



VERO-S NSL3

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

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.



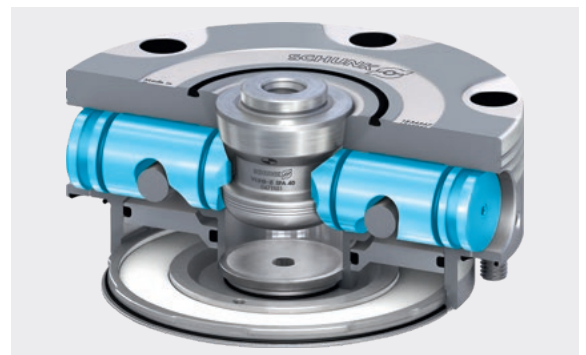
Centering via short taper

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

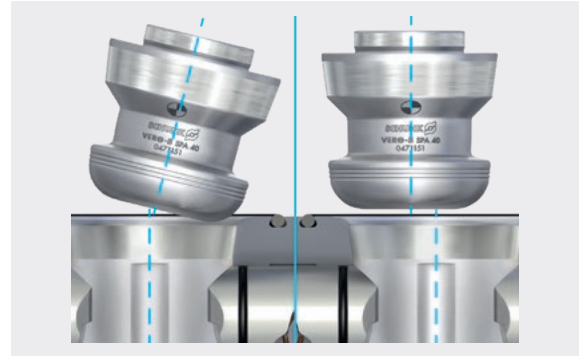
Large contact surfaces between clamping slides and clamping pin ensure a low surface pressure, resulting in a long service life.



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

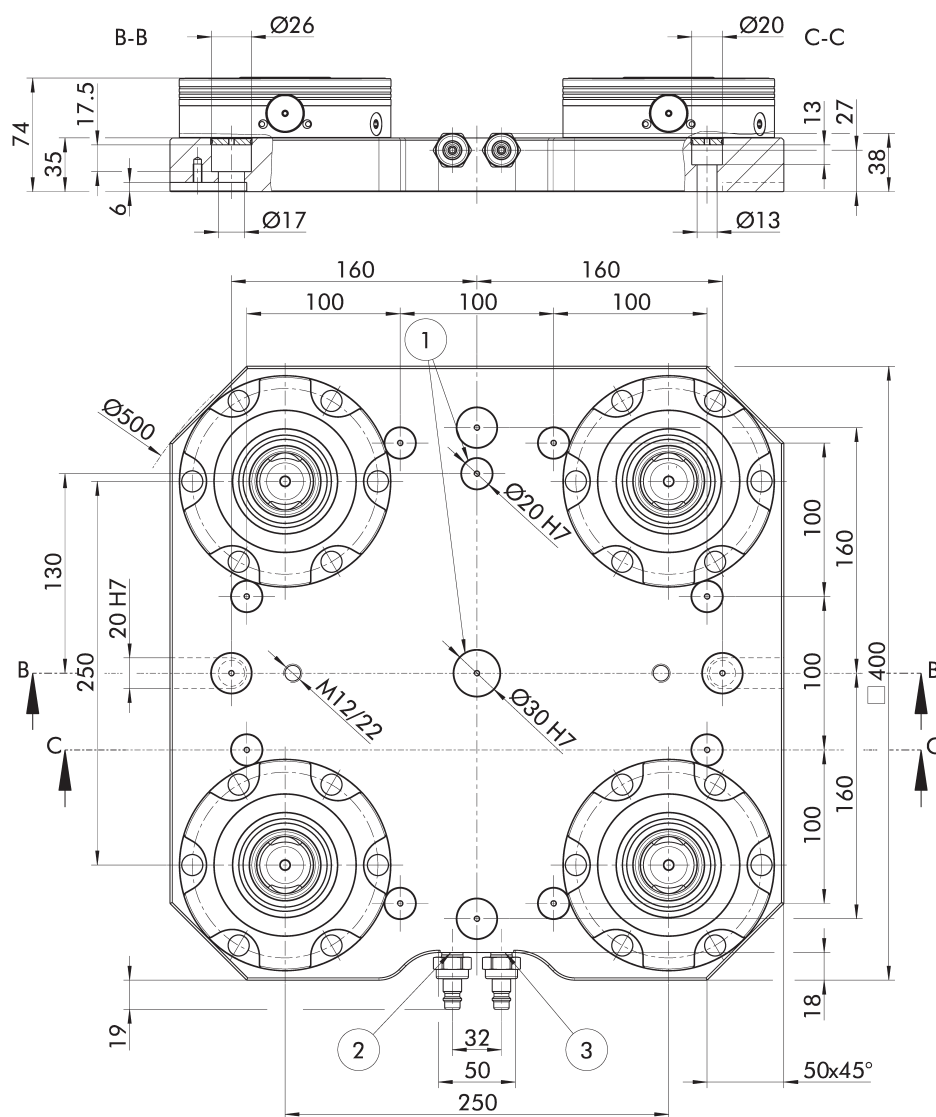
4-way clamping station for VERO-S tombstones

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

Accessories

Clamping pins SPx

Clamping pin for positive connection with NSE3 clamping modules.



Suitable for	Description	ID
NST3 400-250	SPA 40	0471151
NST3 400-250	SPB 40	0471152
NST3 400-250	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
NST3 400-250	SPA 40-16	0471064
NST3 400-250	SPB 40-16	0471065
NST3 400-250	SPC 40-16	0471066

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
NST3 400-250	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
NST3 400-250	AFS3 IOL 138	1488905

Inductive monitoring segments

Integrated monitoring of clamping slide positions and pallet presence.



Suitable for	Description	ID
NST3 400-250	AFS3 138 PMI	1325645

Magnetic monitoring segments

Integrated monitoring of clamping slide positions and pallet presence.



Suitable for	Description	ID
NST3 400-250	AFS3 138 MMS	1325646

Connecting strip

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



Suitable for	Description	ID
NST3 400-250	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
NST3 400-250	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
NST3 400-250	BRR 50	0470020

Media transfer unit

Plug & Work media transfer unit for universal use.



Suitable for	Description	ID
NST3 400-250	MDN 3-2	0471102



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

Lothringer Str. 23
D-88512 Mengen
Tel. +49-7572-7614-1300
Fax +49-7572-7614-1039
CMM@de.schunk.com
schunk.com