

NEW!

INTERACTIVE PDF

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CHANGE!

VERO-S

The modular Quick Change Pallet System
Pull-down forces of up to 40,000 N



EXCEPTIONAL PRECISION FROM THE COMPETENCE LEADER.

Patented dual stroke actuation
with turbo function for pull-down
forces of up to 40,000 N



Costs from set-up times,
change-over times and idle times.

90 %
Cost savings

Conventional clamping systems

VERO-S

The rationalization effect

Positioning and clamping in one operation – VERO-S gets to the heart of improved productivity and reduces set-up times by up to 90%. Setting up the workpieces outside the machine in parallel to the processing time minimizes downtimes enormously – a crucial factor when it comes to cost savings in the process chain. Especially in small batch quantities and a comprehensive range of workpieces, very significant cost advantages can be achieved with quick change pallet systems.



VERO-S - the set-up time optimizer

Highest holding forces - high-precision repeat accuracy

More efficient, faster, more precise – the VERO-S quick change pallet system from SCHUNK is the new benchmark in precision and economy in machine tools.

VERO-S is the continued development of the SCHUNK UNILOCK, proven tens of thousands of times, and completely replaces the existing system.

The all-new way of reducing set-up time ensures higher machine running times and a more rational production from smaller batch size. SCHUNK thus supports the trend toward greater production variability.

VERO-S is fully compatible with the existing system and offers a whole package of additional features for the same price.

In order to increase life span and process reliability further, the base body and all functional components such as clamping pins and clamping slides are made of hardened stainless steel. Hermetically sealed against dirt, the modules are completely maintenance-free.

The extensive standard module program for both manual and automated palletizing is available from stock.

Profit from more precision, economy, process reliability and efficiency through the leading expert for clamping technology and gripping systems as well as from the innovation potential of the family-run company SCHUNK:

- ▶ Patented dual stroke actuation guarantees pull-down forces of 9,000 N
- ▶ Up to 400% more pull-down force thanks to turbo function for higher machining parameters – up to 40,000 N
- ▶ 90% less set-up costs for more efficient production
- ▶ High-precision pin centering mechanism – repeat accuracy < 0.005 mm for highest precision
- ▶ Permanent and safe clamping via the combination of self-locking and spring actuation
- ▶ Uniform interface for various machines and processes
- ▶ A consistent clamping pin size for all modules
- ▶ Complete compatibility with SCHUNK UNILOCK and all SCHUNK clamping devices
- ▶ Same price – more performance

Manual and automated loading – all in one

All in one: An air purge connection and a monitoring option of the clamping slides are integrated as standard equipment in every VERO-S module. Each module can thus also be used as needed for a process reliable, fully automated fitting. The manual and automated loading

option provides high flexibility and significantly reduces investment costs. Because air connections are available on both the bottom and the side, the modules can be used quite flexibly in any installation position.



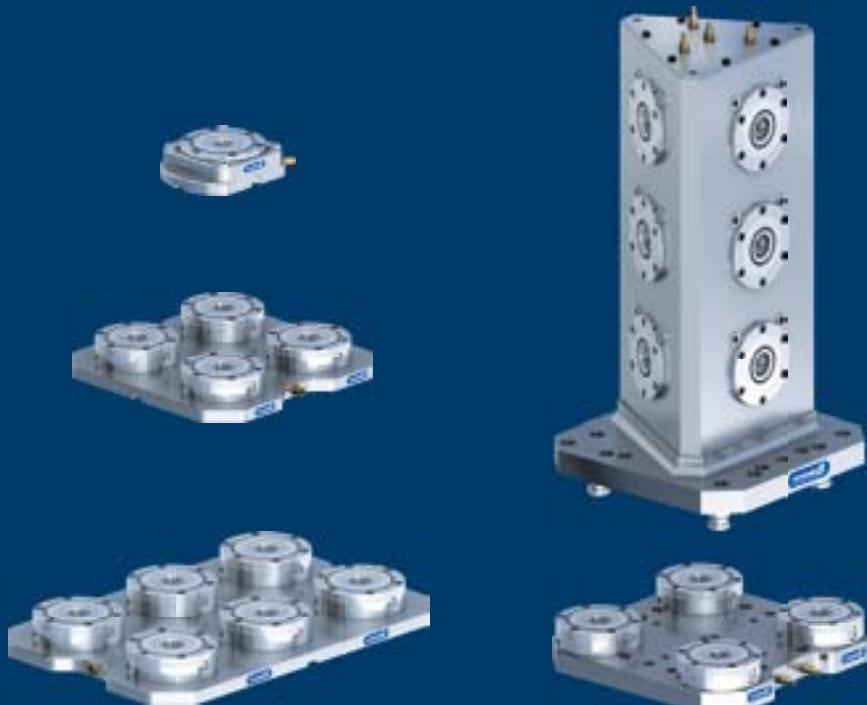


The standard on VERO®-S: Variety

Different module sizes with various holding forces from stock

There is space on the smallest machine table. And this is optimally used by the VERO-S quick change pallet system in an intelligent way. SCHUNK offers a comprehensive standard program directly from stock with guaranteed custom individuality: In addition to the standard individual modules, 4x and 6x pallets and tomb-

stones, the modules can be customized with the VERO-S baseplate to suit your needs. For clamping tasks that cannot be generated from the program, SCHUNK develops and implements the best solution for you.



The uniform clamping pin size on all VERO-S modules allows workpiece change in production on the fly. From machine to machine. From module to module.

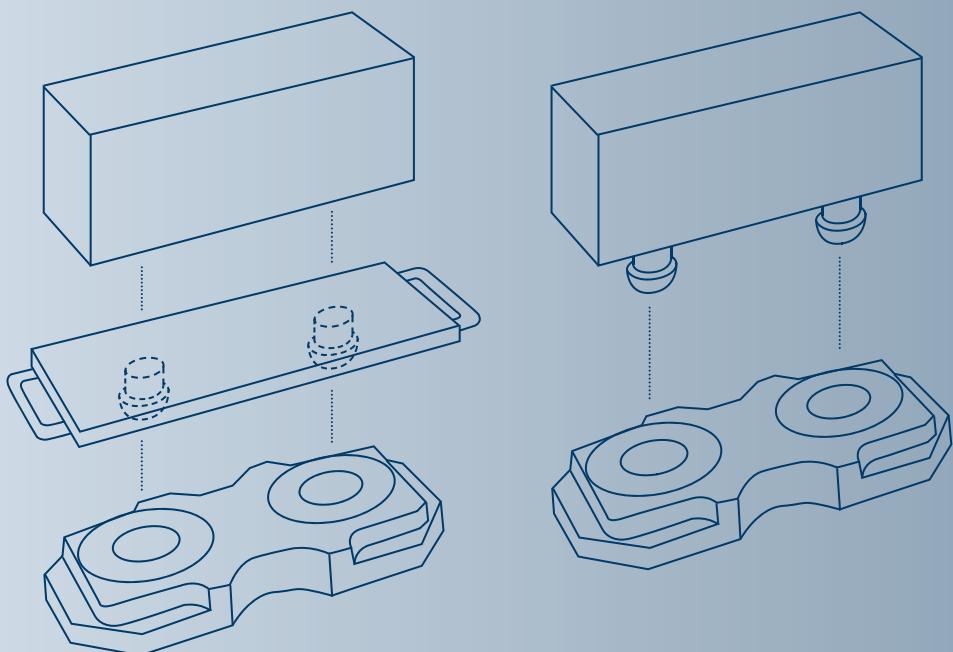
Modular design for individuals

Highly standardized – for maximum flexibility

VERO-S clamps workpieces, pallets, modules for stationary use, and tombstones via one or more clamping pins. The uniform clamping pin size ensures the user maximum flexibility and universally fits all quick change pallet modules – regardless of whether it is a new system or an old one.

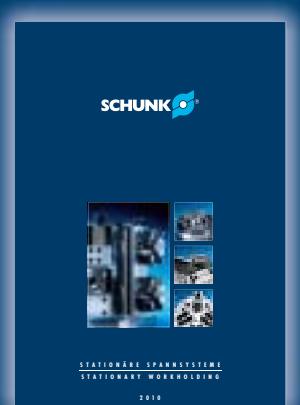
In combination with the other products and systems of the SCHUNK Stationary Workholding program, you profit from the most comprehensive, standardized complete range for efficient workpiece clamping.

Whether pneumatic, hydraulic, mechanical or magnetic – the SCHUNK range offers you one-stop flexible and diverse opportunities for machining different workpiece geometries in a variety of procedures. In short: With SCHUNK almost everything can be clamped – micron precise and according to your individual needs.



Application 1:
Pallet clamping

Application 2:
Direct workpiece clamping



SCHUNK Stationary Workholding

The comprehensive program for the micron precise connection between machine table and workpiece.
Order it today.



VERO-S tombstones

As a basis for numerous clamping possibilities with manual or automatic clamping devices – ideal for 4-axis horizontal machining centers.



TANDEM clamping block

Compact powerhouses for use in very restricted spaces. Pneumatic, manual, or hydraulic.



ROTA chuck

Universal with comprehensive accessories. For clamping round and customer-specific workpieces.



VERO-S baseplate

For fastening workpiece clamping devices. For quick and positionally accurate conversion.



KONTEC – manual clamping systems

For quick and safe clamping. High clamping forces, simple presetting. Optimal for clamping rough and finished parts.



KONTEC double vise

For simultaneous clamping of two identical or non-identical workpieces.



KONTEC MTC Multi Function Vise

Compact design, multi-sided mounting optimizes the machine envelope.



TANDEM – hydraulic and pneumatic clamping blocks

Compact solution. Pneumatically actuated supply with compressed air through-feed.



MAGNOS magnetic clamping technology

Electro-permanent magnetic clamping technology for maximum holding force and flexibility in the clamping range.

Simply exciting technology

- ▶ Stainless and hardened version is standard
- ▶ Enormous pull-down forces
- ▶ Completely sealed, maintenance-free system
- ▶ One clamping pin size for the entire series



NIKROZ

VSE plus 138

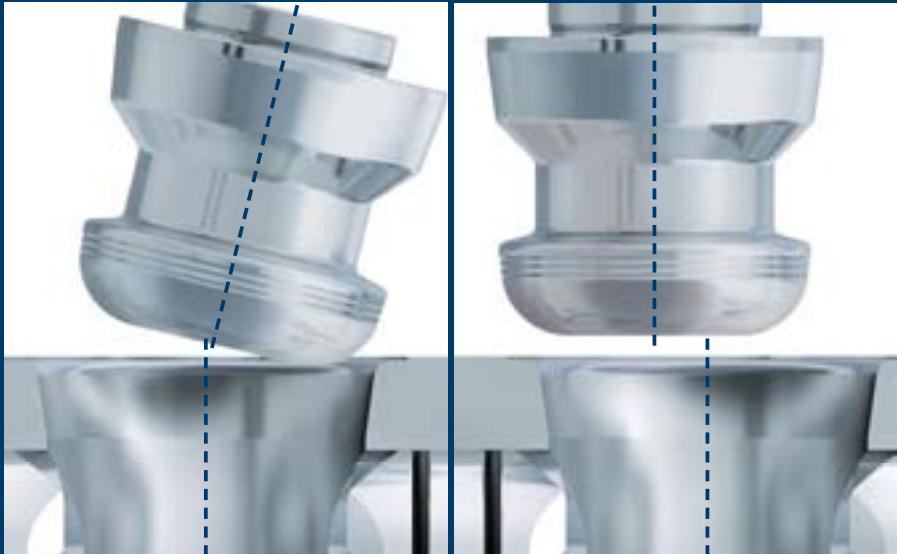
STAINLESS
STEEL

Best repeat accuracy – highest process reliability

Easy positioning – more flexibility

Entry radii on the clamping slide enable quick and safe joining even with a tilt angle and eccentricity.

Your advantage: More flexibility for manual and automatic loading



Centering via short taper

The precise short taper centering in conjunction with the form-fitting and self-locking locking characterizes the SCHUNK quick change pallet system.

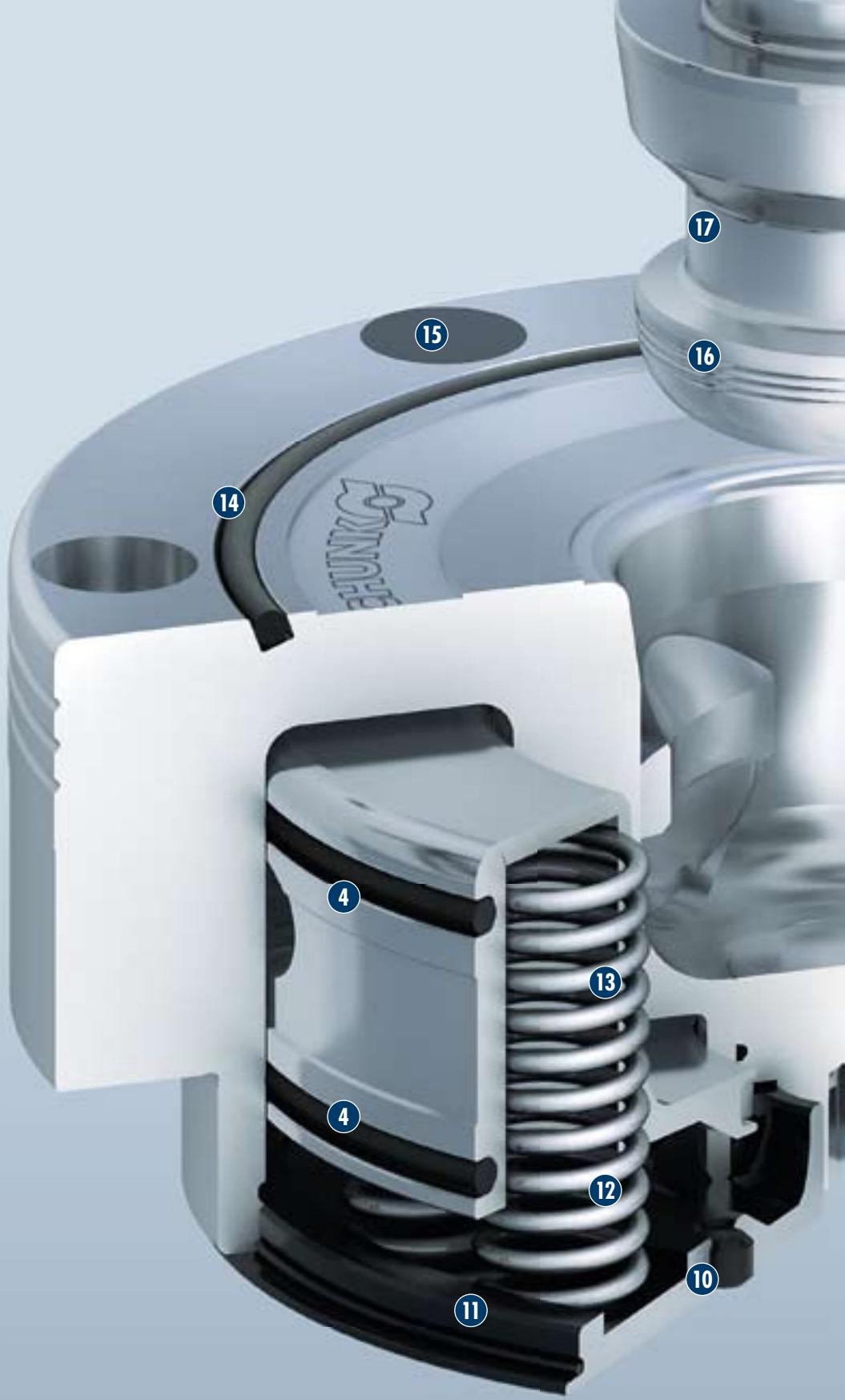


Locking via clamping slide

Large contact surfaces between clamping slide and clamping pin assure a low surface pressure.

Your advantage: Long life span without wear.





1 High-precision short taper centering with very simple joining behavior

2 Large flat surface for best support and highest rigidity

3 Stainless and hardened version of all functional components is standard

4 High-quality sealing elements for long life span

5 Dynamic pressure monitoring of the clamping slide position possible

6 Patented quick stroke and power stroke on the clamping slide, therefore enormous pull-down forces

7 Pneumatic system. Actuation at 6 bar



8 Large surfaces to transmit the pull-down and holding forces

9 Centrally screwed in plug, can be provided with a bore hole to add a blow-out function

**STAINLESS
STEEL**

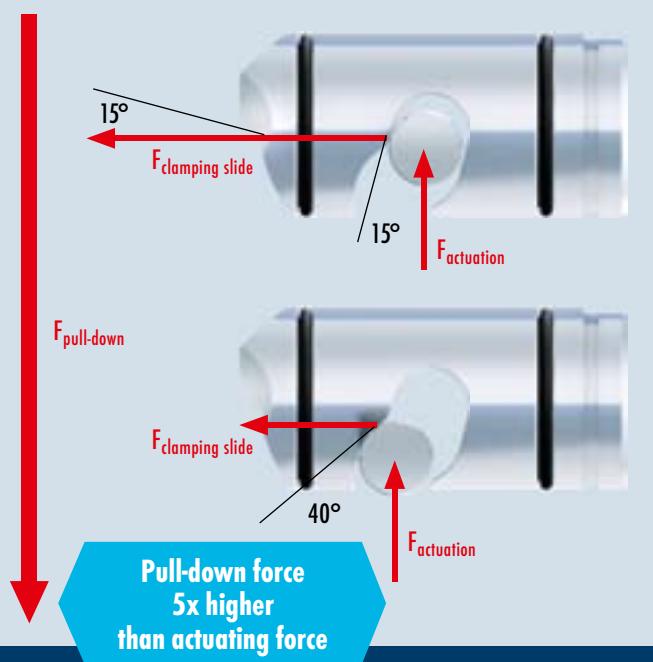
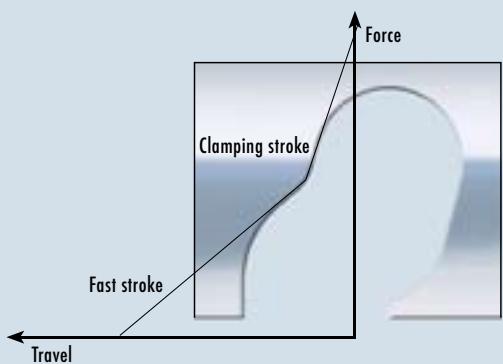


- 10 Completely compatible with NSE 138
- 11 Cover plate, so system is completely sealed off
- 12 Turbo function for pull-down force amplification
- 13 Corrosion-free, fatigue-resistant compression springs
- 14 Flat seal to protect the interface during machining. Dampening when putting down a workpiece or pallet
- 15 Cover caps for mounting screws, so no dirt accumulation is possible
- 16 Entry radii on the clamping pin
- 17 One clamping pin for the entire series

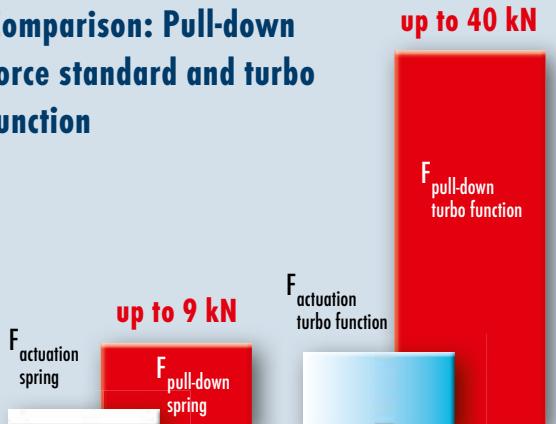
Maximum pull-down forces for higher cutting parameters

Fast and clamping stroke – the patented force

The patented fast and clamping stroke of the VERO-S provides the best transmission ratios and thus a maximum pull-down force of 9,000 N in clamping condition.

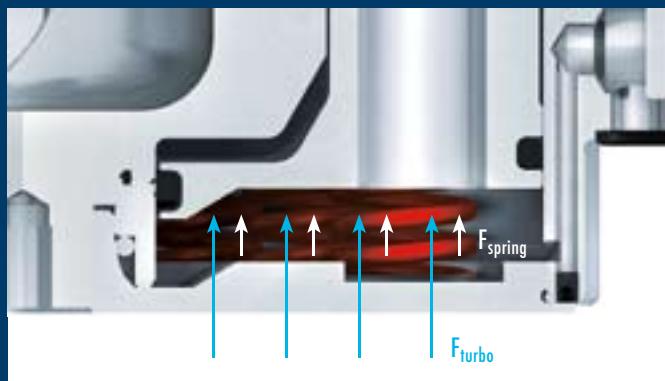
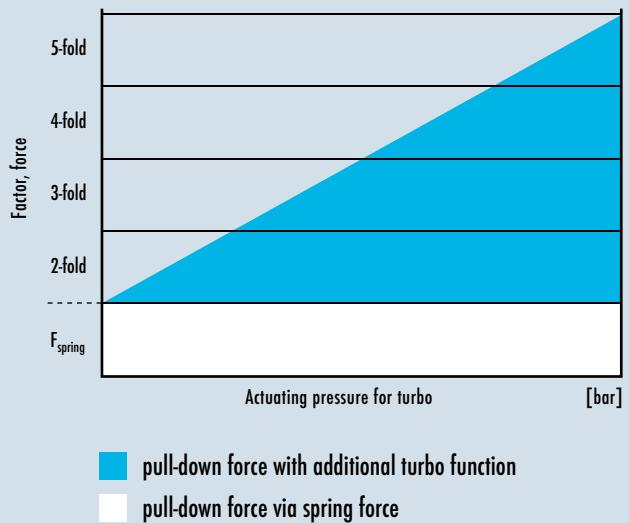


Comparison: Pull-down force standard and turbo function



Standard clamping
is only possible via
spring force

Turbo clamping
by additional actuation with compressed
air (impulse for actuation)



Integrated turbo function – pull-down forces up to 40,000 N

The turbo function is integrated in each module and allows considerably higher cutting parameters. When activated, it also supports the spring force, thus ensuring extremely high pull-down forces up to 40,000 N. Mechanical locking is done via the spring assembly and is self-locking and uses form-fit clamping. Holding forces up to 75,000 N are achieved.

Safer – more flexibility

Made of stainless steel – long life span

All functional components are made of hardened stainless steel.

Your advantage: This significantly increases life span and process reliability compared to the previous system.



Hermetically sealed – maintenance-free

The cover plate at the lower piston chamber seals the system off completely.

Your advantage: The maintenance-free module is protected from chips, dirt and coolant.



Configuration of clamping pins type A, B and C

The clamping pin is used for clamping and positioning the workpieces or devices to be re-set. Basically, there are three different types of clamping pins:

Type A fixed

Type B positioned – diamond shaped

Type C with centering play for clamping of the workpiece



Two air connections – versatile in installation

The modules are actuated via lateral or bottom air connections.

Your advantage: The module is versatile in installation.

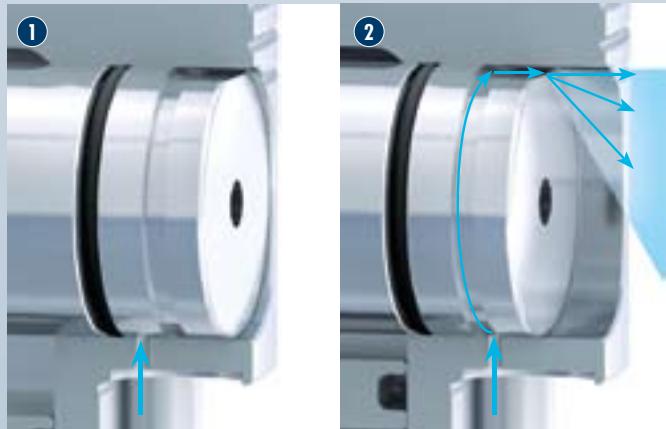


Ideal for automated applications

Clamping slide monitoring on demand – without additional costs

Integrated into the standard version: the position of the clamping slide can be monitored via the air pressure monitoring system. **Your advantage:** More performance without additional costs.

- ① **OPENED condition:** The compressed air cannot escape because the ring groove is not above the bore hole. There is dynamic pressure.
- ② **CLAMPED position:** The compressed air can escape through the ring groove and a flat place on the clamping slide. The pressure drop can be monitored exactly.

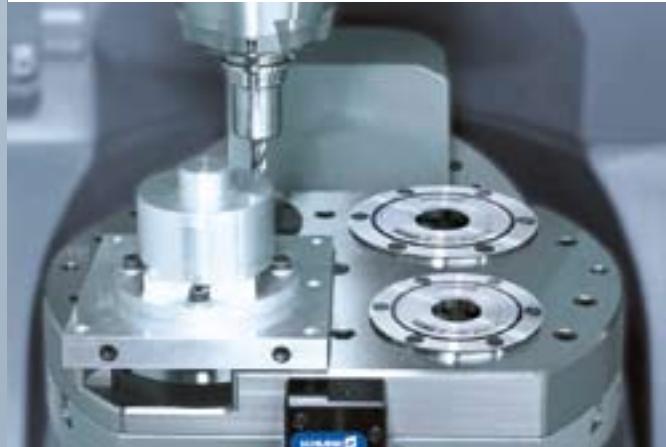


Automatic loading

Automatic loading of a milling machining center with the clamping pallet prepared on the assembly system. After the introduction of the clamping pin, the quick change pallet module positions and clamps the pallet.

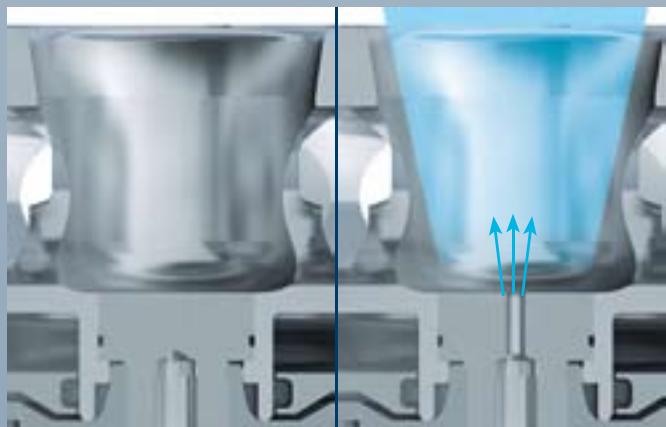


The housing of a vane pump is machined using a toolholder by TRIBOS Polygonal Clamping Technology. The quick change pallet system is depressurized during machining.



Air purge connection

The central plug can be provided with a bore hole for a blow-out function.







NSA plus – the automated palletizing system

Dependable and process-reliable: the NSA plus 120 module of the VERO-S quick change pallet system ensures maximum precision during automated machine loading.

The NSA plus 120 module has a very low installation height to give you plenty of space in the machine room. It is very sturdy and guarantees a secure hold, even during rough machining.

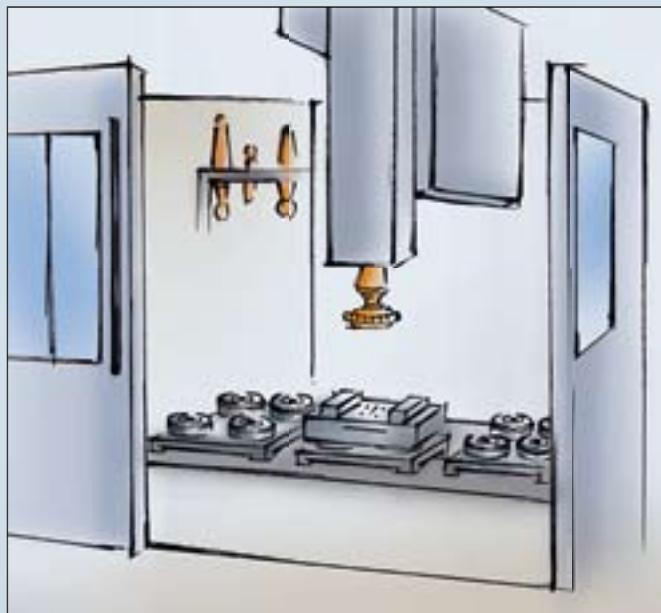
The module ensures a chip-free flat work surface for the workpieces, thanks to a forced air flow. Within seconds, they position and clamp with a high-precision repeat accuracy < 0.005 mm – completely reliably and also around the clock.

For maximum productivity:

- Precise centering thanks to the short taper with a flat work surface
- Pallet centering via a low-wear centering sleeve
- Form-fitting, self-locking clamping
- Short taper cleaning via forced air flow
- Sealed against dirt
- Pin for simple pallet removal
- Monitoring via air control
- Pull-down force:
 - without turbo: 5 kN
 - with turbo: 13 kN
- Holding force > 100 kN



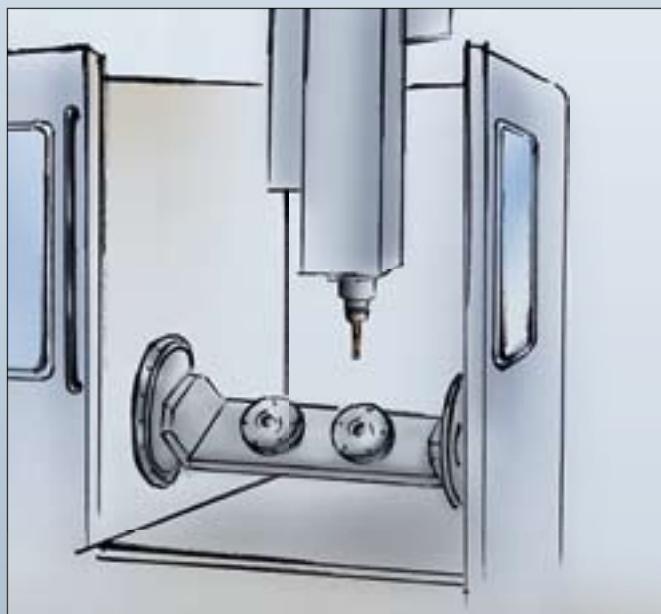
The optimal clamping solution for every machine



3-axis standard machining center

VERO-S standard module for stationary use with suitable clamping devices and magnetic clamping technology.

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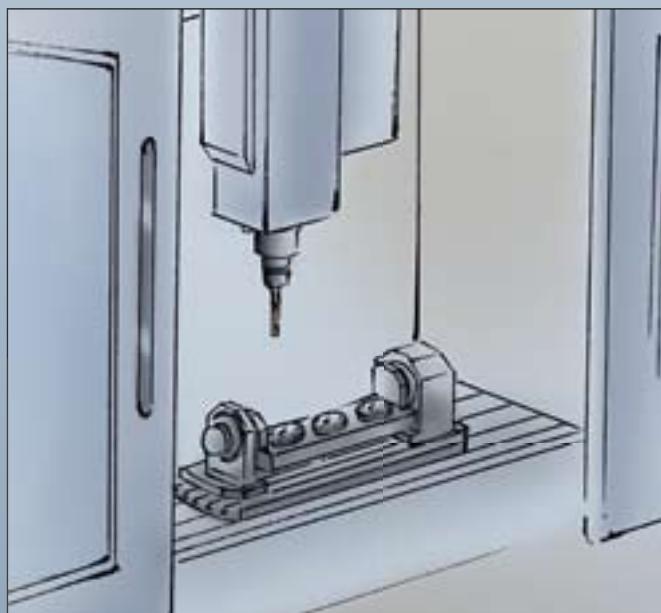


4-axis vertical machining center

Fully integral 4-axis machine.

VERO-S centrical base plates and suitable pneumatic, hydraulic and manual clamping devices.

► [Page 22](#)

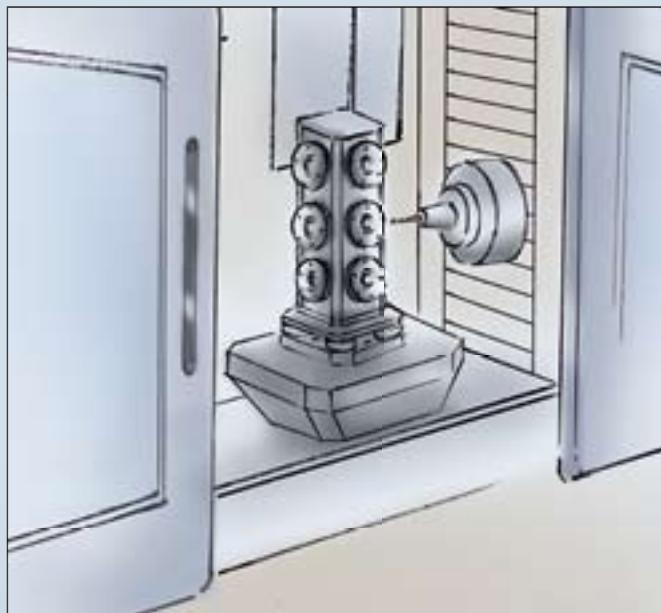


3-axis machine with additional fourth axis on machine table.

VERO-S centrical base plates and suitable pneumatic, hydraulic and manual clamping devices.

► [Page 22](#)

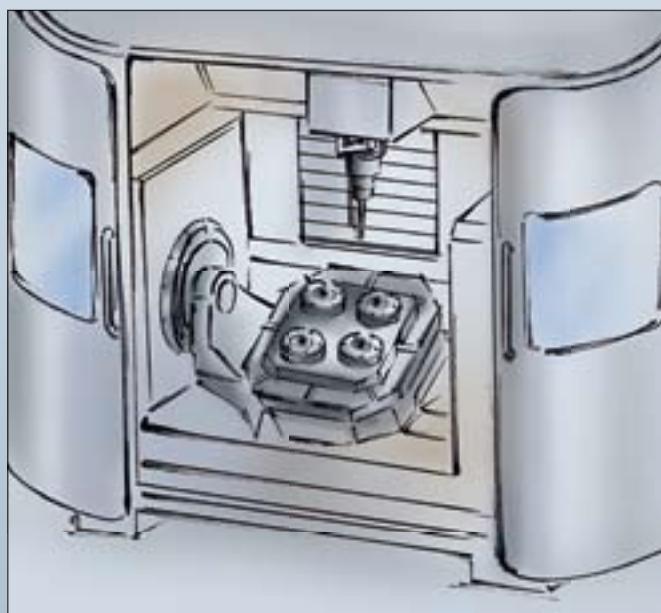
The VERO-S modular design from SCHUNK



4-axis horizontal machining center

VERO-S tombstone and suitable clamping devices.

► [Page 24](#)



5-axis machining center

5-axis machine with rotating and swiveling motion in the machine table.

VERO-S standard modules for stationary use with optimal clamping devices and elevations for 5-side machining.

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5-axis machine with fixed machine table, rotating and swiveling motion in the tool head.

VERO-S standard modules for stationary use with optimal clamping devices and elevations for 5-side machining.

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3-axis standard machining center



NSL 150
[See page 36](#)



NSL 200
[See page 37](#)



NSL 400
[See page 38](#)



NSL 600
[See page 39](#)





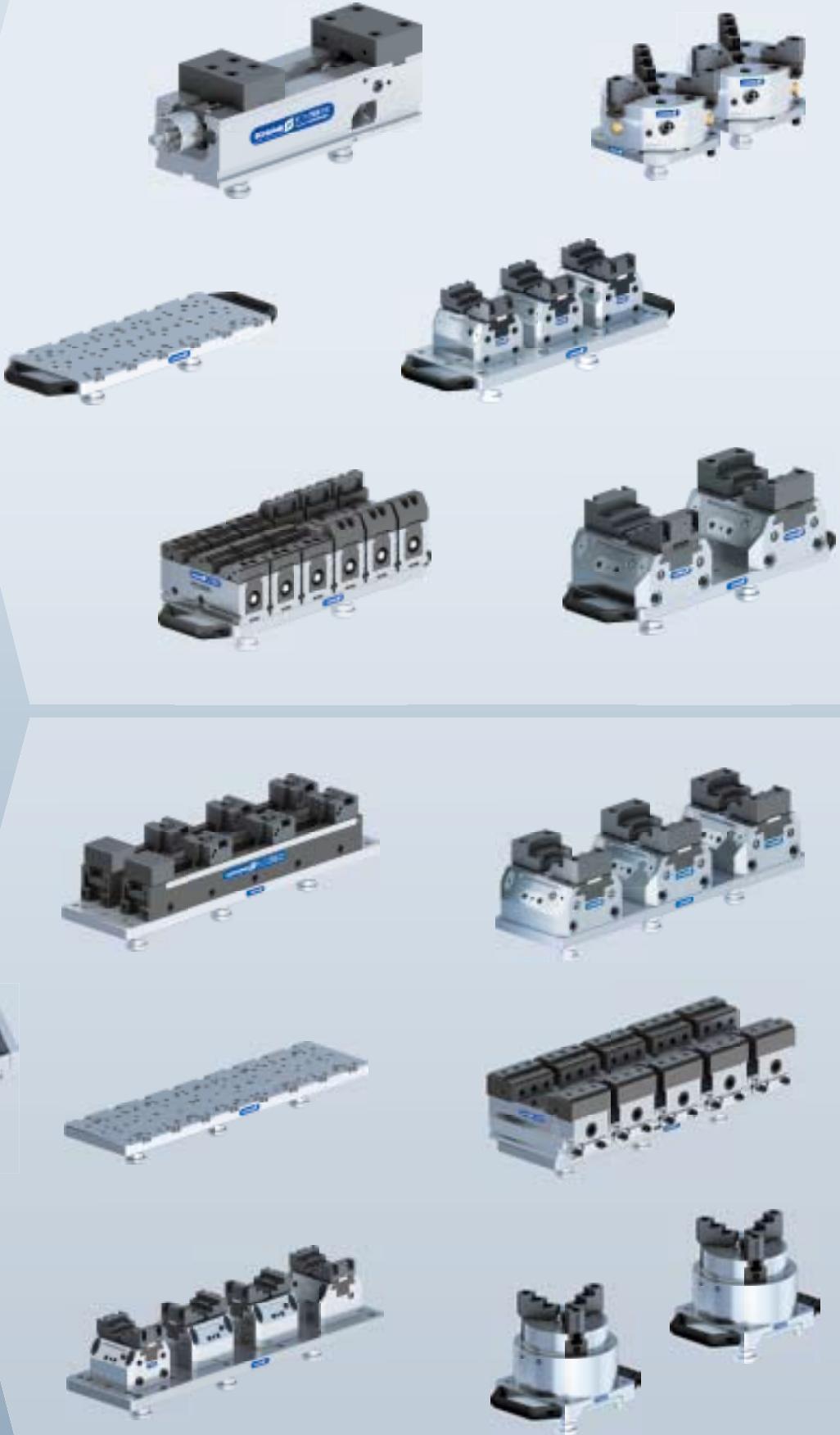
The standardized modular design offers greatest flexibility on 3-axis machining centers. Conversion in minutes for small batch sizes and high product variance – realized quickly and efficiently with VERO-S. A further advantage: even large quantities of workpieces can be economically clamped in the machining area with standard solutions.



4-axis vertical machining center



Central base plate with
2x module for stationary use





Also in series production, VERO-S guarantees greatest flexibility with set-up in a matter of minutes. With the quick change pallet system in the central base plate, both modules from the modular design and special devices can be changed within minutes and the production facilities converted quickly and securely.



4-axis horizontal machining center



VERO-S VAT-AE octagonal
tombstone

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VERO-S VAT-DR triangular
tombstone

[See page 45](#)

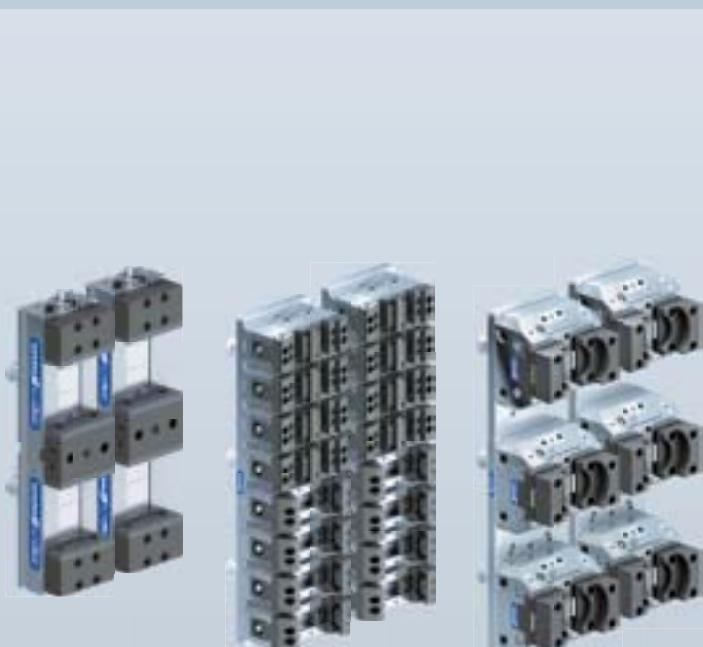


VERO-S VAT-DW double-bracket

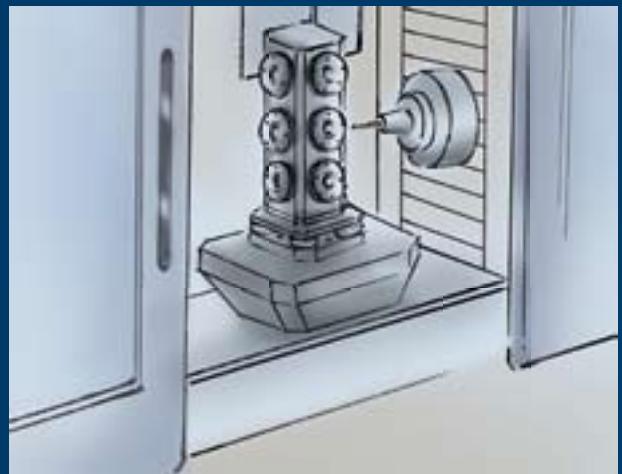
tombstone

[See page 44](#)





Users in horizontal machining also profit from much more flexibility. Here too, VERO-S's fast conversion with small batch sizes and high product variance is convincing. Economical clamping of many workpieces in the machining area is guaranteed here with standard solutions as well as the best accessibility for lateral machining because of the sophisticated geometries of all elements.



5-axis machining center



NSL 150
[See page 36](#)



NSL 200
[See page 37](#)

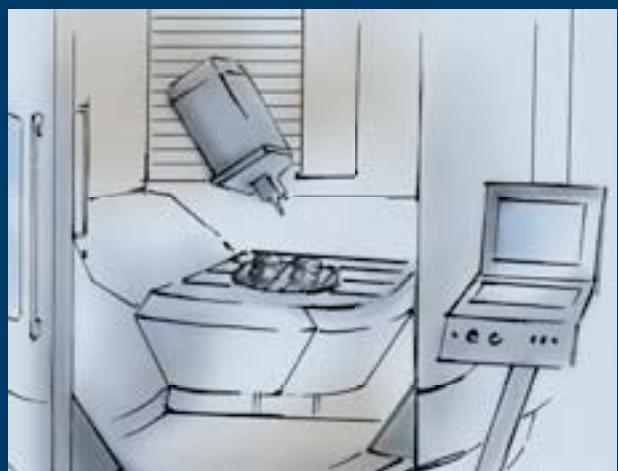
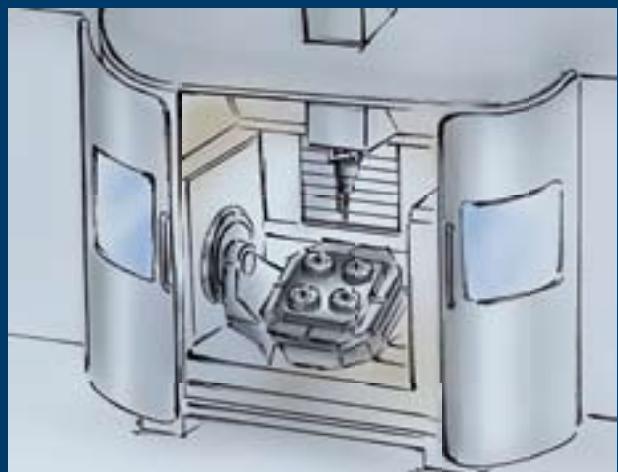


NSL 400
[See page 38](#)





In 5-axis machines, it depends mainly on optimal accessibility to the workpiece. Often, the workpieces are lifted off the table to allow optimal 5-sided machining. VERO-S offers many options for an optimal combination of quick change with optimized clamping devices for 5-sided machining.



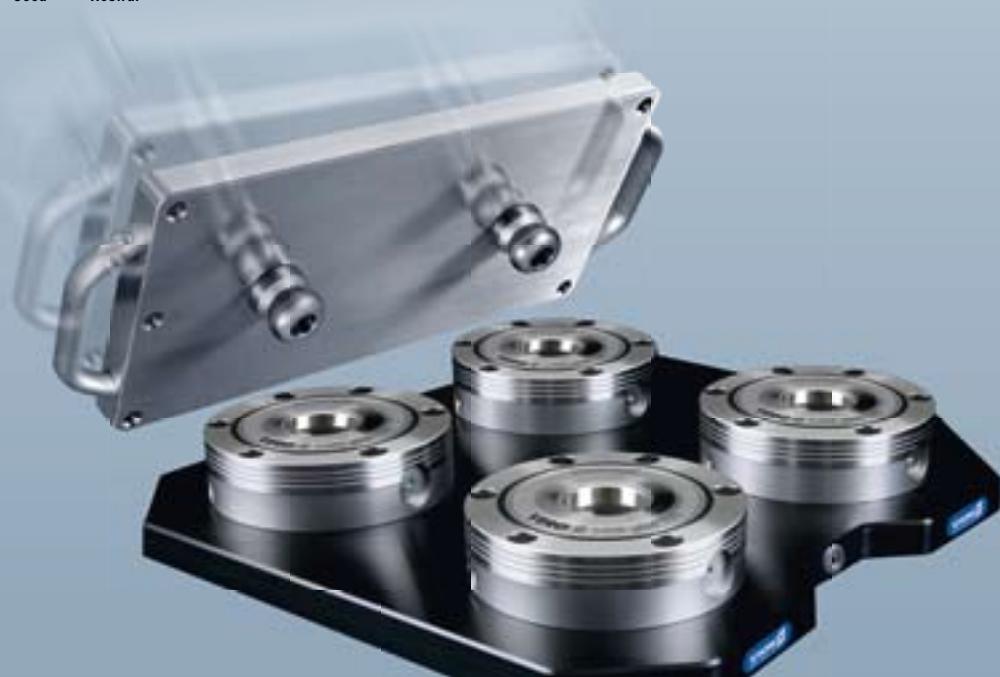
VERO-S in comparison

VERO-S is the quick change pallet system of the next generation and completely replaces the proven SCHUNK UNILOCK. It's worth it to compare. You'll profit from the additional performance without extra charge. Take advantage of VERO-S with

its standard features, its compatibility and the standardized SCHUNK complete range for workpiece clamping in your production for increased process reliability and efficiency.

Characteristics	VERO-S NSE plus 138	SCHUNK UNILOCK NSE 138
Highest pull-down force due to patented dual stroke actuation	+++	○
Pull-down force (standard)	7.5 kN	5 kN
Pull-down force (turbo)	25 kN	12.5 kN
Installation-compatible	+	+
Designed completely in stainless steel	++	○
Module completely sealed	++	+
Turbo connection integrated in the standard	++	○
Clamping pin in stainless steel	++	○
Slide monitoring in the standard	++	○
Central plug for air purge connection or sequence for KSS	++	○
NEW Optional: no oiled air required for actuation	++	○
Connections for air at the side and base	++	+
Repeat clamping accuracy < 0.005	+	+
Large surfaces for force transmission	+	+
Form-fitting locking with self-locking	++	+

+++ Excellent ++ Very Good + Good ○ Neutral



QUICK CHANGE PALLET SYSTEM

Series	Page
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NSE-T plus 138	32
NSE plus 176	33
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SPA, SPB, SPC	34
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NSL plus 200	37
NSL plus 400	38
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Clamping pallets	
PAL 159 x 159	40
PAL 399 x 159	41
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VERO-S tombstones	
VAT-DW	44
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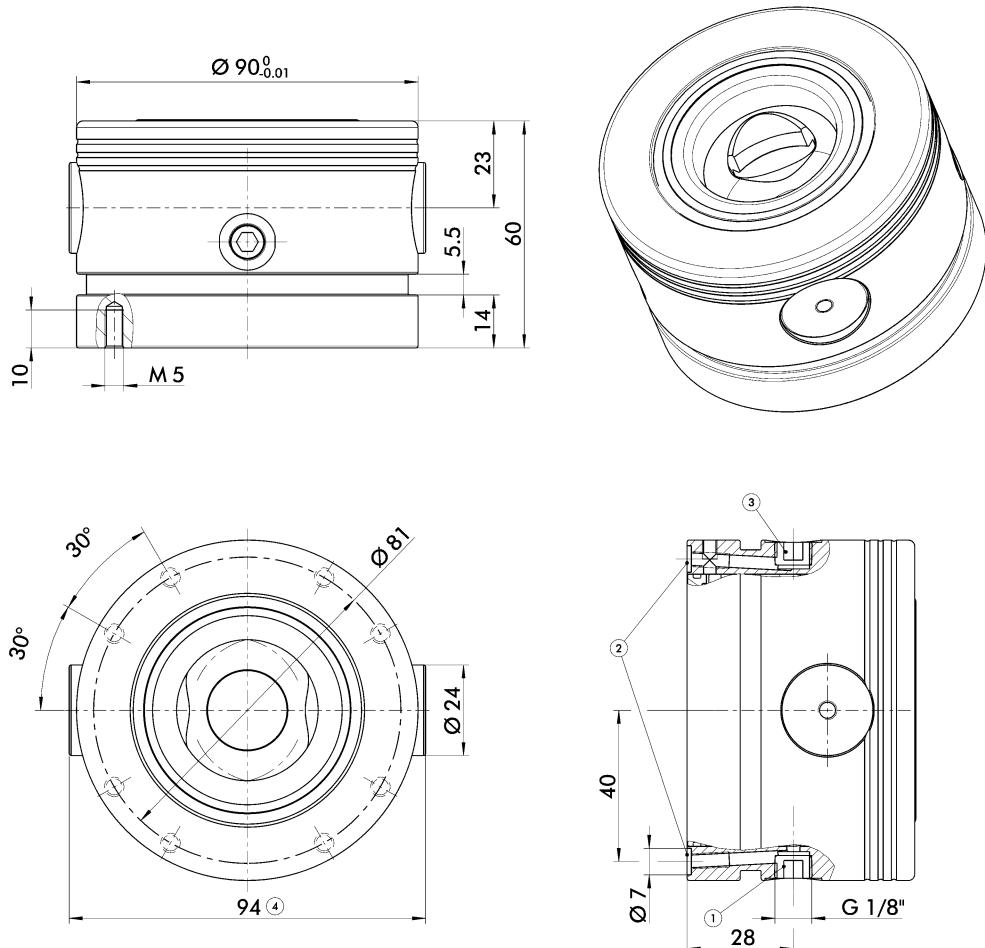
NSE plus 90 quick change pallet module

Scope of delivery

1x NSE plus 90 quick change pallet module without mounting screws

Type	ID	Retraction force [kN]	Holding force (M10)* [kN]	Weight [kg]	Unlocking pressure [bar]	Repeat clamping accuracy [mm]
NSE plus 90	<u>0471059</u>	2.5 / 11 with turbo	35	2.4	6.0	0.005

* Holding force with mounting screw



- ① Unlocking connection via screw connection G1/8" (6 bar)
- ② Hose-free direct connection (6 bar)
(Seal Ø 4x1.5)

- ③ Turbo connection via screw connection G1/8" (6 bar)
- ④ Interfering contour in open condition

Technical changes reserved.

All advantages at a glance on page 28

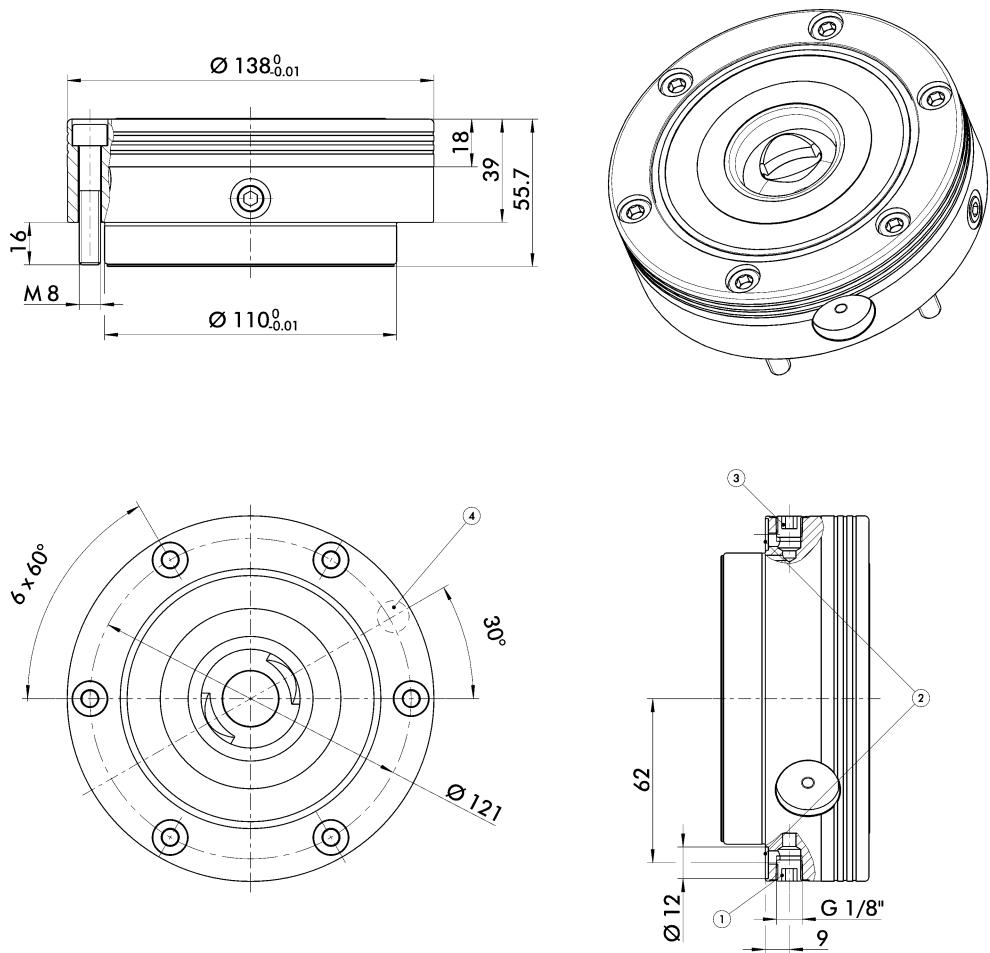
NSE plus 138 quick change pallet module

Scope of delivery

1x NSE plus 138 quick change pallet module
including 6x ISO 4762 - M8 x 45 - 10.9 mounting screws

Type	ID	Retraction force [kN]	Holding force (M10/M12/M16)* [kN]	Weight [kg]	Unlocking pressure [bar]	Repeat clamping accuracy [mm]
NSE plus 138	0471150	7.5 / 25 with turbo	35 / 50 / 75	4.4	6.0	0.005

* Holding force with mounting screw



- ① Unlocking connection via screw connection
G1/8" (6 bar)
- ② Hose-free direct connection (6 bar)
(Seal Ø 9x1.5)

- ③ Turbo connection via screw connection
G1/8" (6 bar)
- ④ Clamping slide monitoring
(Seal Ø 9x1.5)

Technical changes reserved.

All advantages at a glance on page 28

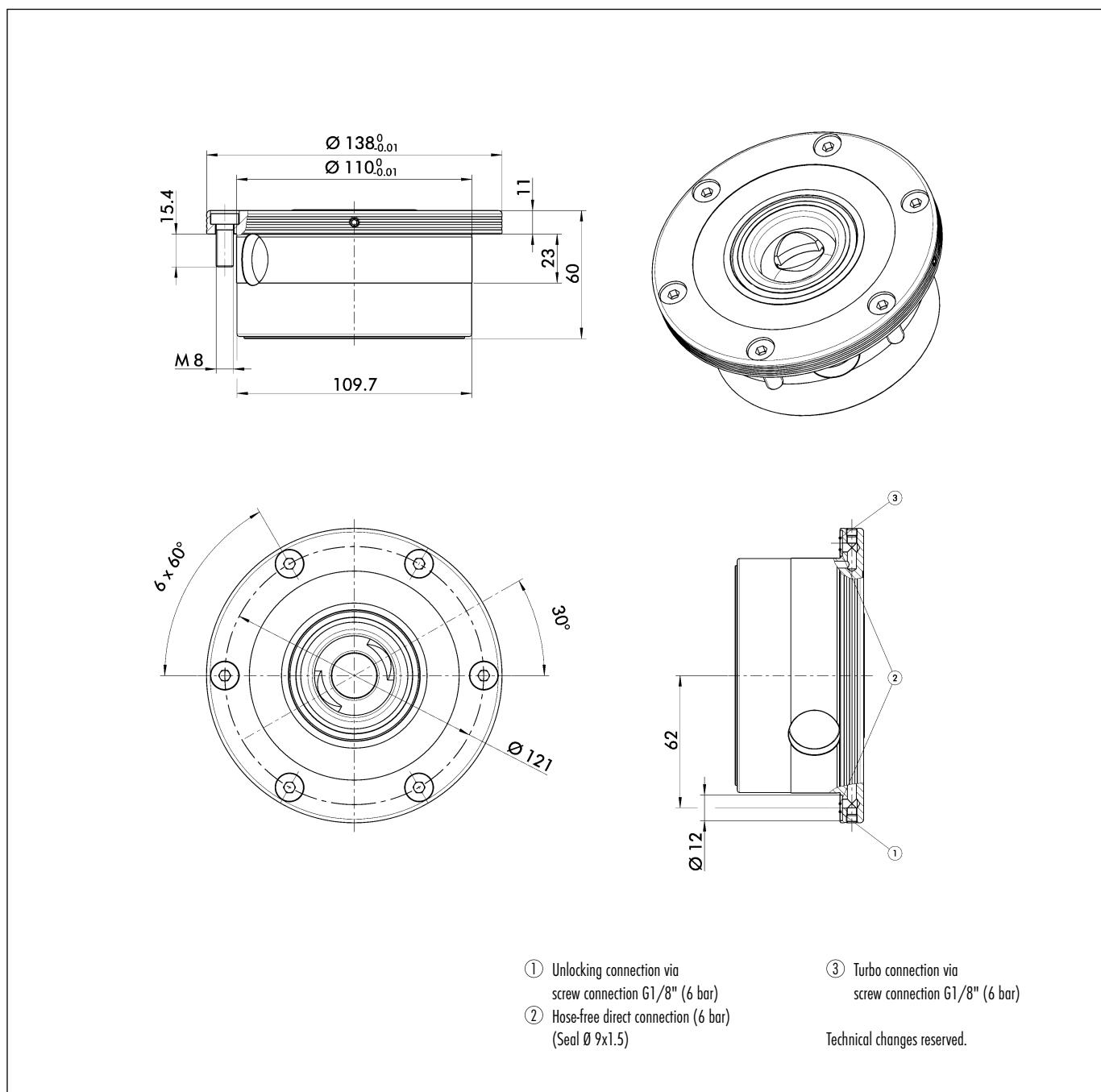
NSE-T plus 138 tower clamping module

Scope of delivery

1x NSE-T plus 138 tower clamping module
including 6x DIN 7984 - M8 x 20 - 10.9 mounting screws

Type	ID	Retraction force [kN]	Holding force (M10/M12/M16)* [kN]	Weight [kg]	Unlocking pressure [bar]	Repeat clamping accuracy [mm]
NSE-T plus 138	0471076	7.5 / 25 with turbo	35 / 50 / 75	3.7	6.0	0.005

* Holding force with mounting screw



All advantages at a glance on page 28

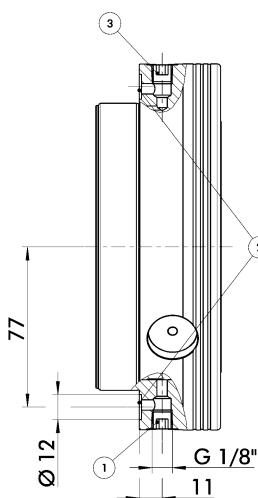
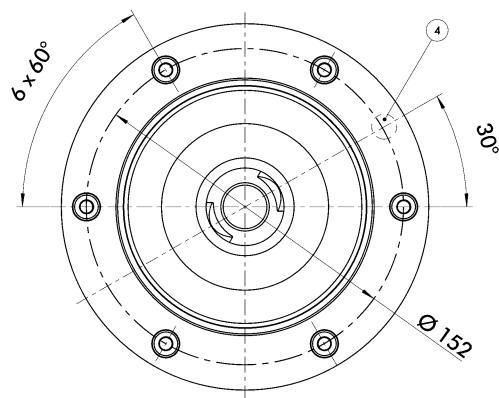
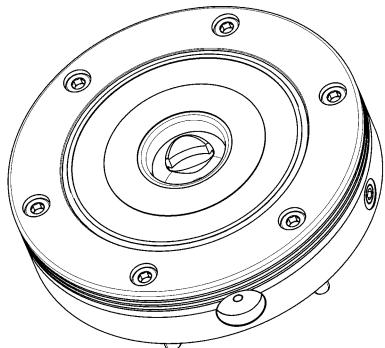
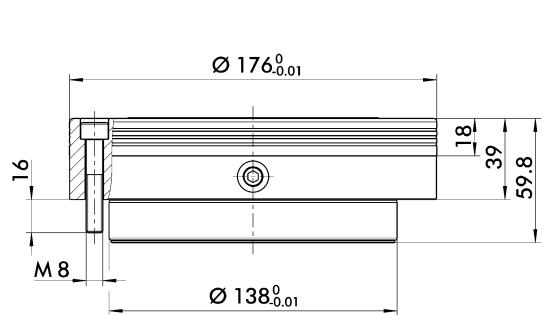
NSE plus 176 quick change pallet module

Scope of delivery

1x NSE plus 176 quick change pallet module
including 6x ISO 4762 - M8 x 45 - 10.9 mounting screws

Type	ID	Retraction force [kN]	Holding force (M10/M12/M16)* [kN]	Weight [kg]	Unlocking pressure [bar]	Repeat clamping accuracy [mm]
NSE plus 176	0471060	9 / 40 with turbo	35 / 50 / 75	7.9	6.0	0.005

* Holding force with mounting screw



- ① Unlocking connection via screw connection G1/8" (6 bar)
- ② Hose-free direct connection (6 bar)
(Seal Ø 9x1.5)

- ③ Turbo connection via screw connection G1/8" (6 bar)
- ④ Clamping slide monitoring (Seal Ø 9x1.5)

Technical changes reserved.

All advantages at a glance on page 28

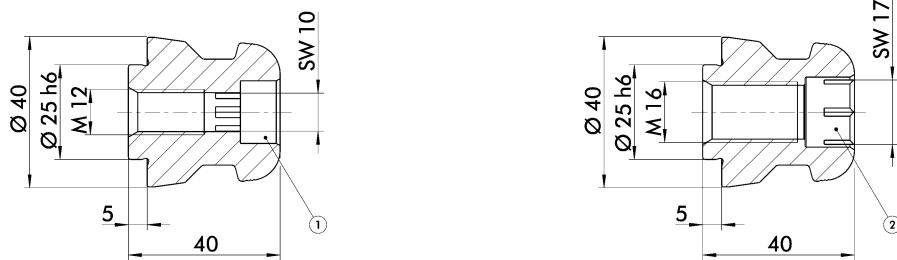
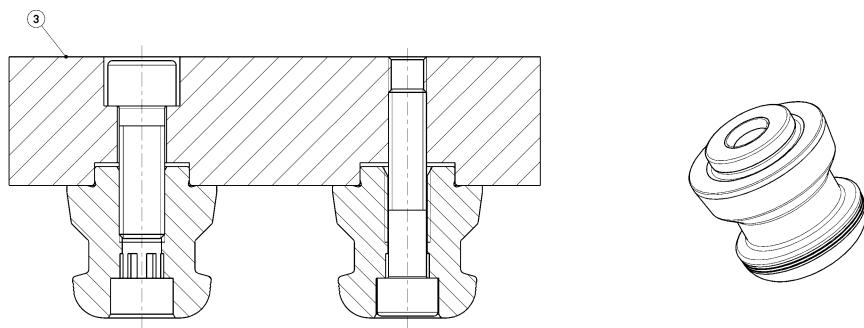
VERO-S Clamping Pins

Quick Change Pallet System

SPA, SPB, SPC clamping pins

Type	ID	Material	Weight [kg]	Holding force* [kN]	Holding force* [kN]	Version
SPA 40RF	0471151	Stainless steel	0.3	35 (M10)	50 (M12)	Solid bolt, standard
SPB 40RF	0471152	Stainless steel	0.3	35 (M10)	50 (M12)	Mounting stud, one-sided positioning
SPC 40RF	0471153	Stainless steel	0.3	35 (M10)	50 (M12)	Semi-cylindrical shaft with centering pin 0.1 mm
SPA 40-16RF	0471064	Stainless steel	0.3	50 (M12)	75 (M16)	Solid bolt, standard
SPB 40-16RF	0471065	Stainless steel	0.3	50 (M12)	75 (M16)	Mounting stud, one-sided positioning
SPC 40-16RF	0471066	Stainless steel	0.3	50 (M12)	75 (M16)	Semi-cylindrical shaft with centering pin 0.1 mm

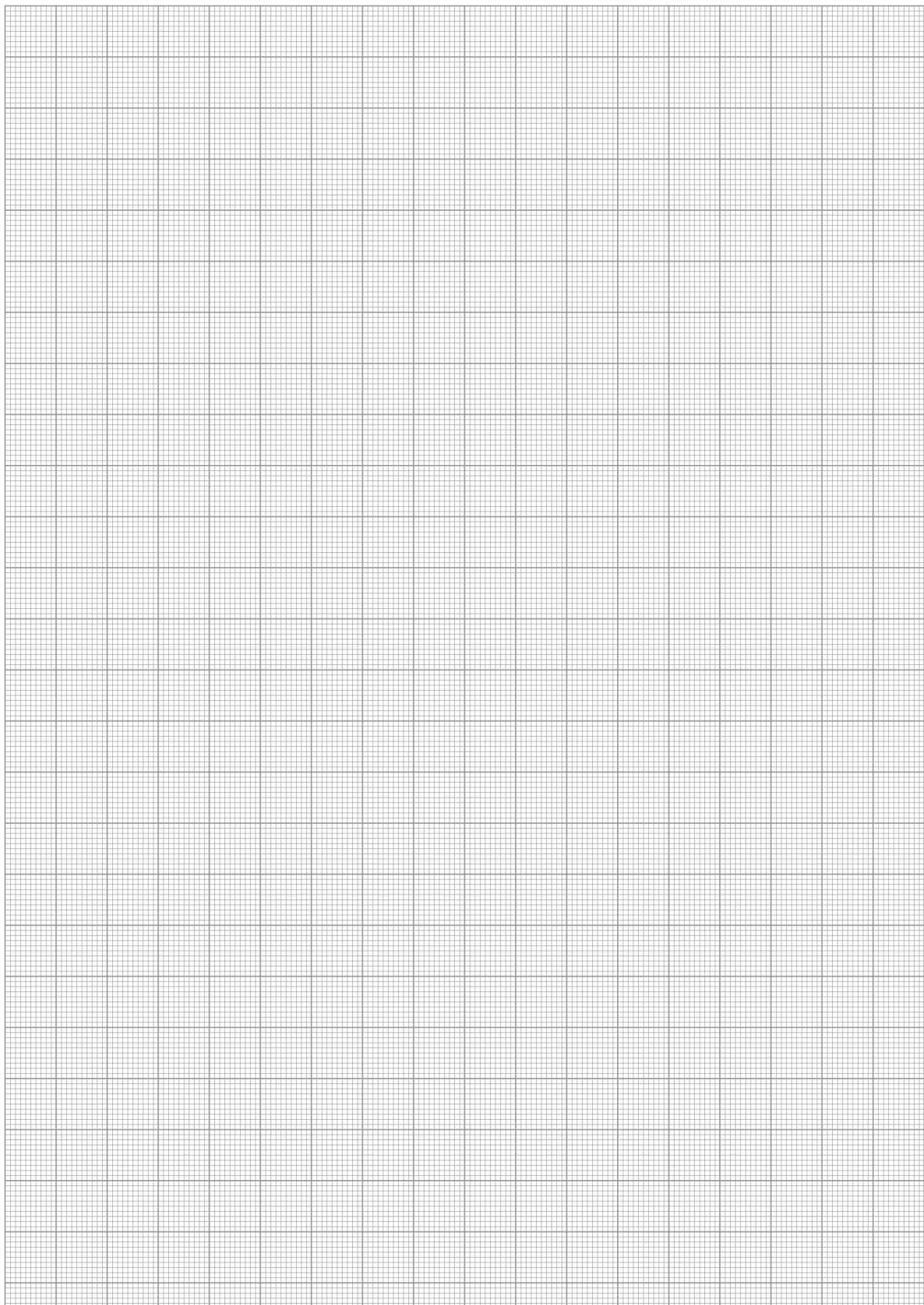
* Holding force with cylindrical screw - DIN EN ISO 4762 - 12.9



- ① Through hole and countersink on head for DIN EN ISO 4762 M10 screw
- ② Through hole and countersink on head for DIN EN ISO 4762 M12 screw
- ③ Mounting options

Technical changes reserved.

All advantages at a glance on page 28



VERO-S NSL plus 150

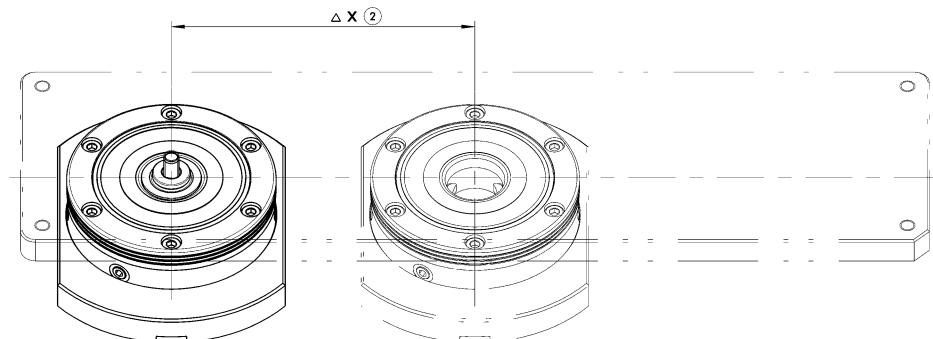
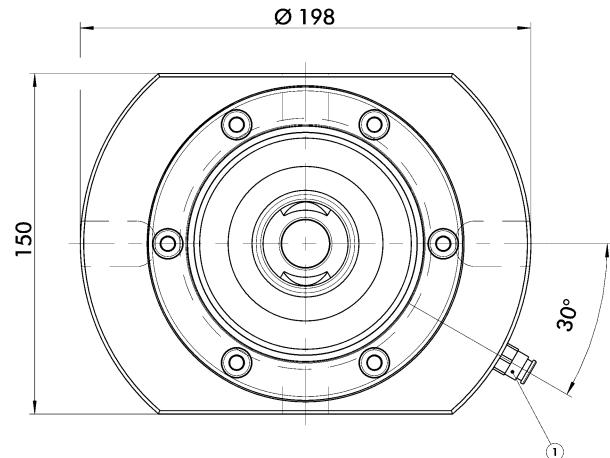
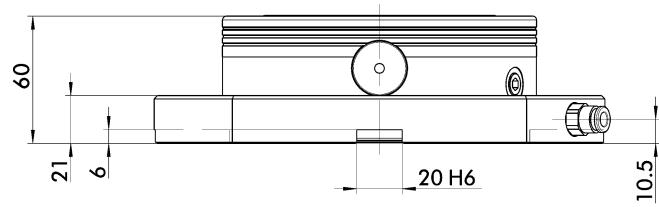
Quick Change Pallet System

Single module for stationary use NSL plus 150

Scope of delivery

Single module for stationary use NSL plus 150
including 1 quick change pallet module type NSE plus 138, pre-installed
2x type BRR 50 fixing garnitures

Type	ID	Weight [kg]
NSL plus 150	<u>0471045</u>	6.7



- ① Air connection G1/8"
② Variable gauge for bore holes

Technical changes reserved.

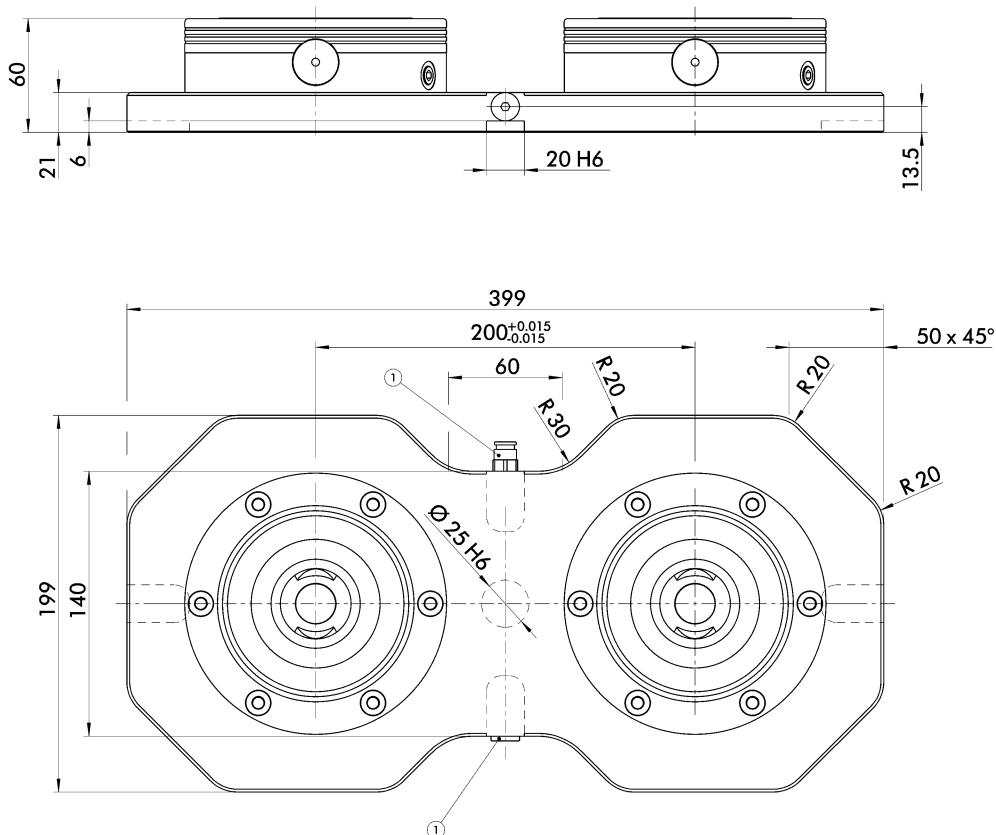
All advantages at a glance on page 28

Double module for stationary use NSL plus 200

Scope of delivery

Double module for stationary use NSL plus 200
 including 2 quick change pallet modules type NSE plus 138, pre-installed
 4x type BRR 50 fixing garnitures

Type	ID	Weight [kg]
NSL plus 200	0471003	16.5



① Air connection G1/8"

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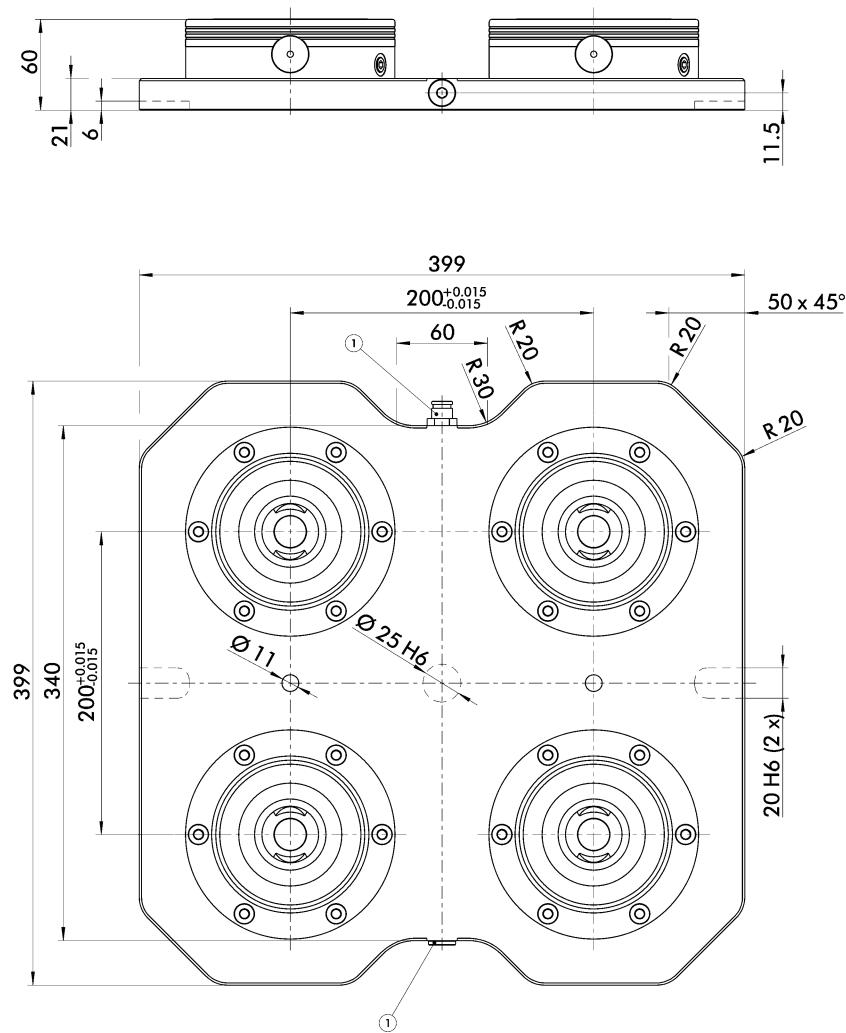
All advantages at a glance on page 28

Quadruple module for stationary use NSL plus 400

Scope of delivery

Quadruple module for stationary use NSL plus 400
including 4 quick change pallet modules type NSE plus 138, pre-installed
4x type BRR 50 fixing garnitures

Type	ID	Weight [kg]
NSL plus 400	<u>0471048</u>	34.8



① Air connection G1/4"

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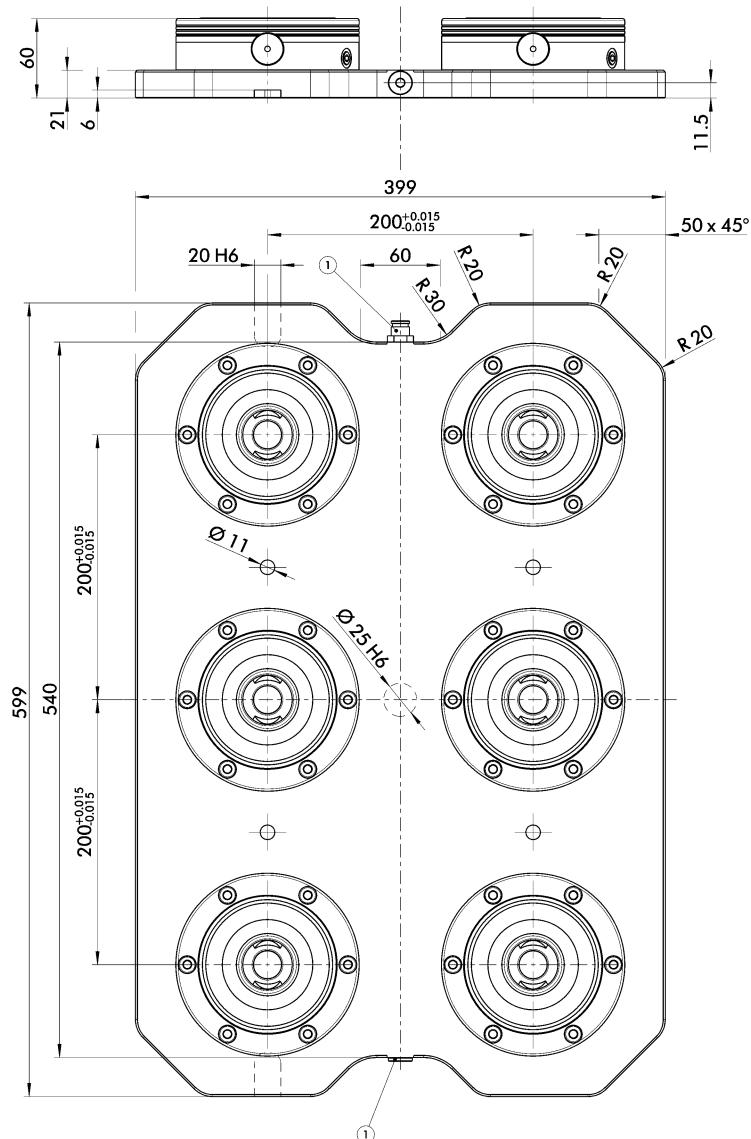
All advantages at a glance on page 28

Double module for stationary use NSL plus 600

Scope of delivery

Six-fold module for stationary use NSL plus 600
 including 6 quick change pallet modules type NSE plus 138, pre-installed
 6x type BRR 50 fixing garnitures

Type	ID	Weight [kg]
NSL plus 600	0471082	53.0



① Air connection G1/4"

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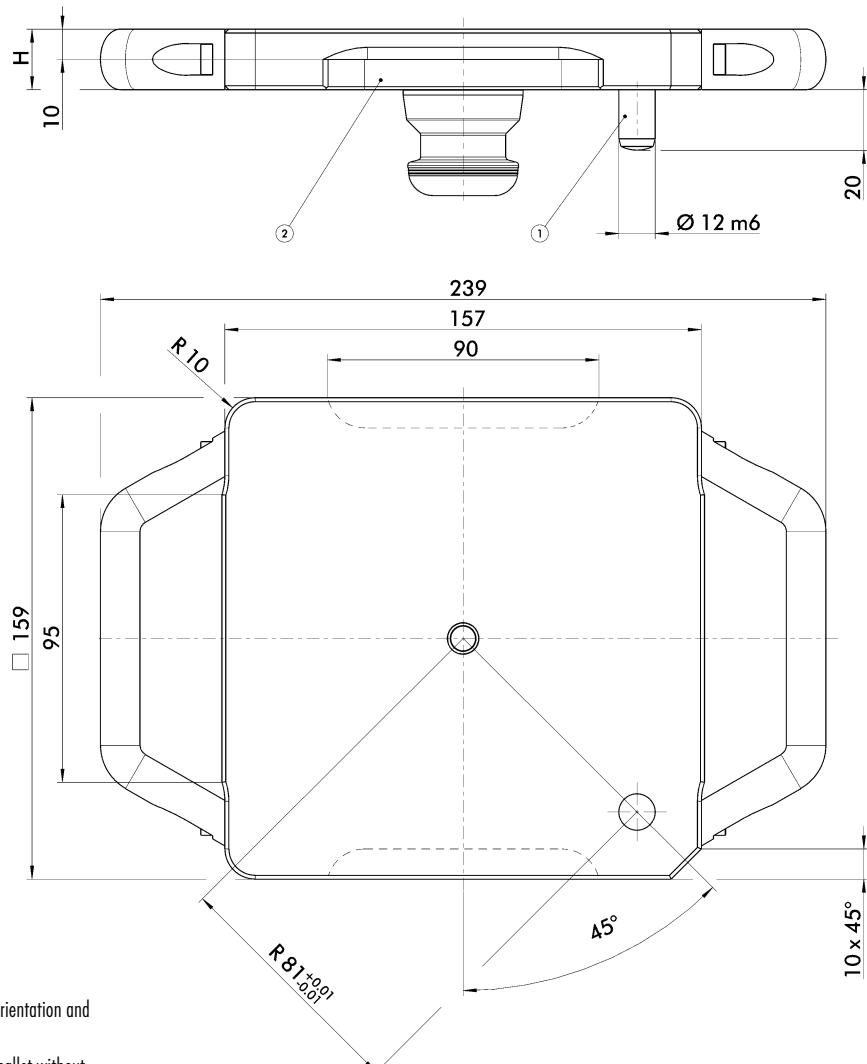
All advantages at a glance on page 28

PAL S/PAL A 159 x 159 clamping pallet

Scope of delivery

- 1x PAL S or PAL A clamping pallet
- 1x type SPA 40RF clamping pin (ID [0471151](#))
- 2x aluminum hand grip

Type	ID	Material	Weight [kg]	Plane parallelism [mm]	Plate thickness H [mm]	Suitable for modules for stationary use
PAL S 159 x 159	0471010	Steel	4.2	0.02	20	NSM 170 / NSD plus 150
PAL A 159 x 159	0471015	Aluminum	2.2	0.05	25	NSD plus 200



- ① Cylindrical pin for position orientation and recording torques
- ② Grip plate for handling the pallet without hand grips

Technical changes reserved.

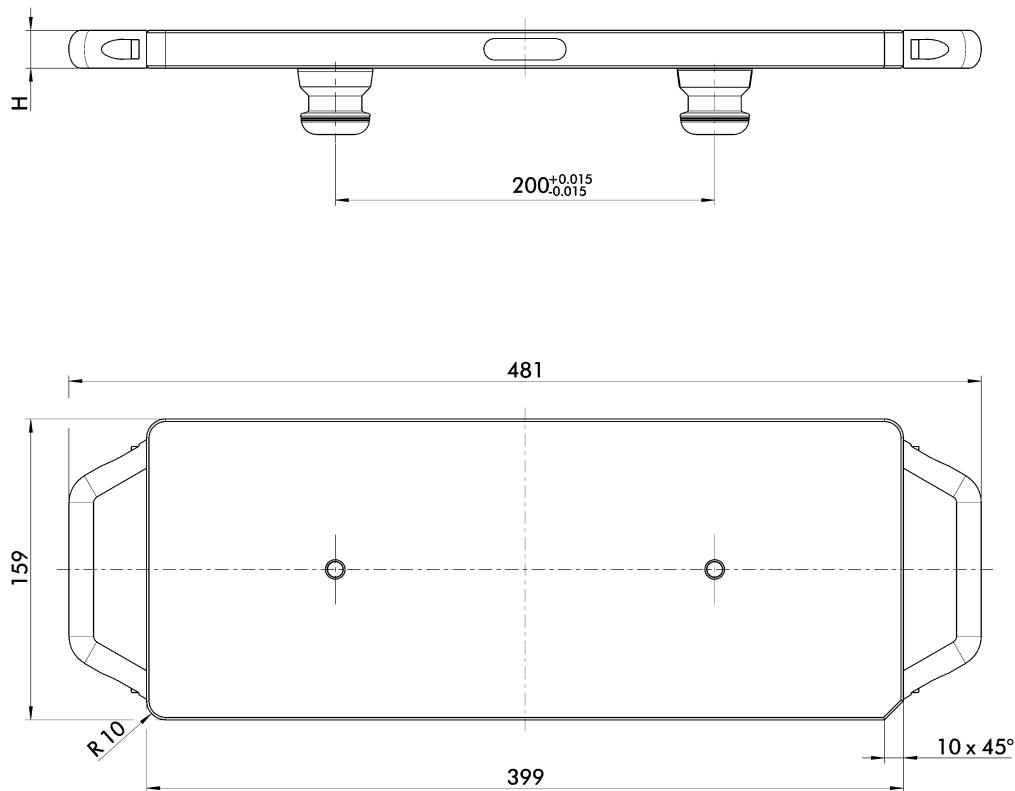
All advantages at a glance on page 28

PAL S/PAL A 399 x 159 clamping pallet

Scope of delivery

- 1x PAL S or PAL A clamping pallet
- 1x type SPA 40RF clamping pin (ID [0471151](#))
- 1x type SPB 40RF clamping pin (ID [0471152](#))
- 2x aluminum hand grip

Type	ID	Material	Weight [kg]	Plane parallelism [mm]	Plate thickness H [mm]	Suitable for modules for stationary use
PAL S 399 x 159	0471020	Steel	10.6	0.02	20	NSL plus 200 / NSD plus 200
PAL A 399 x 159	0471025	Aluminum	5.1	0.05	25	NSL plus 400



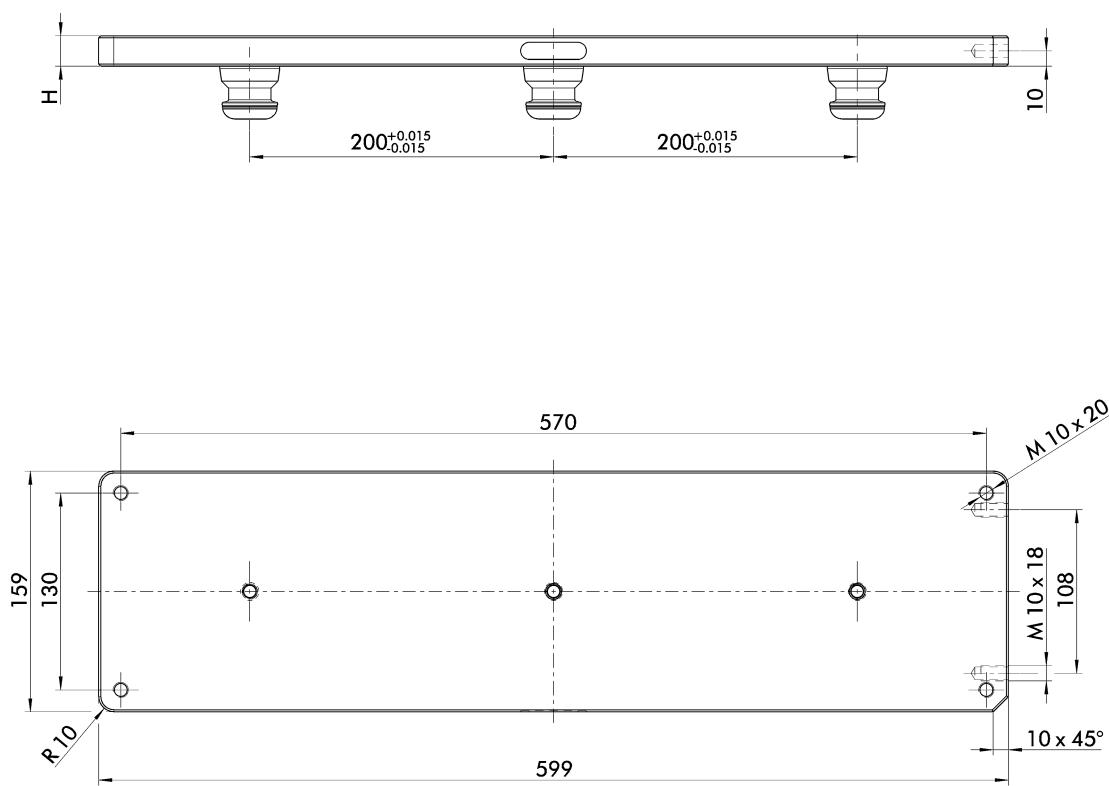
All advantages at a glance on page 28

PAL S/PAL A 599 x 159 clamping pallet

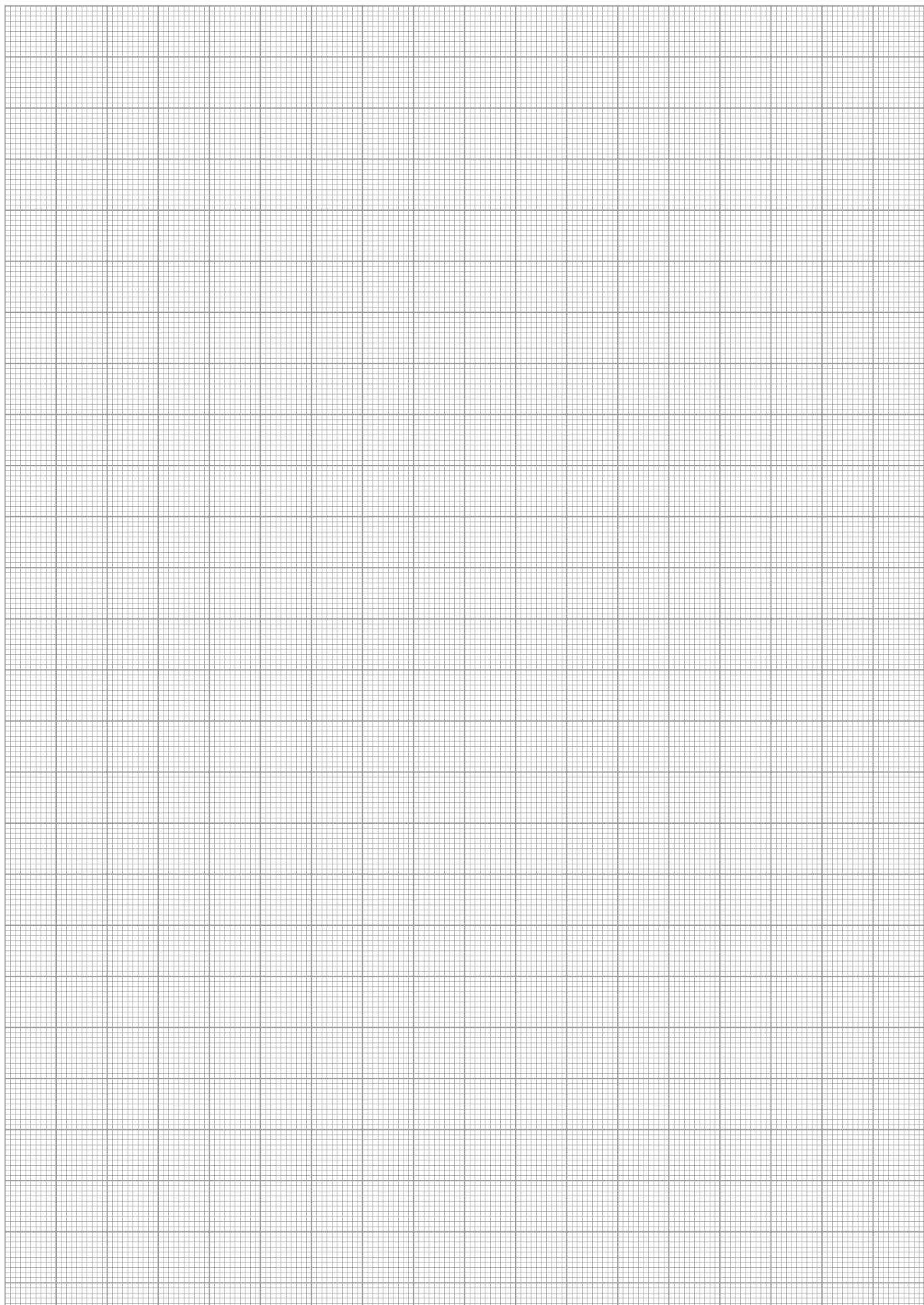
Scope of delivery

- 1x PAL S or PAL A clamping pallet
- 1x type SPA 40RF clamping pin (ID 0471151)
- 1x type SPB 40RF clamping pin (ID 0471152)
- 1x type SPC 40RF clamping pin (ID 0471153)

Type	ID	Material	Weight [kg]	Plane parallelism [mm]	Plate thickness H [mm]	Suitable for modules for stationary use
PAL S 599 x 159	<u>0471030</u>	Steel	15.6	0.02	20	NSL plus 600
PAL A 599 x 159	<u>0471033</u>	Aluminum	7.4	0.05	25	NSL plus 800



All advantages at a glance on page 28



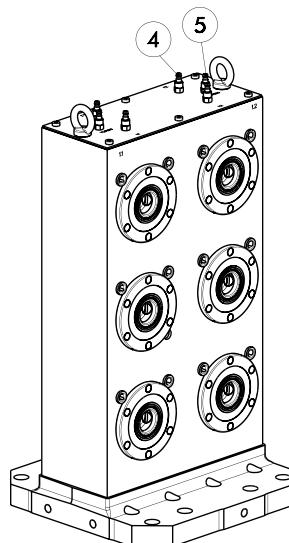
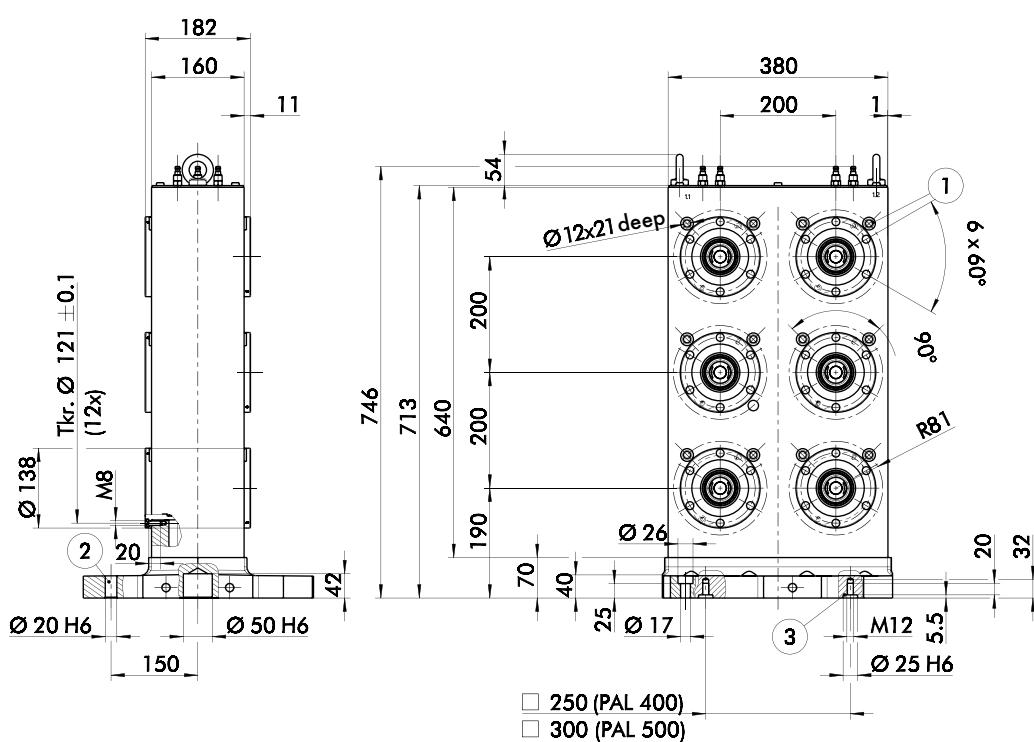
Quick Change Pallet System

VERO-S VAT-DW tombstone

Tombstone with VERO-S quick change pallet system for horizontal machining centers

- For quick set-up – positioning, mounting, and clamping in one operation
- For highest flexibility – uniform interface for all machines
- For multi-side machining and individual pallet clamping
- For precise centering – repeat accuracy < 0.005 mm
- For secure clamping – holding force of 75 kN

Type	ID	Description	Weight [kg]
VAT-DW 400	0470115	DOUBLE BRACKET tombstone for pallet size 400	220
VAT-DW 500	0470125	DOUBLE BRACKET tombstone for pallet size 500	248



- ① Dome-shaped centering bushing ZKA 12 ID: [0470008](#)
- ② Fitting bore for aligning pin
- ③ VERO-S clamping pin, 1xSPA 16 / 1xSPB 16 / 2xSPC 16
- ④ Air connection G 1/8", open modules once per clamping side
- ⑤ Air connection, close module, TURBO function

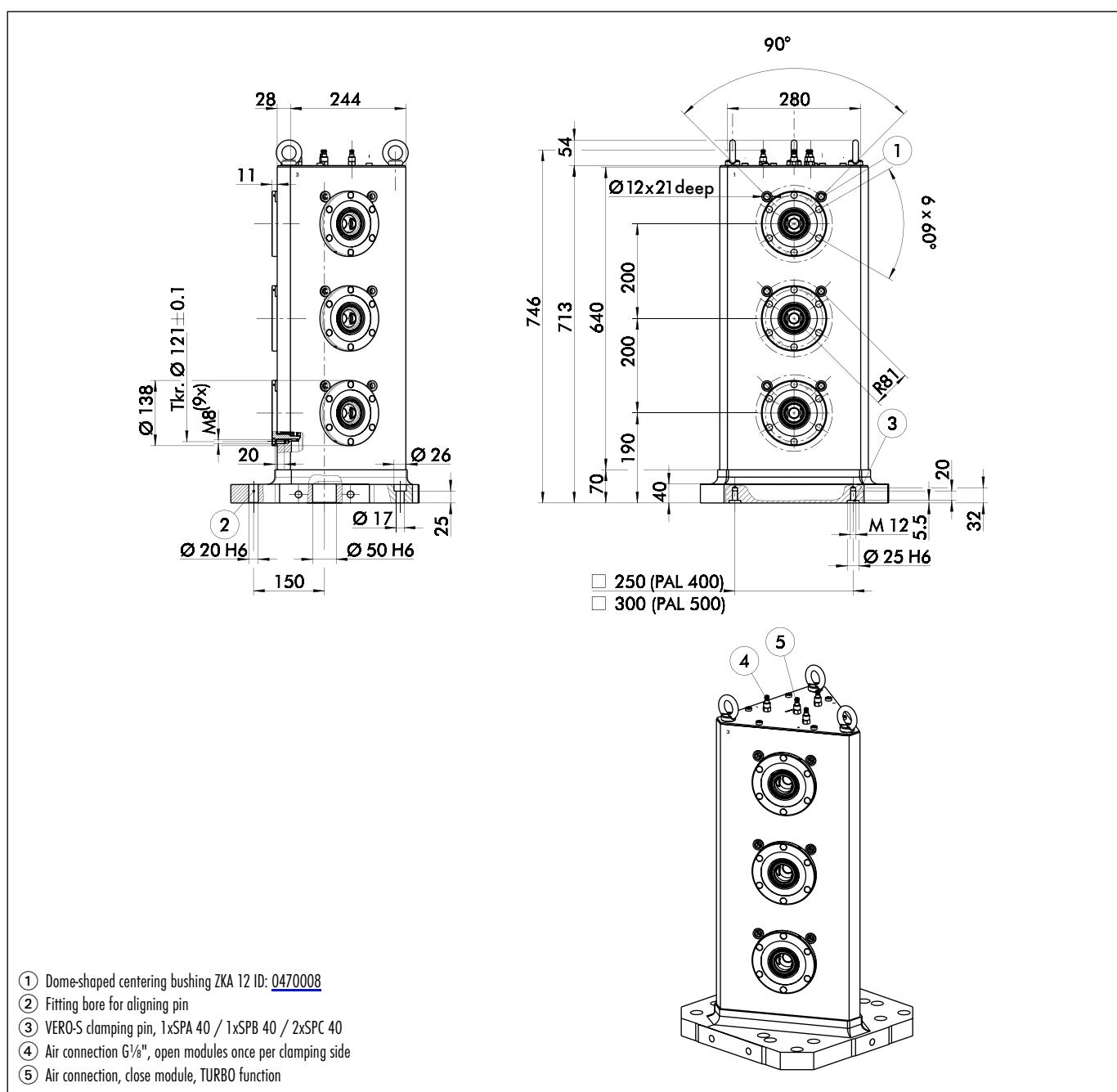
All advantages at a glance on page 28

VERO-S VAT-DR tombstone

Tombstone with VERO-S quick change pallet system for horizontal machining centers

- For quick set-up – positioning, mounting, and clamping in one operation
- For highest flexibility – uniform interface for all machines
- For multi-side machining and individual pallet clamping
- For precise centering – repeat accuracy < 0.005 mm
- For secure clamping – holding force of 75 kN

Type	ID	Description	Weight [kg]
VAT-DR 400	0470114	TRIANGLE tombstone for pallet size 400	196
VAT-DR 500	0470124	TRIANGLE tombstone for pallet size 500	223



All advantages at a glance on page 28

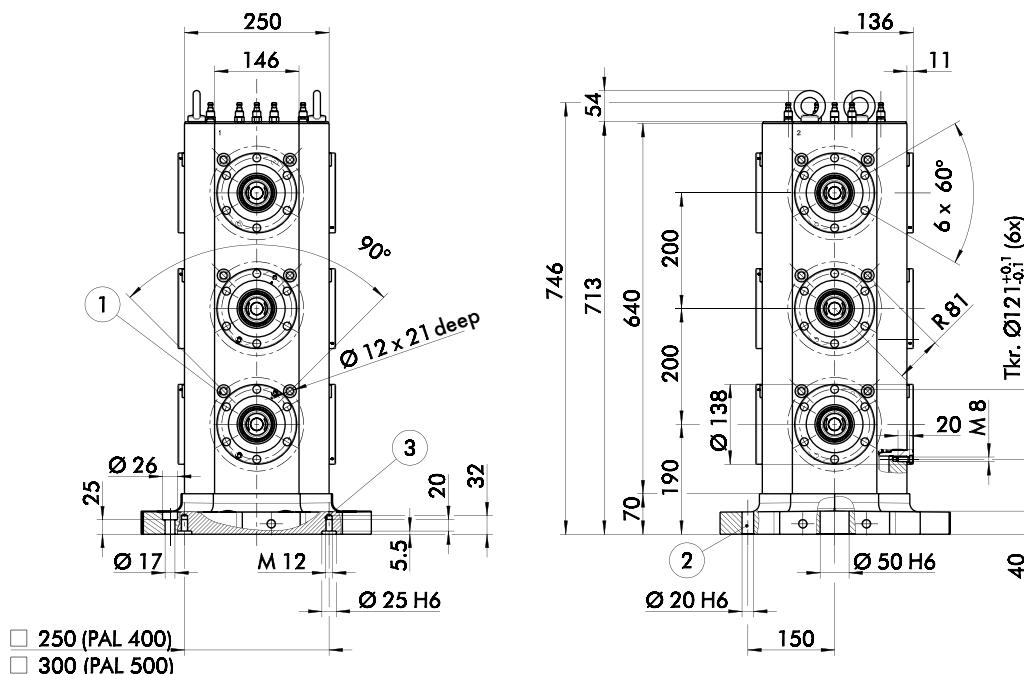
Quick Change Pallet System

VERO-S VAT-AE tombstone

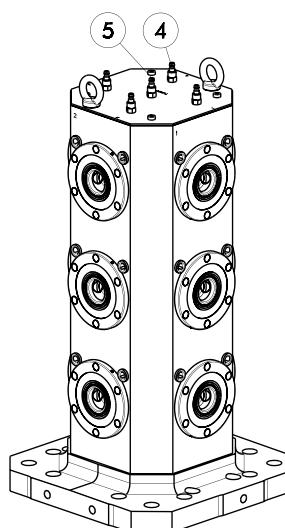
Tombstone with VERO-S quick change pallet system for horizontal machining centers

- For quick set-up – positioning, mounting, and clamping in one operation
- For highest flexibility – uniform interface for all machines
- For multi-side machining and individual pallet clamping
- For precise centering – repeat accuracy < 0.005 mm
- For secure clamping – holding force of 75 kN

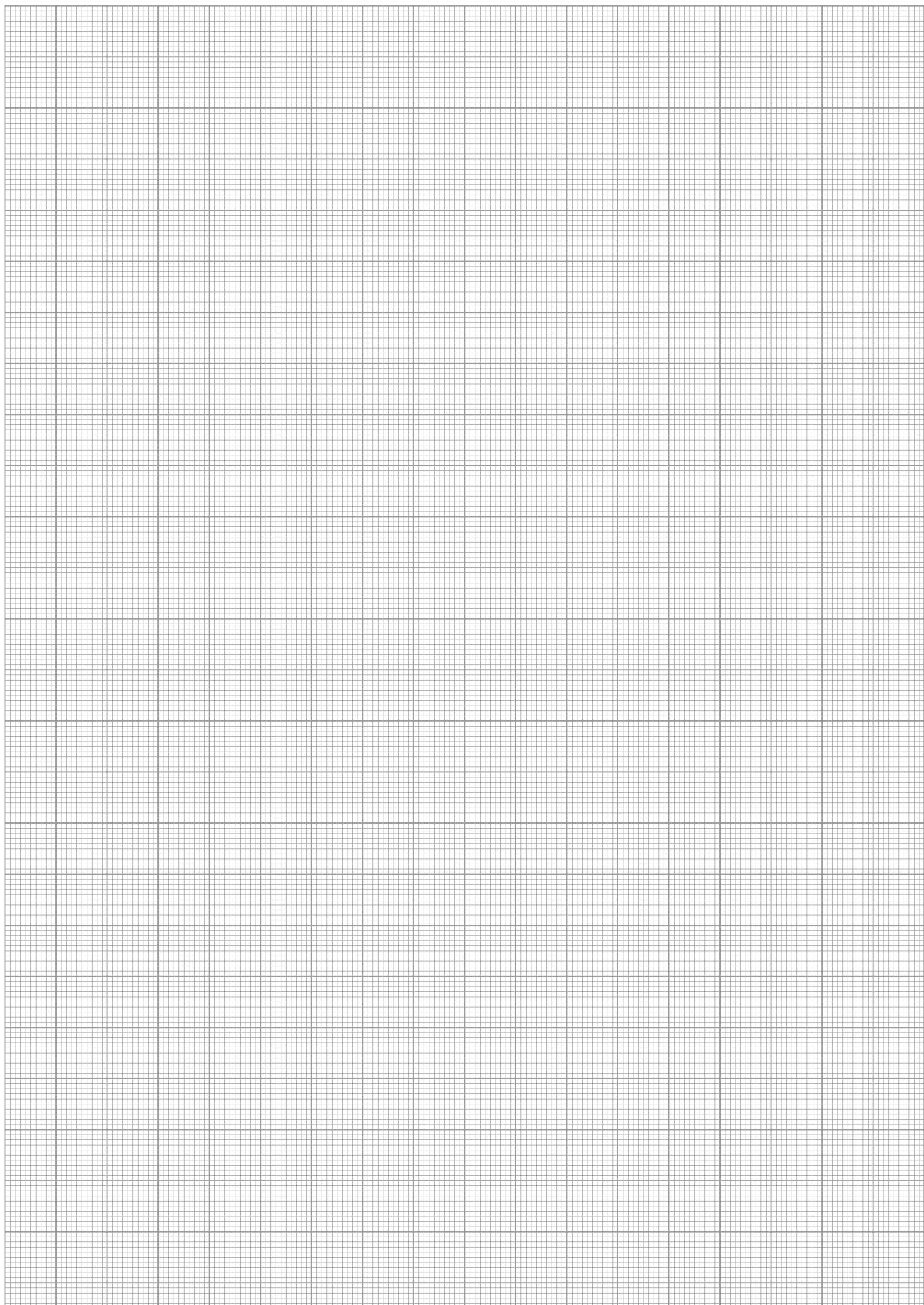
Type	ID	Description	Weight [kg]
VAT-AE 400	0470113	OCTAGON tombstone for pallet size 400	197
VAT-AE 500	0470123	OCTAGON tombstone for pallet size 500	224



- ① Dome-shaped centering bushing ZKA 12 ID: [0470008](#)
- ② Fitting bore for aligning pin
- ③ VERO-S clamping pin, 1xSPA 40 / 1xSPB 40 / 2xSPC 40
- ④ Air connection G 1/8", open modules once per clamping side
- ⑤ Air connection, close module, TURBO function



All advantages at a glance on page 28



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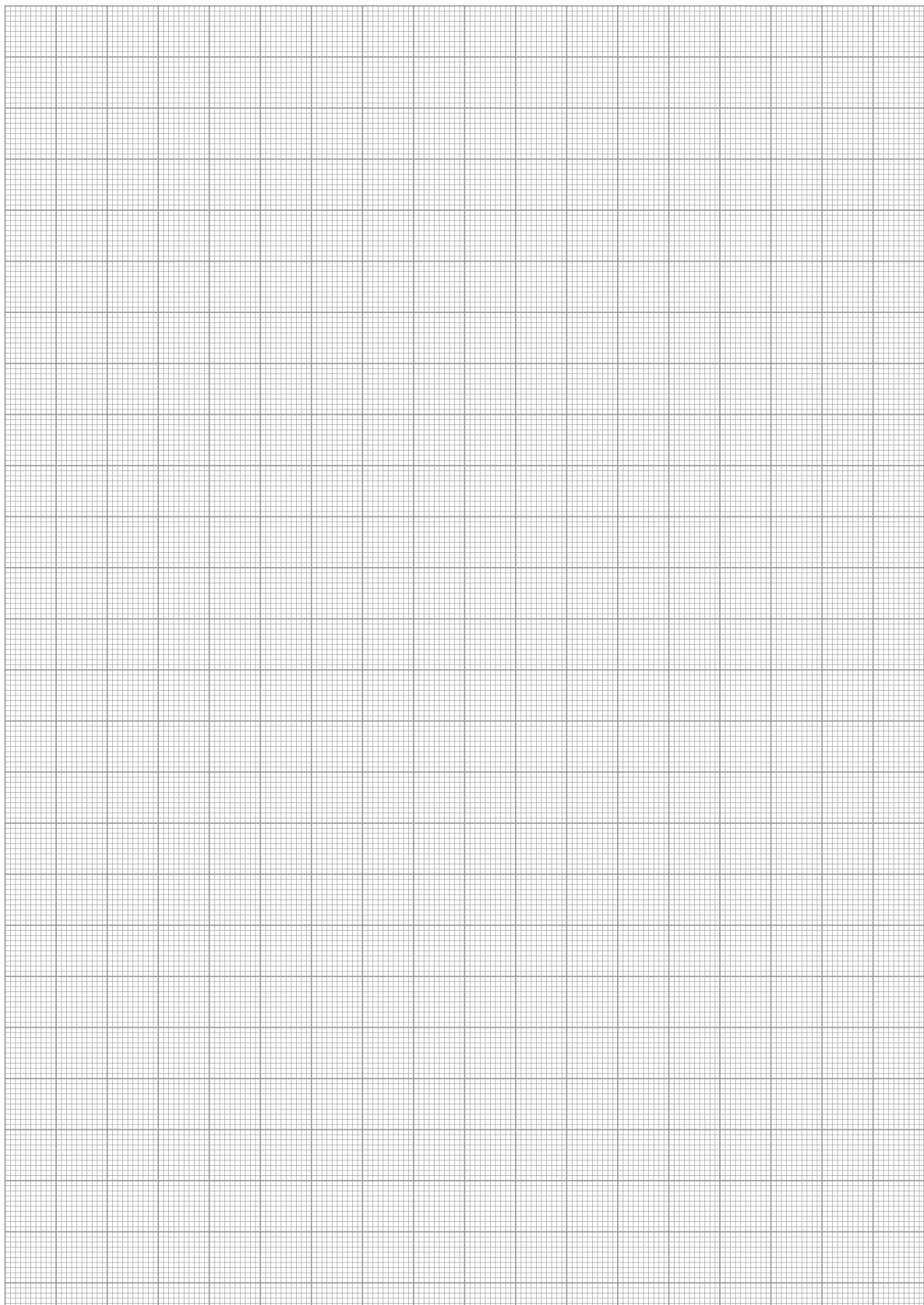
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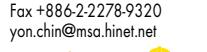
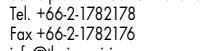
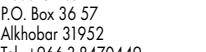
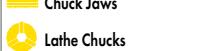


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