

Matrix

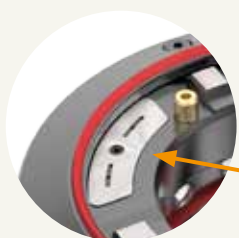
- ... reduces setting-up times
- ... ensures precision and quality
- ... has automatic air-blast cleaning of the references
- ... is sealed against dirt and swarf – withstands severe work environments
- ... has enhanced clamping force – turbo locking
- ... is suitable for automatic changing with System 3R's automation program.

Measures to reduce the downtime of your machines are significantly more worth while than chasing seconds in the actual machining process. What matters is to keep the machines running. And that's when you need an interface that gives fast setting-up.

The Matrix system is just that kind of interface. Setting-up in parallel away from the machine while it is working and then setting up in a matter of seconds in the stationary machine. Important for long runs, but crucial for the profitability of short runs or one-piece production.

The design has been optimised for metal-cutting machining and is ideal for work involving high machining forces. The generous diameter of the drawbar means short distances between the references and the applied locking force, giving maximum stability and accuracy. The inherent properties of the Matrix system truly come into their own in tough machining applications.

As well as extreme accuracy, Matrix features low construction height, ultra-precise indexing, a drawbar with through hole. The through hole allows high/long workpieces to be sunk into the chuck for stable/rigid fixation.



Prepared for automatic chuck adapter.



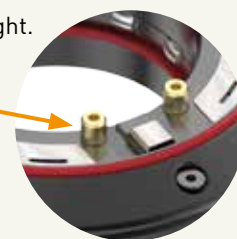
Inlets on side & underneath.



Big through hole
Allows high/long workpieces to be sunk into the chuck



Spherical rolls.



Pre-alignment studs.

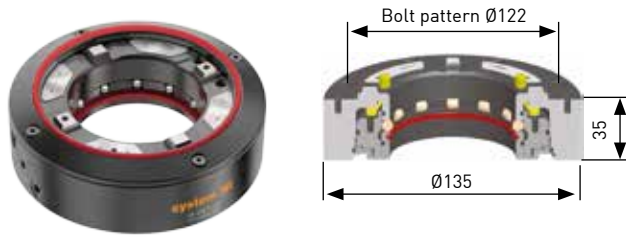


Matrix 110

Pneumatic chuck, Matrix 110, 3R-690.1-110

Chuck for permanent mounting on the machine table or into a PM press.

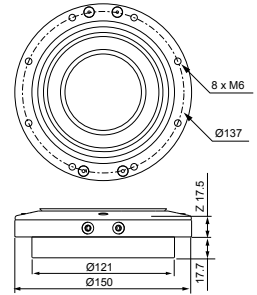
- Fixed index positions 4x90°
- Hardened references
- Clamping force 9 000 N
- Permissible torque 100 Nm
- Required drawbar 3R-695.2-110
- Required air pressure, - 6±1 bar
- Weight 2.5 kg.



Pneumatic built-in chuck, Matrix 110, 3R-SP28395

Chuck for permanent mounting in the machine table or into a PM press.

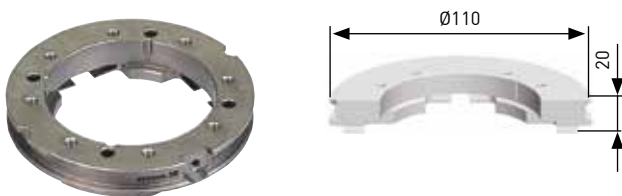
- Fixed index positions 4x90°
- Solid XY-References
- Hardened references
- Clamping force 9 000 N
- Permissible torque 100 Nm
- Required drawbar 3R-695.2-110
- Required air pressure, - 6±1 bar
- Weight 2.7 kg.



Pallet, Matrix 110, 3R-691.1-110

- Fixed index positions 4x90°
- Permissible press load 25 ton
- Permissible torque 100 Nm
- Required drawbar 3R-695.2-110 or similar
- Adapted for automatic changing
- Weight 0.5 kg.

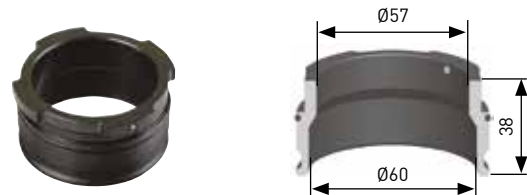
Note: Not self carrying, requires extra support.



Drawbar, Matrix 110, 3R-695.2-110

- Weight 0.3 kg.

Note: In automation the gripper has to grip on the pallet and not on the drawbar.



Collet chuck ER20, Matrix 110, 3R-699.20-110D

The pallet can be flipped over to gain access from rear side.

- Range for collets Ø1-13 mm
- Recommended drawbar 3R-695.2-110
- Adapted for automatic changing
- Weight 1.3 kg.



Adapter, Matrix 110-Ø20, 3R-SP31380-RS

Intended to fit cut tools with Ø20 mm. Also adapted to fit System 3R Mini electrode holders with Ø20 mm.

- Rust resistant
- Weight 2.9 kg.



Matrix 110

Check ruler, Matrix 110, 3R-696.1-110

For setting flatness and angular positions.

- Ground hole for centering.
- Ready for code carrier
- Measuring length 80 mm.
- Adapted for automatic changing
- Weight 1.6 kg.



Three-jaw chuck mounted on a pallet.

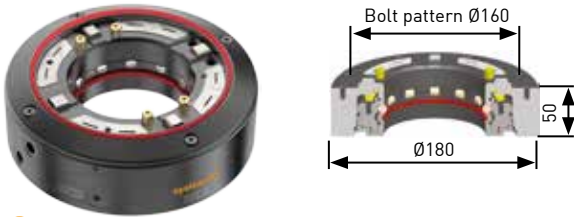


Matrix 142

Pneumatic chuck, Matrix 142, 3R-690.1-142

Chuck for permanent mounting on the machine table or into a PM press.

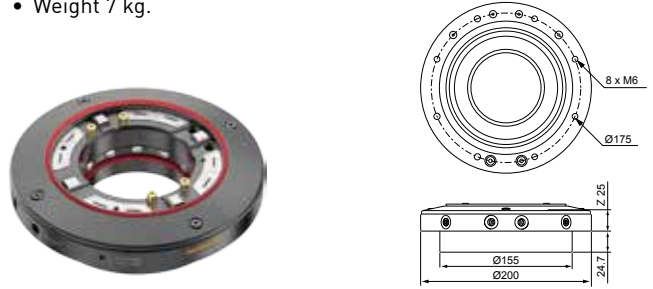
- Fixed index positions 4x90°
- Hardened references
- Clamping force 15 000 N
- Permissible torque 300 Nm
- Required drawbar 3R-695.2-142
- Required air pressure, - 6±1 bar
- Weight 7 kg.



Pneumatic built-in chuck, Matrix 142, 3R-SP28219

Chuck for permanent mounting in the machine table or into a PM press.

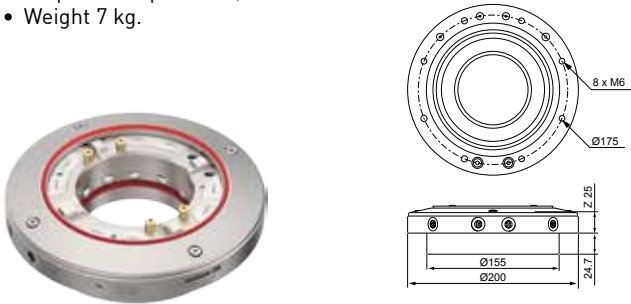
- Fixed index positions 4x90°
- Solid XY-References
- Hardened references
- Clamping force 15 000 N
- Permissible torque 300 Nm
- Required drawbar 3R-695.2-142
- Required air pressure, - 6±1 bar
- Weight 7 kg.



Pneumatic built-in chuck, Matrix 142, 3R-SP28219-RS

Rust resistant chuck for permanent mounting in the machine table.

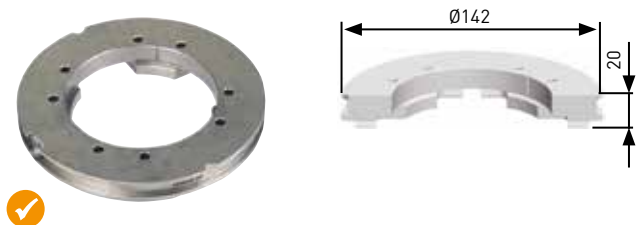
- Fixed index positions 4x90°
- Rust resistant
- Solid XY-References
- Hardened references
- Clamping force 15 000 N
- Permissible torque 300 Nm
- Required drawbar 3R-695.2-142RS
- Required air pressure, - 6±1 bar
- Weight 7 kg.



Pallet, Matrix 142, 3R-691.1-142

- Fixed index positions 4x90°
- Permissible press load 75 ton
- Permissible torque 300 Nm
- Required drawbar 3R-695.2-142 or similar
- Adapted for automatic changing
- Weight 1.2 kg.

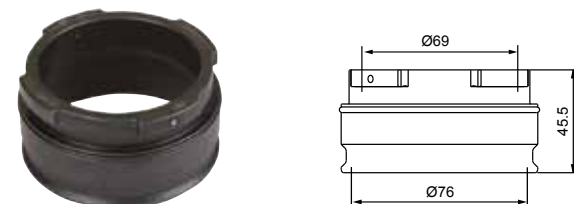
Note: Not self carrying, requires extra support.



Drawbar, Matrix 142, 3R-695.2-142

- Weight 0.5 kg.

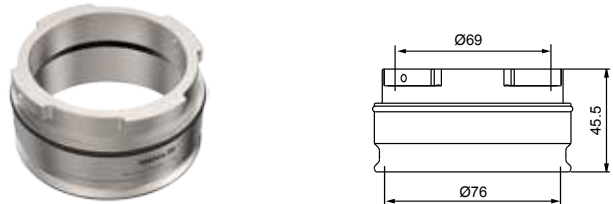
Note: In automation the gripper has to grip on the pallet and not on the drawbar.



Drawbar, Matrix 142, 3R-695.2-142RS

- Rust resistant
- Weight 0.5 kg.

Note: In automation the gripper has to grip on the pallet and not on the drawbar.



Matrix 142

Collet chuck ER20, Matrix 142, 3R-699.20-142D

The pallet can be flipped over to gain access from rear side.

- Range for collets \varnothing 1-13 mm
- Recommended drawbar 3R-695.2-142
- Adapted for automatic changing
- Weight 3.1 kg.



Collet chuck ER40, Matrix 142, 3R-699.40-142D

The pallet can be flipped over to gain access from rear side.

- Range for collets \varnothing 3-30 mm
- Recommended drawbar 3R-695.2-142
- Adapted for automatic changing
- Weight 3.4 kg.



Adapter, Matrix 142-Capto C6, 3R-SP30752

From Matrix 142 to Capto C6 system.

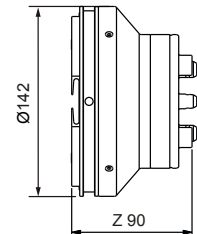
- Solid XY-references
- Rust resistant
- Recommended clamping torque 30 Nm
- Adapted for automatic changing
- Weight 3.9 kg.



Adapter, Matrix 142-Macro, 3R-SP30997

From Matrix 142 to Macro system.

- Required drawbar 3R-605.1
- Fixed index positions 4x90°
- Adapted for automatic changing
- Hardened references
- Clamping force 6 000 N
- Permissible torque 300 Nm
- Reuired air pressure, - 6±1 bar
- Weight 7 kg.



Check ruler, Matrix 142, 3R-696.1-142

For setting flatness and angular positions. Ground hole for centering.

- Ready for code carrier
- Measuring length 100 mm.
- Adapted for automatic changing
- Weight 3.4 kg.



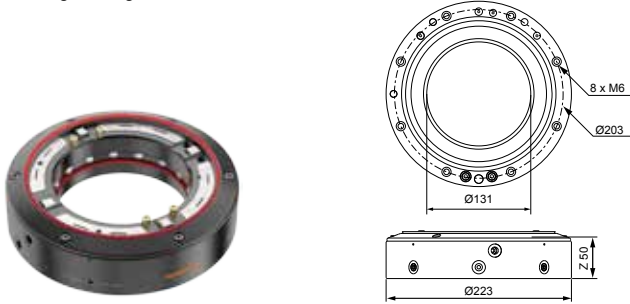
Matrix application:
Pallet with special fixture for protruding workpiece in this case a "hip joint"

Matrix 185

Pneumatic chuck, Matrix 185, 3R-690.1-185

Chuck for permanent mounting on the machine table or into a PM press.

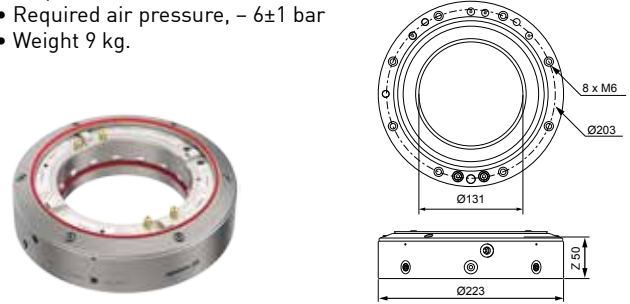
- Fixed index positions 4x90°
- Hardened references
- Clamping force 20 000 N
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-185
- Required air pressure, - 6±1 bar
- Weight 9 kg.



Pneumatic chuck, Matrix 185, 3R-690.1-185-RS

Rust resistant chuck for permanent mounting on the machine table.

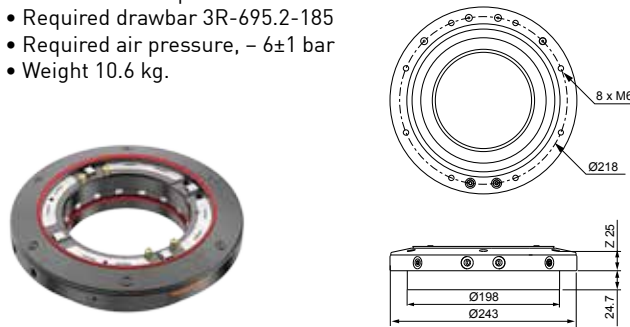
- Fixed index positions 4x90°
- Rust resistant
- Solid XY-References
- Hardened references
- Clamping force 20 000 N
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-185RS
- Required air pressure, - 6±1 bar
- Weight 9 kg.



Pneumatic built-in chuck, Matrix 185, 3R-SP28268

Chuck for permanent mounting in the machine table or into a PM press.

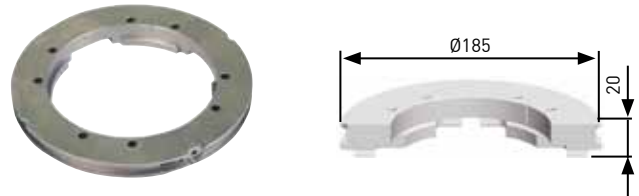
- Fixed index positions 4x90°
- Solid XY-References
- Hardened references
- Clamping force 20 000 N
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-185
- Required air pressure, - 6±1 bar
- Weight 10.6 kg.



Pallet, Matrix 185, 3R-691.1-185

- Fixed index positions 4x90°
- Permissible press load 100 ton
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-185 or similar
- Adapted for automatic changing
- Weight 1.7 kg.

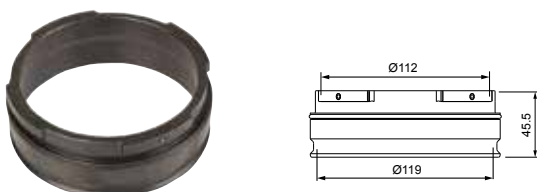
Note: Not self carrying, requires extra support.



Drawbar, Matrix 185, 3R-695.2-185

- Weight 0.8 kg.

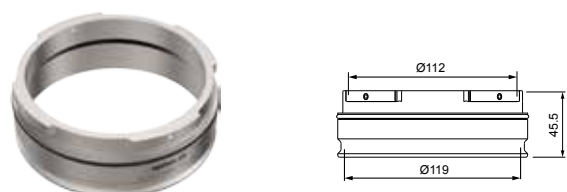
Note: In automation the gripper has to grip on the pallet and not on the drawbar.



Drawbar, Matrix 185, 3R-695.2-185RS

- Rust resistant
- Weight 0.8 kg.

Note: In automation the gripper has to grip on the pallet and not on the drawbar.



Matrix 185

Chuck adapter, Matrix 185-Macro, 3R-SP29998

From Matrix 185 into Macro system.
Chuck adapter with built-in Macro chuck.

- Required drawbar 3R-605.1
- Built in height 90 mm
- Hardened references
- Weight 8 kg.



Check ruler, Matrix 185, 3R-696.1-185

For setting flatness and angular positions. Ground hole for centering.

- Ready for code carrier
- Measuring length 125 mm.
- Adapted for automatic changing
- Weight 5.7 kg.

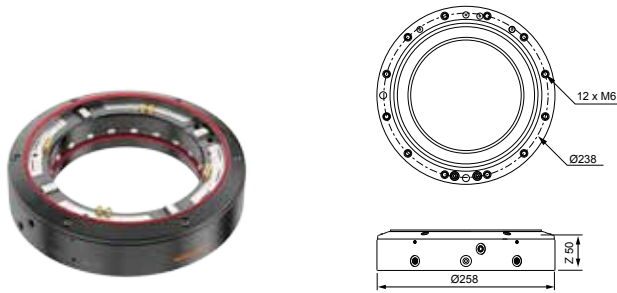


Matrix 220

Pneumatic chuck, Matrix 220, 3R-690.1-220

Chuck for permanent mounting on the machine table or into a PM press.

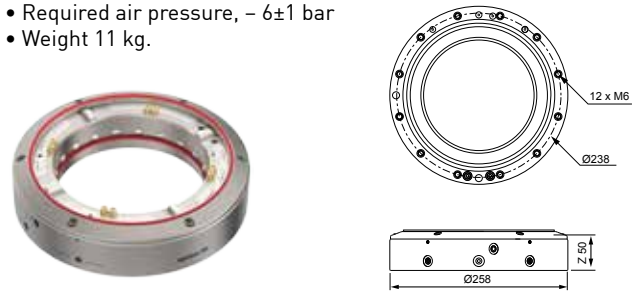
- Fixed index positions 4x90°
- Hardened references
- Clamping force 23 000 N
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-220
- Required air pressure, - 6±1 bar
- Weight 11 kg.



Pneumatic chuck, Matrix 220, 3R-690.1-220-RS

Rust resistant chuck for permanent mounting on the machine table.

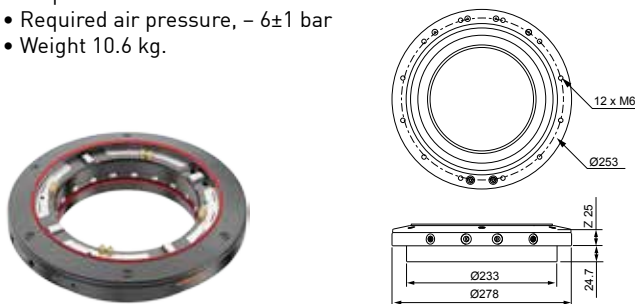
- Fixed index positions 4x90°
- Rust resistant
- Solid XY-References
- Hardened references
- Clamping force 23 000 N
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-220RS
- Required air pressure, - 6±1 bar
- Weight 11 kg.



Pneumatic built-in chuck, Matrix 220, 3R-SP28340

Chuck for permanent mounting in the machine table or into a PM press.

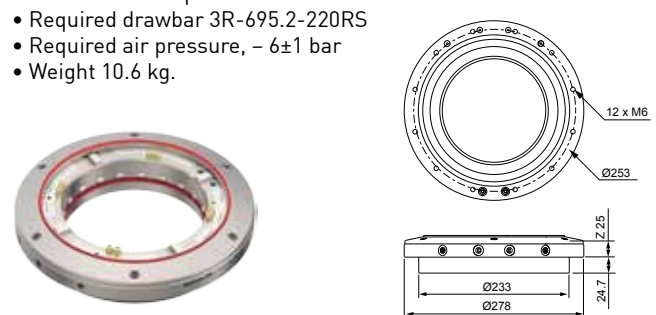
- Fixed index positions 4x90°
- Solid XY-References
- Hardened references
- Clamping force 23 000 N
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-220
- Required air pressure, - 6±1 bar
- Weight 10.6 kg.



Pneumatic built-in chuck, Matrix 220, 3R-SP28340-RS

Rust resistant chuck for permanent mounting in the machine table.

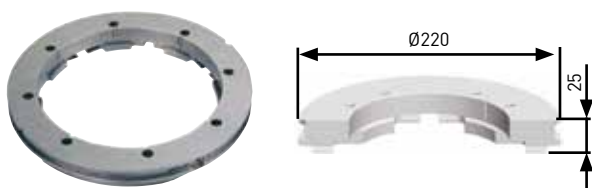
- Fixed index positions 4x90°
- Rust resistant
- Solid XY-References
- Hardened references
- Clamping force 23 000 N
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-220RS
- Required air pressure, - 6±1 bar
- Weight 10.6 kg.



Pallet, Matrix 220, 3R-691.1-220

- Fixed index positions 4x90°
- Permissible press load 150 ton
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-220 or similar
- Adapted for automatic changing
- Weight 2.6 kg.

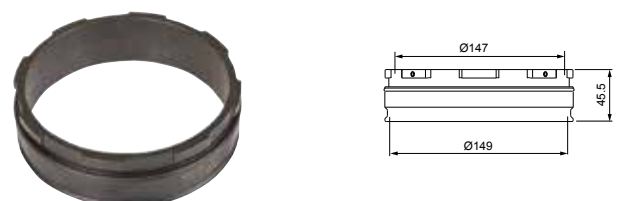
Note: Not self carrying, requires extra support.



Drawbar, Matrix 220, 3R-695.2-220

- Weight 1.3 kg.

Note: In automation the gripper has to grip on the pallet and not on the drawbar.

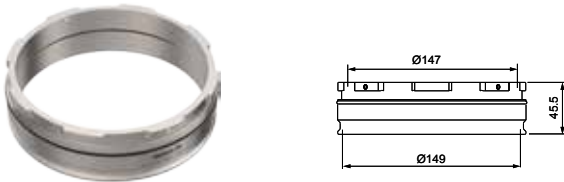


Matrix 220 & accessories

Drawbar, Matrix 220, 3R-695.2-220RS

- Rust resistant
- Weight 0.8 kg.

Note: In automation the gripper has to grip on the pallet and not on the drawbar.



Check ruler, Matrix 220, 3R-696.1-220

For setting flatness and angular positions. Ground hole for centering.

- Ready for code carrier
- Measuring length 150 mm.
- Adapted for automatic changing
- Weight 7.5 kg.



Matrix application:
The pallet is turnable for machining of both sides of a optical lens.

Air unit, 3R-611.2

Foot operation of pneumatic chucks.



Air unit, 3R-611.4

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



Code carriers, 3R-863.01-10

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

- Supplied in sets of 10.

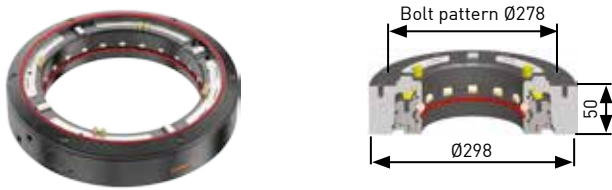


Matrix 260

Pneumatic chuck, Matrix 260, 3R-690.1-260

Chuck for permanent mounting on the machine table or into a PM press.

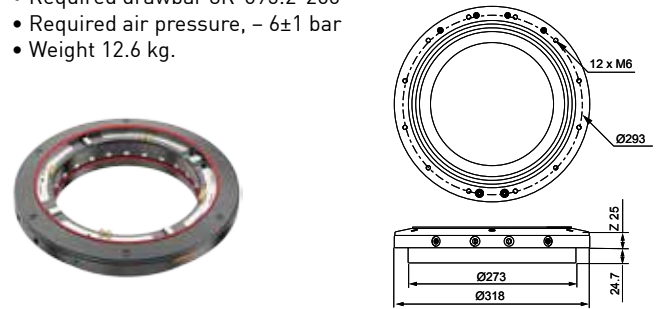
- Fixed index positions 4x90°
- Hardened references
- Clamping force 28 000 N
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-260
- Required air pressure, - 6±1 bar
- Weight 13 kg.



Pneumatic built-in chuck, Matrix 260, 3R-SP28345

Chuck for permanent mounting in the machine table or into a PM press.

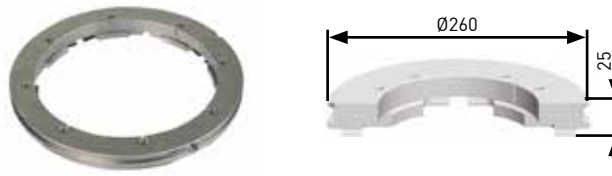
- Fixed index positions 4x90°
- Solid XY-References
- Hardened references
- Clamping force 28 000 N
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-260
- Required air pressure, - 6±1 bar
- Weight 12.6 kg.



Pallet, Matrix 260, 3R-691.1-260

- Fixed index positions 4x90°
- Permissible press load 200 ton
- Permissible torque 600 Nm
- Required drawbar 3R-695.2-260 or similar
- Adapted for automatic changing
- Weight 3.2 kg.

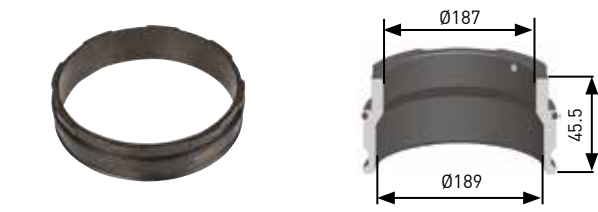
Note: Not self carrying, requires extra support.



Drawbar, Matrix 260, 3R-695.2-260

- Weight 1.5 kg.

Note: In automation the gripper has to grip on the pallet and not on the drawbar.



Check ruler, Matrix 260, 3R-696.1-260

For setting flatness and angular positions. Ground hole for centering.

- Ready for code carrier
- Measuring length 200 mm.
- Adapted for automatic changing
- Weight 10 kg.

