



VERO-S NSA plus

The specialist for automated production

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

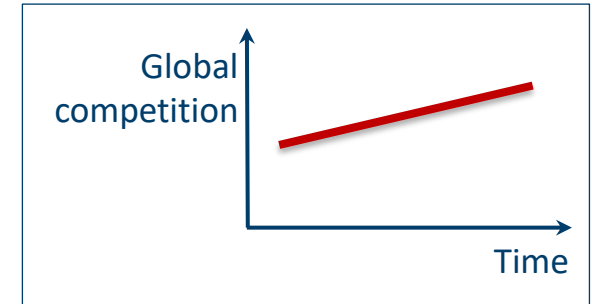
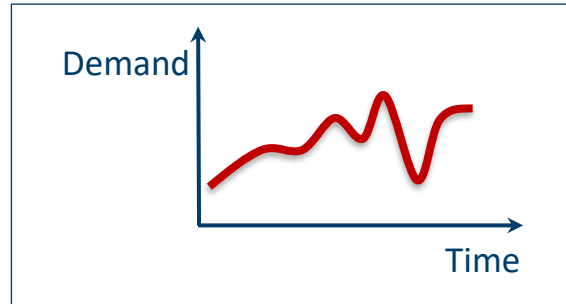
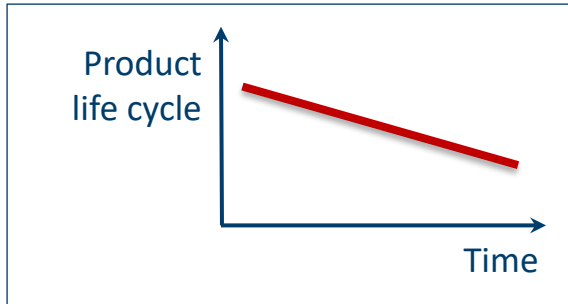
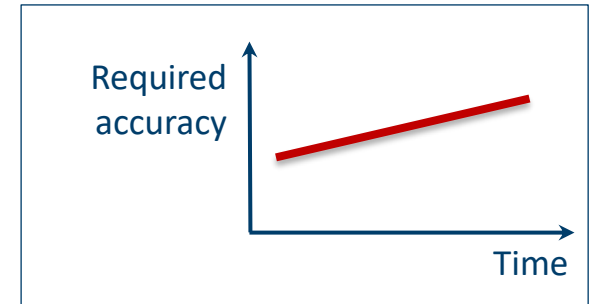
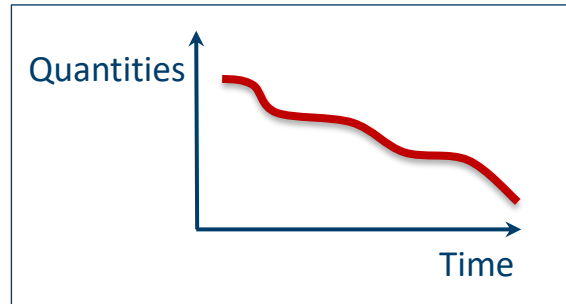
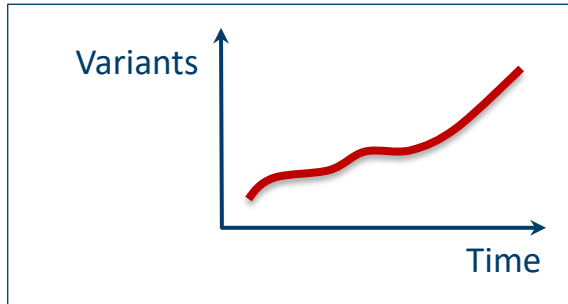


MAGNOS



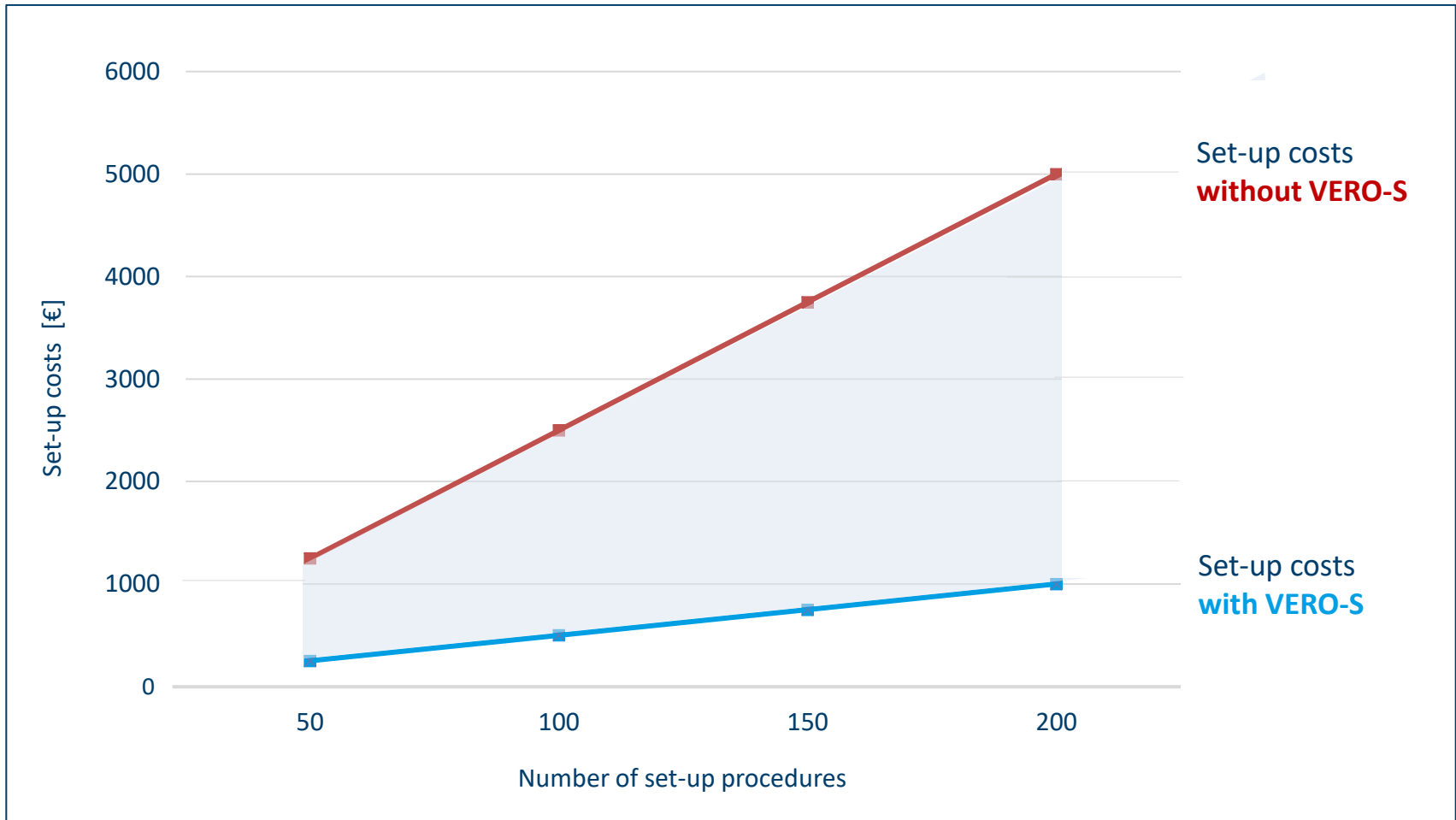
PLANOS

Challenges



Increasing relevance of the set-up process

Potential for savings



Amortisation

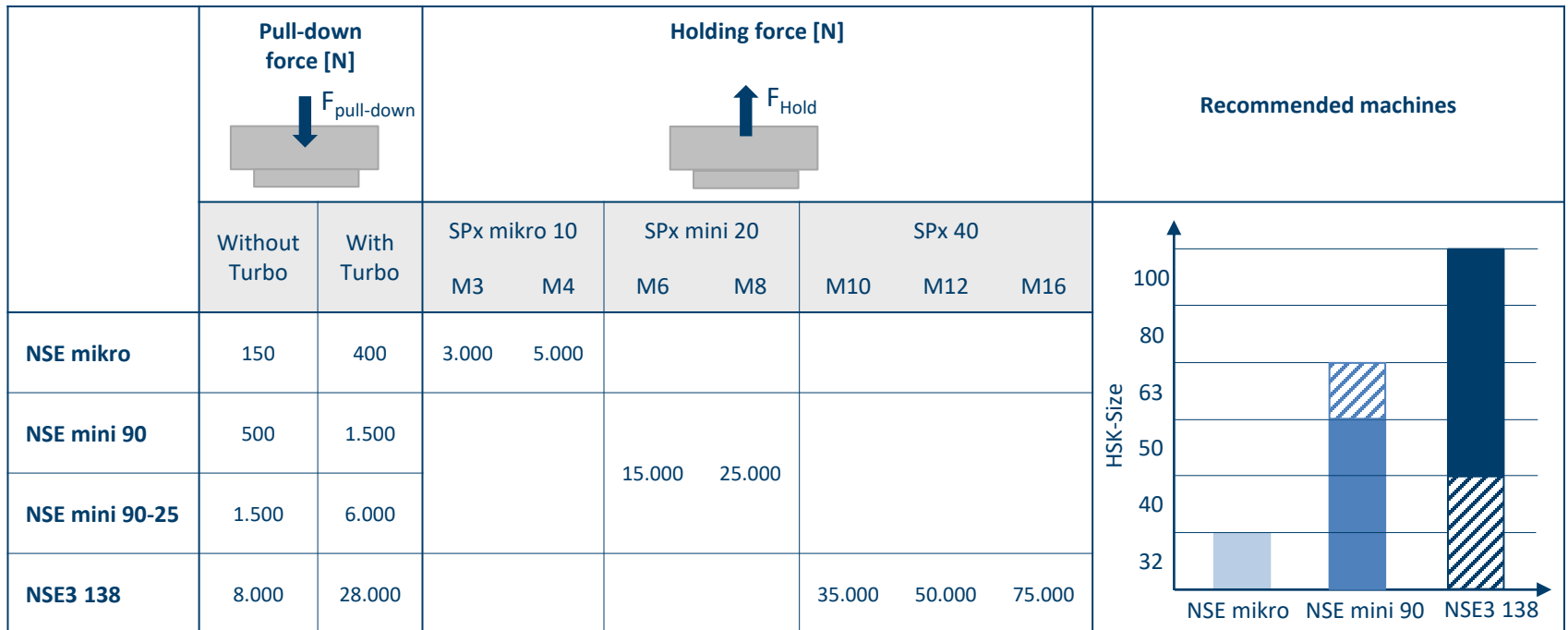


Even for older machines, the investment in SCHUNK VERO-S quick change pallet system amortizes within a minimum of time.

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
Years	0,21	0,42

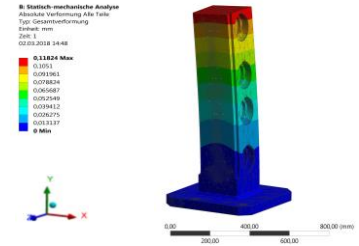
Consistency of pull-down and holding forces



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



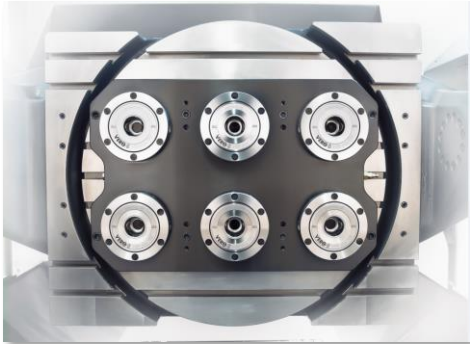
Service

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



VERO-S Overview

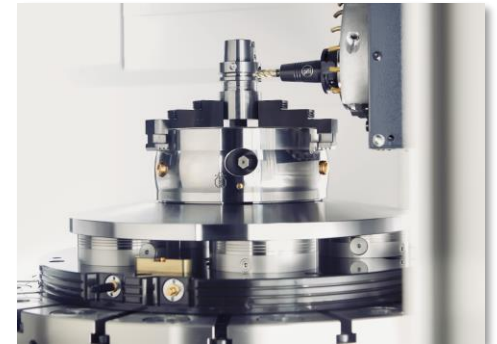
General milling applications



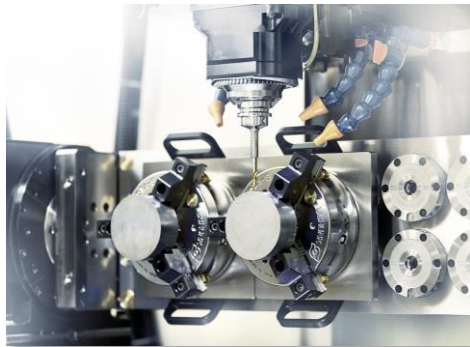
Direct workpiece clamping



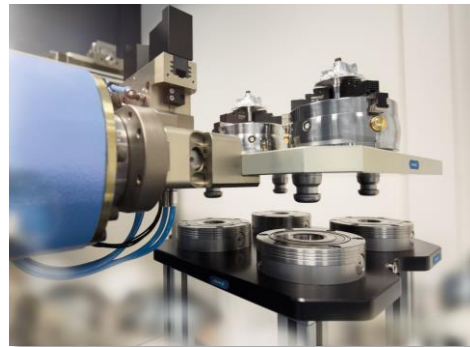
Milling and turning applications



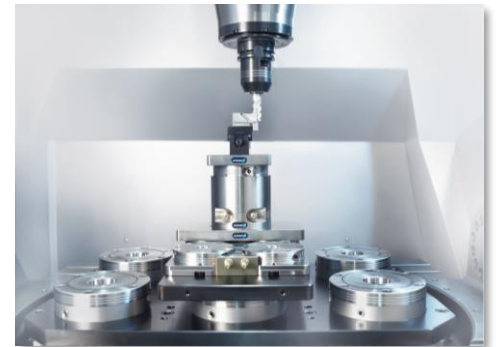
Easy milling applications



Automated machine loading



Further applications



VERO-S NSA plus

Example of application



VERO-S:

Special 4-way clamping station with NSA plus 120 clamping modules, Robot coupling NSR maxi, Pallet coupling PKL maxi.

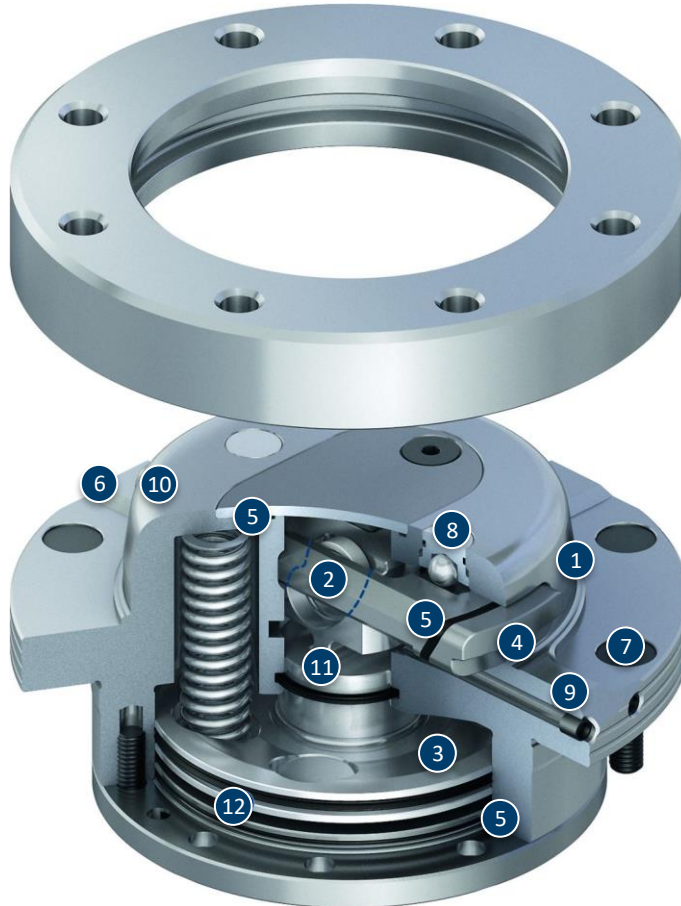
Clamping device:

Clamping pallet with KONTEC KSC 125-160.

Features/Application:

Thanks to the monitoring systems of the clamping station, VERO-S is best suited for automated loading and unloading.

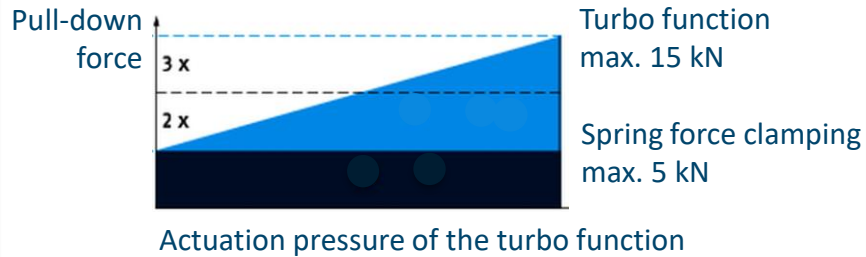
VERO-S NSA plus



- 1 High-precision short taper centering
- 2 Patented dual stroke system
- 3 Turbo function
- 4 Large surfaces
- 5 Completely sealed system
- 6 Flat work surface at outer diameter
- 7 Cover caps for mounting screws
- 8 Lifting function when opening the modules
- 9 Contact monitoring
- 10 Entry radii on the module
- 11 Flexible piston
- 12 Pneumatic system

VERO-S NSA plus

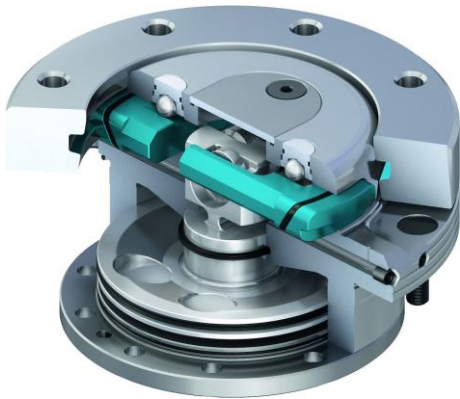
Comparison: Pull-down force spring clamping and turbo function



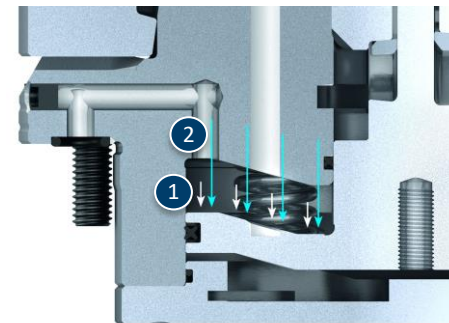
Centering via short taper



Locking via clamping slide



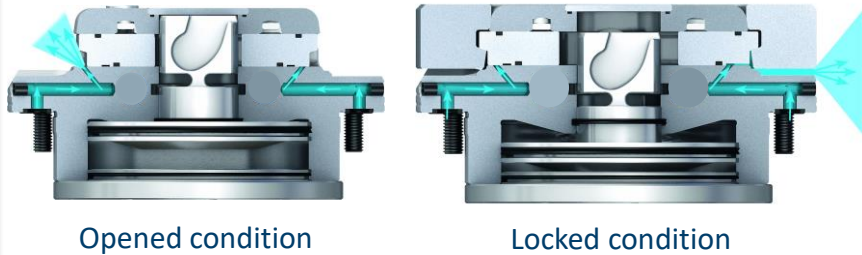
Integrated turbo function



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

VERO-S NSA plus

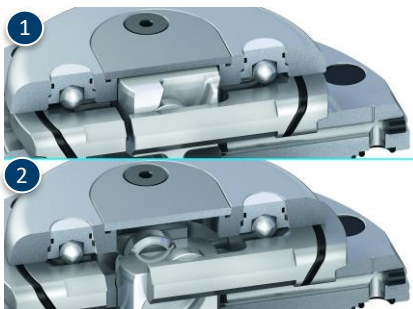
Monitoring of the clamping slide position via the dynamic pressure



Cleaning and monitoring the flat work surface

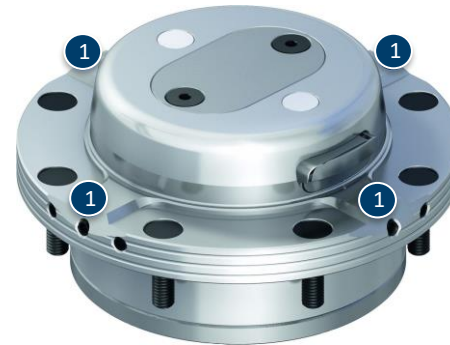


Lifting function



- 1 Clamping module opened – the lifting function lifts the pallet.
- 2 Clamping module closed – the lifting function is pushed back by the weight of the pallet.

Flat work surface at outer diameter



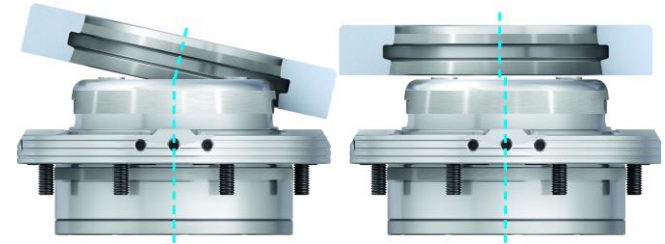
- 1 Contact surfaces

VERO-S NSA plus

Extremely flat design



Easy positioning – more user friendly



Configuration of clamping rings type A, B und C



- ① Typ A fixed
- ② Typ B positioned
- ③ Typ C with centering play

Variants VERO-S NSA plus

Technical Data	NSA plus 120	NSA plus 160
Diameter [mm]	118	158
Pull-down force [kN]	3	5
Pull-down force with turbo [kN]	9	15
Unlocking pressure [bar]	6	6
Repeat accuracy [mm]	< 0.005	< 0.005
Lifting force [kN]	1	2
Weight [kg]	2.5	5.8

Superior Clamping and Gripping



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