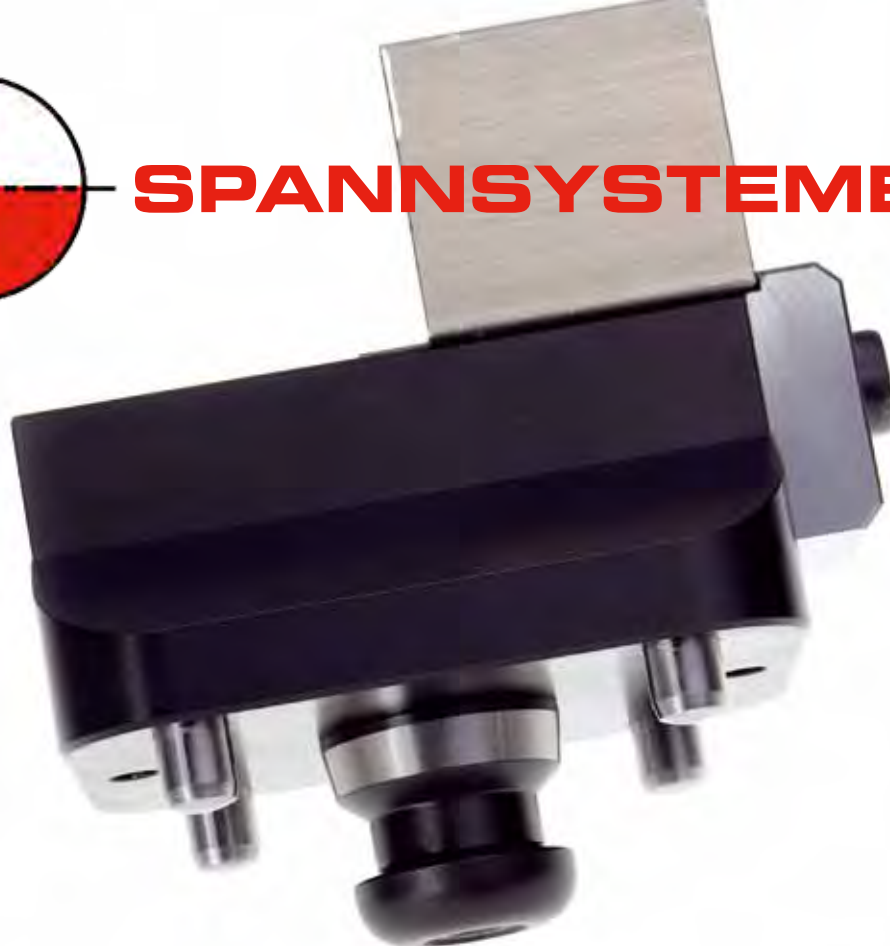


SPANNSYSTEME



Zeropoint clamping

Clamping towers

Clamping stations

Clamping pallets

Magnet clamping

Vacuum clamping

Mechanical clamping



innotool[®]

austria



ESTD. 1996
by innotool austria

Preface

*„Our focus is the development of new technologies
and the manufacturing of highest quality solutions
to support your precision.“ (Johann Supanz, CEO)*

innotool austria has formed over the years to specialize in solutions for manufacturing process. Core competences are construction and development of new products. The following focal points are important for us:

- Innovative solutions in order to optimize your production
- High quality products at economic prices
- Development, construction, production and testing done in-house
- Flexible manufacturing capabilities, modern machines and strong partners guarantee high quality in μ -machining
- Time savings during production because of zero point clamping systems, sophisticated applications and pallet systems

All innotool austria products are assembled, tested and shipped from our headquarter in Altsch which guarantees continuous quality assurance.

FOR YOUR PRECISION



innotool austria
GmbH & CoKG
Oberhub 11
6844 Altsch
Austria

T +43 5576 79040
F +43 5576 79041
office@innotool-austria.com
www.innotool-austria.com

Zeropoint clamping



The background of the entire page is a photograph of an industrial clamping system. It features a large, grey metal structure with a prominent vertical green light strip. To the right, there are blue vertical beams. In the foreground, a horizontal metal plate holds several circular clamping chucks. At the bottom left, red-handled clamping mechanisms are visible.

Function of Zeropoint clamping systems

Installation clamping chucks

Assembly clamping chucks

Clamping towers

Clamping stations

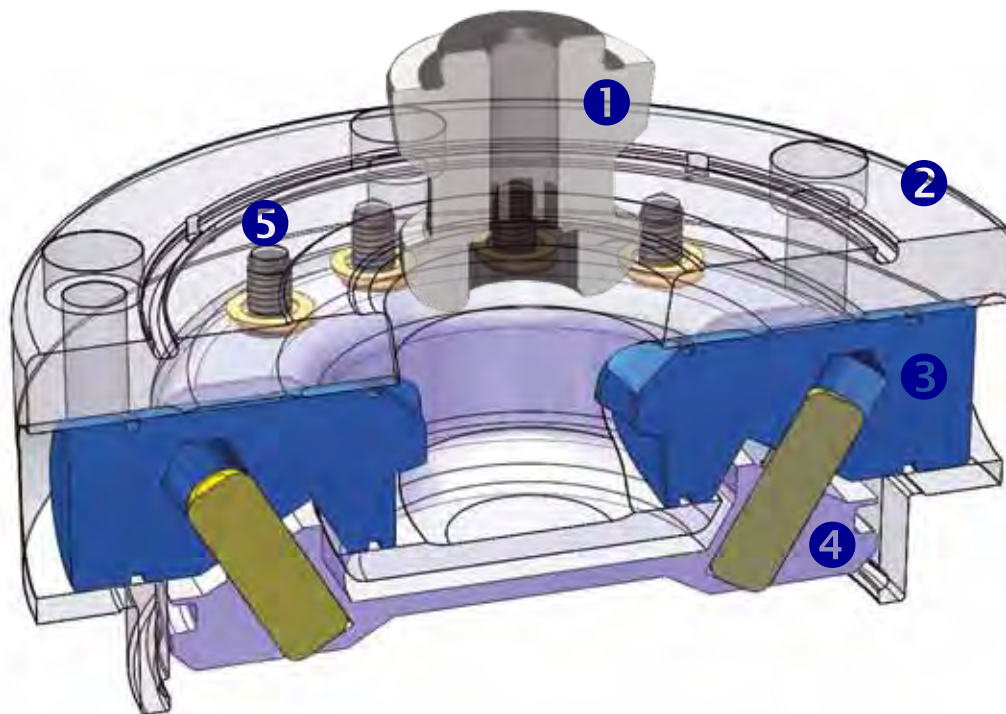
Clamping pallets

Accessories

Powerful Operation. High Repeatability.

UNILOCK Clamping chuck

Visual illustration of the ESM 138 Installation chuck.



1 Clamping knob

The UNILOCK Clamping knob connects the Clamping chuck to the work piece or the device being position and held. The Clamping knob mounting method depends on the work piece weight or the machining process. The appropriate sized attachment thread needs to be used.

2 Body

UNILOCK Clamping chucks are manufactured in different versions, according to their application. Material: steel, hardened, corrosion-resistant.

3 Slide Wedges

Solid slide wedges are made out of high-tensile steel. They are hardened as well for a save locking function of the Clamping knob.

4 Piston

The UNILOCK piston includes high-quality sealing elements and pins which ensure a balanced movement of the slide wedges.

5 Springs

Springs made out of fatigue-resisting quality steel ensure the preservation of clamping force without air pressure assistance.

Function



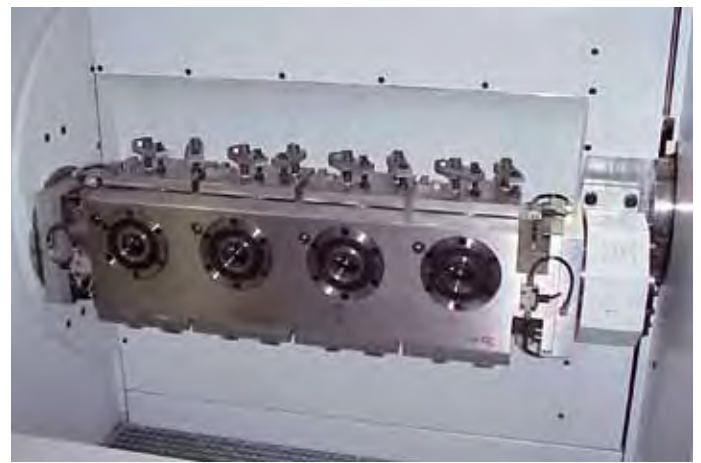
Opening with compressed air.



Clamping force increases when TURBO is activated.

Fields of application

UNILOCK **Zeropoint clamping systems in use**



C

huck variations and compatibility

Every UNILOCK Clamping and Automation chuck was developed for a special application area to manage different needs in an efficient way.

Long-time experiences in zero-point-clamping techniques and an enthusiasm for clamping technique in general can be seen in the products of innotool austria.

The powerful and stable UNILOCK Clamping knob, the key element, supports a complete range of Clamping chuck sizes and capacities. Its universal design has allowed innotool austria to supply the largest field of applications in the zero-point marketplace.

In addition to our chuck range, we offer customer specific clamping and fixture solutions. We love to provide our Know-How to create added value and increased efficiency for your production process.

Structuring of UNILOCK Clamping chuck types

Installation Clamping Chucks

Location via centering collar.
Suitable for surface mounting or sunken installation.
Mounting holes are integrated in these chucks.



Assembly Clamping Chucks

Mountable on devices and/or grid plates.
Location via bore holes and dowel pins.
Fixation with clamps.



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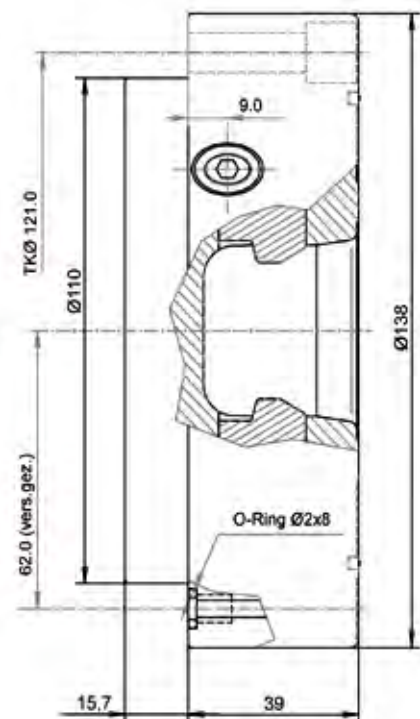
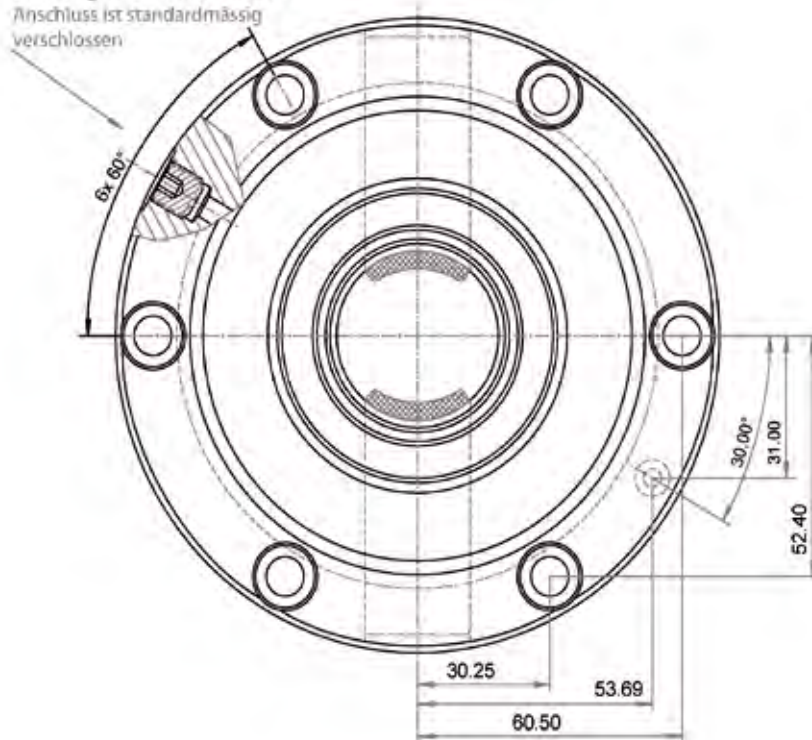
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The ESM 138 with a body diameter of 138mm is the most flexible chuck of the UNILOCK family. This chuck diameter is well suited for quick changing vices and other common work holding components.

Scope of delivery

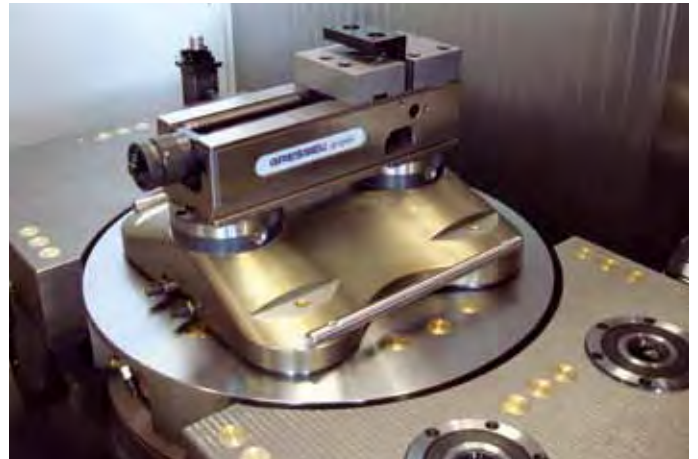
ESM 138 installation chuck including mounting screws, protection caps for mounting screws and o-Rings.



Fields of application

This chuck with a body diameter of 138mm is useful for single and multiple chuck applications.

With G 1/8" air-connections, on the side and from the bottom over a o-ring, it be assembled and actuated individually or in tandem as part of an array.



Item No.	Description
UL500.011	ESM 138-V, Installation clamping chuck 138, with indexing
UL500.012	ESM 138-P, Installation clamping chuck 138, with integrated air supply 2-fold
UL500.019	ESM 138-R, Installation clamping chuck 138, STAINLESS
UL500.020	ESM 138-RV, Installation clamping chuck 138, with indexing, STAINLESS
UL500.021	ESM 138-RP, Installation clamping chuck 138, with integrated air supply 2-fold, STAINLESS



EFM 138-N ,The Tower Specialist‘

This chuck is not afraid of any heights and offers stable, safe clamping on all types of columns and angle plates. There is no loss of projection space due to the short flange height of only 11mm/.433“.

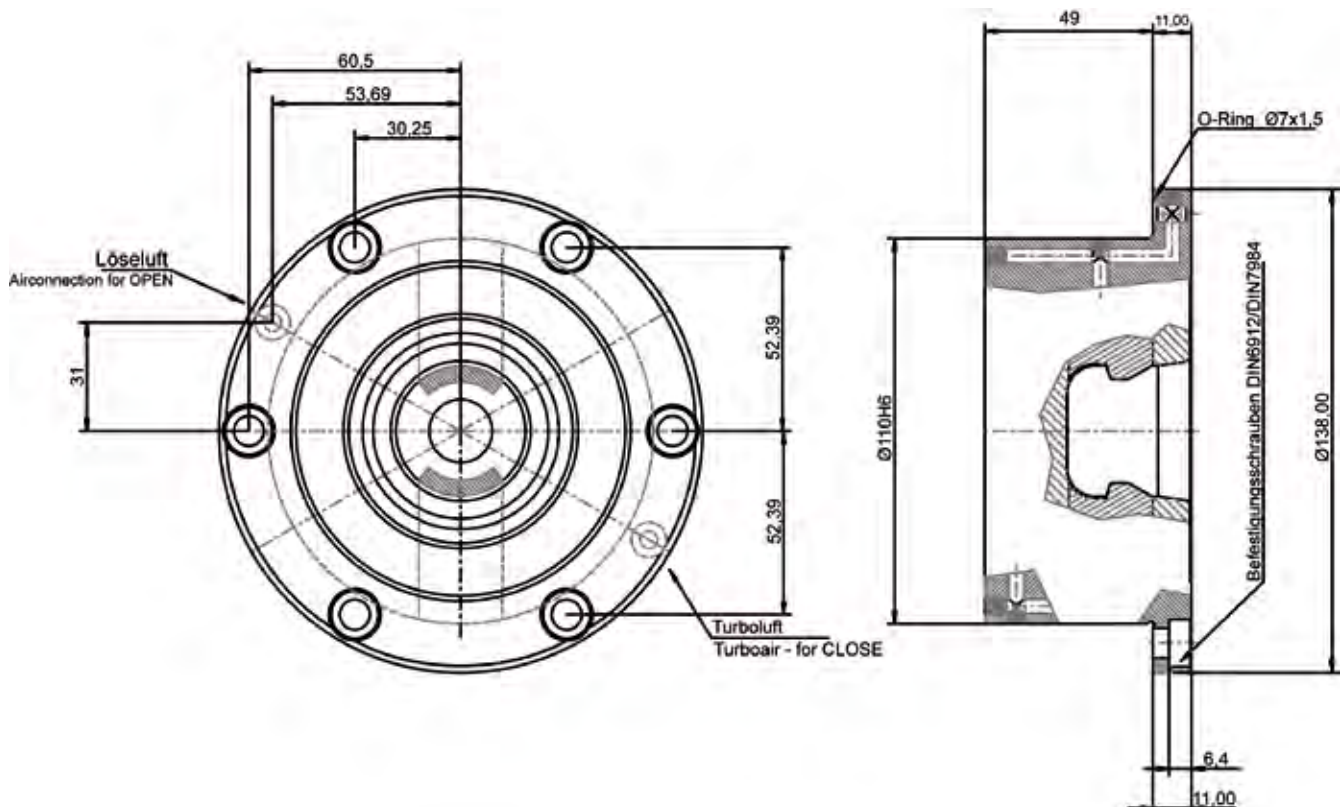
Therefore this chuck suites perfectly into clamping towers where projection needs to be kept to a minimum.



Item No.	Specifications
UL500.024	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Retention force (M16): 75'000 N Turbo pressure: 6 bar Repeatability: <0,005 mm Air-Connection: over O-Rings Weight: 3,55 kg

Scope of delivery

EFM 138-N Assembly Flange chuck including mounting screws, protection caps for mounting screws and o-Rings.

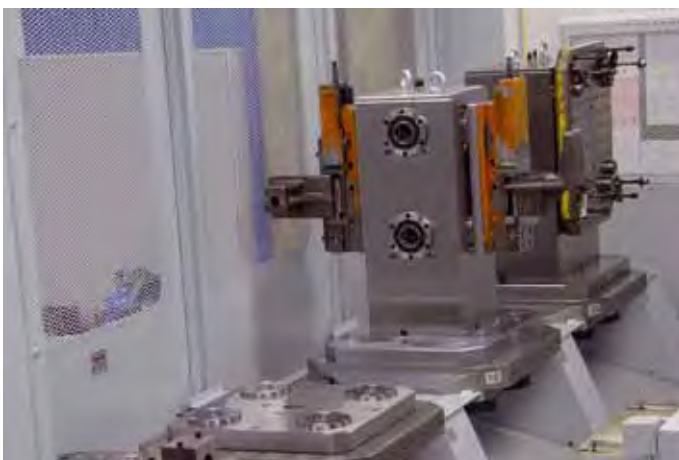




Fields of application

This chuck is qualified for flange-installation into angle plates, tower columns and various types of sub-plates.

In addition the EFM 138-N has higher pull-down forces when the Turbo Effect is used.



Item No.	Description
UL500.025	EFM 138-V, Installation flange chuck 138, with indexing
UL500.804	Indexing insert for EFM 138-V
UL500.026	EFM 138-R, Installation flange chuck 138, STAINLESS
UL500.027	EFM 138-RV, Installation flange chuck 138, with indexing, STAINLESS

ESM 176 ‚The Powerful‘

Due to its size and shoulder screw mounting, the ESM 176 can handle heavyweight fixtures.

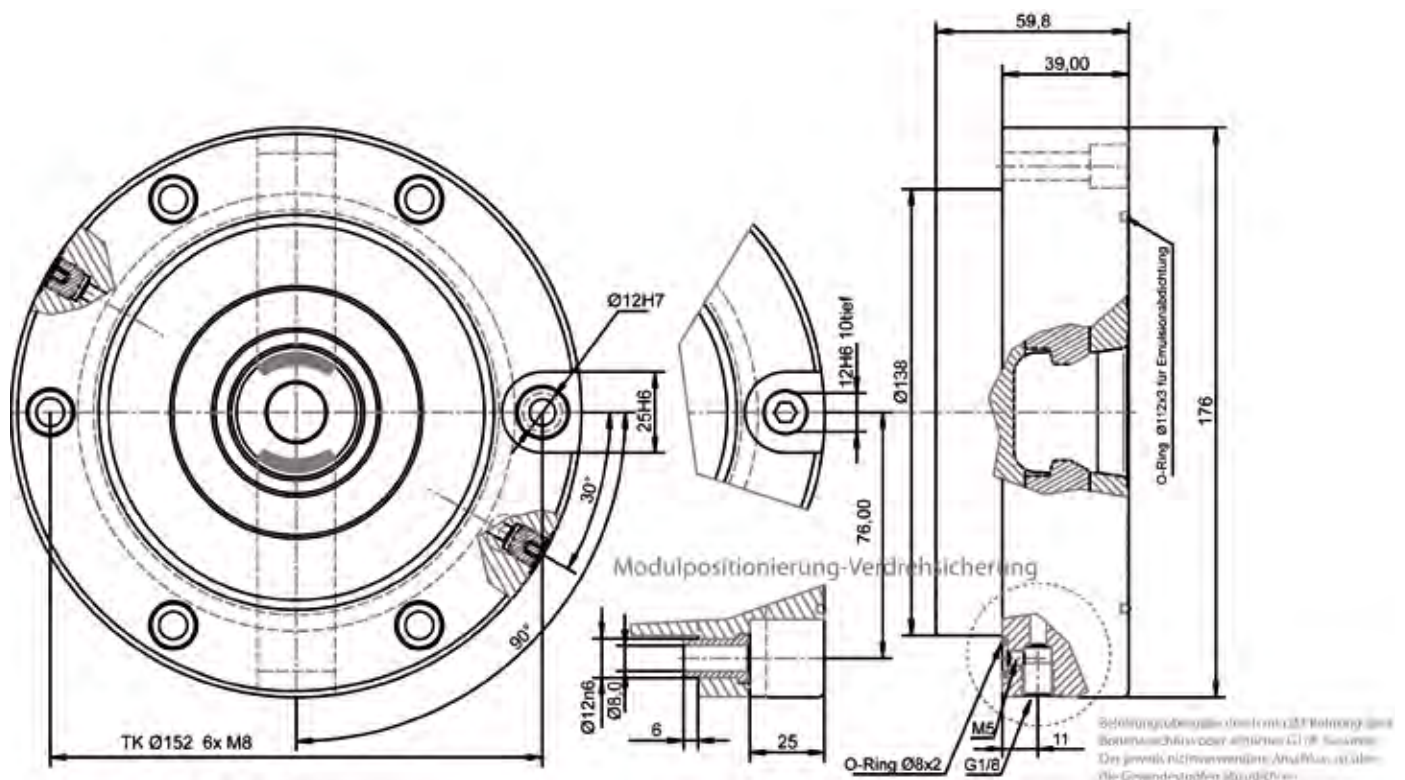
It will not move a μ under heavy loads.



Item No.	Specifications
UL500.001	Retention force (M12): 50'000 N Retention force (M16): 75'000 N Turbo pressure: 6 bar Repeatability: <0,005 mm Air-Connection: G 1/8" Weight: 7,85 kg

Scope of delivery

ESM 176 installation chuck including mounting screws, protection caps for mounting screws and o-Rings.

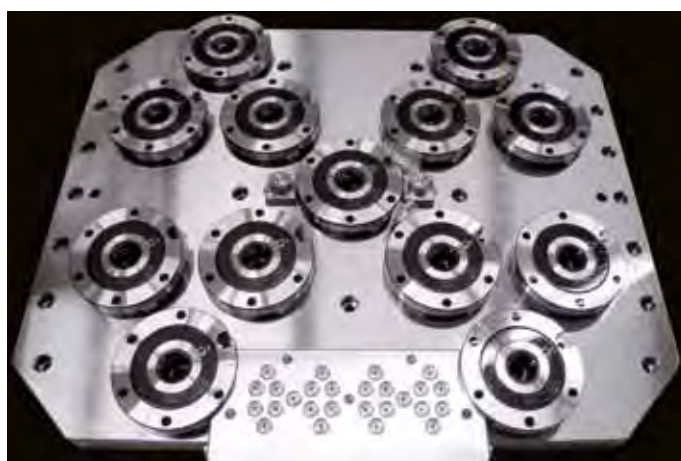




Fields of application

This Turbo chuck has been developed for heavy machining. The ESM 176-V has additional an integral indexing-notch of 25mm/.984".

With two sets of air-connections, on the side and from the bottom with an o-ring counterbore, the chucks can be assembled and actuated individually or in tandem.



Ident. Nr.	Description
UL500.002	ESM 176-V, Installation clamping chuck 176, with indexing
UL500.003	ESM 176-P, Installation clamping chuck 176, with integrated air-supply 2-fold
UL500.005	ESM 176-R, Installation clamping chuck 176, STAINLESS
UL500.006	ESM 176-RV, Installation clamping chuck 176, with indexing, STAINLESS
UL500.007	ESM 176-PP, Installation clamping chuck 176, with integrated air-supply 2-fold, STAINLESS

HSM 196 'The Turn-Specialist'

Because of its expedient thru hole of 61 mm/2.401", the HSM 196 works perfectly when attached to the spindle on turning machines. This chuck also improves the versatility of grinders, dividing heads and rotary indexers as well as rotary transfer machines.

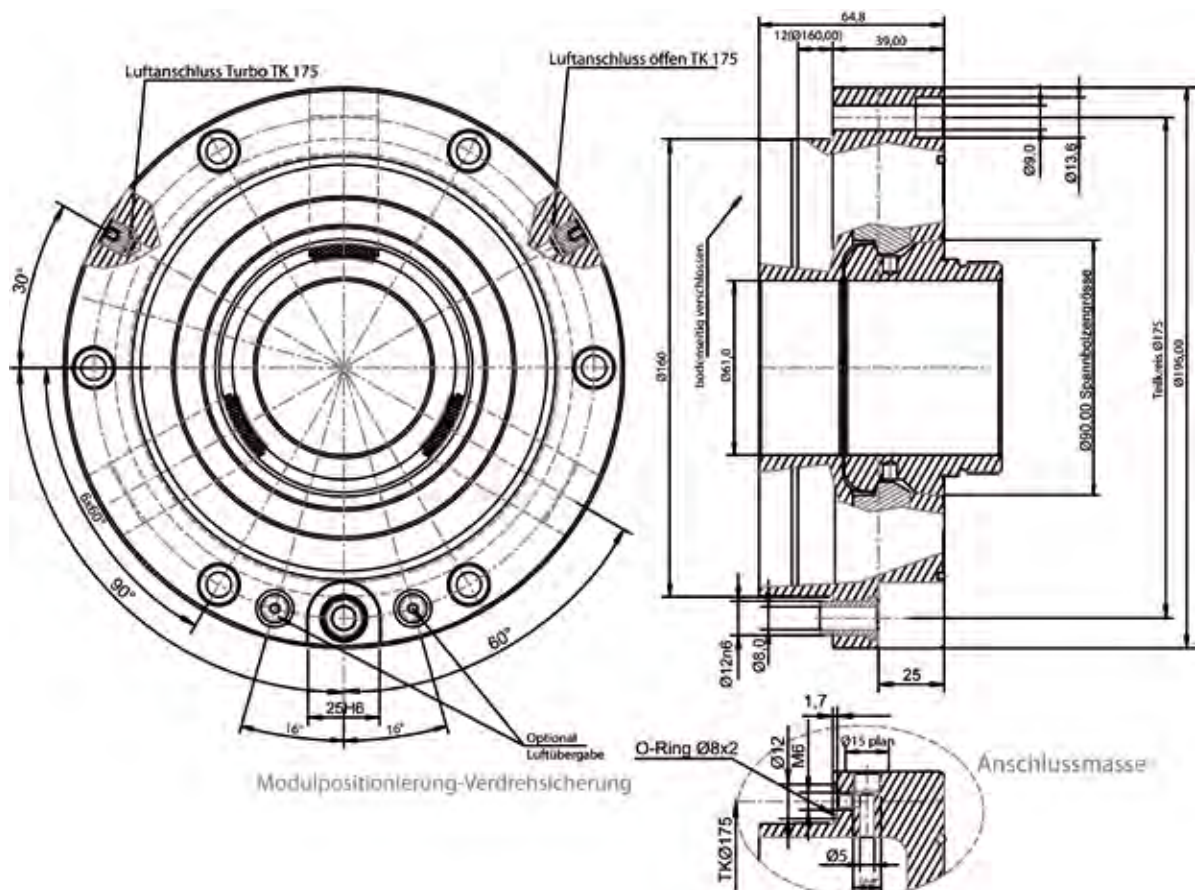
With its central clearance passage, workpieces can be sunken into the fixturing to reduce projection lengths.



Item No.	Specifications
UL500.542	Retention force: 75'000 N Thru hole: 61 mm Rpm max. 2000 U/min Repeatability: <0,005 mm Air-Connection: G 1/8" Weight: 8,75 kg

Scope of delivery

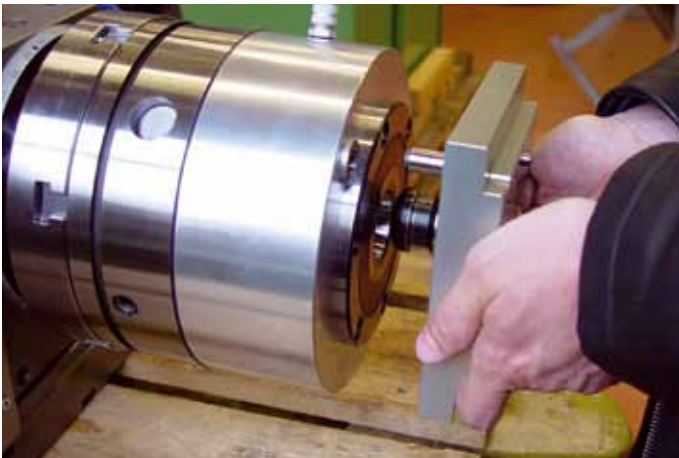
HSM 196 Installation chuck including mounting screws, protection caps for mounting screws, incoming air screw plugs, incoming air sealing plugs, collar bushing and o-Rings.





Fields of application

The HSM 196 chuck with a body diameter of 196mm/7.716" and a thru hole of 61mm/2.401" is well suited for mounting on turning machines, grinding machines, dividing attachments and rotary transfer machines. This chuck utilizes three clamping wedges to ensure uniform clamping of fixtures and three-jaw chucks during turning operations.



Item No.	Description
UL500.681	HSM 196-V hydraulic version (Operation pressure 12bar)
UL500.043	HSM 196-R, Installation chuck 196 with flange centering Ø 160mm, thru hole Ø 61,0mm, STAINLESS

ESM 100-75 ,The one for small spaces'

The ESM 100-75 is noted for its small body and can be combined easily into clamping applications.

Due to its construction height of 39mm/1.535", this elegant clamping chuck with self-assertion is established in small applications.



Item No.	Specifications
UL500.045	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Turbo pressure: 6 bar Repeatability: <0,005 mm Air-Connection (2x): G 1/8" Weight: 2,40 kg

Scope of delivery

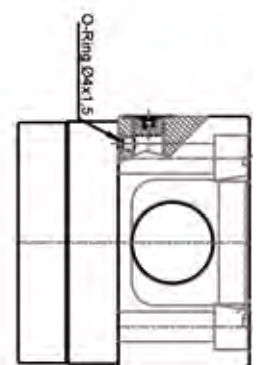
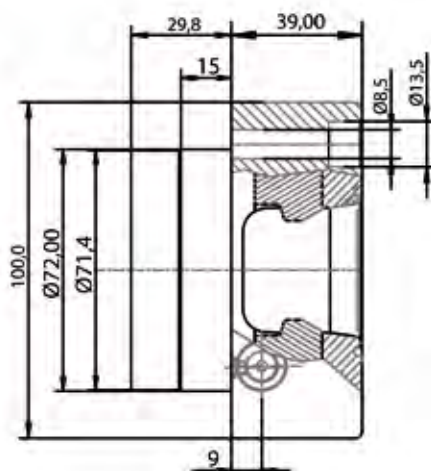
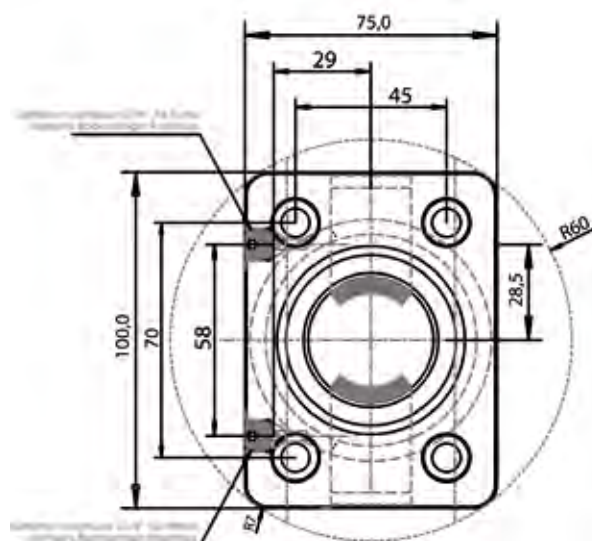
ESM 100-75 Installation chuck including mounting screws, protection caps for mounting screws and o-Rings.



Fields of application

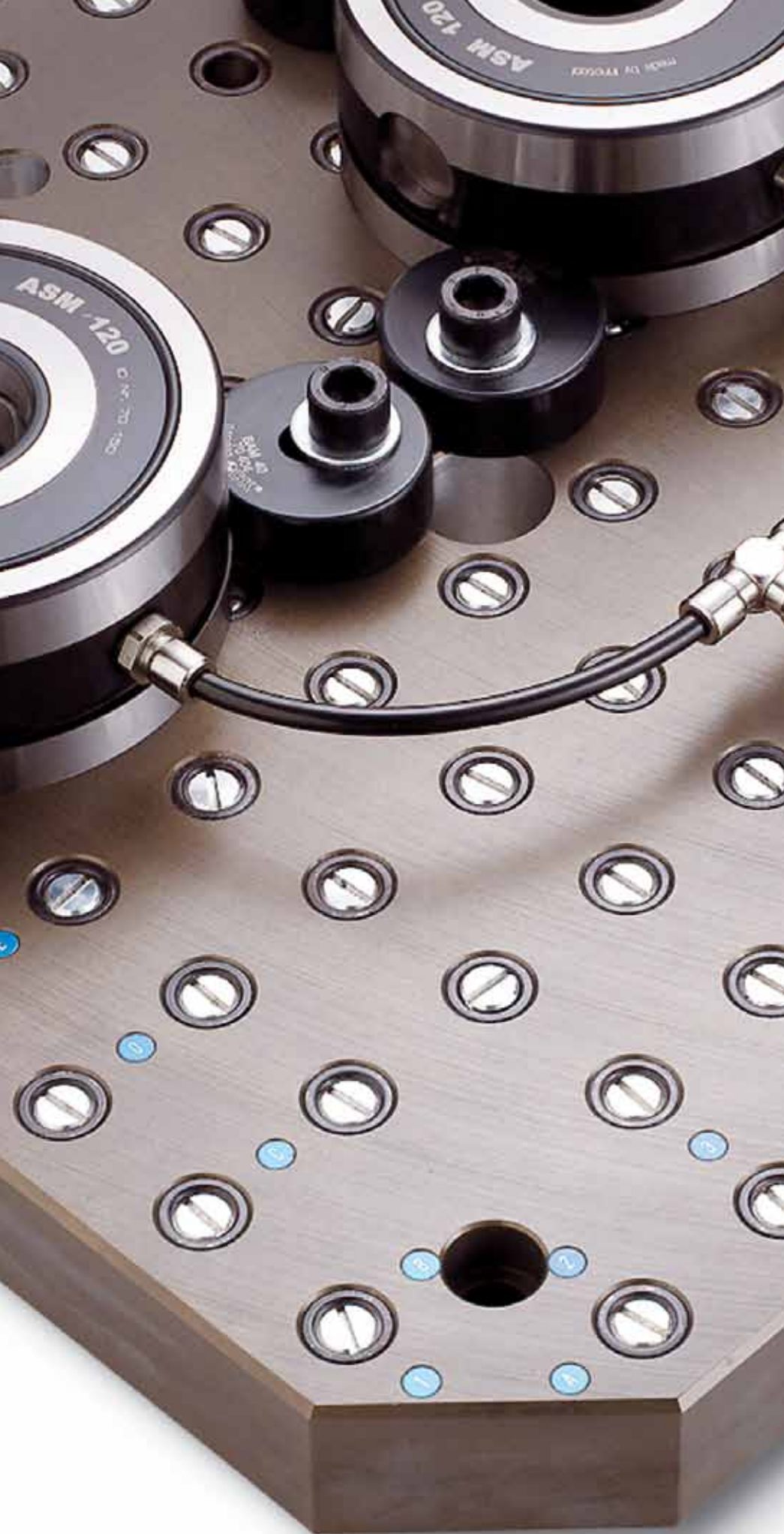
The ESM 100-75 can be assembled directly to the machine table as well as installed on angle plates, towers and any type of pallets.

Additional retention force is possible with Turbo Effect.



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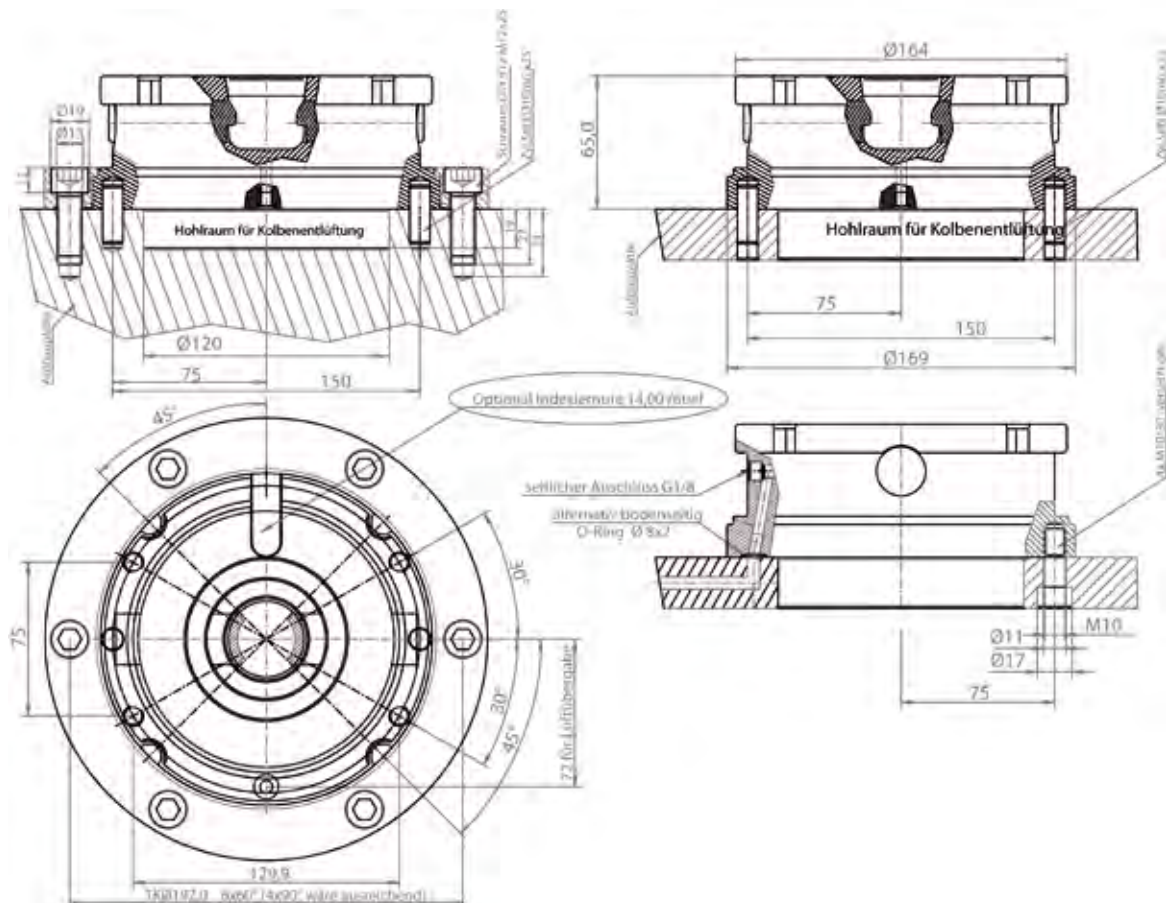


The MSM 170 offers its competences on its own. That's why this chuck is predestinated for specific single Clamping knob applications.

Item No.	Specifications
UL500.000	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Retention force (M16): 75'000 N Repeatability: <0,005 mm Air-Connection: G 1/8" Weight: 7,50 kg



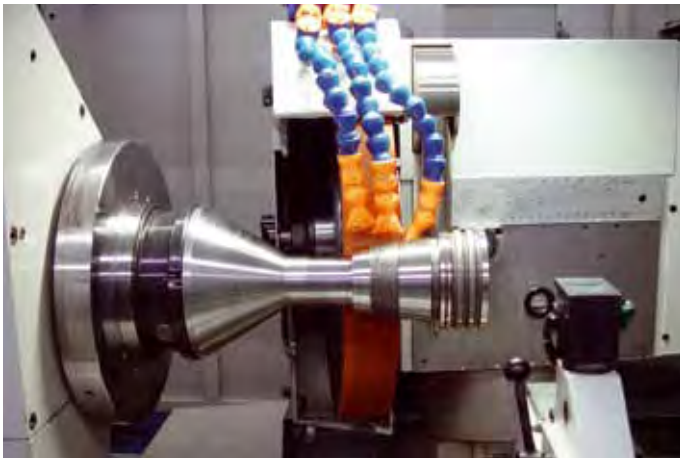
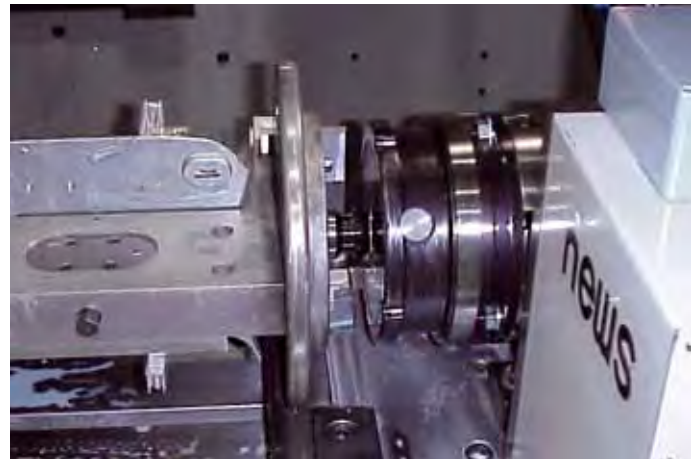
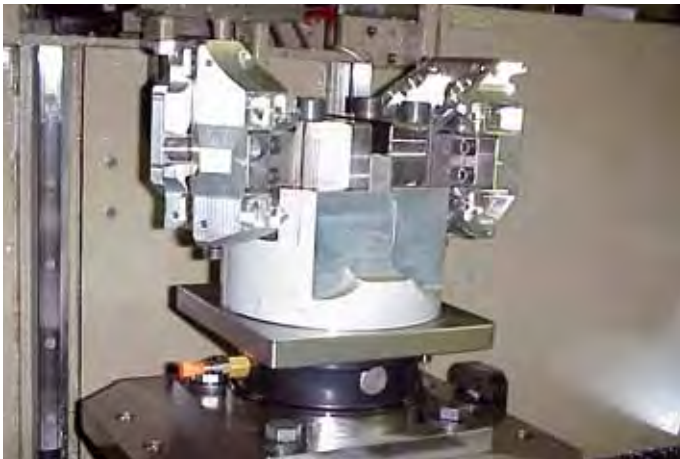
MSM 170 Assembly chuck including incoming air screw plugs and o-Rings, but without mounting ring and mounting screws.





Fields of application

Four timing notches (4x90°) and two bottom-side dowel pin positioning holes (dia. 10-H7) are included as standard and guarantee grip and orientation. The stiffness of the chucks allows the use for highest-precision operations. An additional mounting ring can be utilized for holding the chuck down (Item No.: 60200). Four mounting bolts (M10) from the bottom can be used as well.



Item No.	Description
UL500.198	Assembly ring fits for MSM 170, without bore holes

*User-specific mounting bore holes can be added, if requested.



ASM 120 ‚The one for grids‘

The ASM 120 places itself easily on grid plates.

Changing the positions is no problem for this open-minded chuck.

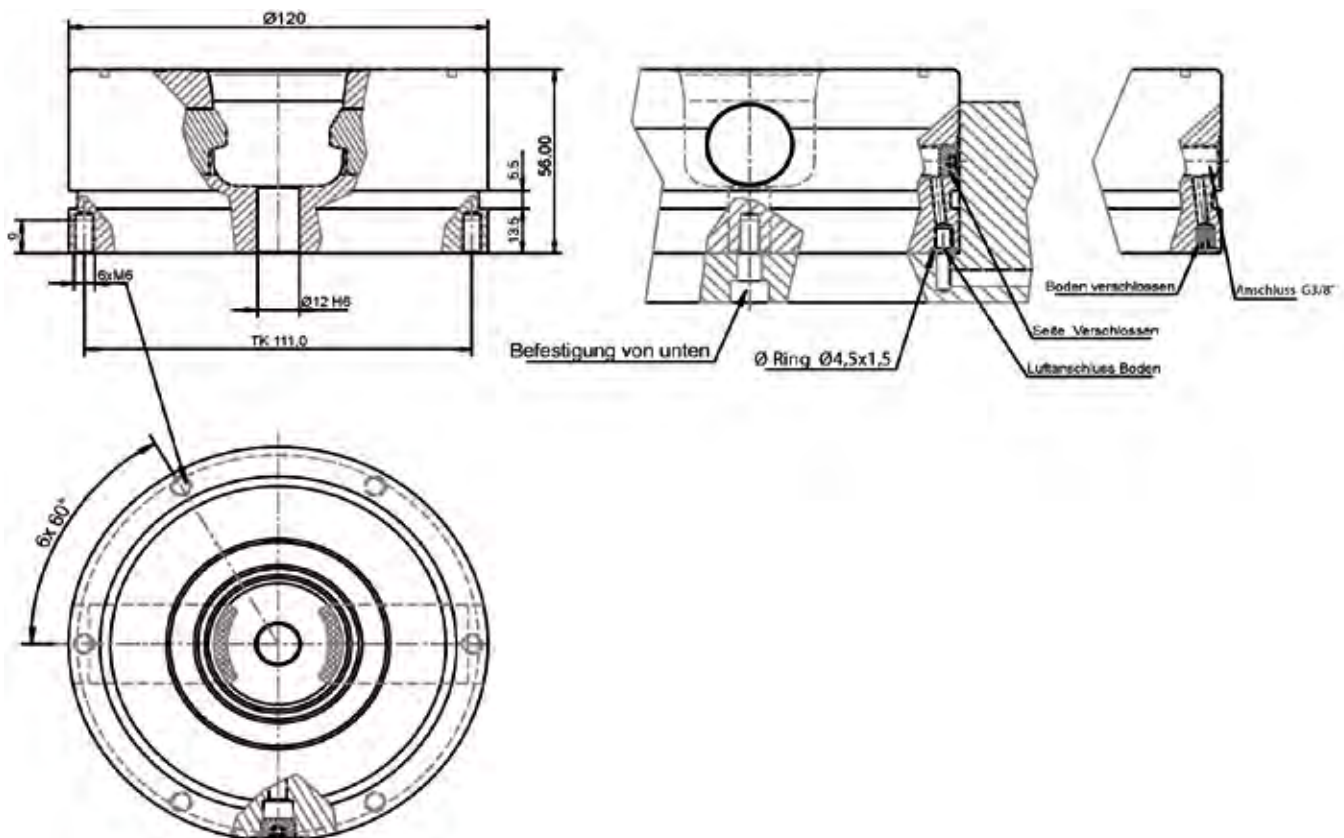
Step pins and toe clamps can be used to match customer grid plate sizes as needed.



Item No.	Specifications
UL500.028	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Repeatability: <0,005 mm Air-Connection (2x): G 1/8" Weight: 3,60 kg

Scope of delivery

ASM 120 Assembly chuck including incoming air screw plugs and o-Rings, but without centering pin and mounting screws.





Fields of application

With a body diameter of 120mm/4.724" and a G 1/8" air-connection on the side and a second port on the bottom, the chuck can be assembled into base plates and actuated individually or in tandem.

Quick positioning is accomplished via a dia. 12mm/.472" dowel pin through hole at the center of the chuck or with the outside chuck diameter.



ASM 90 'The little round one'

The ASM 90 is one of the smallest chucks of the UNILOCK family.

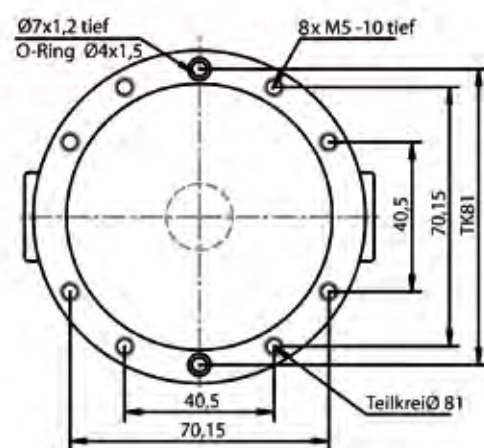
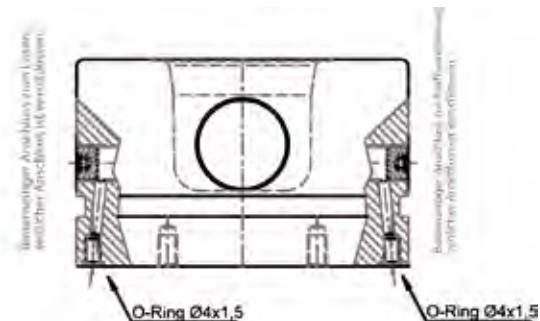
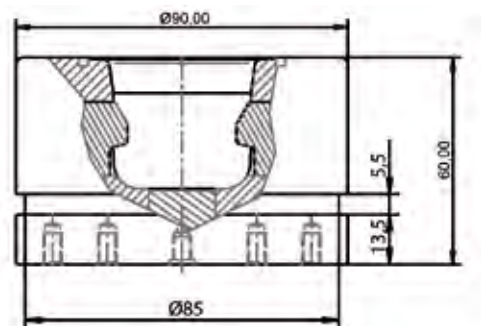
Small jobs are its specialty, the little round one fits easily into confined work areas with creating obstructions.



Item No.	Specifications
UL500.038	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Turbo pressure: 6 bar Repeatability: <0,005 mm Air-Connection (2x): G 1/8" Weight: 2,20 kg

Scope of delivery

ASM 90 Assembly chuck including incoming air o-Rings, screw plug and silencer.



Bodenanschlussschraube

Fields of application

This chuck with a body diameter of 90mm/3.543" has eight M5 mounting holes for secure attachment from the bottom.

With two sets of air-connections, on the side and from the bottom over o-rings, the chucks can be actuated individual or in tandem.



Item No.	Description
UL500.039	ASM 90-V, Assembly clamping chuck 90, with indexing
UL500.040	ASM 90-R, Assembly clamping chuck 90, STAINLESS
UL500.041	ASM 90-RV, Assembly clamping chuck 90, with indexing, STAINLESS

ASH 120 ,The manual one‘

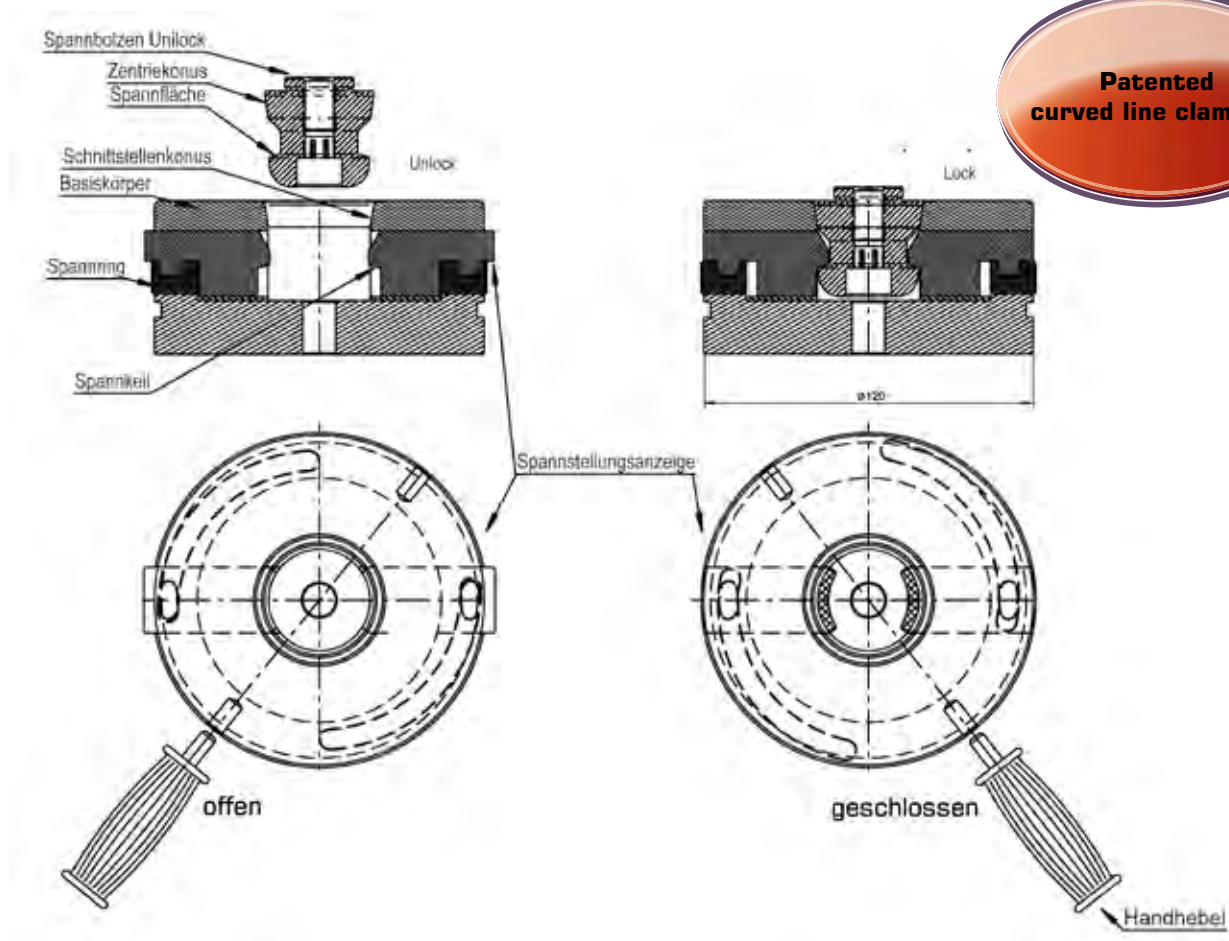
The ASH 120 is unaffected by spring forces or air supply. Because of its robust design and lock-by-hand operation, this manual one could also survive in the desert. (Chuck is opened and closed with a hexagon wrench). Six M6 mounting holes provide for stable chuck mounting. Positioning is possible on any grid plate by using a dia. 12mm/.472" step dowel pin or the ground outside diameter.



Item No.	Specifications
UL500.803	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Repeatability: <0,005 mm Weight: 3,60 kg

Scope of delivery

ASH 120 including hexagon wrench SW 6
but without centering pin and mounting screws.



ASH 185 'The big manual one'

ASH 185 supports it's little brother if the bigger picture is required.

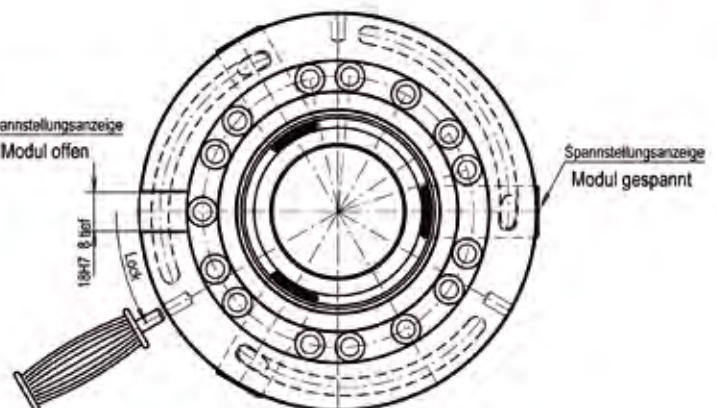
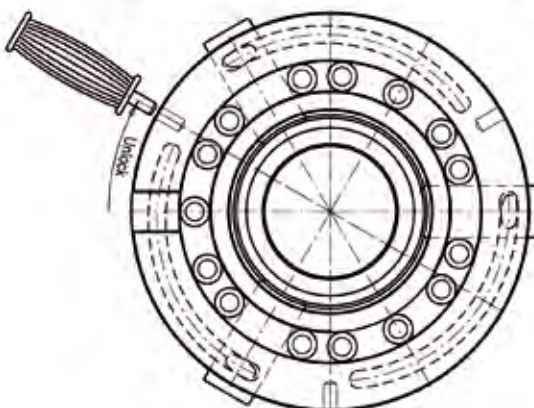
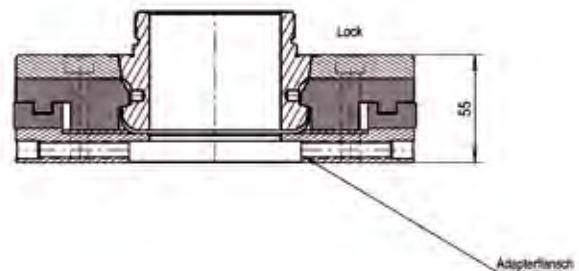
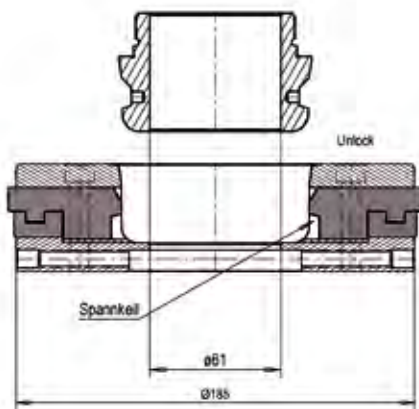
It is developed for the use on turning- and grinding machines and includes three clamping wedges and an indexing. The operation will be done manual, radial over a hexagon wrench as with the ASH 120.



Item No.	Specifications
UL500.860	Diameter: 185mm Height: 55mm Retention force: 75'000 N Repeatability: <0,005 mm Weight: 12,70 kg

Scope of delivery

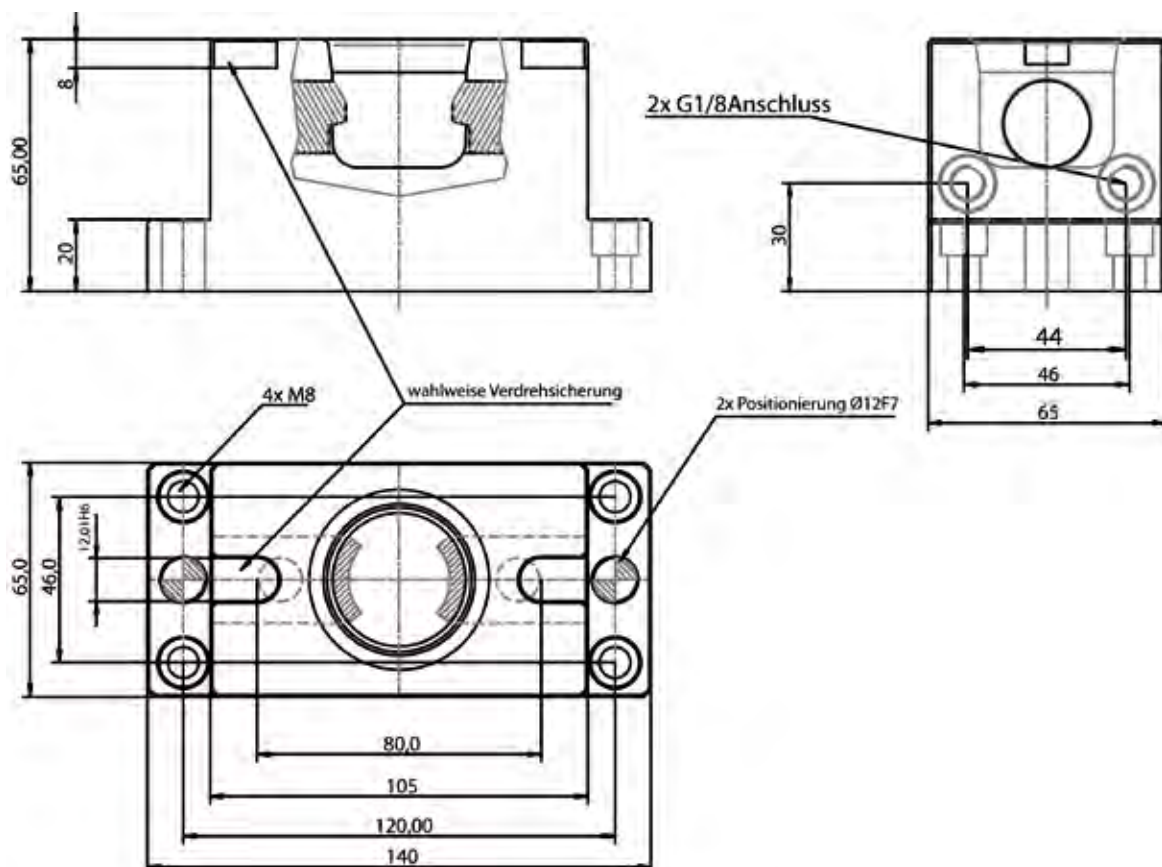
ASH 185 including hexagon wrench SW 6.



You will love every inch of this special package. With its small footprint you will be able to reach all around the AFM 105-65.

Item No.	Specifications
UL500.805	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Turbo pressure: 6 bar Repeatability: <0,005 mm Air-Connection (2x): G 1/8" Weight: 2,85 kg

AFM 105-65 Assembly Flange chuck including mounting screws, protection caps for mounting screws, pins and o-rings.

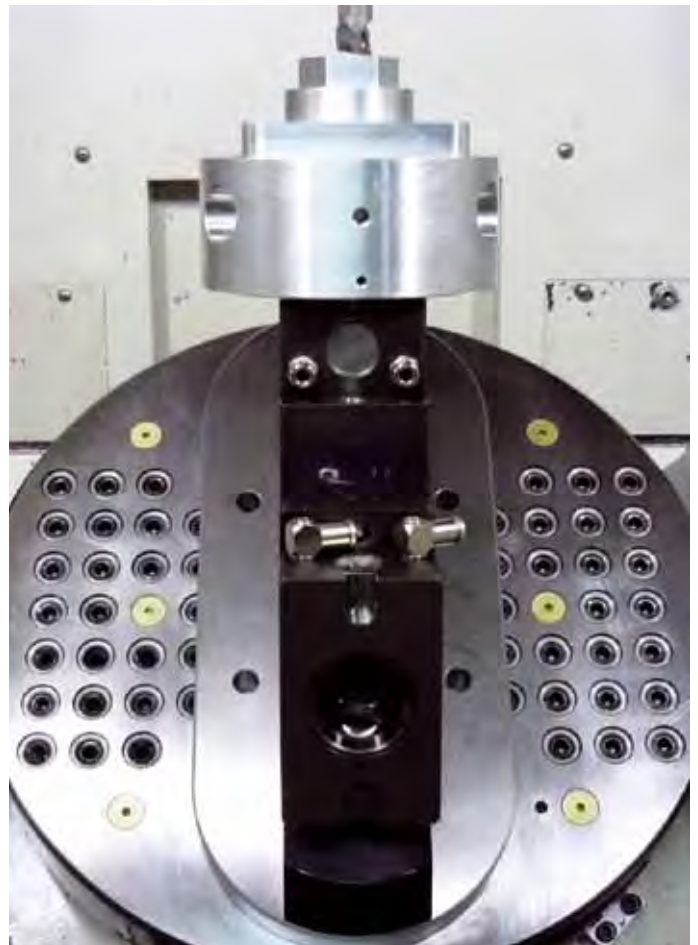
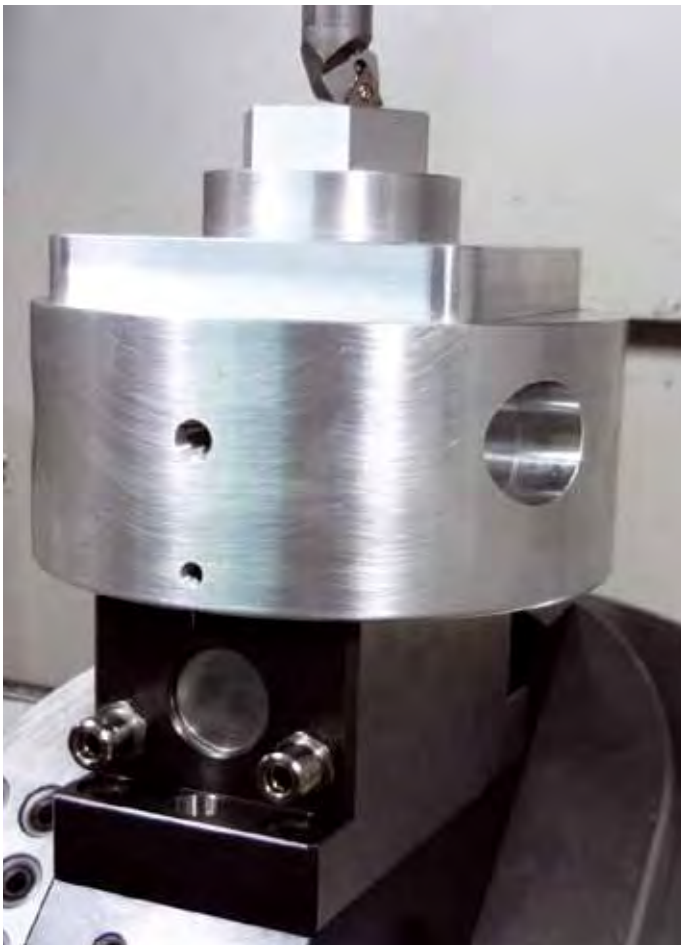




Fields of application

This small chuck and its compact footprint of 105x65x70mm/4.133x2.559x7.775" (LxWxH) will address small enclosures without a loss of clamping force or positional accuracy. Two timing notches guarantee grip and orientation of the workpiece about the center.

Because of its small construction style in a modified design it can be used as well as Automation interface.



EDB 100-150 ‚The EDM-Specialist‘

The EDB 100-150 chuck is a real water rat and loves to work on difficult jobs.

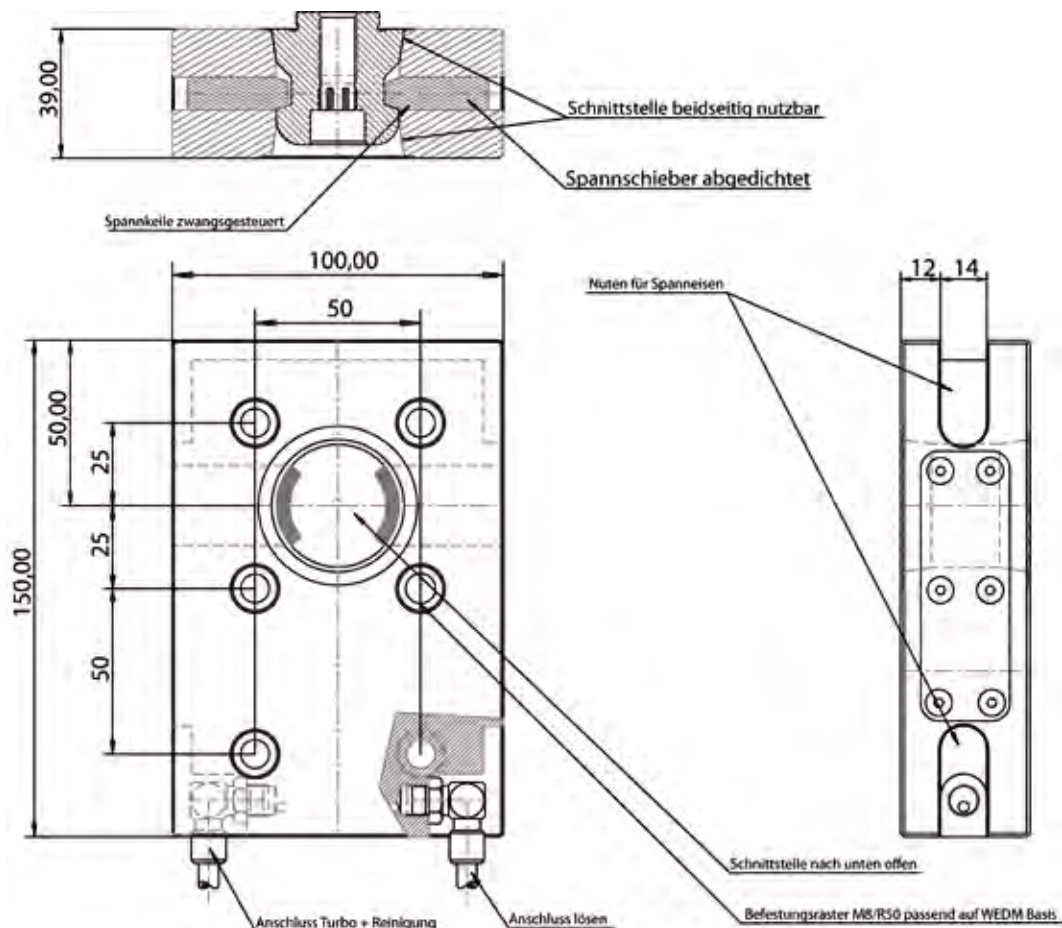
No matter how this chuck is positioned in your work cell, it requires little space and can be accessed from all sides. Developed with Wire EDM and Water Jet in mind, the EDB provides an open interface from the top, bottom or sides.



Item No.	Specifications
UL500.083	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Turbo pressure: 6 bar Repeatability: <0,005 mm Air-Connection: G 1/8" Weight: 3,35 kg

Scope of delivery

EDB 100-150 including angle-air-connections and screw plugs.

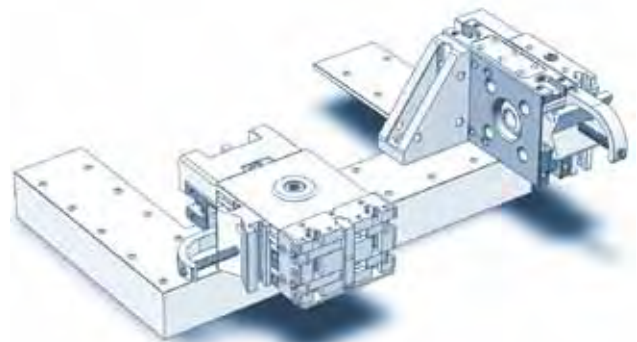
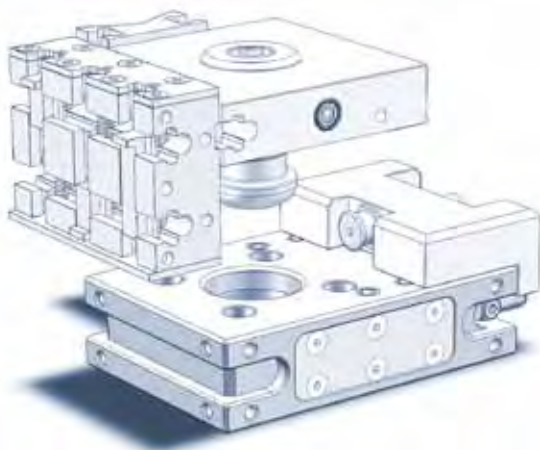




Fields of application

This flat, rust free model is universally applicable and includes EDM operations. This chuck is compatible with the whole UNILOCK product range as it uses the standard sized Clamping knob.

Due to its low overall package height of 39mm/1.535" and a footprint of 100x150mm/3.937x5.905", this chuck will fit into existing work cells with ease.



Item No.	Description
UL500.084	EDB WML 90/40, Assembly-Angle 90°
UL500.085	EDB PAL 50, Palett connection with air supply and stop between EDB 100-150 and EDB PAU
UL500.086	EDB PAU, Clamping palett 100,5x100,5 x24mm, indexed with Clamping knob stainless
UL500.087	EDB SRT, Device 100x70x33mm incl. longitudinal- and transversely stop
UL500.088	EDB PRI 50 Clamping prism



AFM 146 ,The flat one‘

Out of the box, the AFM 146 instantly surface mounts directly to your machine table. It is strong in single chuck applications, but also has team qualities.

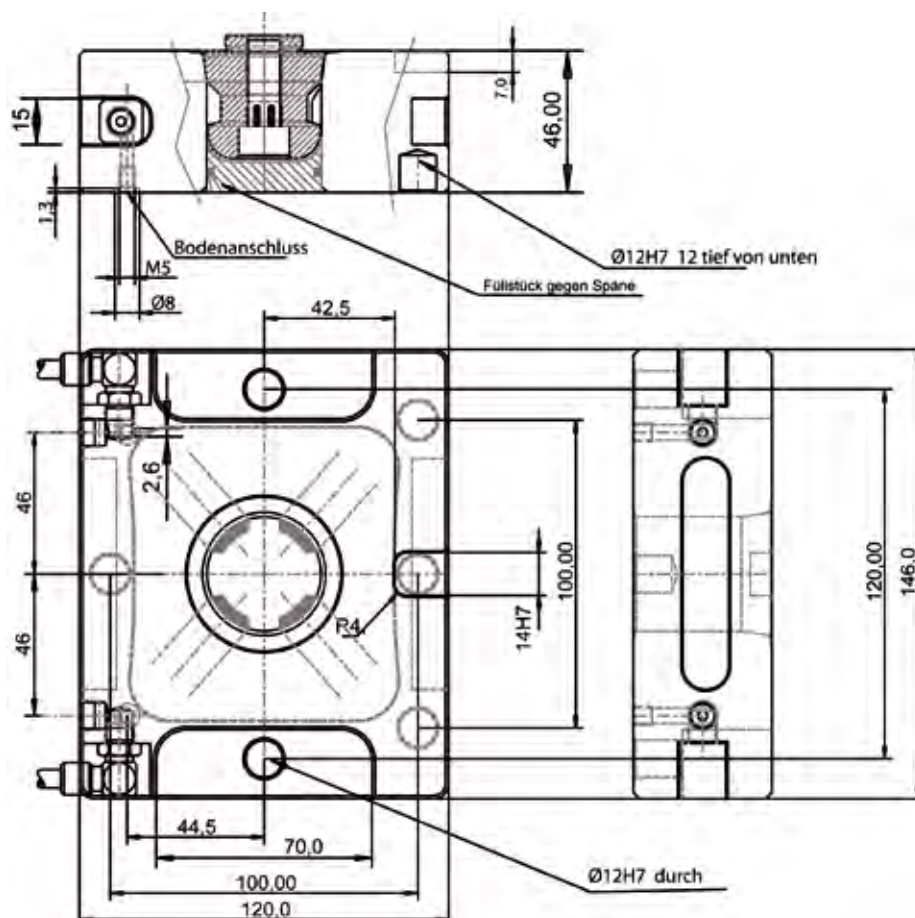
Its flat figure provides for unimagined free positioning and operations. Its square sides also allow it to stand side-by-side to form a trustworthy grid.



Item No.	Specifications
UL500.807	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Turbo pressure: 6 bar Repeatability: <0,005 mm Air-Connection (2x): G 1/8" Weight: 4,15 kg

Scope of delivery

AFM 146 including angle-air-connections and screw plugs.



Fields of application

This universal chuck can be mounted directly on the machine tables or affixed to angle plates, columns or fixture plates.

Because of its rectangular precision ground construction, it is possible to use indexing pins on the chuck exterior to control load orientation.

Dowel pin positioning bores are provided for 40 mm and 50 mm grids.



ISM 160 V ,The Indexer‘

Developed for round worktables, the ISM 160 will surface mount directly to most T-slot tables on rotary indexers.

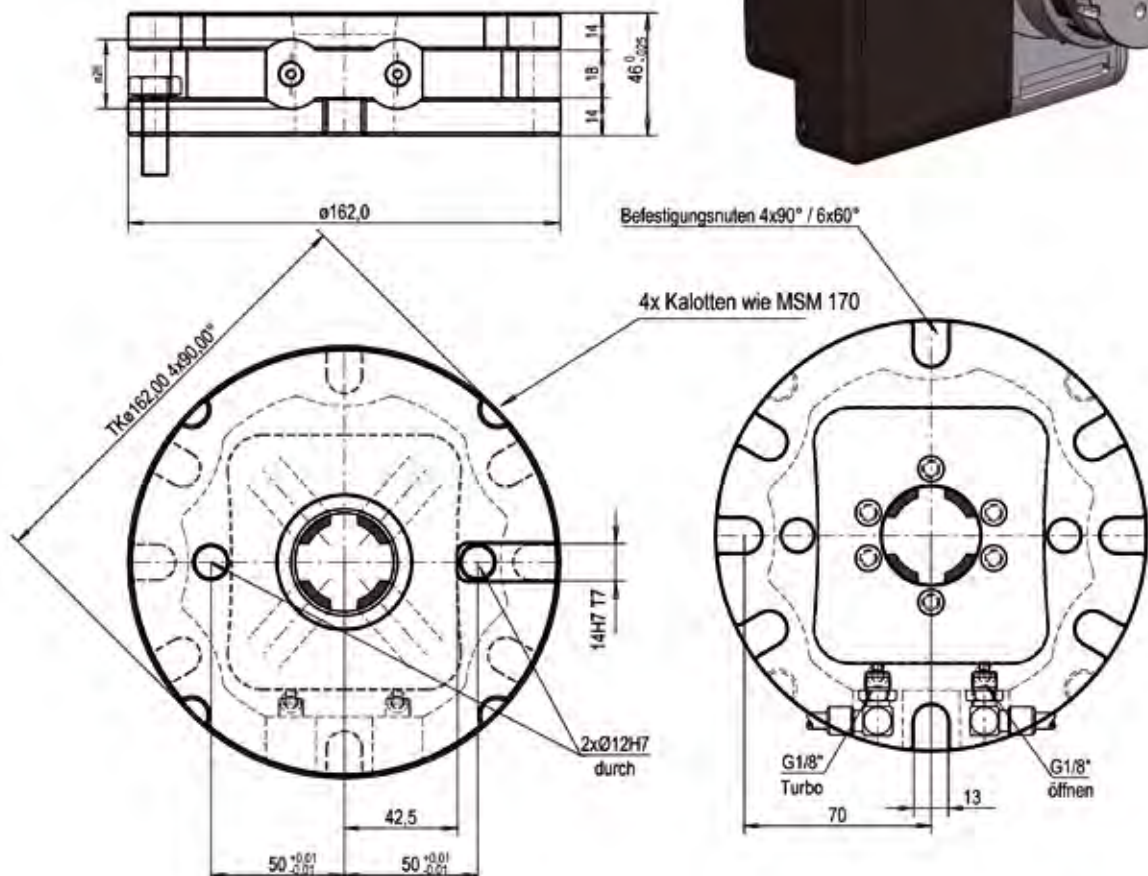
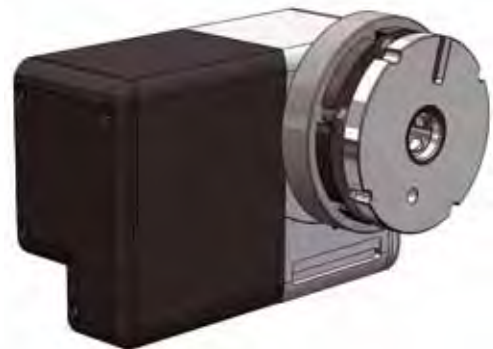
Dowel pin bores are provided for positioning this chuck on face and spindle adapter plates.

The design includes a very low assembly height of 46mm /1.811", and a 4x timing notch solution for orientation indexing (timing notch: 14H7 and pin hole 12H7).

Item No.	Specifications
UL500.808	Retention force (M10): 35'000 N Retention force (M12): 50'000 N Turbo pressure: 6 bar Repeatability: <0,005 mm Air-Connection (2x): G 1/8" Weight: 5,05 kg

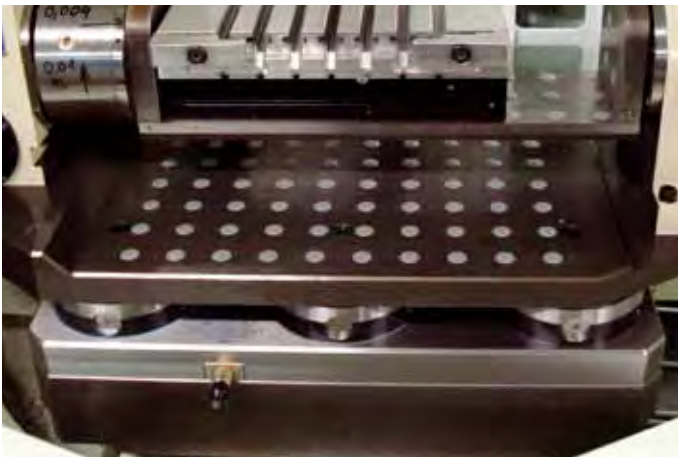
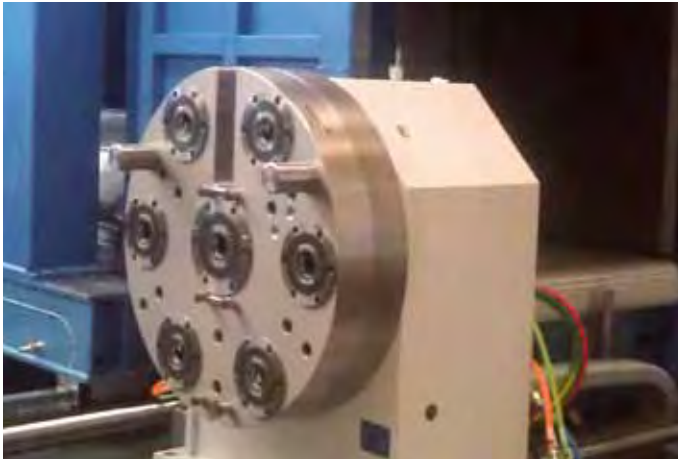
Scope of delivery

ISM 160-V including air-connection and screw plug.

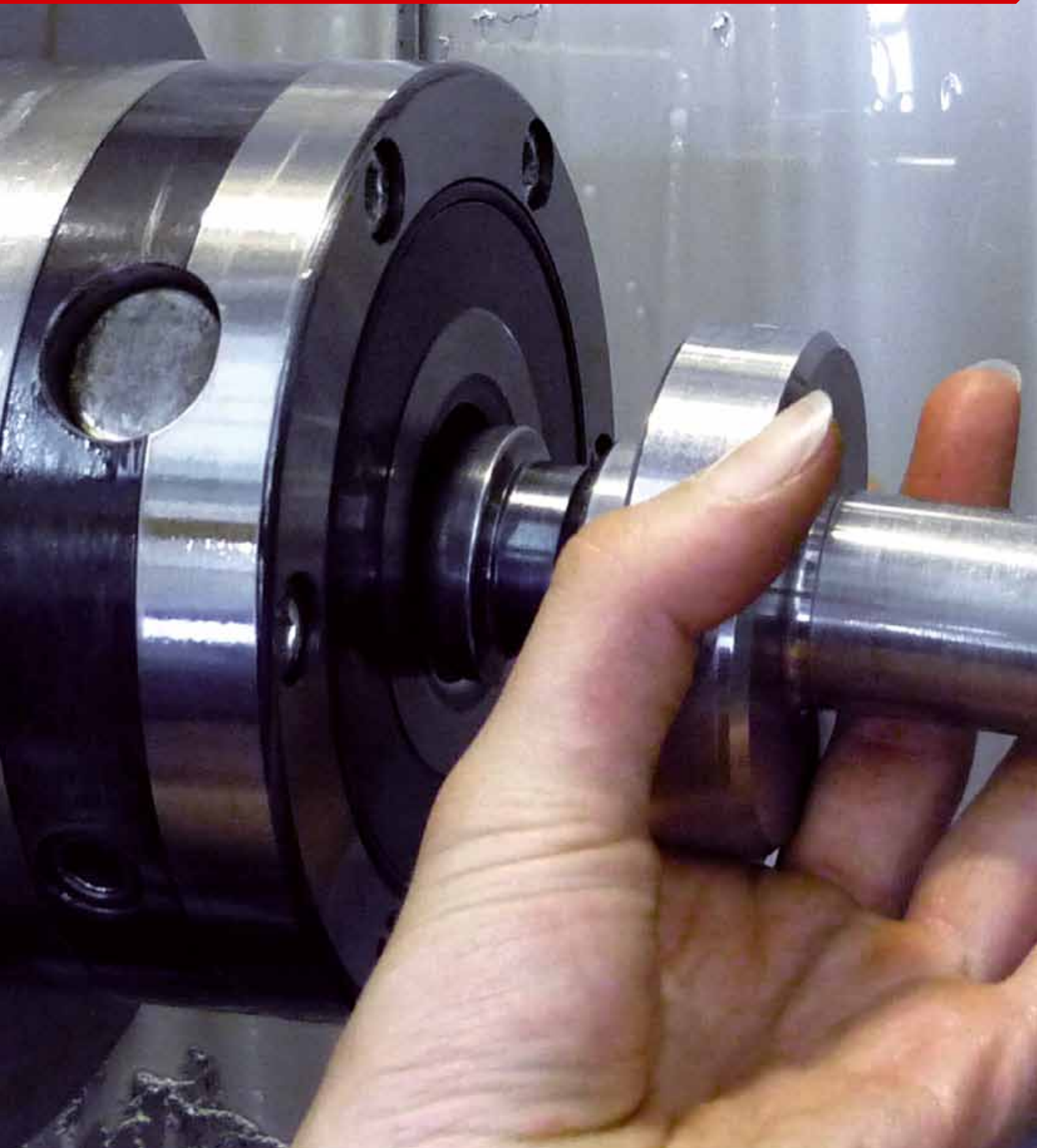


UNILOCK Fields of application

To set-up on different machines is doable in an easy way by using UNILOCK Interface and it's large UNILOCK product range. Positioning, fixation and clamping in one workstep ensures a set-up-time reduction up to 90%. Move your workpiece fast and with highest accuracy from machine talbe to machine table as well as to the measuring machine and back.



Clamping knobs





Function of Clamping knobs

Structure and positioning

Clamping knob types

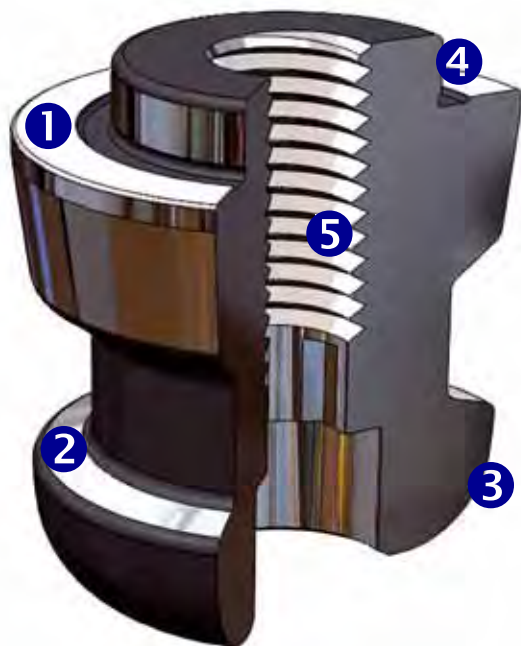
Mounting variations

Pass screws



Powerful Operation. High Repeatability.

UNILOCK Clamping knob



1 Taper planar support

A large, high-precision taper planar contact surface provides high power transmission and low-wear at the point where the Clamping knob contacts the Clamping chuck. This high taper-to-taper contact ratio will provide high repeatable accuracies of $<0.005\text{mm}$ over long term utilization. (By matching the Clamping knob fit, repeatability accuracies of $<0.001\text{mm}$ can be achieved).

2 Locking surface

A massive contact surface provides high power transmissions for pulling the Clamping knob into position and holding it in place. The 15° clamping surface ensures an involuntary opening of the clamping system by self-locking.

3 Insertion radius

The sizable entry radius facilitates manual loading operations and assists in centering the Clamping knob in the taper.

4 Locating Boss

A standard feature is the large 25 mm diameter by 5 mm tall boss. Positive position and lock is achieved when attaching the Clamping knob. Special diameters and lengths are available on request.

5 Fixation

Standard fixation: M12 internal thread and a back side counterbore for an M10 cap screw. Additional internal thread sizes include M16 and M20. A through hole can also be provided for thru mounting of M12 and M16 cap screws.

A hexagon form is included in the cap screw bore to allow the Clamping knob to be rotated.

„UNILOCK Clamping knobs supporting the Installation Clamping chuck HSM 196 (page 20) as the UNILOCK Automation Clamping rings (page 49) also operating on the same principles. These forms differ to match their respective applications and the Clamping chuck form.“

Highest Precision. Outstanding Stability.

Power and Safety

The UNILOCK Clamping knob provides commonality and interchangeability between all the Standard Clamping chucks. Due to the high proportion in the centering taper and a thick-wall, low-profile construction, these clamping knobs perfectly suit heavy-duty machining. Outstanding performance is achieved by the backlash-free short taper centering and self-locking clamping contour.



Structure UNILOCK Clamping knobs

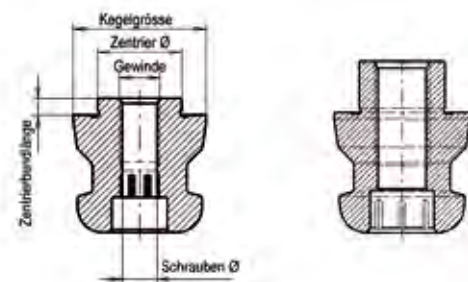
For an individual, flexible as well as precise use of UNILOCK Clamping knobs, different Clamping knob types are offered.



UNILOCK Standard Clamping knob

Due to different centering collar length of 5mm, 10mm and 15mm, individual applications can be realised. A Standard centering diameter of 25mm is available for thread sizes M12, M16 and M20. For existing centering holes, Clamping knobs has been developed with different centering diameters of 16mm, 18mm and 20mm using a standard centering collar length of 5mm.

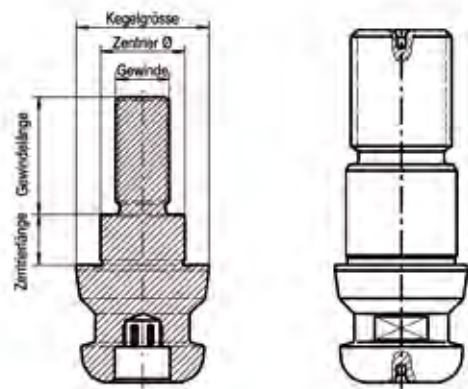
Mounting possibility: with norm screw from device or Clamping knob side.



UNILOCK Clamping knob with integrated thread

Especially for heavy machining operations, two special Clamping knobs are developed. Firstly with centering diameter 25mm, centering collar length 15mm and integrated outside thread M16. Secondly with entering diameter 32mm centering collar length 30mm and integrated outside thread M24.

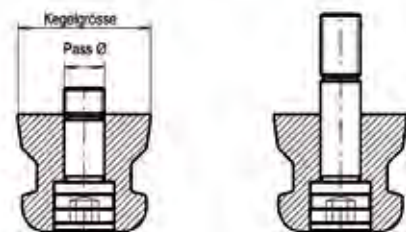
Mounting possibility: directly with integrated thread knob.



UNILOCK Clamping knob with centering hole

For direct mounting into the work piece or on grid plates, these Clamping knobs can be fixed precisely.

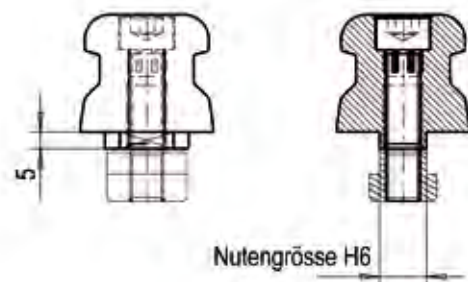
Mounting possibility: depends on each application, assembling with different pass screws.



UNILOCK Clamping knobs for T-Slot-Installation

For an easy fixation of Clamping knobs on current T-Slot machine tables, special Clamping knobs are offered for Nuts 14, 18 and 22.

Mounting possibility: directly with slot nuts and mounting screws (included in scope of delivery).



Positioning UNILOCK Clamping knob types

UNILOCK Clamping knobs are produced in types A, B and C. Their difference guarantees accuracy by using more than one UNILOCK Clamping chuck.



type A

type C

type B

Centering clamping knob type A: ensures position accuracy at the requested tolerance.

Balanced clamping knob type B: established orientation about the type A knob (Diamond pin).

Clamping knob type C: clamps without centering at the requested clearance.

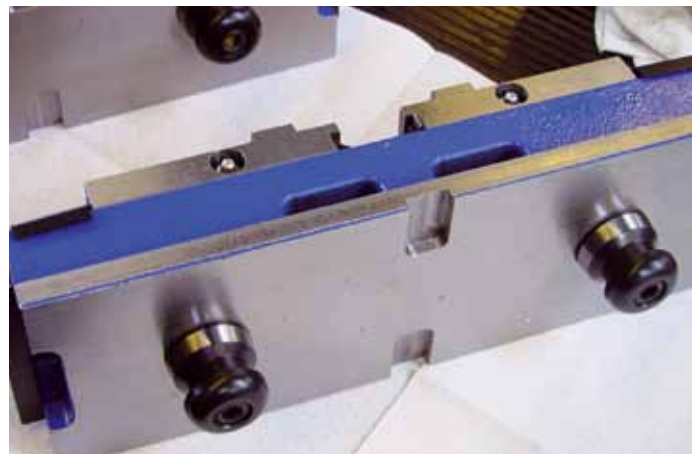
Beside picture shows, how the single Clamping knob types can be positioned for an optimal result.

Fields of application

The massive UNILOCK Standard Clamping knobs are produced out of steel with collar, hardened and μ -precise grinded for every installation matter. For ultra precise use, also very high tolerated versions are available on request.

Some UNILOCK Clamping knobs are developed specially for the use of their UNILOCK chucks. One example are the UNILOCK HSK 196 chucks.

These chucks with a thru hole of 60mm need special Clamping knobs with the same diameter but for different applications.



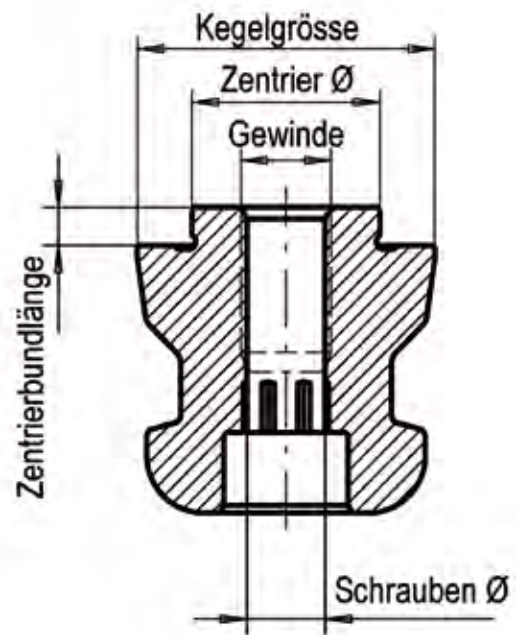
Clamping knobs ,The Connection‘

Each assistant is unique in itself, however they all deliver high gripping forces, unmatched stability and operational security.

UNILOCK Standard Clamping knobs are the most secure in all of zero-point clamping technology. They have been the industry leader in their unchanged form since their inception in 1996.



Item No.	Description	Type	Cone length	Centering-diameter	Collar length	Thread
UL500.113	SBA 40-25-5-12	A	40	25h6	5	12
UL500.114	SBB 40-25-5-12	B	40	25h6	5	12
UL500.115	SBC 40-25-5-12	C	40	25h6	5	12
UL500.116	SBA 40-25-5-16	A	40	25h6	5	16
UL500.117	SBB 40-25-5-16	B	40	25h6	5	16
UL500.118	SBC 40-25-5-16	C	40	25h6	5	16
UL500.119	SBA 40-25-5-20	A	40	25h6	5	20
UL500.120	SBB 40-25-5-20	B	40	25h6	5	20
UL500.121	SBC 40-25-5-20	C	40	25h6	5	20
UL500.122	SBA 40-25-10-12	A	40	25h6	10	12
UL500.123	SBB 40-25-10-12	B	40	25h6	10	12
UL500.124	SBC 40-25-10-12	C	40	25h6	10	12
UL500.125	SBA 40-25-10-16	A	40	25h6	10	16
UL500.126	SBB 40-25-10-16	B	40	25h6	10	16
UL500.127	SBC 40-25-10-16	C	40	25h6	10	16
UL500.128	SBA 40-25-10-20	A	40	25h6	10	20
UL500.129	SBB 40-25-10-20	B	40	25h6	10	20
UL500.130	SBC 40-25-10-20	C	40	25h6	10	20
UL500.131	SBA 40-25-15-12	A	40	25h6	15	12
UL500.132	SBB 40-25-15-12	B	40	25h6	15	12
UL500.133	SBC 40-25-15-12	C	40	25h6	15	12



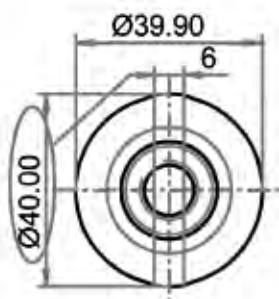
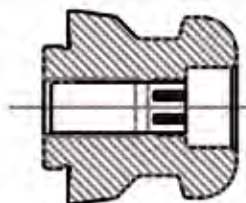


Clamping knob types with different Centering collar lenth's / -diameters



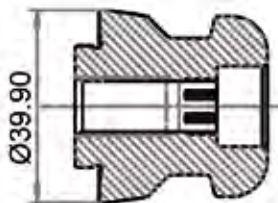
Typ B

Ausgleichspannbolzen



Typ C

Spielspannbolzen



Item No.	Description	Type	Cone length	Centering-diameter	Collar length	Thread
UL500.134	SBA 40-25-15-16	A	40	25h6	15	16
UL500.135	SBB 40-25-15-16	B	40	25h6	15	16
UL500.136	SBC 40-25-15-16	C	40	25h6	15	16

UL500.137	SBA 40-25-15-20	A	40	25h6	15	20
UL500.138	SBB 40-25-15-20	B	40	25h6	15	20
UL500.139	SBC 40-25-15-20	C	40	25h6	15	20

UL500.140	SBA 40-25-20-12	A	40	25h6	20	12
UL500.141	SBB 40-25-20-12	B	40	25h6	20	12
UL500.142	SBC 40-25-20-12	C	40	25h6	20	12

UL500.143	SBA 40-25-20-16	A	40	25h6	20	16
UL500.144	SBB 40-25-20-16	B	40	25h6	20	16
UL500.145	SBC 40-25-20-16	C	40	25h6	20	16

UL500.146	SBA 40-25-20-20	A	40	25h6	20	20
UL500.147	SBB 40-25-20-20	B	40	25h6	20	20
UL500.148	SBC 40-25-20-20	C	40	25h6	20	20

UL500.759	SBA 40-24-5-16	A	40	24h6	5	16
UL500.760	SBB 40-24-5-16	B	40	24h6	5	16
UL500.761	SBC 40-24-5-16	C	40	24h6	5	16

UL500.763	SBA 40-16-5-12	A	40	16h6	5	12
UL500.764	SBB 40-16-5-12	B	40	16h6	5	12
UL500.765	SBC 40-16-5-12	C	40	16h6	5	12

UL500.766	SBA 40-18-5-12	A	40	18h6	5	12
UL500.767	SBB 40-18-5-12	B	40	18h6	5	12
UL500.768	SBC 40-18-5-12	C	40	18h6	5	12

UL500.769	SBA 40-20-5-12	A	40	20h6	5	12
UL500.770	SBB 40-20-5-12	B	40	20h6	5	12
UL500.771	SBC 40-20-5-12	C	40	20h6	5	12

Scope of delivery

UNILOCK Clamping knobs are going to be delivered without mounting screws.

STAINLESS

All UNILOCK Clamping knobs are also available in stainless steel, on request.

Please note for safety reasons, the load forces for stainless steel knob applications need to be reduced by approximately 30%.

Clamping knobs for univeral mounting possibilities

UNILOCK Clamping knob with integrated thread

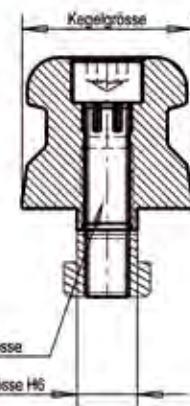
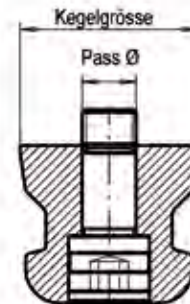
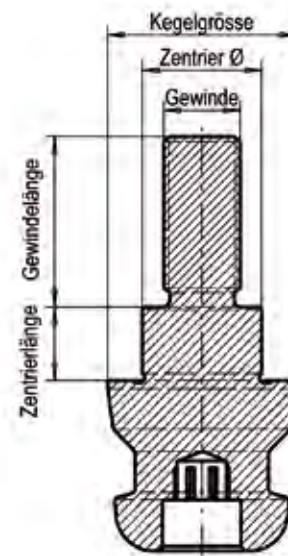
Item No.	Description	Type	Cone length	Centering-diameter	Collar length	Thread
UL500.751	SBA 40-25-15-16	A	40	25h6	15	16
UL500.752	SBB 40-25-15-16	B	40	25h6	15	16
UL500.753	SBC 40-25-15-16	C	40	25h6	15	16
UL500.755	SBA 40-32-15-12	A	40	32H6	30	24
UL500.756	SBB 40-32-15-12	B	40	32H6	30	24
UL500.757	SBC 40-32-15-12	C	40	32H6	30	24

UNILOCK Clamping knob with centering hole

Item No.	Description	Type	Cone length	Pass-diameter	Collar length	Thread
UL800.153	SBA 40-12-x-x	A	40	12G6	-	-
UL800.152	SBA 40-16-x-x	A	40	16G6	-	-

UNILOCK Clamping knobs for T-Slot-Installation

Item No.	Description	Type	Cone length	Notch collar	Collar length	Screw
UL800.154	SBA 40-14-5-10	A	40	14h6	5	10
UL800.155	SBC 40-14-5-10	C	40	14h6	5	10
UL800.156	SBA 40-18-5-12	A	40	18h6	5	12
UL800.157	SBC 40-18-5-12	C	40	18h6	5	12
UL800.158	SBA 40-22-5-12	A	40	22h6	5	12
UL800.159	SBC 40-22-5-12	C	40	22h6	5	12



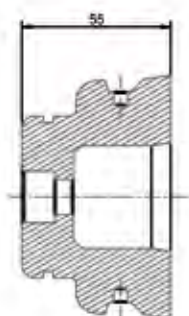
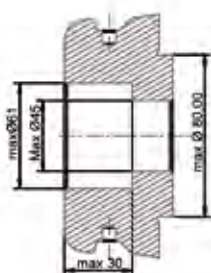
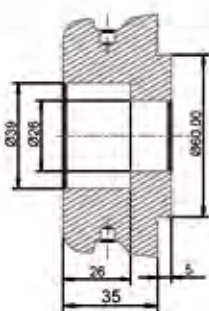
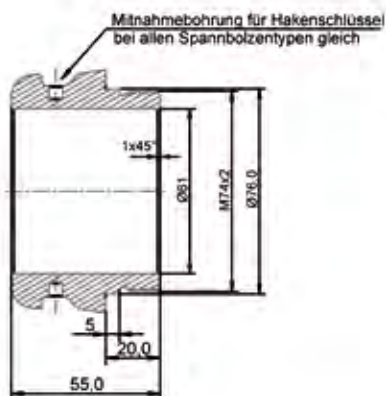


Clamping knobs for HSM 196 chucks

For the HSM 196 (p. 20) had been developed speciall, big Clamping knobs in 3 different versions.

Clamping knob type HSF 90 has been designed for chuck flange and Clamping knob type HSI 90 for socket screws M24/1".

If devices in combination with UNILOCK Standard Clamping knobs want to be used on the HSM 196, a reduction adaptor HSK 90 is available which connects both Clamping knob types.



Item No.	Description	Type	Cone length	Centering-diameter	Collar length	Thread
UL500.153	HSF 90	A	90	76h6	5	74*2
UL500.154	HSI 90	A	90	60h6	5	24
UL500.155	HSI 90	B	90	60h6	5	24
UL500.156	HSI 90	C	90	60h6	5	24
UL500.157	HSR 90	A	90	25h6	-	12



Mounting variations for UNILOCK Clamping knobs

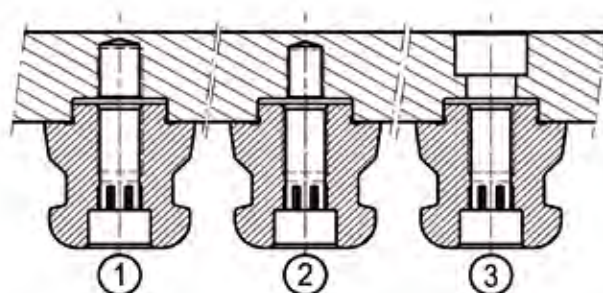
There are many mounting possibilities for different applications. UNILOCK Standard Clamping knobs are assembled with norm screws and for UNILOCK Clamping knobs with centering hole UNILOCK Pass screws in different sizes are provided.



UNILOCK Standard Clamping knobs

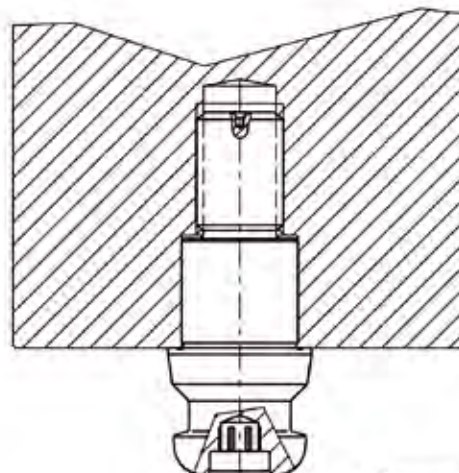
UNILOCK Standard Clamping knobs can be fixed in three different possibilities by using norm screws.

1. Assembling with grub screw DIN 913
2. Assembling with screw DIN 912, through the Clamping knob
3. Assembling with screw DIN 912 through devices or work pieces



UNILOCK Clamping knob with integrated thread

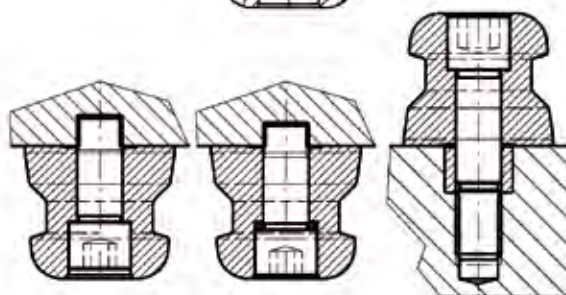
For mounting possibilities with the Clamping knob itself, special sizes of the centering and the thread are available on request.



UNILOCK Clamping knob with centering hole

These Clamping knobs can be assembled by using various UNILOCK pass screws. They are mounted through the Clamping knob and centered over a precision thread or a precision-pass diameter. UNILOCK pass screws are available for many different applications.

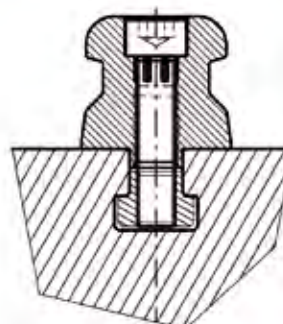
We support the Clamping knob UL800.153 with pass screws having a pass diameter of 12mm und the Clamping knob UL800.152 with pass screws having a pass diameter of 16mm.



UNILOCK Clamping knobs for T-Slot-Installation

UNILOCK Clamping knobs for T-Slot-Installation have a central pass-surface for assembling and orientation in T-Slot tables.

They are available in standard sizes 14, 18 and 22. Special sizes can be supported on request.





Pass screws

All UNILOCK pass screws are produced out of a high-strength material and hardened, for centering in a high precise thread. Length L 4 types are centering over the pass diameter.

To have the possibility to adjust the depth of the thread, insert rings are available.

Item No.	Pass-diameter	Head-diameter	Weight (metric)	Length 1 (mm)	Length 2 (mm)	Length 3 (mm)	Length 4 (mm)
UL800.201	16	20,9	16*2	55	25	35	10
UL800.240	16	20,9	16*2	43,5	24	23,5	-
UL800.222	16	20,9	16*2	28	-	8	-
UL800.221	16	20,9	16*1,5	28	-	8	-
UL800.220	16	20,9	16*1,25	28	-	8	-

UL800.241	16	20,9	14*2	40,5	21	20,5	-
UL800.225	16	20,9	14*2	28	-	8	-
UL800.224	16	20,9	14*1,5	28	-	8	-
UL800.223	16	20,8	14*1,25	28	-	8	-

UL800.242	16	20,9	12*1,75	37,5	18	17,5	-
UL800.228	16	20,9	12*1,75	28	-	8	-
UL800.227	16	20,9	12*1,5	28	-	8	-
UL800.226	16	20,8	12*1,25	28	-	8	-

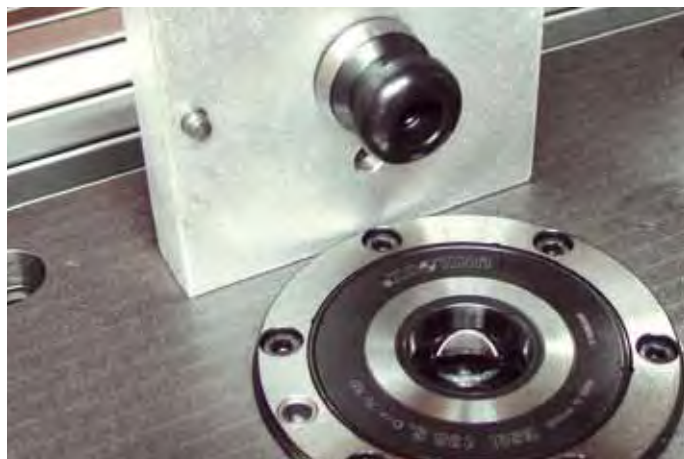
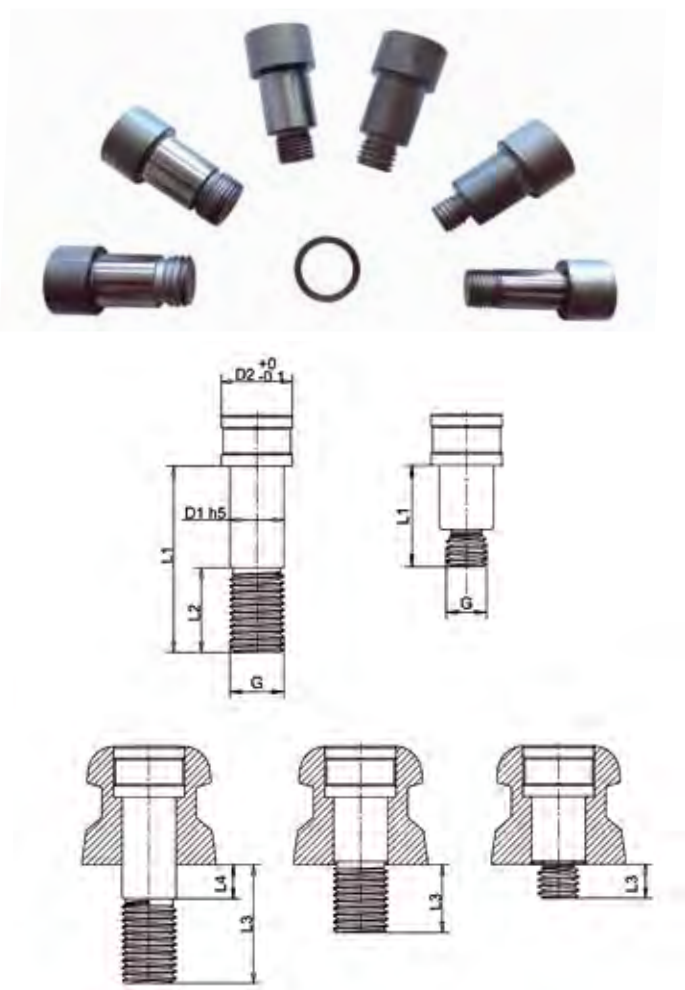
UL800.230	16	20,9	10*1,5	28	-	8	-
UL800.229	16	20,9	10*1,25	28	-	8	-

UL800.202	12	18	12*1,75	50	22	30	8
UL800.200	12	18	12*1,75	55	22	35	13
UL800.235	12	18	12*1,75	28	-	8	-
UL800.236	12	18	12*1,5	28	-	8	-
UL800.237	12	18	12*1,25	28	-	8	-

UL800.243	12	18	10*1,5	34,5	15	14,5	-
UL800.238	12	18	10*1,5	28	-	8	-
UL800.239	12	18	10*1,25	28	-	8	-

Scope of delivery

UNILOCK pass screws incl. insert ring only for pass screws with length L 3=8mm.





innotool austria
GmbH & CoKG
Oberhub 11
6844 Altsch
Austria

T +43 5576 79040
F +43 5576 79041
office@innotool-austria.com
www.innotool-austria.com