



## VERO-S NSL3 turn

Suitable for use with all standard milling-turning centers

Superior Clamping and Gripping



# Product Overview



## Gripping Systems

## Clamping Technology



Chuck Jaws



Lathe Chucks



Stationary Workholding



Toolholders



Hydraulic Expansion Technology



VERO-S



KONTEC



TANDEM



ROTA

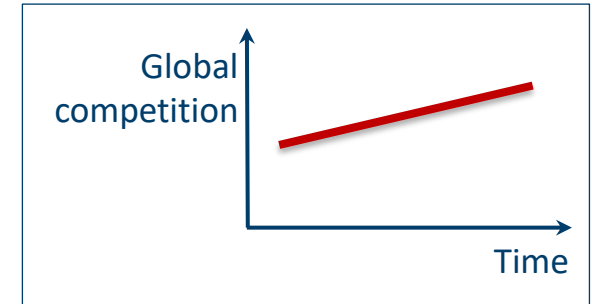
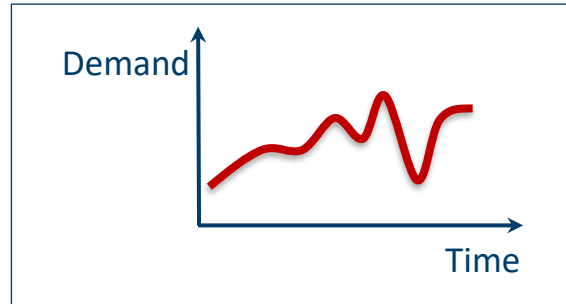
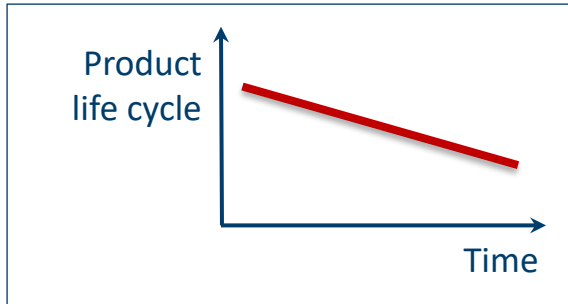
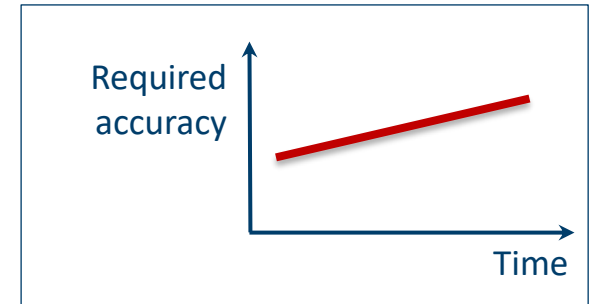
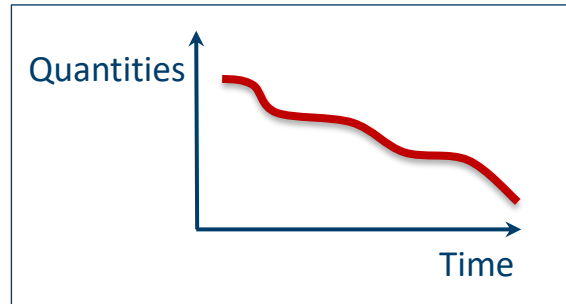
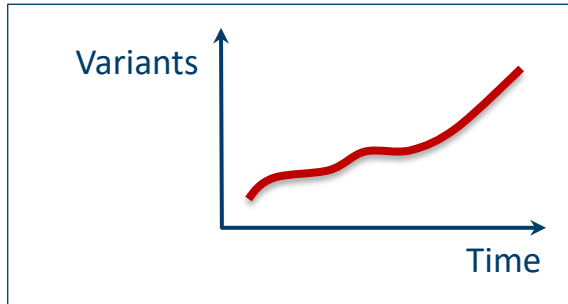


MAGNOS



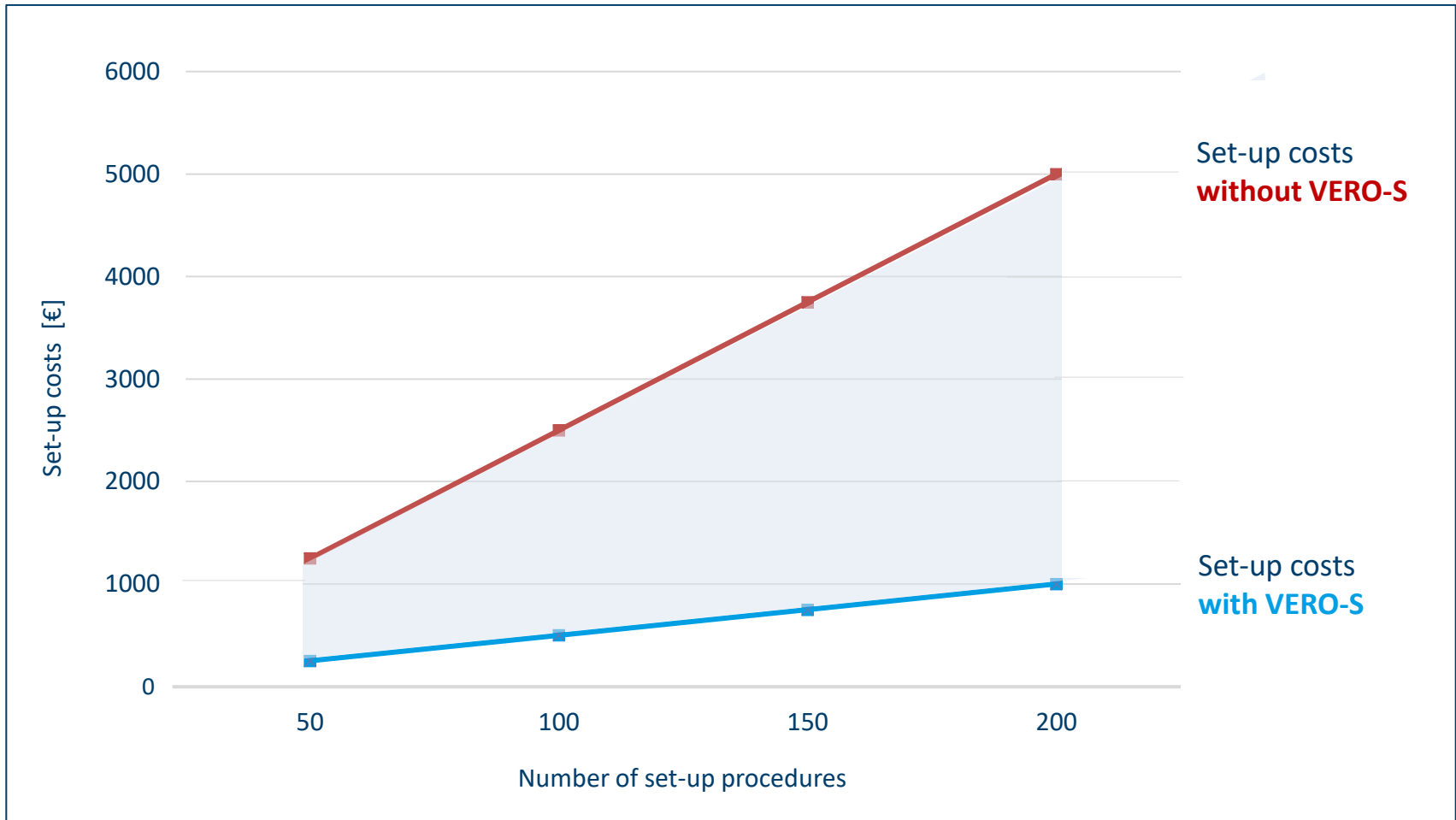
PLANOS

# Challenges



Increasing relevance of the set-up process

# Potential for savings



# Amortisation

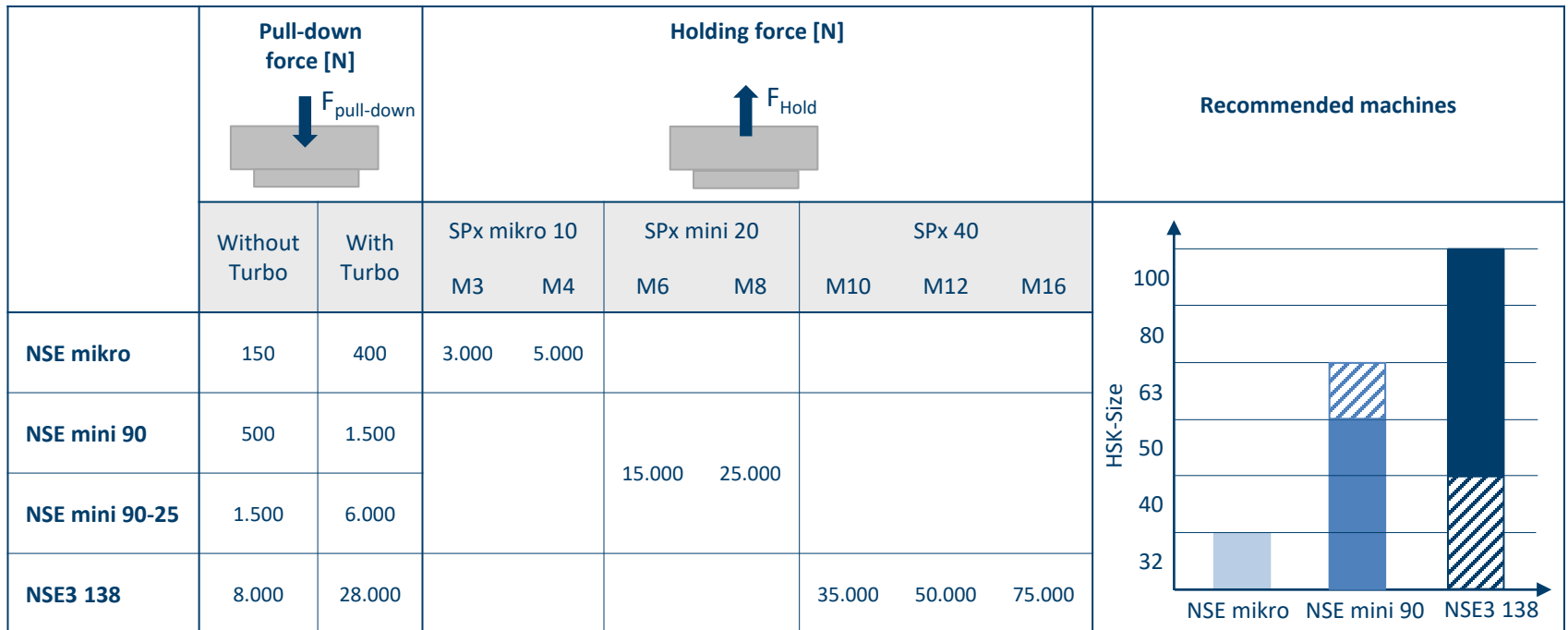


Even for older machines, the investment in SCHUNK VERO-S quick change pallet system amortizes within a minimum of time.

Thanks to the consistent interface of the clamping pin, the existing clamping devices can easily be integrated in the new system.

Calculation for set-up costs	Case 1	Case 2
Investment in SCHUNK VERO-S [€]	5.000	10.000
Time per set-up procedure without VERO-S [min]	25	
Time per set-up procedure with VERO-S [min]	5	
Machine costs [€/h]	60	
Number of set-up procedures per day	5	
Working days per month	20	
Working days per year	240	
Payback Time		
Set-up procedures	250	500
Working days	50	100
Months	2,5	5
<b>Years</b>	<b>0,21</b>	<b>0,42</b>

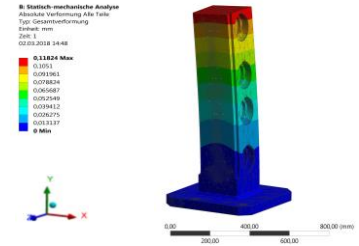
# Consistency of pull-down and holding forces



# SCHUNK Services

## Engineering

- Dimensioning of special plates designed to the manufacturing specifications
- Development of special solutions together with the customer
- FEM analysis for critical components



## Testing

- Endurance tests with all new developments
- Abrasion checking
- Measurement of accuracy



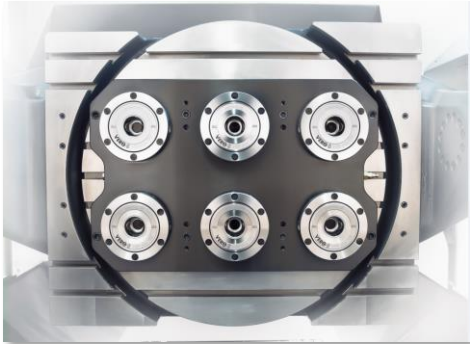
## Service

- Initial operation of customer's solution
- Inspection and maintenance
- Repairs



# VERO-S Overview

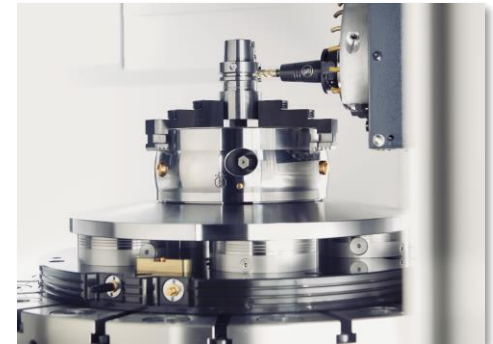
General milling applications



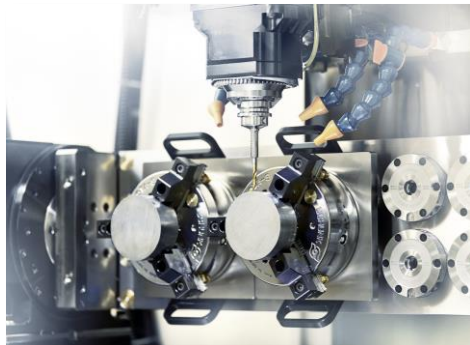
Direct workpiece clamping



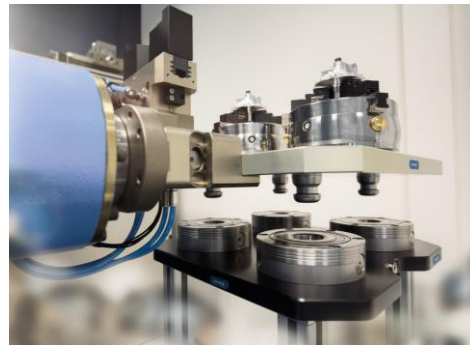
Milling and turning applications



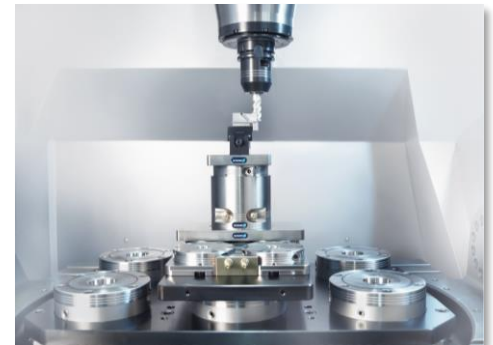
Easy milling applications



Automated machine loading

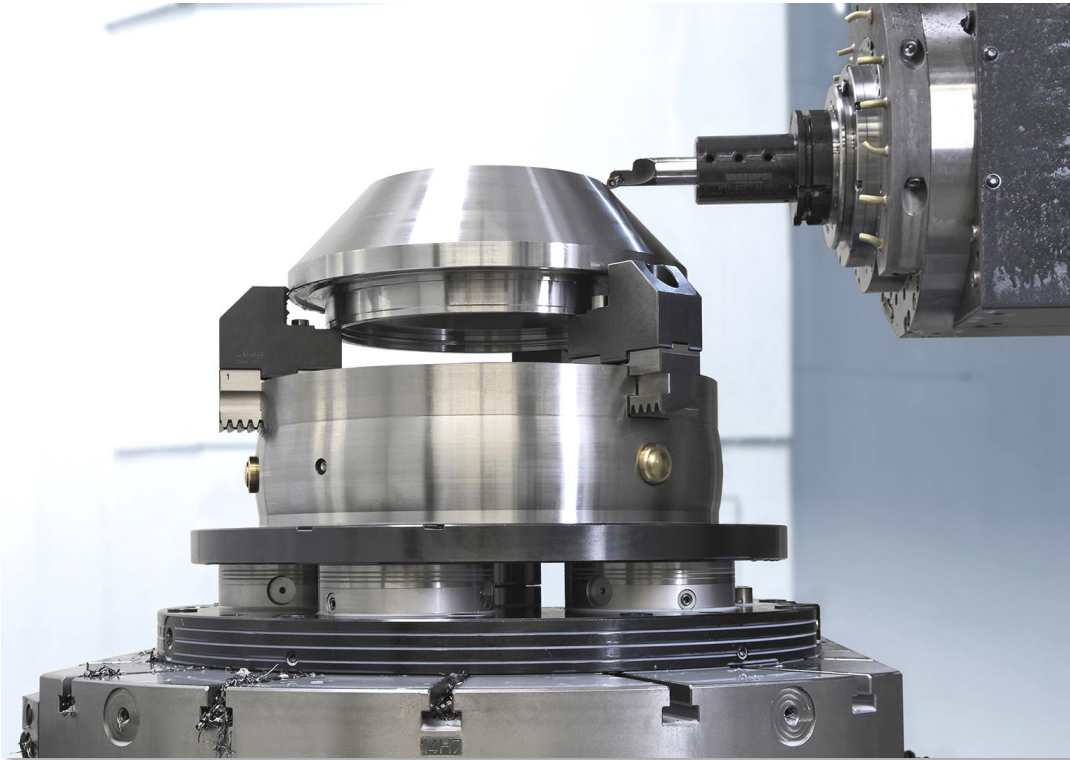


Further applications



# VERO-S NSL3 turn

## Example of application



### VERO-S:

Standard NSL turn 5-way clamping station.

### Clamping device:

Manual chuck ROTA-S plus 2.0.

### Features/Application:

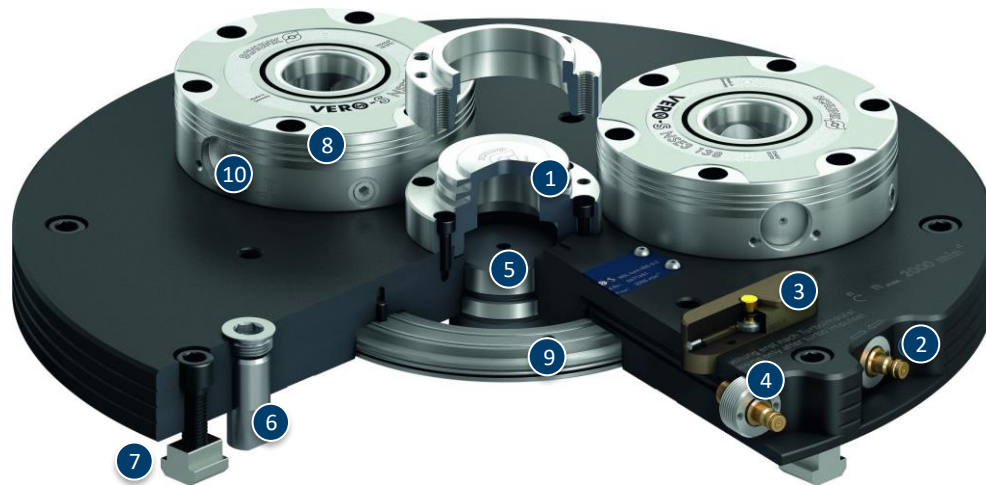
The clamping device resp. the workpiece is centered via the highly precise flex cone in the center of the clamping station. The flex cone offers radial rigidity and axial flexibility.

The pull-down force is increased by the Turbo function that is integrated in the standard version. Rotational speed of up to 2000/min is possible.

# VERO-S NSL3 turn



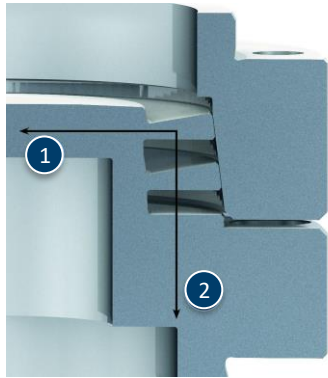
STAINLESS  
STEEL



- ① Highly precise flex taper centering
- ② Turbo function
- ③ Indicator pin
- ④ Pneumatic system
- ⑤ Alignment with centering bolts
- ⑥ Mounting using alignment bolts
- ⑦ Mounting via T-nuts
- ⑧ NSE3 138 quick-change pallet system
- ⑨ Ring-shaped air distribution
- ⑩ Orientation of the clamping slides always tangential

# VERO-S NSL3 turn

## Flex taper



- 1 Radially rigid
- 2 Axially flexible

## Visual display of the turbo function



## Clamping slide arrangement



# Variants VERO-S NSL3 turn

Technical Data	NSL3 turn 450-3	NSL3 turn 450-3-Z	NSL3 turn 570-5	NSL3 turn 570-5-Z
Diameter [mm]	450	450	570	570
Pull-down force with turbo [kN]	75	75	125	125
Unlocking pressure [bar]	6	6	6	6
Run-out accuracy [mm]	< 0.02	< 0.01	< 0.02	< 0.01
Max. rotational speed [1/min]	2000	2000	1400	1400
Weight [kg]	50	51	90	91

Superior Clamping and Gripping



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