

Automation of workholding technology.

The modular system for your
automated and manual machine loading

Hand in hand for tomorrow



More than
11,000
Standard Components



Awards

60
95%

Apprentices &
Students per Year

Retention rate



3,500 Employees



Sustainability



CoLab

Planning and implementation of industrial
automation and robotics applications





9 Plants

34 Subsidiaries worldwide

Represented in **50** countries

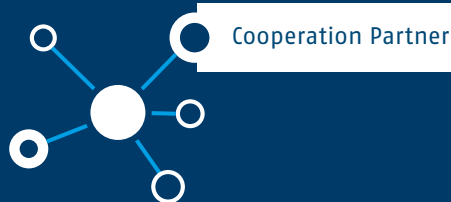


Visionary Leader



1945

Founded by Friedrich Schunk in a garage

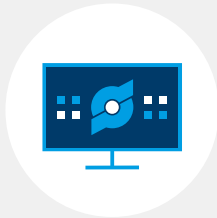


Hand in hand for tomorrow

Shaping the future with innovative technologies – that is the claim of SCHUNK. To this end, the experienced automation and production specialist is pushing the further development and digitalization of its product and service portfolio in order to make industrial processes more efficient, transparent and sustainable. The family-owned company with headquarters in Lauffen/Neckar is a global leader in toolholding and workholding, gripping technology and automation technology. Approximately 3,500 employees in 9 plants and 34 directly owned subsidiaries and distribution partners in more than 50 countries throughout the world ensure an intensive market presence.

More than just a single component!

Digital services



Depaneling machines



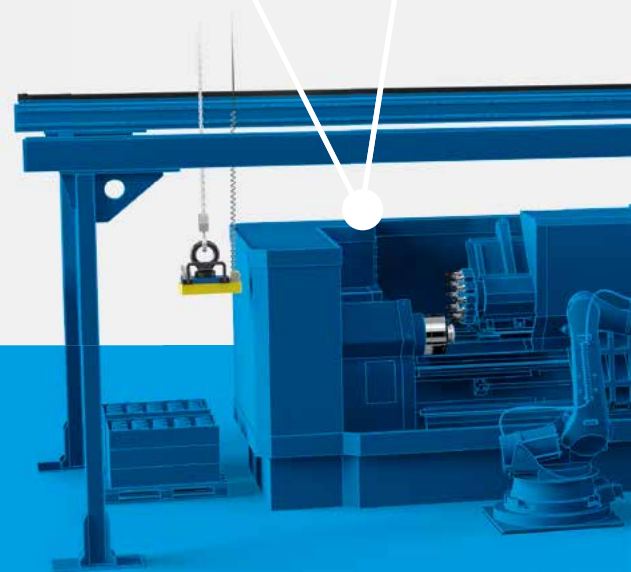
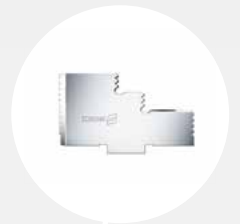
Application knowledge

CoLab

Lathe chucks



Chuck jaws



Gripping technology



Toolholders



Modular assembly automation



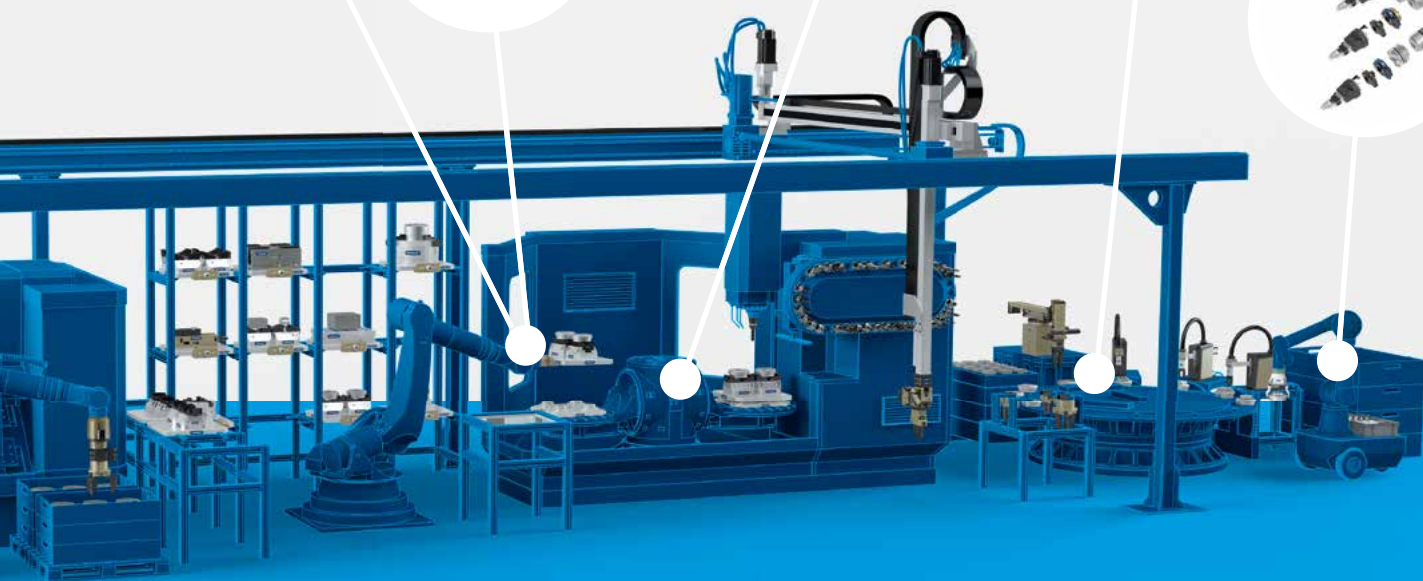
Stationary workholding



Robot accessories



Plug&Work portfolio for lightweight robots

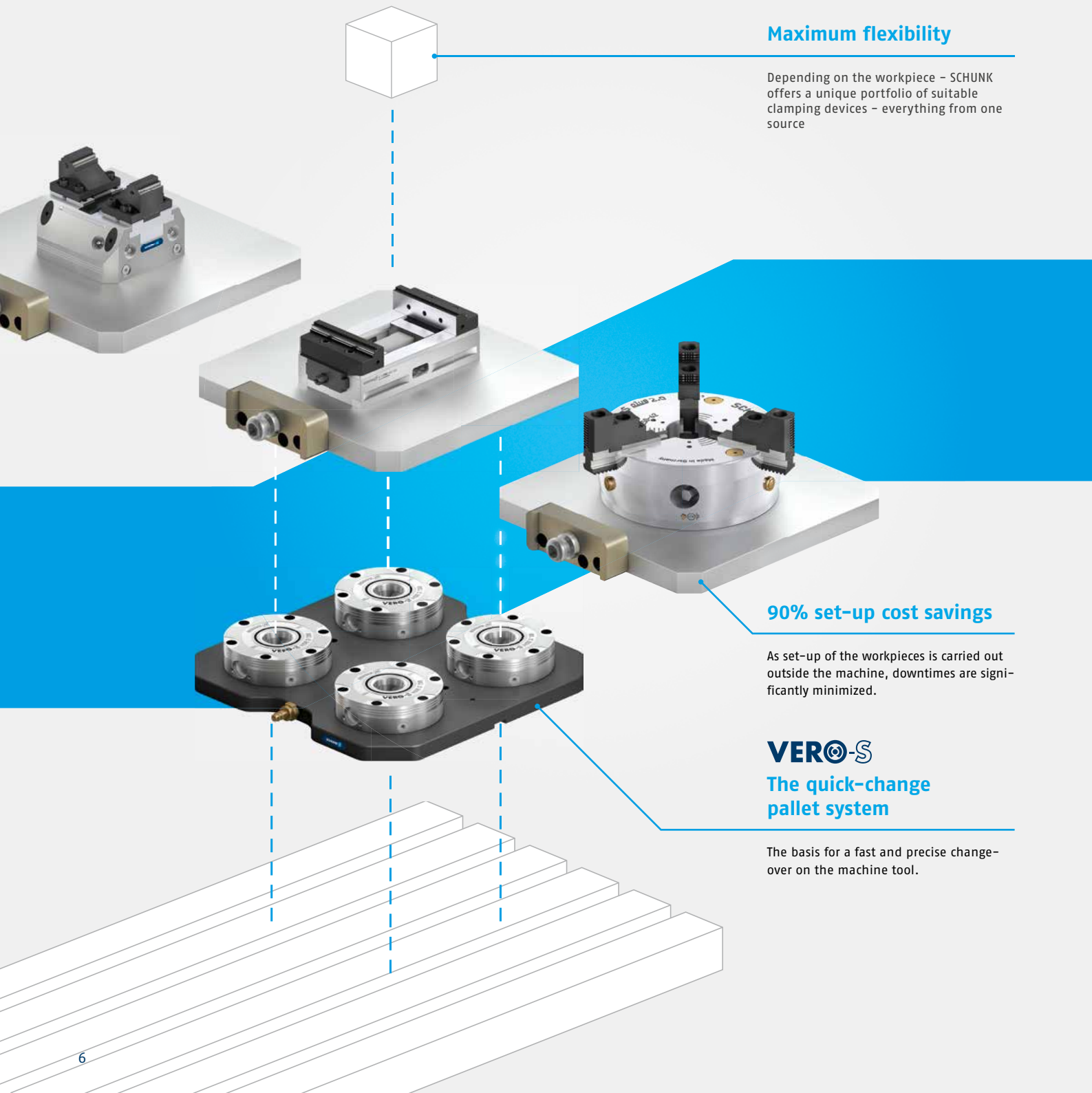


Rely entirely on SCHUNK

We know how it's done. Due to our unique portfolio and an extensive practical application knowledge, we have the perfect solution for every task. Even already installed systems can be optimized and adapted to changed requirements. With SCHUNK components and services, you can trust a reliable partner.

Equipping in a systematic way The SCHUNK modular system for automated machine loading

Highly standardized – for maximum flexibility



Maximum flexibility

Depending on the workpiece – SCHUNK offers a unique portfolio of suitable clamping devices – everything from one source

90% set-up cost savings

As set-up of the workpieces is carried out outside the machine, downtimes are significantly minimized.

VERO-S The quick-change pallet system

The basis for a fast and precise change-over on the machine tool.

The modular system for individualists

With the stationary workholding program from SCHUNK you benefit from a comprehensive, standardized complete modular system for efficient workpiece clamping. No matter if pneumatic, hydraulic, manual, electric or magnetic – the SCHUNK spectrum offers you flexible and versatile options for machining various workpiece geometries across a wide range of processes, all from one source.

Manual



KONTEC single-acting vises
Powerful single-acting vises with fixed reference point and therefore high accuracy, particularly for OP20 machining.



KONTEC centric clamping vises
Compact centric clamping vises for clamping symmetrical workpieces in the center.



KONTEC multi clamping vises
Double clamping vises and clamping rails for clamping of several workpieces.



Manual lathe chucks
Manually actuated chucks for clamping round and customized workpieces.

Pneumatic



TANDEM 2-jaw clamping force blocks
Compact powerhouses with high number of variants. With standard stroke, long stroke, or fixed jaw.



TANDEM 3-jaw clamping force blocks
Compact powerhouses for cylindrical workpieces with standard stroke or long stroke.



Clamping force blocks with jaw quick-change
Clamping force blocks for manual or automated jaw quick-change via a robot.



Pneumatic power lathe chucks
Lathe chucks with integrated pneumatic cylinder for clamping round and customized workpieces.

Hydraulic



TANDEM 2-jaw clamping force blocks
Compact power houses for serial production. With standard stroke, long stroke, or fixed jaw.



TANDEM 3-jaw clamping force blocks
Compact powerhouses for cylindrical workpieces in serial production with standard stroke or long stroke.



Clamping force blocks with jaw quick-change
Clamping force blocks for manual or automated jaw quick-change via a robot

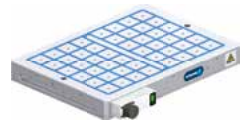


Hydraulic power lathe chucks
Lathe chucks with integrated hydraulic cylinder for clamping round and customized workpieces.

Electric



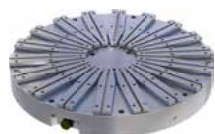
TANDEM 2-jaw clamping force blocks
Electro-mechanically actuated clamping force blocks, with presetting of the jaw position.



MAGNOS square pole plates
Powerful magnetic chucks for rough and fine machining of medium-sized and large workpieces.



MAGNOS parallel pole plates
Powerful magnetic chucks for machining thin and small workpieces.



MAGNOS radial pole chucks
Powerful magnetic chucks for turning and grinding of rings and discs.

VERO-S modules

High-performance modules for any application

Highest pull-down forces, high-precision repeat
accuracy and absolute flexibility



The modules serve as the basis for the modular system and are either directly installed in the machine table, or attached to it as a clamping station. With the help of clamping pallet, pallet coupling and robot module, the clamping device can be automatically inserted and replaced by a robot. The connection is achieved via clamping pins or clamping rings.

NSE mikro

Miniature clamping modules for micro-cutting. Available in two versions. Positive locking is achieved using SPx mikro 10 clamping pins.



NSE mini

Miniature clamping modules for light milling applications. Available in three versions. Positive locking is achieved via SPx mini 20 clamping pins.



NSE3

High-performance premium modules for general milling applications. Available in four versions. Positive locking is achieved via SPx 40 clamping pins.



NSA plus / NSA3

Extremely flat automation module for high-end palletizing with pallet lifting function. Positive locking is achieved via clamping rings.



NSE-A3

Versatile automation module based on NSE3. Positive locking is achieved via SPx 40 clamping pins.



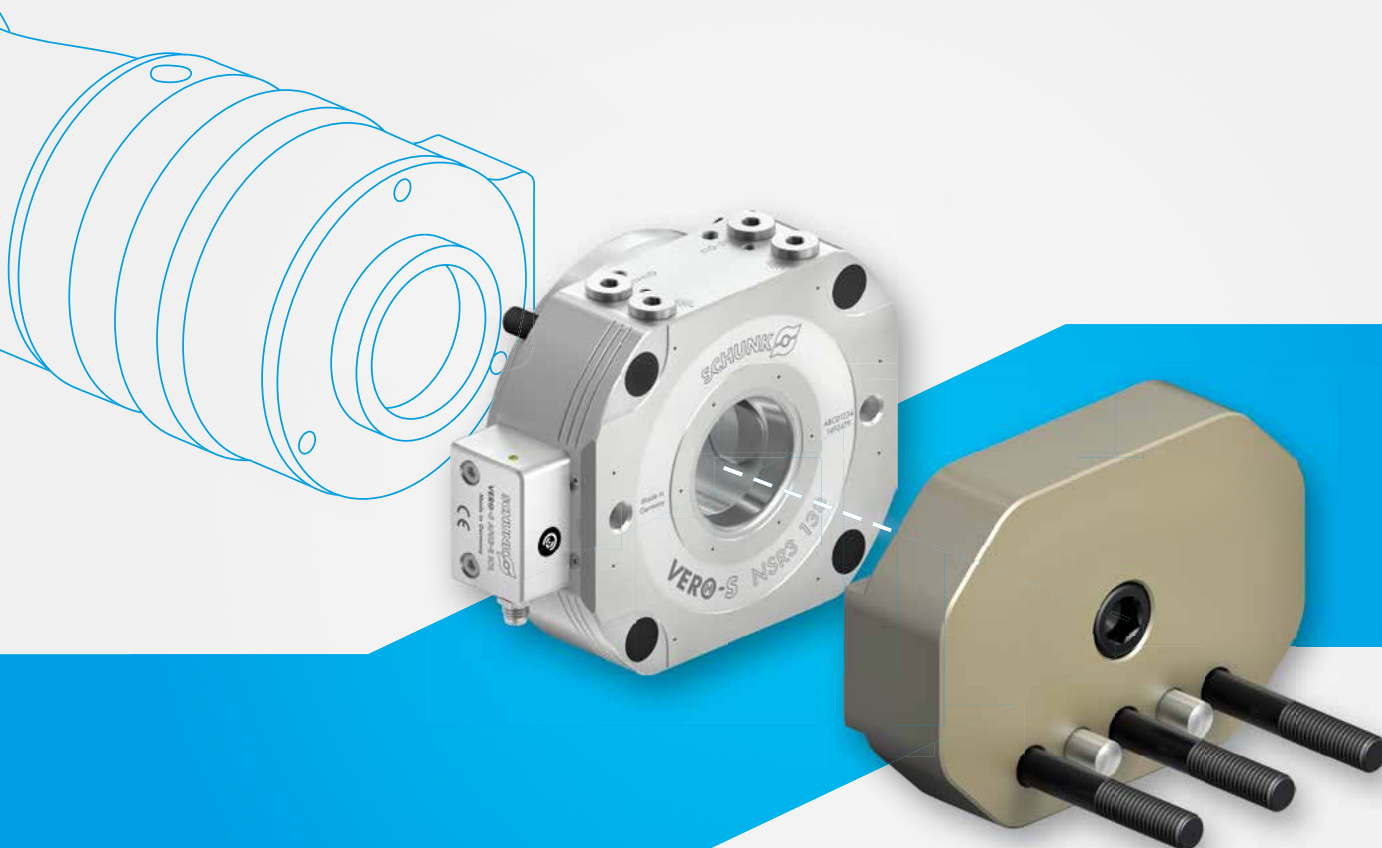
Pneumatic quick-change pallet system

Type		Description
NSE mikro – innovative technology in the smallest spaces with the smallest quick-change pallet modules		
NSE mikro 49		Micro clamping module for universal applications in micro-cutting. Quick-change pallet module with drive via drive ring and three flat clamping slides and patented drive concept.
NSE mikro 49-13		Micro clamping module for universal applications in micro-cutting with significantly increased pull-down force for more power. Quick-change pallet module with drive via axial piston and two round clamping slides and patented drive concept.
NSE mini – powerful modules for the smallest variable pitches		
NSE mini 90		Miniature clamping module for applications with light force such as machining aluminum or plastic or for use on measuring devices. Quick-change pallet module with drive via drive ring and three flat clamping slides and patented drive concept.
NSE mini 90-25		Miniature clamping module with significantly higher pull-down force for light milling machining. Quick-change pallet module with drive via axial piston and two round clamping slides and patented drive concept.
NSE-HT mini 88-20		Miniature clamping module especially designed for high-temperature applications up to 200 °C. Material, drive concept and seals are especially adapted to these temperatures.
NSE3 – the high-performance quick-change pallet system for universal milling machining		
NSE3 99		Powerful clamping module with high pull-down forces for small pitches. Optionally available with cone seal.
NSE3 138		The most powerful quick-change pallet module par excellence. This premium module serves as the basis for the VERO-S modular system and can be expanded by a unique variety of different equipment. Optionally available with cone seal.
NSE3-T3 138		Powerful quick-change pallet module in tombstone design. Its slim design is particularly suitable for applications with tombstone and swiveling table. Optionally available with cone seal.
NSE3 138-P		Powerful quick-change pallet module with integrated media transfer units. These media transfer units make it possible to transfer pneumatics or hydraulics directly through the module to the clamping device with a max. transfer pressure of 300 bar. Optionally available with cone seal.
VERO-S Automation – powerful quick-change pallet technology for high-end palletizing		
NSE-A3		Fully equipped automation module for automated machine tool loading as well as for applications in handling, assembly and automation technology.
NSA plus NSA3		Extremely flat automation module for high-end palletizing. A pallet lift-off function ensures maximum process reliability in interaction with robots.

Clamping pin type/ clamping ring type	Automated machine loading	Manual machine loading	Module height [mm]	Weight [kg]	Pull-down force without/ with turbo [kN]	
SPx mikro 10	Yes	Yes	12	0.2	0.15	
					0.4	
SPx mikro 10	Yes	Yes	13	0.2	0.5	
					1.5	
SPx mini 20	Yes	Yes	20	1	0.5	
					1.5	
SPx mini 20	Yes	Yes	25	1.3	1.5	
					6	
SPx mini 20	Yes	Yes	20	1	0.5	
					2.5	
SPx 40	Yes	Yes	56	2.4	5	
					18	
SPx 40	Yes	Yes	39	4.4	8	
					28	
SPx 40	Yes	Yes	11	3.5	7	
					24	
SPx 40	Yes	Yes	39	4.4	8	
					28	
SPx 40	Yes	Yes	39	4.4	8	
					28	
SRx 120	Yes	Yes	32	2	3	
					10	
SRx 160	Yes	Yes	40	5.8	5	
					15	

VERO-S robot module for high-end palletizing

Automation made easy



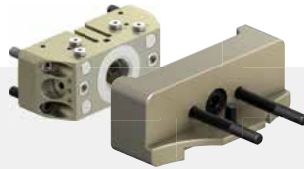
Robot couplings from the VERO-S NSR series have been setting benchmarks in the market for years when it comes to high-efficiency, robot-assisted pallet change on machine tools. The slim design allows machine tool loading extremely close to the machine table. The high pull-down forces create an extremely rigid system, enabling its excellent holding force to withstand high torques.

Lightweight robot modules made of hard-anodized aluminum alloy

The three robot modules NSR mikro 60, NSR mini 100, and NSR 160 are made of high-strength and hard-anodized aluminum alloy. The low weight and the extremely slim design make machine loading very close to the machine table possible.



NSR mikro 60
PKL mikro 60



NSR mini 100
PKL mini 100



NSR 160
PKL 160

Robust robot modules for handling heavy pallets

The special design of the robot modules NSR3 138 and NSR maxi 220 ensure high robustness with high torque capacity. In this case, even heavy pallets can be easily handled by robots.



NSR3 138
PKL 138



NSR maxi 220
PKL maxi 220



NEW

Monitoring via monitoring unit with IO-Link interface

In the case of robot module NSR3 138 the statuses "module opened", "module closed", "module closed with clamping pin" and "pallet presence" are being recorded for the first time via a monitoring unit and then transferred via an IO-Link interface to the machine control unit. This is a fieldbus-independent point-to-point connection that enables the exchange of events, as well as process and service data between machine control unit and clamping device, and can be integrated into almost any fieldbus system.

VERO-S media coupling

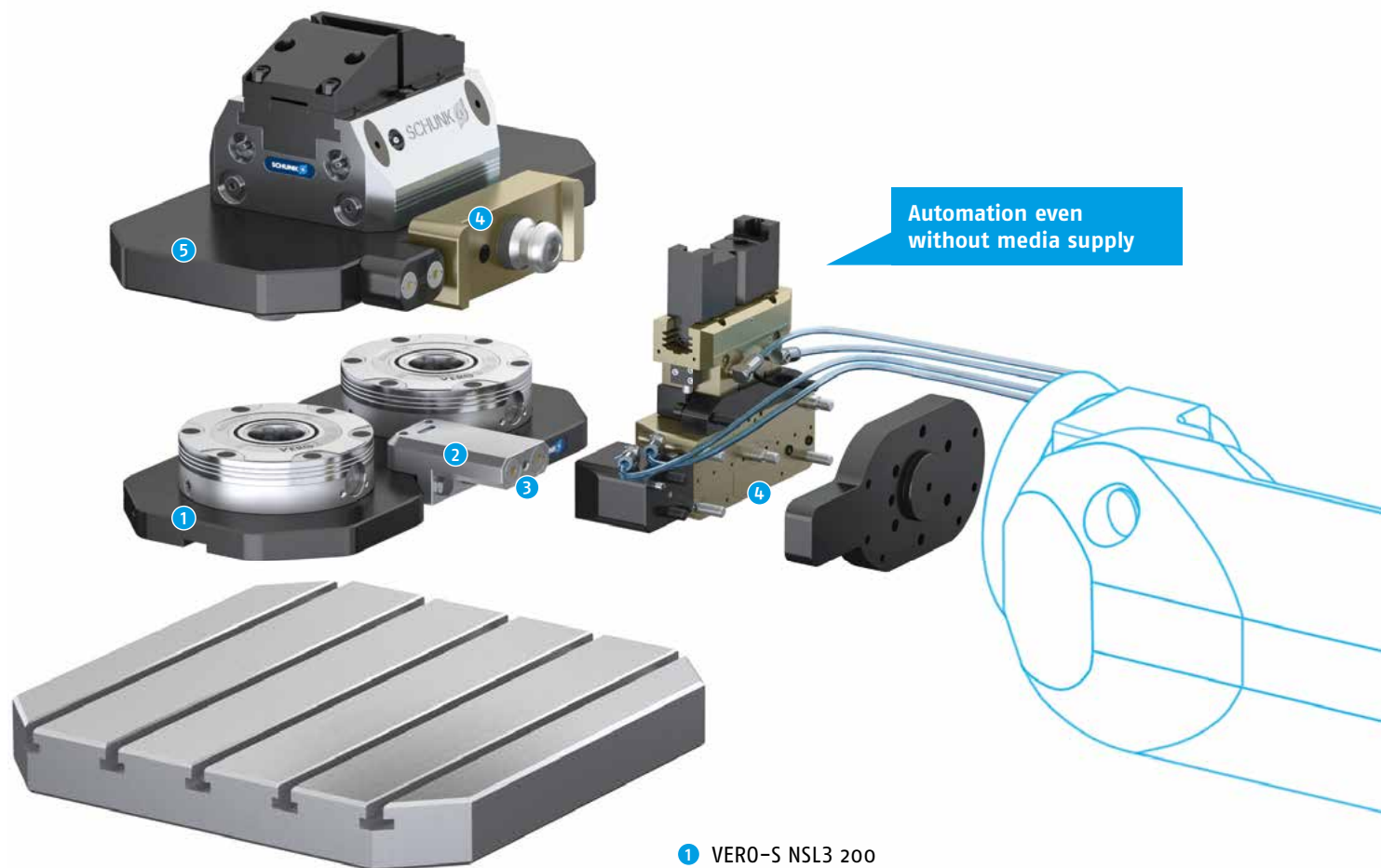
Economic automation of machine tools without media feed-through

There are still potentials for reducing cycle times in set-up and loading processes. With the VERO-S media coupling machine tools can now also be automatically loaded, where they previously did not provide a media feeding in the machine interior.

Through the media coupling, both the VERO-S modules and the pneumatic clamping systems can be actuated by the robot's media supply. It can be retrofitted to all standard VERO-S NSL plus and VERO-S NSL3 clamping stations. The additional media coupling is installed in such a way that no interfering contours occur during pallet loading or actuation. A combination with mechanically actuated clamping devices is also possible.

Technical data:

- Requirement for positioning accuracy of robots:
Radial ± 0.3 mm, axial $+ 0.5$ mm
- Coupling forces depend on the robot,
clamping station and clamping device



- 1 VERO-S NSL3 200
- 2 Media coupling
- 3 Coupling nipple
- 4 Robot coupling
- 5 Clamping pallet with TANDEM KSP3 clamping force block



For more information see our
VERO-S video



VERO-S NSL3 200 with media coupling



The robot opens the clamping station via the coupling nipple



Robot inserts the clamping pallet into the clamping station



Robot locks the clamping station and parallelly opens the clamping device via the coupling nipples



Automated loading of the workpiece into the clamping device



Robot locks the clamping device via the coupling nipple

VERO-S robot modules

Type		Description
Pneumatic	NSR mikro 60	 Extremely slim coupling made of hard-anodized aluminum alloy for handling of small pallets with a maximum moment of up to 15 Nm.
	NSR mini 100	 Extremely slim robot coupling made of hard-anodized aluminum alloy for handling of small pallets with a maximum moment of up to 75 Nm.
	NSR 160	 Extremely slim robot coupling made of hard-anodized aluminum alloy for handling of pallets with a maximum moment of up to 600 Nm.
	NSR3 138	 Robust robot coupling for handling of heavy pallets with a maximum moment of up to 1,500 Nm.
	NSR maxi 220	 Robust robot coupling for handling of heavy pallets with a maximum moment of up to 4,000 Nm.

Accessories media coupling

Type	Description	ID
1-way mounting	MDR-NRS-1  Coupling nipple for robot module With one-way media transfer for actuation of the clamping stations and clamping device via the matching coupling strip.	1350336
	MDR-PAL-1  Coupling strip for clamping pallet With one-way mounting for transmission of compressed air from the robot module to the clamping device.	1440495
	MDR-NSL-1  Coupling strip for clamping station With one-way mounting for transmission of compressed air from the robot module to the clamping station.	1350331

Clamping pin type	Automated machine loading	Module height [mm]	Weight [kg]	Pull-down force without/ with turbo [kN]	Max. moment Mx/ Mz [Nm]	
SPA mikro 10	Yes	29	0.15	0.5	15	
				1.5	32	
SPA mini 20	Yes	39.5	0.4	1	75	
				4	200	
SPA 40	Yes	60	1.6	4	600	
				15	1600	
SPA 40	Yes	112	3.8	8	1500	
				28	1600	
SPA 80	Yes	176	21	12	4000	
				50	4000	

Type	Description	ID
2-way mounting	 Coupling nipple for robot module With two-way media transfer for actuation of clamping stations and clamping device via the matching coupling strip.	1350334
	 Coupling strip for clamping pallet With two-way mounting for transfer of compressed air from the robot module to the clamping module.	1426829
	 Coupling strip for clamping station With two-way mounting for transfer of compressed air via robot module to the clamping station.	1350323

i4.0 READY

Electrically actuated workholding!

Intelligent workholding from SCHUNK



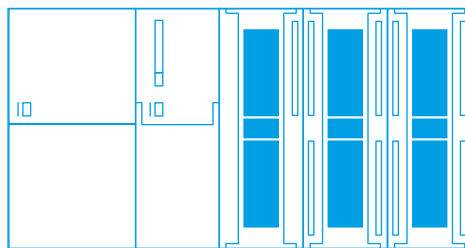
By implementing sensor technology for data acquisition and transmission, the intelligent clamping devices from SCHUNK offer all the necessary preconditions for processes, where you require knowledge of the current clamping situation. All the sensory and electromechanical clamping devices from SCHUNK can be integrated into the machine control system. Therefore, detection of wear and maintenance requirements are possible at any time.

IO-Link – the universal interface for data transmission

The new sensory and electromechanical clamping systems from SCHUNK communicate via the standardized IO-Link interface (IEC 61131-9). This is a fieldbus-independent point-to-point connection that enables the exchange of events as well as process and service data between machine control and clamping device. Via the IO-Link master various clamping devices can be connected with the help of a fieldbus system in the machine control system. A clamping device can be quickly and easily integrated or exchanged via an own IODD. The IO-Link technology is versatile in use and can be integrated in almost any fieldbus system.

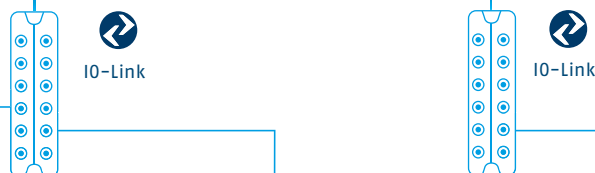
Modular control concept with IO-Link

Machine control



Fieldbus

IO-Link master



IO-Link products



VERO-S NSE3 138 +
AF53 IOL 138



VERO-S NSE3-PH 138 IOL



TANDEM KSE3 100 IOL

Intelligent quick-change pallet modules

Type		Description
Electrically	NSE3-PH 138 IOL	 Piezo-hydraulic quick-change pallet module with the same performance values and the same installation space as the current NSE3 138. Control and data transmission via IO-Link
	NSE-E mini 90	 Electromechanically actuated quick-change pallet module with integrated electronics. Control via a lateral 4-pin connection. Monitoring of the clamping slide positions via two external inductive proximity switches.

Intelligent clamping force blocks

Type		Description
Electrically	KSE3 IOL	 Electromechanically actuated clamping force block with integrated electronics and jaw pre-adjustment. Advantage standard stroke: High clamping forces due to the small wedge angle. Advantage long stroke: Long jaw stroke for collision-free loading of workpieces with large interfering contours.

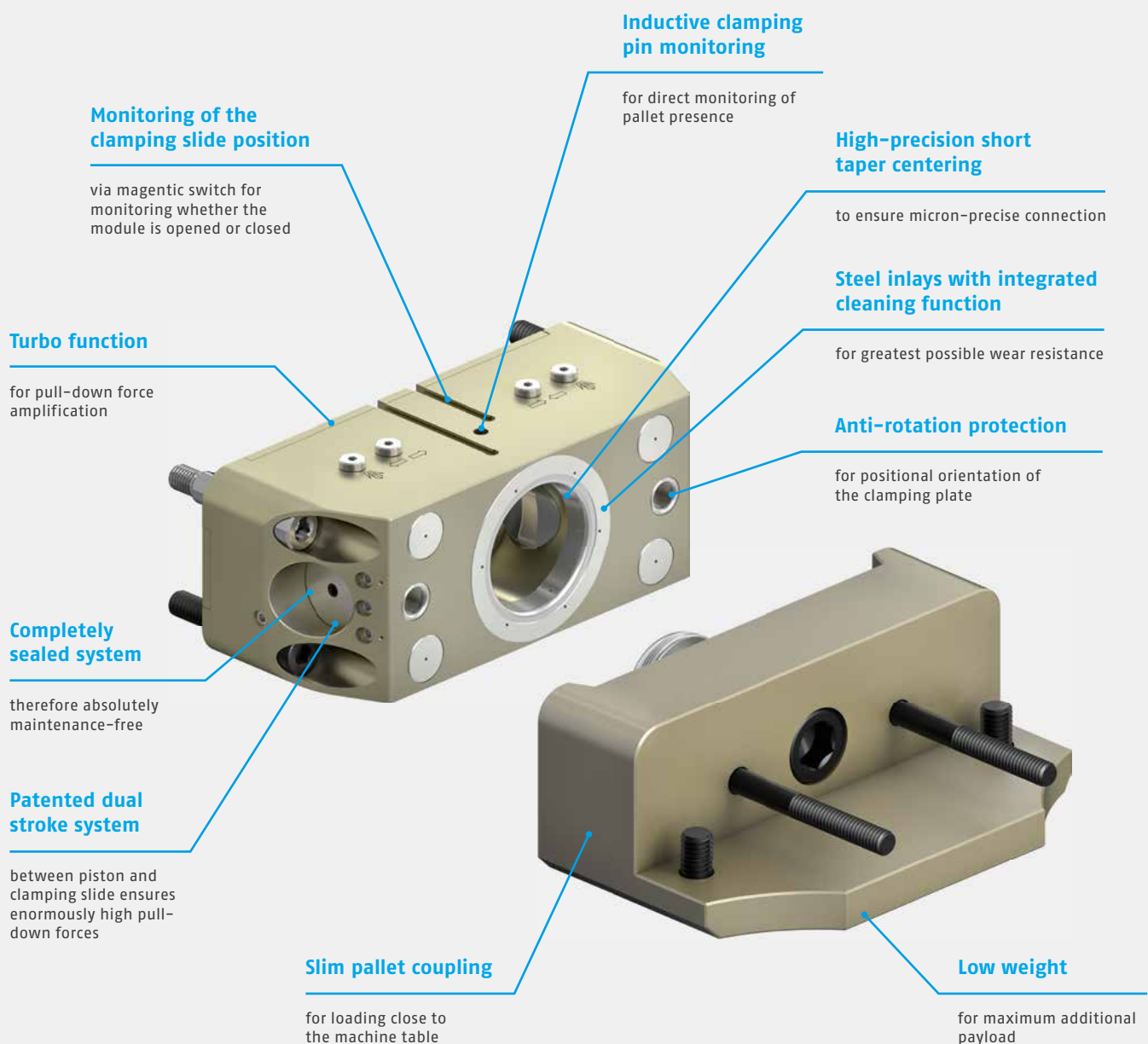
Clamping pin type	Automated machine loading	Manual machine loading	Module height above table [mm]	Weight [kg]	Pull-down force [kN]	
SPx 40	Yes	Yes	39	4.5	28	
SPx mini 20	Yes	Yes	20	1.7	1.5	

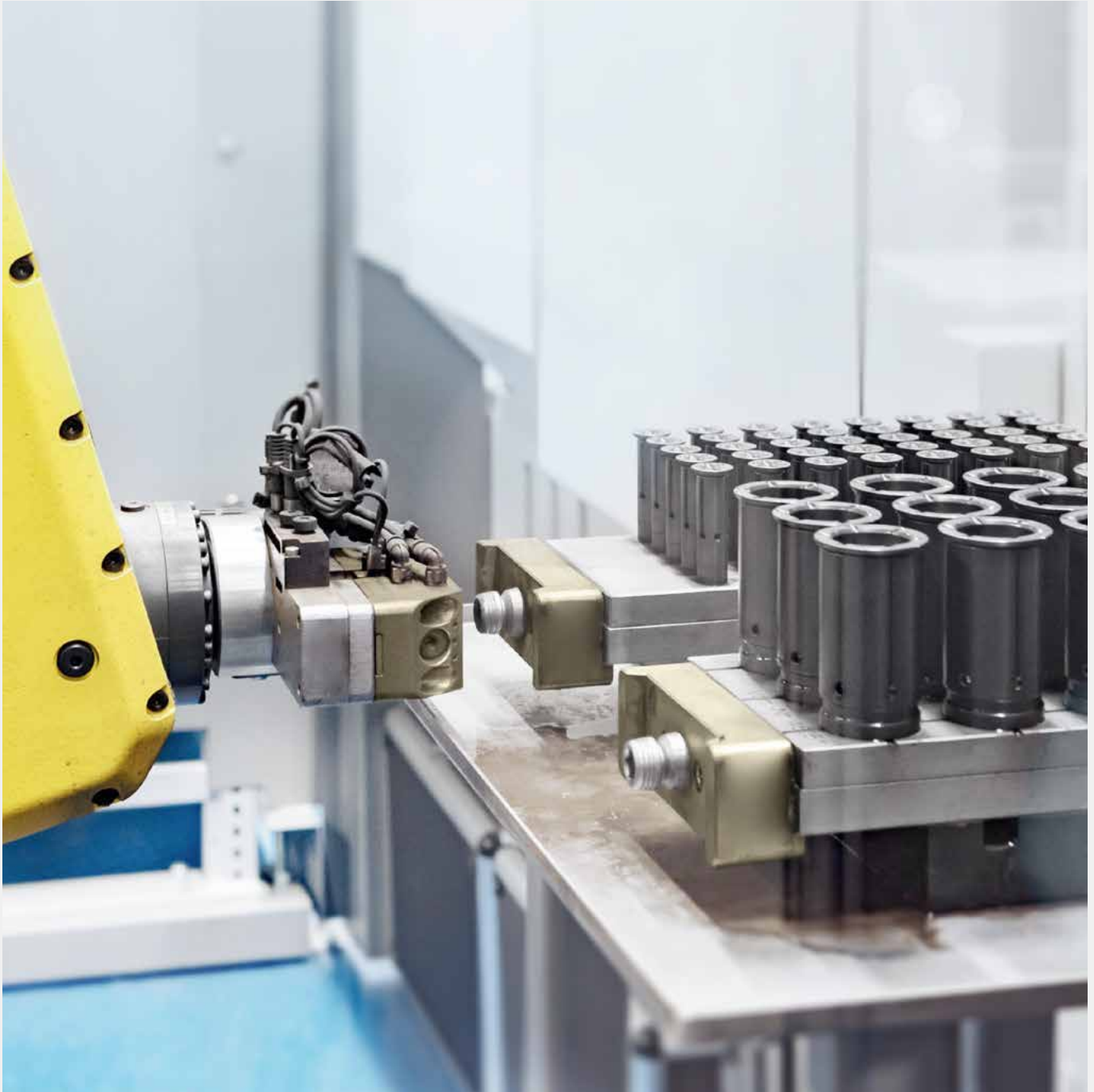
Stroke version	Stroke/Jaw [mm]	Power absorption [W]	Voltage [V DC]	Weight [kg]	Clamping force [kN]	
Standard stroke	2	50	24	4.5	18	
Long stroke (-LH)	6	50	24	4.5	8	

VERO-S NSR

The SCHUNK pallet couplings of the VERO-S NSR series have become indispensable when it comes to automated machine loading. No matter if slim and lightweight, thanks to the hard-anodized aluminum, or robust and powerful, in both sizes, you will find the right module for any application.

Via an integrated spring package, the clamping pin is clamped by two self-locking clamping slides and even in the event of pressure drop the pull-down force is completely maintained. A cleaning function is integrated by default and ensures optimum cleaning of the flat work surface, centering cone, center bore and indexing pin.





NEW

VERO-S NSR3 138

The new robot coupling for high-end palletizing is designed for a weight range from 100 to 200 kg: With the robot module VERO-S NSR3 138 very heavy pallets can now also be handled with robots. For the first time, individual clamping statuses can be captured via a monitoring unit, and transmitted with the IO-Link interface in a standardized manner to the machine control.



Robot module

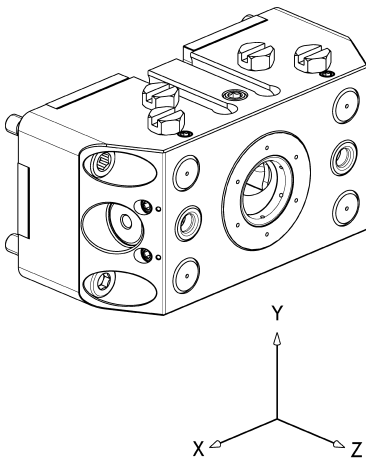
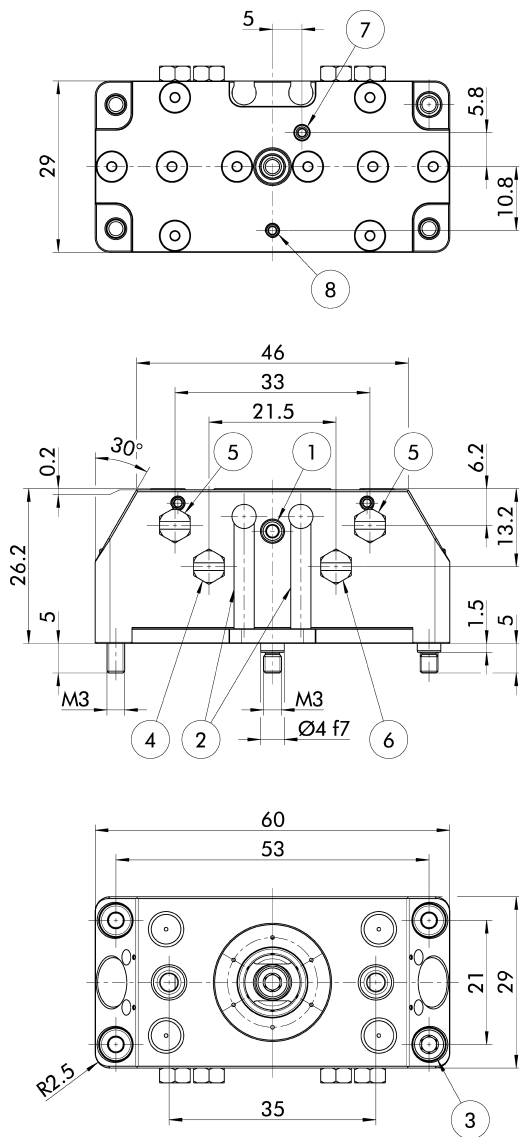
Made of hard-anodized aluminum with matching clamping pin interface SPA mikro 10

Scope of delivery

Robot module, fitting screws, fastening screws, O-rings, operating manual; without proximity switches

Technical data

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Max. moment Mx [Nm]	Max. moment Mz [Nm]	Weight [kg]
NSR mikro 60	1357111	0.5	1.5	6	< 0.02	15	32	0.15



Subject to technical changes.

- ① Inductive proximity switch M4x0.5 (ID no. 1325755) for pallet presence

② Inductive proximity switch (ID 0301042) for module detection

③ Fitting screw for positional orientation

④ Unlocking connection via screw connection M3
- ⑤ Air purge connection via screw connection M3 (2 bar)

⑥ Turbo connection via screw connection M3

⑦ Hose-free direct connection module open

⑧ Hose-free direct connection turbo function

Pallet coupling

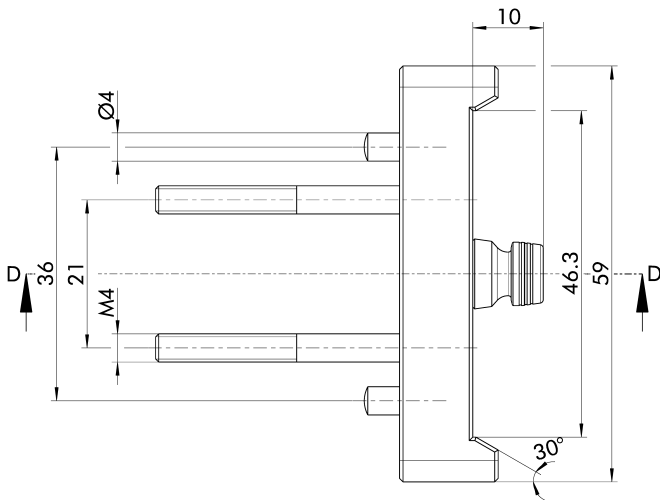
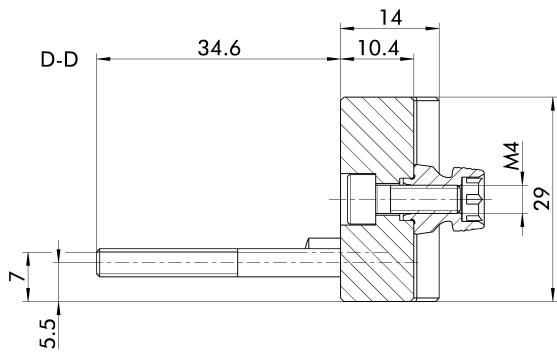
Suitable for robot module NSR mikro 60

Scope of delivery

Pallet coupling, clamping pin SPA mikro 10, fastening screws, cover caps, operating manual

Technical data

Description	ID	Material	Max. pallet size [mm]	Weight [kg]
PKL mikro 60	1357112	Aluminum	100 x 100	0.07



Subject to technical changes.

Robot module

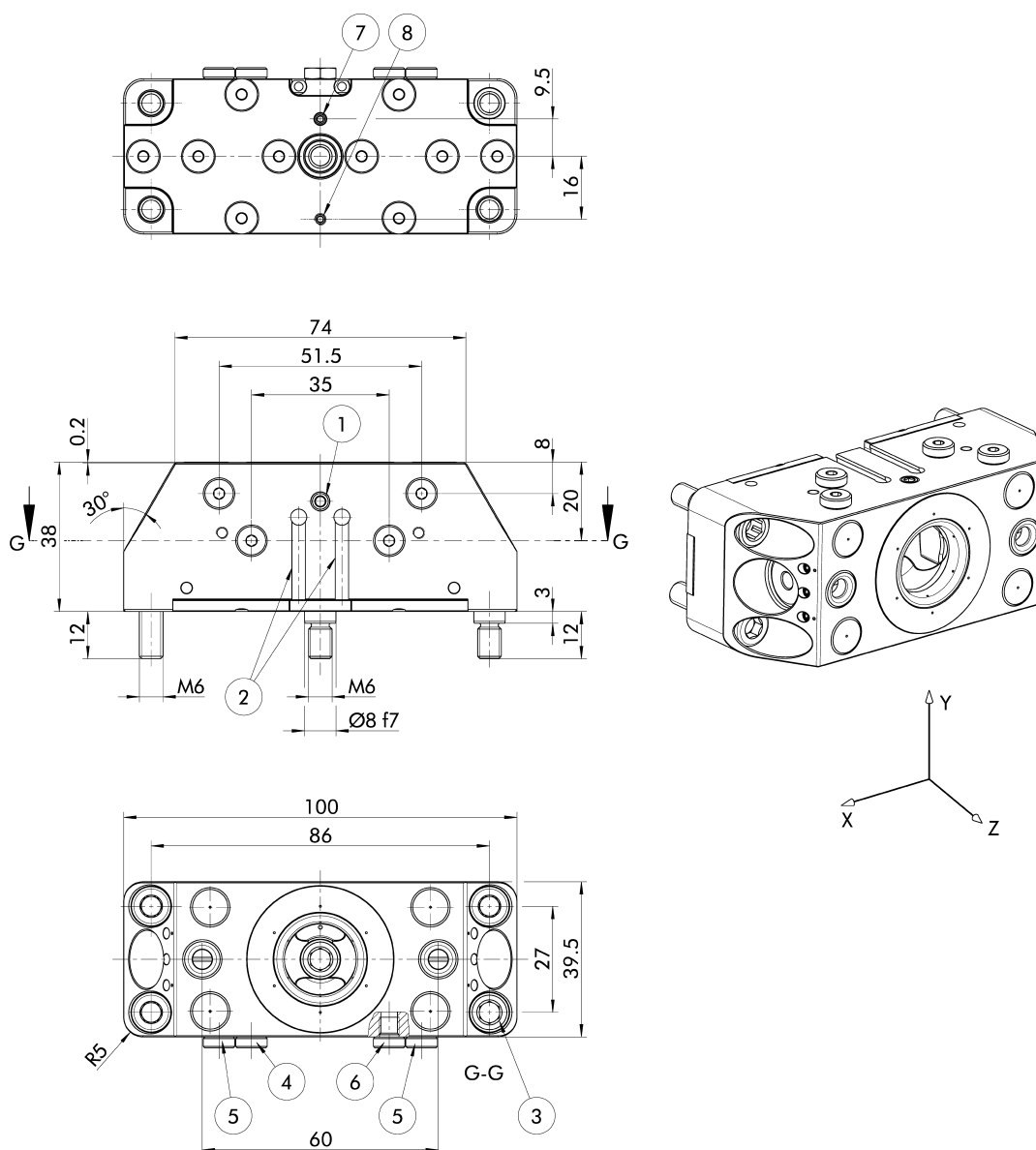
Made of hard-anodized aluminum with matching clamping pin interface SPA mini 20

Scope of delivery

Robot module, mounting screws, fitting screw, 0-rings, operating manual; without proximity switch

Technical data

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Max. moment Mx [Nm]	Max. moment Mz [Nm]	Weight [kg]
NSR mini 100	0471960	1	4	6	< 0.02	75	200	0.4



Subject to technical changes.

- ① Inductive proximity switch M5x0.5 (ID no. 0301575) for pallet presence
- ② Inductive proximity switch (ID 0301042) for module detection
- ③ Fitting screw for positional orientation
- ④ Unlocking connection via screw connection M5
- ⑤ Air purge connection via screw connection M5 (2 bar)
- ⑥ Turbo connection via screw connection M5
- ⑦ Hose-free direct connection module open
- ⑧ Hose-free direct connection turbo function

Pallet coupling

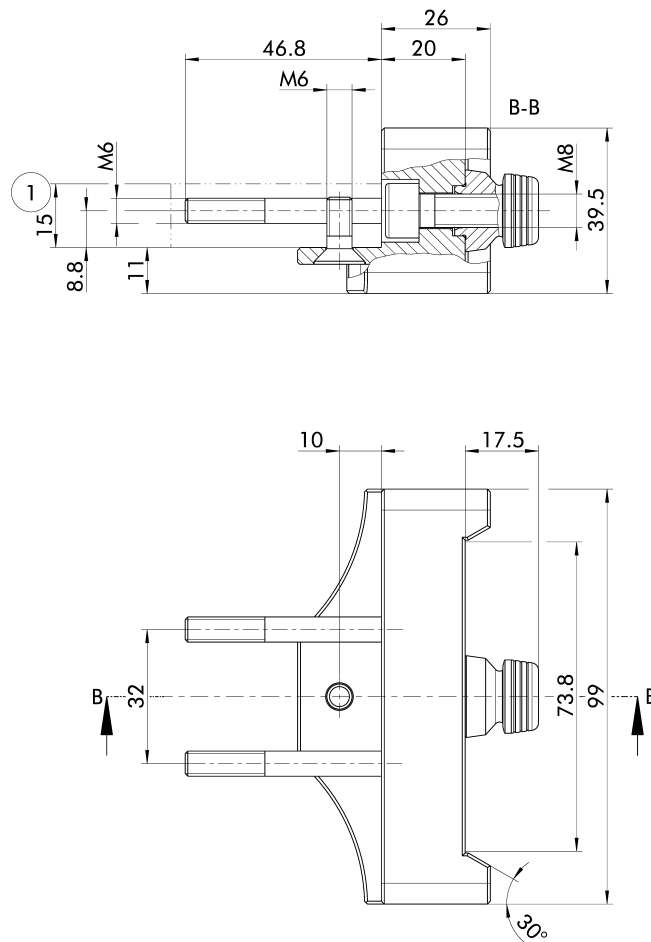
Suitable for robot module NSR mini 100

Scope of delivery

Pallet coupling, clamping pins, fastening screws, cover caps, operating manual

Technical data

Description	ID	Material	Max. pallet size [mm]	Weight [kg]
PKL mini 100	0471970	Aluminum	200 x 200	0.3



Subject to technical changes.

① Minimum plate thickness

Robot module

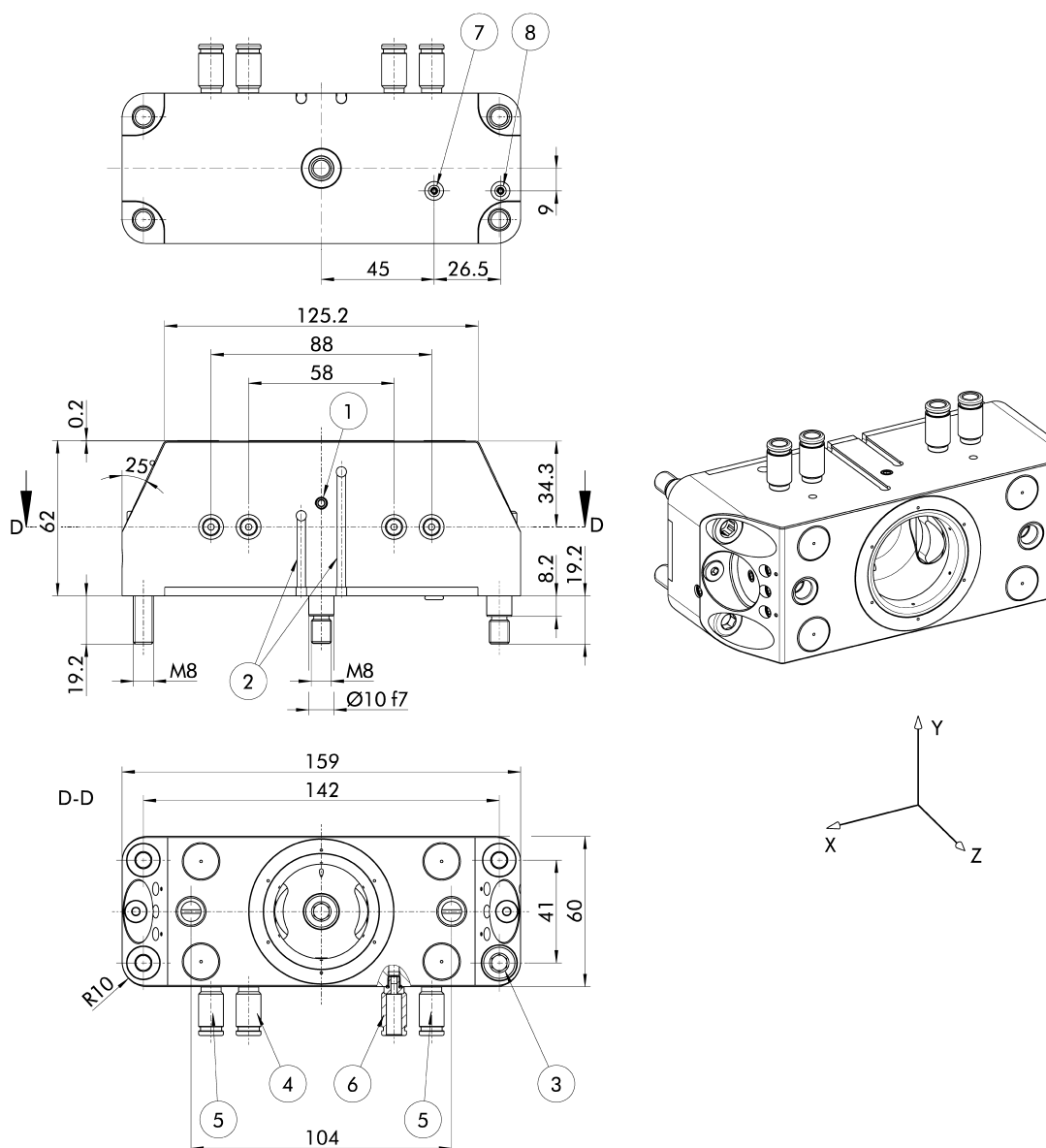
Made of hard-anodized aluminum with matching clamping pin interface SPA 40

Scope of delivery

Robot module, mounting screws, fitting screw, 0-rings, operating manual; without proximity switch

Technical data

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Max. moment Mx [Nm]	Max. moment Mz [Nm]	Weight [kg]
NSR 160	0471915	4	15	6	< 0.02	600	1600	1.6



Subject to technical changes.

- | | |
|--|--|
| ① Inductive proximity switch M5x0.5 (ID no. 0301575) for pallet presence | ⑤ Air purge connection via screw connection M5 (2 bar) |
| ② Inductive proximity switch (ID 0301042) for module monitoring | ⑥ Turbo connection via screw connection M5 |
| ③ Fitting screw for positional orientation | ⑦ Hose-free direct connection module open |
| ④ Unlocking connection via screw connection M5 | ⑧ Hose-free direct connection turbo function |

Pallet coupling

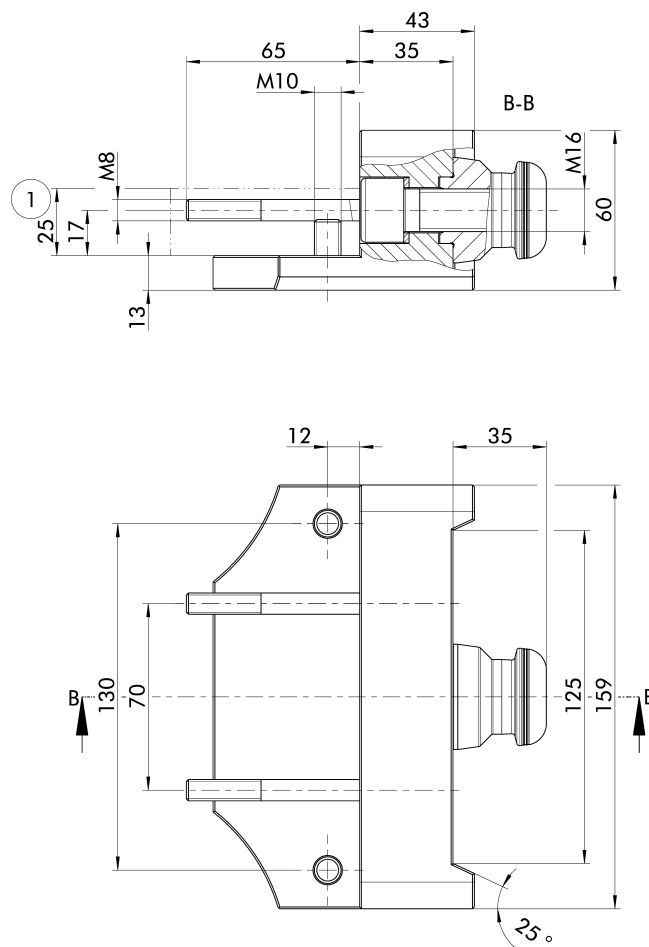
Suitable for robot module NSR 160

Scope of delivery

Pallet coupling, clamping pins, fastening screws, cover caps, operating manual

Technical data

Description	ID	Material	Max. pallet size [mm]	Weight [kg]
PKL 160	0471930	Aluminum	500 x 500	1.5
PKL 160 Lean	40103658	Aluminum	500 x 500	1.5



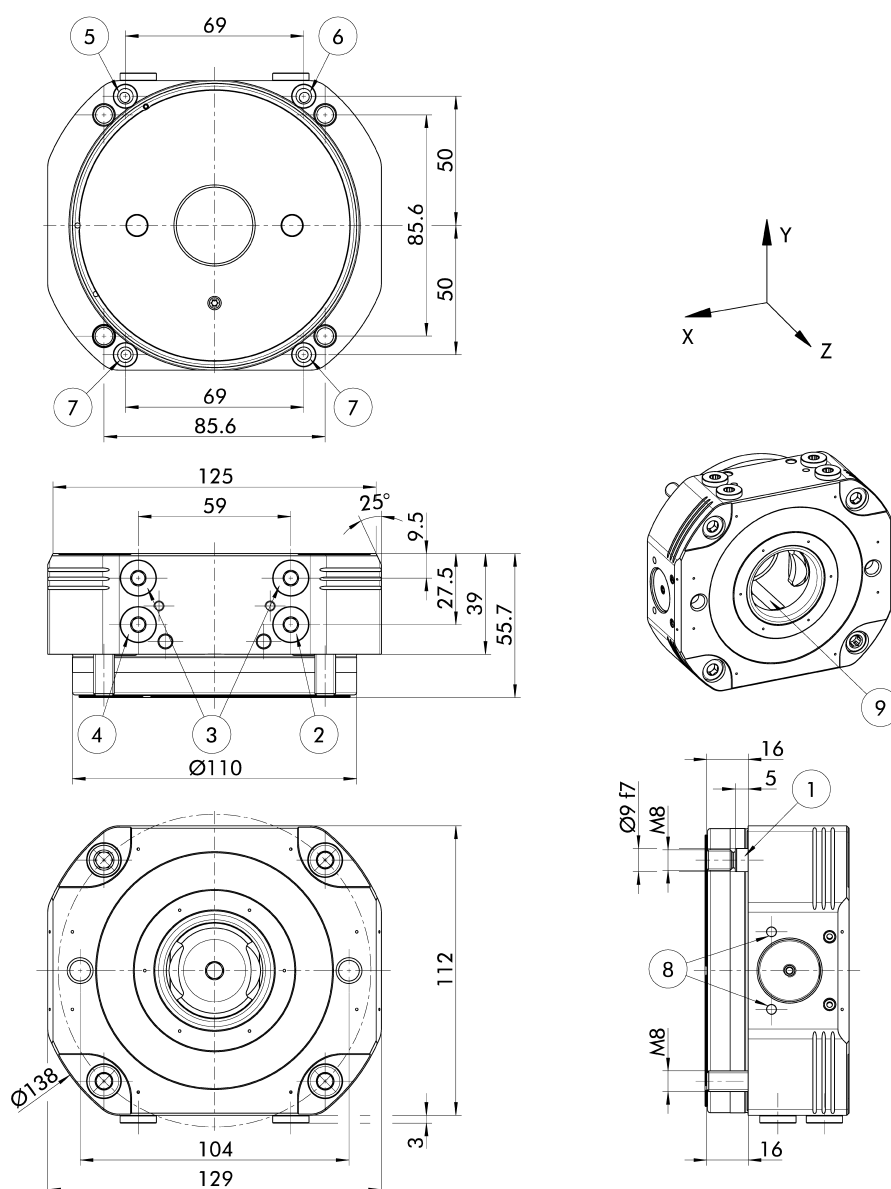
Subject to technical changes.

① Minimum plate thickness

Made of hardened stainless steel with matching clamping pin interface SPA 40

Robot module, mounting screws, fitting screw, O-rings, operating manual; without AFS3 IOL monitoring unit

Description	ID	Pull-down force	Pull-down force with turbo	Unlocking pressure	Repeat accuracy	Max. moment Mx	Max. moment Mz	Weight
		[kN]	[kN]	[bar]	[mm]	[Nm]	[Nm]	[kg]
NSR3 138	1492479	8	28	6	< 0.02	1500	1600	3.8



Subject to technical changes.

- | | |
|---|--|
| ① Fitting screw for positional orientation | ⑤ Hose-free direct connection turbo function |
| ② Unlocking connection via screw connection G1/8 | ⑥ Hose-free direct connection module open |
| ③ Air purge connection with cleaning function via screw connection G1/8 (2 bar) | ⑦ Hose-free direct connection for air purge |
| ④ Turbo connection via screw connection G1/8 | ⑧ Optional: Connection for monitoring unit VERO-S AFS3-R IOL |
| | ⑨ Optional: Cone seal |

Pallet coupling

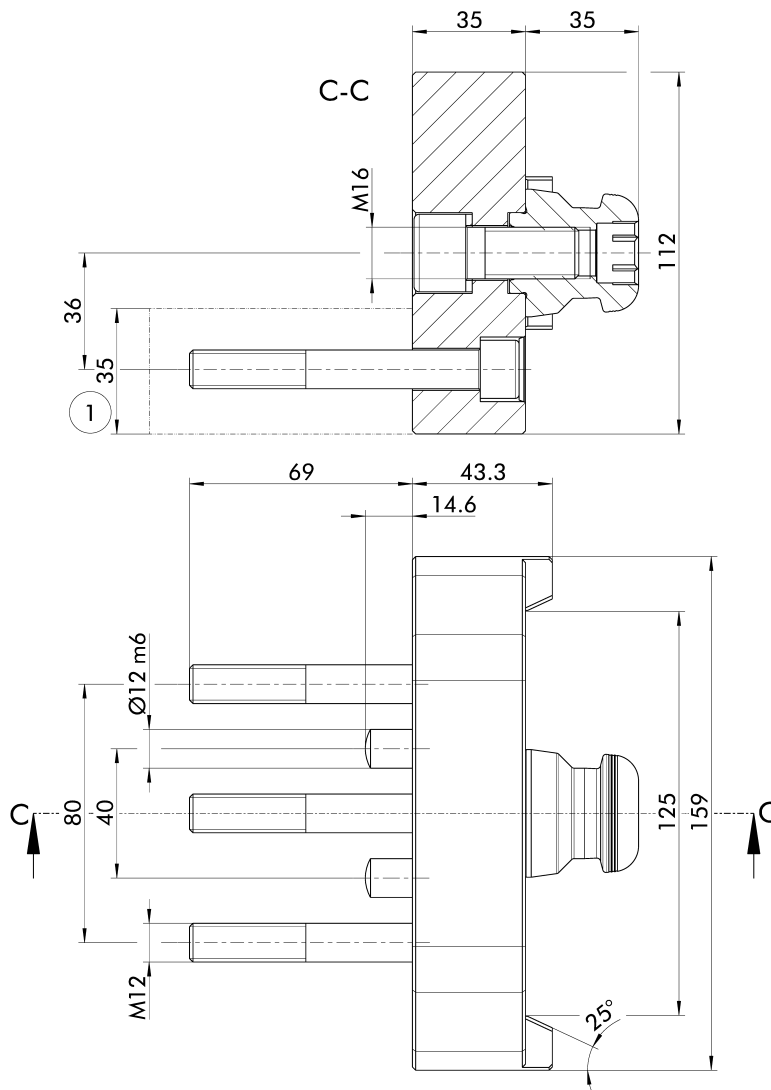
Suitable for robot module NSR3 138

Scope of delivery

Pallet coupling, clamping pins, fastening screws, cover caps, operating manual

Technical data

Description	ID	Material	Max. pallet size [mm]	Weight [kg]
PKL 138	1492512	Aluminum	630 x 630	2.1



Subject to technical changes.

① Minimum plate thickness

Robot module

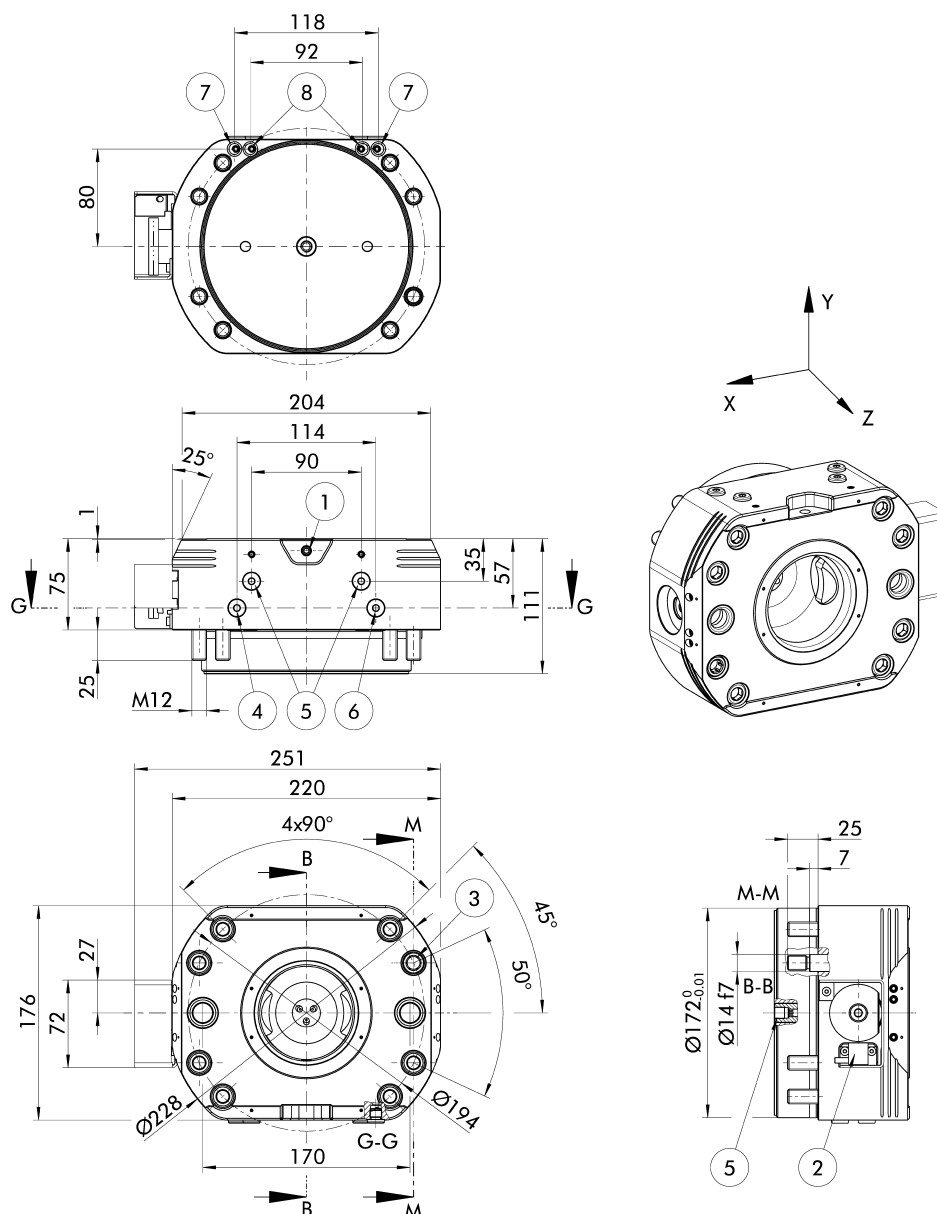
Made of hardened stainless steel with matching clamping pin interface SPA 80

Scope of delivery

Robot module, mounting screws, fitting screw, 0-rings, proximity switch, operating manual

Technical data

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Max. moment Mx [Nm]	Max. moment Mz [Nm]	Weight [kg]
NSR maxi 220	0471940	12	50	6	< 0.05	4000	4000	21



Subject to technical changes.

- ① Inductive proximity switch M8 x 1 (ID 0313425) for pallet presence
- ② Inductive position measuring system for module monitoring
- ③ Fitting screw for positional orientation
- ④ Unlocking connection via screw connection G1/8
- ⑤ Air purge connection with cleaning function via screw connection G1/8 (2 bar)
- ⑥ Turbo connection via screw connection G1/8
- ⑦ Hose-free direct connection
- ⑧ Hose-free direct connection (2 bar)

Pallet coupling

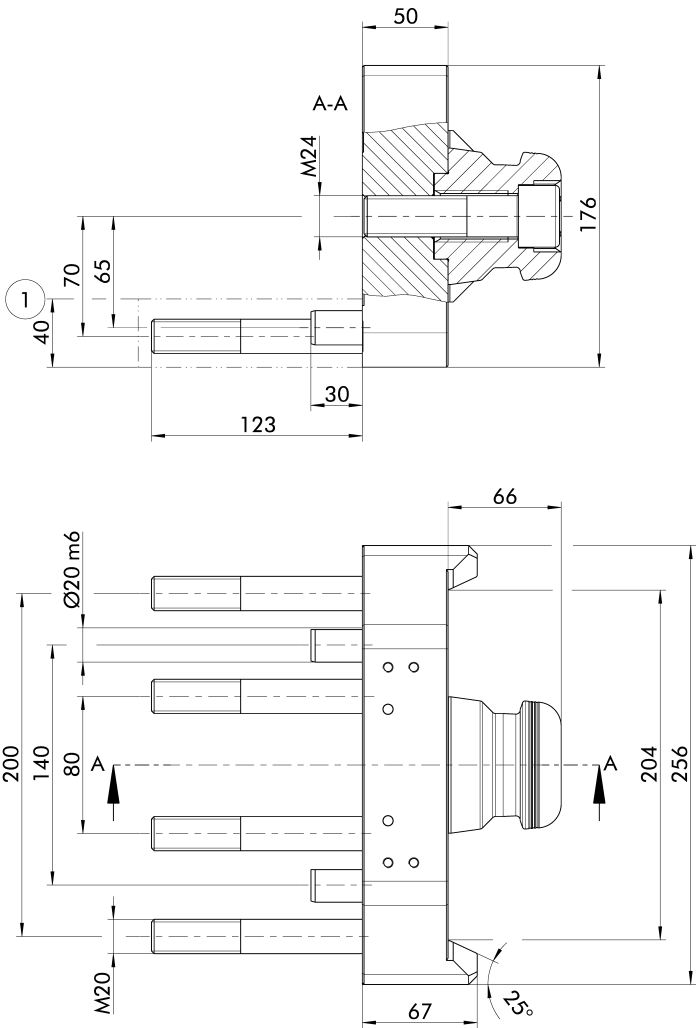
Suitable for robot module NSR maxi 220

Scope of delivery

Pallet coupling, clamping pins, fastening screws, cover caps, operating manual

Technical data

Description	ID	Material	Max. pallet size [mm]	Weight [kg]
PKL maxi 220	0471950	Steel	630 x 630	19.9



Subject to technical changes.

① Minimum plate thickness

VERO-S NSA plus / NSA3

The palletizing module VERO-S NSA3 ensures maximum precision during automated machine loading. It is a flat module and therefore leaves plenty of space in the machine room. It is extremely robust, even for rough machining. Thanks to the pallet lifting function, heavy pallets are first lifted before being removed by the robot – this prevents the pallet from becoming jammed.

The module ensures a chip-free flat work surface for workpieces due to its forced air flow. Positioned within seconds, it clamps with a high-precision repeat accuracy < 0.005 mm – absolutely reliable around the clock, all queries such as “opened” and “closed”, or monitoring for the system control are integrated as standard features.

Completely sealed system

therefore absolutely maintenance-free

High-precision short taper centering

ensures for micron-precise connection

Entry radii on the module

for fast and safe joining even in the event of a tilt angle and eccentricity

Cover caps for mounting screws

therefore no accumulation of coolant and chips possible



Pallet lifting function

for lifting particularly heavy pallets, prevents the pallet from becoming jammed

Patented drive concept

between piston and clamping slide ensures enormously high pull-down forces

Workpiece presence control

for control of pallet presence and for cleaning the contact surface

Turbo function

for pull-down force amplification



NEW

VERO-S NSA3 120

In the interplay of machine tool, robot loading, and maximum workspace within the machine, the SCHUNK NSA plus pallet module, which has been now upgraded to the new generation, has become indispensable. An integrated pallet lifting function ensures that particularly heavy pallets can be process-reliably inserted and exchanged by the robot. The special shape of the palletizing module avoids accumulation of chips or coolant.



Palletizing module

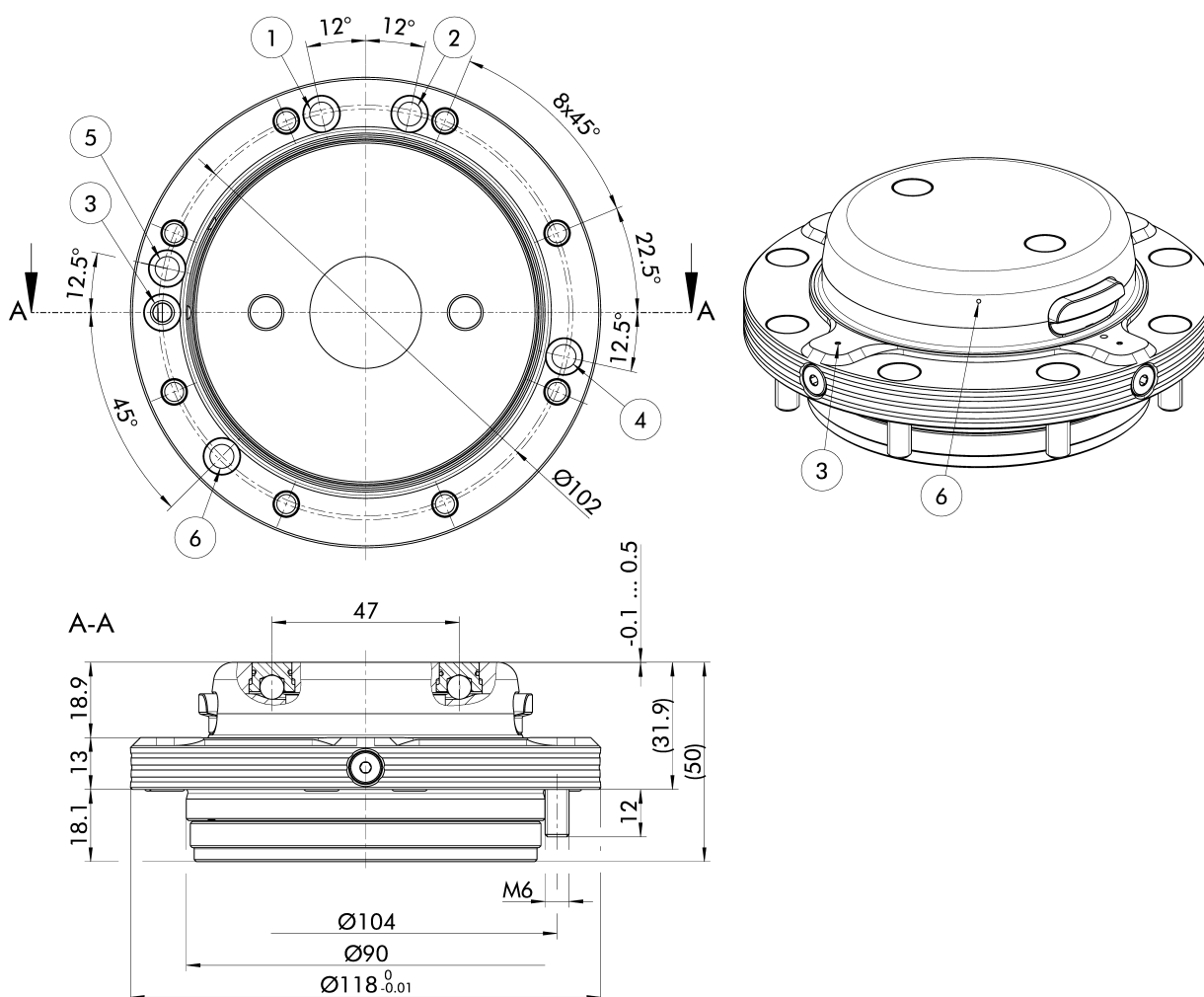
Extremely flat modules for high-end palletizing including pallet lift-off function

Scope of delivery

Clamping module, mounting screws, O-rings, cover plugs, operating manual; without clamping ring

Technical data

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSA3 120	1531269	3	12	6	< 0.005	2



Subject to technical changes.

- ① Hose-free direct connection module open
- ② Hose-free direct connection turbo function
- ③ Hose-free direct connection for cleaning of flat work surface and clamping slides
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Hose-free direct connection for cleaning of the short taper

Clamping ring

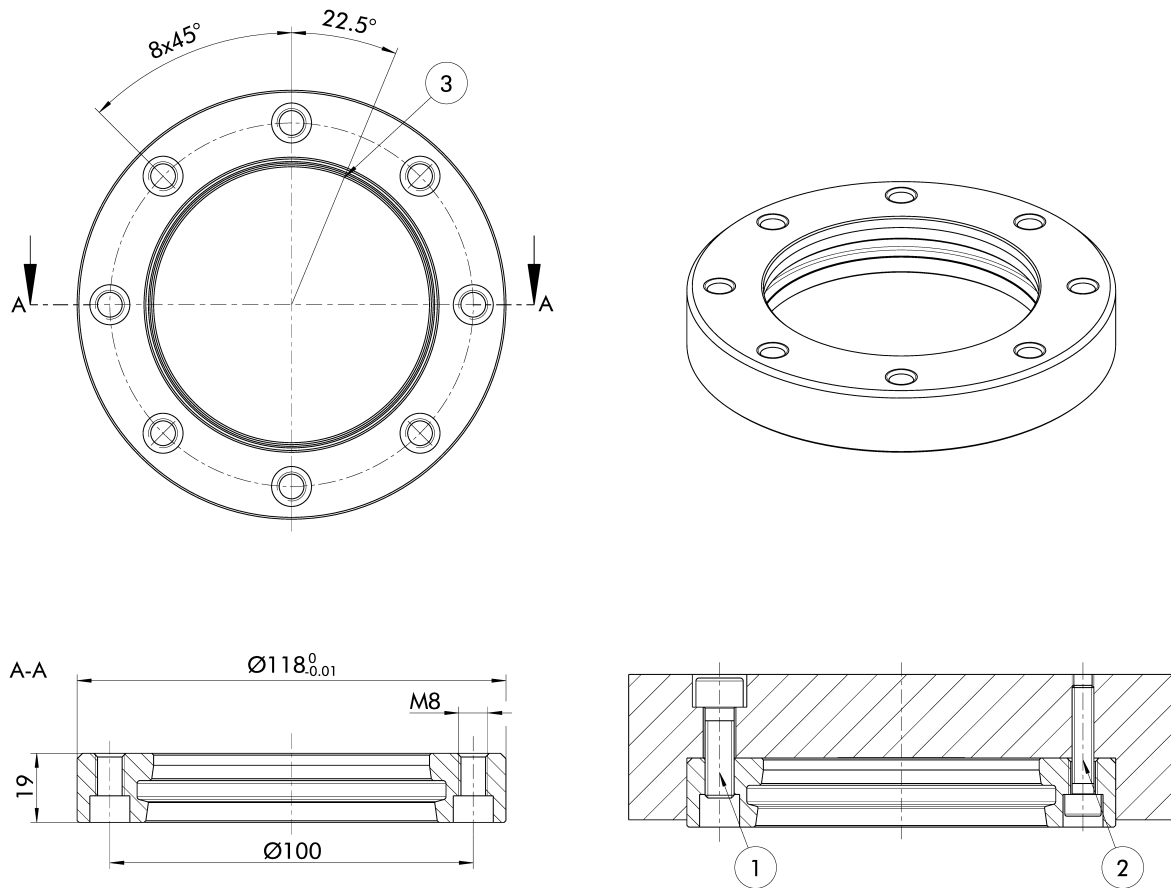
Suitable for palletizing modules NSA plus and NSA3 120

Scope of delivery

Clamping ring

Technical data

Description	ID	Material	Holding force [kN]	Version	Weight [kg]
SRA 120	0471650	Stainless steel	50	Centering ring	0.8
SRB 120	0471651	Stainless steel	50	Positioning ring	0.8
SRC 120	0471652	Stainless steel	50	Clamping ring	0.8



Subject to technical changes.

- ① Can be fastened with screw DIN EN ISO 4762 – M8
- ② Can be fastened with screw DIN EN ISO 4762 – M6

- ③ Position of the contact area at the SRB-ring (2 x 180°)

Extremely flat modules for high-end palletizing including pallet lift-off function

Clamping module, mounting screws, O-rings, cover plugs, operating manual; without clamping ring

Technical data

- ① Hose-free direct connection module open
 - ② Hose-free direct connection turbo function
 - ③ Hose-free direct connection air control unit
 - ④ Hose-free direct connection for monitoring module open
 - ⑤ Hose-free direct connection for slide monitoring module closed

Clamping ring

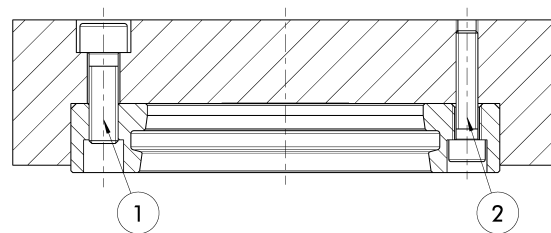
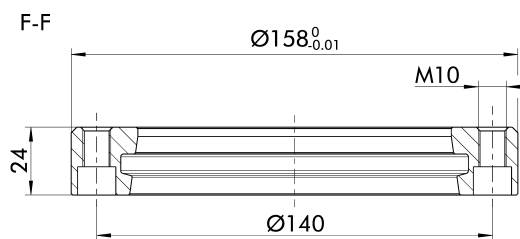
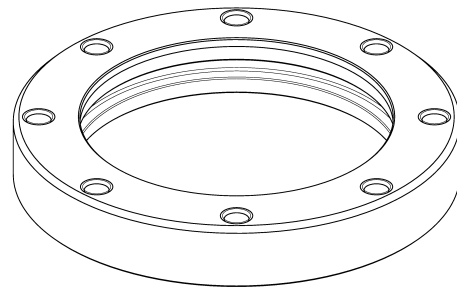
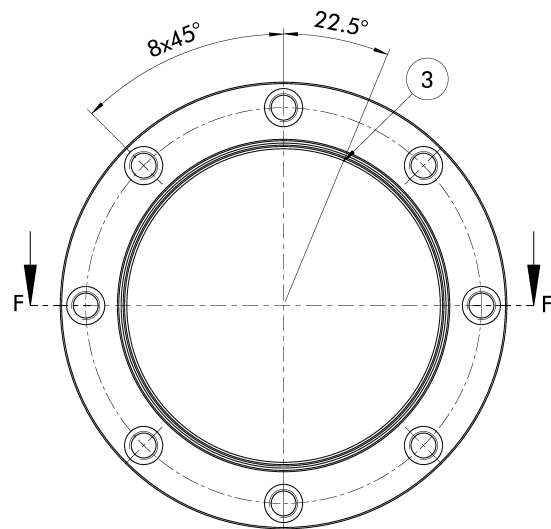
Suitable for palletizing modules NSA plus and NSA3 160

Scope of delivery

Clamping ring

Technical data

Description	ID	Material	Holding force [kN]	Version	Weight [kg]
SRA 160	0471750	Stainless steel	75	Centering ring	1.5
SRB 160	0471751	Stainless steel	75	Positioning ring	1.5
SRC 160	0471752	Stainless steel	75	Clamping ring	1.5



Subject to technical changes.

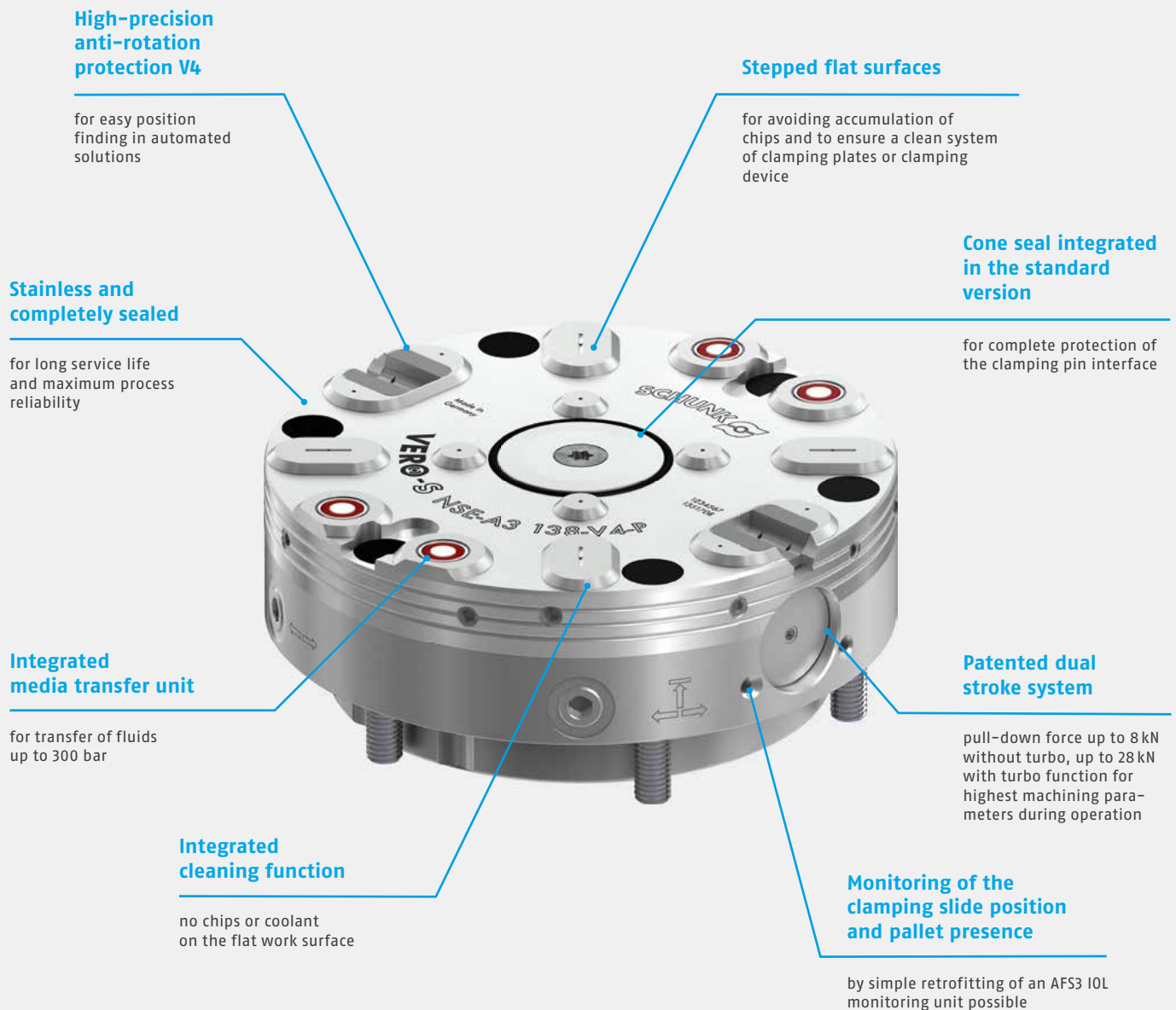
- ① Can be fastened with screw DIN EN ISO 4762 – M10
- ② Can be fastened with screw DIN EN ISO 4762 – M8

- ③ Position of the contact area at the SRB-ring (2 x 180°)

VERO-S NSE-A3

SCHUNK has developed the VERO-S NSE-A3 138 automation module specifically for automated machine tool loading as well as for applications in handling, assembly, and automation technology. The clamping module is equipped with a blow-off function and a cone seal for cleaning the bearing surface carefully and for preventing the ingress of chips.

Since the automation component is a part of the VERO-S modular system, and with the help of additional features such as the integrated media transfer, it benefits from a variety of different combination options – from standard plates to TANDEM clamping force blocks including manual vises from the KONTEC series.





NEW

More transparency during clamping processes with VERO-S AFS3 IOL 138

A smart interplay for automated machine loading offers the combination of VERO-S NSE-A3 and the monitoring unit AFS3 IOL 138. With the monitoring unit, the clamping statuses "module opened", "module clamped" and "module clamped without clamping pin", as well as "pallet presence" can be monitored. This information is transferred to the machine control via an IO-Link interface afterwards. Therefore the monitoring unit only needs to be mounted at the circumference of the module by two screws.



Automation module

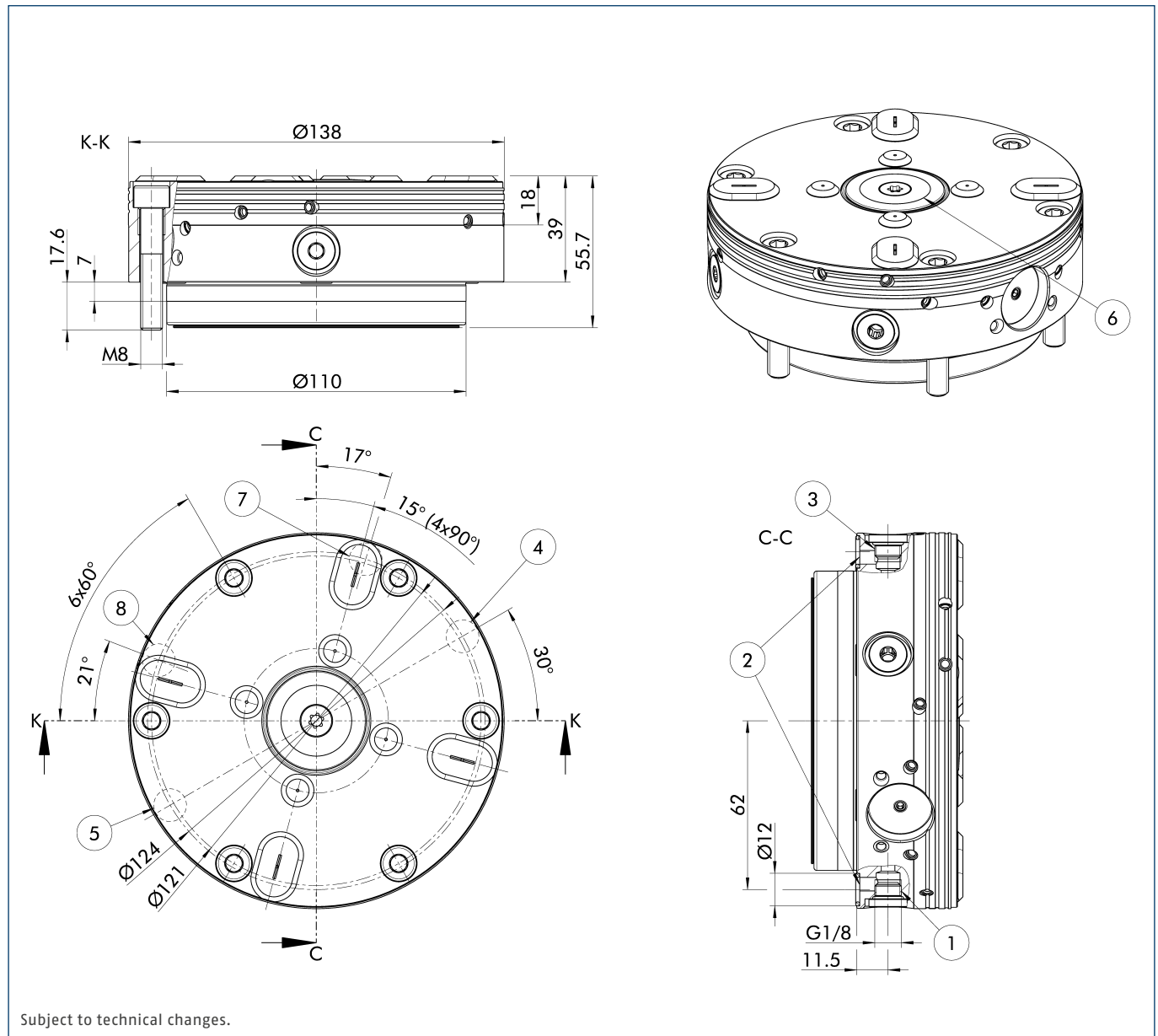
With cone seal

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE-A3 138	1364306	●	8	28	6	< 0.005	4.1



- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Cone seal
- ⑦ Hose-free direct connection for air purge
- ⑧ Hose-free direct connection for air purge and air control

Automation module

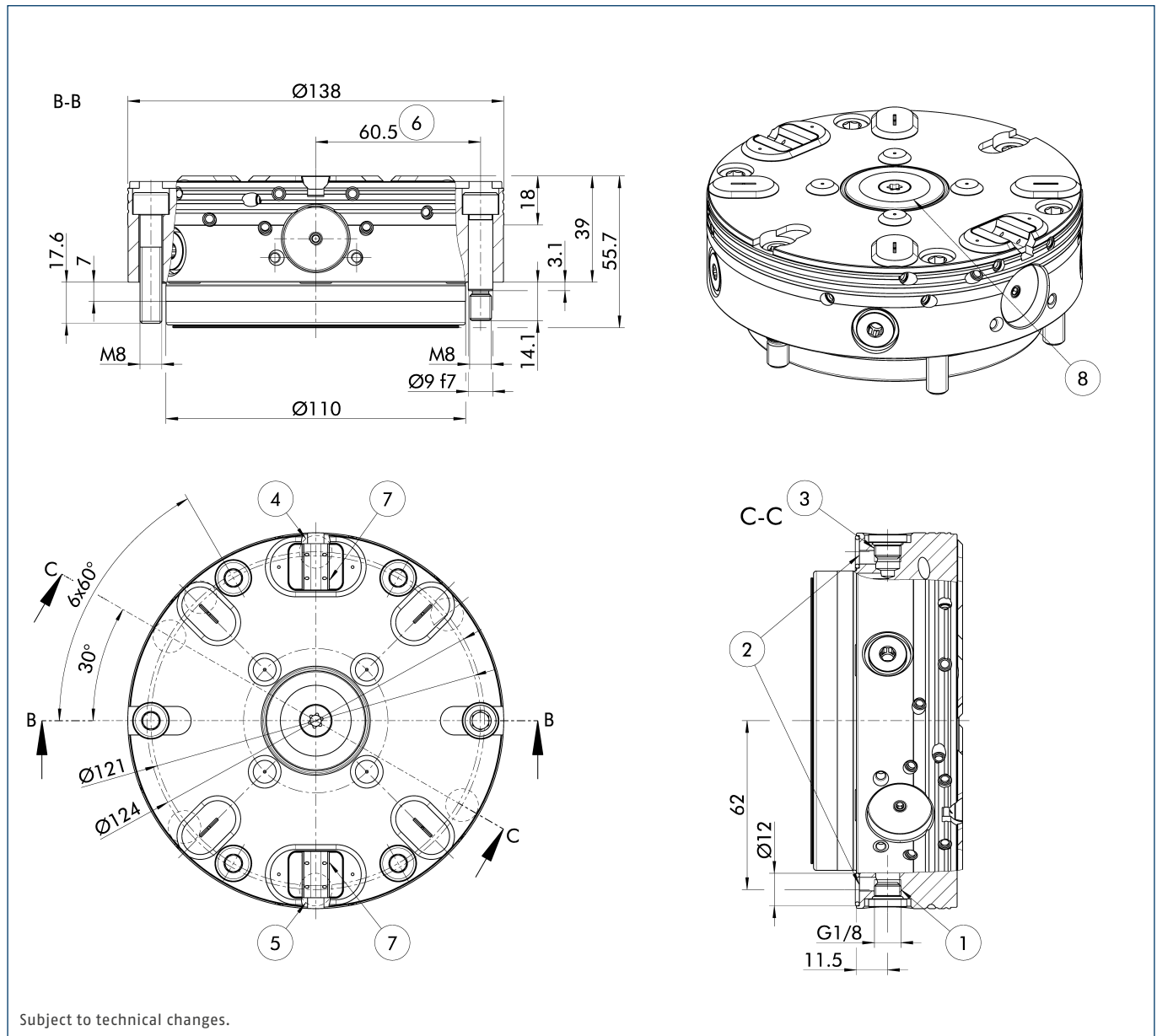
With cone seal and anti-rotation protection V4

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE-A3 138-V4	1364307	●	8	28	6	< 0.005	4.1



- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Clearance 60.5 ± 0.01 mm for the fitting screw
- ⑦ Groove for position orientation of the clamping pallet
- ⑧ Cone seal

Automation module

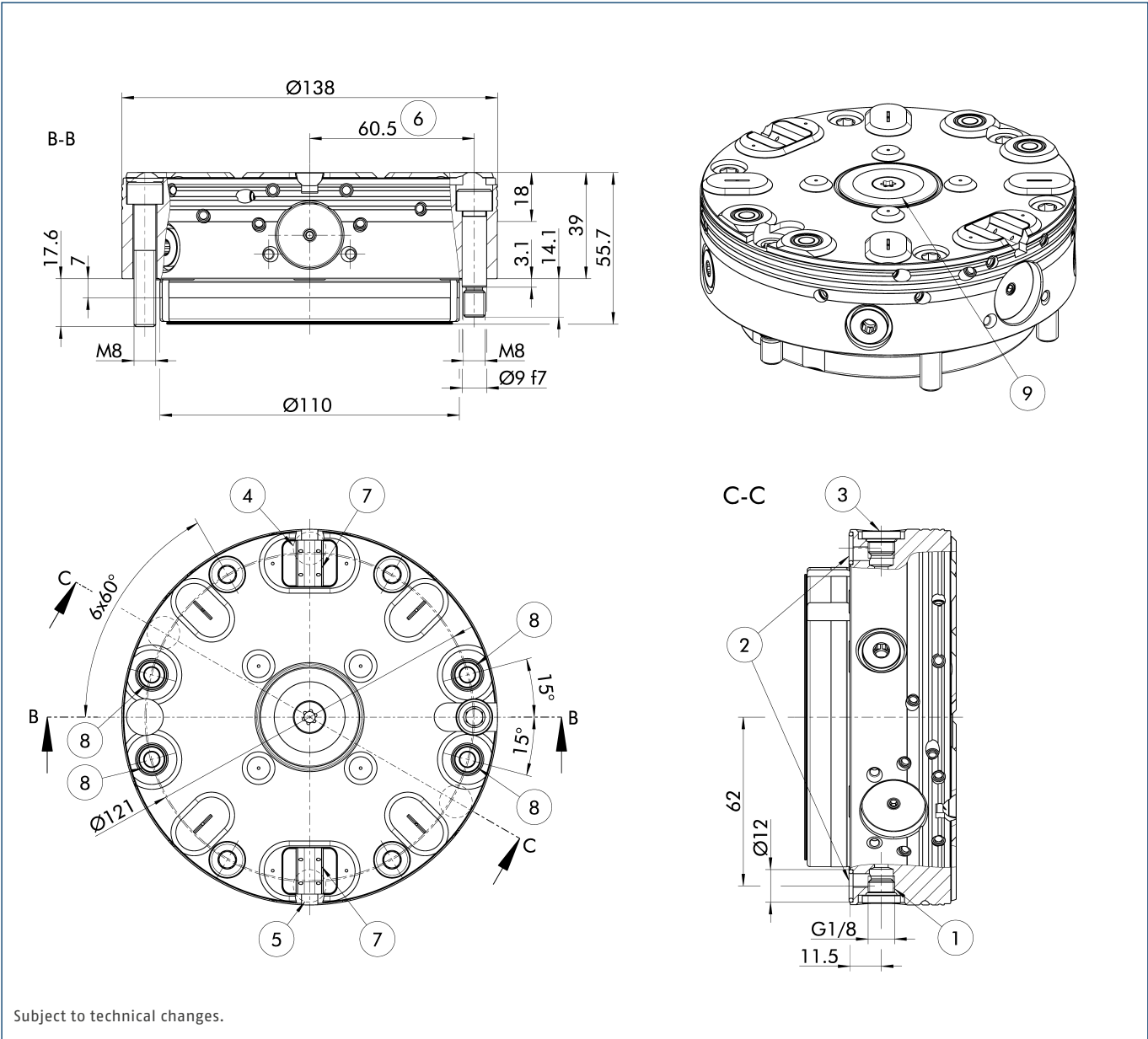
With cone seal, anti-rotation protection V4 and media transfer unit for pneumatics or hydraulics

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Cone seal	Pull-down force	Pull-down force with turbo	Unlocking pressure	Permissible system pressures	Repeat accuracy	Min. pallet weight	Weight
			[kN]	[kN]	[bar]	[bar]	[mm]	[kg]	[kg]
NSE-A3 138-V4-P	1351708	●	8	28	6	300	< 0.005	20	4.2



- ① Unlocking connection via screw connection G1/8

② Hose-free direct connection

③ Turbo connection via screw connection G1/8

④ Hose-free direct connection for monitoring module open

⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Clearance 60.5 ±0.01 mm for the fitting screw

⑦ Groove for position orientation of the clamping pallet

⑧ Media transfer unit

⑨ Cone seal

Automation module

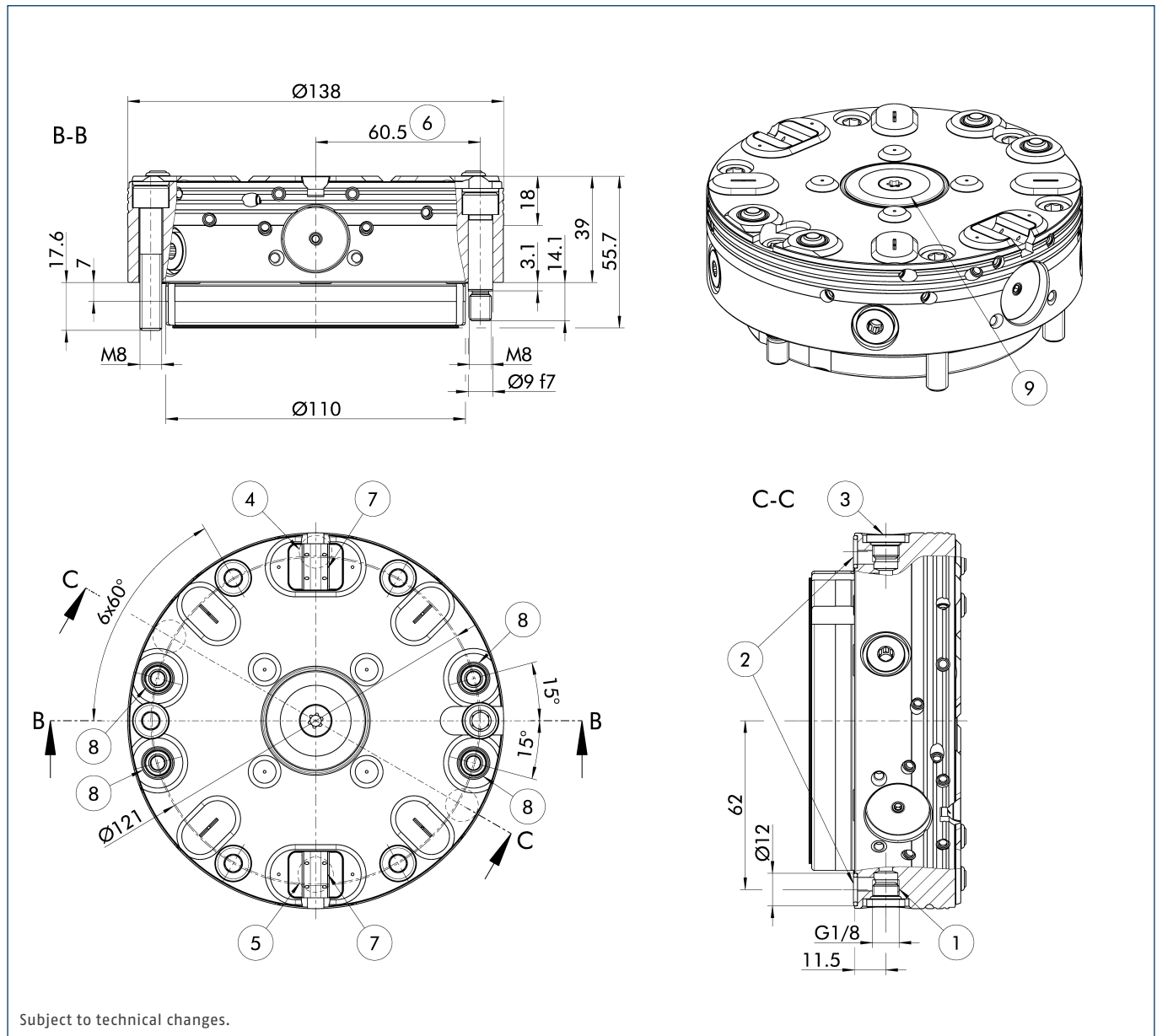
With cone seal, anti-rotation protection V4 and media transfer unit for pneumatics

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Permissible system pressures [bar]	Repeat accuracy [mm]	Weight [kg]
NSE-A3 138-V4-P1	1339726	●	8	28	6	9	< 0.005	4.2

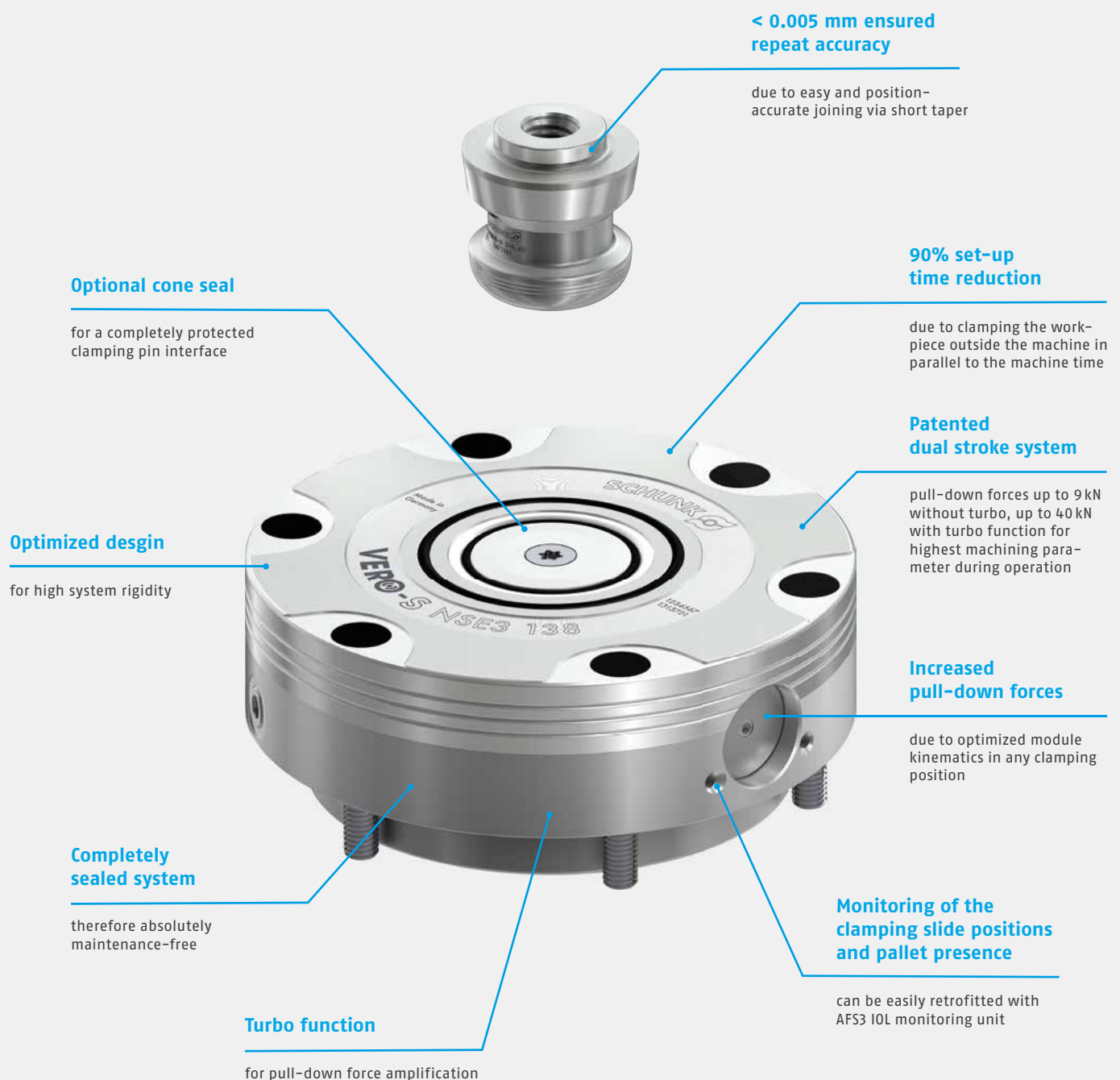


- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Clearance 60.5 ± 0.01 mm for the fitting screw
- ⑦ Groove for position orientation of the clamping pallet
- ⑧ Media transfer unit
- ⑨ Cone seal

VERO-S NSE3

The modules of the VERO-S NSE3 series are premium modules from SCHUNK for general milling applications and heavy-duty machining. The high pull-down forces generate an extremely rigid system through which the high machining forces can be absorbed with ease. A form-fit self-retained locking ensures that the pull-down force will be fully maintained in the event of a pressure drop.

The module is expandable due to its unique variety of different features. The most prominent feature is an optional, spring-actuated cone seal that automatically seals the changing interface of the module, as soon as the clamping pin is lifted.





NEW

Cone seal KVS

Every standard quick-change pallet module of the NSE3 generation is prepared for the integration of a cone seal. The standard plug can easily be replaced by a cone seal at a later point. The cone seal avoids the ingress of chips or coolant into the clamping pin interface during exchange of the clamping device or pallet.



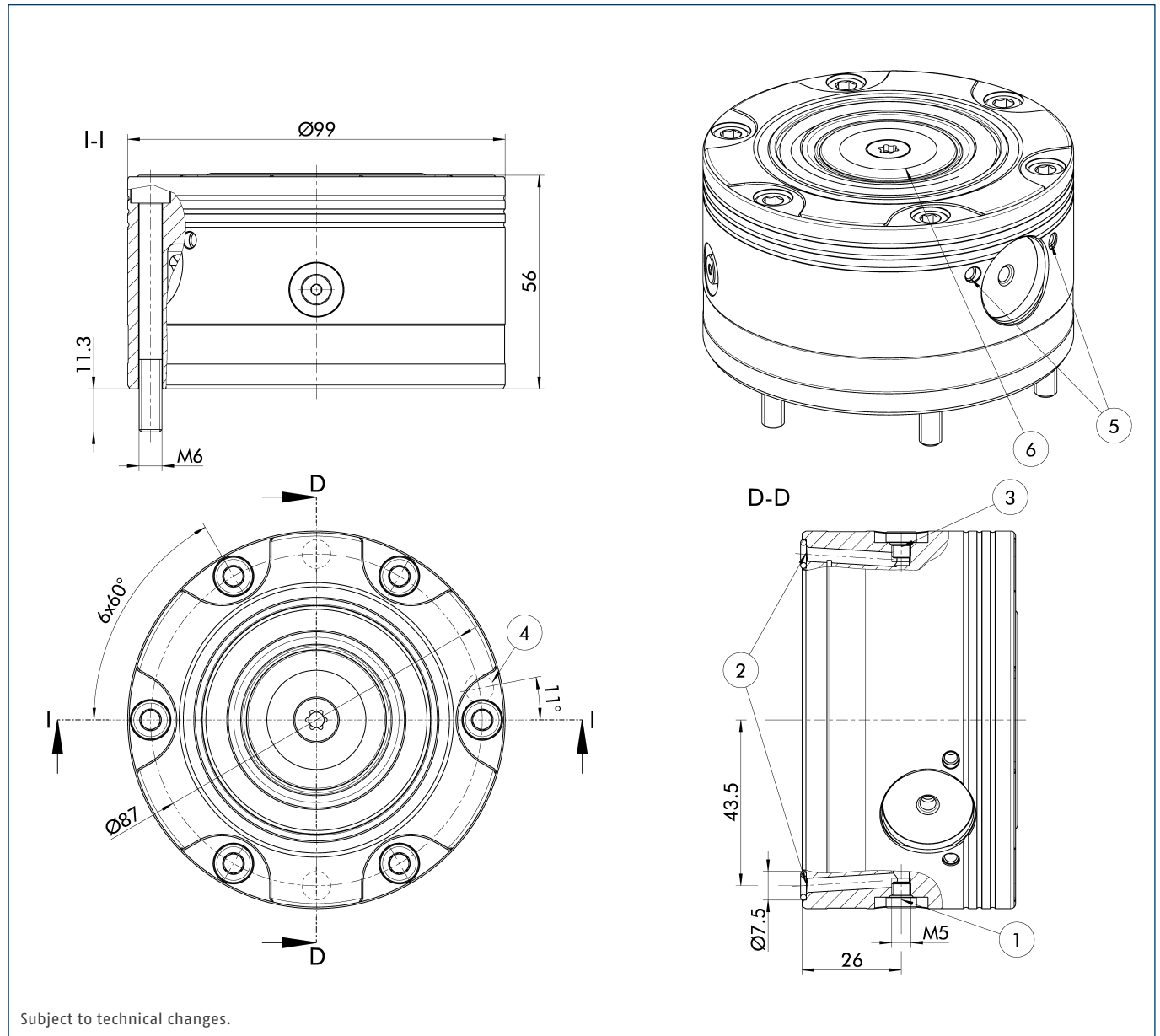
Quick-change pallet module

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE3 99	1440333		5	18	6	< 0.005	2.4
NSE3 99-K	1440335	●	5	18	6	< 0.005	2.5



- ① Unlocking connection via screw connection M5
- ② Hose-free direct connection
- ③ Turbo connection via screw connection M5
- ④ Hose-free direct connection for monitoring module open
- ⑤ Optional: Connection for monitoring unit VERO-S AFS3 IOL
- ⑥ Optional: Cone seal

Quick-change pallet module

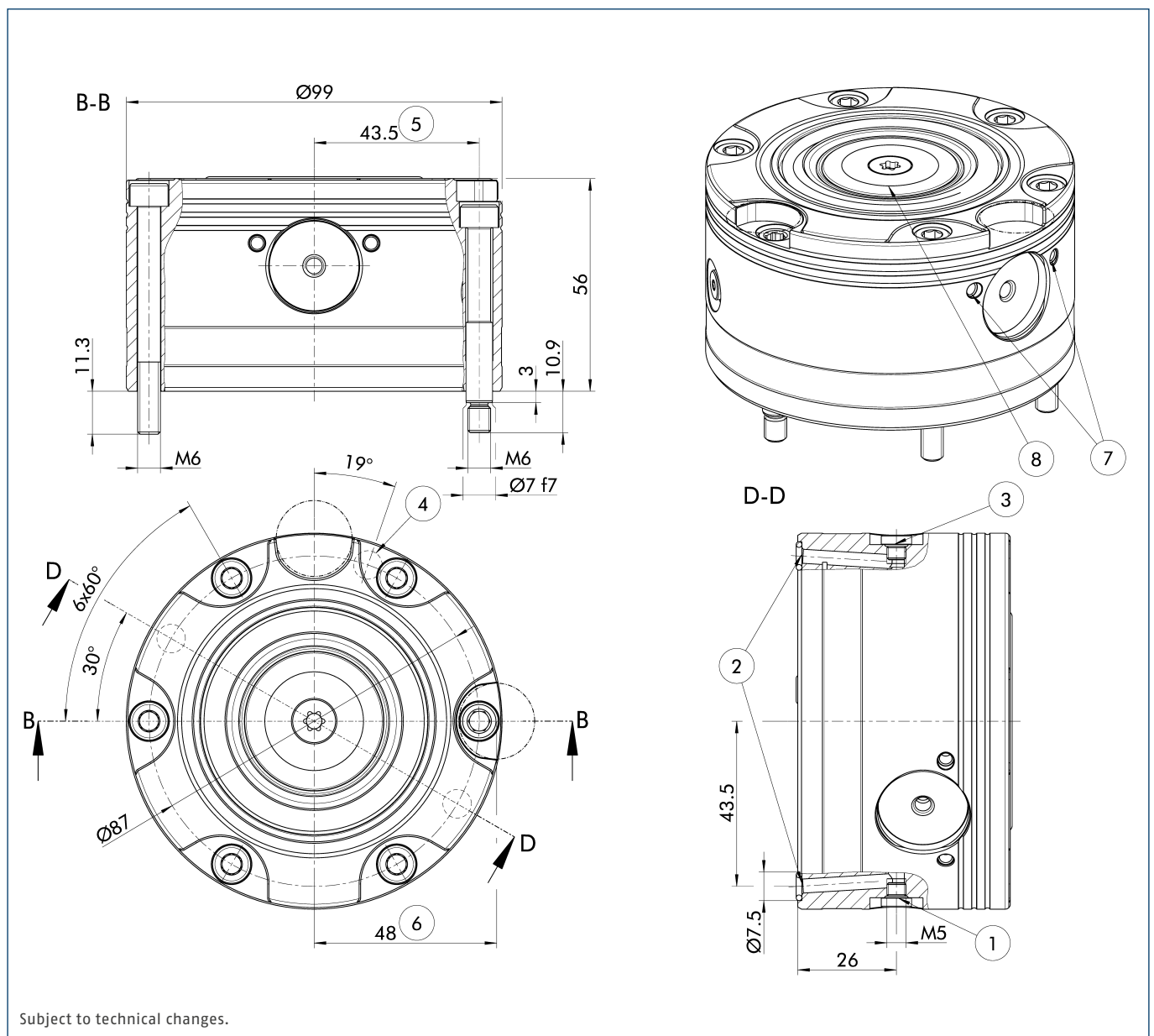
With anti-rotation protection V1

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE3 99-V1	1440336		5	18	6	< 0.005	2.4
NSE3 99-V1-K	1440337	●	5	18	6	< 0.005	2.5



- ① Unlocking connection via screw connection M5
- ② Hose-free direct connection
- ③ Turbo connection via screw connection M5
- ④ Hose-free direct connection for monitoring module open

- ⑤ Clearance 43.5 ± 0.01 mm for fitting screw in the clamping station
- ⑥ Clearance 48 ± 0.01 mm for IXB V1 in the clamping pallet
- ⑦ Optional: Connection for monitoring unit VERO-S AFS3 IOL
- ⑧ Optional: Cone seal

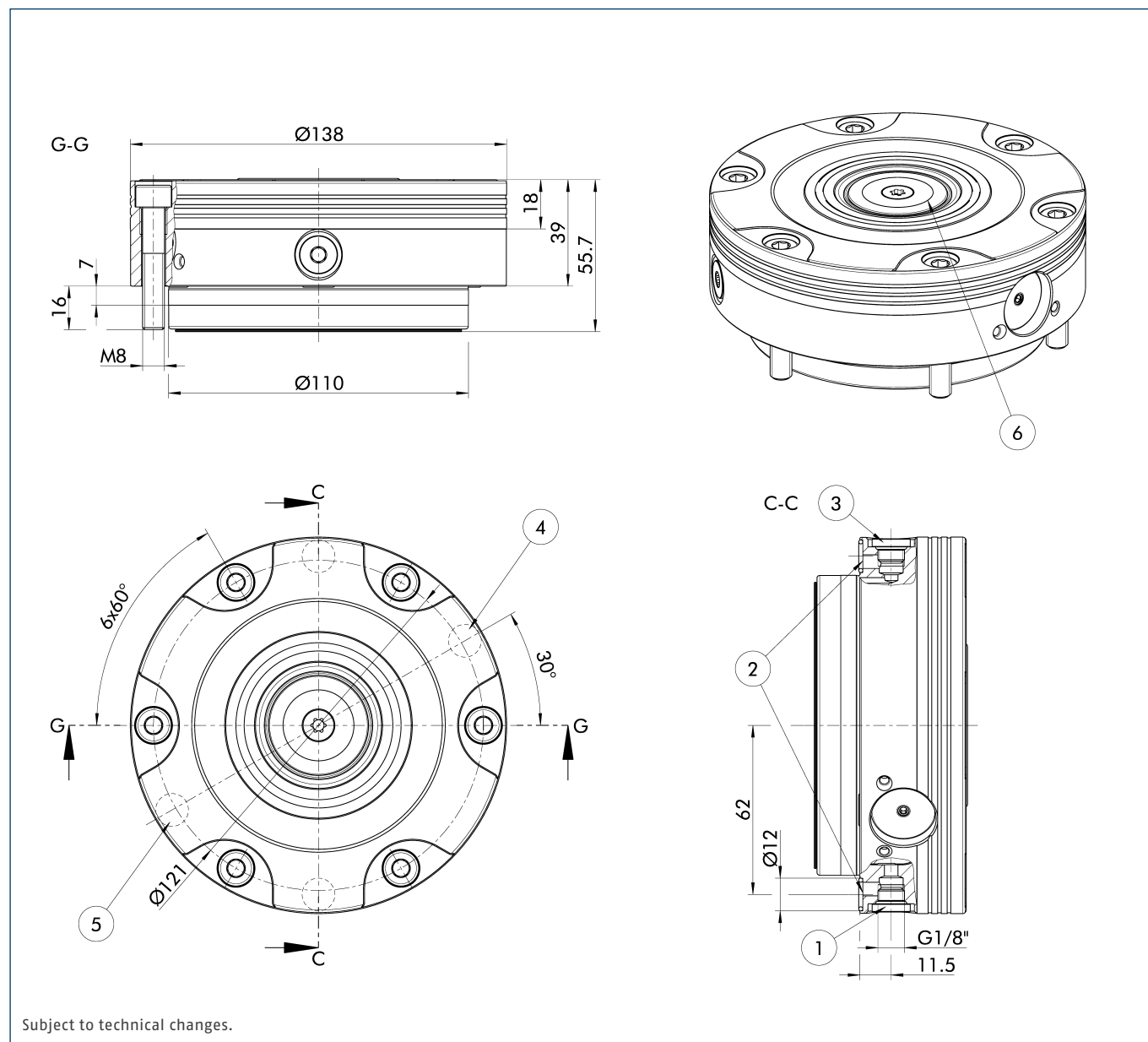
Quick-change pallet module

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE3 138	1313721		8	28	6	< 0.005	4.4
NSE3 138-K	1313722	●	8	28	6	< 0.005	4.5



- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Optional: Cone seal

Quick-change pallet module

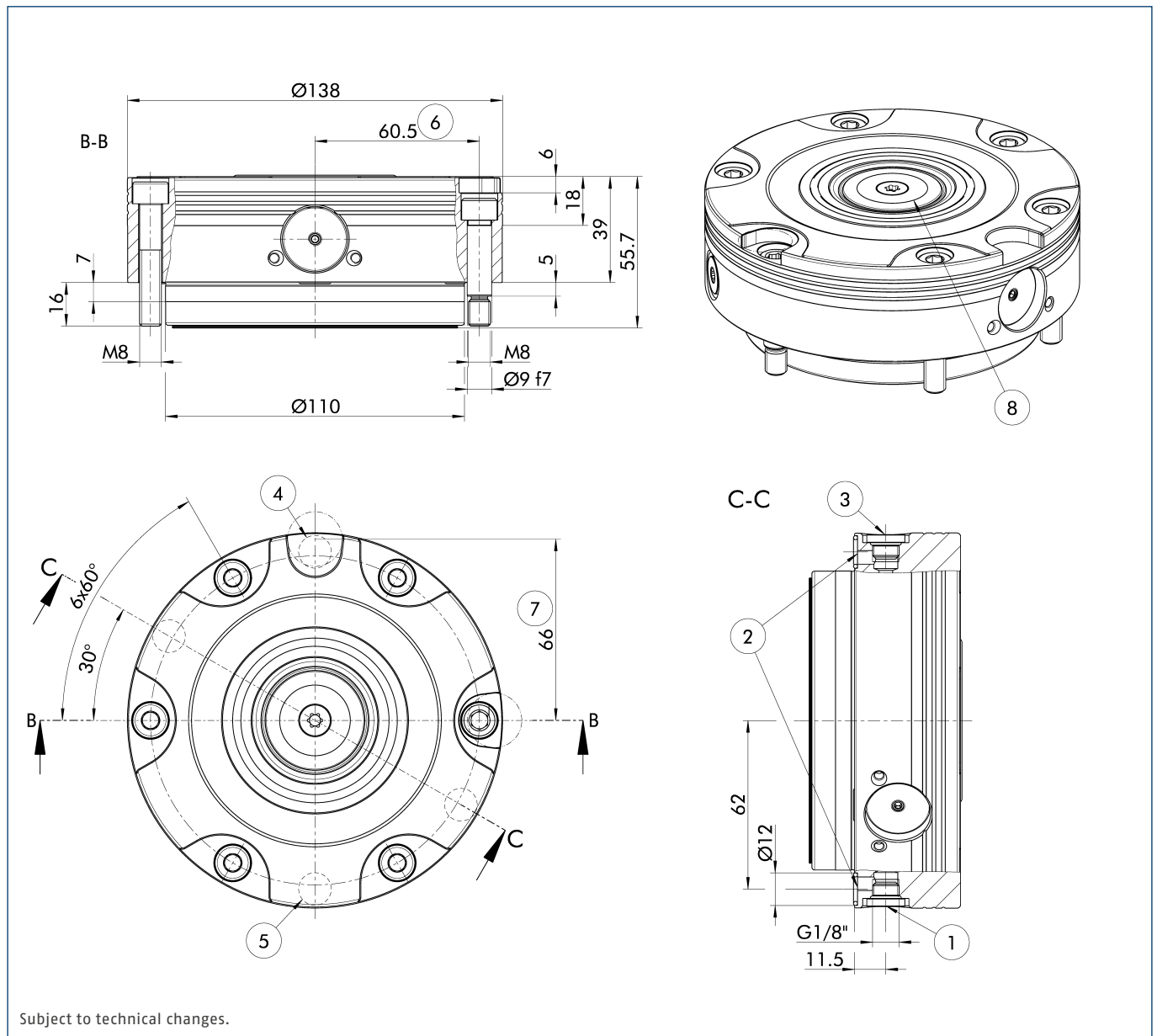
With anti-rotation protection V1

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE3 138-V1	1313723		8	28	6	< 0.005	4.4
NSE3 138-V1-K	1313724	●	8	28	6	< 0.005	4.5



- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Clearance 60.5 ± 0.01 mm for the fitting screw
- ⑦ Clearance 66 ± 0.01 mm for the indexing pin IXB V1
- ⑧ Optional: Cone seal

Quick-change pallet module

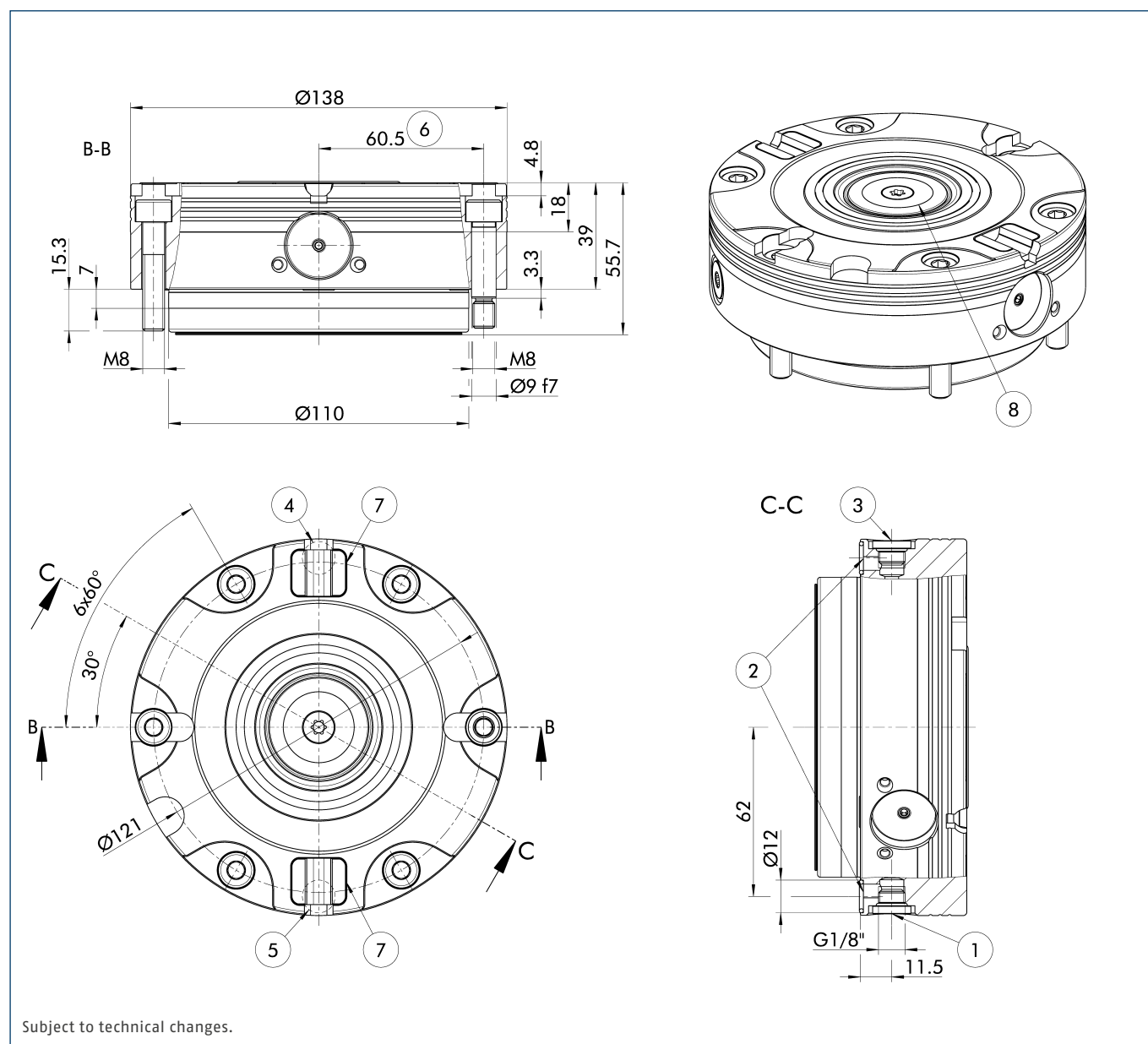
With anti-rotation protection V4

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover plugs, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE3 138-V4	1327417		8	28	6	< 0.005	4.3
NSE3 138-V4-K	1327418	●	8	28	6	< 0.005	4.4



- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Clearance 60.5 ± 0.01 mm for the fitting screw
- ⑦ Flexible element for positional orientation of the clamping pallet
- ⑧ Optional: Cone seal

Tombstone module

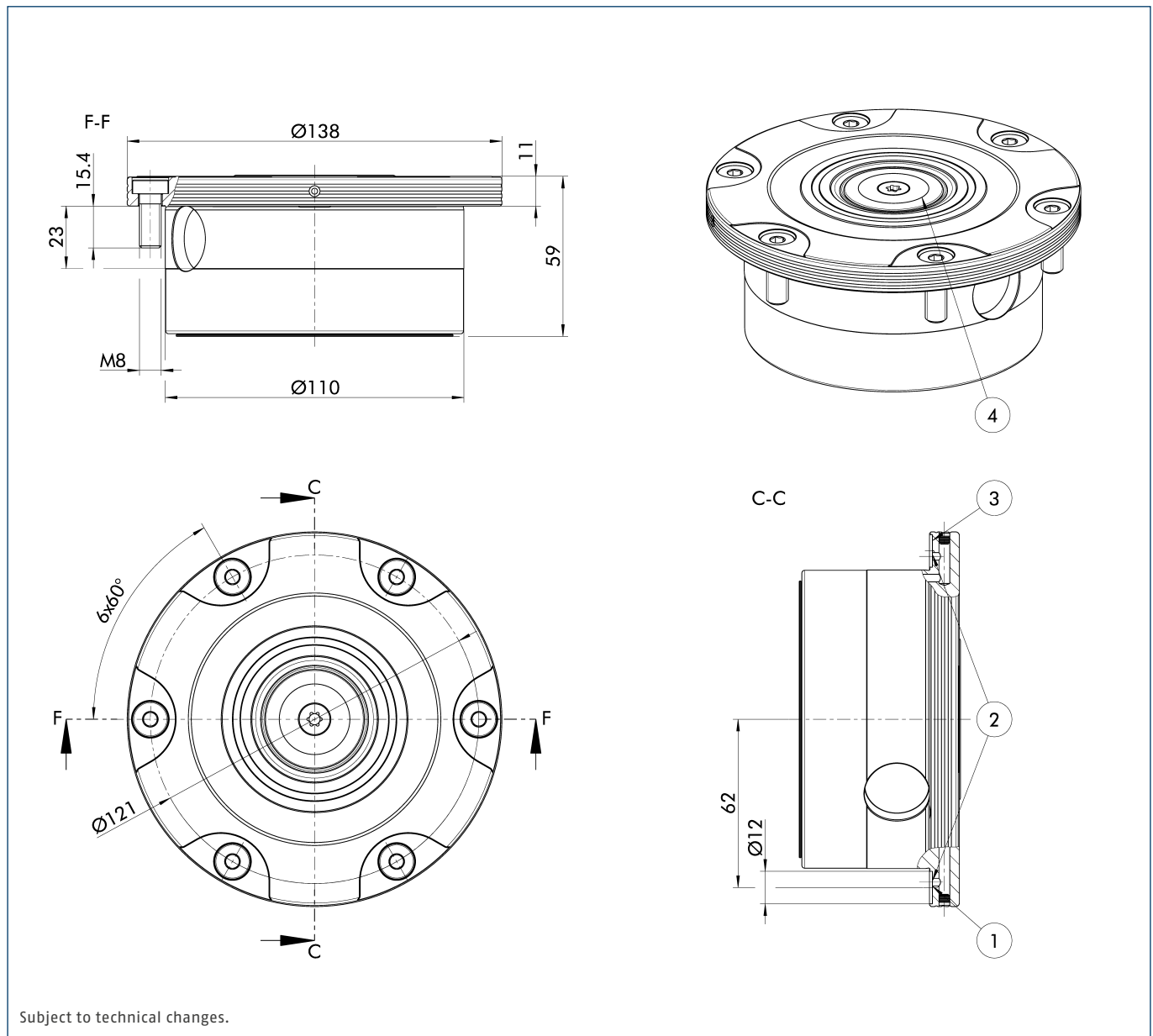
For partial or full installation, especially on tombstones or weighing plates

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE-T3 138	1313726		7	24	6	< 0.005	3.5
NSE-T3 138-K	1313727	●	7	24	6	< 0.005	3.6



- ① Unlocking connection
- ② Hose-free direct connection

- ③ Turbo connection
- ④ Optional: Cone seal

Tombstone module

With anti-rotation protection V1

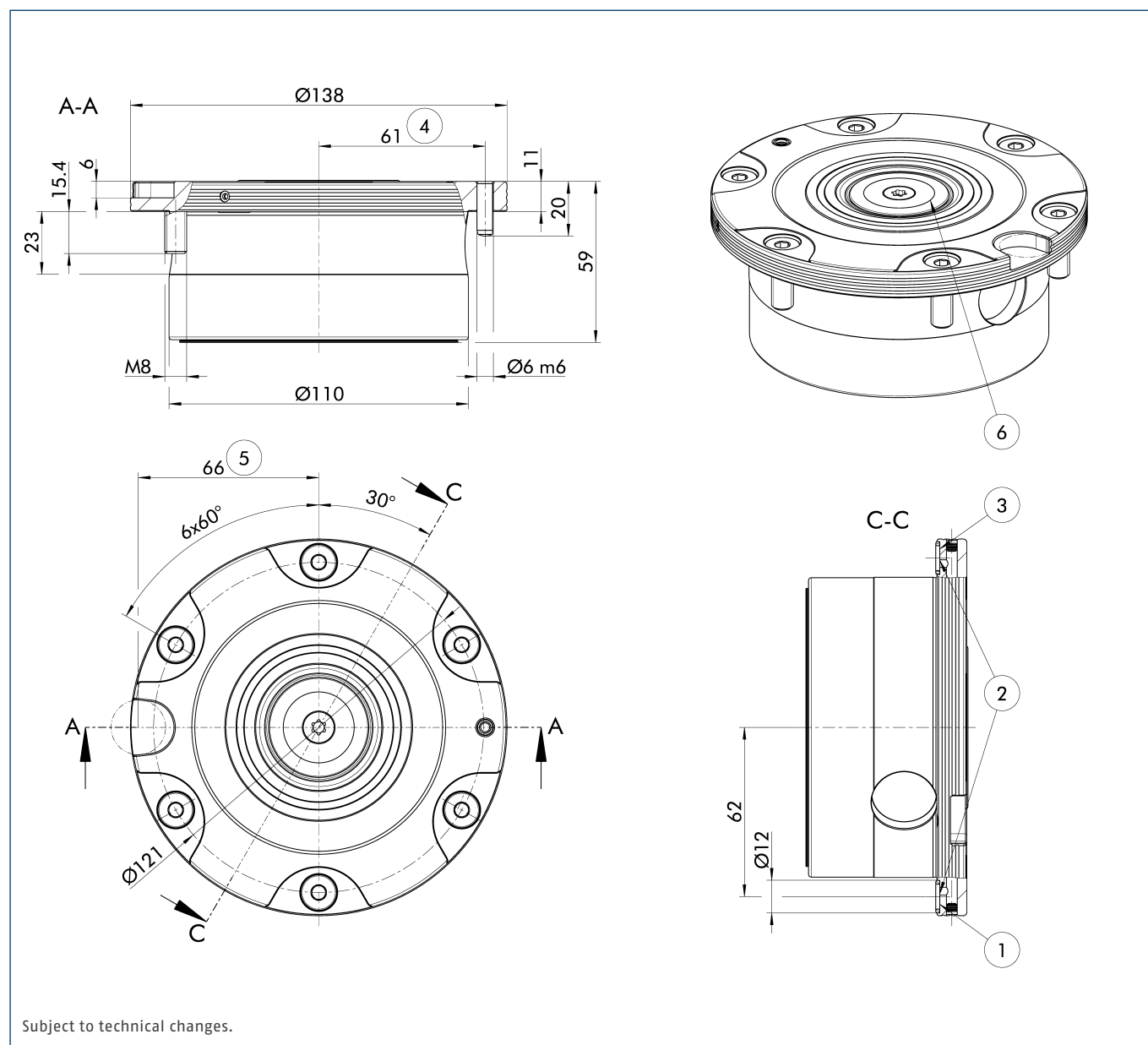
For partial or full installation, especially on tombstones or weighing plates

Scope of delivery

Clamping module, mounting screws, cylindrical pin, 0-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE-T3 138-V1	1313728		7	24	6	< 0.005	3.5
NSE-T3 138-V1-K	1313729	●	7	24	6	< 0.005	3.6



- ① Unlocking connection
- ② Hose-free direct connection
- ③ Turbo connection
- ④ Clearance 61 ±0.01 mm for cylinder pin in the clamping station
- ⑤ Clearance 66 ±0.01 mm for the indexing pin IXB V1
- ⑥ Optional: Cone seal

Tombstone module

With anti-rotation protection V4

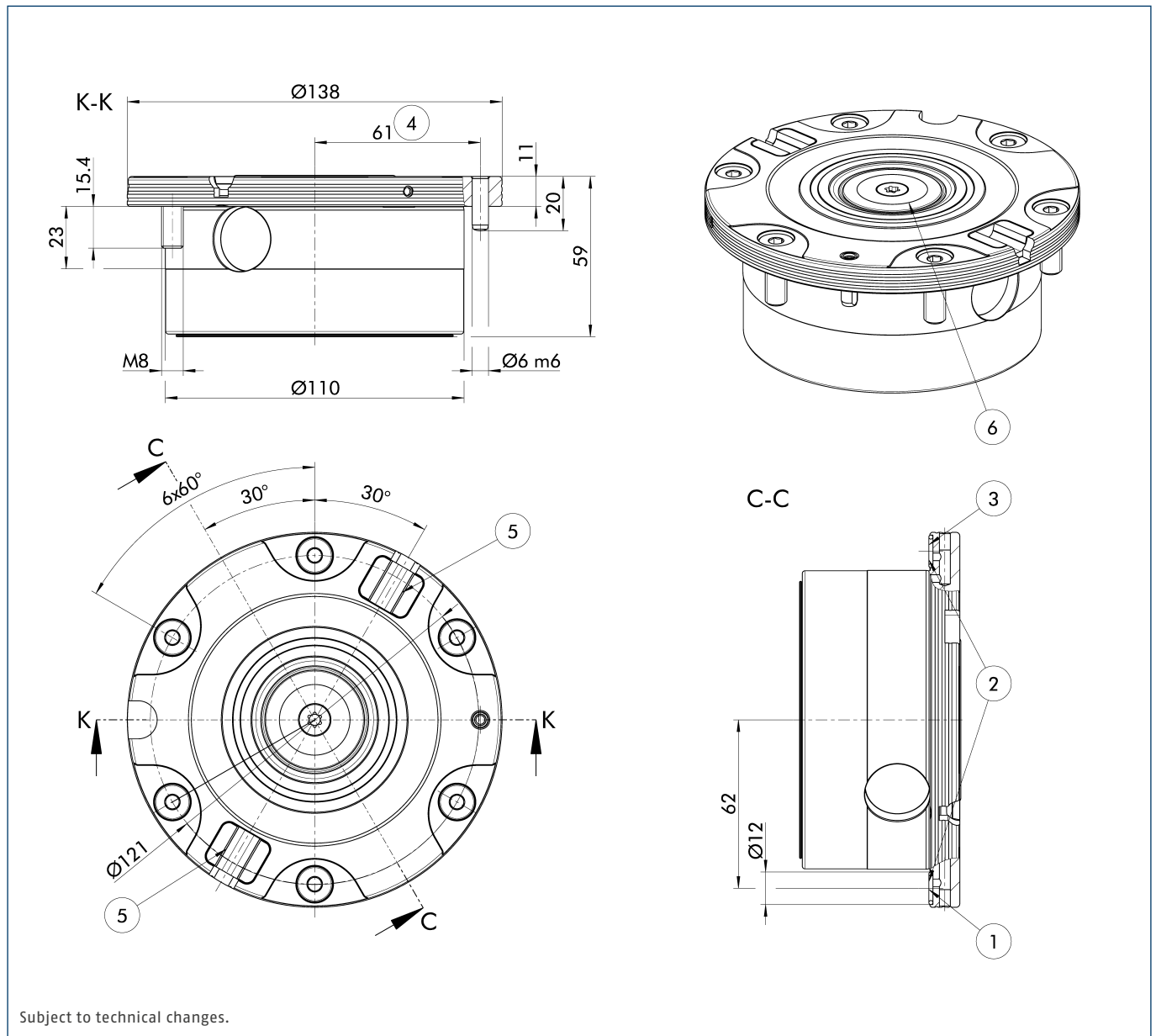
For partial or full installation, especially on tombstones or weighing plates

Scope of delivery

Clamping module, mounting screws, cylindrical pin, 0-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE-T3 138-V4	1327419		7	24	6	< 0.005	3.4
NSE-T3 138-V4-K	1327420	●	7	24	6	< 0.005	3.5



- ① Unlocking connection
- ② Hose-free direct connection
- ③ Turbo connection
- ④ Clearance 61 ±0.01 mm for cylinder pin in the clamping station
- ⑤ Flexible element for positional orientation of the clamping pallet
- ⑥ Optional: Cone seal

Quick-change pallet module

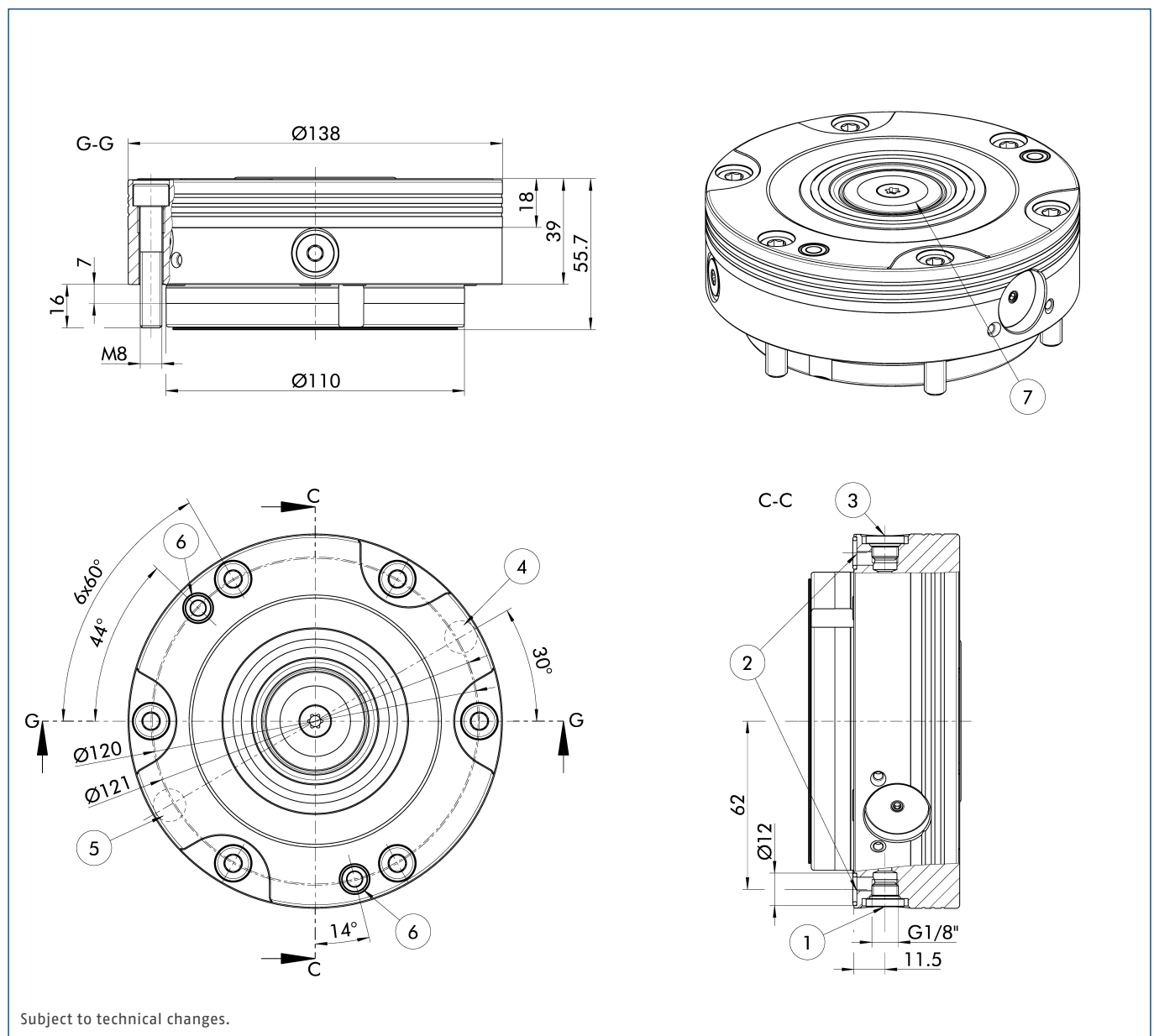
With media interface for pneumatics or hydraulics

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins, without coupling nipple for media transfer unit

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Permissible system pressures [bar]	Repeat accuracy [mm]	Weight [kg]
NSE3 138-P	1337166		8	28	6	300	< 0.005	4.4
NSE3 138-P-K	1337167	●	8	28	6	300	< 0.005	4.5



- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Media transfer unit
- ⑦ Optional: Cone seal

Quick-change pallet module

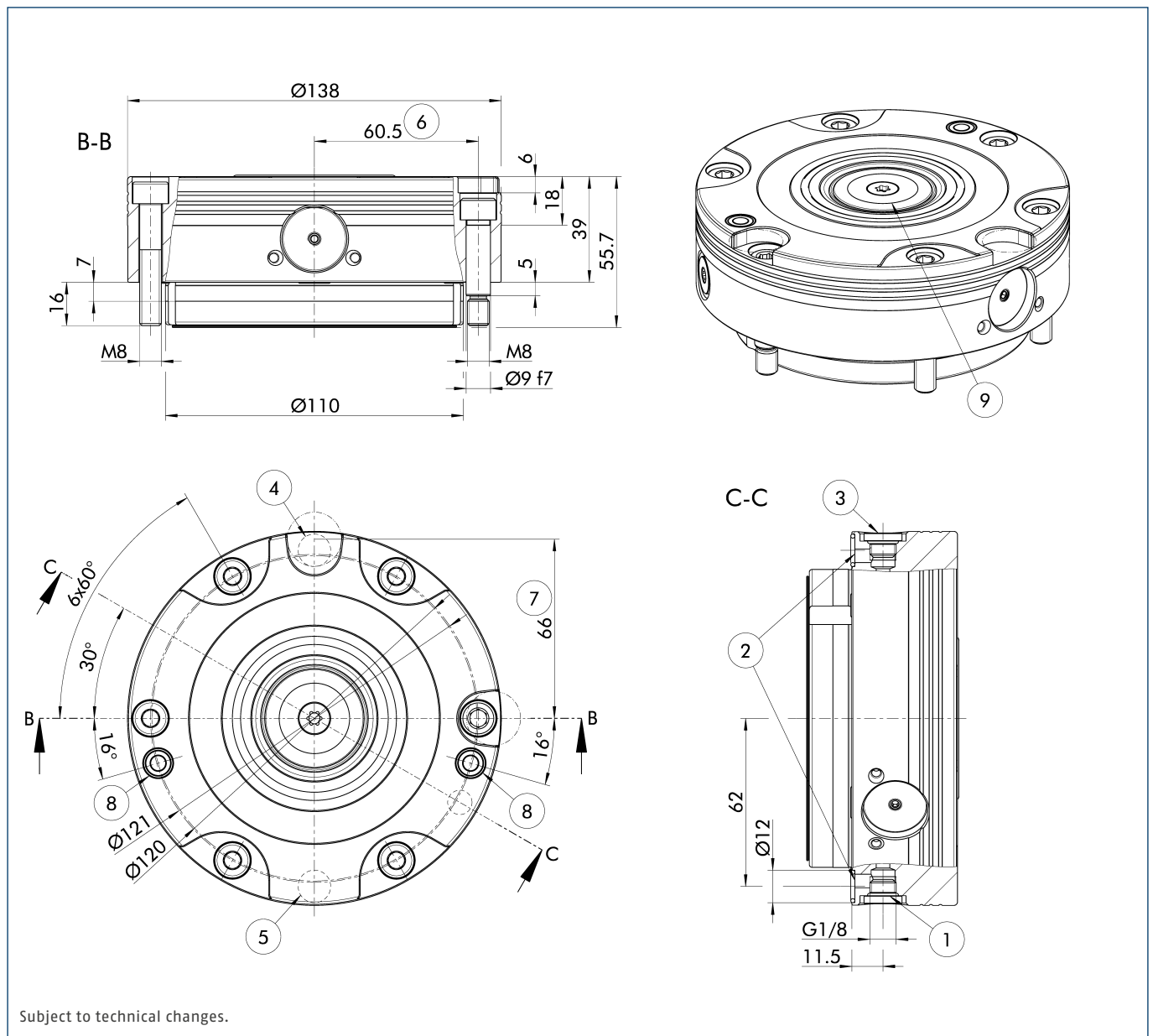
With anti-rotation protection V1 and media transfer unit for pneumatics or hydraulics

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover plugs, operating manual; without clamping pins, without indexing pins, without coupling nipple for media transfer unit

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Permissible system pressures [bar]	Repeat accuracy [mm]	Weight [kg]
NSE3 138-V1-P	1359500		8	28	6	300	< 0.005	4.4
NSE3 138-V1-P-K	1409031	●	8	28	6	300	< 0.005	4.4



Subject to technical changes.

- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Clearance 60.5 ± 0.01 mm for the fitting screw
- ⑦ Clearance 66 ± 0.01 mm for the indexing pin IXB V1
- ⑧ Media transfer unit
- ⑨ Optional: Cone seal

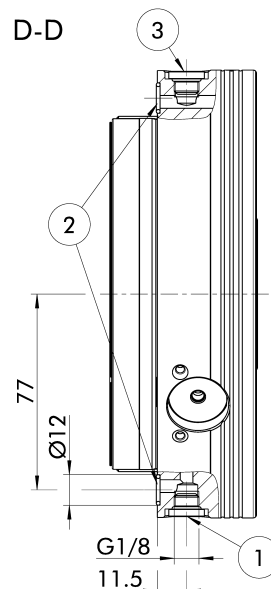
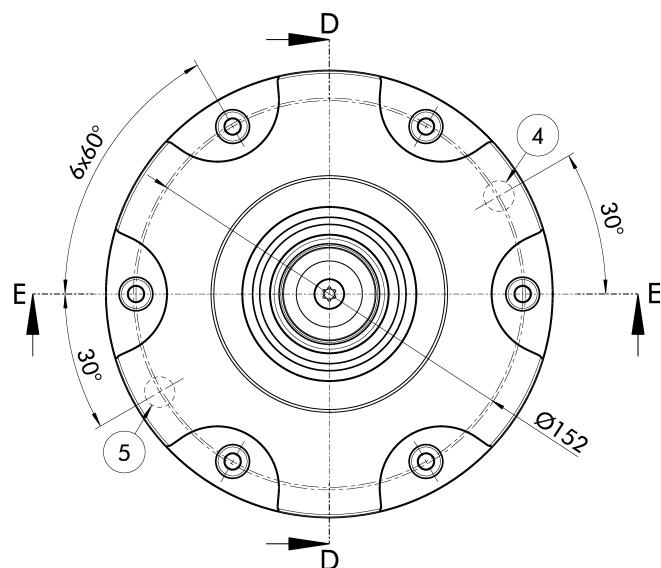
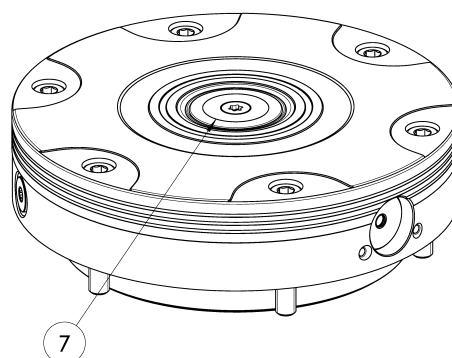
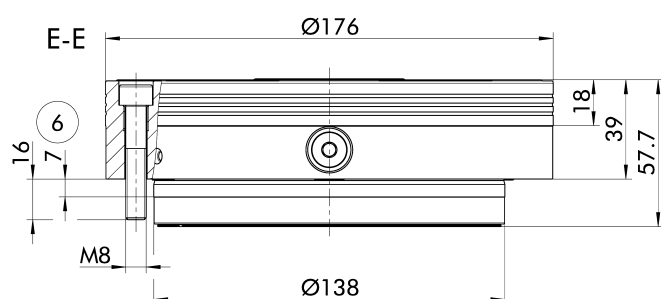
Quick-change pallet module

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE3 176	1464667		9	40	6	< 0.005	8
NSE3 176-K	1464668	●	9	40	6	< 0.005	8



Subject to technical changes.

- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Fitting length module's seat
- ⑦ Optional: Cone seal

Quick-change pallet module

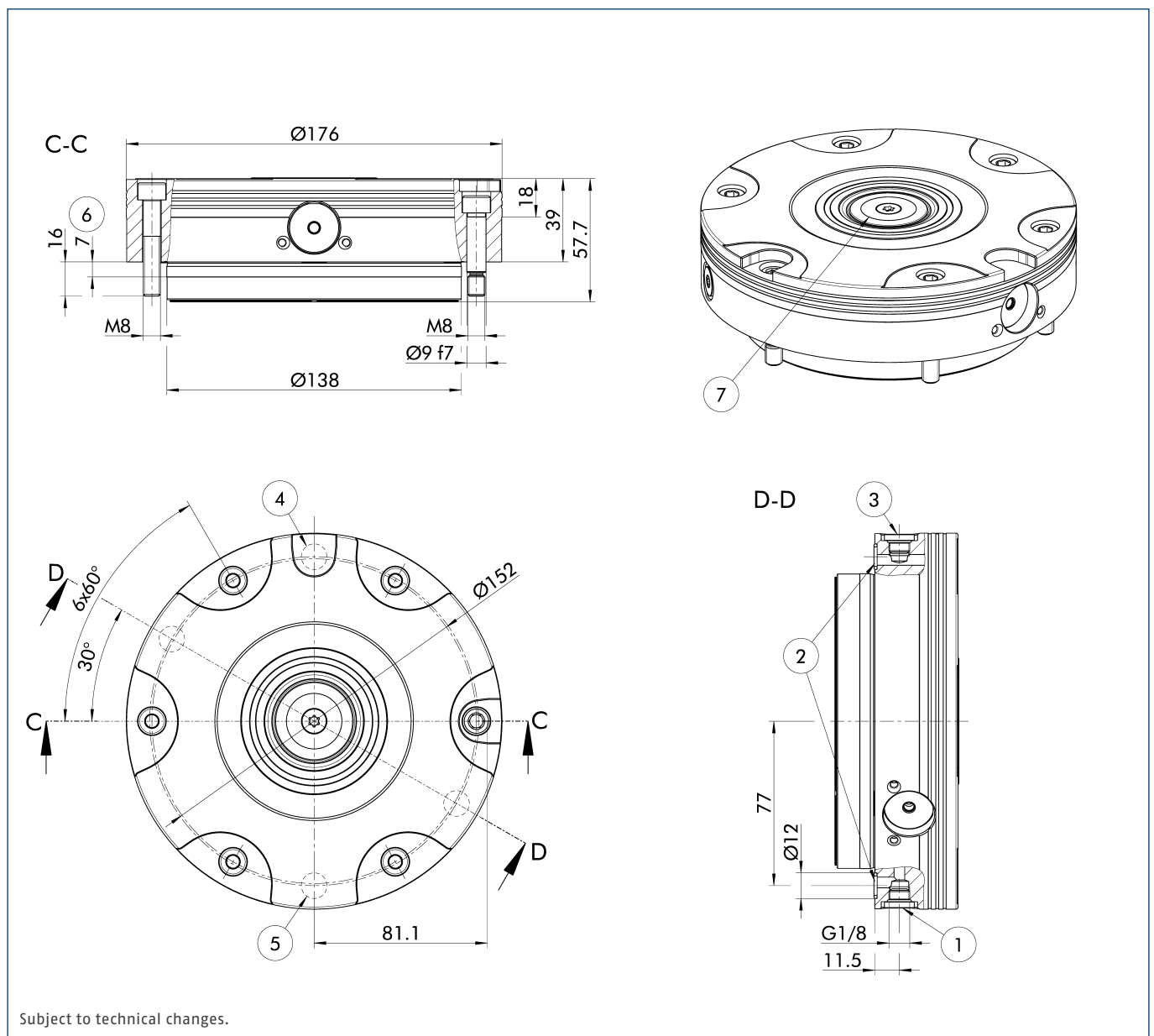
With anti-rotation protection V1

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Cone seal	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE3 176-V1	1464669		9	40	6	< 0.005	8
NSE3 176-V1-K	1464670	●	9	40	6	< 0.005	8



- ① Unlocking connection via screw connection G1/8
- ② Hose-free direct connection
- ③ Turbo connection via screw connection G1/8
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Fitting length module's seat
- ⑦ Optional: Cone seal

Clamping station

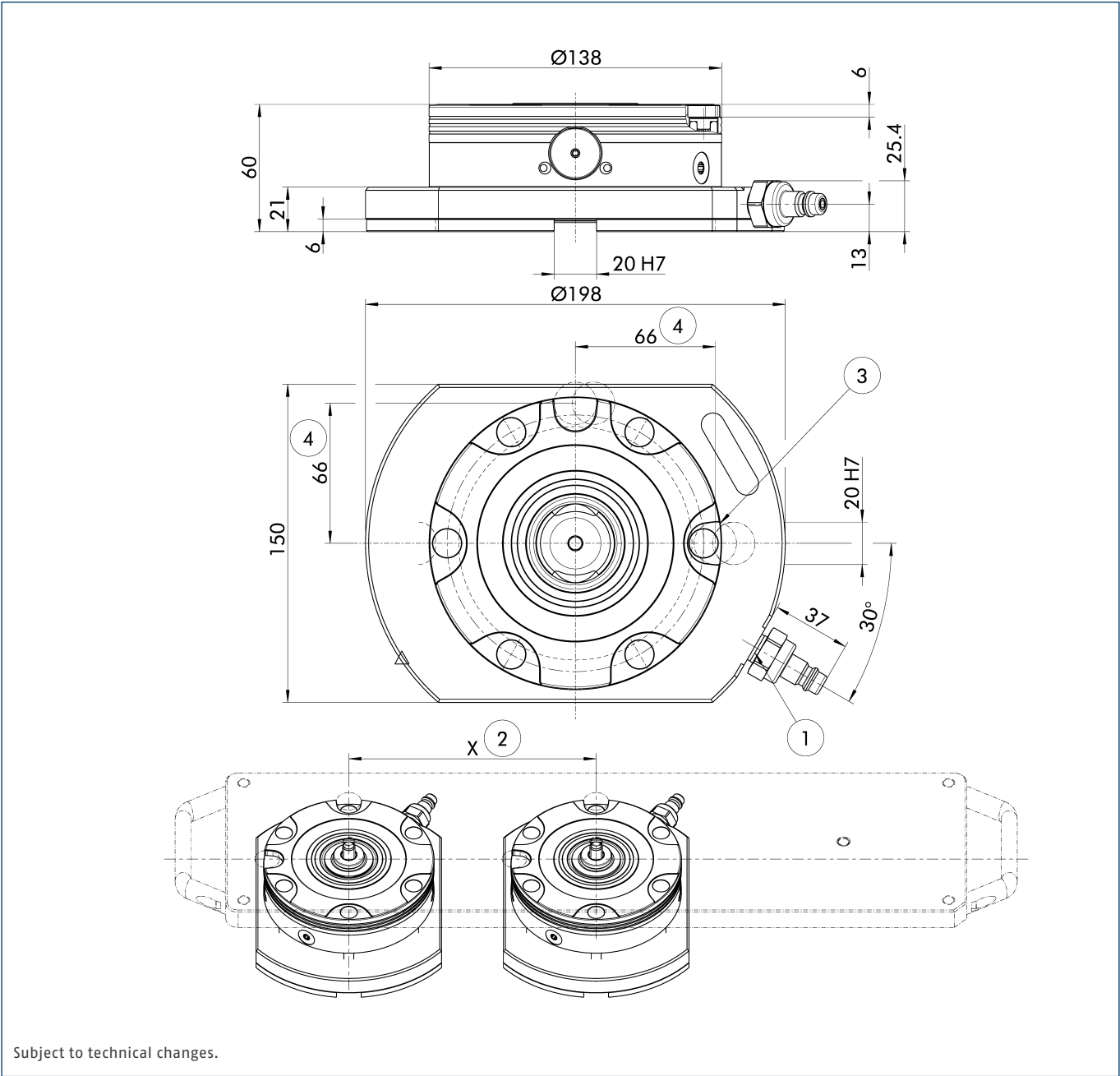
1-way clamping station with anti-rotation protection V1

Scope of delivery

Clamping station, sealing nipple, pneumatic plug connection, dust protection cap, operating manual; without clamping pins, without indexing pins, without cylindrical clamps

Technical data

Description	ID	Pull-down force [kN]	Unlocking pressure [bar]	Weight [kg]
NSL3 150-V1	1345770	8	6	7.1



- ① G1/8 air connection open module
- ② Variable gauge for bore holes

- ③ Groove for position orientation of the clamping pallet
- ④ Clearance 66 ±0.01 mm for the indexing pin IXB V1

Clamping station

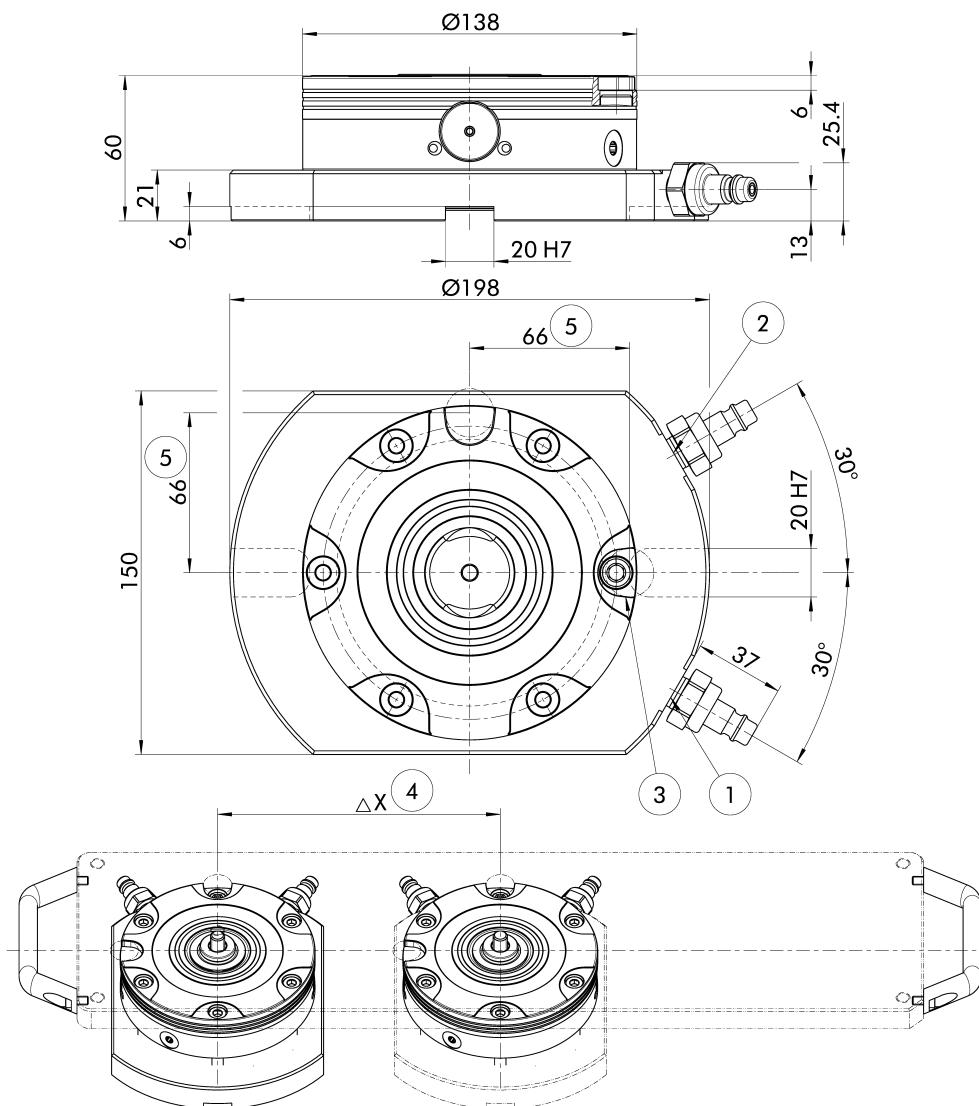
1-way clamping station with anti-rotation protection V1 and turbo function

Scope of delivery

Clamping station, sealing nipple, pneumatic plug connections, dust protection caps, operating manual; without clamping pin, without indexing pin, without cylindrical clamps

Technical data

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Weight [kg]
NSL3 150-V1-T	1323568	8	28	6	7



Subject to technical changes.

- ① G1/8 air connection open module
- ② G1/8 air connection turbo function
- ③ Groove for position orientation of the clamping pallet
- ④ Variable gauge for bore holes
- ⑤ Clearance 66 ±0.01 mm for the indexing pin IXB V1

Clamping station

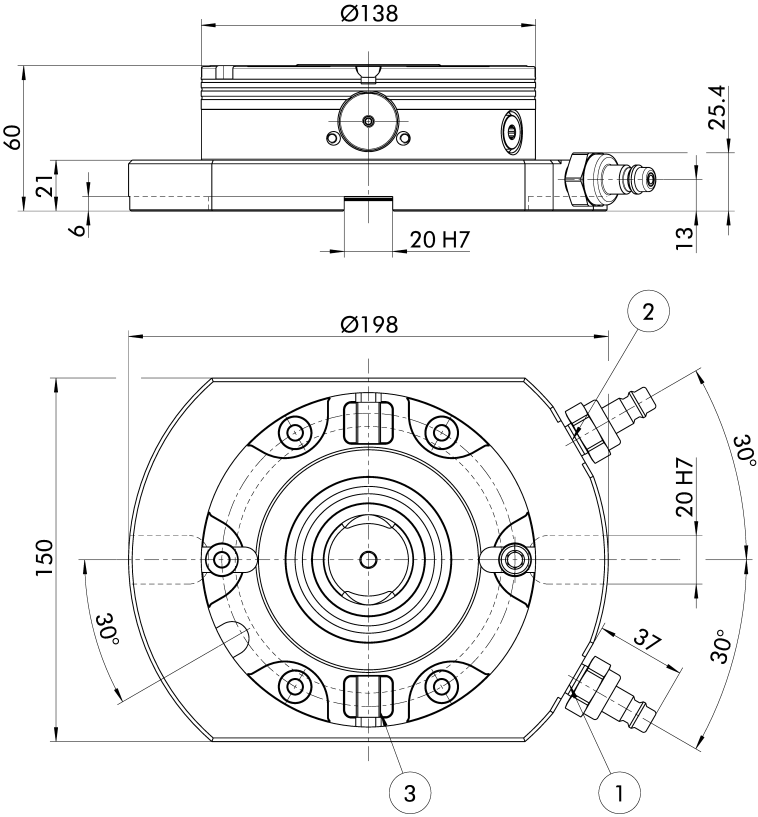
1-way clamping station with anti-rotation protection V4 and turbo function

Scope of delivery

Clamping station, sealing nipple, pneumatic plug connections, dust protection caps, operating manual; without clamping pin, without indexing pin, without cylindrical clamps

Technical data

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Weight [kg]
NSL3 150-V4-T	1375448	8	28	6	7.1



Subject to technical changes.

- ① G1/8 air connection open module
- ② G1/8 air connection turbo function
- ③ Groove for position orientation of the clamping pallet

Clamping station

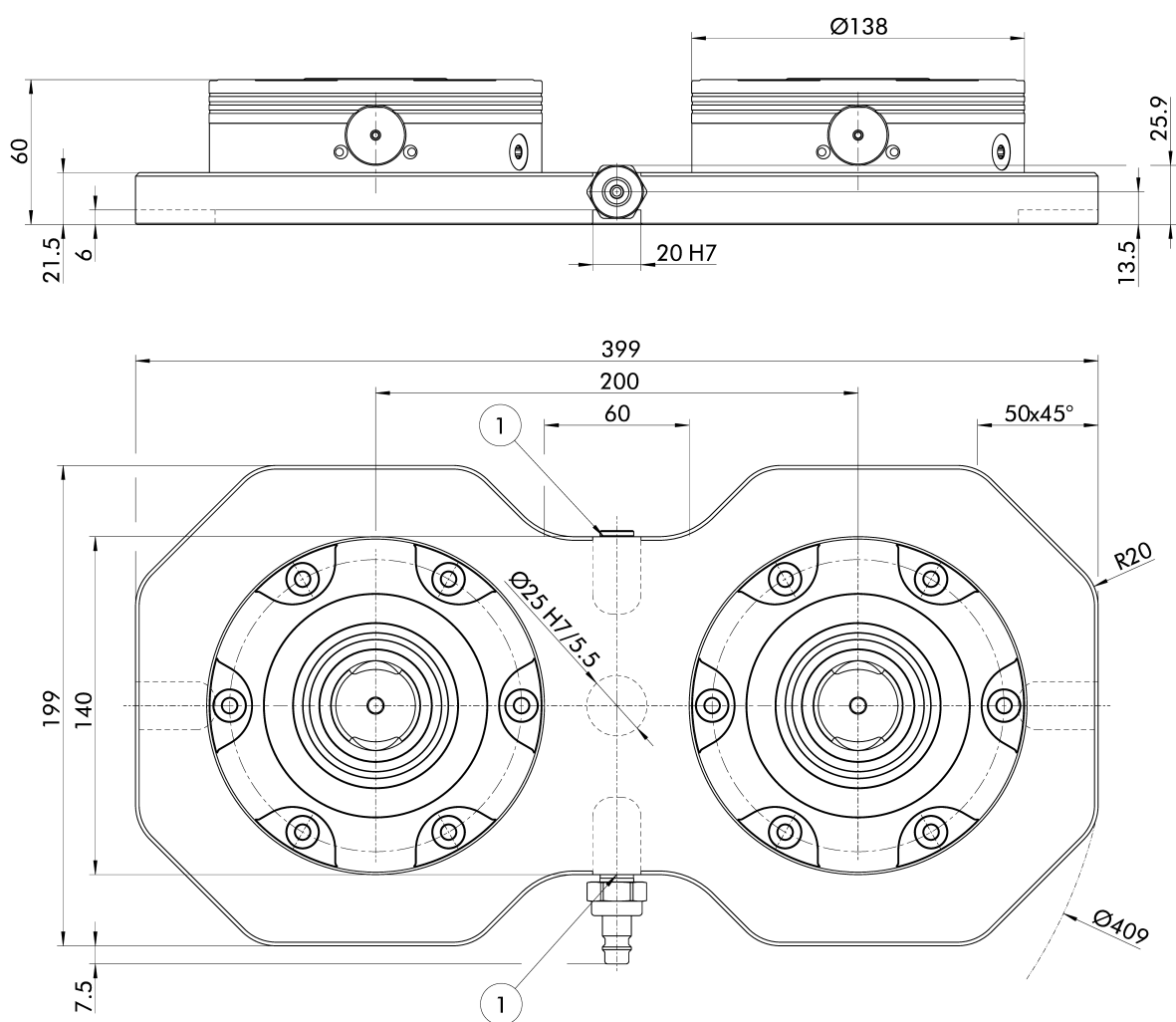
2-way clamping station

Scope of delivery

Clamping station, sealing nipple, pneumatic plug connection, dust protection cap, operating manual; without clamping pin, without cylindrical clamps

Technical data

Description	ID	Pull-down force [kN]	Unlocking pressure [bar]	Weight [kg]
NSL3 200	1323569	16	6	16.9



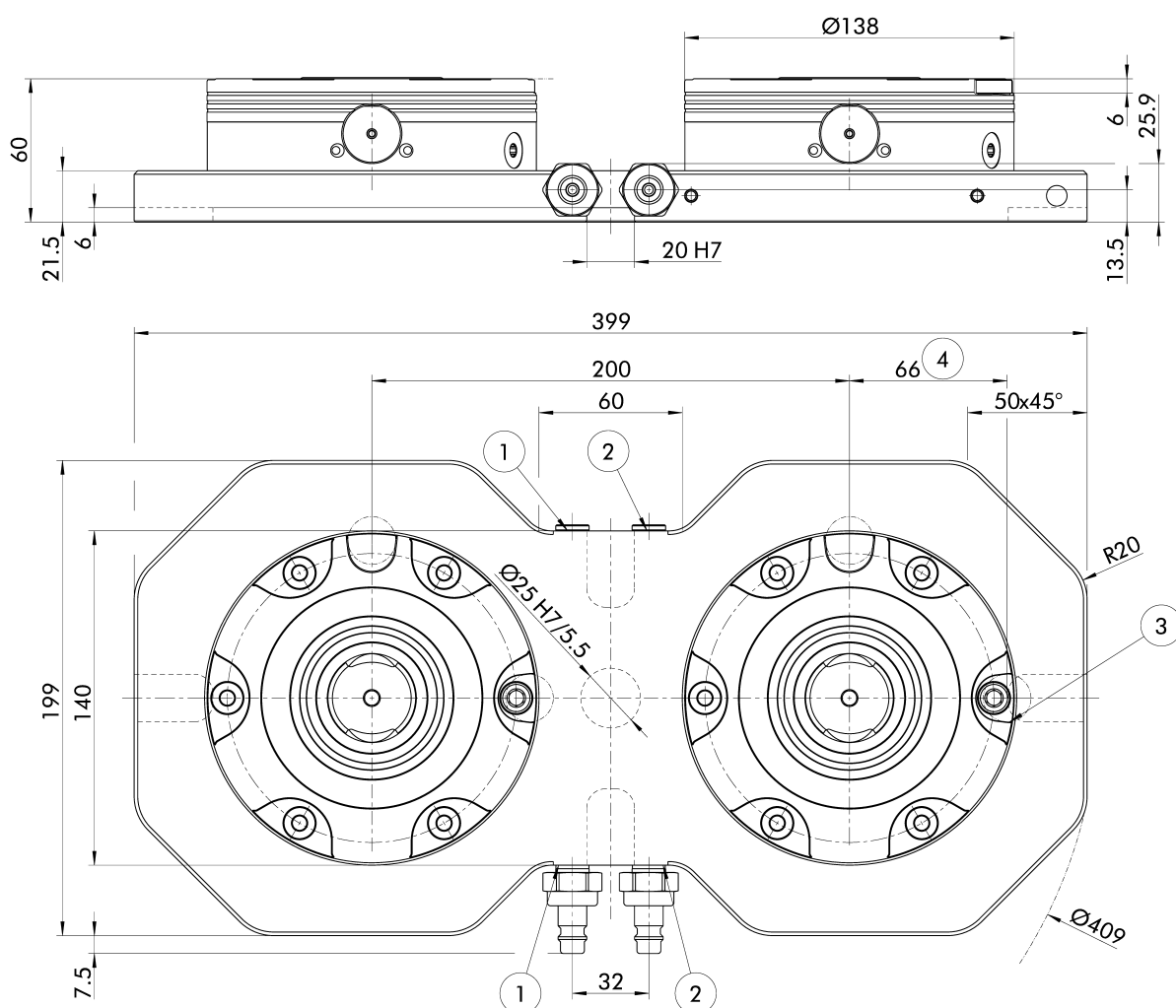
Subject to technical changes.

① G1/8 air connection, open modules

2-way clamping station with anti-rotation protection V1 and turbo function

Clamping station, sealing nipple, pneumatic plug connections, dust protection caps, operating manual; without clamping pin, without indexing pin, without cylindrical clamps

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Weight [kg]
NSL3 200-V1-T	1323570	16	56	6	16.7



① G1/8 air connection, open modules ③ Groove for positional orientation for 1-way clamping pallets
② G1/8 air connection turbo function ④ Clearance 66 ±0.01 mm for the indexing pin IXB V1

Clamping station

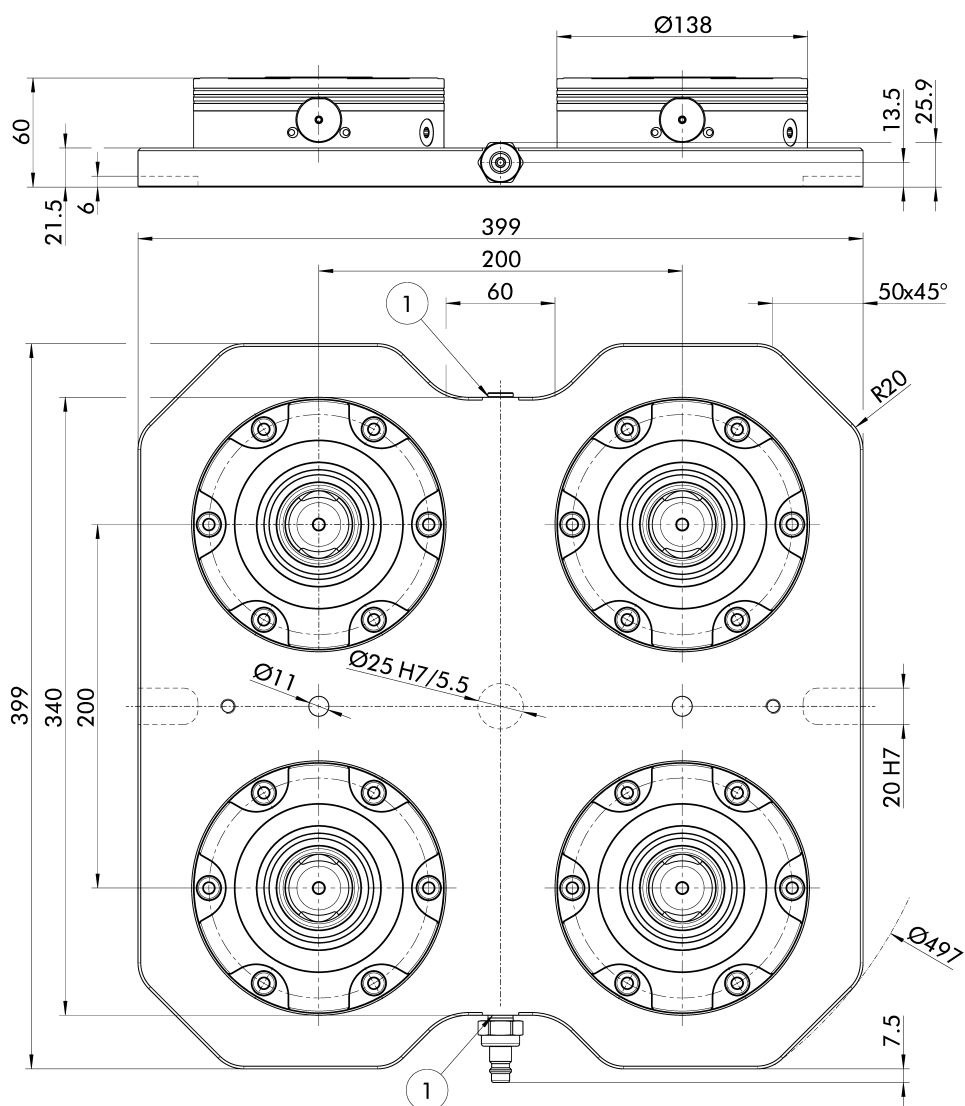
4-way clamping station

Scope of delivery

Clamping station, sealing nipple, pneumatic plug connection, dust protection cap, eye bolts, operating manual; without clamping pins, without cylindrical clamps

Technical data

Description	ID	Pull-down force [kN]	Unlocking pressure [bar]	Weight [kg]
NSL3 400	1323572	32	6	35.7



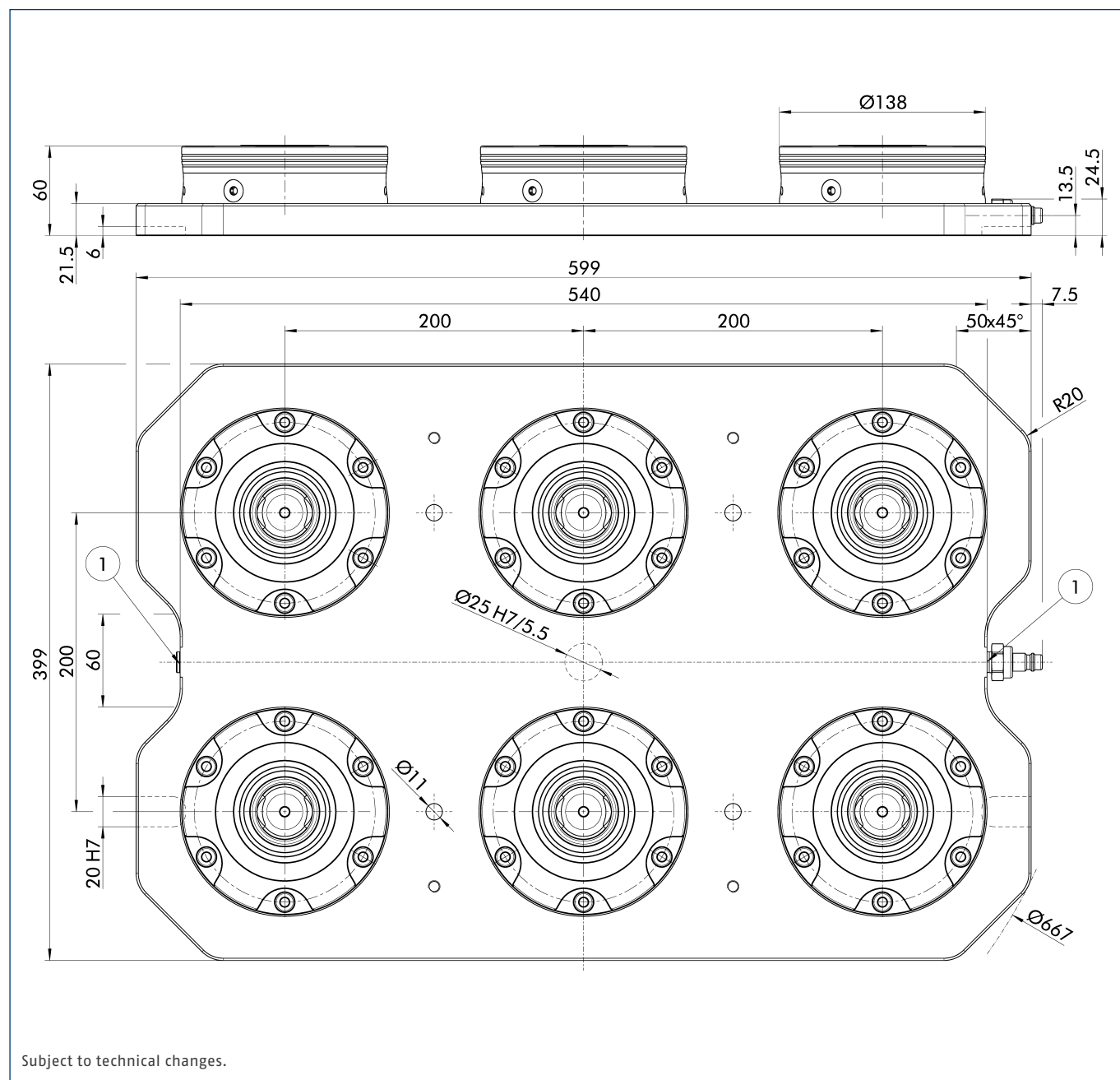
Subject to technical changes.

① G1/8 air connection, open modules

6-way clamping station

Clamping station, sealing nipple, pneumatic plug connection, dust protection cap, eye bolts, operating manual; without clamping pins, without cylindrical clamps

Description	ID	Pull-down force [kN]	Unlocking pressure [bar]	Weight [kg]
NSL3 600	1323574	48	6	54,4



① G1/8 air connection, open modules

Clamping station

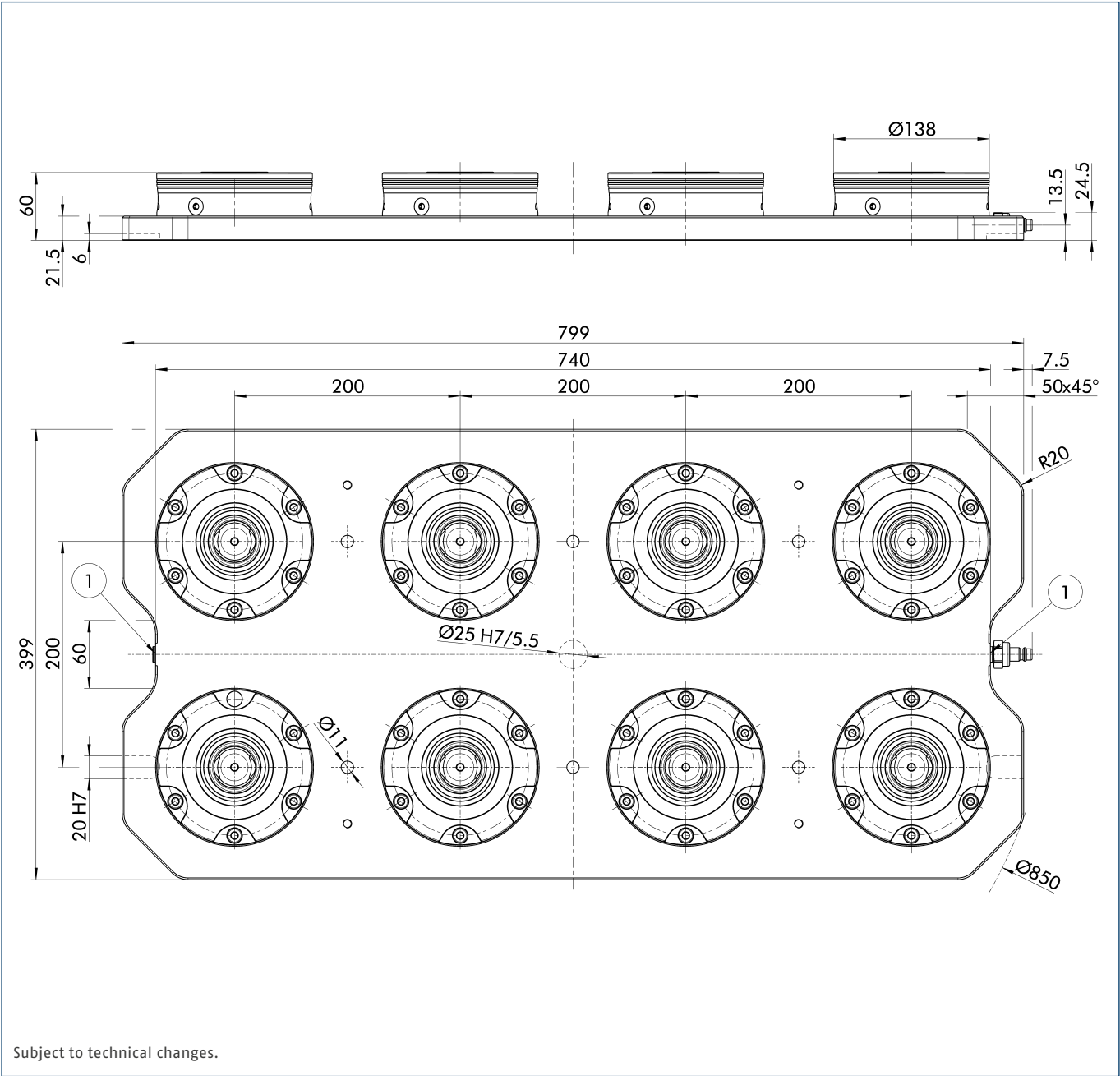
8-way clamping station

Scope of delivery

Clamping station, sealing nipple, pneumatic plug connection, dust protection cap, eye bolts, operating manual; without clamping pins, without cylindrical clamps

Technical data

Description	ID	Pull-down force [kN]	Unlocking pressure [bar]	Weight [kg]
NSL3 800	1323575	64	6	73.2



① G1/8 air connection, open modules

VERO-S NSE mini

VERO-S NSE mini is an optimum complement for small applications. The NSE mini 90 with a height of 20 mm is an extremely flat designed quick-change pallet system. This module enables small pitches to be realized and is ideally suited for light cutting tasks.

To close the gap in terms of pull-down forces between NSE mini 90 and NSE3, the NSE mini 90-25 has been added to the NSE mini series. This hermetically sealed module achieves even higher pull-down forces at a constantly small pitch for bore holes of 100 mm.

Drive ring system

allows for a flat design

Extremely flat design

for more space in the machine room

Outer diameter ø 90 mm

allows small pitches for bore holes

Patented drive concept

for high pull-down forces

Outer diameter ø 90 mm

allows small pitches for bore holes

Patented dual stroke system

for high pull-down forces

Hermetically sealed

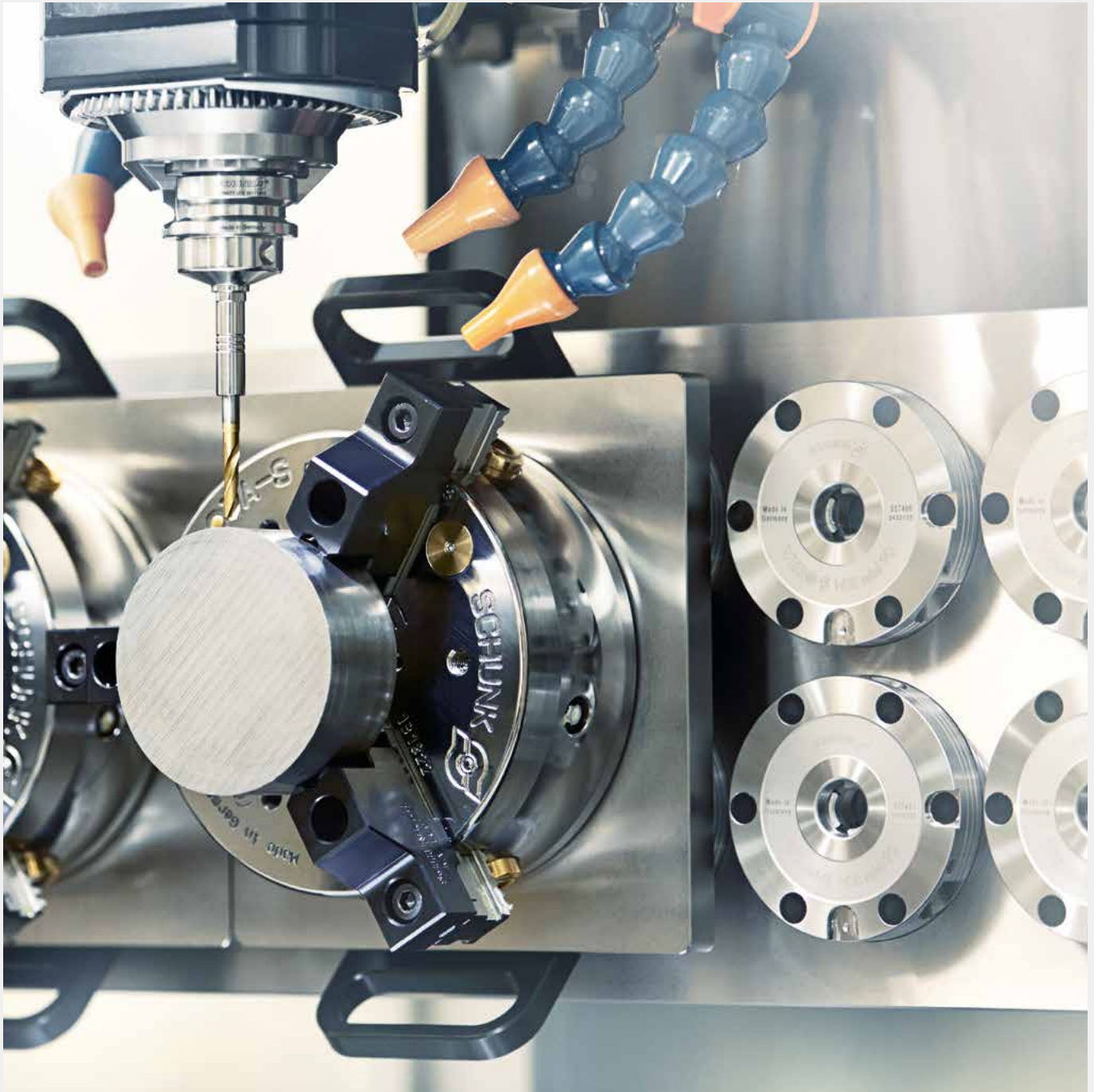
therefore absolutely maintenance-free

Axial piston drive

for even higher pull-down forces



For more
information see
our VERO-S NSE
mini video



NEW

VERO-S NSE mini 90-25-V4

The single module of the NSE mini 90-25 series is available with anti-rotation protection V4 now. The main field of application for the V4 anti-twist protection is automated machine loading. The cylinder pins inside the clamping pallet compensate inaccuracies of the robot. Both flex elements – in combination with the pull-down force – then ensure high-precision positioning.



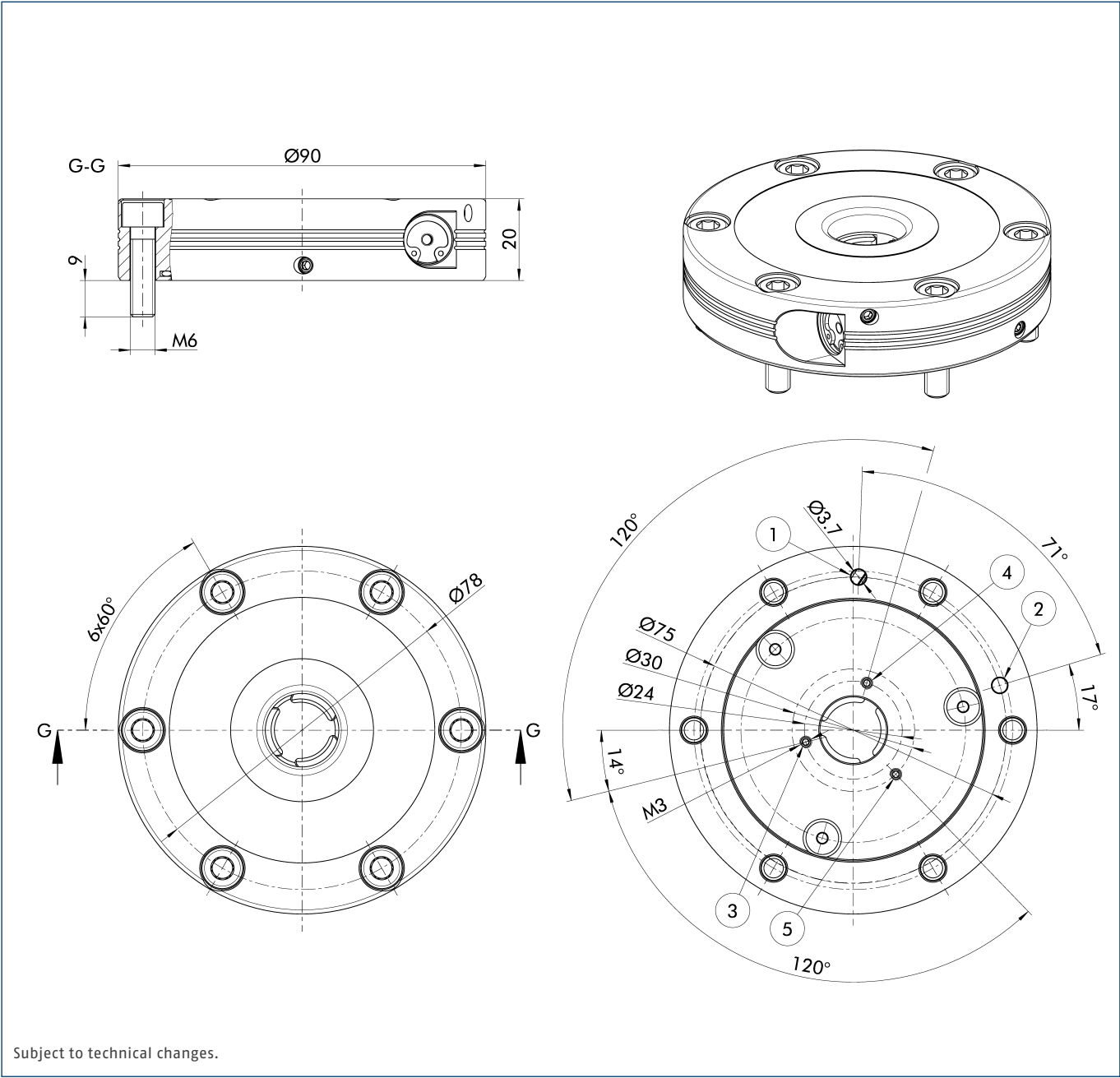
Quick-change pallet module

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force	Pull-down force with turbo	Unlocking pressure	Repeat accuracy	Weight
		[N]	[N]	[bar]	[mm]	[kg]
NSE mini 90	0435100	500	1500	6	< 0.005	1



- ① Hose-free direct connection module open
- ② Hose-free direct connection turbo function
- ③ Monitoring module open via dynamic pressure
- ④ Monitoring module closed via dynamic pressure
- ⑤ Air bleeder hole for monitoring

Quick-change pallet module

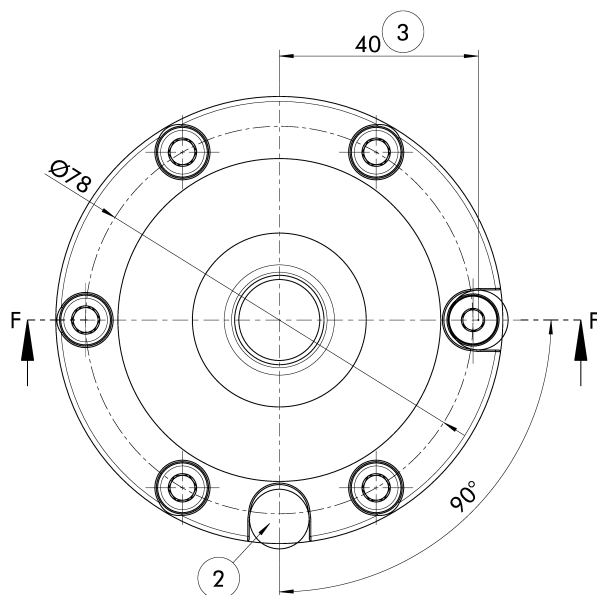
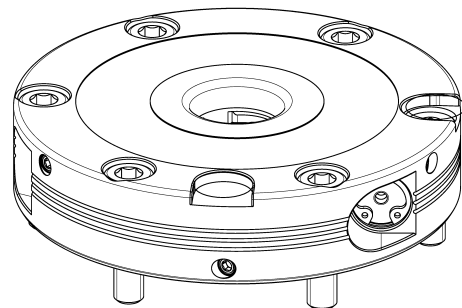
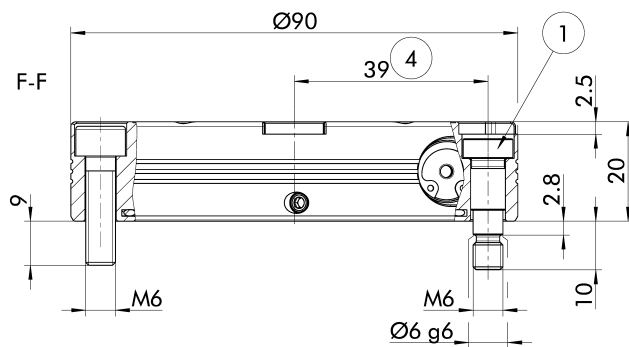
With anti-rotation protection V1

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE mini 90-V1	0435105	500	1500	6	< 0.005	1



Subject to technical changes.

- ① Fitting screw for positional orientation
- ② Fitting groove for orientation of the pallet position
- ③ Clearance 40 ±0.01 mm for IXB V1 mini in the clamping pallet
- ④ Clearance 39 ±0.01 mm for fitting screw PSC mini V1 (ID 0435921) in the clamping station

Clamping station

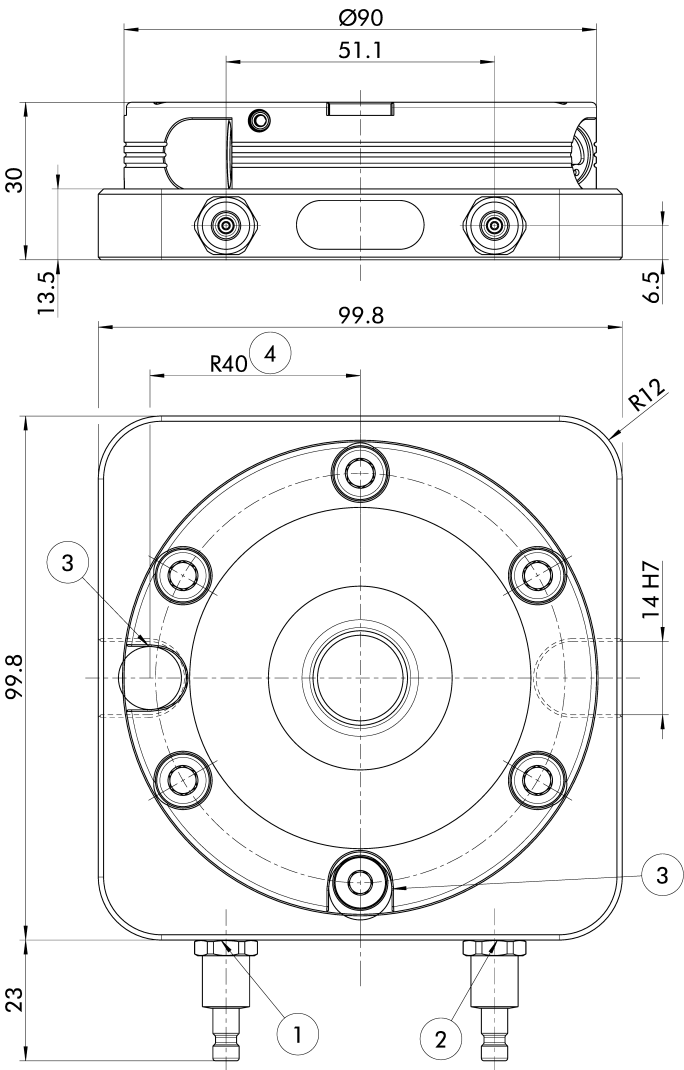
1-way clamping station with anti-rotation protection V1 and turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mini 100-V1	1304680	500	1500	6	1.7



Subject to technical changes.

- ① G1/8 air connection open module
- ② G1/8 air connection turbo function
- ③ Fitting groove for orientation of the clamping pallet position
- ④ Clearance 40 ±0.01 mm for IXB V1 mini in the clamping pallet

Clamping station

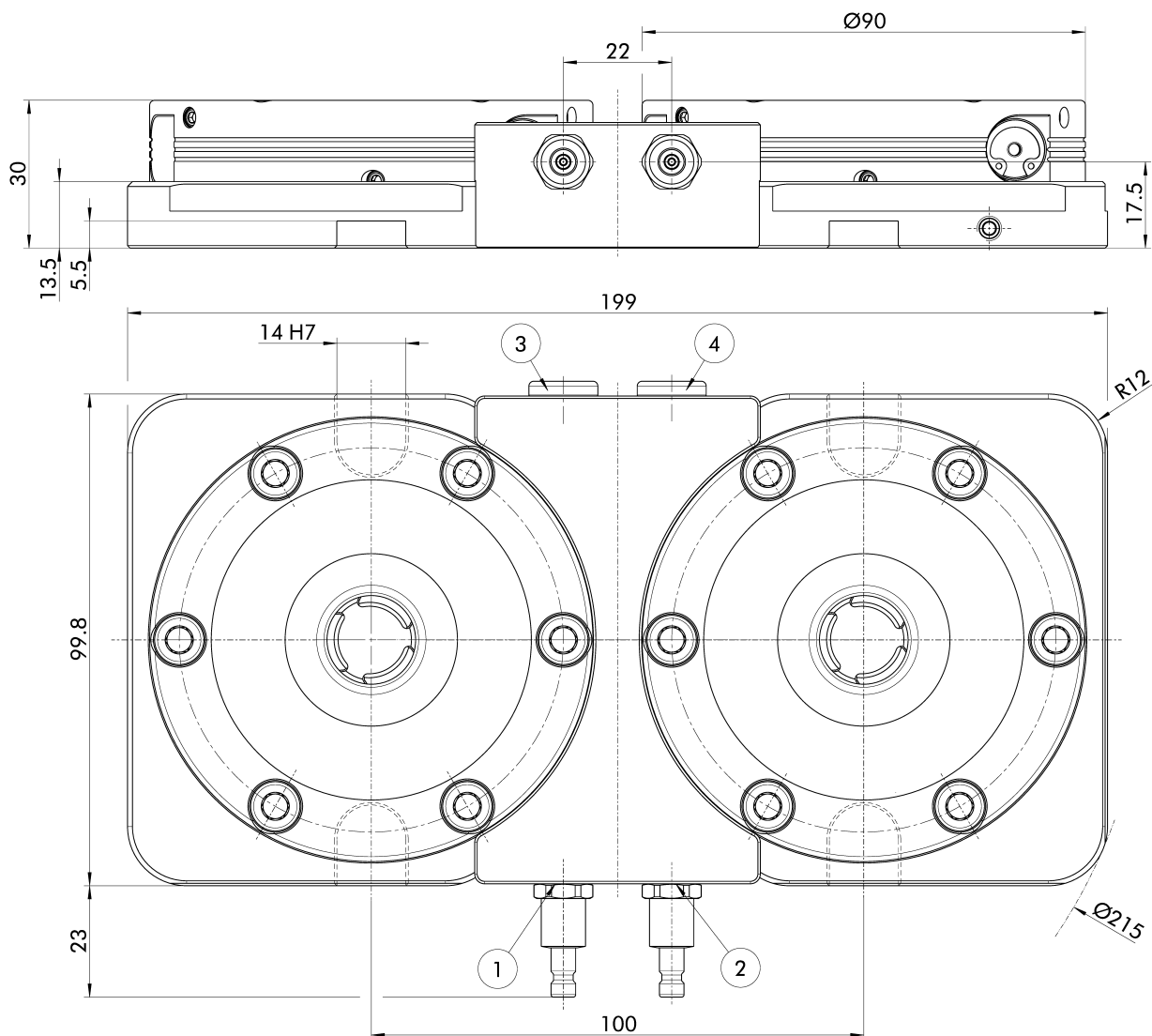
2-way clamping station with turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mini 100-2	0435220	1000	3000	6	3.5



Subject to technical changes.

- ① G1/8 air connection, open modules
- ② G1/8 air connection turbo function
- ③ G1/8 air connection, open modules for modular extension
- ④ G1/8 air connection for turbo function for modular expansion

Clamping station

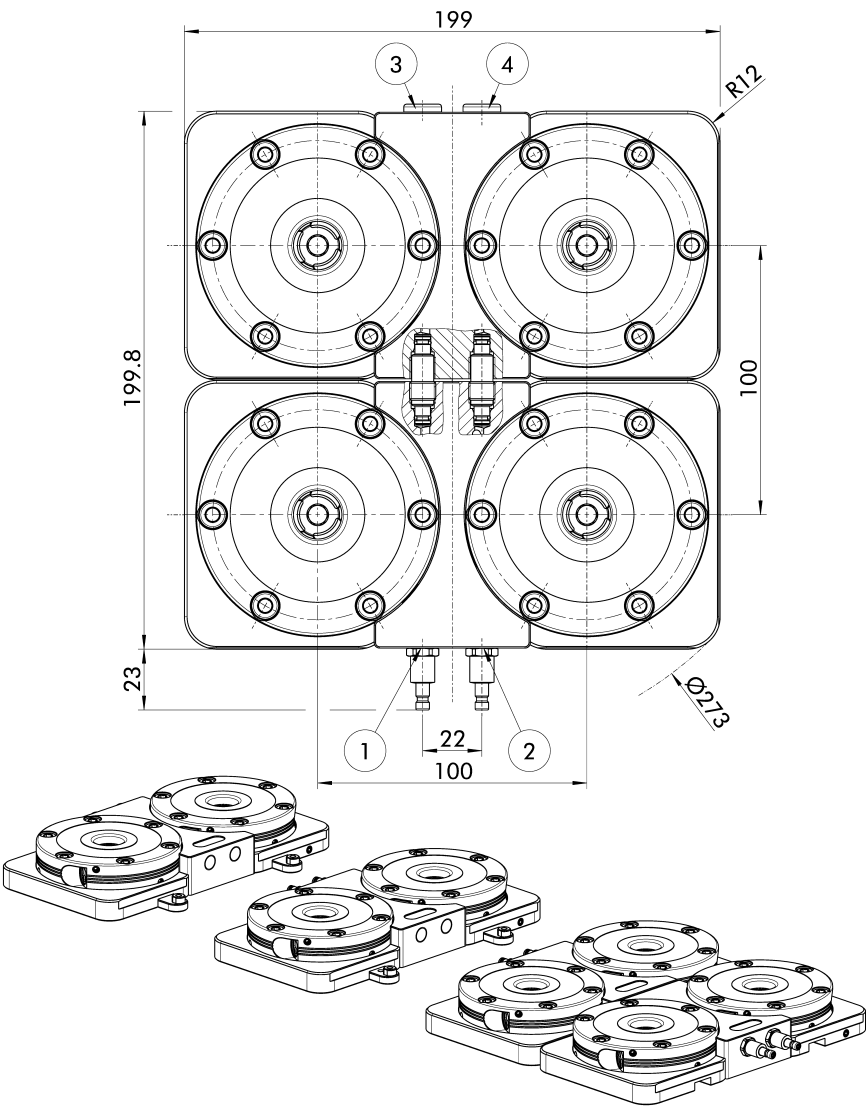
4-way clamping station with turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mini 100-4	0435240	2000	6000	6	7



Subject to technical changes.

- ① G1/8 air connection, open modules
- ② G1/8 air connection turbo function
- ③ G1/8 air connection, open modules for modular extension
- ④ G1/8 air connection for turbo function for modular expansion

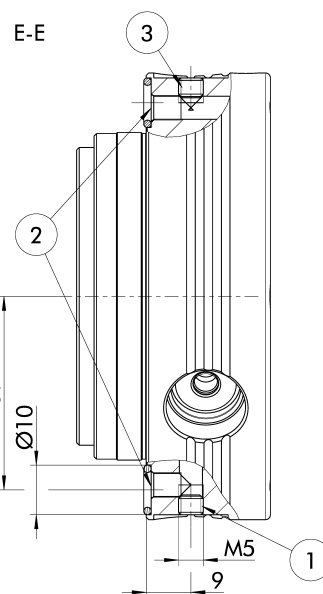
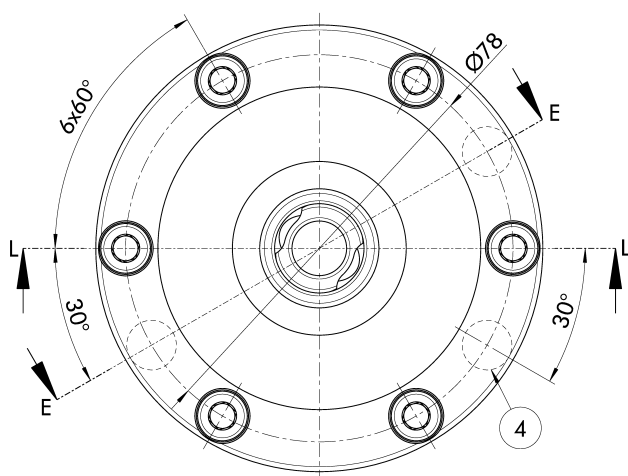
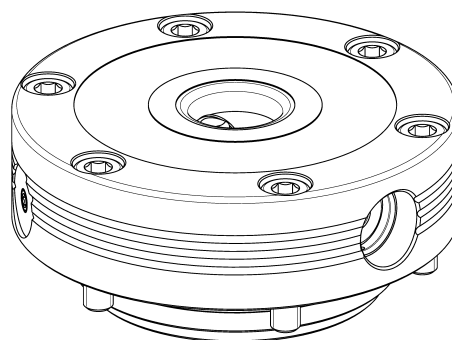
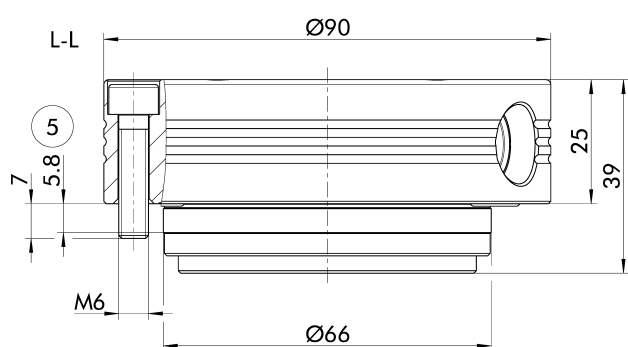
Quick-change pallet module

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE mini 90-25	1319696	1500	6000	6	< 0.005	1.3



Subject to technical changes.

- ① Unlocking connection via screw connection M5
- ② Hose-free direct connection
- ③ Turbo connection via screw connection M5
- ④ Hose-free direct connection for monitoring module open
- ⑤ Fitting length module's seat

Quick-change pallet module

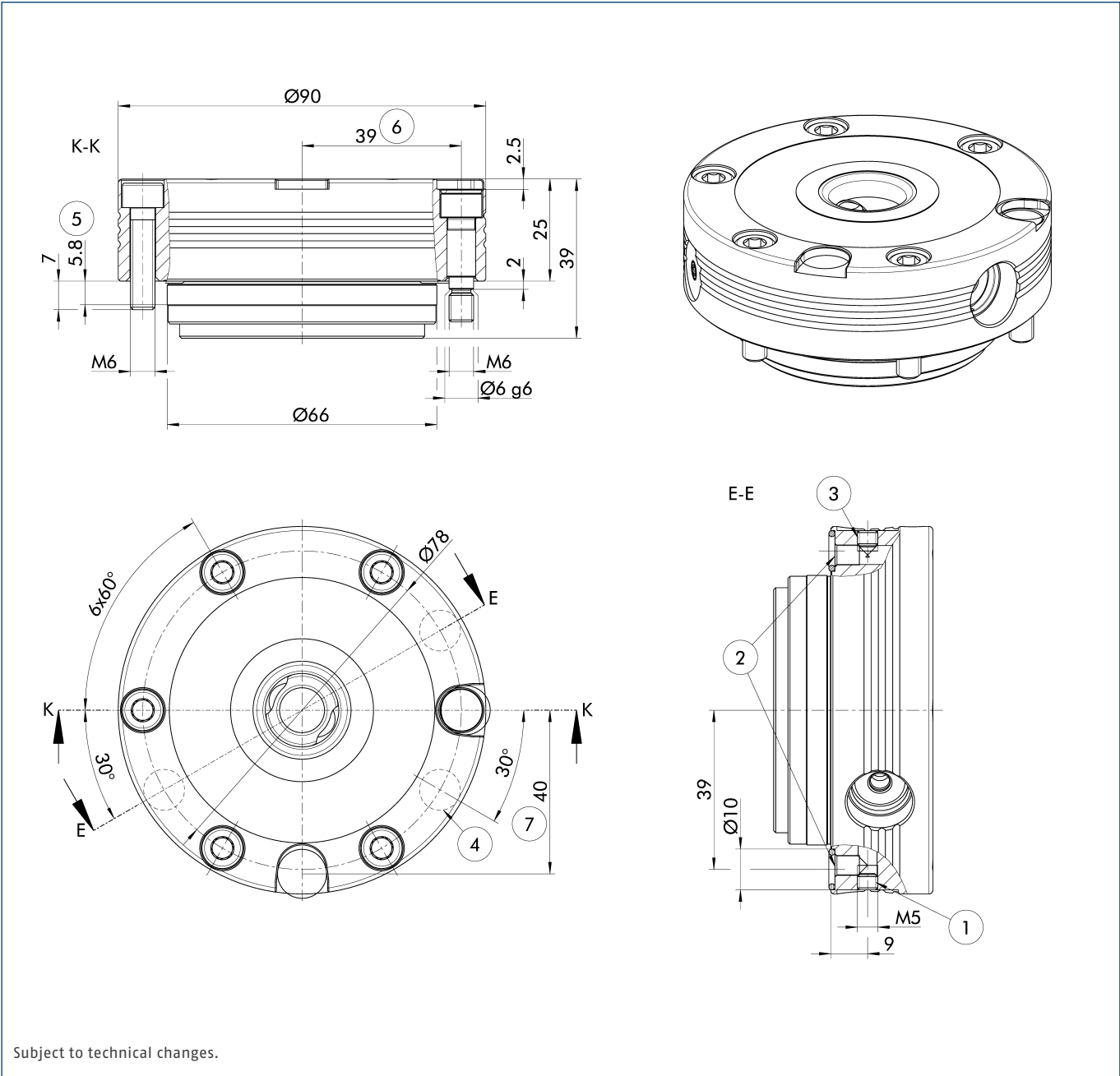
With anti-rotation protection V1

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force	Pull-down force with turbo	Unlocking pressure	Repeat accuracy	Weight
		[N]	[N]	[bar]	[mm]	[kg]
NSE mini 90-25-V1	1460873	1500	6000	6	< 0.005	1



- ① Unlocking connection via screw connection M5
- ② Hose-free direct connection
- ③ Turbo connection via screw connection M5
- ④ Hose-free direct connection for monitoring module open
- ⑤ Fitting length module's seat
- ⑥ Clearance 39 ± 0.01 mm for fitting screw PSC mini V1 (ID 0435921) in the clamping station
- ⑦ Clearance 40 ± 0.01 mm for IXB V1 mini in the clamping pallet

Quick-change pallet module

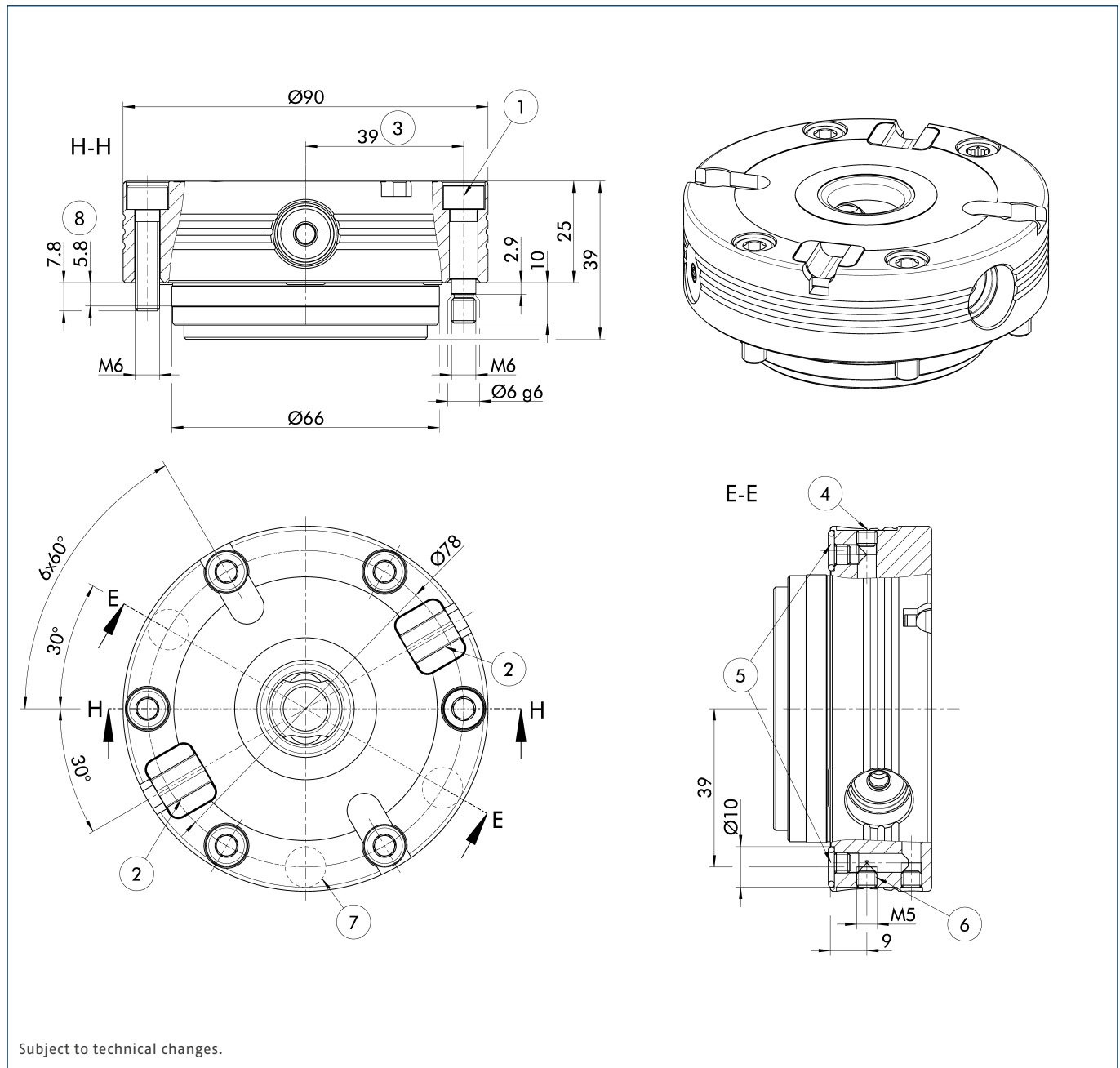
With anti-rotation protection V4

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover plugs, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE mini 90-25-V4	1435606	1500	6000	6	< 0.005	1.3



- ① Fitting screw M6 for the modules orientation of position in the base plate
- ② Groove for position orientation of the clamping pallet
- ③ Clearance 39 ± 0.01 mm for fitting screw PSC mini V1 (ID 0435921) in the clamping station
- ④ Unlocking connection via screw connection M5
- ⑤ Hose-free direct connection
- ⑥ Turbo connection via screw connection M5
- ⑦ Hose-free direct connection for monitoring module open
- ⑧ Fitting length module's seat

Clamping station

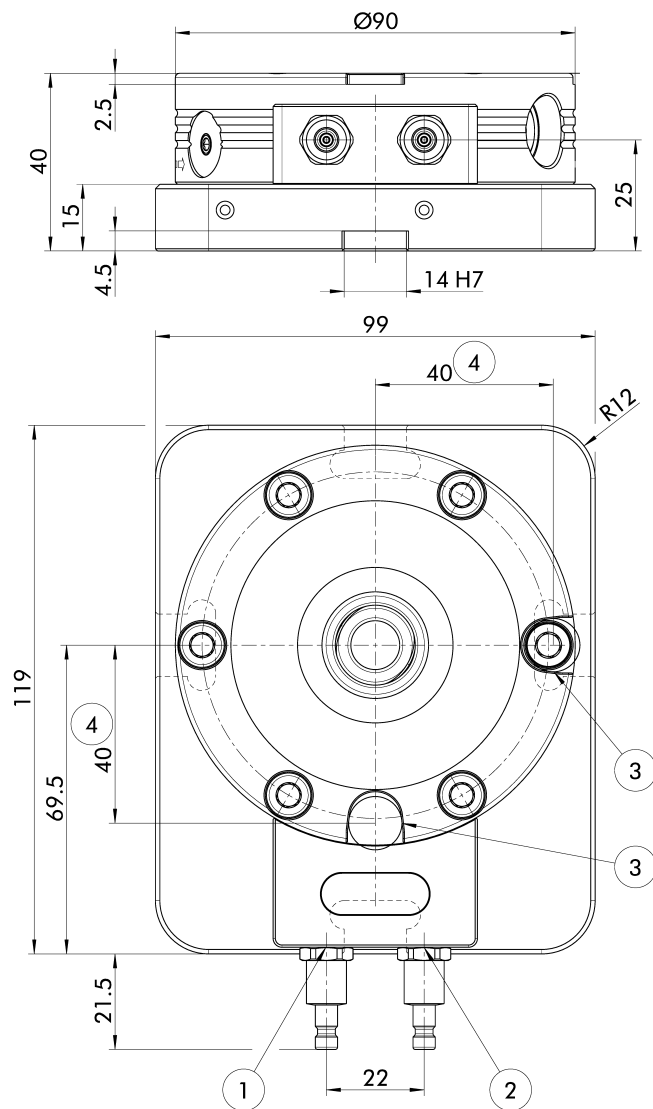
1-way clamping station with anti-rotation protection V1 and turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mini 100-25-V1	1460952	1500	6000	6	2.3



Subject to technical changes.

- ① G1/8 air connection open module

② G1/8 air connection turbo function
- ③ Groove for position orientation of the clamping pallet

④ Clearance 40 ±0.01 mm for indexing pins

Clamping station

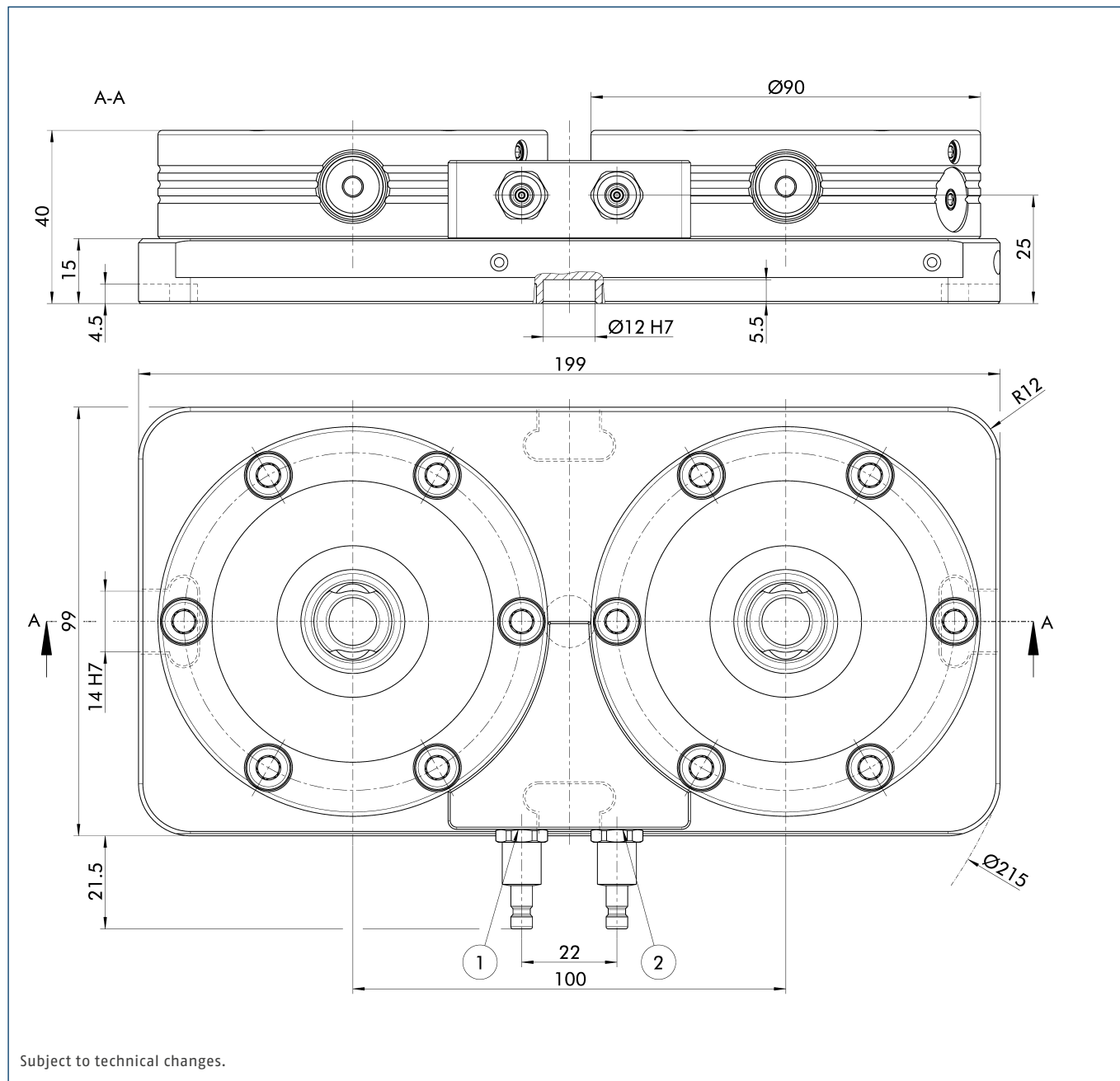
2-way clamping station with turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mini 100-25-2	1357102	3000	12000	6	4.1



① G1/8 air connection, open modules

② G1/8 air connection turbo function

Clamping station

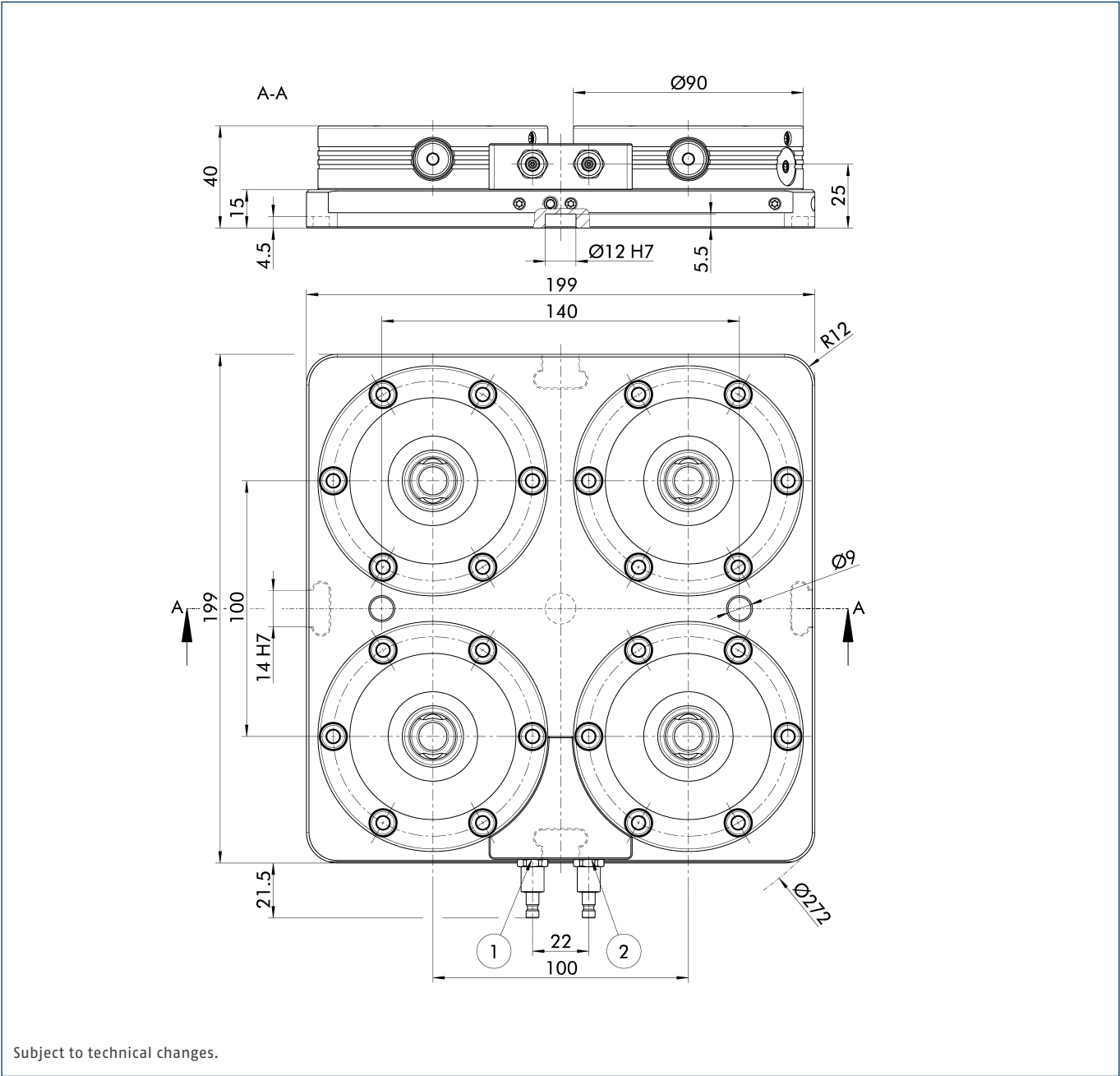
4-way clamping station with turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins

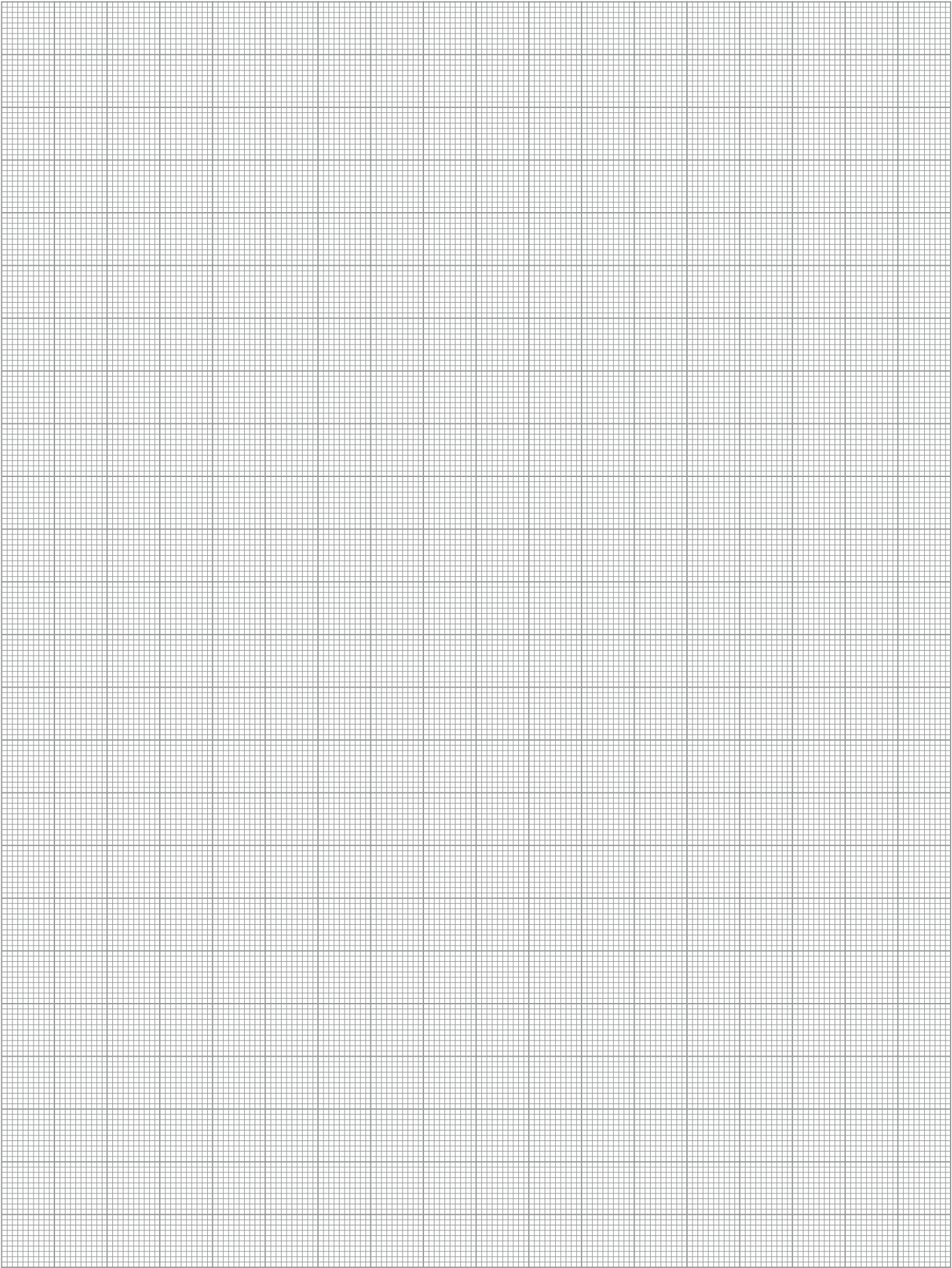
Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mini 100-25-4	1357103	6000	24000	6	8.3



① G1/8 air connection, open modules

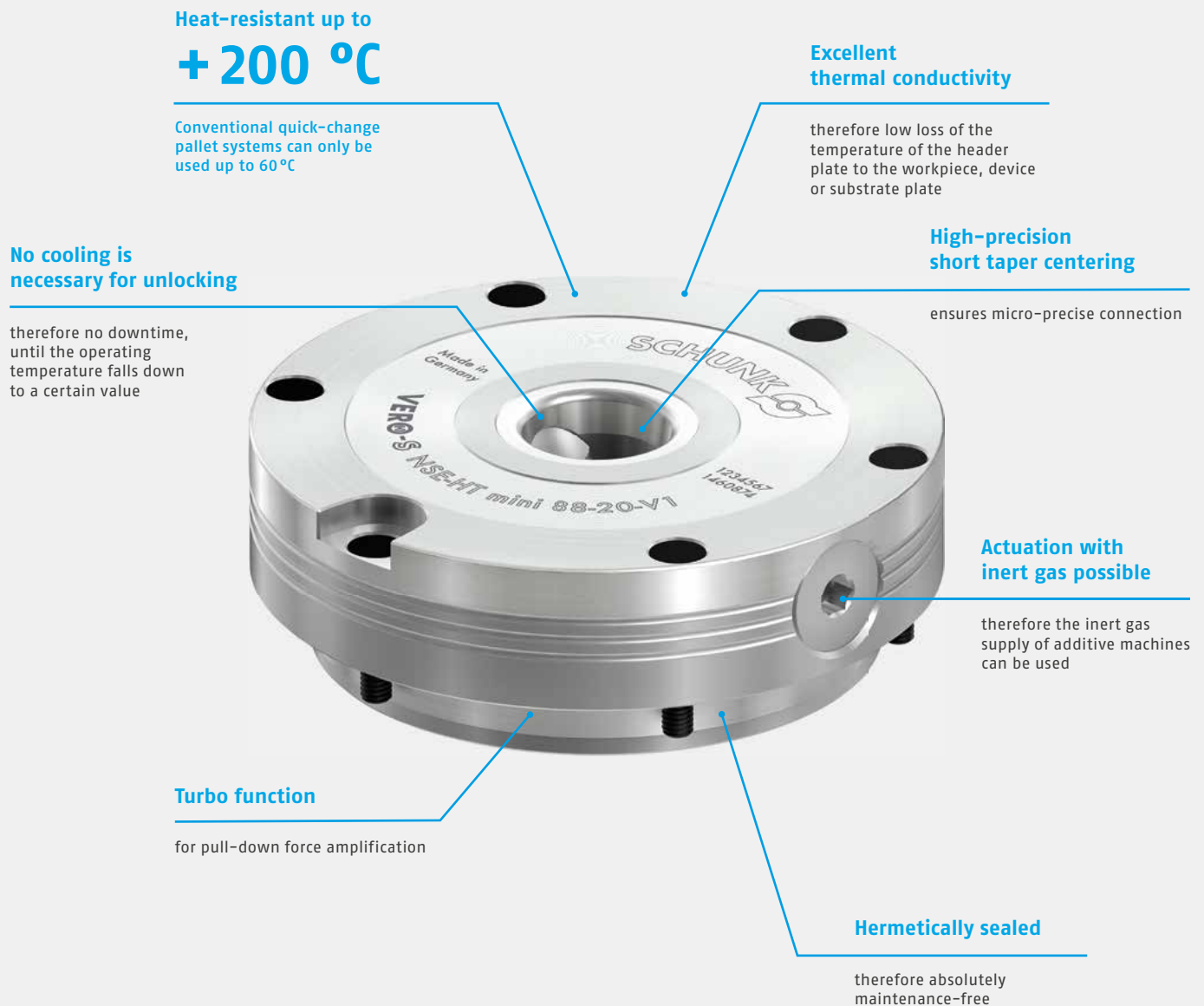
② G1/8 air connection turbo function



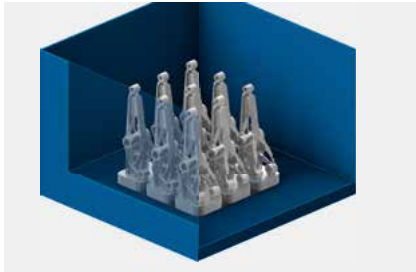
VERO-S NSE-HT mini

Short set-up times and a high degree of productivity are ensured by the fully sealed quick-change pallet module SCHUNK VERO-S NSE-HT mini 88-20, which has been especially designed for high-temperature applications. The original concept involved transmitting an idea that has been tried-and-tested over many years: setting up machines for selective laser melting (SLM) in a matter of seconds. However, this module can also be used in other fields of application such as injection molding with a maximum operating temperature of 200 °C.

The compact dimensions ensure optimum heat flow to the workpiece, the device or the substrate plate, allowing for a rapid exchange process, since the required target temperature can be reached quickly and production can be started immediately. The module can also be fully integrated in the machine table and combined with additional modules as required. In addition, the modules are also suitable for work in an inert gas atmosphere and can also be operated with it.

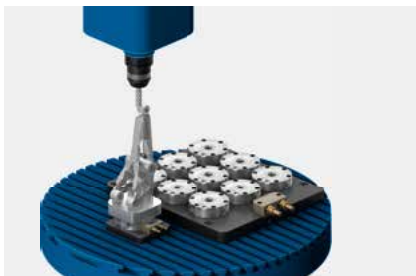


Monolithic manufacturing process



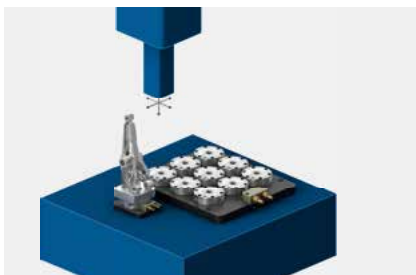
1. Additive manufacturing

The workpieces are "printed" directly onto the substrate plate. Clamping modules with anti-rotation protection enable the use of island substrate plates, which allow 5-sided reworking.



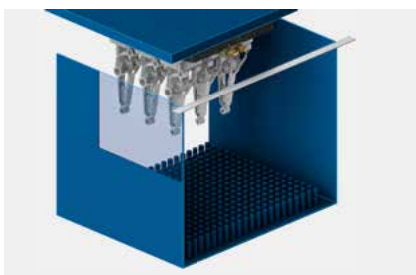
2. Metal cutting

Production of functional surfaces and fittings on a milling machine. The standard single clamping station NSL mini 100-25-V1 can be used for clamping island substrates.



3. Measuring

Check the dimensional accuracy of the workpiece. The standard single clamping station NSL mini 100-25-V1 can be used for clamping island substrate plates.



4. Separating

Separation of the workpieces from the substrate plates on a band saw. With a special clamping station with 9-way NSE mini 90-25-V1, all workpieces can be separated from the substrate plates at once.



5. Metal cutting

Joint surface milling of the island substrate plates on a 9-way special clamping station for the next application. Optimal results in height uniformity are achieved through joint surface milling – the ideal preparation for the next construction process.

Quick-change pallet module

For high temperature applications up to 200 °C

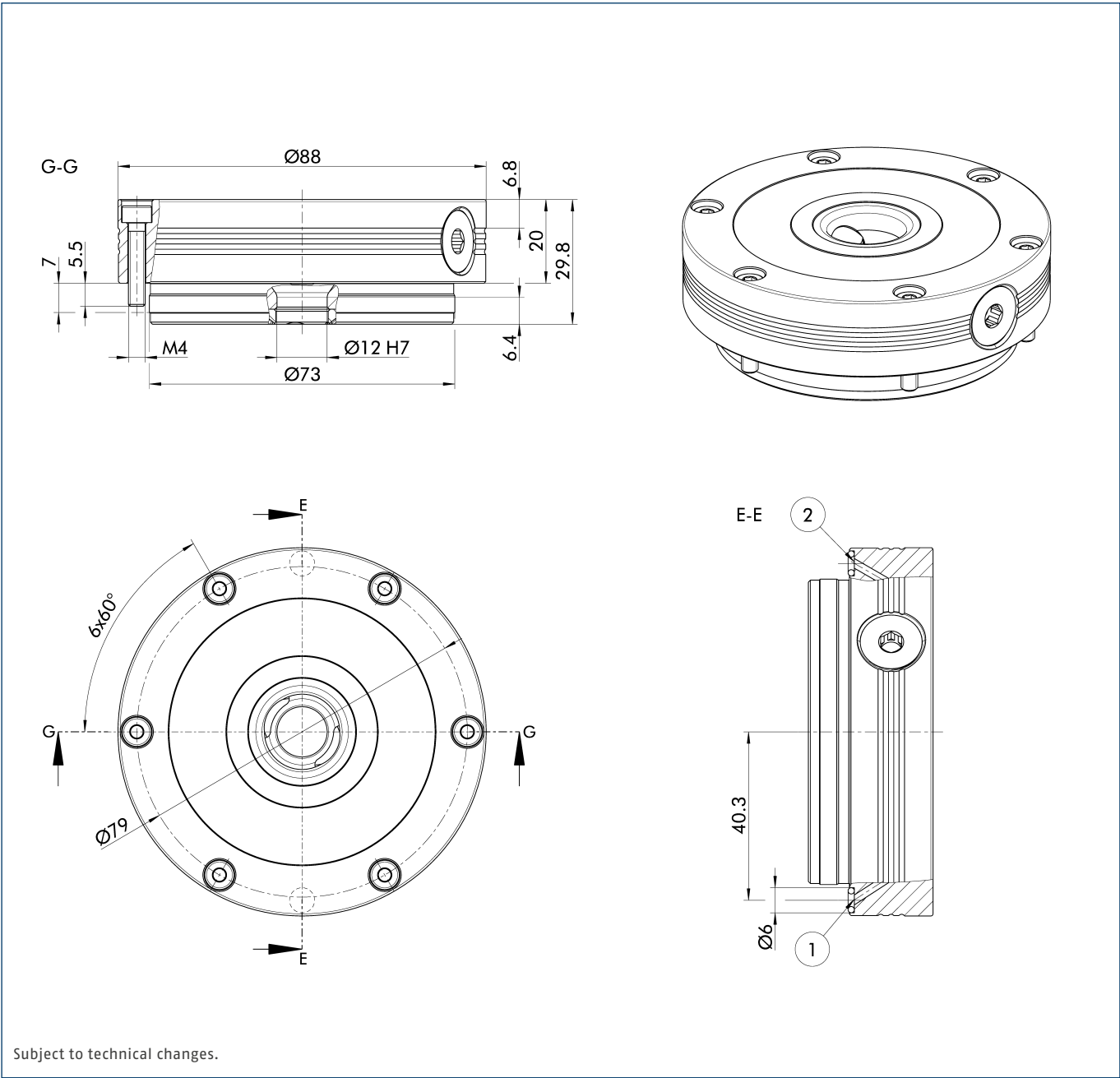
Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Max. actuation temperature [°C]	Repeat accuracy [mm]	Weight [kg]
NSE-HT mini 88-20	1419192	500	2500	6	200	< 0.005	1

The repeat accuracy only applies to partial installations and partially recessed installations. The values for a full integration may differ!



① Hose-free direct connection module open

② Hose-free direct connection turbo function

Quick-change pallet module

For high temperature applications up to 200 °C
With anti-rotation protection V1

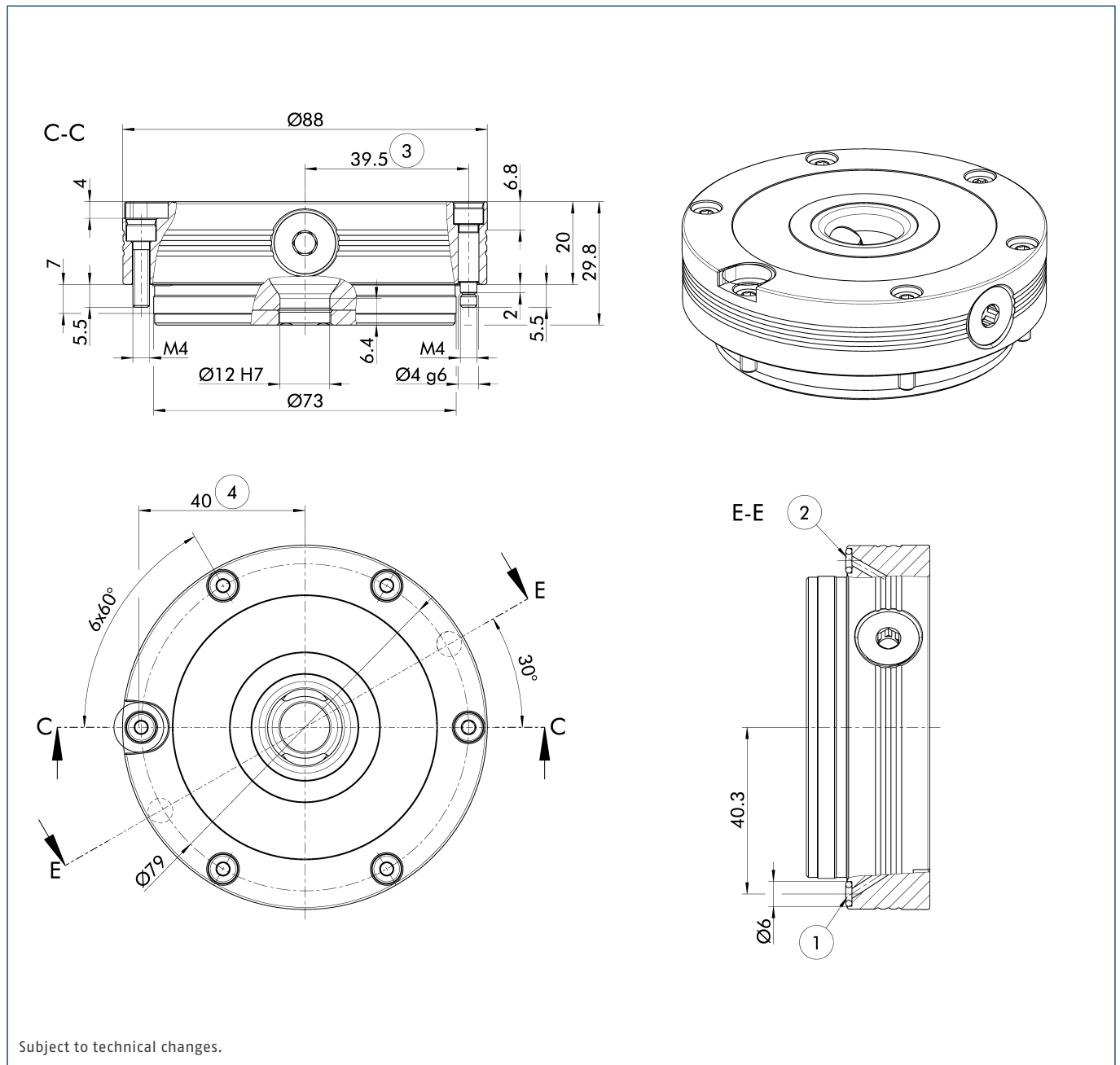
Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Max. actuation temperature [°C]	Repeat accuracy [mm]	Weight [kg]
NSE-HT mini 88-20-V1	1460874	500	2500	6	200	< 0.005	1

The repeat accuracy only applies to partial installations and partially recessed installations. The values for a full integration may differ!



Subject to technical changes.

- ① Hose-free direct connection module open
- ② Hose-free direct connection turbo function

- ③ Clearance 39.5 ±0.01 mm for fitting screw
- ④ Clearance 40 ±0.01 mm for indexing pins

VERO-S NSE mikro

The miniature module VERO-S NSE mikro takes the effect of rapid component change with the VERO-S quick-change pallet system into a new dimension. For the first time it is possible that even smallest components with a repeat accuracy of < 0.005 mm can be exchanged in no time at all. At a height of just 12 mm and an outer diameter of 49 mm, it is the world's flattest quick-change pallet module.

Especially for higher pull-down forces the NSE mikro 49-13 module has been added to the NSE mikro series. Due to its drive kinematics, this hermetically sealed module achieves higher pull-down forces. Both modules are suited for rapid workpiece, component and pallet change in the field of light metal cutting as well as in assembly cells and measuring machines.

Drive ring system

allows for an extremely flat design

Extremely flat design

for more space in the machine room

Outer diameter $\varnothing$ 49 mm

allows for minimum pitches

Patented drive concept

for high pull-down forces

Outer diameter $\varnothing$ 49 mm

allows for minimum pitches

Patented dual stroke system

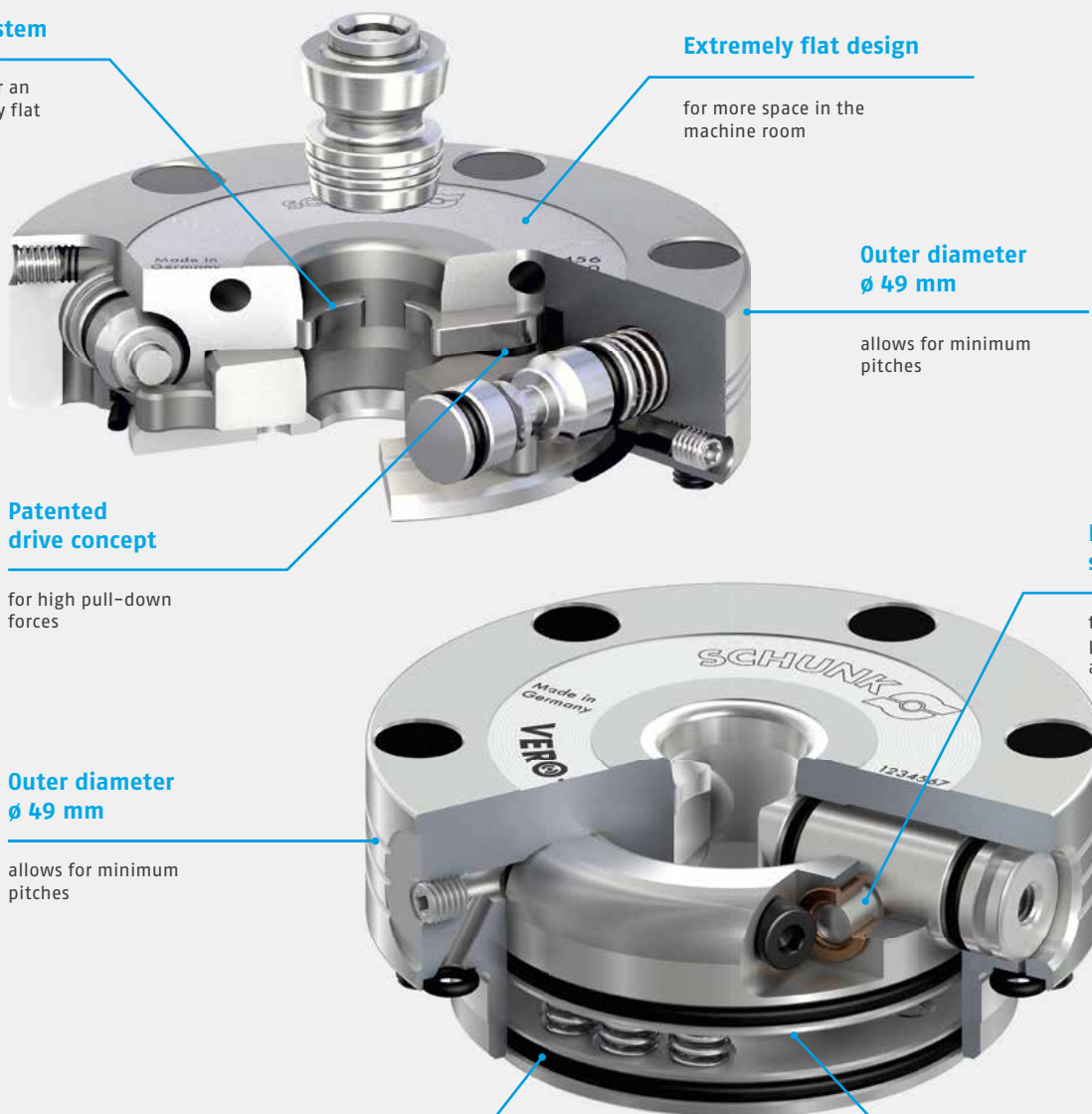
therefore, high pull-down forces are achieved

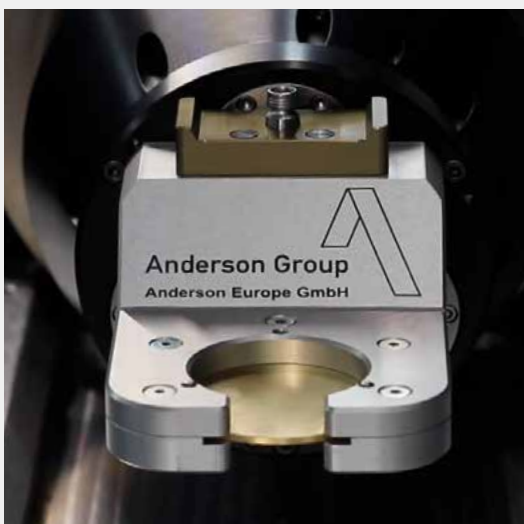
Hermetically sealed

therefore absolutely maintenance-free

Axial piston drive

therefore, higher pull-down forces are achieved





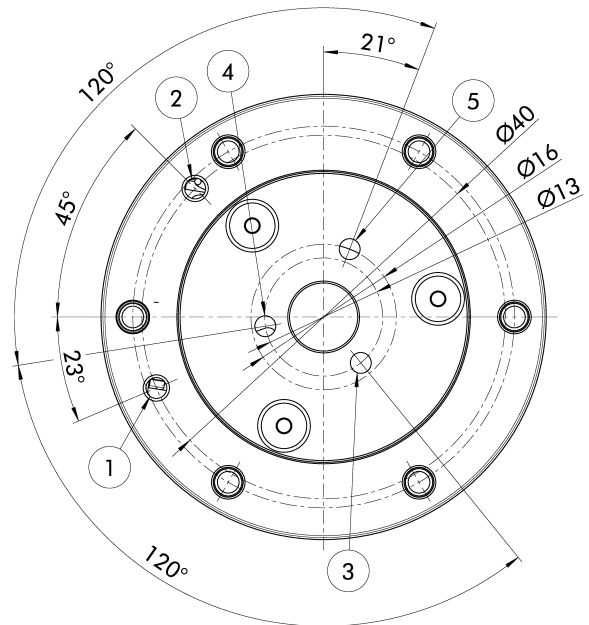
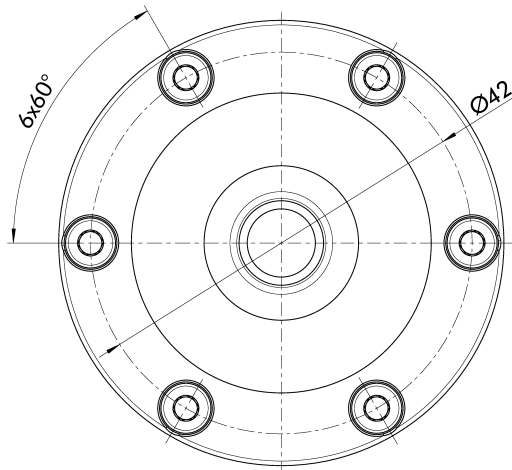
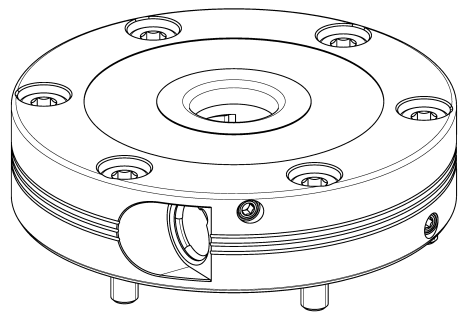
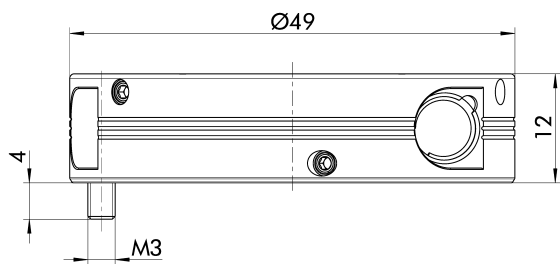
Quick-change pallet module

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force	Pull-down force with turbo	Unlocking pressure	Repeat accuracy	Weight
		[N]	[N]	[bar]	[mm]	[kg]
NSE mikro 49	0436100	150	400	6	< 0.005	0.2



Subject to technical changes.

- ① Hose-free direct connection module open
- ② Hose-free direct connection turbo function
- ③ Hose-free direct connection for monitoring module open
- ④ Hose-free direct connection for monitoring of the turbo function
- ⑤ Air bleeder hole for monitoring

Quick-change pallet module

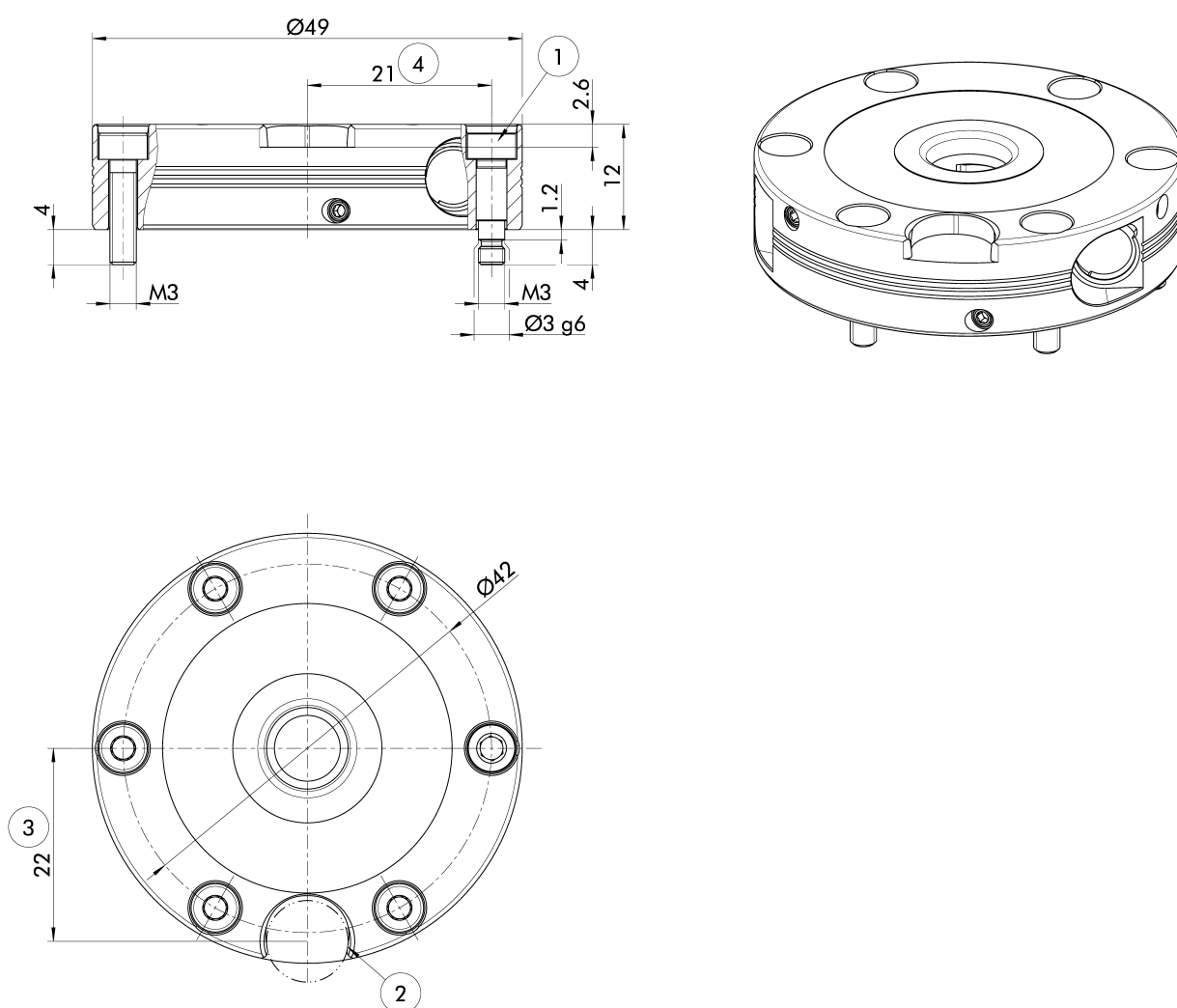
With anti-rotation protection V10

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE mikro 49-V10	0436105	150	400	6	< 0.005	0.2



Subject to technical changes.

- ① Fitting screw for positional orientation
- ② Fitting groove for orientation of the pallet position
- ③ Measure of clearance 22 ± 0.01 mm for IXB V10 mikro in the clamping pallet
- ④ Clearance 21 ± 0.01 mm for fitting screw PSC mikro V10 (ID 0436921) in the clamping station

Clamping station

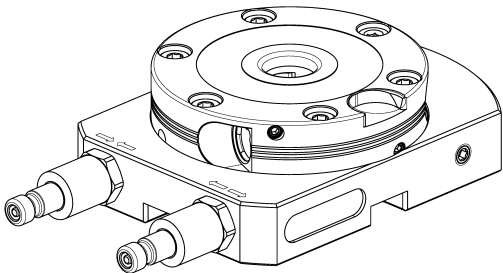
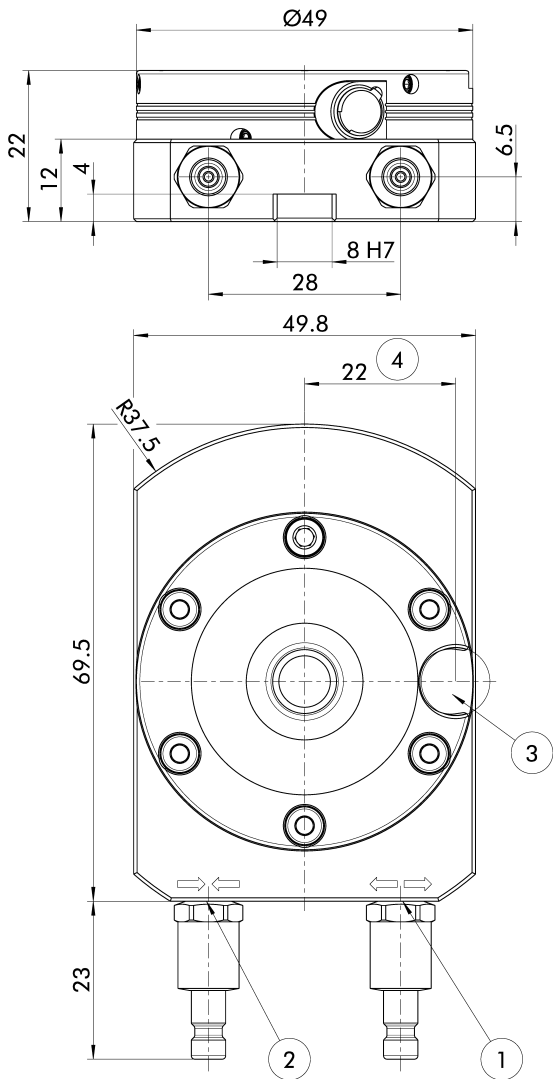
1-way clamping station with anti-rotation protection V10 and turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mikro 50-V10	0436210	150	400	6	0.4



Subject to technical changes.

- ① Air connection M6 module open
- ② Air connection M6 turbo function
- ③ Groove for position orientation of the clamping pallet
- ④ Measure of clearance 22 ±0.01 mm for IXB V10 mikro in the clamping pallet

Clamping station

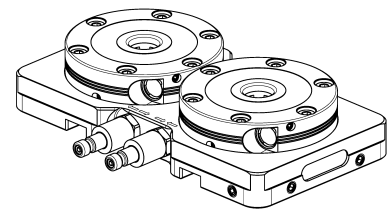
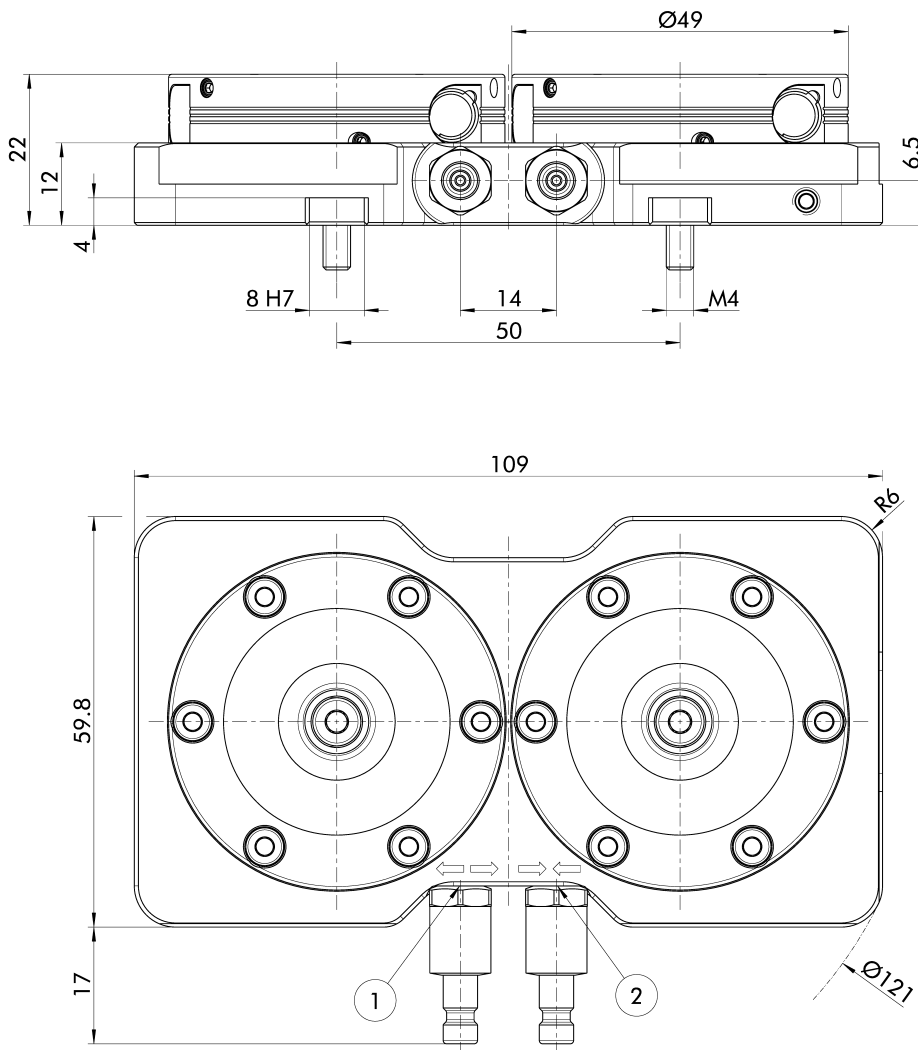
2-way clamping station with turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mikro 50-2	0436220	300	800	6	0.8



Subject to technical changes.

- ① Air connection M6 opening modules ② Air connection M6 turbo function

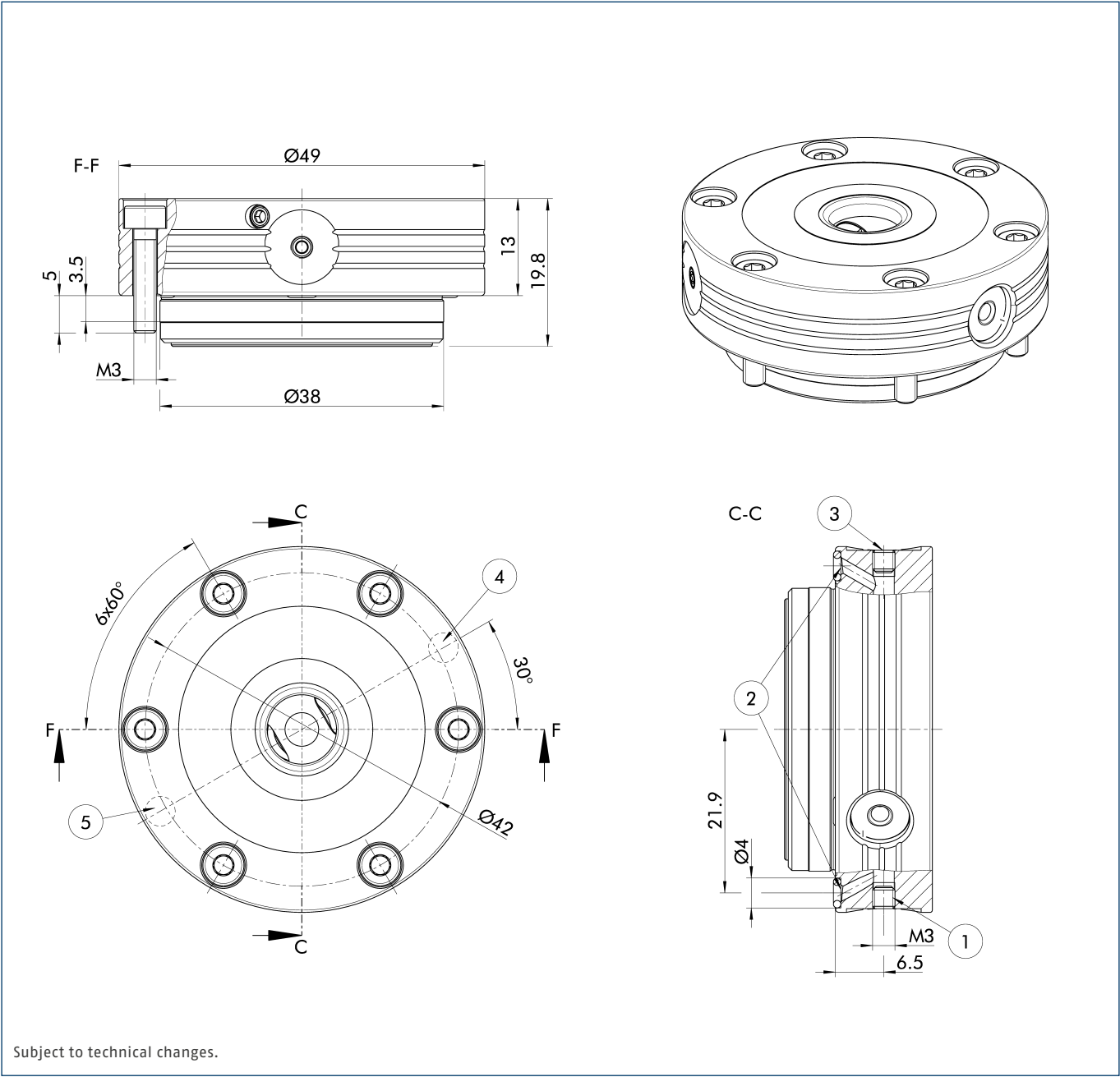
Quick-change pallet module

Scope of delivery

Clamping module, mounting screws, O-rings, cover caps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force	Pull-down force with turbo	Unlocking pressure	Repeat accuracy	Weight
		[N]	[N]	[bar]	[mm]	[kg]
NSE mikro 49-13	1322876	400	1500	6	< 0.005	0.2



- ① Turbo connection via screw connection M3
- ② Hose-free direct connection
- ③ Unlocking connection via screw connection M3
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed

Quick-change pallet module

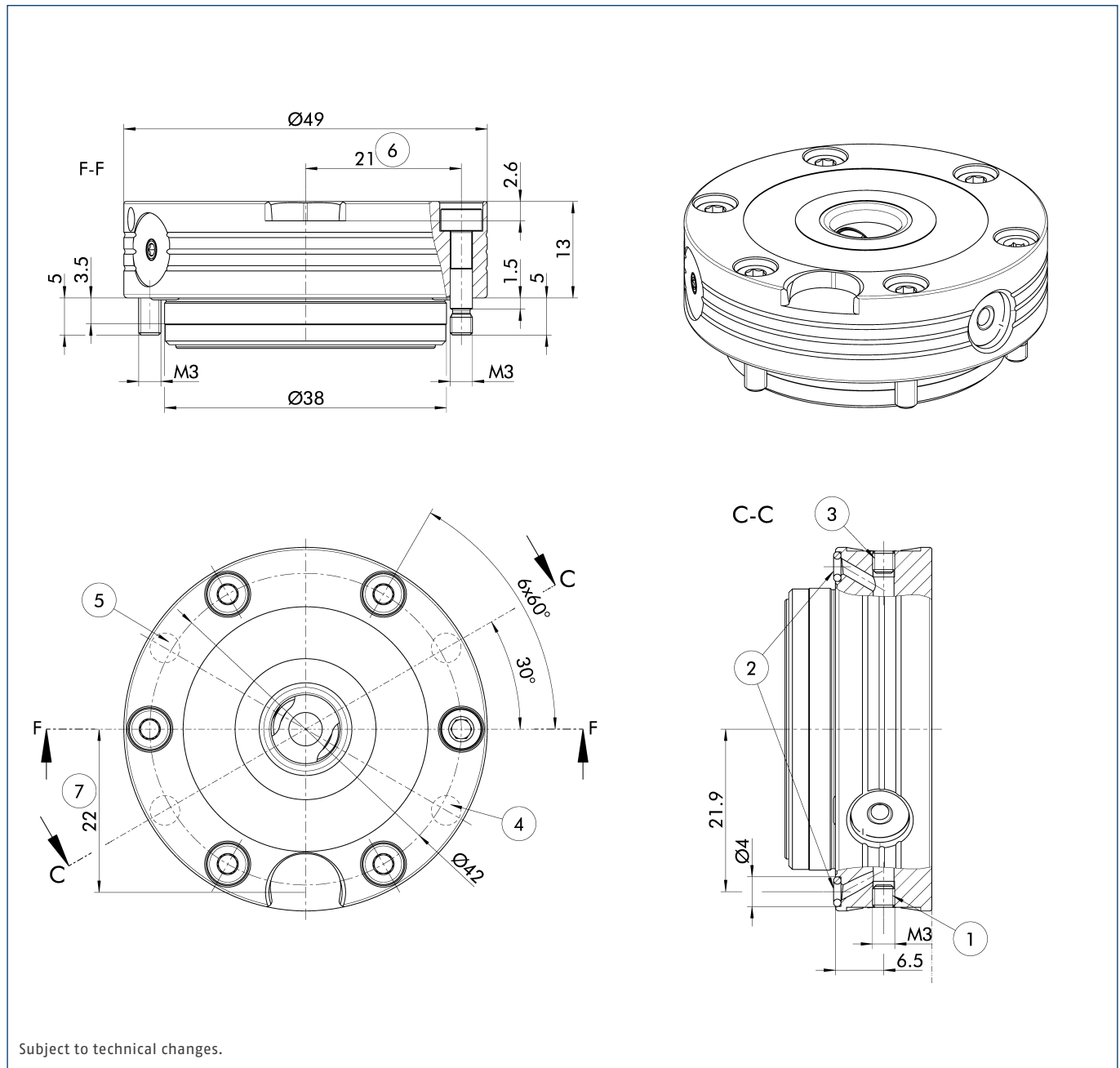
With anti-rotation protection V10

Scope of delivery

Clamping module, mounting screws, fitting screws, O-rings, cover caps, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Repeat accuracy [mm]	Weight [kg]
NSE mikro 49-13-V10	1357110	400	1500	6	< 0.005	0.2



- ① Turbo connection via screw connection M3
- ② Hose-free direct connection
- ③ Unlocking connection via screw connection M3
- ④ Hose-free direct connection for monitoring module open
- ⑤ Hose-free direct connection for slide monitoring module closed
- ⑥ Clearance 21 ± 0.01 mm for fitting screw PSC mikro V10 (ID 1358504) in the clamping station
- ⑦ Measure of clearance 22 ± 0.01 mm for IXB V10 mikro in the clamping pallet

Clamping station

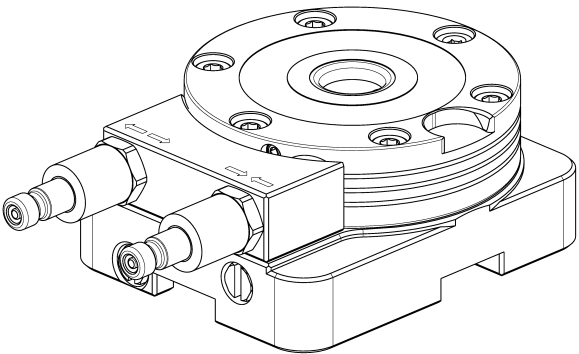
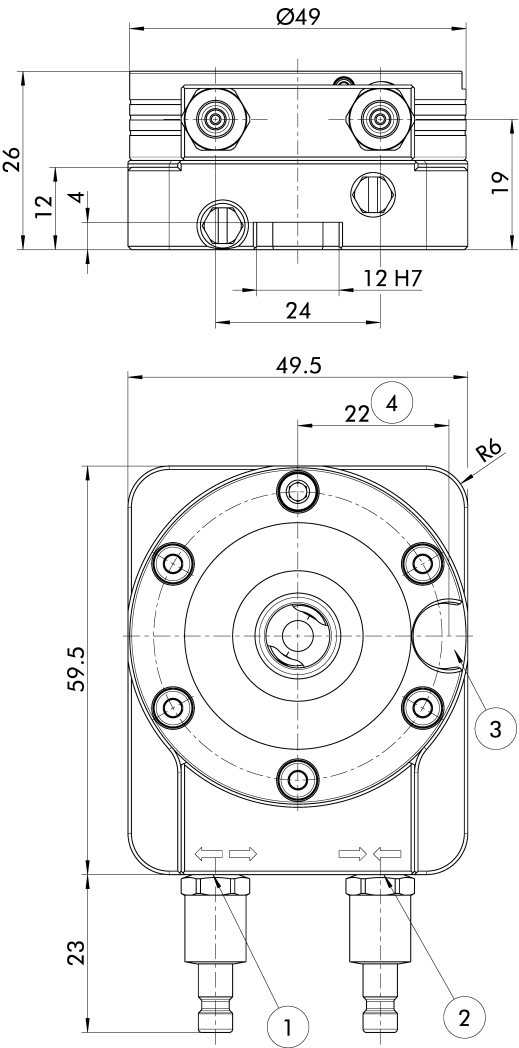
1-way clamping station with anti-rotation protection V10 and turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mikro 50-13-V10	1358958	400	1500	6	0.5



Subject to technical changes.

- ① Air connection M6 module open
- ② Air connection M6 turbo function
- ③ Groove for position orientation of the clamping pallet
- ④ Measure of clearance 22 ±0.01 mm for IXB V10 mikro in the clamping pallet

Clamping station

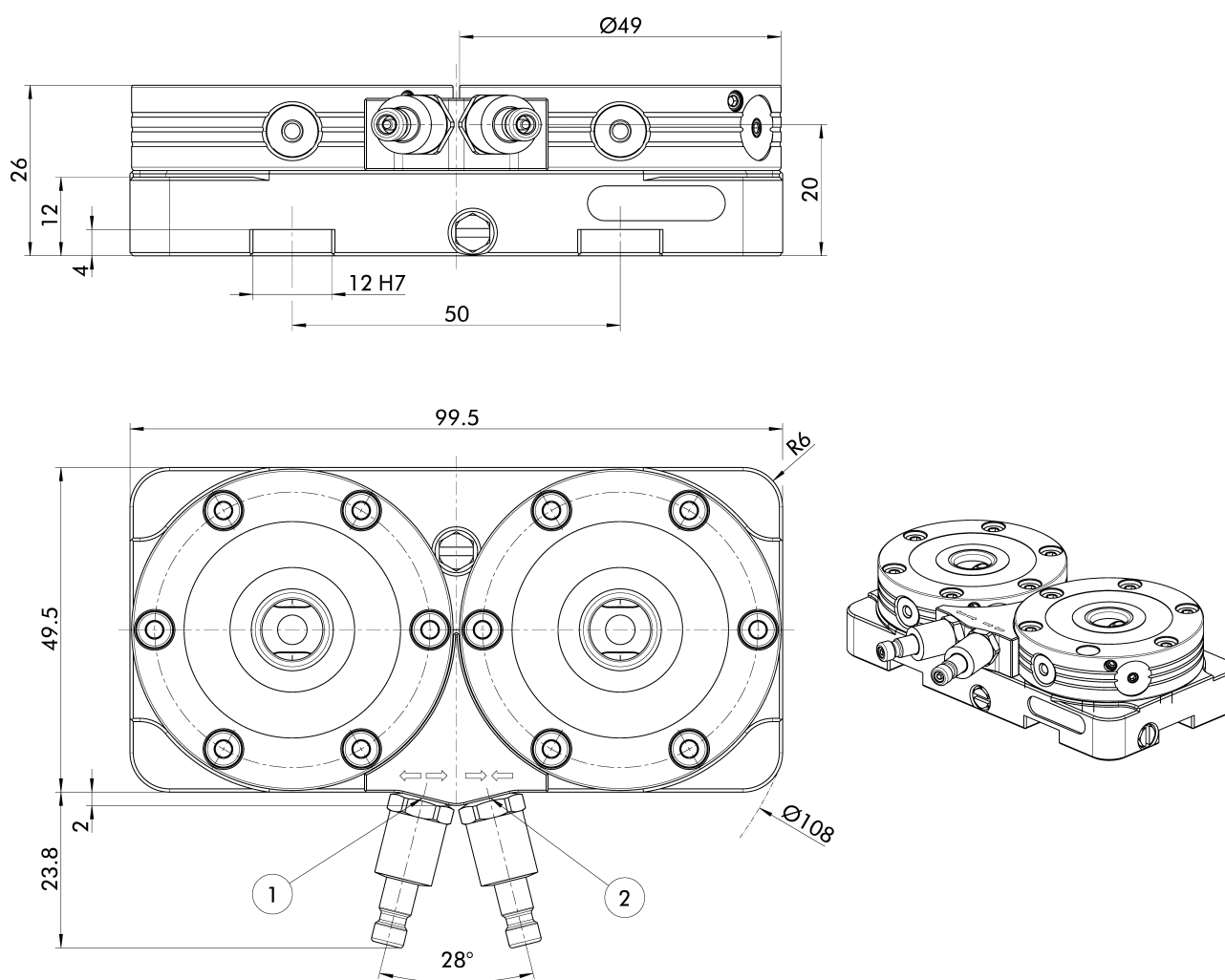
2-way clamping station with turbo function

Scope of delivery

Clamping station, cylindrical clamps, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Pull-down force with turbo [N]	Unlocking pressure [bar]	Weight [kg]
NSL mikro 50-13-2	1358959	800	3000	6	0.8



Subject to technical changes.

① Air connection M6 opening modules

② Air connection M6 turbo function

VERO-S clamping pins

Clamping pins with short taper are used for form-fit connection of workpieces, clamping pallets or devices with clamping modules. Depending on the series, there are different sizes and versions – for any case of application the appropriate solution.



Pull-down and holding forces

	Pull-down force [N]		Holding force [N]						
	Without turbo function	With turbo function							
			SPx mikro 10		SPx mini 20		SPx 40		
			M3	M4	M6	M8	M10	M12	M16
NSE mikro 49	150	400	3000	5000					
NSE mikro 49-13	400	1500	3000	5000					
NSE mini 90	500	1500			15000	25000			
NSE mini 90-25	1500	6000			15000	25000			
NSE-HT mini 88	500	2500			15000	25000			
NSE3 99	5000	18000					35000	50000	75000
NSE3 138	8000	28000					35000	50000	75000
NSE3 176	9000	40000					35000	50000	75000
NSE-A3 138	8000	28000					35000	50000	75000

VERO-S clamping pins

	Type		Description	Version	ID	Suitable for
SPx mikro 10	SPA mikro 10		Standard clamping pins Standard clamping pins for form-fit connection of workpieces or devices with a clamping module.	Centering pins	0436610	NSE mikro NSR mikro
	SPB mikro 10			Positioning pins	0436620	
	SPC mikro 10			Holding pins	0436630	
SPx mini 20	SPA mikro 20		Standard clamping pins Standard clamping pins for form-fit connection of workpieces or devices with a clamping module.	Centering pins	0435610	NSE mini NSR mini
	SPB mikro 20			Positioning pins	0435620	
	SPC mikro 20			Holding pins	0435630	
SPx 40	SPA 40		Standard clamping pins Standard clamping pins for form-fit connection of workpieces or devices with a clamping module.	Centering pins	0471151	NSE3 NSE-A3 NSR3 138 NSR 160
	SPB 40			Positioning pins	0471152	
	SPC 40			Holding pins	0471153	
	SPA-X 40		Compensation pins Clamping pins for compensating fluctuations of the bore hole gauges. SPA-X 40 = compensation in all directions of ± 1 mm. SPA-XY 40 = compensation in all directions of ± 1 mm.	Compensation pins	0471155	NSE3 NSE-A3
	SPA-XY 40			Compensation pins	0471156	
	SPG 40		Accuracy pin Clamping pin with patented flex cone with a repeat accuracy of < 0.002 mm	Centering pins	0471154	NSE3 NSE-A3
	SPA-S 40		Dove tail pins Standard clamping pins for form-fit connection of workpieces and devices with clamping modules.	Centering pins	1310630	NSE3 NSE-A3
	SPB-S 40			Positioning pins	1323856	
	SPC-S 40			Holding pins	1323857	
	SPA-OB 40		Clamping pins without centering collar Clamping pin is screwed into the workpiece using a fitting screw. Fitting screw with fitting diameter $\varnothing 8$ mm = ID 0471634 Fitting screw with fitting diameter $\varnothing 10$ mm = ID 0471635	Centering pins	0471631	NSE3 NSE-A3
	SPB-OB 40			Positioning pins	1316935	
	SPC-OB 40			Holding pins	1316936	
	SPA-F 40		Heavy-duty pins Clamping pin with a holding force of 75 kN.	Centering pins	0471171	NSE3 NSE-A3
	SPC-F 40			Holding pins	0471172	
SPx 80	SPA 80-30		Clamping pins NSR maxi Clamping pins for form-fit connection of robot coupling NSR maxi with the corresponding pallet coupling.	Centering pins	0471181	NSR maxi

i4.0

With these electromechanical clamping systems, SCHUNK offers an energy-efficient alternative to pneumatic clamping systems that can be replaced 1:1. The clamping device has a high degree of efficiency. Their supply is always ensured from the base side, and therefore has a low line requirement. Thanks to the integrated electronics, all the main parameters such as clamping force, clamping position and opening position are adjustable.

Base jaws with tongue and groove and fine serration as a double interface

for high flexibility in the field of the jaws

Prepositioning of the jaws

for faster loading and unloading of various workpieces

Drive via piezo-hydraulic drive

ensures almost even pull-down forces on the same installation space as NSE3 clamping modules

Motor drive combination

high reduction ratio for high clamping forces

Unbeatable performance

with identical technological features as fluidic driven quick-change pallet modules on the same installation space

Control via IO-Link

for easy integration into common fieldbus systems

Integrated electronics and actuators

signal processing is exclusively done inside the clamping device

Monitoring pallet presence

via inductive proximity switch possible

Integrated sensor system

without additional interfering contour

Monitoring clamping slide positions

for the statuses "status opened", "status locked" and "status locked without clamping pin"

Control via IO-Link

for easy integration into common fieldbus systems

NEW

VERO-S AFS3 IOL

The new monitoring units AFS3 IOL allow for more transparency during the clamping processes. Via an IO-Link signal the clamping statuses "module opened", "module clamped" and "module clamped without clamping pin", as well as pallet presence can be monitored for the SCHUNK premium modules of the VERO-S NSE3 series. An LED light visualizes the clamping status and offers additional operating safety. The standard AFS3 IOL monitoring units are available for NSE3 99, NSE3 138, NSE3 176 and NSE3 100-75 modules, which are equipped with mounting threads at the circumference by default. This smart interaction of the electronic monitoring system offers safety to the operator that is required for automated clamping of workpieces.



NEW

VERO-S NSE3-PH IOL

The VERO-S NSE3-PH IOL stands for innovation in the field of electric clamping devices with an unbeatable performance. The piezo-hydraulic drive almost achieves the same pull-down forces as with the electro-mechanical quick-change pallet system; and requires the same installation space as fluid-operated clamping devices. The complete actuation functionality as well as the sensor system are fully integrated in the module, and no additional interfering contours are formed. Besides the new type of drive, monitoring of the clamping slide positions and pallet presence control are integrated in the module. The complete data transmission takes place via an IO-Link interface, and the module can be easily integrated into all common fieldbus systems.



NEW

TANDEM KSE3 IOL

Electromechanical clamping devices with IO-Link interface are also available for TANDEM clamping force blocks now. The SCHUNK KSE3 is the first clamping force block to be electrically controlled and is driven via a motor-gearbox combination. Since the complete electronics and actuator technology are integrated in the device, signal processing takes place exclusively inside the clamping device. Special features of the KSE3 clamping force block are the jaw prepositioning option and an adjustable clamping force range of 30 - 100%. Moreover, the clamping device signals when lubrication is required.



Monitoring unit

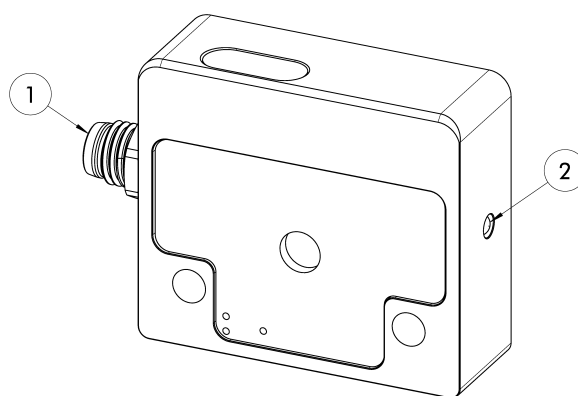
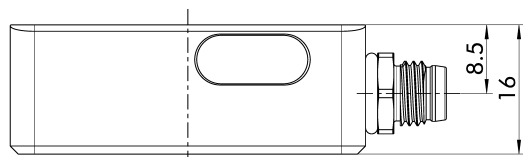
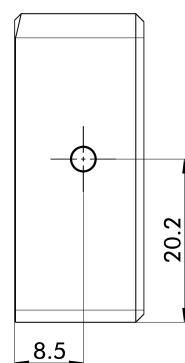
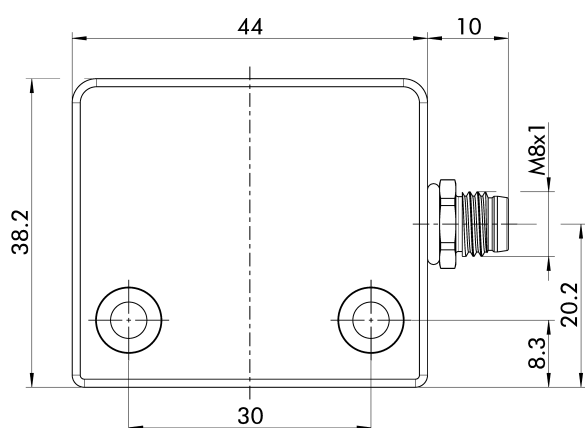
For easy retrofitting to existing NSE3 modules
Integrated monitoring of clamping slide positions and pallet presence via IO-Link

Scope of delivery

Monitoring unit, operating manual

Technical data

Description	ID	Suitable for	Mains voltage [V DC]	Weight [kg]
AFS3 IOL 99	1488904	Module Ø 99	24	0.1
AFS3 IOL 138	1488905	Module Ø 138	24	0.1
AFS3 IOL 176	1536492	Module Ø 176	24	0.1



Subject to technical changes.

① IO-Link interface via screw cap

② Clamping status display via LED

Monitoring unit

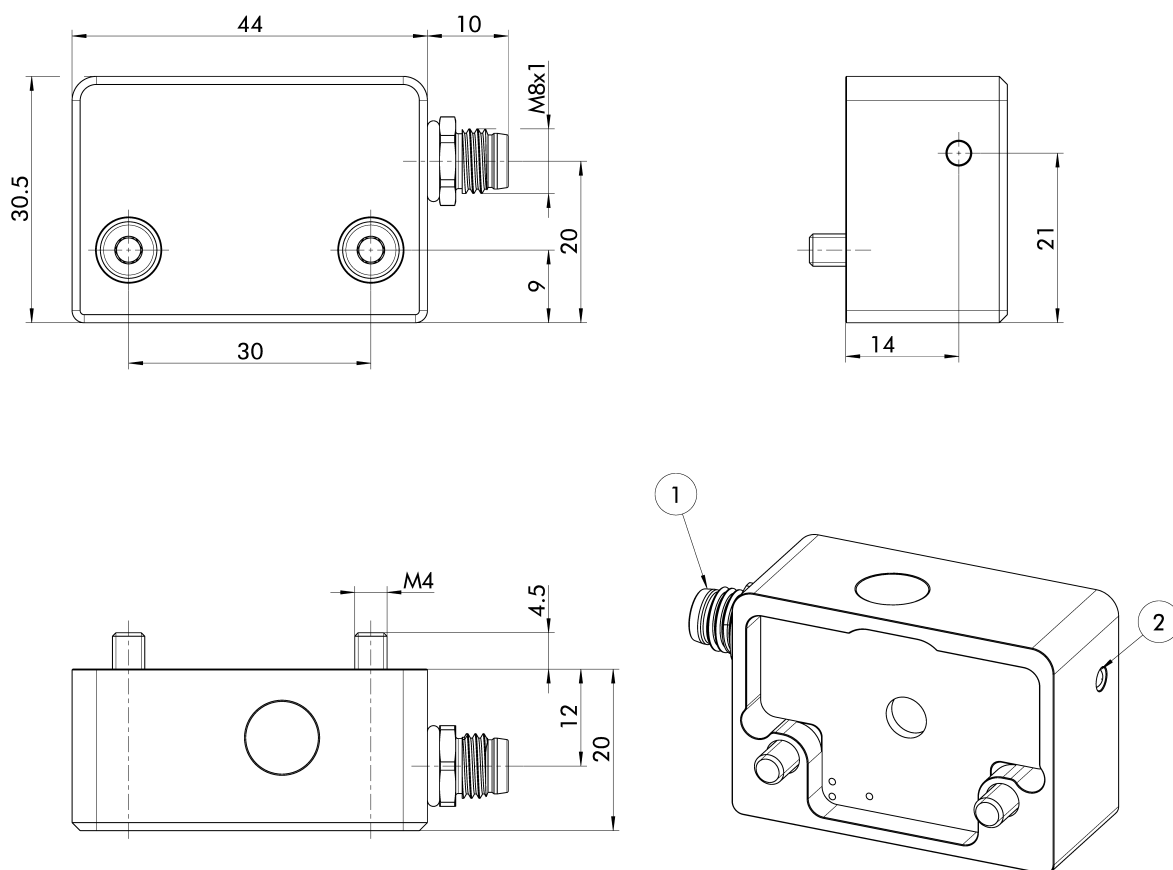
For easy retrofitting to existing NSR3 138 modules
Integrated monitoring of clamping slide positions and pallet presence via IO-Link

Scope of delivery

Monitoring unit, operating manual

Technical data

Description	ID	Suitable for	Mains voltage [V DC]	Weight [kg]
AF53-R IOL 138	1491363	NSR3 138	24	0.1



Subject to technical changes.

① IO-Link interface via screw cap

② Clamping status display via LED

Electromechanical quick-change pallet module

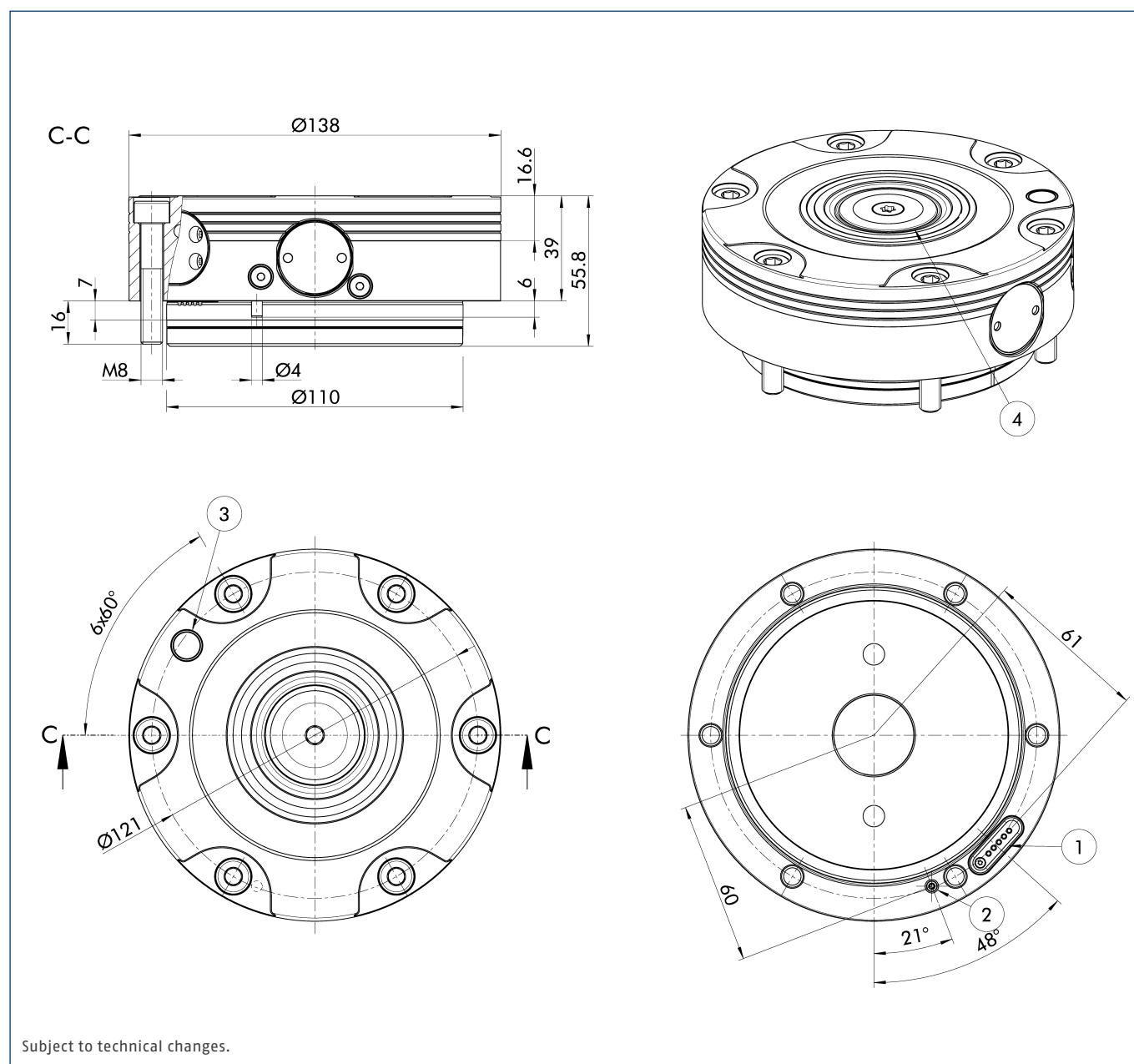
Piezo-hydraulically actuated quick-change pallet module via I0-Link
Integrated monitoring of clamping slide positions and pallet presence via I0-Link
Same installation dimensions as NSE3 138 due to innovative piezo-hydraulic drive

Scope of delivery

Clamping module, mounting screws, O-rings, cover plugs, fixed contact for pallet side, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [kN]	Power absorption [W]	Mains voltage [V DC]	Repeat accuracy [mm]	Closing/opening time [s]	Weight [kg]
NSE3-PH 138 IOL	1515320	28	10	24	< 0.005	2	4.5



- ① I0-Link interface via spring contacts
- ② Positioning pin for correct module alignment

- ③ Proximity switch for pallet presence control
- ④ Optional: Cone seal

Electromechanical quick-change pallet module

Based on NSE mini 90

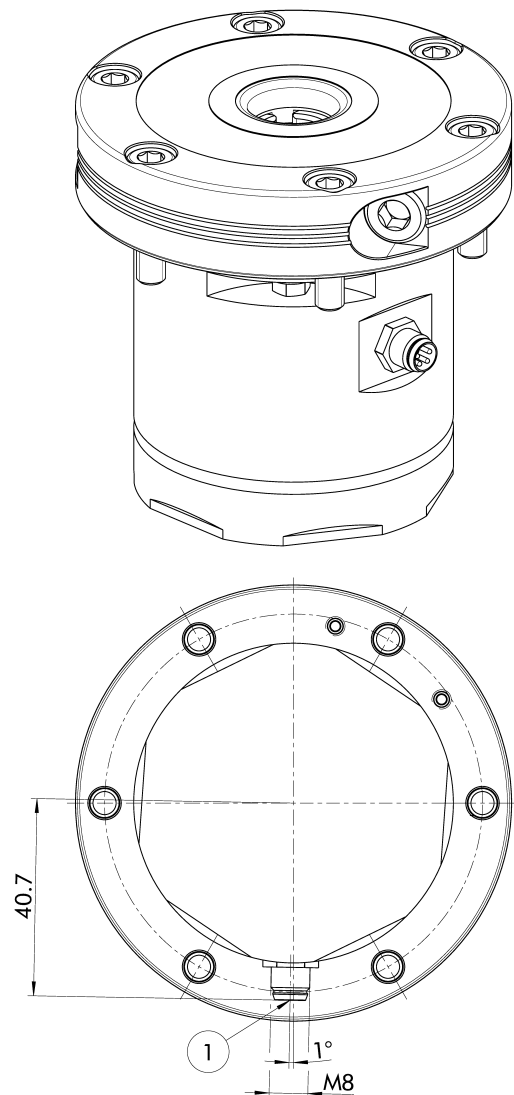
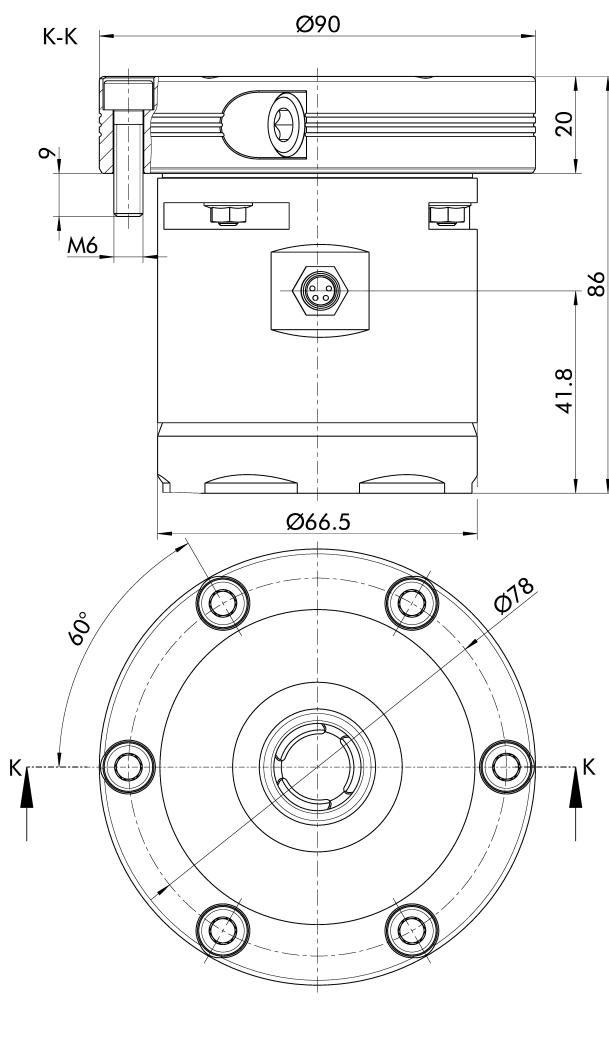
Actuation via 4-PIN connection on the side

Scope of delivery

Clamping module, mounting screws, cover caps, connecting cable, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Power absorption [W]	Repeat accuracy [mm]	Closing/opening time [s]	Weight [kg]
NSE-E mini 90	0435180	1500	30	< 0.005	1	1.7



Subject to technical changes.

① 4-PIN connection for controlling the module

Electromechanical quick-change pallet module

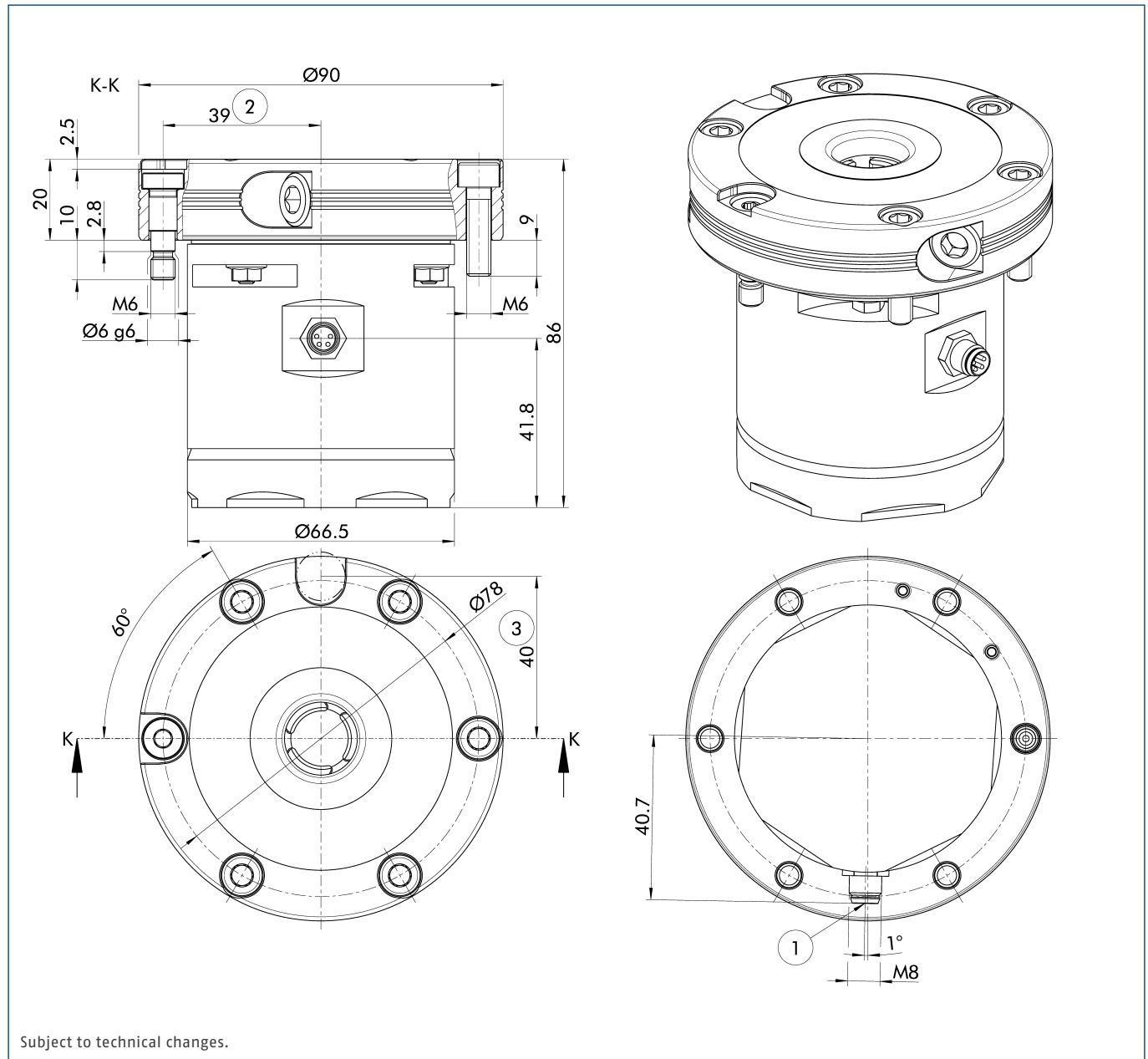
Based on NSE mini 90 with anti-rotation protection V1
Actuation via 4-PIN connection on the side

Scope of delivery

Clamping module, mounting screws, fitting screw, cover caps, connecting cable, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Power absorption [W]	Repeat accuracy [mm]	Closing/opening time [s]	Weight [kg]
NSE-E mini 90-V1	1324403	1500	30	< 0.005	1	1.7



- ① 4-PIN connection for controlling the module
- ② Clearance 39 ±0.01 mm for fitting screw PSC mini V1 (ID 0435921) in the clamping station
- ③ Clearance 40 ±0.01 mm for IXB V1 mini in the clamping pallet

Electromechanical quick-change pallet module

Based on NSE mini 90

Actuation via 4-PIN connection on the side

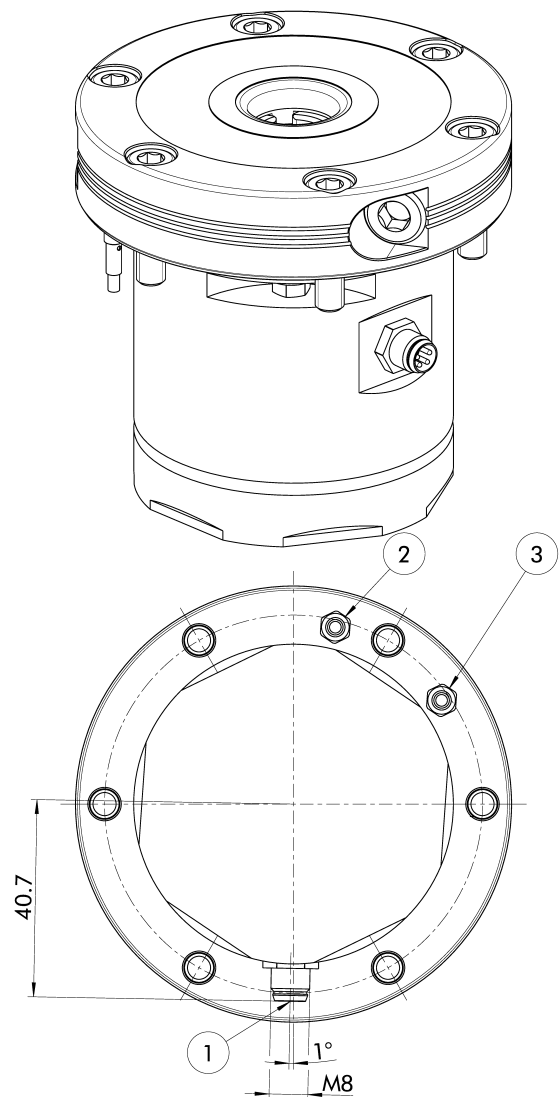
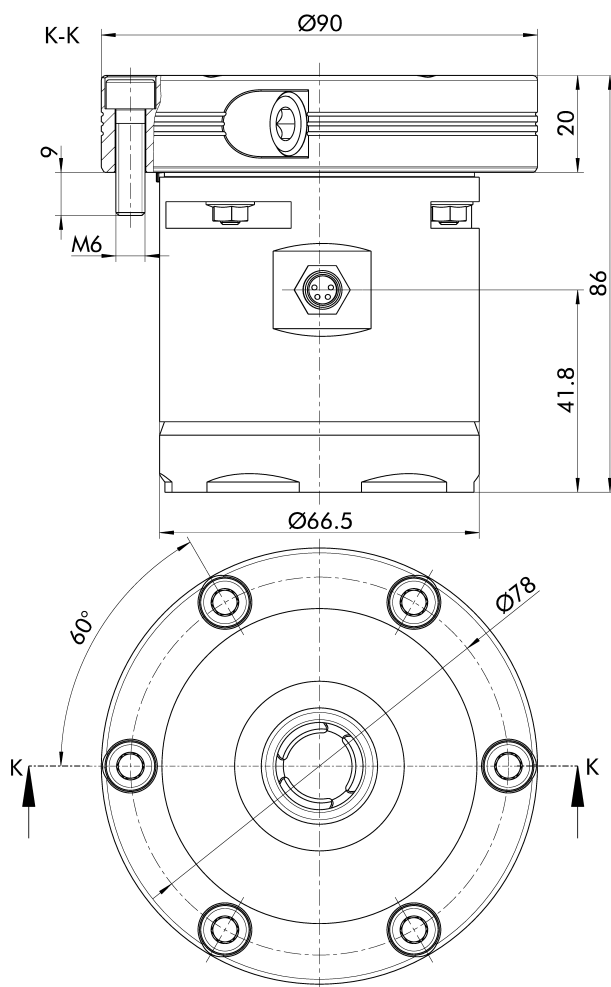
Monitoring of clamping slide positions via inductive proximity switches

Scope of delivery

Clamping module, mounting screws, cover caps, connecting cable, inductive proximity switches, operating manual; without clamping pins

Technical data

Description	ID	Pull-down force [N]	Power absorption [W]	Repeat accuracy [mm]	Closing/opening time [s]	Weight [kg]
NSE-E mini 90-IN	1313264	1500	30	< 0.005	1	1.7



Subject to technical changes.

- ① 4-PIN connection for controlling the module
- ② Monitoring module opened via inductive proximity switch
- ③ Monitoring module closed via inductive proximity switch

Electromechanical quick-change pallet module

Based on NSE mini 90 with anti-rotation protection V1

Actuation via 4-PIN connection on the side

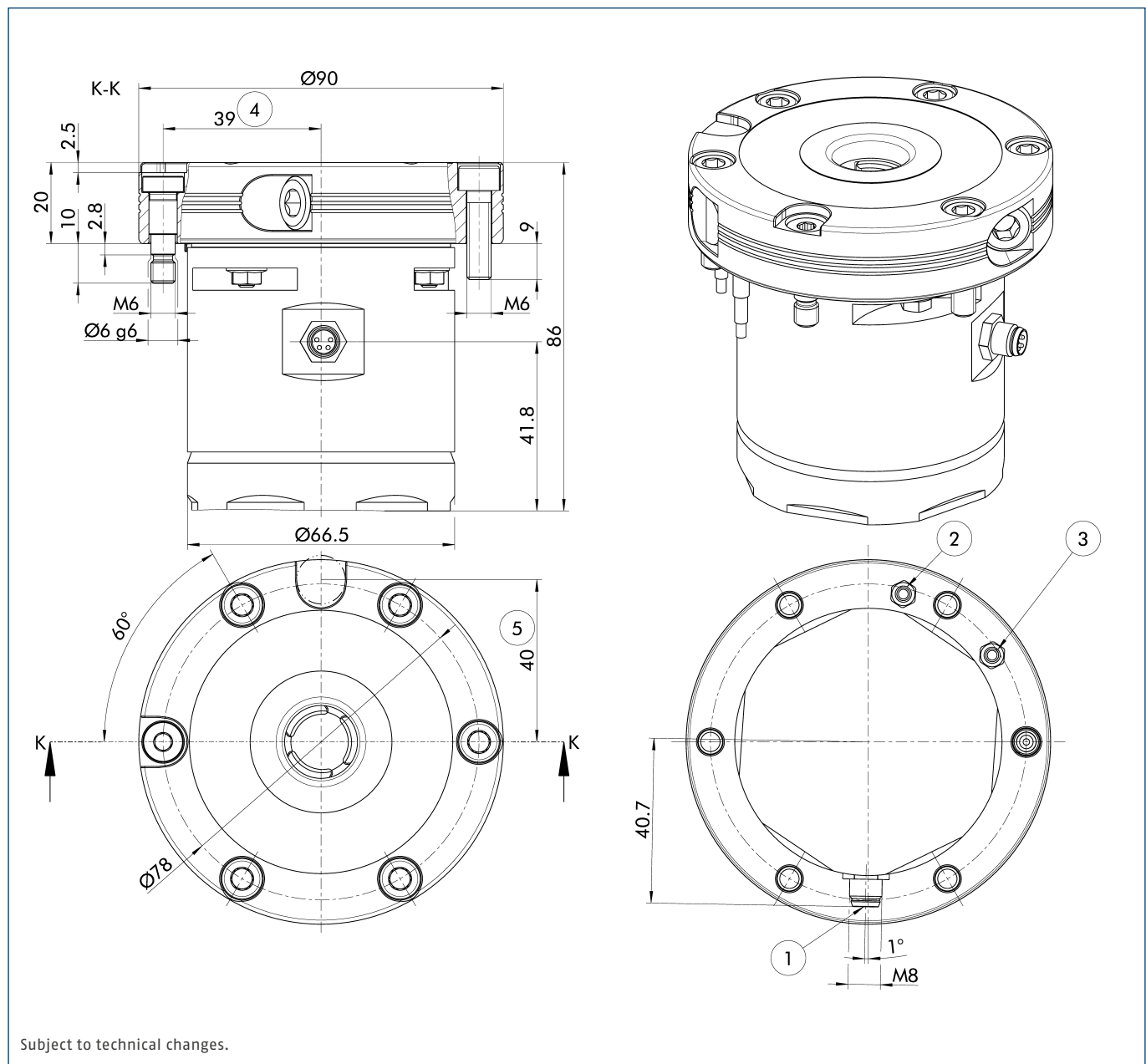
Monitoring of clamping slide positions via inductive proximity switches

Scope of delivery

Clamping module, mounting screws, fitting screw, cover caps, connecting cable, inductive proximity switches, operating manual; without clamping pins, without indexing pins

Technical data

Description	ID	Pull-down force [N]	Power absorption [W]	Repeat accuracy [mm]	Closing/opening time [s]	Weight [kg]
NSE-E mini 90-IN-V1	1324404	1500	30	< 0.005	1	1.7



- ① 4-PIN connection for controlling the module
- ② Monitoring module opened via inductive proximity switch
- ③ Monitoring module closed via inductive proximity switch
- ④ Clearance 39 ±0.01 mm for fitting screw PSC mini V1 (ID 0435921) in the clamping station
- ⑤ Clearance 40 ±0.01 mm for IXB V1 mini in the clamping pallet

Electromechanical 2-jaw clamping force block

Standard stroke, centric clamping

Electrically actuated clamping force block via IOL-Link

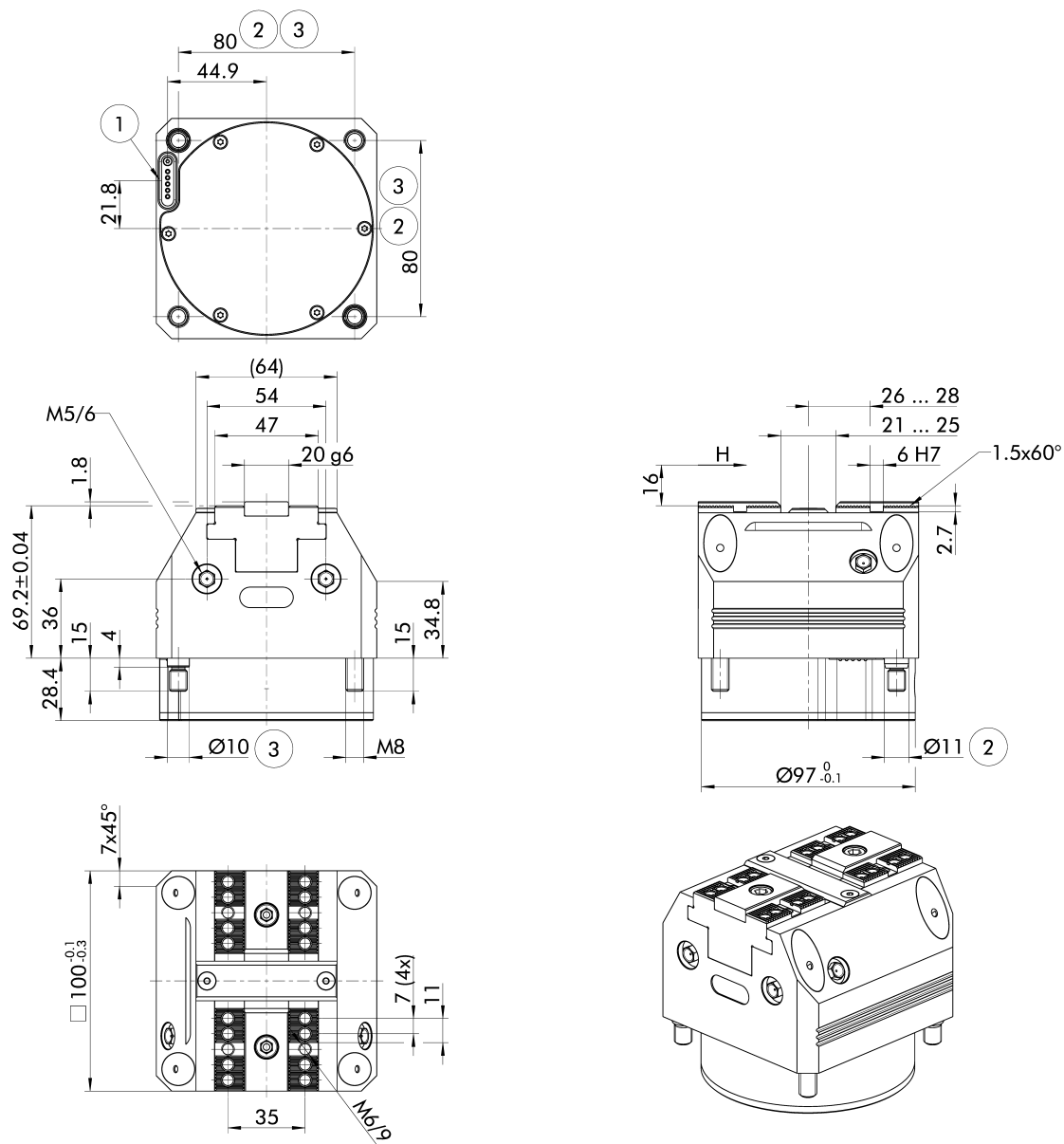
Integrated monitoring of jaw positions and clamping force via IOL-Link

Scope of delivery

Clamping force block, mounting screws for system jaws and clamping force block, cover plugs, fitting screws, clamping sleeves, fixed contact for pallet side, operating manual

Technical data

Description	ID	Stroke/jaw [mm]	Clamping force [kN]	Max. jaw height [mm]	Power absorption [W]	Mains voltage [V DC]	Repeat accuracy [mm]	Closing/opening time [s]	Weight [kg]
KSE3 100 IOL	1357129	2	18	60	50	24	0.01	7	4.5
KSE3-LH 100 IOL	1465897	6	8	120	50	24	0.01	7	4.5



Subject to technical changes.

① IOL-Link interface via spring contacts

② Clamping sleeve ± 0.04 mm to clamping center

③ Fitting screw ± 0.02 mm to clamping center

TANDEM PGS3

TANDEM PGS3 is a compact pneumatic clamping force block for automated metal cutting of small components, offered at an attractive price for the entry into the world of lean automation. Despite its small size, the low-maintenance powerhouse scores points with a long jaw stroke, a remarkable clamping force and high repeat accuracy for precise and efficient clamping.

Base body made of light aluminum

therefore exceptionally flexible in combinations for light processing and easy automation

Ready to use

for easy Plug & Play

Integrated console plate

for direct assembly on machine tables, dividing heads, as well as VERO-S clamping modules

Easy to set up and control

due to lateral air connections – without interfering contour for the machining processes



The clamping force block for the entry into the world of automated machine loading

Flexible and quick set up

Fastening to the machine table – without additional console plate. Via the integrated flange, the TANDEM PGS3 can be directly mounted on the machine table, dividing head, or VERO-S NSL3 150 clamping station. The extremely compact design ensures the greatest possible use of the working space.



Exceptionally flexible in combinations for light processing and easy automation

The TANDEM PGS3 clamping force block – more potential for lightweight robots with a low handling weight



Quickly well prepared: The micro-precise connection between workpiece and machine table

Plug & Play TANDEM PGS3 and VERO-S system

The VERO-S is the basis for flexible and versatile solutions in workpiece clamping. The quick-change pallet system completes your manufacturing process, but also connects the processes and makes them more flexible: Position and clamp the device from the SCHUNK modular system quickly and precisely in the machine – starting with lot size x1. Benefit from the advantages of high-precision clamping technology.

Pneumatic clamping force block

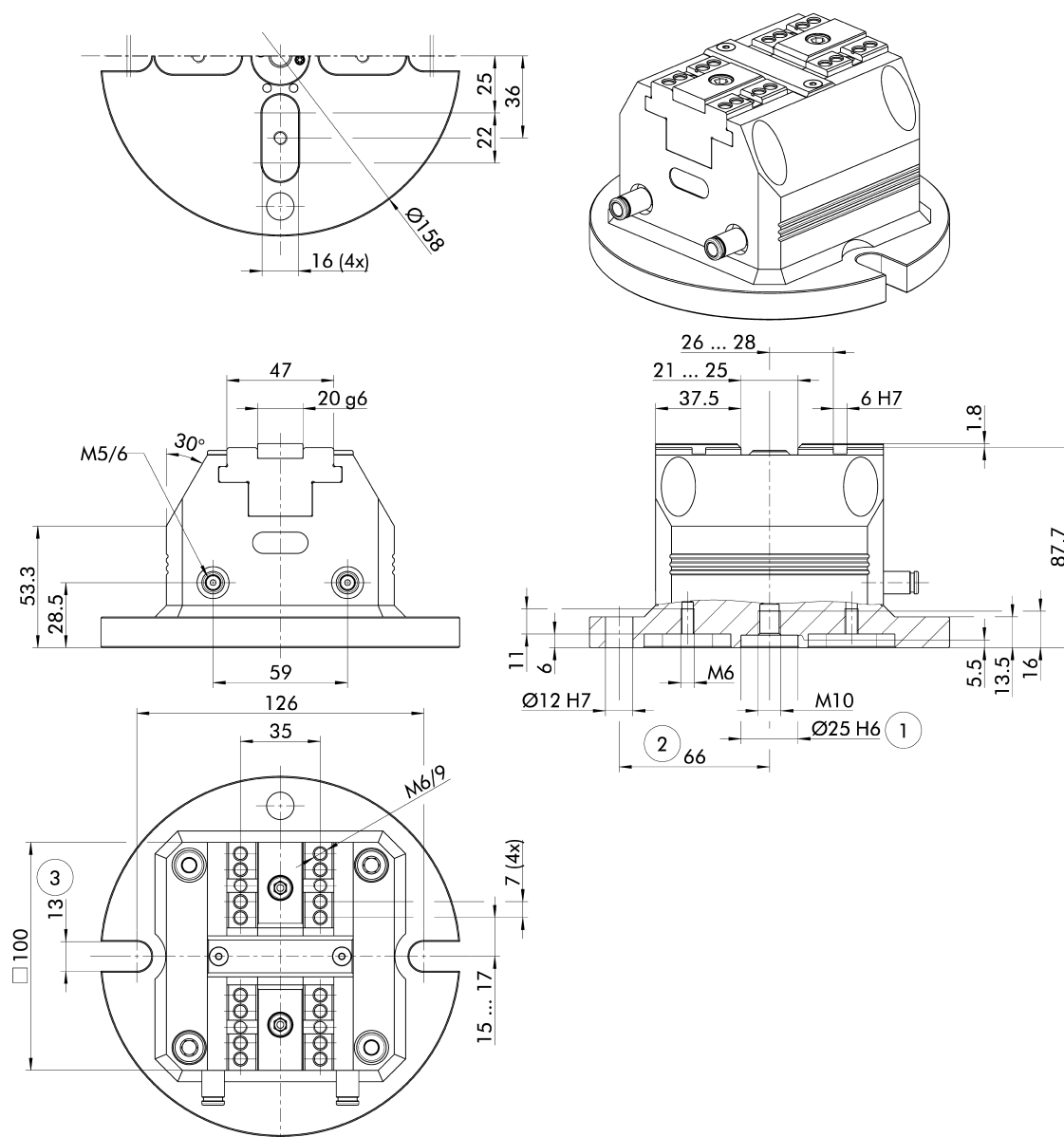
Standard stroke, centric clamping

Scope of delivery

Clamping force block, mounting screws for system jaws, operating manual; without system jaws, without clamping pins, without indexing pins

Technical data

Description	ID	Stroke per jaw [mm]	Clamping force at max. operating pressure [kN]	Operating pressure [bar]	Repeat accuracy [mm]	Max. jaw height [mm]	Air consumption per stroke at 6 bar [cm³]	Weight [kg]
PGS3 100	1446779	2	10	2 - 6	0.01	30	1000	5



Subject to technical changes.

① Prepared for VER0-S clamping pins

② Prepared for indexing pin IXB V1

③ Prepared for M12 screws

Pneumatic clamping force block

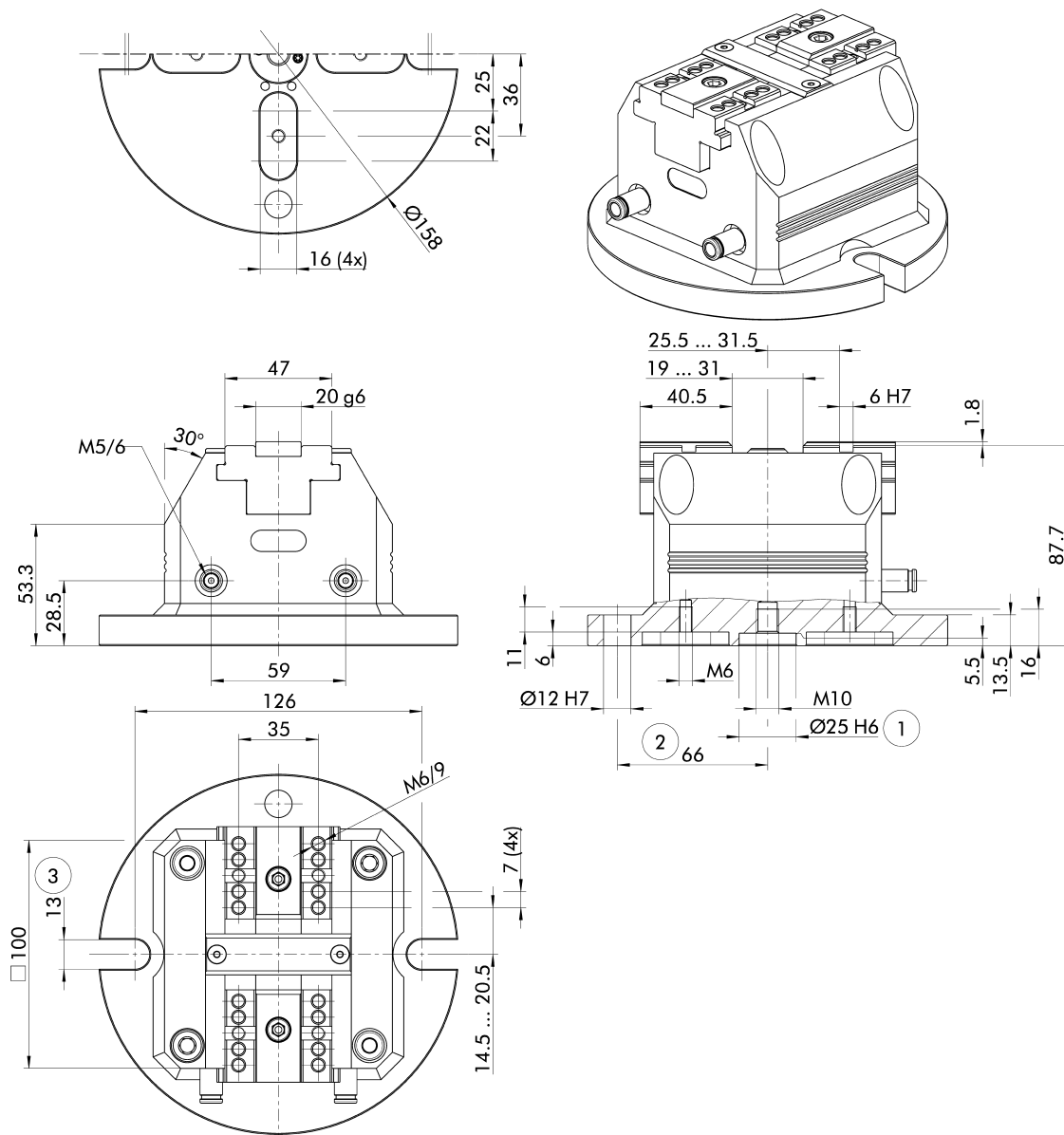
Long stroke, centric clamping

Scope of delivery

Clamping force block, mounting screws for system jaws, operating manual; without system jaws, without clamping pins, without indexing pins

Technical data

Description	ID	Stroke per jaw [mm]	Clamping force at max. operating pressure [kN]	Operating pressure [bar]	Repeat accuracy [mm]	Max. jaw height [mm]	Air consumption per stroke at 6 bar [cm³]	Weight [kg]
PGS3-LH 100	1446791	6	4.5	2 - 6	0.01	45	1000	5



Subject to technical changes.

① Prepared for VER0-S clamping pins

② Prepared for indexing pin IXB V1

③ Prepared for M12 screws

Pneumatic clamping force block

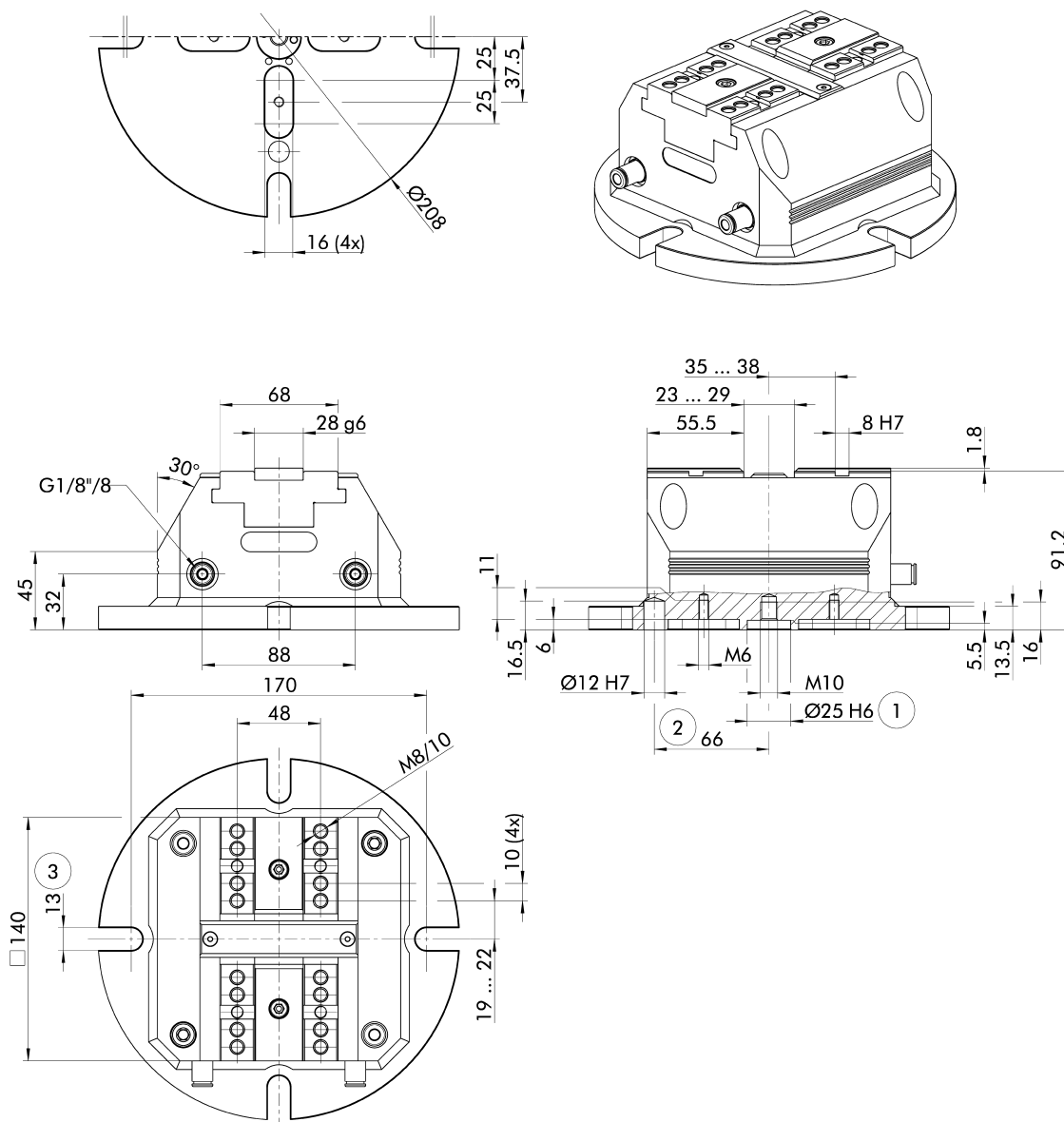
Standard stroke, centric clamping

Scope of delivery

Clamping force block, mounting screws for system jaws, operating manual; without system jaws, without clamping pins, without indexing pins

Technical data

Description	ID	Stroke per jaw	Clamping force at max. operating pressure	Operating pressure	Repeat accuracy	Max. jaw height	Air consumption per stroke at 6 bar	Weight
		[mm]	[kN]	[bar]	[mm]	[mm]	[cm³]	[kg]
PGS3 140	1452817	3	17	2 - 6	0.01	30	2300	8.75



Subject to technical changes.

① Prepared for VER0-S clamping pins

② Prepared for indexing pin IXB V1

③ Prepared for M12 screws

Pneumatic clamping force block

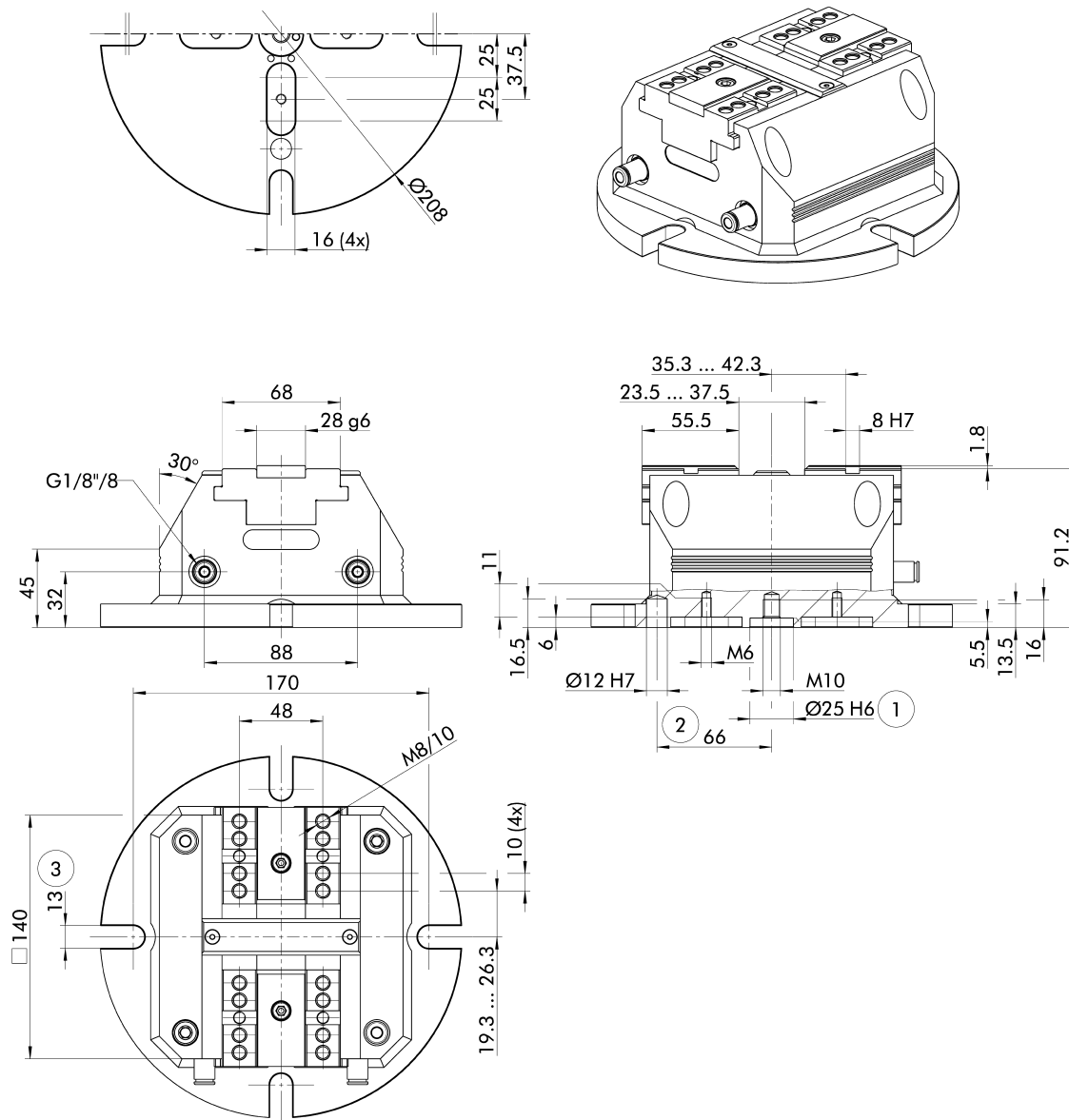
Long stroke, centric clamping

Scope of delivery

Clamping force block, mounting screws for system jaws, operating manual; without system jaws, without clamping pins, without indexing pins

Technical data

Description	ID	Stroke per jaw [mm]	Clamping force at max. operating pressure [kN]	Operating pressure [bar]	Repeat accuracy [mm]	Max. jaw height [mm]	Air consumption per stroke at 6 bar [cm³]	Weight [kg]
PGS3-LH 140	1452818	7	8.5	2 - 6	0.01	45	2300	8.75



Subject to technical changes.

① Prepared for VER0-S clamping pins

② Prepared for indexing pin IXB V1

③ Prepared for M12 screws

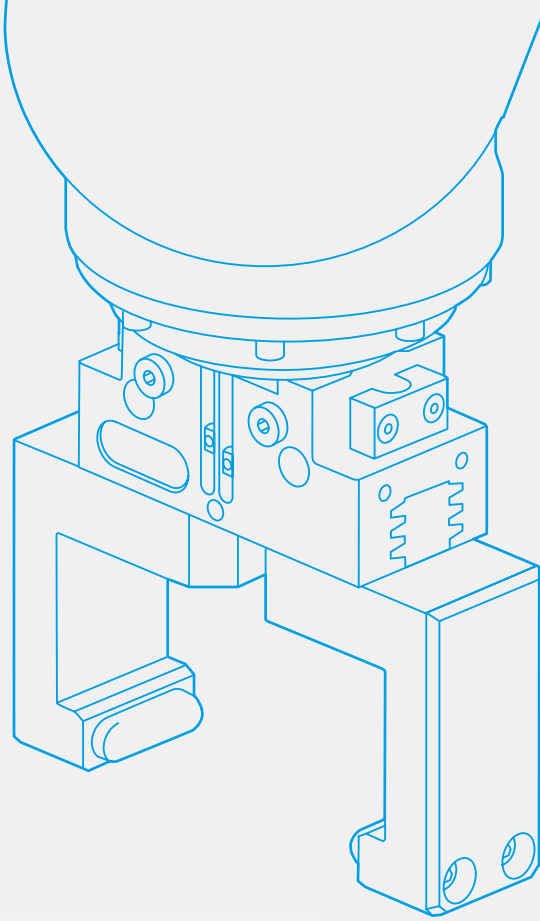
TANDEM KSP3-BWA for rapid adjustment to new clamping tasks

Pneumatically actuated 3rd generation 2-jaw clamping force blocks in a compact design with jaw quick-change system for extremely fast adaptation to new clamping tasks



Manual jaw change
The jaw quick-change system enables five times faster changes compared to conventional jaw changes.





Compact powerhouses

TANDEM KSP3 stands for powerful, pneumatically actuated clamping force blocks, which allow an extremely wide range of applications – whenever pneumatics is available on the machine.

Thanks to the jaw quick-change system the jaws can be exchanged manually or automatically via a robot within seconds – entirely without tools! This leads to an enormous reduction in set-up time, both in the 2-jaw version and in the soon-to-be-available 3-jaw version.

Integrated monitoring options as standard round off these vises and are absolutely groundbreaking, especially in terms of automation.

Automated jaw change
Unlocking of interchangeable inserts can be done fully automatic.



NEW

TANDEM KRP3-BWA **3-jaw clamping force block** **with jaw quick-change**

For cylindrical workpieces and low-deformation clamping, a 3-jaw version will also be available soon.

TANDEM KSP3-BWA

Pneumatic clamping force blocks with jaw quick-change

Why TANDEM BWA? It's time and cost saving!

Competitiveness through maximum flexibility and shortest response times

SEE

Clamping insert

6-way reversible clamping insert
for TANDEM reversal jaw WTG-A

WTR-A

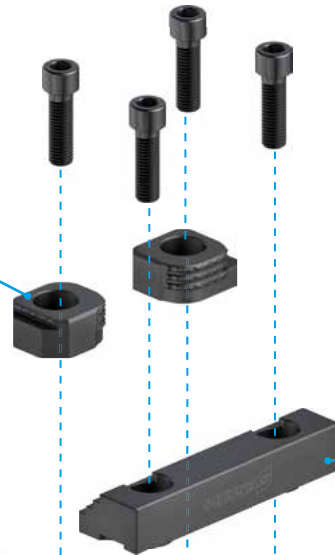
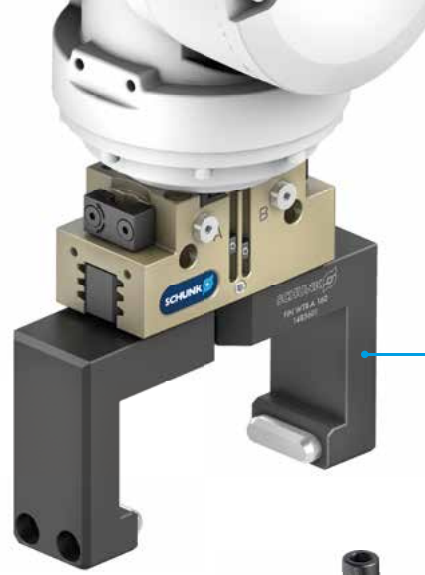
Quick-change jaw

The quick-change jaws WTR-A correspond to a top jaw blank. The clamping contour can be individually adjusted. The clamping step can be milled within a defined working surface.

KSP3-BWA

Clamping force block

Pneumatically actuated 2-jaw clamping force blocks with jaw quick-change system for extremely fast adaptation to new clamping tasks. The clamping force blocks are currently available with standard stroke or long stroke.



FIN WTR-A

Gripper finger

For automated handling of the WTR-A and WTG-A quick-change jaws, gripper fingers with spring-loaded compensation pieces are provided. These are designed for SCHUNK parallel grippers.

STG

Clamping bar

Hardened clamping bar with three clamping steps.

WTG-A

Quick-change jaw

The quick-change jaw WTG-A is a version for clamping raw parts. Suitable accessories for adapting the workpiece clamping can be attached via grid holes.



You can find more
info in our
TANDEM3 video

Automated change process



Step 1:

Changing jaw during insertion in changing interface (teach marks for positioning WTR-A and gripper finger)



Step 2:

WTR-A mounted, pre-centering with transverse clearance ± 0.6 mm



Step 3:

WTR-A interface inserted and is centered transverse to the clamping direction (sealed at sides)

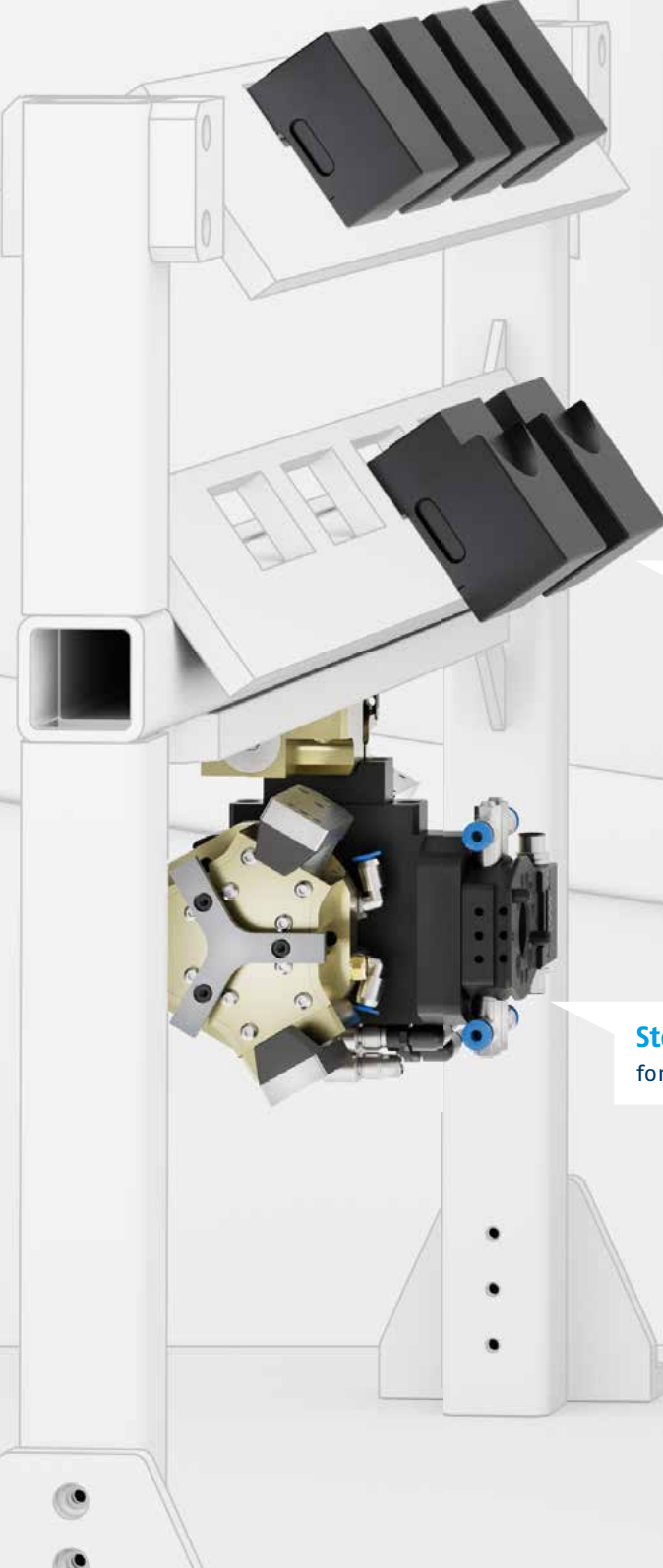


Step 4:

Gripper fingers on both sides with floating spring mounting. Clearance for clamping bar STG to WTG-A

The impetus for flexibility, ergonomics, and future-proofing

- Tool-free jaw quick-change
- Base jaw monitoring
- Media transfer
- Sealing air holes at the jaw change interface



Storage system
for quick-change jaws

Storage system
for grippers

Gripping unit

with gripper finger
FIN WTR-A and
SCHUNK universal gripper
PGN-plus-P

WTR-A

Quick-change jaw

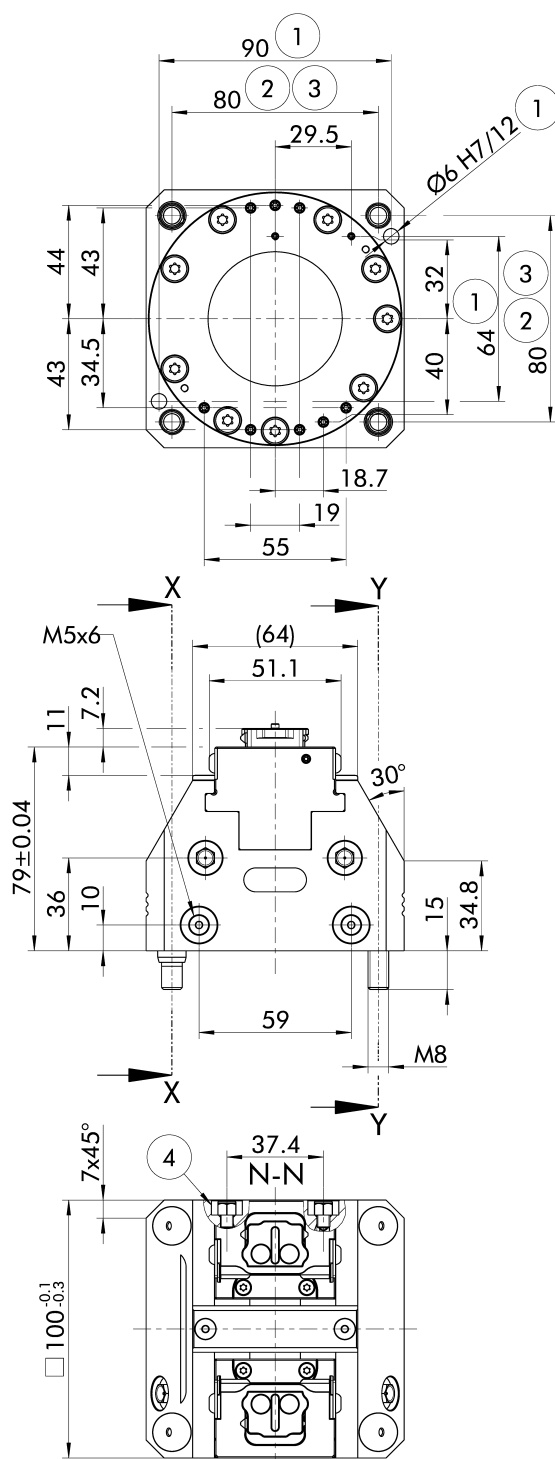
TANDEM KSP3-BWA

Clamping force block

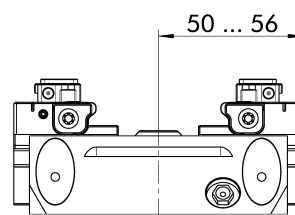
KSL3

Console plate

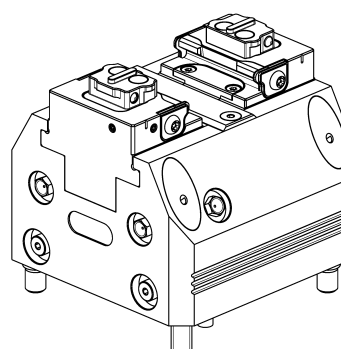
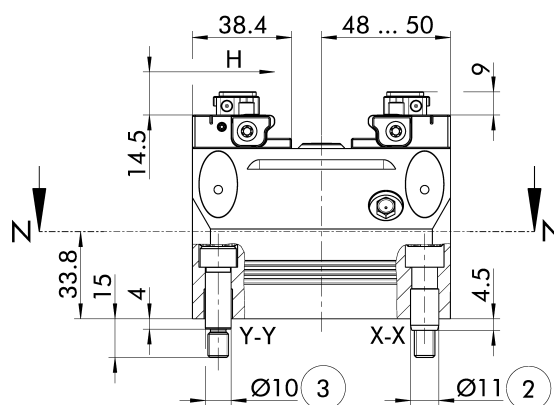
Storage system
for workpieces



KSP3-LH-BWA



KSP3-BWA



For the designation of the bottom connections, see installation drawing.
Subject to technical changes

- ① Z-variant ± 0.01 mm to the clamping center
- ② Clamping sleeve ± 0.04 mm to the clamping center

- ③ Fitting screw ± 0.02 mm to the clamping center
- ④ Connection M5 for air purge

Technical data

Description	ID	Jig-machined positioning bores	Clamping force amplification for O.D. clamping	Pneumatic monitoring	Clamping force [kN]	Additional clamping force resulting from spring assembly [kN]	Operating pressure [bar]
KSP3 100-BWA	1479153			●	18		2 – 9
KSP3 100-Z-BWA	1479154	●		●	18		2 – 9
KSP3 100-AS-BWA	1479155		●	●	18	2.5 – 6.5	3 – 9
KSP3 100-Z-AS-BWA	1479156	●	●	●	18	2.5 – 6.5	3 – 9
KSP3-LH 100-BWA	1479158			●	8		2 – 9
KSP3-LH 100-Z-BWA	1479159	●		●	8		2 – 9
KSP3-LH 100-AS-BWA	1479160		●	●	8	1 – 2.5	3 – 9
KSP3-LH 100-Z-AS-BWA	1479161	●	●	●	8	1 – 2.5	3 – 9

Scope of delivery

Clamping force block, mounting screws, cover plugs, clamping sleeves, fitting screws, operating manual

Definition of clamping force

The clamping force is the arithmetic sum of the individual forces occurring at the chuck jaws at distance "H" at maximum pressure.

Definition of clamping force increase due to spring assembly

The increase in clamping force caused by the spring assembly depends on the stroke because of the spring tension. Max. spring force is reached in the "open" condition, min. spring force in the "closed" condition.

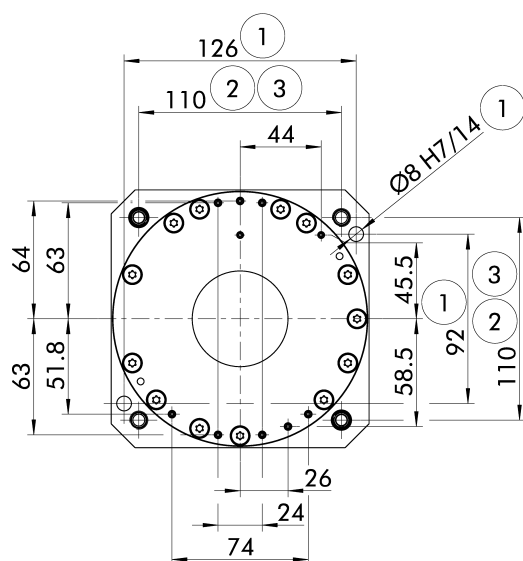
Repeat accuracy of the jaw change

The repeat accuracy in the jaw interface when exchanging the quick-change jaws is 0.01 mm in clamping direction.

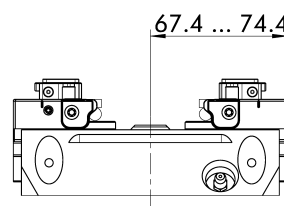
The specifications exclusively refer to the LP 410 grease used by SCHUNK.

Further technical data

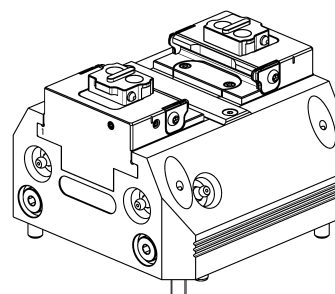
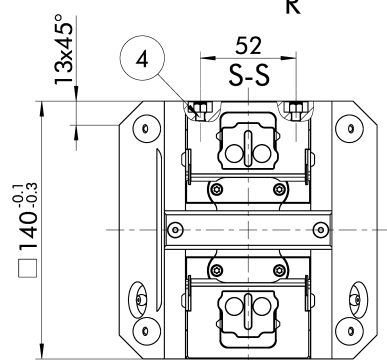
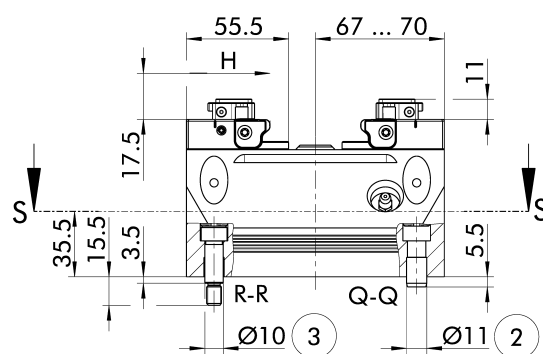
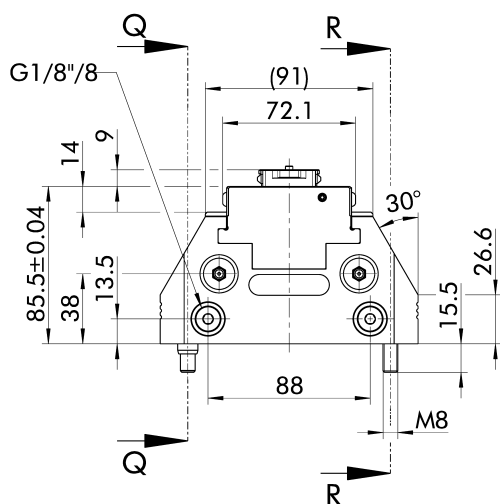
Description	Stroke version	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Air consumption per double stroke at 6 bar [cm³]	Closing/opening time [s]	Weight [kg]
KSP3 100 ...	Standard stroke	2	27	0.01	1000	0.2	4
KSP3-LH 100 ...	Long stroke	6	27	0.01	1000	0.2	4



KSP3-LH-BWA



KSP3-BWA



For the designation of the bottom connections, see installation drawing.
Subject to technical changes.

- ① Z-variant ± 0.01 mm to the clamping center
- ② Clamping sleeve ± 0.04 mm to the clamping center

- ③ Fitting screw ± 0.02 mm to the clamping center
- ④ Connection M5 for air purge

Technical data

Description	ID	Jig-machined positioning bores	Clamping force amplification for O.D. clamping	Pneumatic monitoring	Clamping force [kN]	Additional clamping force resulting from spring assembly [kN]	Operating pressure [bar]
KSP3 140-BWA	1479191			●	30		2 – 9
KSP3 140-Z-BWA	1479192	●		●	30		2 – 9
KSP3 140-AS-BWA	1479193		●	●	30	4.5 – 9	3 – 9
KSP3 140-Z-AS-BWA	1479194	●	●	●	30	4.5 – 9	3 – 9
KSP3-LH 140-BWA	1479196			●	15		2 – 9
KSP3-LH 140-Z-BWA	1479197	●		●	15		2 – 9
KSP3-LH 140-AS-BWA	1479198		●	●	15	2 – 4	3 – 9
KSP3-LH 140-Z-AS-BWA	1479199	●	●	●	15	2 – 4	3 – 9

Scope of delivery

Clamping force block, mounting screws, cover plugs, clamping sleeves, fitting screws, operating manual

Definition of clamping force

The clamping force is the arithmetic sum of the individual forces occurring at the chuck jaws at distance "H" at maximum pressure.

Definition of clamping force increase due to spring assembly

The increase in clamping force caused by the spring assembly depends on the stroke because of the spring tension. Max. spring force is reached in the "open" condition, min. spring force in the "closed" condition.

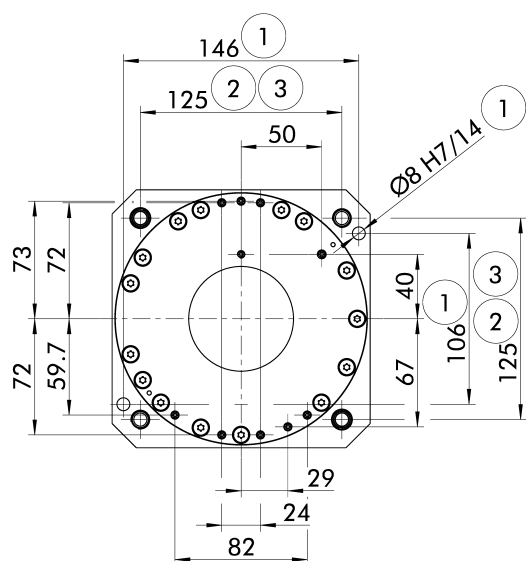
Repeat accuracy of the jaw change

The repeat accuracy in the jaw interface when exchanging the quick-change jaws is 0.01 mm in clamping direction.

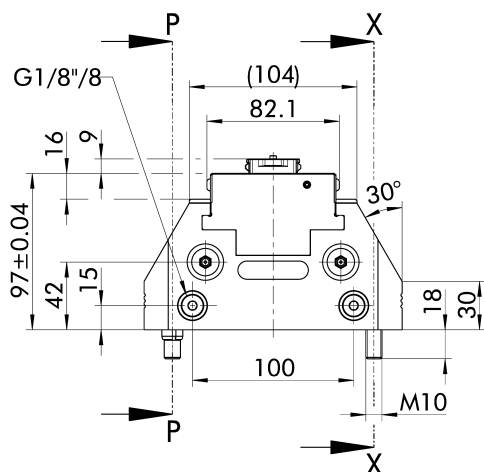
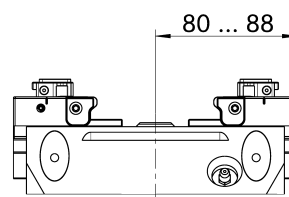
The specifications exclusively refer to the LP 410 grease used by SCHUNK.

Further technical data

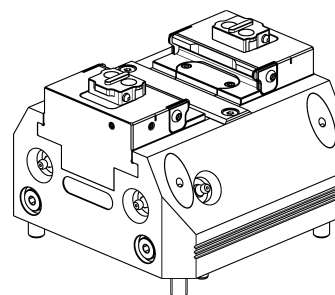
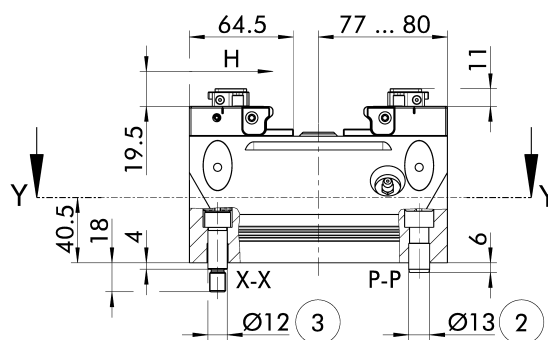
Description	Stroke version	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Air consumption per double stroke at 6 bar [cm³]	Closing/opening time [s]	Weight [kg]
KSP3 140 ...	Standard stroke	3	33	0.01	2300	0.3	8
KSP3-LH 140 ...	Long stroke	7	33	0.01	2300	0.3	8



KSP3-LH-BWA



KSP3-BWA



For the designation of the bottom connections, see installation drawing.
Subject to technical changes.

- ① Z-variant ± 0.01 mm to the clamping center
- ② Clamping sleeve ± 0.04 mm to the clamping center

- ③ Fitting screw ± 0.02 mm to the clamping center
- ④ Connection M5 for air purge

Technical data

Description	ID	Jig-machined positioning bores	Clamping force amplification for O.D. clamping	Pneumatic monitoring	Clamping force [kN]	Additional clamping force resulting from spring assembly [kN]	Operating pressure [bar]
KSP3 160-BWA	1479243			●	45		2 – 9
KSP3 160-Z-BWA	1479244	●		●	45		2 – 9
KSP3 160-AS-BWA	1479245		●	●	45	5.5 – 11	3 – 9
KSP3 160-Z-AS-BWA	1479246	●	●	●	45	5.5 – 11	3 – 9
KSP3-LH 160-BWA	1479262			●	20		2 – 9
KSP3-LH 160-Z-BWA	1479263	●		●	20		2 – 9
KSP3-LH 160-AS-BWA	1479264		●	●	20	2 – 4.5	3 – 9
KSP3-LH 160-Z-AS-BWA	1479265	●	●	●	20	2 – 4.5	3 – 9

Scope of delivery

Clamping force block, mounting screws, cover plugs, clamping sleeves, fitting screws, operating manual

Definition of clamping force

The clamping force is the arithmetic sum of the individual forces occurring at the chuck jaws at distance "H" at maximum pressure.

Definition of clamping force increase due to spring assembly

The increase in clamping force caused by the spring assembly depends on the stroke because of the spring tension. Max. spring force is reached in the "open" condition, min. spring force in the "closed" condition.

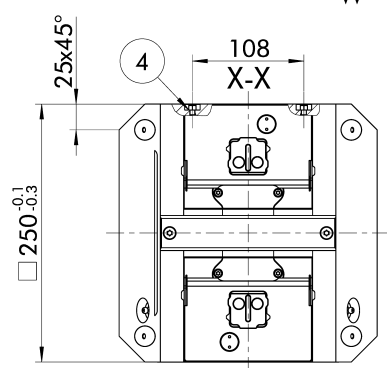
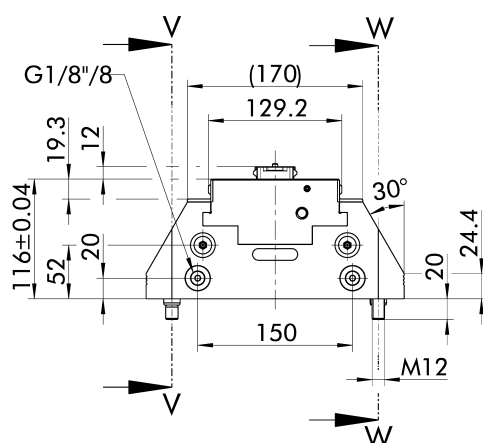
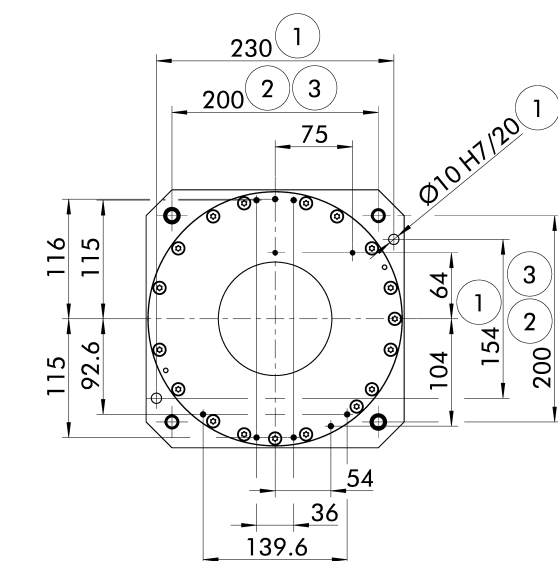
Repeat accuracy of the jaw change

The repeat accuracy in the jaw interface when exchanging the quick-change jaws is 0.01 mm in clamping direction.

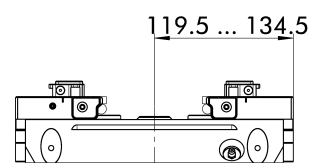
The specifications exclusively refer to the LP 410 grease used by SCHUNK.

Further technical data

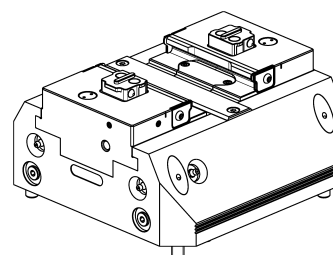
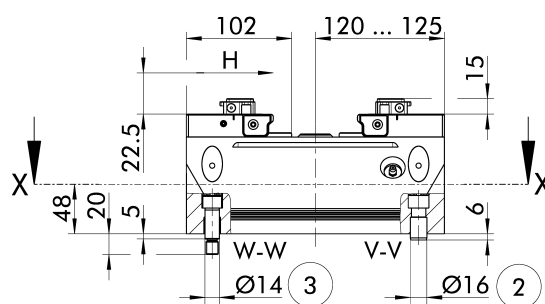
Description	Stroke version	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Air consumption per double stroke at 6 bar [cm³]	Closing/opening time [s]	Weight [kg]
KSP3 160 ...	Standard stroke	3	41	0.01	3400	0.4	11.5
KSP3-LH 160 ...	Long stroke	8	41	0.01	3400	0.4	11.5



KSP3-LH-BWA



KSP3-BWA



For the designation of the bottom connections, see installation drawing.
Subject to technical changes.

- | | |
|--|--|
| ① Z-variant ± 0.01 mm to the clamping center | ③ Fitting screw ± 0.02 mm to the clamping center |
| ② Clamping sleeve ± 0.04 mm to the clamping center | ④ Connection M5 for air purge |

Technical data

Description	ID	Jig-machined positioning bores	Clamping force amplification for O.D. clamping	Pneumatic monitoring	Clamping force [kN]	Additional clamping force resulting from spring assembly [kN]	Operating pressure [bar]
KSP3 250-BWA	1479282			●	55		2 – 6
KSP3 250-Z-BWA	1479283	●		●	55		2 – 6
KSP3 250-AS-BWA	1479284		●	●	55	10.5 – 20	3 – 6
KSP3 250-Z-AS-BWA	1479285	●	●	●	55	10.5 – 20	3 – 6
KSP3-LH 250-BWA	1479288			●	20		2 – 6
KSP3-LH 250-Z-BWA	1479289	●		●	20		2 – 6
KSP3-LH 250-AS-BWA	1479290		●	●	20	3.5 – 7	3 – 6
KSP3-LH 250-Z-AS-BWA	1479291	●	●	●	20	3.5 – 7	3 – 6

Scope of delivery

Clamping force block, mounting screws, cover plugs, clamping sleeves, fitting screws, operating manual

Definition of clamping force

The clamping force is the arithmetic sum of the individual forces occurring at the chuck jaws at distance "H" at maximum pressure.

Definition of clamping force increase due to spring assembly

The increase in clamping force caused by the spring assembly depends on the stroke because of the spring tension. Max. spring force is reached in the "open" condition, min. spring force in the "closed" condition.

Repeat accuracy of the jaw change

The repeat accuracy in the jaw interface when exchanging the quick-change jaws is 0.01 mm in clamping direction.

The specifications exclusively refer to the LP 410 grease used by SCHUNK.

Further technical data

Description	Stroke version	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Air consumption per double stroke at 6 bar [cm³]	Closing/opening time [s]	Weight [kg]
KSP3 250 ...	Standard stroke	5	52	0.02	9100	1.6	34.5
KSP3-LH 250 ...	Long stroke	15	52	0.02	9100	1.6	34.5

Quick-change jaw

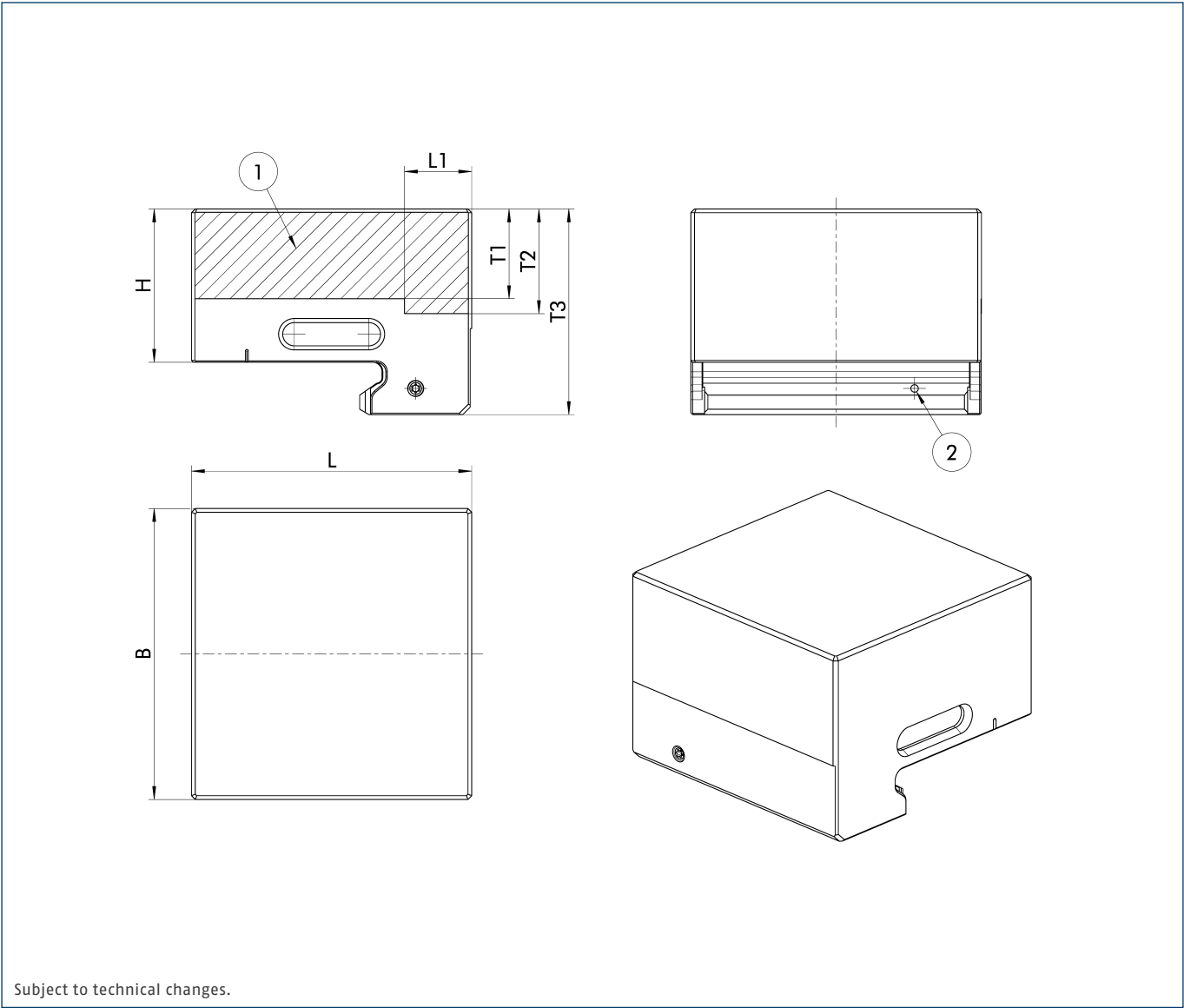
Top jaw blanks with jaw quick-change interface BWA for customer rework.
1 set = 2 pieces

Scope of delivery

Quick-change jaws

Technical data

ID	Suitable for	L [mm]	W [mm]	H [mm]	L1 [mm]	T1 [mm]	T2 [mm]	T3 [mm]
1479313	100	46.4	46.8	27		15		36
1479314	140	65	67.8	33	15	18	22	45
1479315	160	75	77.8	41	18	24	28	55
1479316	250	118	124.8	52	30	32	38	70



- ① Work surface ② Air transfer in the system jaw

Quick-change jaw

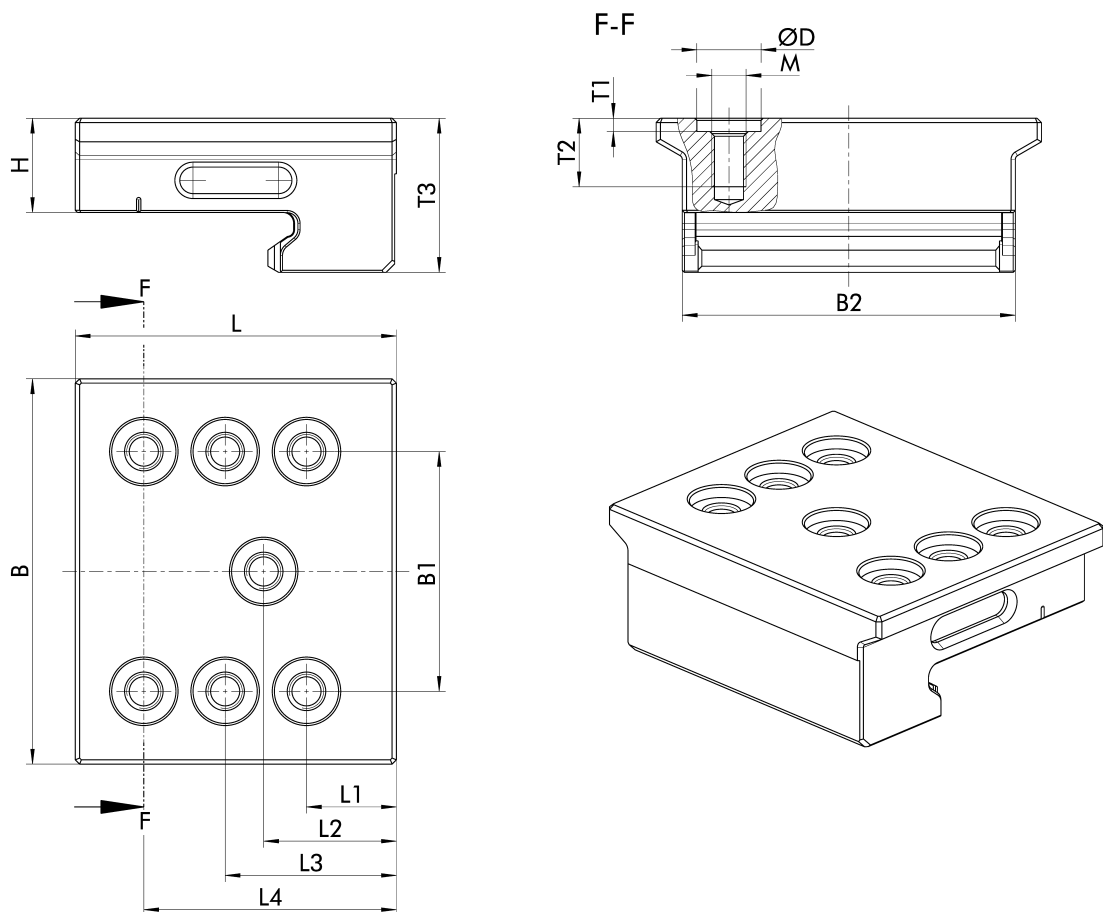
Top jaw blanks with jaw quick-change interface BWA and prefabricated mounting threads for SEI clamping inserts.
1 set = 2 pieces

Scope of delivery

Quick-change jaws

Technical data

ID	Suitable for	L [mm]	W [mm]	H [mm]	D [mm]	B1 [mm]	B2 [mm]	G	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	T1 [mm]	T2 [mm]	T3 [mm]
1479317	100	46.4	55	16	10	34	46.8	M6	11.4	15.4	24.4	37.4	2.1	11	25
1479318	140	65	80	20	15	46	67.8	M8	15	22	32	49	3.1	16	32
1479319	160	75	90	22	15	56	77.8	M8	21	31.5	40	59	3.1	16	36
1479320	250	118	140	28	20	96	124.8	M10	37	43	67	97	4.1	21	46



Subject to technical changes.

Gripper finger

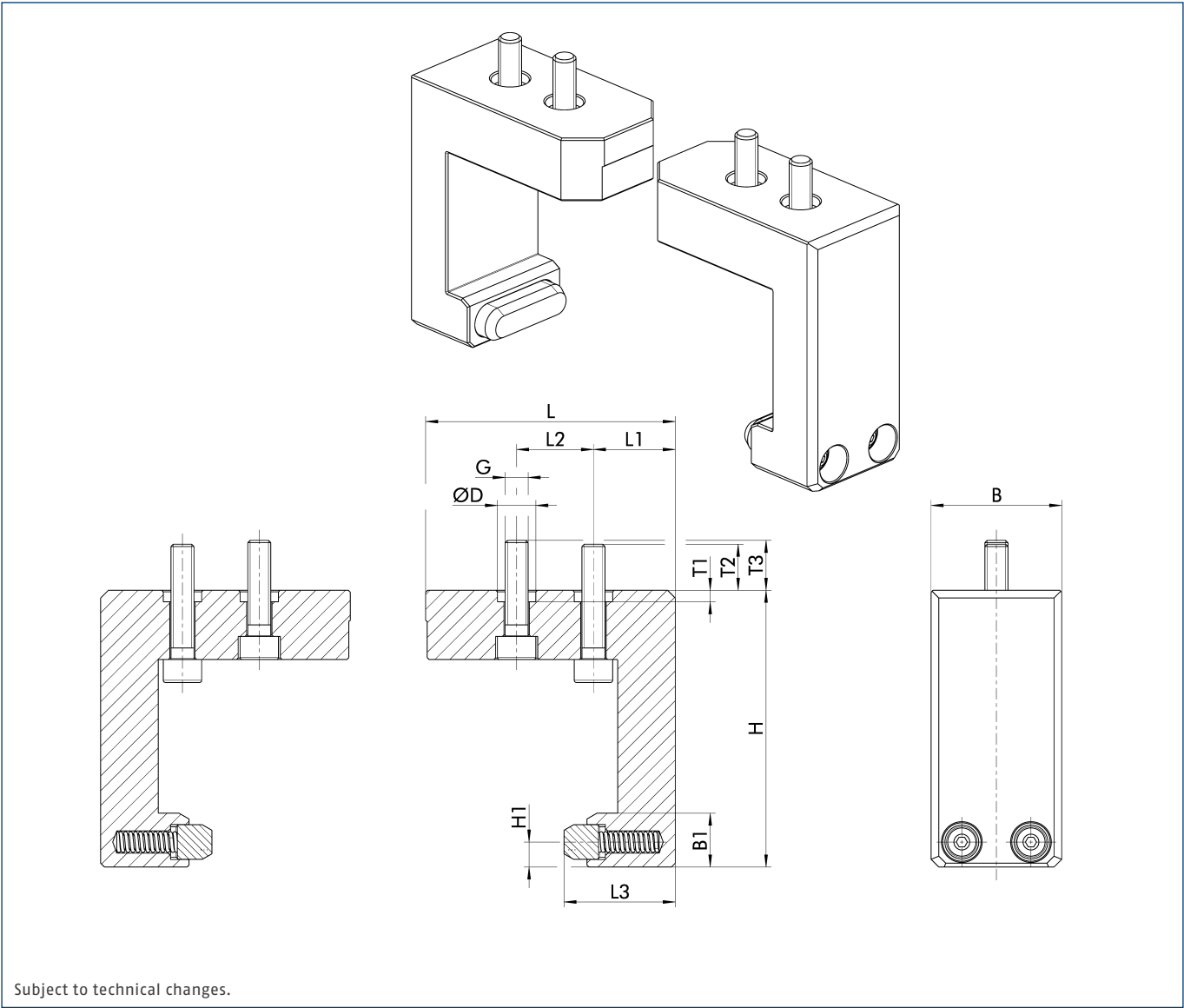
Gripper fingers specifically designed to clamp the WTR-A and WTG-A quick-change jaws.
Suitable for parallel gripper series PGN-plus and PGN-plus-P.

Scope of delivery

Gripper finger

Technical data

ID	Suitable for	L [mm]	W [mm]	H [mm]	D (H7) [mm]	B1 [mm]	G	L1 [mm]	L2 [mm]	L3 [mm]	T1 [mm]	T2 [mm]	T3 [mm]
1485599	100	44	32	50	8	11.5	M5	9	16	21.5 – 23	2.5	11	11
1485600	140	65	34	64	10	14	M6	21.3	20	32.3 – 34	3	12	13
1485601	160	65	34	72	10	14	M6	21.3	20	27.3 – 29	3	12	13
1485602	250	89	42	86	10	16	M6	33	24	27.7 – 29.5	3	13	13



The PGN-plus-P universal gripper

Universal 2-finger parallel gripper with permanent lubrication, high gripping force, and high maximum moments due to the use of a multi-tooth guidance

Up to 50% higher gripping force

with the increased surface area of the drive piston.

Up to 50% longer gripper fingers

The higher maximum moment of the multi-tooth guidance enables the use of longer gripper fingers.

Variety in accessories

A broad range of high-quality accessory components and suitable sensors.



Technical data

Size	Stroke per finger [mm]	Gripping force [N]	Max. permissible finger length [mm]	Recommended workpiece weight [kg]	Hub 2	AS/IS	SD	K	P	V	EX
PGN-plus P 80	8	540	125	5.5	•	•	•	•	•	•	•
PGN-plus P 100	10	870	160	8.75	•	•	•	•	•	•	•
PGN-plus P 125	13	1400	200	15	•	•	•	•	•	•	•

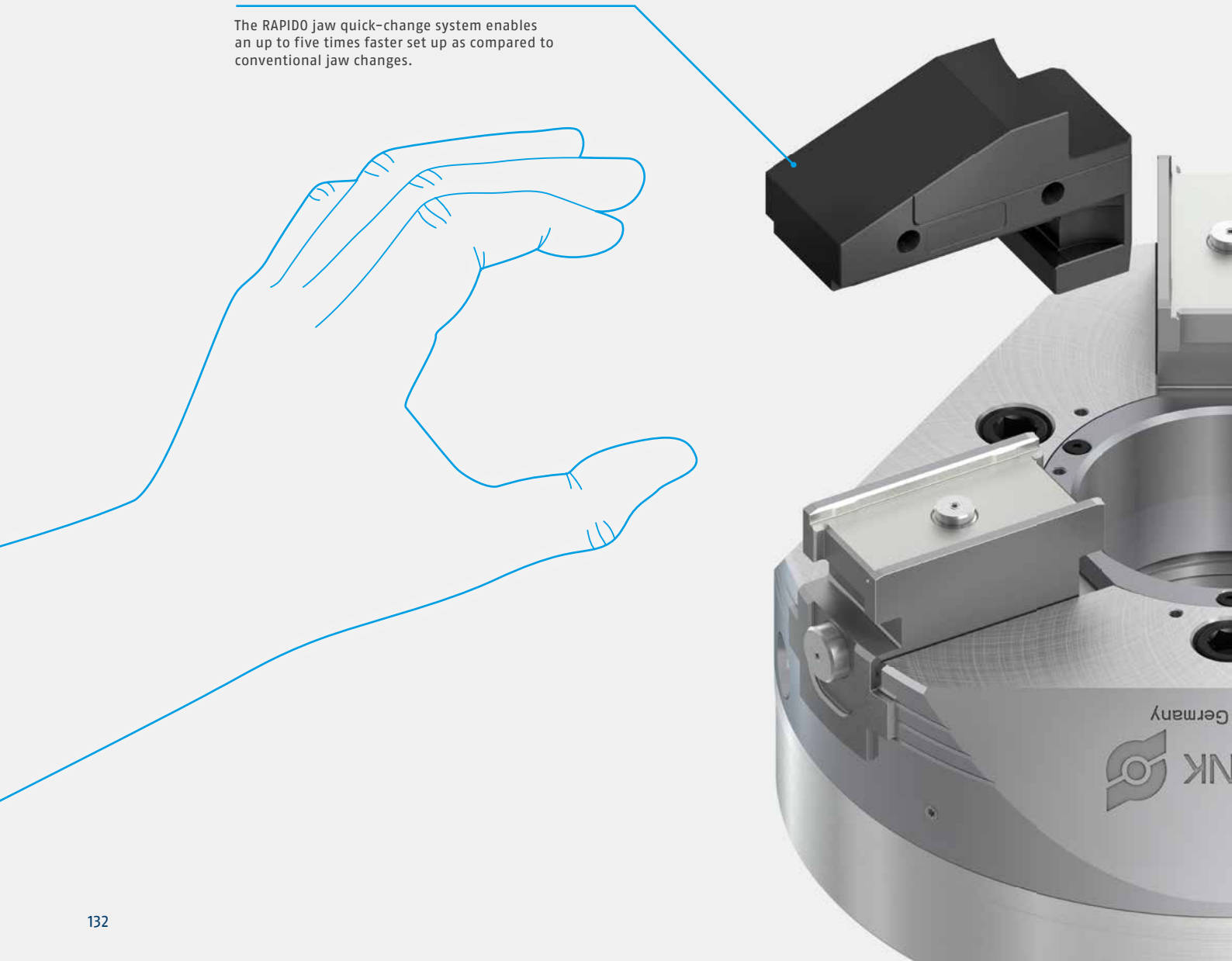
RAPIDO jaw quick-change system

Changing chuck jaws in seconds without any tools

It takes a maximum of 60 seconds to retool a conventional lathe chuck with SCHUNK RAPIDO interchangeable inserts. To achieve such a fast jaw change, the interchangeable inserts have to be put on the RAPIDO base or support jaws and moved backwards until they snap in. The change can be done manually or with an integrated RAPIDO base jaw, optionally fully automated with a robot.

Manual jaw change

The RAPIDO jaw quick-change system enables an up to five times faster set up as compared to conventional jaw changes.



Fully integrated or as a retrofit kit

There are two variants for SCHUNK RAPIDO: It can either be simply retrofitted on an already existing lathe chucks by putting a RAPIDO support jaw on the existing base jaw, on which the RAPIDO interchangeable inserts are changed.

This version can be changed manually by using a push button. By removing the support jaws, chuck jaws with conventional interfaces can be further used.

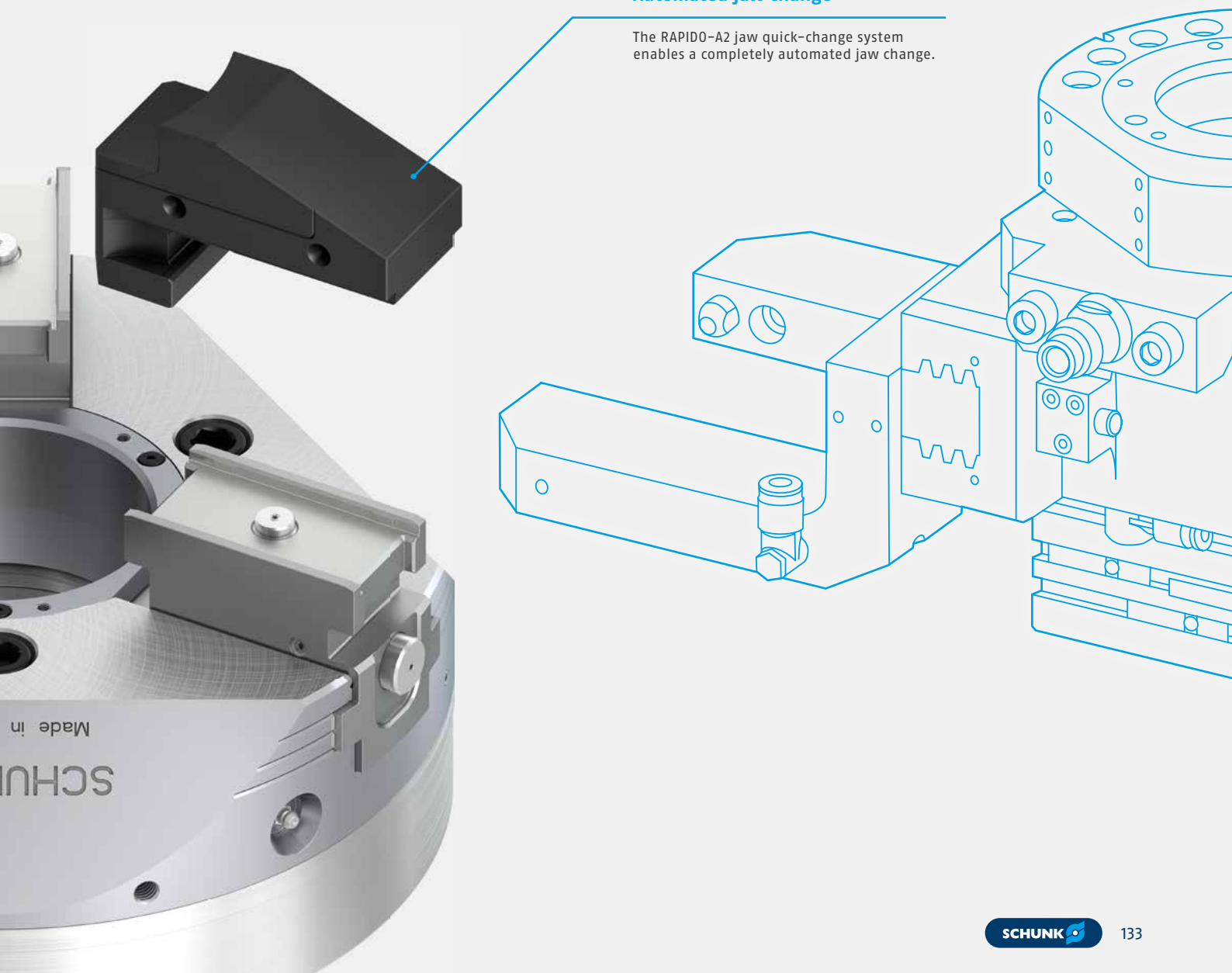
Or alternatively completely integrated into the SCHUNK power lathe chuck. In this case, the lathe chuck will be equipped with the RAPIDO base jaw before it is shipped from SCHUNK. Unlocking the interchangeable inserts in this variant can be done manually or fully automated.

Our performance promise. Your benefits.

- Tool-free jaw quick-change
- Fully automatable for selected SCHUNK power lathe chucks
- Complete jaw change in less than 60 seconds
- I.D. and O.D. clamping possible
- Manual variant can be retrofitted to all common power lathe chucks
- Repeat accuracy of 0.02 mm

Automated jaw change

The RAPIDO-A2 jaw quick-change system enables a completely automated jaw change.



One System. Lots of Possibilities.

SCHUNK RAPIDO is available as a retrofit kit or as a fully integrated variant – either manual or fully automated.

Variant 1: For existing lathe chucks, the SCHUNK RAPIDO system can be retrofitted simply by mounting a RAPIDO support jaw on the existing base jaw, on which the respective RAPIDO interchangeable inserts are changed. Actuating a lateral push button by hand unlocks the system for the change of the interchangeable inserts.

Variant 2: The SCHUNK RAPIDO-A2 system is integrated into the SCHUNK power lathe chuck. In this case, the lathe chuck is equipped with the RAPIDO-A2 base jaw. The interchangeable inserts are changed manually without tools by actuating the push button on the RAPIDO-A2 base jaw.

RAPIDO interchangeable insert

For the jaw change, the interchangeable inserts have to be put on the RAPIDO base or support jaws.



RAPIDO interchangeable insert

For the jaw change, the interchangeable inserts have to be put on the RAPIDO base or support jaws.



RAPIDO support jaw

The support jaw is mounted on the existing base jaw only once. Advantage over a conventional jaw change: During set-up, there is no need to measure the correct position of the interchangeable inserts or to tighten the screws with the torque wrench.

By removing the support jaw, chuck jaws with conventional interfaces can be further used.



RAPIDO-A2 base jaw for manual variant

This variant can be changed manually by using a push button.



Existing lathe chuck

With existing base jaw, metric or inch fine-serrated.



SCHUNK lathe chuck

With RAPIDO interface.



Variant 1:
RAPIDO manual jaw quick-change system as a retrofit solution. Suitable for all common lathe chucks on the market.

Variant 2 (manual):
RAPIDO-A2 jaw quick-change system with SCHUNK lathe chuck. The manual variant can be fully automated at any time – as an variant 3.

Variant 3: As in variant 2, the SCHUNK RAPIDO-A2 system is integrated into the SCHUNK power lathe chuck.

The change of the interchangeable inserts is completely automated. Four standardized bore holes in the interchangeable inserts ensure a process-reliable handling by means of form-fit clamping.

Note: RAPIDO interchangeable inserts are the same for all three options. The interface is identical. The quick-change system can be used for I.D. and O.D. clamping.

RAPIDO interchangeable insert

Prepared for RFID chip as standard.

RAPIDO-A2 base jaw for automated variant

The base jaw is fully integrated in the lathe chuck. It is designed so that interchangeable inserts can be used for O.D. and I.D. clamping.

SCHUNK lathe chuck

With RAPIDO interface.

RAPIDO-A2 gripping unit

For changing the interchangeable inserts for O.D. and I.D. clamping. Gripping unit also available with SCHUNK quick-change system SWS.

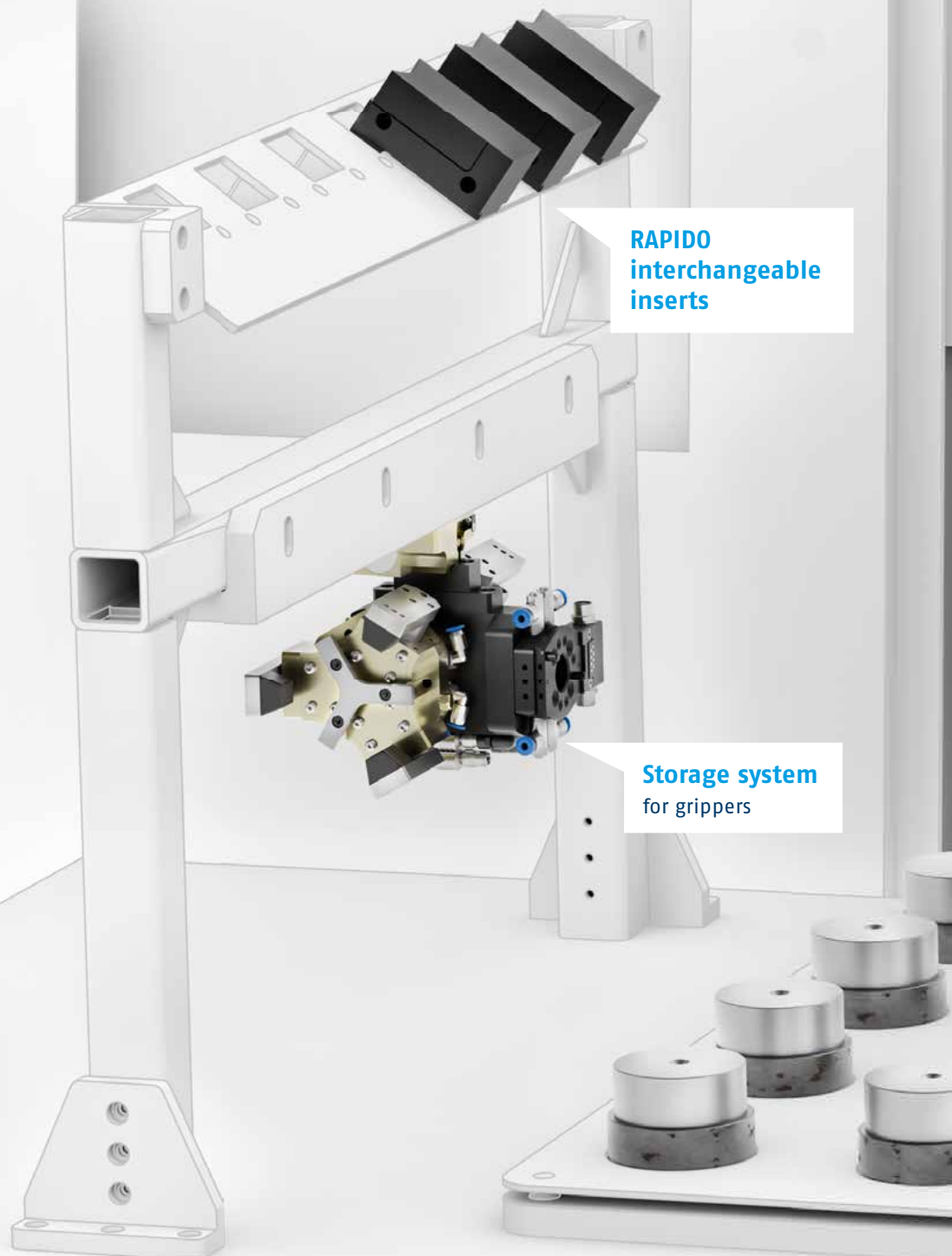
Gripping unit with optical sensor for monitoring the interchangeable inserts and the push button.

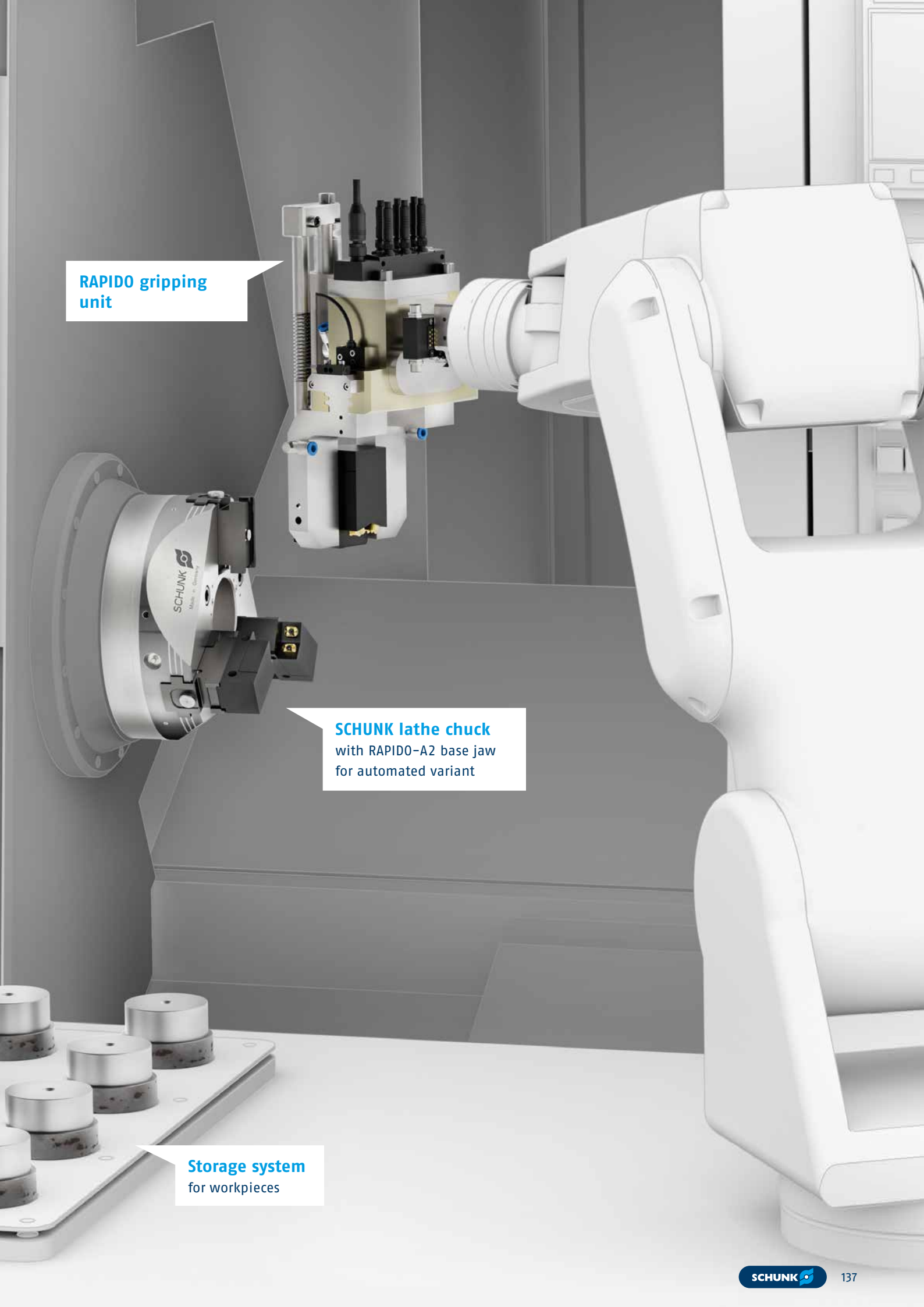
Variant 3 (automated):
RAPIDO-A2 jaw quick-change system with SCHUNK lathe chuck and SCHUNK gripping unit.

RAPIDO-A2

Lathe chuck jaw quick-change – tool-free and fully automated.

- Fully automatable for selected SCHUNK power lathe chucks
- Completely tool-free jaw change in less than 60 seconds
- I.D. and O.D. clamping possible
- Manual variant can be retrofitted to all common power lathe chucks
- Competitiveness through maximum flexibility and shortest response time.





RAPIDO gripping unit

SCHUNK lathe chuck
with RAPIDO-A2 base jaw
for automated variant

Storage system
for workpieces

Wherever you are located – SCHUNK is close to you!



Headquarter Lauffen/Neckar
SCHUNK SE & Co. KG
Spanntechnik | Greiftechnik |
Automatisierungstechnik
Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com



Plant Brackenheim-Hausen
SCHUNK SE & Co. KG
Spanntechnik | Greiftechnik |
Automatisierungstechnik
Robert-Bosch-Str. 12
D-74336 Brackenheim-Hausen
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com



Plant Mengen
H.-D. SCHUNK GmbH & Co.
Spanntechnik KG
Lothringer Str. 23
D-88512 Mengen
Tel. +49-7572-7614-0
Fax +49-7572-7614-1039
CMM@de.schunk.com108



Plant St. Georgen
SCHUNK Electronic Solutions GmbH
Am Tannwald 17
D-78112 St. Georgen
Tel. +49-7725-9166-0
Fax +49-7725-9166-5055
electronic-solutions@de.schunk.com



Plant Morrisville, USA
SCHUNK Intec Inc.
211 Kitty Hawk Drive
Morrisville, NC 27560, USA
Tel. +1-919-572-2705
info@us.schunk.com



Plant Aadorf, Switzerland
GRESSEL AG
Schützenstr. 25
CH-8355 Aadorf
Tel. +41-52-368-16-16
Fax +41-52-368-16-17



Plant Eberhardt Cleeborn
Eberhardt GmbH & Co. KG
Maybachstr. 2
D-74389 Cleeborn
Member of SCHUNK Lauffen
Tel. +49-7135-9862-0
Fax +49-7135-9862-299
info@eberhardt-stanztechnik.com



Plant Caravaggio, Italy
S.P.D. S.p.A.
Via Galileo Galilei 2/4
IT-24043 Caravaggio (BG)
Tel. +39-0363-546511
Fax +39-0363-52578

This way to all locations

Our Subsidiaries and Distribution
Partner are available for you.

schunk.com/locations →



Copyright:

The copyright for text, graphic design and pictorial representation of the products lies exclusively with SCHUNK SE & Co. KG or the respective licensors.

All rights reserved. In particular, any reproduction, editing, distribution (making available to third parties), translation or other use – even in part – is prohibited and requires our prior written consent.

Technical changes:

The information and illustrations in this catalog are not binding and represent only an approximate description. We reserve the right to make changes to the delivery item compared to the information and illustrations in this catalog, e.g. with regard to technical data, design, equipment, material and external appearance.



**H.-D. SCHUNK GmbH & Co.
Spanntechnik KG**

Lothringer Str. 23
D-88512 Mengen
Tel. +49-7572-7614-1300
CMM@de.schunk.com
schunk.com

Follow us



We print sustainably



1565985-5M-09/2023

