



VERO-S NSL3

**Powerful clamping stations
based on VERO-S NSE3**

Hand in hand for tomorrow

Clamping stations for general milling applications based on NSE3 for extremely fast set-up processes.

VERO-S NSL3 – the SCHUNK clamping stations for general milling applications based on NSE3 138. The set-up time optimizer for milling machines ensures extremely rigid and secure clamping of the fixture with extremely high pull-down forces of the modules. The NSL3 clamping stations are 100% compatible with the predecessor NSL plus and can therefore be interchanged 1:1.



Advantages – Your benefits

- + SCHUNK modular system**
Innumerable combinations of standard clamping devices to suit all different types of machines
- + 100% compatible with NSL plus clamping stations**
Existing NSL plus clamping stations can be replaced 1:1 by new NSL3 clamping stations
- + All pneumatic clamping stations can be operated with a system pressure of 6 bar**
Additional pressure intensifiers are not required
- + Positioning via short taper**
Very easy joining process at a repeat accuracy of < 0.005 mm
- + Patented dual stroke system for highest pull-down forces**
Therefore extremely rigid clamping without vibrations
- + Form-fit, self-retained locking**
Full pull-down force is maintained even in the event of a pressure drop
- + The modules are corrosion-free and completely sealed**
Long life time and maximum process reliability

Technical data

Description	Version	Turbo function	Anti-rotation protection	Pull-down force [kN]	Pull-down force with turbo [kN]
NSL3 150-V1	1-way clamping station		●	8	
NSL3 150-V1-T	1-way clamping station	●	●	8	28
NSL3 150-V4-T	1-way clamping station	●	●	8	28
NSL3 200	2-way clamping station			16	
NSL3 200-V1-T	2-way clamping station	●	●	16	56
NSL3 400	4-way clamping station			32	
NSL3 600	6-way clamping station			48	
NSL3 800	8-way clamping station			64	
NST3 400-250	4-way clamping station	●		32	112
NST3 500-300	4-way clamping station	●		32	112

Function NSE3 138

The clamping procedure of the module is carried out by an integrated spring assembly. An axial piston and a patented drive kinematics convert the spring force into a maximum pull-down force on the clamping pin. Clamping is carried out by two clamping slides and is self-retained. In addition, the pull-down force can be increased by means of an integrated turbo function. The module is opened pneumatically with a system pressure of 6 bar.



- 1 **Optional cone seal**
For protection of the changing interface
- 2 **Patented dual stroke system**
A patented dual stroke system between piston and clamping slide ensures maximum pull-down forces
- 3 **Turbo function**
For amplification of the pull-down force
- 4 **Large contact surfaces**
For transmitting the pull-down and holding forces
- 5 **Completely sealed system**
Therefore absolutely maintenance-free
- 6 **Large flat surface**
For best support and highest rigidity
- 7 **Monitoring of the clamping slide position "open condition" and "locked condition"**
Via dynamic pressure possible
- 8 **Flat seal to protect the interface during machining**
Dampens the placement of the workpiece or clamping pallet
- 9 **Cover plugs for mounting screws**
Therefore no accumulation of coolant or chips possible
- 10 **Sliding bearings in the force flow**
For maximum pull-down forces with a long service life
- 11 **Lower-lying countersunk screws**
For easy cleaning of the flat surface

100% compatible with NSE plus generation

The quick-change pallet modules of the NSE3 generation are 100% installation compatible with the NSE plus generation. Therefore all modules can be exchanged against each other 1:1.



Exchangeability of the plug against a cone seal

All quick-change pallet modules from the NSE3 generation are standard equipped for integrating a cone seal. The standard plug can easily be replaced by a cone seal at a later point.



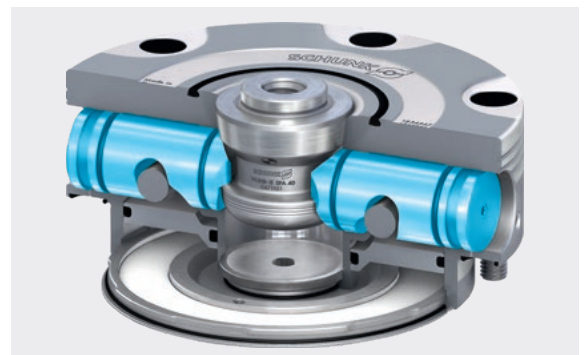
Centering via short taper

The precise short taper centering combined with the form-fit and self-retaining locking characterizes the SCHUNK quick-change pallet system.



Locking via clamping slides

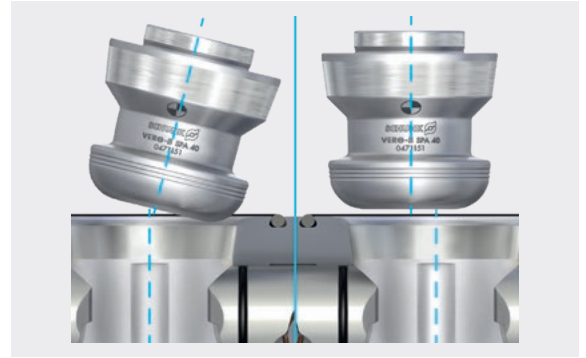
Large contact surfaces between clamping slides and clamping pin ensure a low surface pressure, resulting in a long service life.



Easy joining – more user-friendly

Insertion radii on the clamping pin enable quick and safe joining even at a tilt angle and in case of eccentricity.

Benefit: More user friendly for manual and automatic loading.



Made of stainless steel – long service life

All functional components are made of hardened stainless steel.



Arrangement of clamping pins type A, B, and C

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

- ❶ **Type A**
Fixed
- ❷ **Type B**
Positioned – diamond shaped
- ❸ **Type C**
With a centering play



Clamping station

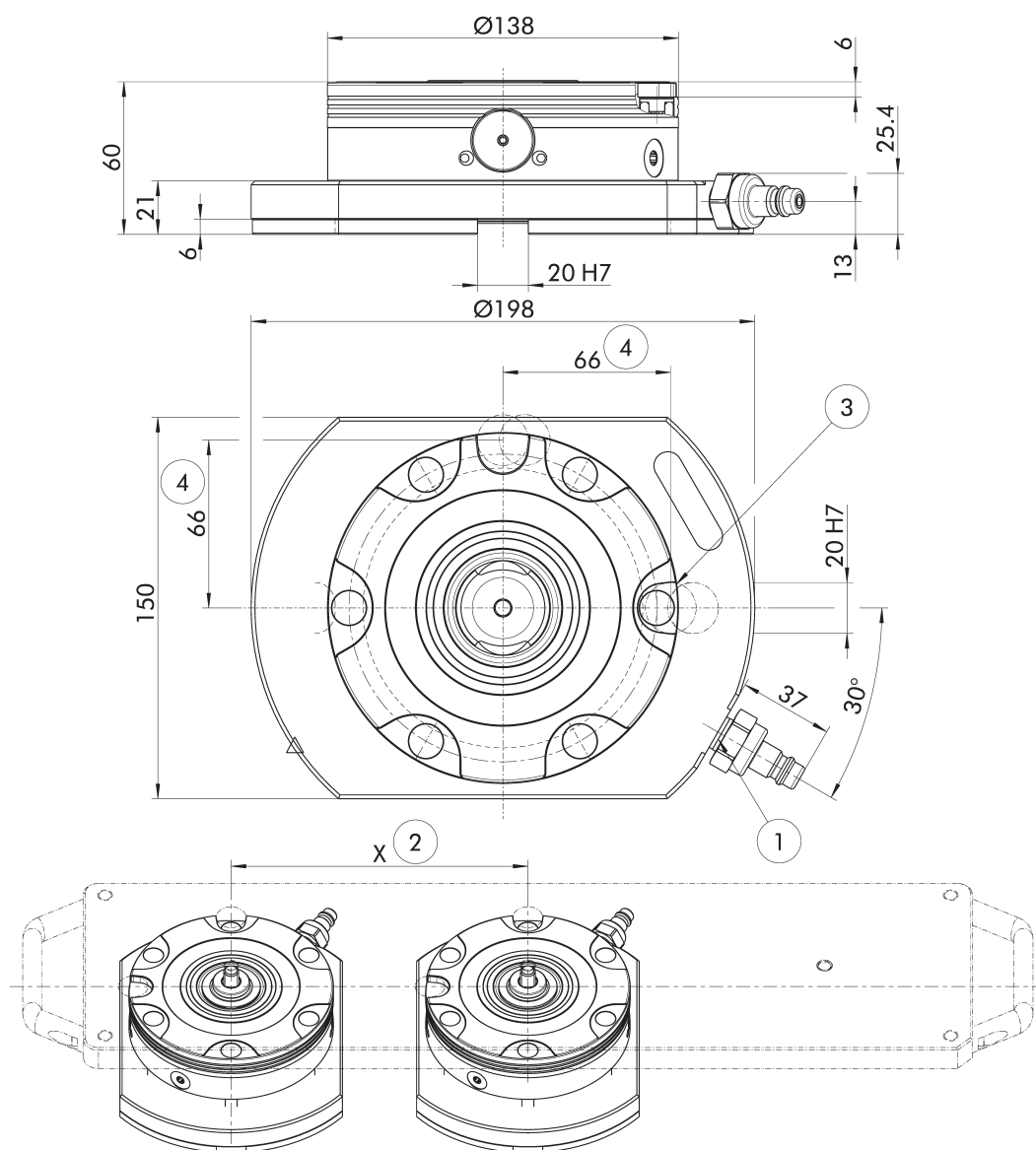
1-way clamping station with anti-rotation protection V1

Scope of delivery

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

Technical data

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



Subject to technical changes.

① G1/8 air connection, open module

② Variable gauge for bore holes

③ Fitting groove for positional alignment of the clamping pallet

④ Clearance 66 ±0.01 mm for indexing pin IXB V1

Clamping station

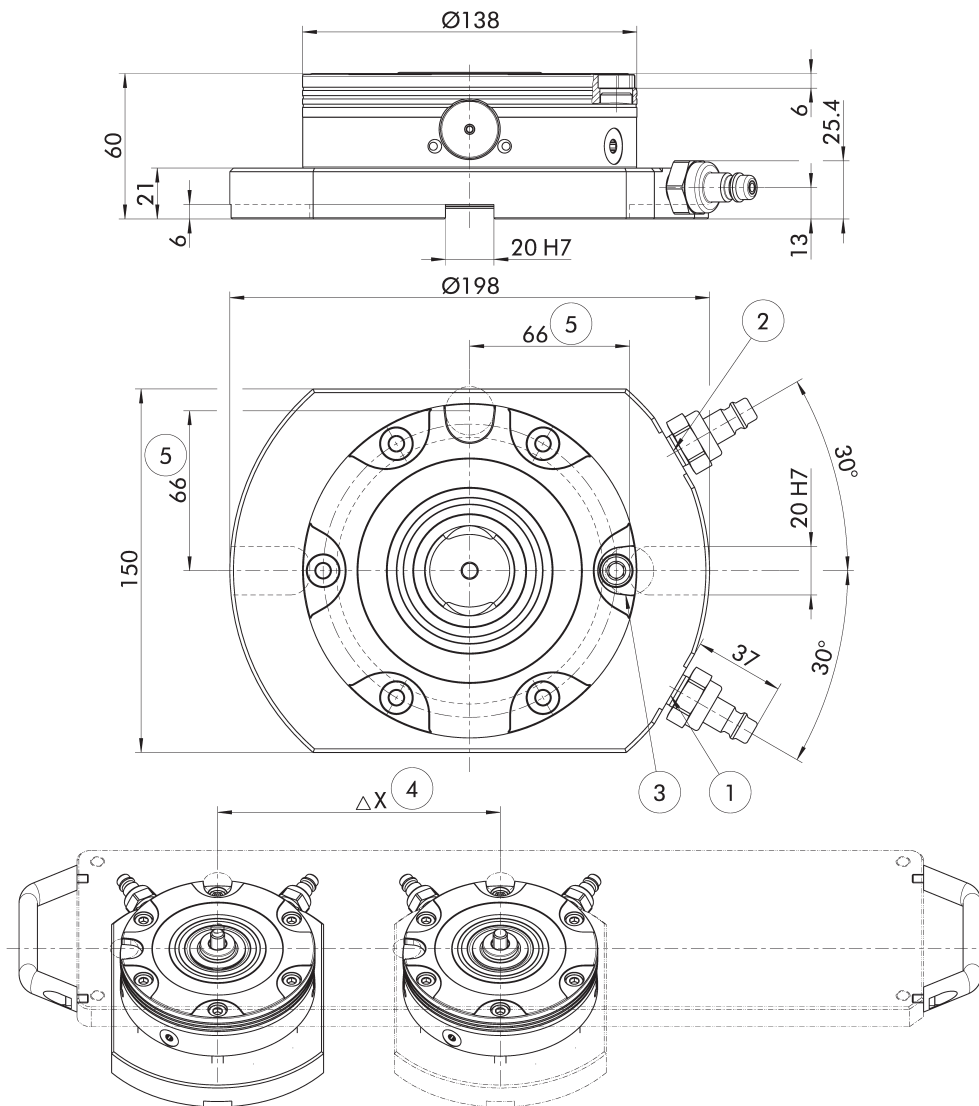
1-way clamping station with anti-rotation protection V1 and turbo function

Scope of delivery

Clamping station, sealing nipple, 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 Fitting groove for positional alignment of the clamping pallet
- ④ Variable gauge for bore holes
- ⑤ Clearance 66 ± 0.01 mm for indexing pin IXB V1

Clamping station

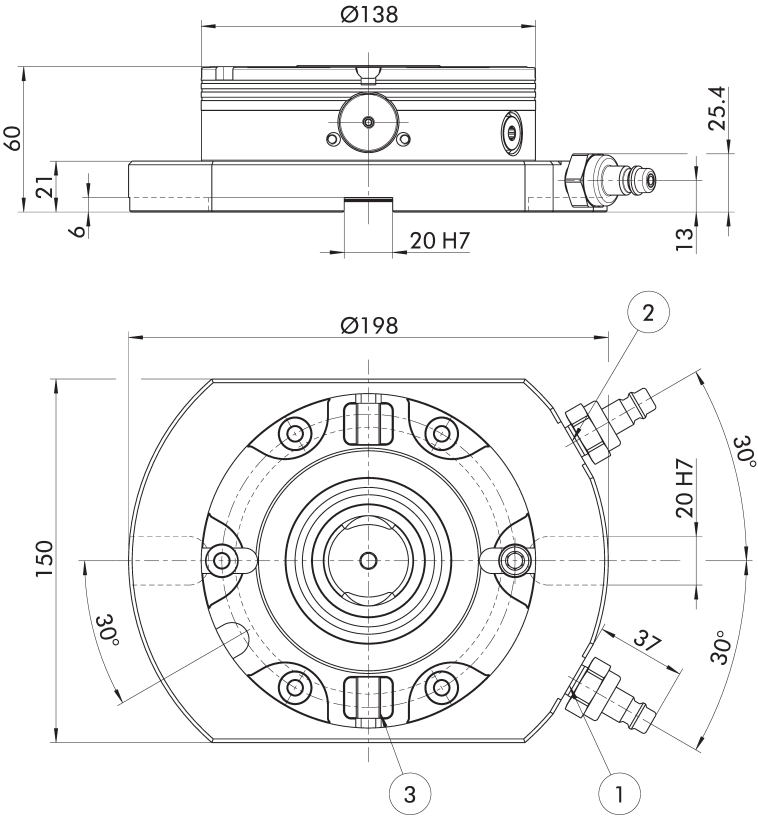
1-way clamping station with anti-rotation protection V4 and turbo function

Scope of delivery

Clamping station, sealing nipple, dust protection caps, operating manual; without clamping pin, without indexing pins, 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 Fitting groove for positional alignment of the clamping pallet

2-way clamping station

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

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



① G1/8 air connection, open modules

Clamping station

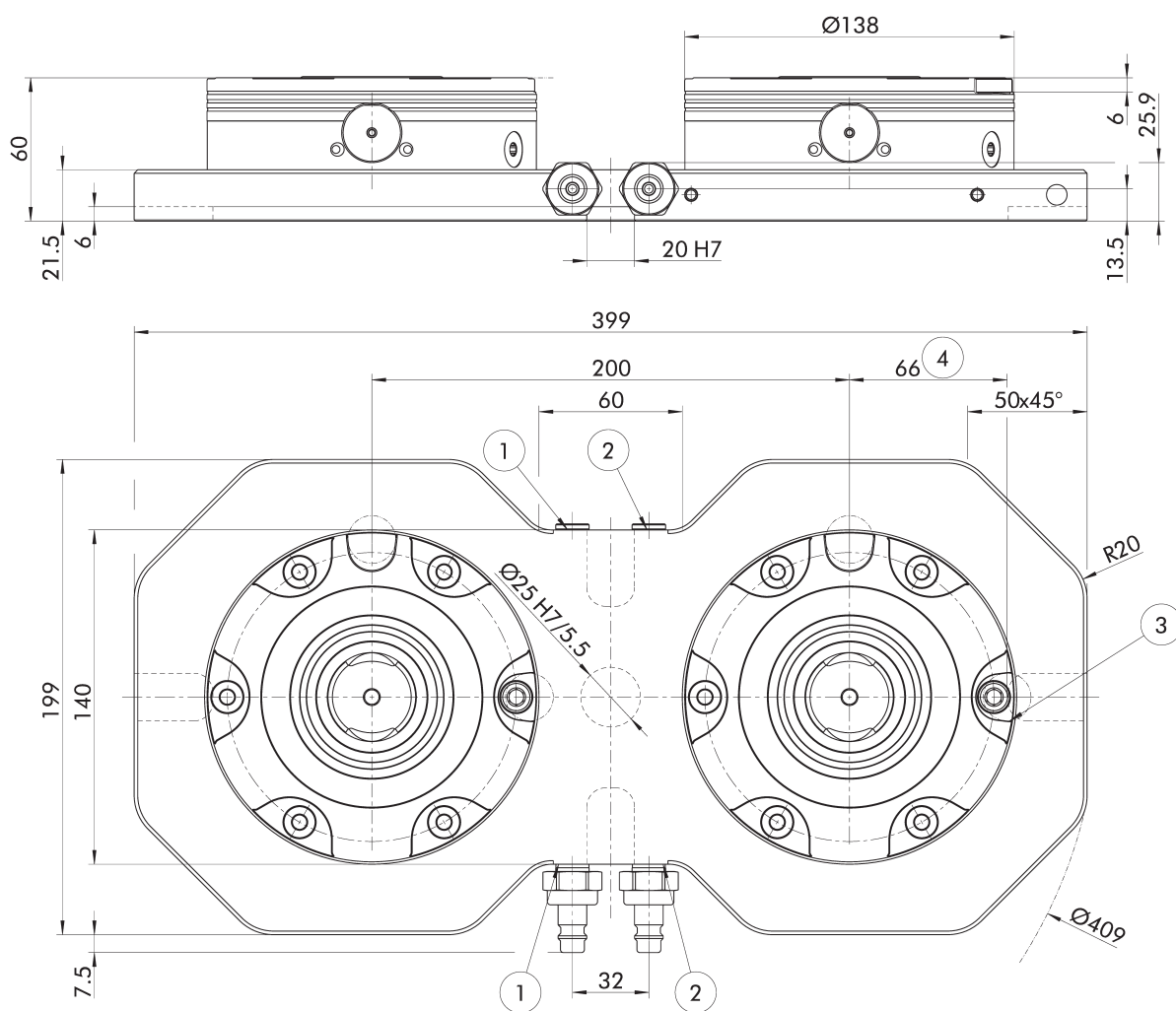
2-way clamping station with anti-rotation protection V1 and turbo function

Scope of delivery

Clamping station, sealing nipple, 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 200-V1-T	1323570	16	56	6	16.7



Subject to technical changes.

- ① G1/8 air connection, open modules
- ② G1/8 air connection, turbo function

- ③ Fitting groove for positional alignment of the clamping pallet
- ④ Clearance 66 ±0.01 mm for indexing pin IXB V1

Clamping station

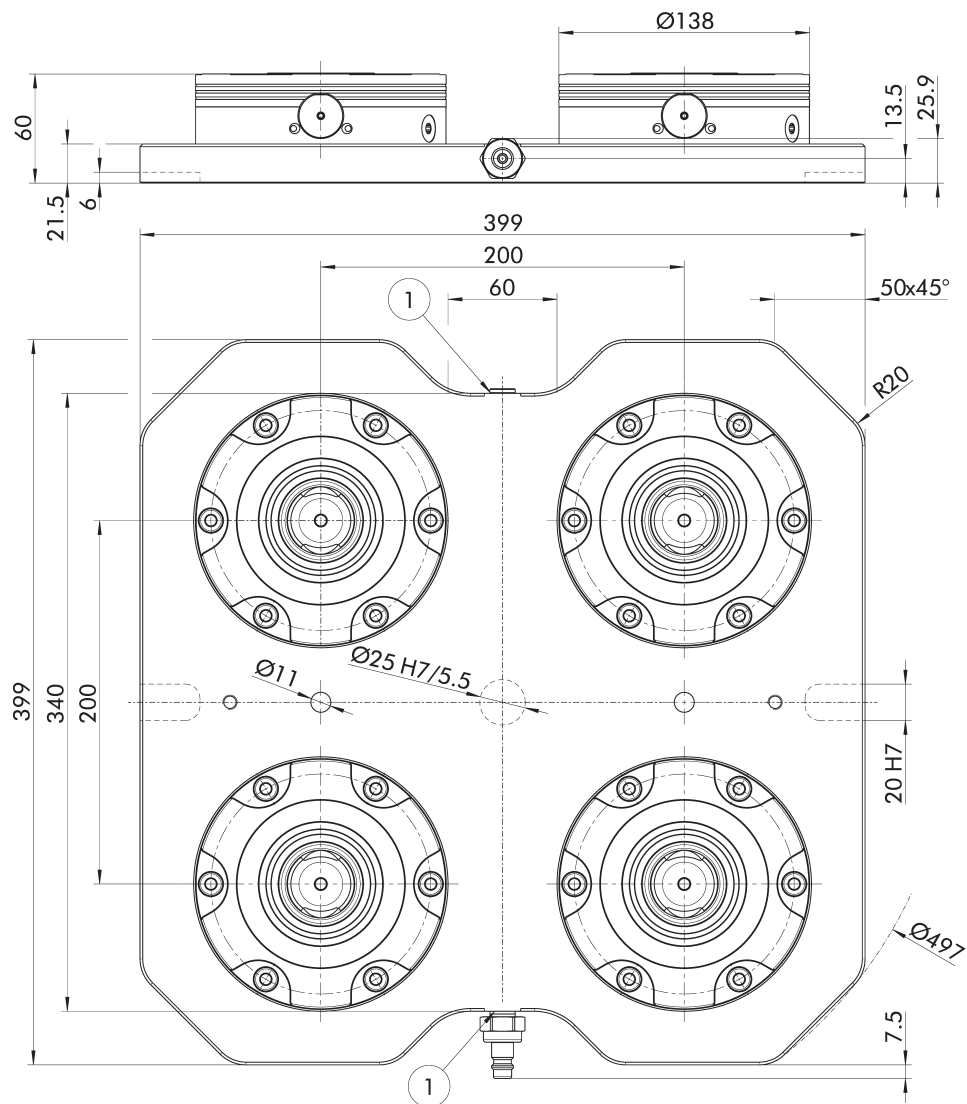
4-way clamping station

Scope of delivery

Clamping station, sealing nipple, dust protection cap, eye bolts, operating manual; without clamping pin, 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, dust protection cap, eye bolts, operating manual; without clamping pin, without cylindrical clamps

Technical data

Technical drawing of a 6-port manifold, showing top and front views with dimensions.

Top View Dimensions:

- Overall width: 599
- Port diameter: $\varnothing 138$
- Port spacing (center-to-center): 200
- Overall height: 399
- Port diameter (inner): $\varnothing 11$
- Port diameter (outer): $\varnothing 25 \text{ H7/5.5}$
- Port diameter (flange): $\varnothing 66.7$
- Port diameter (flange): $\varnothing 11$
- Port diameter (flange): $\varnothing 25 \text{ H7/5.5}$
- Port diameter (flange): $\varnothing 66.7$

Front View Dimensions:

- Overall height: 60
- Base width: 399
- Port diameter: $\varnothing 138$
- Port spacing (center-to-center): 200
- Port diameter (inner): $\varnothing 11$
- Port diameter (outer): $\varnothing 25 \text{ H7/5.5}$
- Port diameter (flange): $\varnothing 66.7$
- Port diameter (flange): $\varnothing 11$
- Port diameter (flange): $\varnothing 25 \text{ H7/5.5}$
- Port diameter (flange): $\varnothing 66.7$

Subject to technical changes.

① G1/8 air connection, open modules

Clamping station

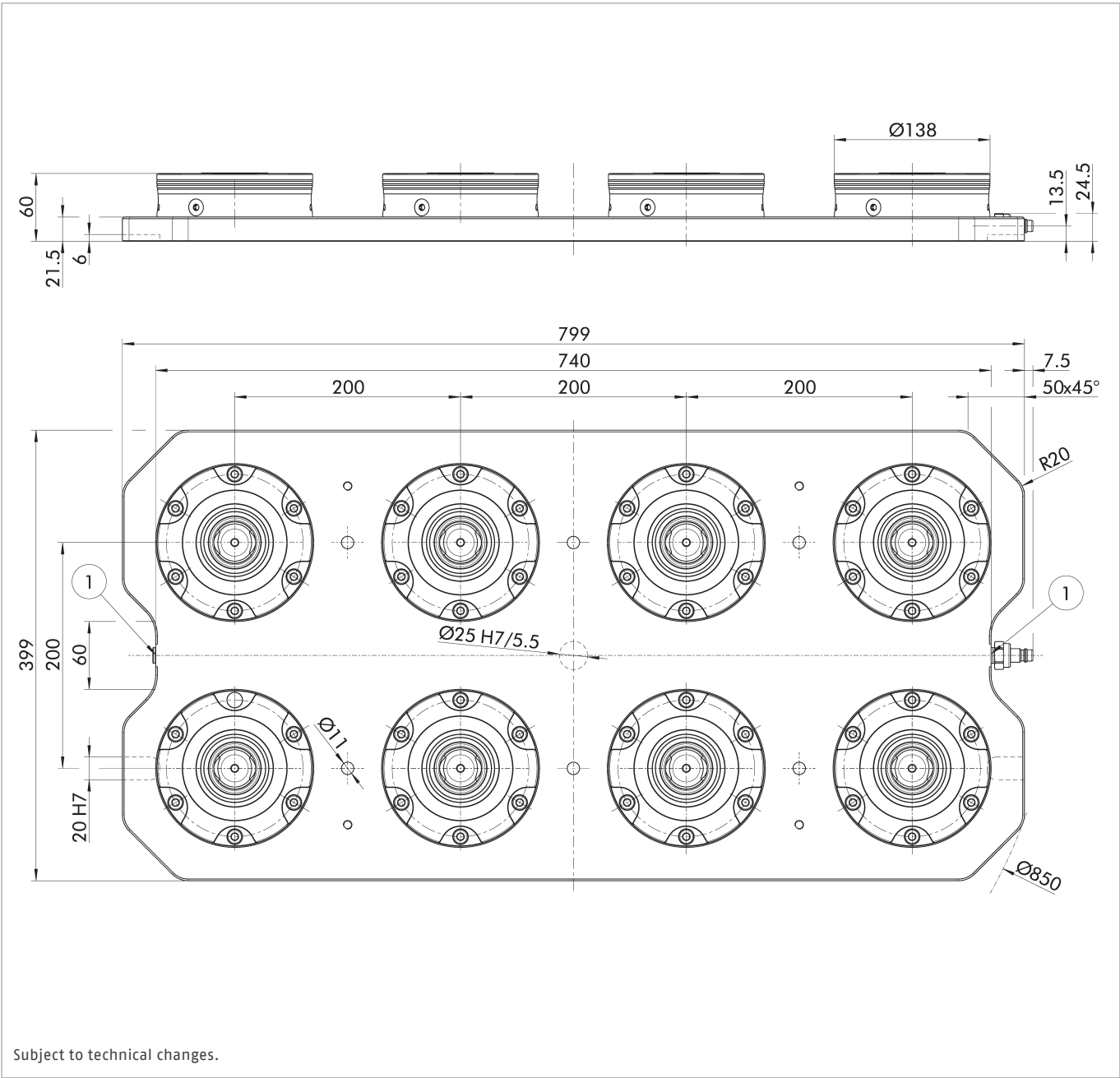
8-way clamping station

Scope of delivery

Clamping station, sealing nipple, dust protection cap, eye bolts, operating manual; without clamping pin, 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

Clamping station

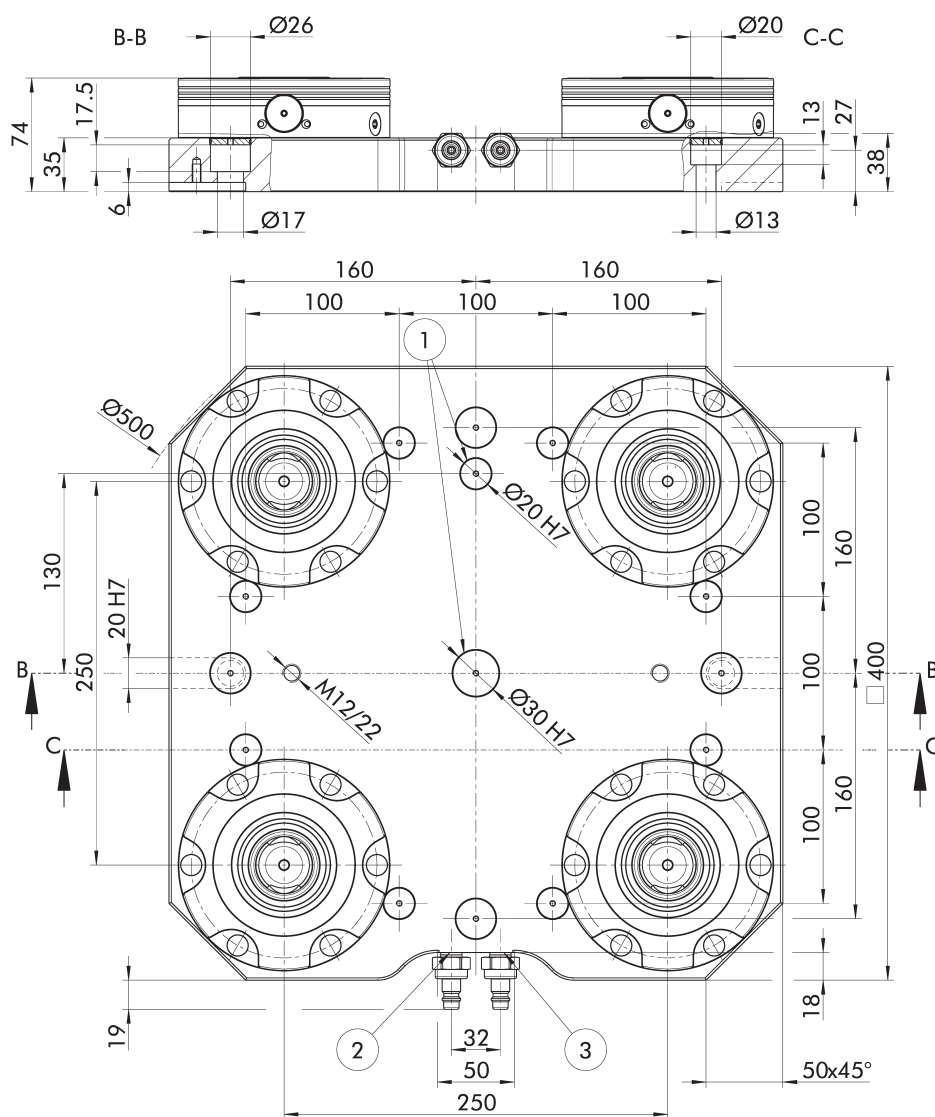
4-way clamping station for VERO-S tombstones

Scope of delivery

Clamping station, cover plate for mounting screws, locking nipple, eye bolts, operating manual; without clamping pins, without cylindrical clamps

Technical data

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Weight [kg]
NST3 400-250	1337138	32	112	6	52



Subject to technical changes.

- ① Fitting bore for orientation pin
- ② G1/8 air connection, open modules
- ③ G1/8 air connection, turbo function

Clamping station

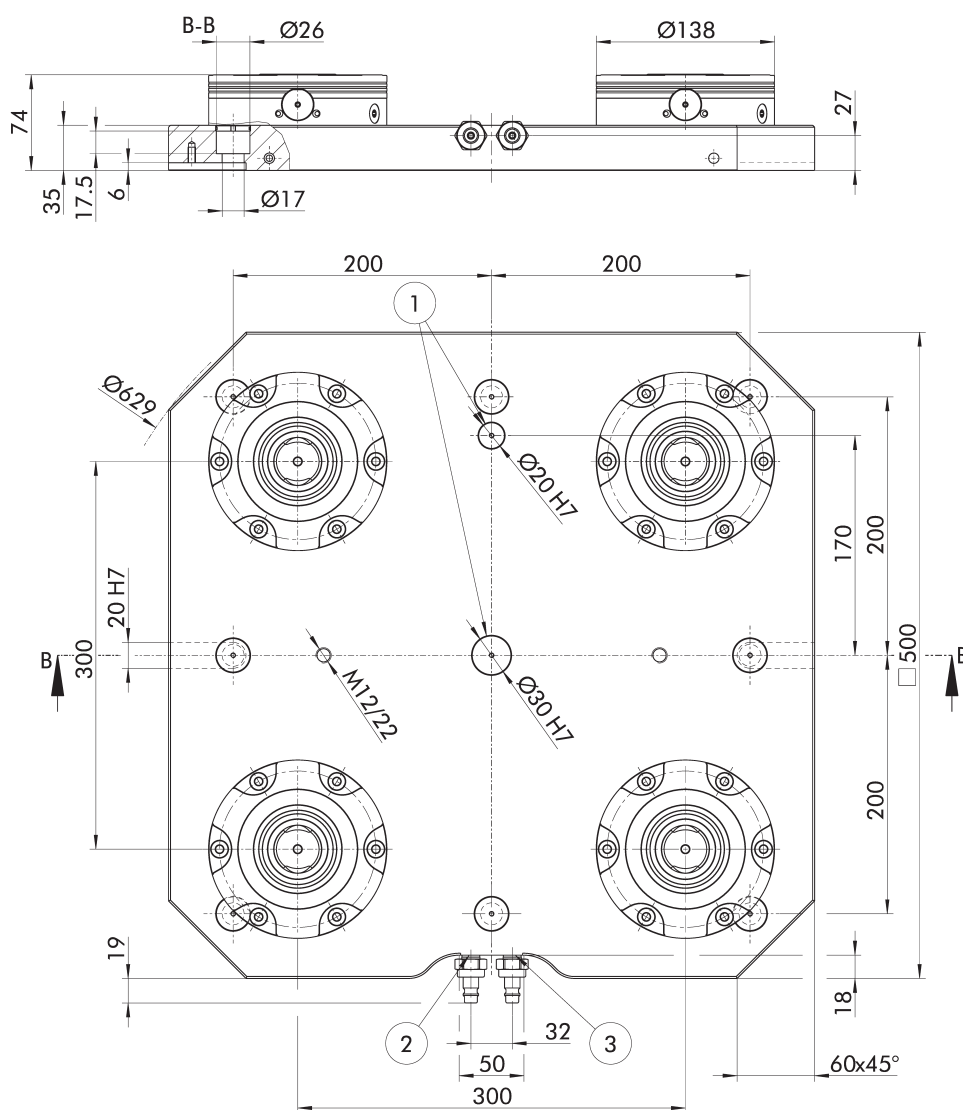
4-way clamping station for VERO-S tombstones

Scope of delivery

Clamping station, cover plate for mounting screws, locking nipple, eye bolts, operating manual; without clamping pins, without cylindrical clamps

Technical data

Description	ID	Pull-down force [kN]	Pull-down force with turbo [kN]	Unlocking pressure [bar]	Weight [kg]
NST3 500-300	1337139	32	112	6	76



Subject to technical changes.

- ① Fitting bore for orientation pin
- ② G1/8 air connection, open modules
- ③ G1/8 air connection, turbo function

Accessories

Clamping pins SPx

Clamping pin for positive connection with NSE3 clamping modules.



Suitable for	Description	ID
NSL3 150-V1		
NSL3 150-V1-T		
NSL3 150-V4-T		
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	SPA 40	0471151
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	SPB 40	0471152
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	SPC 40	0471153

Clamping pins SPx

Standard clamping pins with M16 thread for form-fit connection of workpieces or devices with NSE3 clamping modules.



Suitable for	Description	ID
NSL3 150-V1		
NSL3 150-V1-T		
NSL3 150-V4-T		
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	SPA 40-16	0471064
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	SPB 40-16	0471065
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	SPC 40-16	0471066

Indexing pin

Used as an anti-rotation protection for VERO-S modules with anti-rotation protection V1.



Suitable for	Description	ID
NSL3 150-V1		
NSL3 150-V1-T		
NSL3 200-V1-T	IXB V1	0471980
NSL3 150-V1		
NSL3 150-V1-T		
NSL3 200-V1-T	IXB V1-K	0432371

Indexing pins

Used as an anti-rotation protection for VERO-S modules with anti-rotation protection V4.



Suitable for	Description	ID
NSL3 150-V4-T	IXB V4	9982432

Clamping pin extension

For lifting the workpiece from the machine table, and for improving the accessibility of the machine spindle.



Suitable for	Description	ID
Module Ø 138	SP-VL 50-10-SPA	0471405
Module Ø 138	SP-VL 50-10-SPB	0471407
Module Ø 138	SP-VL 50-10-SPC	0471409
Module Ø 138	SP-VL 50-12-SPA	0471406
Module Ø 138	SP-VL 50-12-SPB	0471408
Module Ø 138	SP-VL 50-12-SPC	0471410
Module Ø 138	SP-VL 100-10-SPA	0471464
Module Ø 138	SP-VL 100-10-SPB	0471466
Module Ø 138	SP-VL 100-10-SPC	0471468
Module Ø 138	SP-VL 100-12-SPA	0471465
Module Ø 138	SP-VL 100-12-SPB	0471467
Module Ø 138	SP-VL 100-12-SPC	0471469

Cone seal

For quick and easy retrofitting of existing modules NSE3 without cone seal to protect the change interface.



Suitable for	Description	ID
NSL3 150-V1		
NSL3 150-V1-T		
NSL3 150-V4-T		
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	KVS 40	1313742

Monitoring unit

Integrated monitoring of clamping slide positions, pallet presence and the pressure in the turbo chamber via IO-Link



Suitable for	Description	ID
NSL3 150-V1-T		
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	AFS3 IOL 138	1488905

Inductive monitoring segments

Integrated monitoring of clamping slide positions and pallet presence.



Suitable for	Description	ID
NSL3 150-V1-T		
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	AFS3 138 PMI	1325645

Magnetic monitoring segments

Integrated monitoring of clamping slide positions and pallet presence.



Suitable for	Description	ID
NSL3 150-V1-T		
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	AFS3 138 MMS	1325646

Connecting strip

1-way strip for convenient actuation of VERO-S clamping stations.



Suitable for	Description	ID
NSL3 200		
NSL3 400		
NSL3 600		
NSL3 800	ASL 1-G1/8	1327465

Connecting strip

2-way connection strips for convenient operation of VERO-S clamping stations.



Suitable for	Description	ID
NSL3 200-V1-T		
NST3 400-250		
NST3 500-300	ASL 2-G1/8	1315007

Locking coupling

Quick-change coupling for easy actuation of VERO-S clamping stations or module height extensions.



Suitable for	Description	ID
NSL3 150-V1		
NSL3 150-V1-T		
NSL3 150-V4-T		
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	VSK Ø10-NW7.4	9988214

Cylindrical clamp blanks

For individual fastening of the clamping stations or console plates on all common machine table slot spacings



Suitable for	Description	ID
NSL3 150-V1		
NSL3 150-V1-T		
NSL3 150-V4-T		
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	BRR 50	0470020

Media transfer unit

Plug & Work media transfer unit for universal use.



Suitable for	Description	ID
NSL3 200		
NSL3 200-V1-T		
NSL3 400		
NSL3 600		
NSL3 800		
NST3 400-250		
NST3 500-300	MDN 3-2	0471102



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