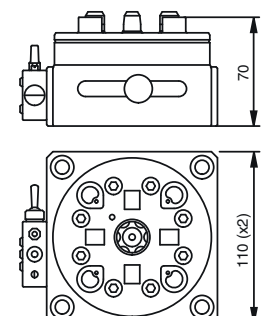
- Required drawbar 3R-605.1 or 3R-605.4
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Air unit included
- Weight 4.4 kg



Pneumatic table chuck, MacroHP 3R-610.46-3

Pneumatic chuck for horizontal or vertical use.

- Required drawbar 3R-605.1 or 3R-605.4
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Air unit included
- References of cemented carbide
- Weight 4.4 kg

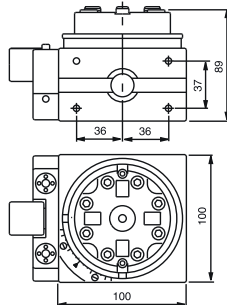


Macro – Chucks

Manual 3R block, MacroStd 3R-610.4

For vertical or horizontal mounting on the machine table.

- Required drawbar 3R-605.2
- Fixed index positions 24x15°
- Vernier scale
- Weight 5.5 kg



Pneumatic table chuck, VDP 90716.12



Pneumatic vibration-damped chuck.

- Required drawbar 3R-605.1 or 3R-605.4
- Required air pressure 6 ± 1 bar
- Fixed index positions 4x90°
- Air-blast cleaning of the Z-references
- Turbo locking
- Weight 6 kg



Manual table chuck, VDP 90716.05



Manual vibration-damped chuck, $\varnothing 170$ mm.

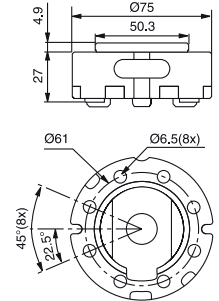
- Required drawbar 3R-605.2
- Building-in height 85 mm.
- Centre spacing 63 to 100 mm
- Weight 6 kg



Manual chuck, MacroStd 3R-600.23-S

Cast chuck with mounting flange for mounting on the machine spindle or in a fixture, alternatively 3R-A19724, on the machine table.

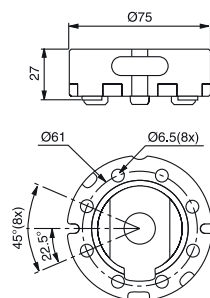
- Required drawbar 3R-605.2
- Fixed index positions 4x90°
- Flushing connection
- Weight 0,7 kg



Manual chuck, MacroStd 3R-600.24-S

Cast chuck with ground back face for mounting on the machine spindle with 3R-A11489 or in a fixture on the machine table.

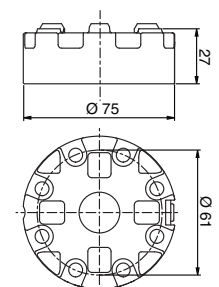
- Required drawbar 3R-605.2
- Fixed index positions 4x90°
- Flushing connection
- Weight 0,7 kg



Manual chuck, MacroHP 3R-600.24RS

Manual chuck for Macro holder. Designed for permanent mounting.

- Tightening torque 6 Nm
- Required drawbar 3R-605.2RS
- Rustresistant
- Fixed index positions 4x90°
- Weight 0.7 kg



Macro – Chucks

Pneumatic chuck, MacroStd 90412.1X

Pneumatic chuck with built-on surface-mounted swivel. Intended for B-axes and similar. Air connection from the side. For further information contact System 3R.

- Required drawbar 3R-605.1
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Turbo locking



Pneumatic chuck, MacroHP 90412.2X

Pneumatic chuck with integral swivel at the rear. Intended for B-axes and similar. Air connection from the rear. For further information contact System 3R.

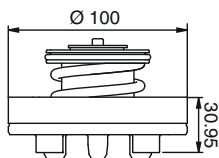
- Required drawbar 3R-605.1
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Turbo locking



Pneumatic chuck, MacroStd 3R-SP24460

Pneumatic chuck for building-in, for example in a fixture, dividing head or B-axis.

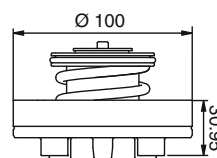
- Required drawbar 3R-605.1 or 3R-605.4
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of Z-references
- Turbo locking
- Weight 1.8 kg



Pneumatic built-in chuck, MacroHP 3R-SP26771-RS

Chuck for Macro holder. For permanent mounting on the machine spindle or fixture

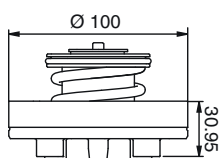
- Clamping force 6000 N
- Required drawbar 3R-605.1RS
- Fixed index positions $4 \times 90^\circ$
- Weight 2 kg



Pneumatic chuck, MacroHP 3R-SP26771

Pneumatic chuck for building-in, for example in a fixture, dividing head or B-axis.

- Required drawbar 3R-605.1 or 3R-605.4
- Required air pressure 6 ± 1 bar
- References of cemented carbide
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of Z-references
- Turbo locking
- Weight 1.8 kg



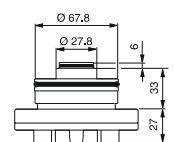
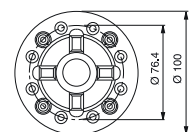
Pneumatic chucks, MacroHP 3R-SP7359

Pneumatic chuck for building-in, for example in a fixture, dividing head or B-axis.

- Required drawbar 3R-605.1, 3R-605.4
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Air-blast cleaning of Z-references
- Turbo locking
- Weight 1.8 kg

3R-SP7359-RS

- Rust-resistant version, otherwise as 3R-SP7359

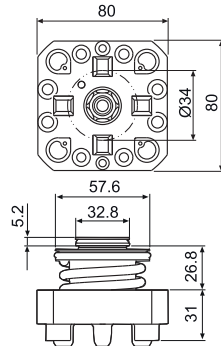


Macro – Chucks & Chuck adapters

Pneumatic chuck, MacroStd 3R-SP25442

Pneumatic chuck for building-in, for example in a fixture, dividing head or B-axis.

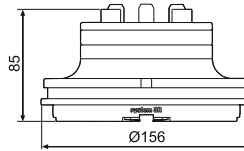
- Required drawbar 3R-605.1, 3R-605.4
- Required air pressure 6 ± 1 bar
- Fixed index positions $4 \times 90^\circ$
- Turbo locking
- Weight 1.8 kg



Pneumatic chuck adapter, MacroMagnum-Macro 90793

MacroMagnum chuck adapter with built-in pneumatic Macro chuck for mounting in 90724.

- Weight 4.5 kg



Hydraulic chucks

Chucks with hydraulic locking of end mills for re-grinding or new production.

K-40338.4

- Ø10 mm
- Construction height 80 mm
- Rust-resistant
- Adapted for automatic changing
- Ready for code carrier
- Weight 1.3 kg

K-40338.3

- Ø16 mm
- Construction height 80 mm
- Rust-resistant
- Adapted for automatic changing
- Ready for code carrier
- Weight 1.4 kg

K-40339.1

- Ø20 mm
- Construction height 90 mm
- Rust-resistant
- Adapted for automatic changing
- Ready for code carrier
- Weight 1.6 kg

K-40338.2

- Ø25 mm
- Construction height 102.5 mm
- Rust-resistant
- Adapted for automatic changing
- Ready for code carrier
- Weight 1.7 kg

K-40338.5

- Ø32 mm
- Construction height 101 mm
- Rust-resistant
- Adapted for automatic changing
- Ready for code carrier
- Weight 1.8 kg

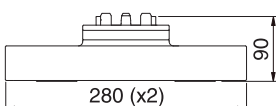
K-40338.1

- Ø40 mm
- Construction height 140 mm
- Rust-resistant
- Adapted for automatic changing
- Ready for code carrier
- Weight 2.2 kg

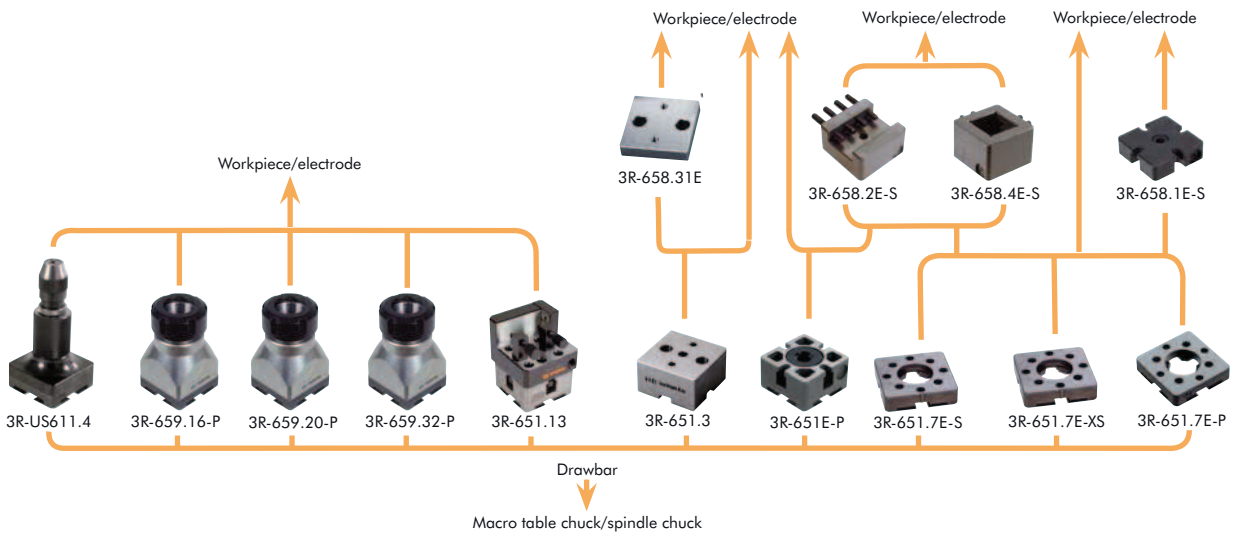


Pneumatic chuck adapter, Dynafix-Macro 90356.22

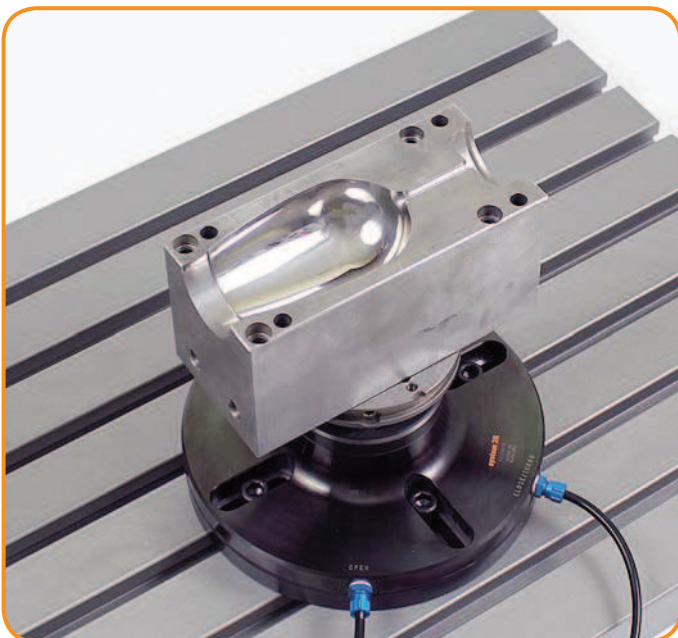
Dynafix chuck adapter with built-in pneumatic Macro chuck for mounting in 90356.10 or 90576.05.



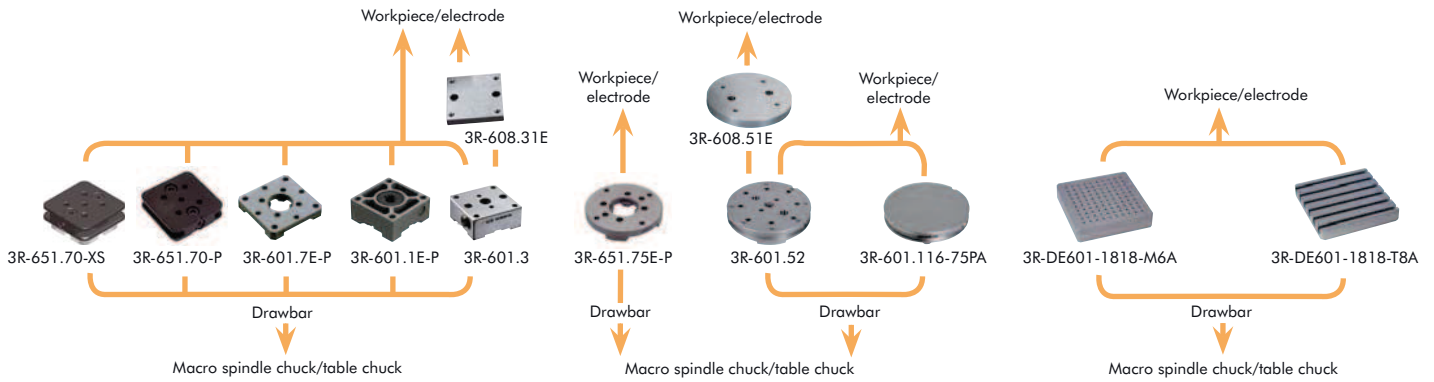
Macro – Pallets, holders & spacers



Holder, pallets and ref. element, 54x54 mm	Article number	Feature
Hardened reference element 12.5 mm, HP	3R-651.7E-P	rust-resistant
Hardened reference element 12.5 mm, Std	3R-651.7E-XS	
Hardened reference element 12.5 mm, Std	3R-651.7E-S	surface-treated
Hardened pallet 30 mm , HP	3R-651E-P	rust-resistant
Hardened pallet 30 mm , HP	3R-651.3	52x52 mm / 3Refix Ø10, rust-resistant
Unhardened pallet 14.4 mm	3R-658.31E	52x52 mm / 3Refix Ø10
Hardened holder, HP	3R-651.13	<30x30 mm
Unhardened holder	3R-658.4E-S	<30x30 mm
Unhardened holder	3R-658.2E-S	<30 mm
Spacer plate standard and HP	3R-658.1E-S	
Collet chuck ER16, HP	3R-659.16-P	Ø0,5-10 mm, rust-resistant
Collet chuck ER20, HP	3R-659.20-P	Ø1-13 mm, rust-resistant
Collet chuck ER32, HP	3R-659.32-P	Ø2-20 mm, rust-resistant
Three-jaw chuck	3R-US611.4	



Macro – Pallets, holders & spacers



Pallets and ref. elements, 70x70 mm

	Article number	Feature
Hardened reference element 12.5 mm, HP	3R-601.7E-P	rust-resistant
Hardened pallet 30 mm, HP	3R-601.1E-P	rust-resistant
Hardened pallet 30 mm, HP	3R-601.3	rust-resistant. 3Refix Ø10
Unhardened pallet 14.2 mm	3R-608.31E	3Refix Ø10
Unhardened pallet, HP	3R-651.70-P	reference element 54x54 mm
Unhardened pallet, Std	3R-651.70-XS	reference element 54x54 mm

Ref. element, Ø75 mm

Hardened reference element 12.5 mm standard and HP	3R-651.75E-P	rust-resistant
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Pallets, Ø116 mm

	Article number	Feature
Hardened pallet, HP	3R-601.52	3Refix Ø10 mm, rust-resistant
Unhardened pallet, HP	3R-601.116-75PA	With reference element Ø75 mm
Unhardened pallet	3R-608.51E	3Refix Ø10 mm

Pallets, 180x180 mm

	Article number	Feature
Aluminium, HP	3R-DE601-1818-M6A	M6 threads
Aluminium, HP	3R-DE601-1818-T8M	T-slot. Not automatic changing

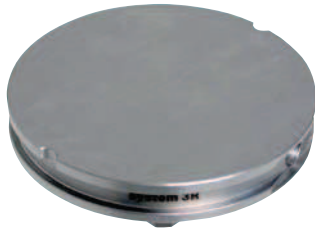


Macro – Pallets & holders

Pallet Ø116 mm 3R-601.116-75PA

Unhardened pallet with reference element 3R-651.75-P.

- X, Y & Z-references hardened
- Ready for code carrier
- Ready for automation



Accessories:

Sealing ring, High 3R-612.116-A

Suitable for chucks with drawbar 3R-605.1.



Sealing ring, Low 3R-612.116-S

Suitable for pneumatic chucks with drawbar 3R-605.2.



Pallet 70x70 mm 3R-651.70-P

Unhardened pallet.

- Ready for code carrier
- Ready for automation
- Weight 1 kg.



Pallet 70x70 mm 3R-651.70-XS

Unhardened pallet with reference element 3R-651.7-XS

- X, Y & Z-references hardened
- Ready for code carrier
- Ready for automation
- Weight 1 kg.



Accessories:

Sealing ring, High 3R-612.54-A

Suitable for chucks with drawbar 3R-605.1.



Sealing ring, Low 3R-612.54-S

Suitable for pneumatic chucks with drawbar 3R-605.2.

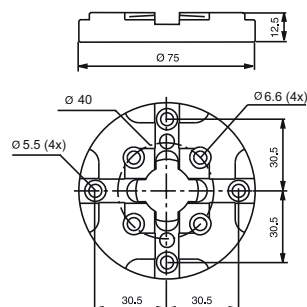


Application example.

Pallet Ø75 mm 3R-651.75E-P

Hardened and milled with clearance holes for eight fixing screws.

- Fixed index positions 4x90°
- Parallel-ground top and bottom faces
- Adapted for automatic changing
- Rust resistant
- Supplied in sets of 10 pcs.
- Weight per set 2.7 kg.

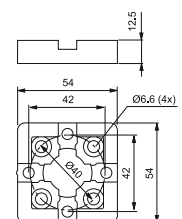
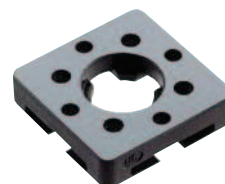


Pallet 54x54 mm, MacroHP 3R-651.7E-P

Hardened and precision-cast, with clearance holes for four fixing screws.

Note: Must be mounted on the workpiece/fixture before it is locked in a chuck.

- Adapted for automatic changing
- Parallel-ground top and bottom faces
- Fixed index positions 4x90°
- Rust-resistant
- Supplied in sets of 8
- Weight per set 1.3 kg



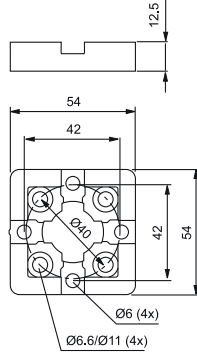
Macro – Pallets & holders

Pallet 54x54 mm, MacroStd 3R-651.7E-XS

Hardened pallet for copper electrodes and workpieces.

Note: Must be mounted on the workpiece before it is locked in a chuck. Note: For graphite electrodes spacer plate 3R-658.1E is required.

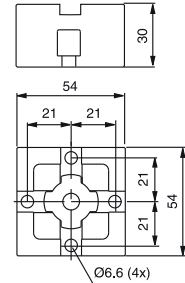
- Untreated side faces
- Adapted for automatic changing
- Supplied in sets of 8
- Weight per set 1.3 kg



Pallet 54x54 mm, MacroHP 3R-651E-P

Hardened, with clearance holes for four fixing screws.

- Adapted for automatic changing
- Ready for code carrier
- Fixed index positions 4x90°
- Rust-resistant
- Flushing duct
- Supplied in sets of 8
- Weight per set 3.4 kg

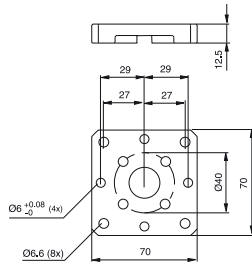
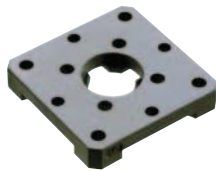


Pallet 70x70 mm, MacroHP 3R-601.7E-P

Hardened and precision-cast, with clearance holes for four fixing screws.

Note: Must be mounted on the workpiece/fixture before it is locked in a chuck.

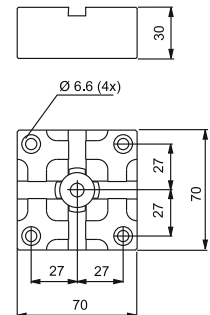
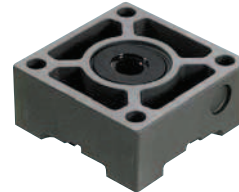
- Adapted for automatic changing
- Parallel-ground top and bottom faces
- Fixed index positions 4x90°
- Rust-resistant
- Supplied in sets of 5
- Weight per set 3 kg



Pallet 70x70 mm, MacroHP 3R-601.1E-P

Hardened, with clearance holes for four fixing screws.

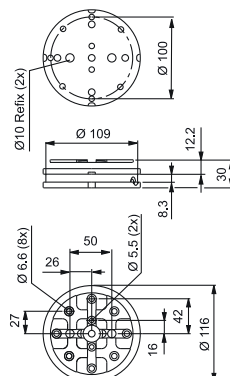
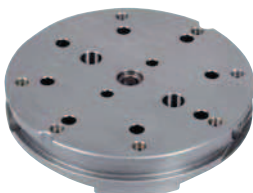
- Adapted for automatic changing
- Ready for code carrier
- Fixed index positions 4x90°
- Rust-resistant
- Flushing duct
- Supplied in sets of 5
- Weight per set 3.2 kg



Pallet Ø116 mm 3R-601.52

Hardened, with 3Refix holes and clearance holes for ten fixing screws.

- 3Refix Ø10 mm
- Adapted for automatic changing
- Ready for code carrier
- Parallel-ground top and bottom faces
- Fixed index positions 4x90°
- Rust-resistant
- Weight 1.9 kg



Accessories:

Sealing ring, High 3R-612.116-A

Suitable for chucks with drawbar 3R-605.1.



Sealing ring, Low 3R-612.116-S

Suitable for pneumatic chucks with drawbar 3R-605.2.



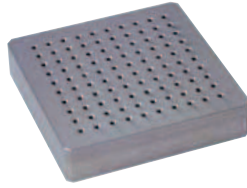
Macro – Pallets & accessories

Pallets 180x180 mm

Anodized aluminium pallets with M6 threads.

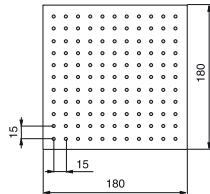
3R-DE601-1818-M6A

- Mounted on pallet 3R-601.116-75PA
- Building-in height 70.3 mm
- Adapted for automatic changing
- Ready for code carrier
- Weight 5.5 kg



3R-DE601-1818-M6M

- Mounted on pallet 3R-601.7E-P
- Building-in height 52.5 mm
- Weight 4 kg

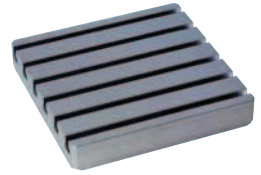


Pallets 180x180 mm

Anodized aluminium pallets with T-slots.

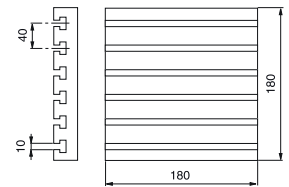
3R-DE601-1818-T8A

- Mounted on pallet 3R-601.116-75PA
- Building-in height 70.3 mm
- Adapted for automatic changing
- Ready for code carrier
- Weight 5.5 kg



3R-DE601-1818-T8M

- Mounted on pallet 3R-601.7E-P
- Building-in height 52.5 mm
- Weight 5.5 kg



Drawbars

3R-605.1E

- Ø20x57.1 mm with flushing holes Ø7 mm
- Supplied in sets of 10 pcs.

3R-605.2E

- Ø20x36.9 mm with Ø7 mm flushing hole
- Supplied in sets of 5 pcs.

3R-605.1EE

- Supplied in sets of 40 pcs.

3R-605.2EE

- Supplied in sets of 20 pcs.

3R-605.4E

For round pallets adapted for automatic changing

- Ø20x57.1 without flushing hole
- Supplied in sets of 10 pcs.

3R-605.10

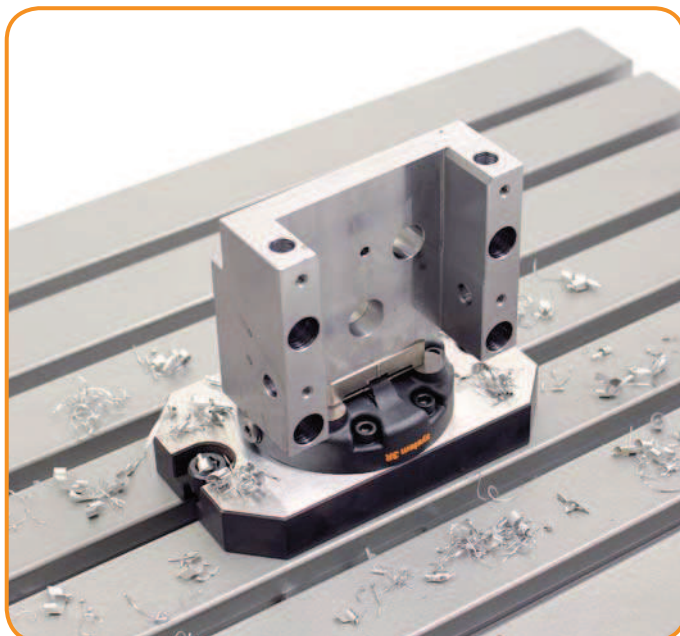
- Ø20x13 mm
- Supplied singly

3R-605.10EE

- Supplied in sets of 20 pcs.

3R-605.4EE

- Supplied in sets of 40 pcs.



Clamping force meter

3R-SSP059

For pneumatic and manual chucks. Suits all chucks from MacroCombi to MacroMagnum.

- Required drawbar 3R-605.1 or similar
- Working range 1-25 kN.
- Weight 5 kg

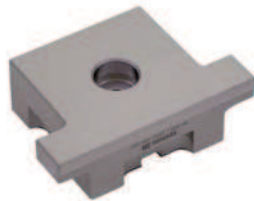
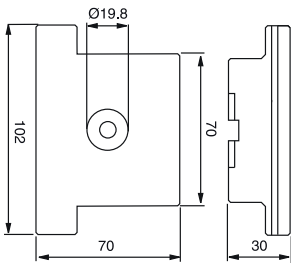


Macro – Accessories

Control ruler 3R-606.1

For setting angular positions and for centring Macro chucks.

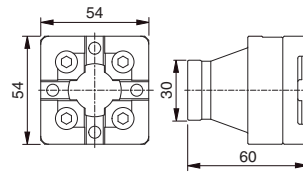
- Ground hole for centring.
- Measuring length 100 mm
- Weight 1.4 kg



Control ruler 3R-656.1

For setting angular positions. Ground outside diameter for centring.

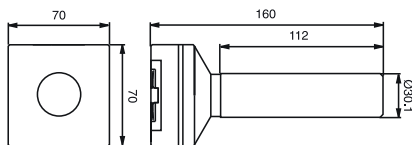
- Measuring length 50 mm
- Weight 0.8 kg



Control rod 3R-606

Check mandrel with ground C-reference for setting Macro chucks.

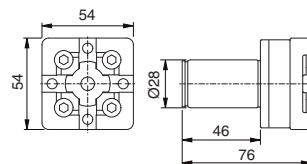
- Measuring length 110 mm
- Weight 2.3 kg



Control rod 3R-656

Check mandrel with ground C-reference for setting Macro chucks.

- Measuring length 38 mm
- Weight 1 kg



Converter kit 90842.01

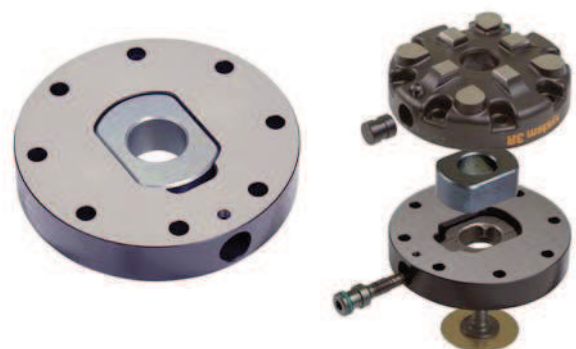
To convert 3R-600.24-S to enable long drawbar 3R-605.1.



Converter kit 3R-A27634

To convert 3R-600.28-S to enable long drawbar 3R-605.1.

- Extra height 18.5 mm



Macro – Accessories

Centring ring 3R-612.6

For centring 3R-600.20.



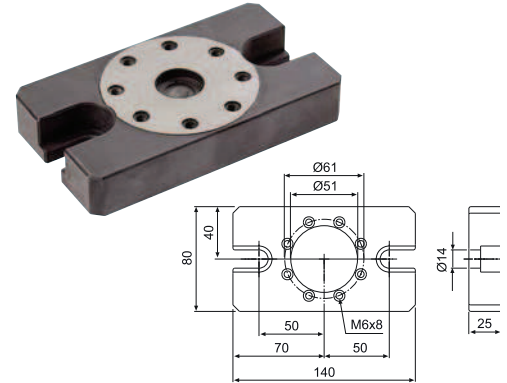
Adapter plate 3R-A26488

For mounting 3R-600.28-S



Adapter plate 3R-A19724

For mounting of 3R-400.34, 3R-460.34 and 3R-600.24-S on machine table. Supplied with fixing screws for chuck and table.



Splash guard 90027

Splash guard for Macro chucks with long drawbar. Can also be used as a cover for unused chucks.

Note: Does not work with sealing ring 3R-612.116.



Torque wrenches 3R-614-04

Mainly for MacroCombi and Ø10 3Refix mandrels.

- 4 Nm

3R-614-06

For Macro chucks

- 6 Nm

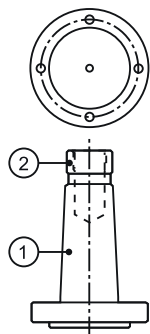


Lathe taper 3R-TXXXX

Taper attachment for mounting chucks in taper spindles.

Note: Manufactured on request. State machine type, taper (1), drawbar thread (2) and which 3R chuck is to be mounted.

Use the order form at the end of the catalogue.



Allen key 3R-333-03

- 3 mm
- Supplied in 10 pcs.



Allen key 3R-333-05

- 5 mm
- Supplied in 10 pcs.

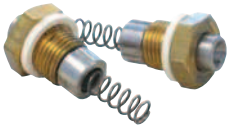


Macro – Accessories

Connection for air gun 90815

For manual operation of pneumatic chucks with air gun.

- Supplied in sets of 2 pcs.



Locking ring key 3R-605-GE

To lift the locking ring of the drawbars.

- Supplied in sets of 2



Labels 3R-LL200P

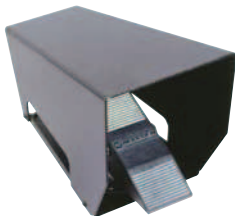
Supplied with marker pen.

- Size 12x25 mm
- Supplied in sets of 200



Control unit 3R-611.2

Foot operation of pneumatic chucks.



Control unit 3R-611.4

Unit for operation of pneumatic chucks. Two functions, opened/closed.



Control unit 3R-611.46

Unit for hand operation of pneumatic chucks. Three functions – open/neutral/closed.



Code carriers 3R-863.01-10

With pre-programmed unique identity, designed for pallet use.

- Supplied in sets of 10



3Refix mandrel

Note: When positioning with 3Refix mandrels –always tighten the expanding mandrel in the R⁰ hole first.

3R-901-10E

- 3Refix Ø10 mm
- Recommended tightening torque 4 Nm
- Supplied in sets of 10 pcs.
- Weight per set 0.2 kg



3R-901-20E

- 3Refix Ø20 mm
- Recommended tightening torque 10 Nm
- Supplied in sets of 10 pcs.
- Weight per set 1 kg

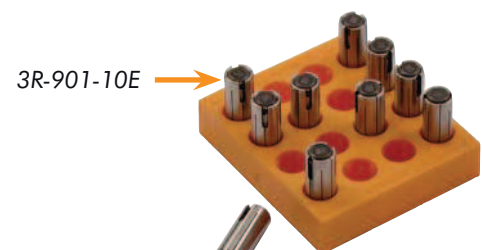


3R-901-10RS

- 3Refix Ø10 mm
- Rust-resistant
- Recommended tightening torque 4 Nm
- Supplied singly
- Weight per set 0.5 kg

3R-901-20RS

- 3Refix Ø20 mm
- Rust-resistant
- Recommended tightening torque 10 Nm
- Supplied singly
- Weight per set 0.1 kg



3R-901-20E

