



VERO®-S NSE-E mini 90

Electromechanical quick-change pallet system

Electromechanical quick-change pallet module with 24 V technology as an energy-efficient alternative to pneumatic modules

With its 24 V technology, which is harmless to humans, the VERO-S NSE-E mini 90 integrates seamlessly into SCHUNK's portfolio of fluid-free clamping solutions. The mechatronic modules are designed as a 1:1 replacement for pneumatic components – without compromising on performance or precision. The brushless DC motor offers an impressive and extremely low power consumption of only approx. 30 W when locking and unlocking – making the module an energy-efficient alternative to conventional pneumatic systems. Due to optional monitoring of the clamping slide position, the fluid-free module is suitable for use in manufacturing environments as well as for all other applications where parts require precise clamping at the first attempt.

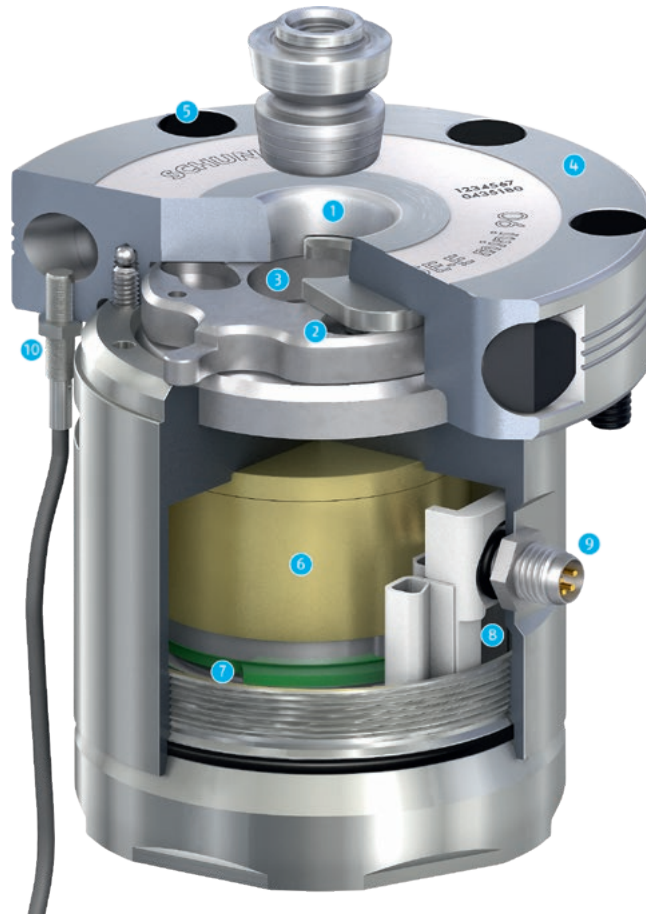


Advantages – Your benefits

- + No expensive compressed air required**
Considerable cost savings
- + Actuators and electronics are integrated in the quick-change pallet module**
Signal processing is done exclusively in the clamping device
- + All modules are operated with 24 V direct voltage**
A powerful clamping device but still harmless for humans
- + Inductive clamping slide monitoring**
For the statuses "Open" and "Clamped with clamping pin"
- + Positioning via short taper**
Very easy joining process at a repeat accuracy of < 0.005 mm
- + Patented dual stroke system**
Therefore extremely rigid clamping without vibrations
- + SCHUNK modular system**
Can be 100% integrated into the extensive SCHUNK NSE mini modular system
- + The modules are corrosion-free and completely sealed**
Long life time and maximum process reliability
- + Form-fit, self-retained locking**
The full pull-down force is maintained even in the event of a power failure

Function NSE-E mini 90

The clamping procedure is carried out by an electric motor, which transmits the force to a drive ring via a gear. The force transmission is carried out by a patented drive kinematics which transmits the drive force into a maximum pull-down force at the clamping pin. To actuate the module, a direct current voltage of 24 V is required.



- 1 High-precision short taper centering**
Ensures μ -precise connection
- 2 Patented dual stroke system**
The patented dual stroke system between drive ring and clamping slide enables extremely high pull-down forces
- 3 Large contact surfaces**
For transmitting the pull-down and holding forces
- 4 Large flat surface**
For best support and highest rigidity
- 5 Cover plugs for mounting screws**
Therefore no accumulation of coolant or chips possible
- 6 Gear**
For increasing the engine torque
- 7 Electric motor**
For generating the required torque for the clamping and opening procedure
- 8 Integrated electronics**
For transmitting power and control signals
- 9 4-pin connection**
For simple connection of the module to the machine control system
- 10 Inductive proximity switch**
For monitoring clamping positions "opened" and "closed"

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.



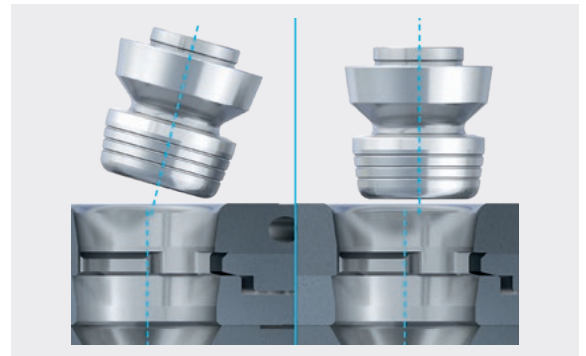
Locking via clamping slides

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



Easy joining

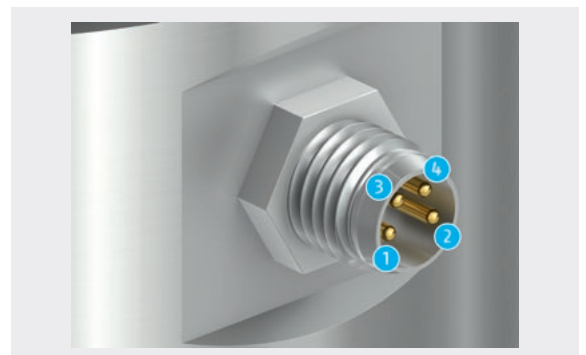
Insertion radii on the clamping pin enable quick and safe joining even at a tilt angle and in case of eccentricity.
Benefit: More user friendly for manual and automatic loading.



Control of the quick-change pallet system

The module is controlled via a 4-pin connection on the side. Using 24 V direct voltage, a brushless DC motor is actuated, which in turn operates the module via a gear.
Benefit: The module has fluid-free actuation.

- ❶ + 24V
- ❷ Mass
- ❸ Open module
- ❹ Close module



Monitoring of the clamping slide position

For the IN-variants, the position of the clamping slide may be monitored via two inductive proximity switches (module open – closed). This monitoring ensures maximum process reliability with daily use of the NSE-E mini 90 modules.



Made of stainless steel – long service life

All functional components are made of hardened stainless steel.



Electromechanical quick-change pallet module

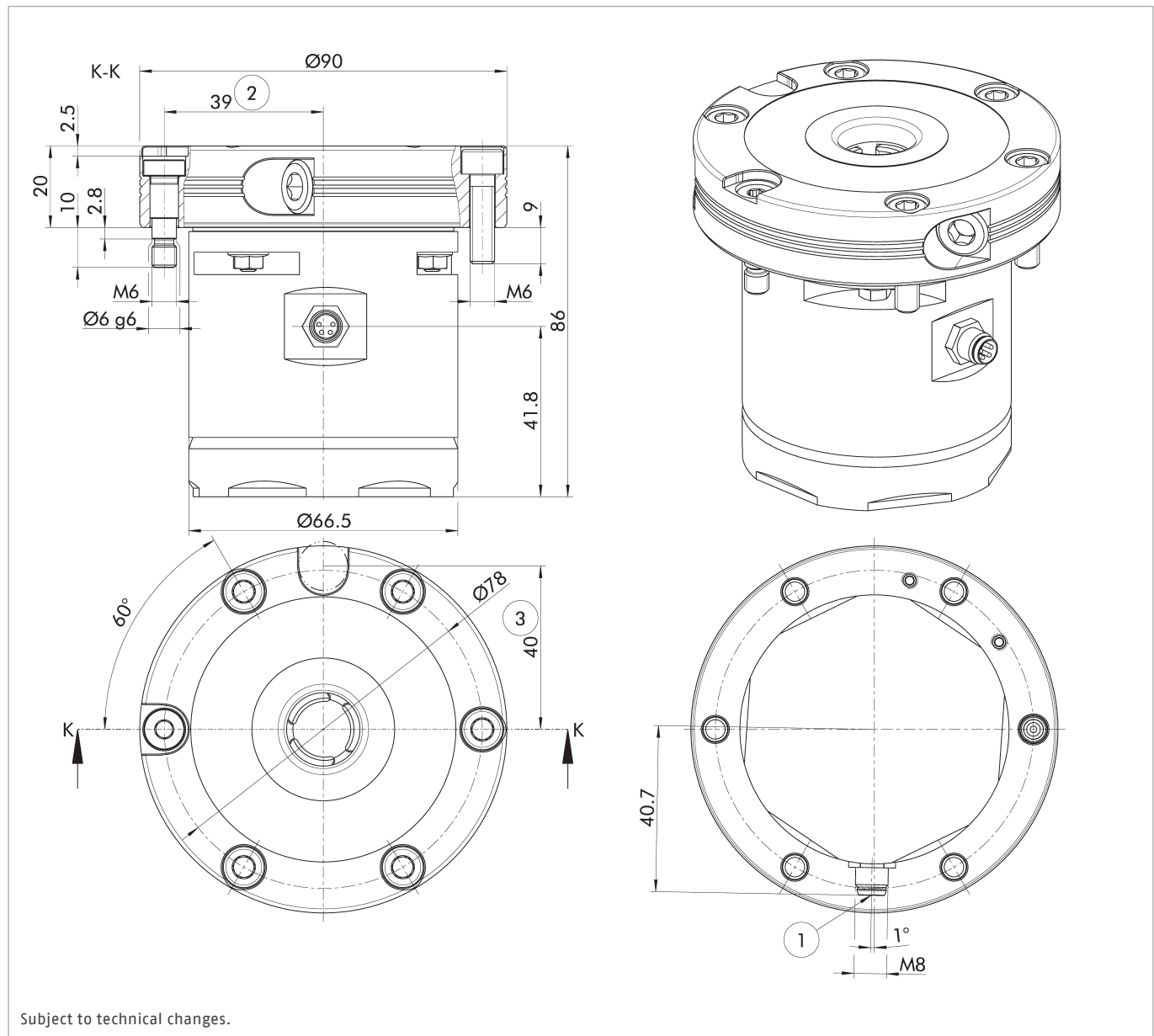
With anti-rotation protection V1
Actuation via 4-PIN connection on the side

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 [kN]	Operating voltage [V DC]	Cycle time [s]	Weight [kg]
NSE-E mini 90-V1	1324403	1.5	24	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

Accessories

Clamping pins SPx mini

Clamping pin for positive connection with NSE mini clamping modules.



Suitable for	Description	ID
NSE-E mini 90-V1	SPA mini 20	0435610
NSE-E mini 90-V1	SPB mini 20	0435620
NSE-E mini 90-V1	SPC mini 20	0435630

Clamping pin extension

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



Suitable for	Description	ID
NSE-E mini 90-V1	SP-VL mini 30-6-SPA	0435640
NSE-E mini 90-V1	SP-VL mini 60-6-SPA	0435650

Indexing pin

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



Suitable for	Description	ID
NSE-E mini 90-V1	IXB V1 mini	0435930

Protection covers

Used to close the changing interface and to cover the contact surface.



Suitable for	Description	ID
NSE-E mini 90-V1	SDE mini 90	0435670

Protection covers

For closing the changing interface.



Suitable for	Description	ID
NSE-E mini 90-V1	SDE mini 20	0435660

Cover caps

Used to cover the mounting screws and to avoid the accumulation of chips.



Suitable for	Description	ID
NSE-E mini 90-V1	ADK M6-SW4	0435911



**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