



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.

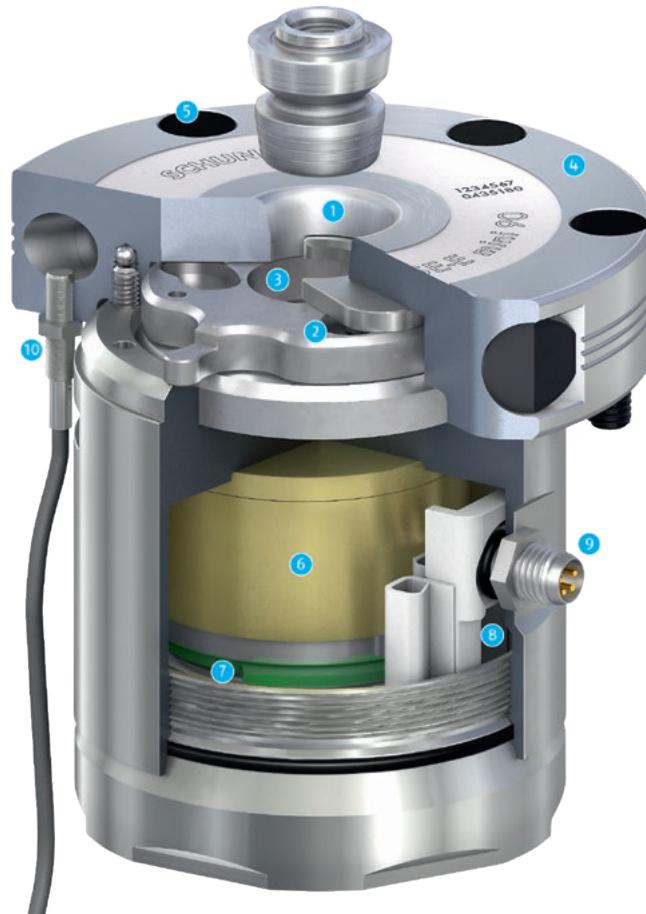


Advantages – Your benefits

- + 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.



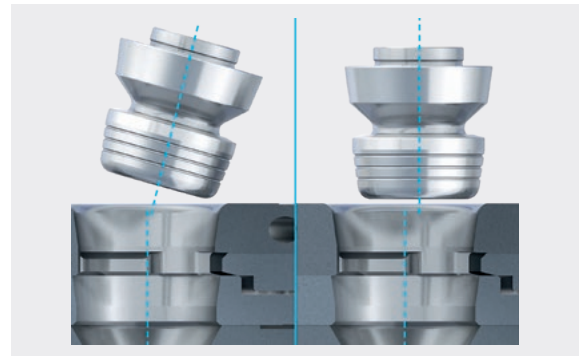
Locking via clamping slides

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



Easy joining

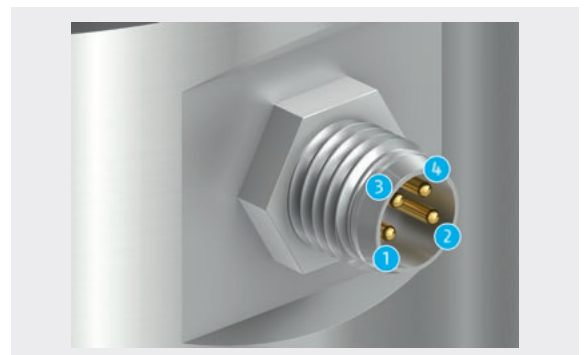
Insertion radii on the clamping pin enable quick and safe joining even at a tilt angle and in case of eccentricity.
Benefit: More user friendly for manual and automatic loading.



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

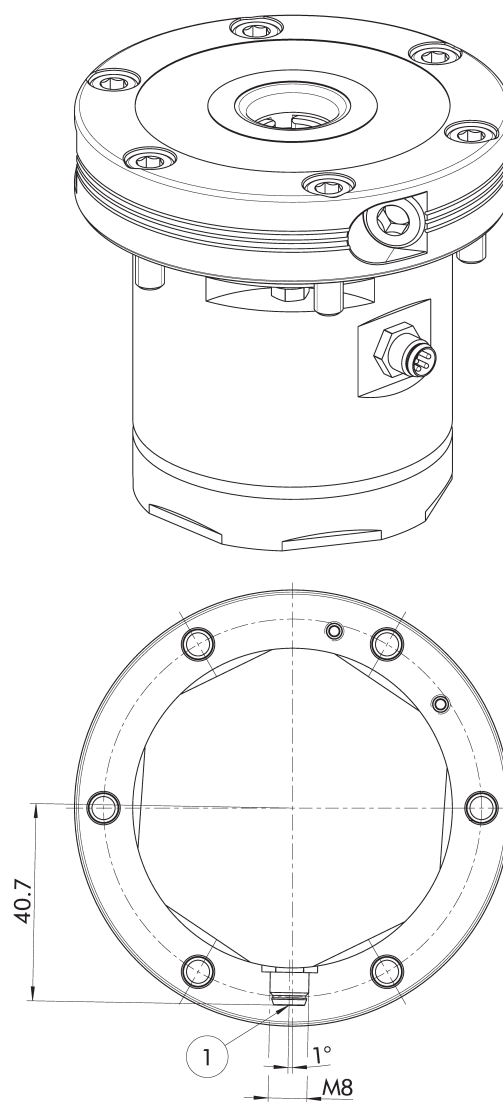
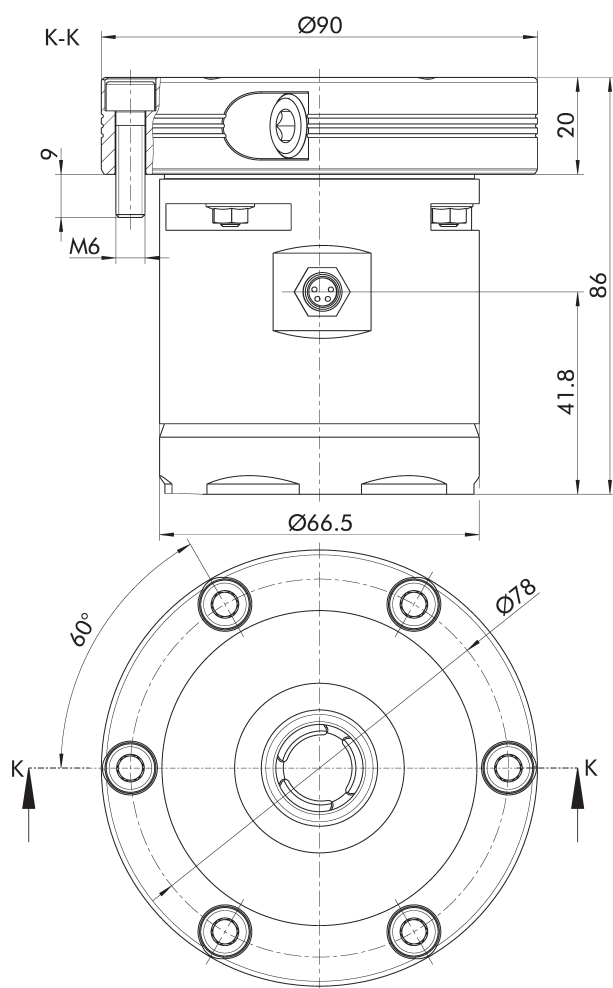
Actuation via 4-PIN connection on the side

Scope of delivery

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

Technical data

Description	ID	Pull-down force [kN]	Operating voltage [V DC]	Cycle time [s]	Weight [kg]
NSE-E mini 90	0435180	1.5	24	1	1.7



Subject to technical changes.

① 4-PIN connection for controlling the module

Electromechanical quick-change pallet module

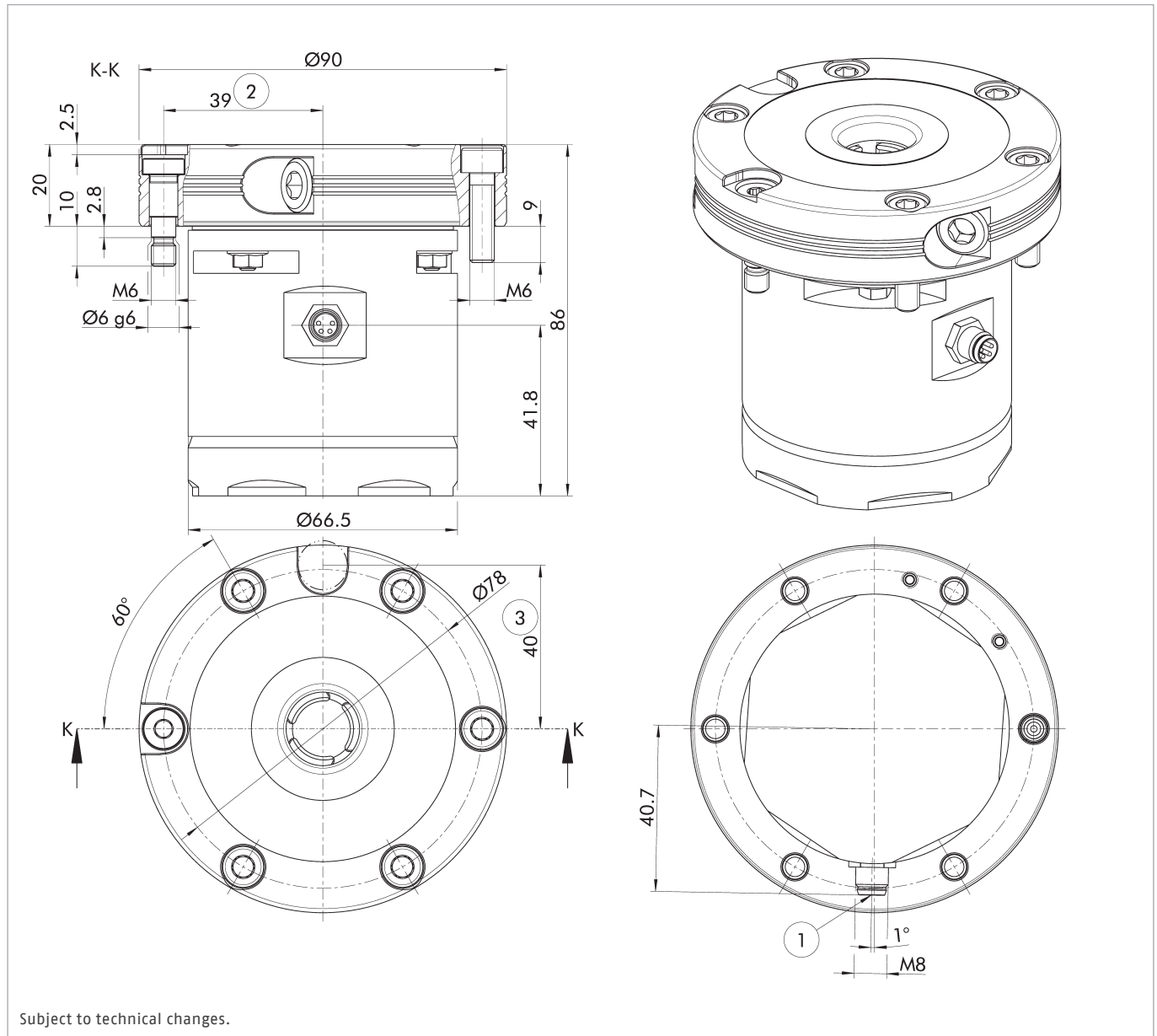
With anti-rotation protection V1
Actuation via 4-PIN connection on the side

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

Electromechanical quick-change pallet module

Actuation via 4-PIN connection on the side

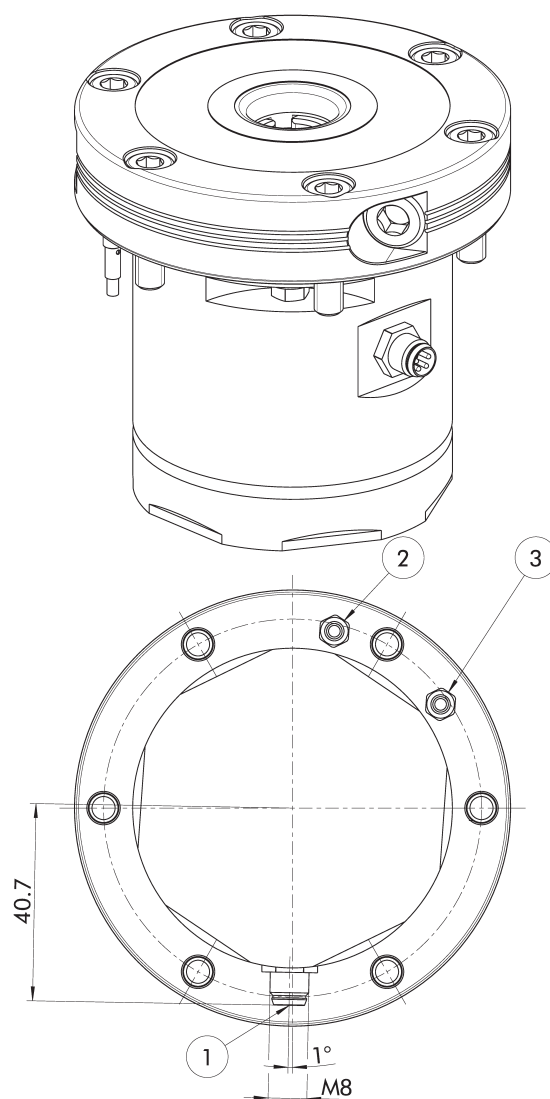
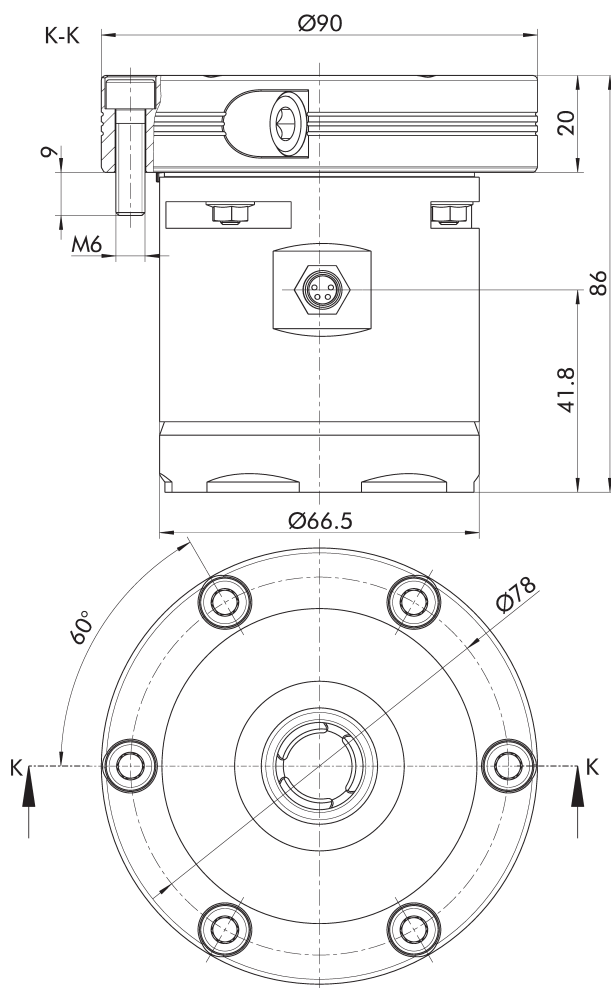
Monitoring the clamping slide positions via inductive proximity switches

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 [kN]	Operating voltage [V DC]	Cycle time [s]	Weight [kg]
NSE-E mini 90-IN	1313264	1.5	24	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

With anti-rotation protection V1

Actuation via 4-PIN connection on the side

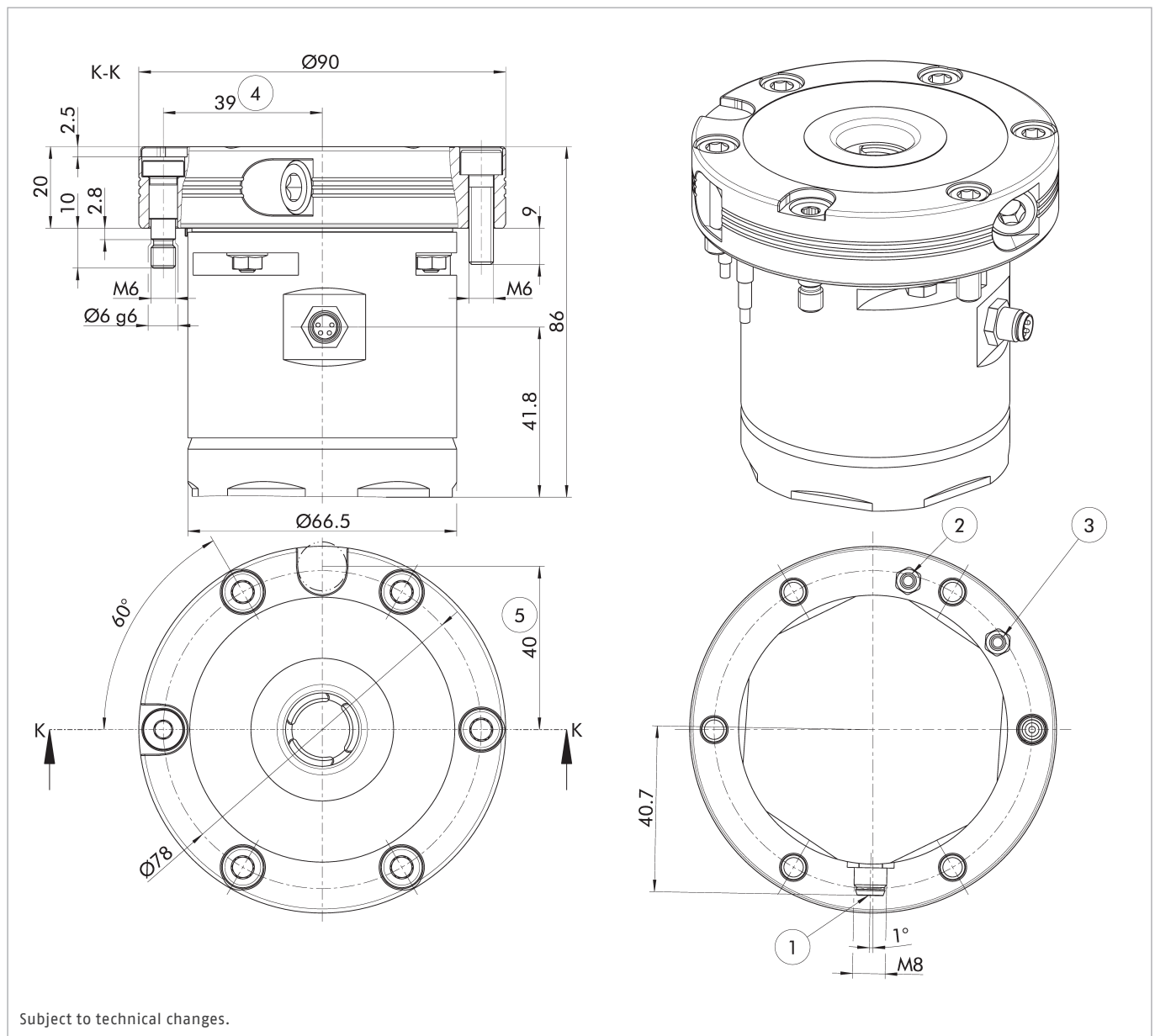
Monitoring the clamping slide positions via inductive proximity switches

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 [kN]	Operating voltage [V DC]	Cycle time [s]	Weight [kg]
NSE-E mini 90-IN-V1	1324404	1.5	24	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

Accessories

Clamping pins SPx mini

Clamping pin for positive connection with NSE mini clamping modules.



Suitable for	Description	ID
NSE-E mini 90		
NSE-E mini 90-V1		
NSE-E mini 90-IN		
NSE-E mini 90-IN-V1	SPA mini 20	0435610
NSE-E mini 90		
NSE-E mini 90-V1		
NSE-E mini 90-IN		
NSE-E mini 90-IN-V1	SPB mini 20	0435620
NSE-E mini 90		
NSE-E mini 90-V1		
NSE-E mini 90-IN		
NSE-E mini 90-IN-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		
NSE-E mini 90-V1		
NSE-E mini 90-IN		
NSE-E mini 90-IN-V1	SP-VL mini 30-6-SPA	0435640
NSE-E mini 90		
NSE-E mini 90-V1		
NSE-E mini 90-IN		
NSE-E mini 90-IN-V1	SP-VL mini 60-6-SPA	0435650

Indexing pin

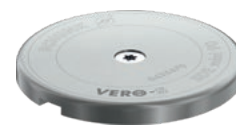
Used as an anti-rotation protection for VERO-S modules with anti-rotation protection V1.



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

Protection covers

For closing the changing interface.



Suitable for	Description	ID
NSE-E mini 90		
NSE-E mini 90-V1		
NSE-E mini 90-IN		
NSE-E mini 90-IN-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		
NSE-E mini 90-IN	ADK M6-SW5	9985503
NSE-E mini 90-V1		
NSE-E mini 90-IN-V1	ADK M6-SW4	0435911



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