



## VERO-S NSE mikro

The world's flattest quick-change pallet module

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

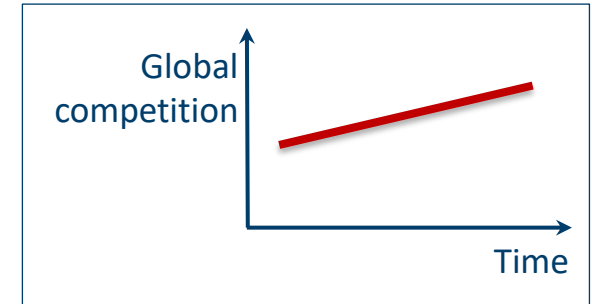
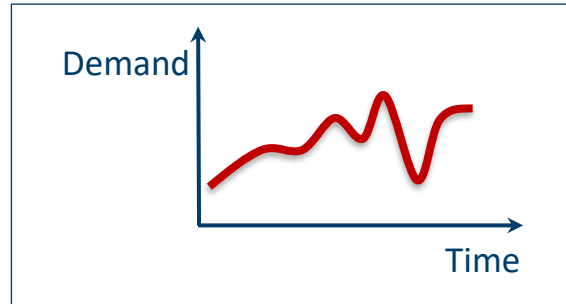
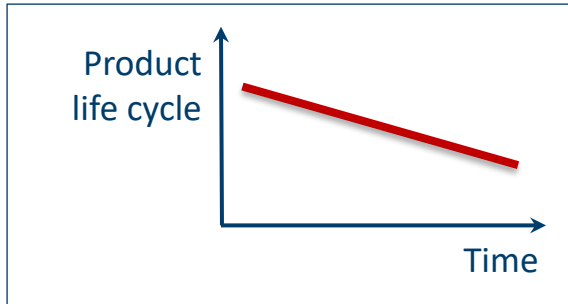
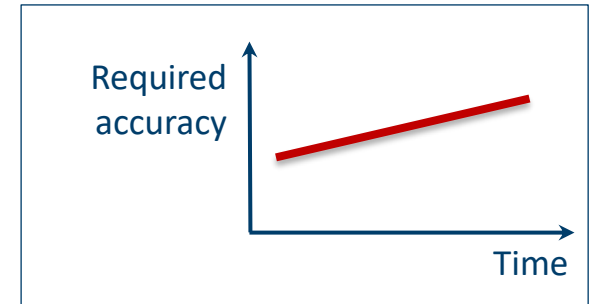
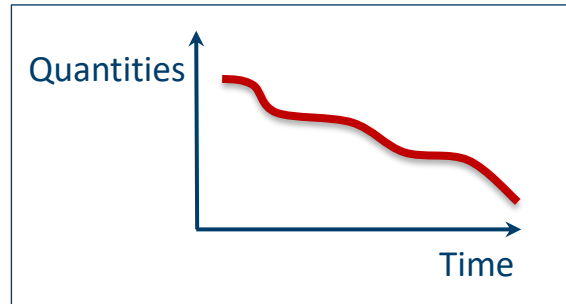
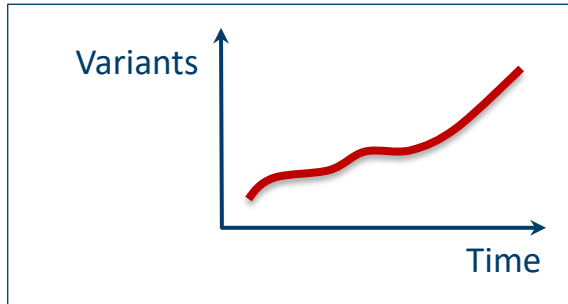


MAGNOS



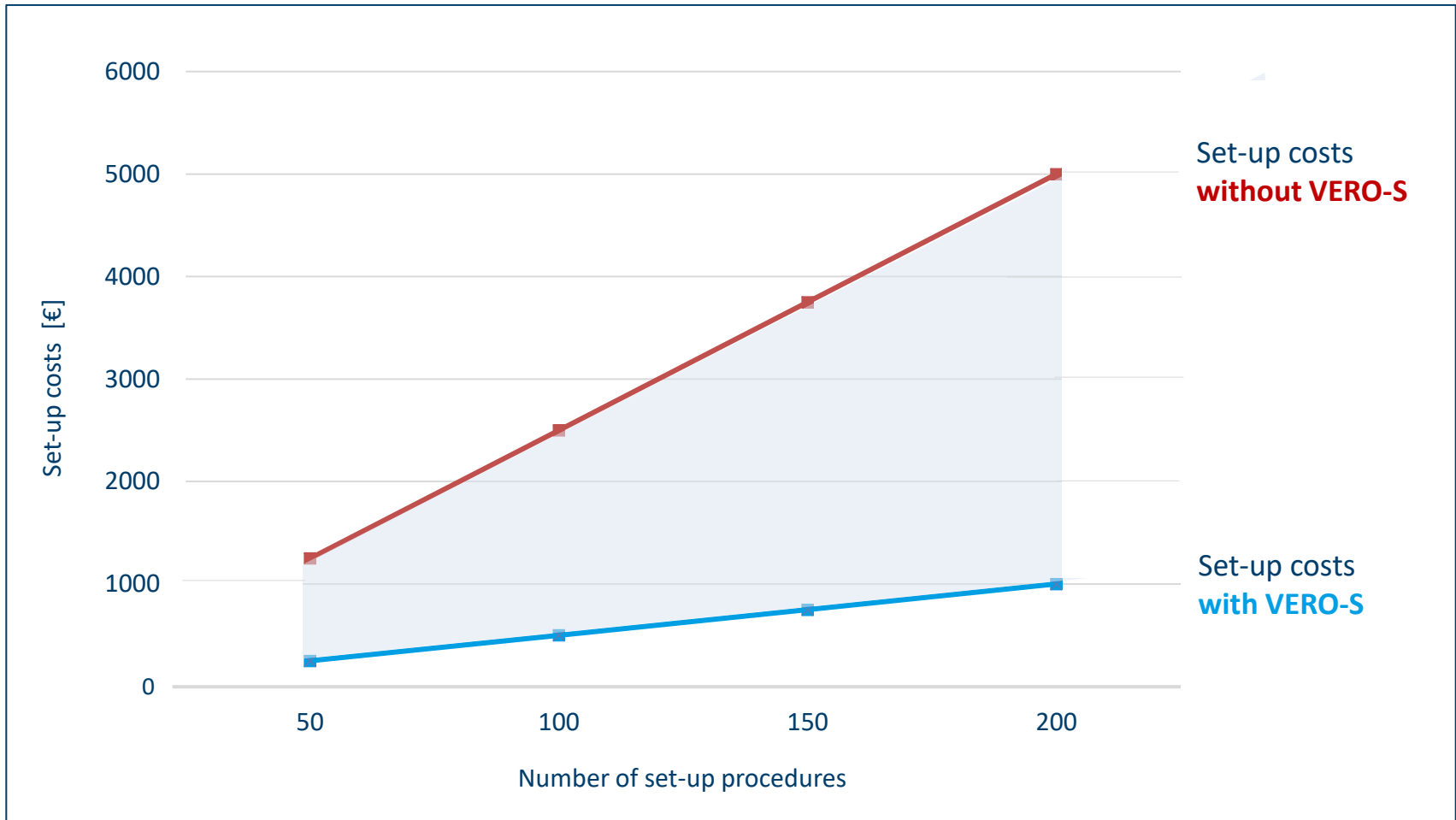
PLANOS

# Challenges



Increasing relevance of the set-up process

# Potential for savings



# Amortisation

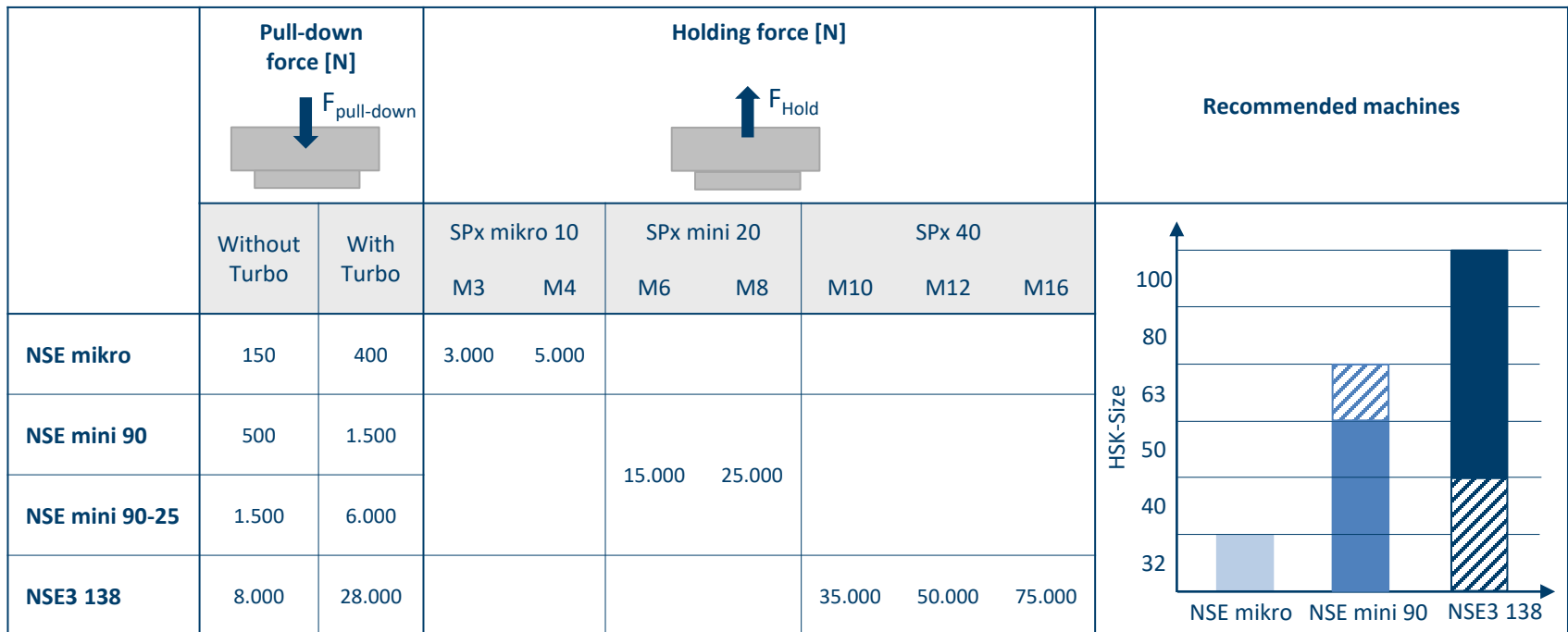


Even for older machines, the investment in SCHUNK VERO-S quick change pallet system amortizes within a minimum of time.

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>

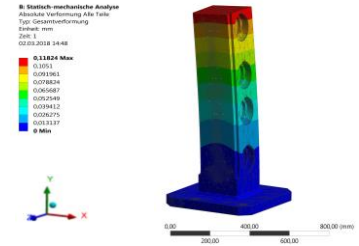
# Consistency of pull-down and holding forces



# 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



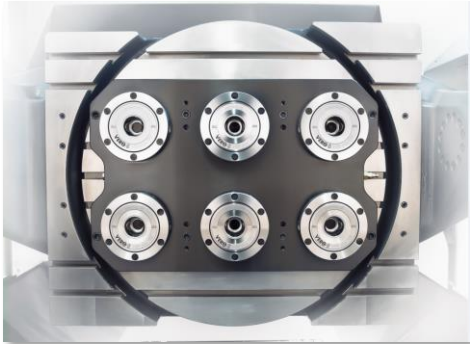
## Service

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



# VERO-S Overview

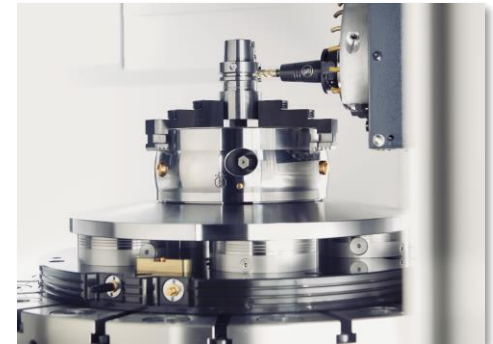
General milling applications



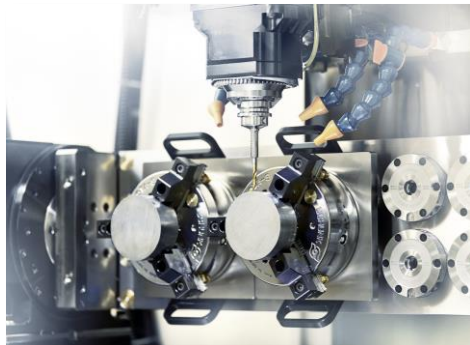
Direct workpiece clamping



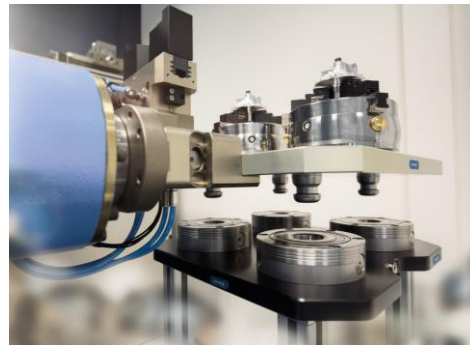
Milling and turning applications



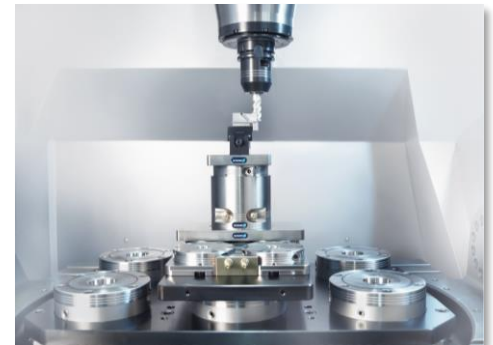
Easy milling applications



Automated machine loading



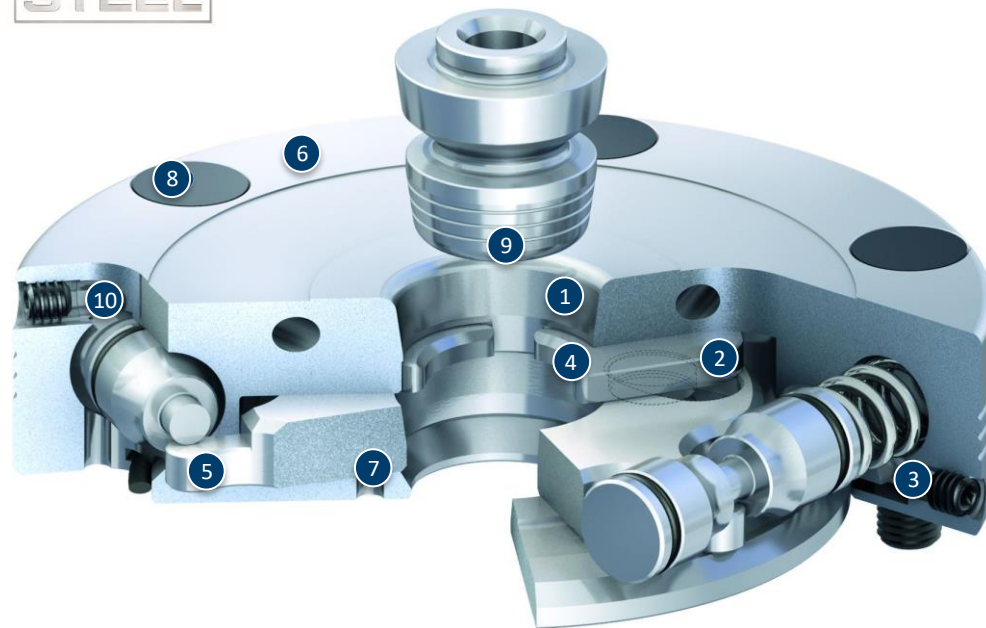
Further applications



# VERO-S NSE mikro



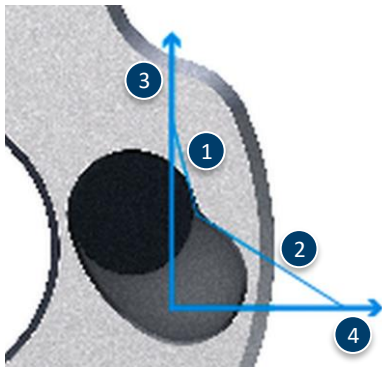
STAINLESS  
STEEL



- ① High-precision short taper centering
- ② Patented dual stroke system
- ③ Turbo function
- ④ Large surfaces
- ⑤ Patented drive concept
- ⑥ Large flat surface
- ⑦ Monitoring of the clamping slide position
- ⑧ Cover caps for mounting screws
- ⑨ Entry radii on the clamping pin
- ⑩ Pneumatic system

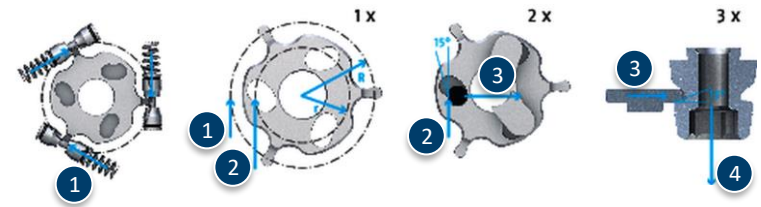
# VERO-S NSE mikro

## Patented drive concept in confined spaces



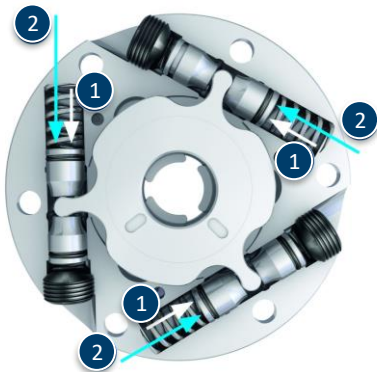
- 1 Clamping stroke
- 2 Fast stroke
- 3 Force
- 4 Travel

## Patented drive concept: Triple force transmission



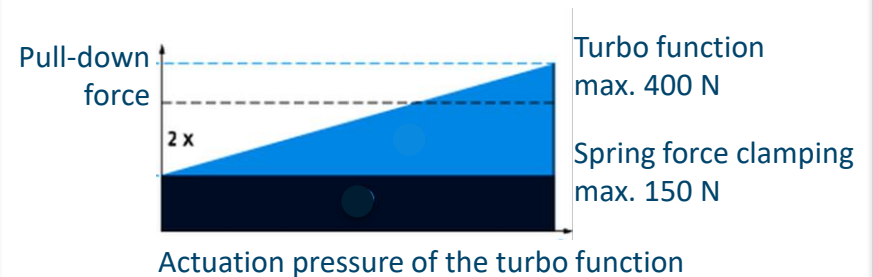
- 1 Actuation force
- 2 Force on the drive ring
- 3 Force on the clamping slide
- 4 Pull-down force

## Integrated turbo function



- 1 Spring force
- 2 Additional force, resulting from the turbo function

## Comparison: Pull-down force spring clamping and turbo function



# VERO-S NSE mikro

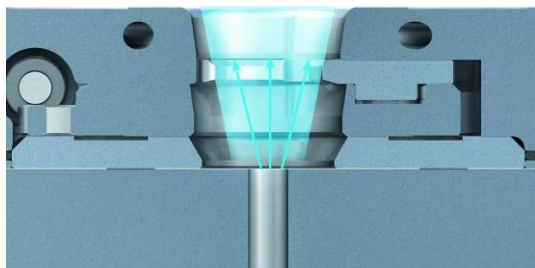
Centering via short taper



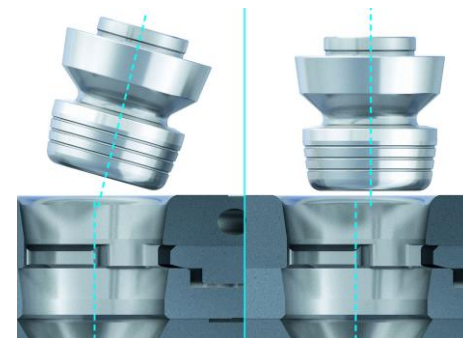
Locking via clamping slide



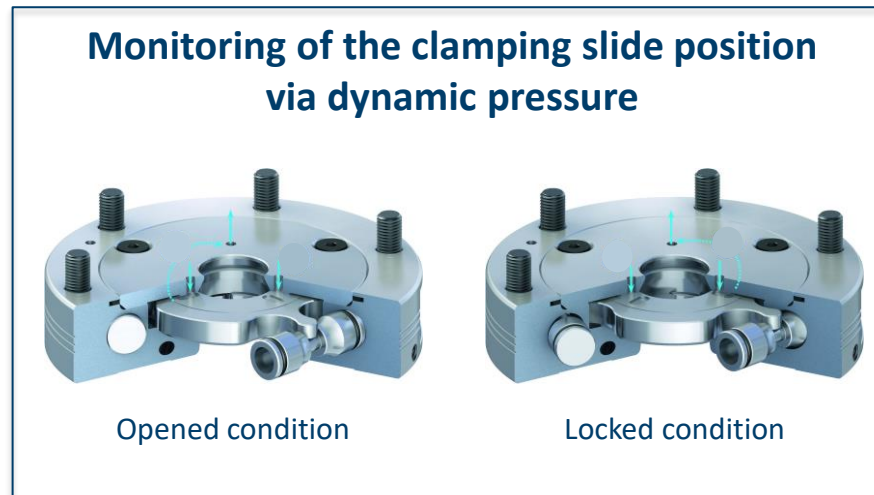
Air purge connection



Easy positioning – more user friendly



# VERO-S NSE mikro



# Variants VERO-S NSE mikro

Technical Data	NSE mikro	NSE mikro 49-V10
Diameter [mm]	49	49
Pull-down force [N]	150	150
Pull-down force with turbo [N]	400	400
Unlocking bar [bar]	6	6
Repeat accuracy [mm]	< 0.005	< 0.005
Weight [kg]	0.2	0.2

Superior Clamping and Gripping



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