



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.



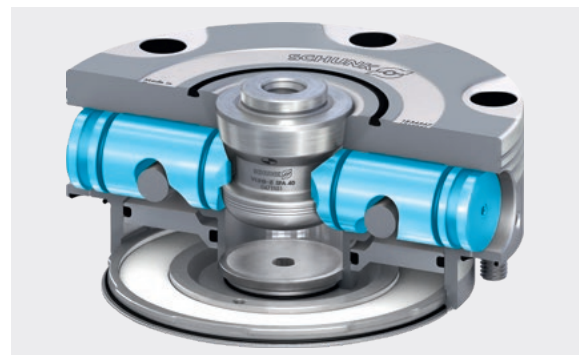
Centering via short taper

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

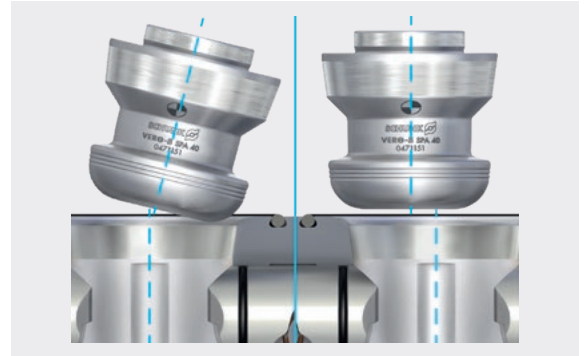
Large contact surfaces between clamping slides and clamping pin ensure a low surface pressure, resulting in a long service life.



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



2-way clamping station

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

Technical data

Technical drawing of a two-cylinder engine block, showing front, side, and top views with dimensions.

Front View (Top):

- Overall width: 399
- Distance between cylinder centers: 200
- Distance from centerline to outer edge: 60
- Overall height: 199
- Distance from base to cylinder centerline: 140
- Base thickness: 7.5
- Top flange thickness: 21.5
- Flange width: 6
- Flange outer diameter: $\varnothing 138$
- Flange hole diameter: $\varnothing 25$ H7/5.5
- Flange hole spacing: 20 H7
- Flange hole diameter: $\varnothing 138$
- Flange hole spacing: 25.9
- Flange hole diameter: $\varnothing 138$
- Flange hole spacing: 13.5

Side View (Bottom):

- Overall width: 399
- Distance between cylinder centers: 200
- Distance from centerline to outer edge: 60
- Overall height: 199
- Distance from base to cylinder centerline: 140
- Base thickness: 7.5
- Top flange thickness: 21.5
- Flange width: 6
- Flange outer diameter: $\varnothing 138$
- Flange hole diameter: $\varnothing 25$ H7/5.5
- Flange hole spacing: 20 H7
- Flange hole diameter: $\varnothing 138$
- Flange hole spacing: 25.9
- Flange hole diameter: $\varnothing 138$
- Flange hole spacing: 13.5

Top View (Right):

- Overall width: 399
- Distance between cylinder centers: 200
- Distance from centerline to outer edge: 60
- Overall height: 199
- Distance from base to cylinder centerline: 140
- Base thickness: 7.5
- Top flange thickness: 21.5
- Flange width: 6
- Flange outer diameter: $\varnothing 138$
- Flange hole diameter: $\varnothing 25$ H7/5.5
- Flange hole spacing: 20 H7
- Flange hole diameter: $\varnothing 138$
- Flange hole spacing: 25.9
- Flange hole diameter: $\varnothing 138$
- Flange hole spacing: 13.5

Subject to technical changes.

① G1/8 air connection, open modules

Accessories

Clamping pins SPx

Clamping pin for positive connection with NSE3 clamping modules.



Suitable for	Description	ID
NSL3 200	SPA 40	0471151
NSL3 200	SPB 40	0471152

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 200	SPA 40-16	0471064
NSL3 200	SPB 40-16	0471065

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 200	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 200	AFS3 IOL 138	1488905

Inductive monitoring segments

Integrated monitoring of clamping slide positions and pallet presence.



Suitable for	Description	ID
NSL3 200	AFS3 138 PMI	1325645

Magnetic monitoring segments

Integrated monitoring of clamping slide positions and pallet presence.



Suitable for	Description	ID
NSL3 200	AFS3 138 MMS	1325646

Connecting strip

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



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

Locking coupling

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



Suitable for	Description	ID
NSL3 200	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 200	BRR 50	0470020

Media transfer unit

Plug & Work media transfer unit for universal use.



Suitable for	Description	ID
NSL3 200	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