



TANDEM KSH plus

Clamping Force Blocks | hydraulic

Superior Clamping and Gripping



Product Overview



Gripping Systems

Clamping Technology



Chuck Jaws



Lathe Chucks



Stationary Workholding



Toolholders



Hydraulic Expansion Technology



VERO-S



TANDEM



ROTA



KONTEC

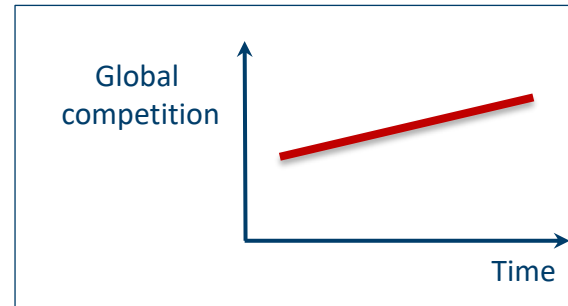
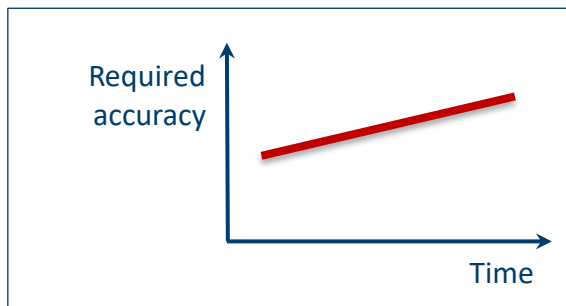
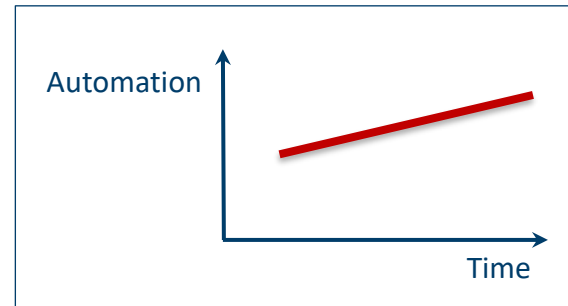
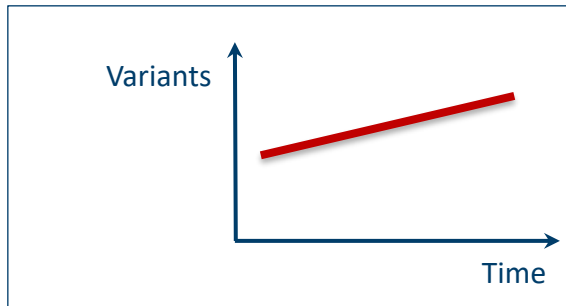


Tombstones



MAGNOS

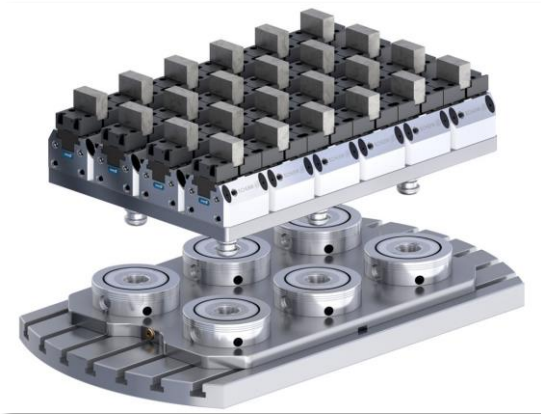
Challenges



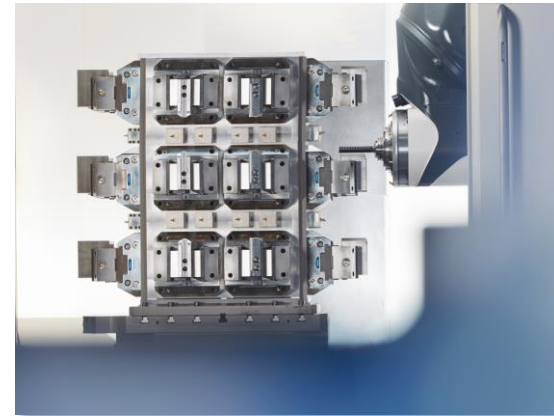
Increasing relevance of the set-up process

TANDEM Clamping Force Blocks

High workpiece density at small space



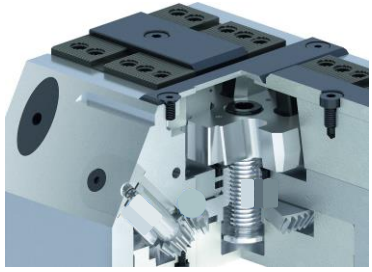



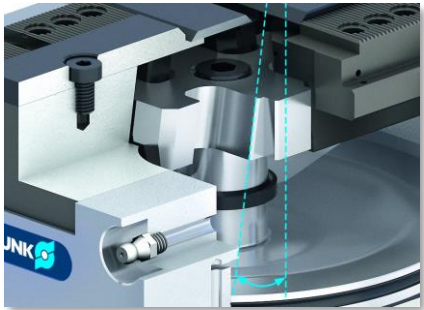
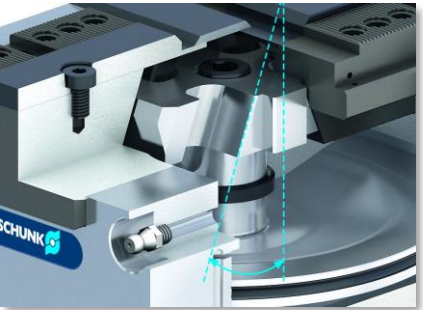

Optimum accessibility of the machine spindle to the workpiece



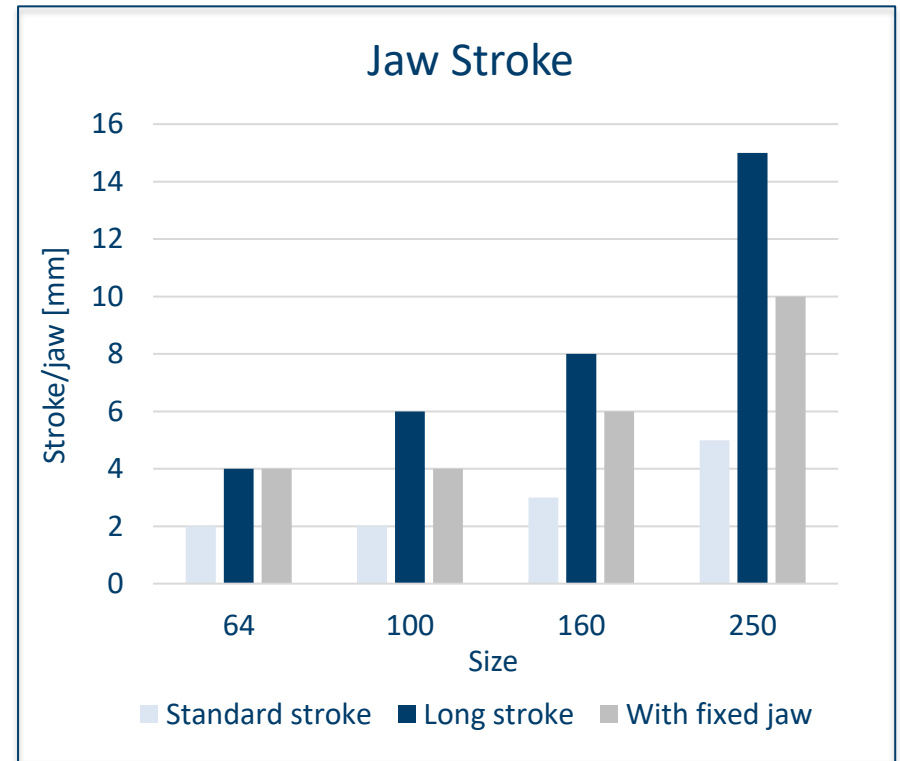
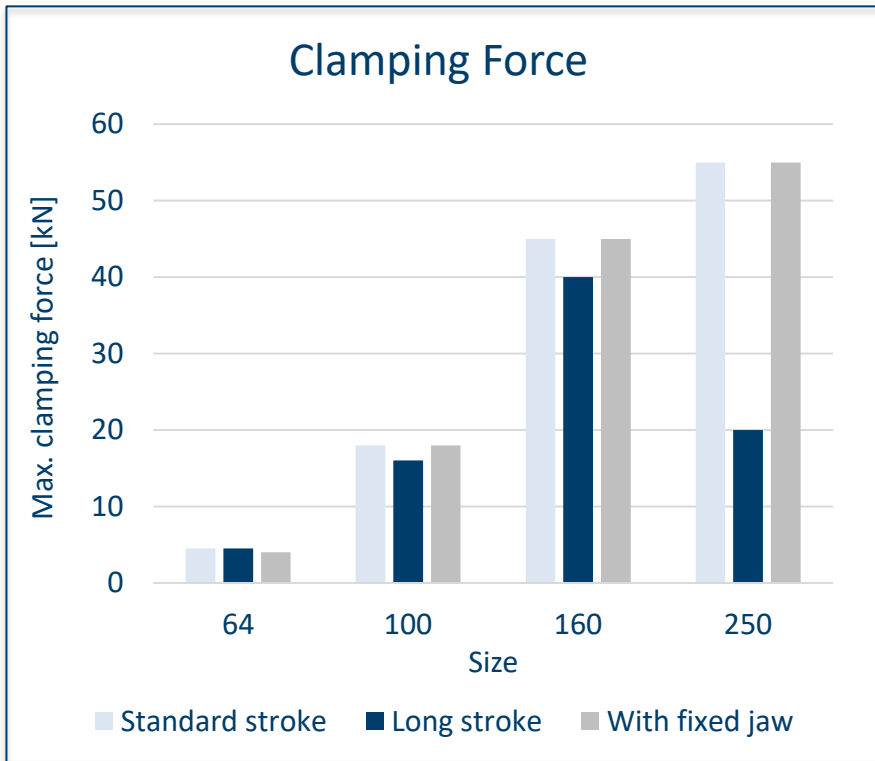
High duration at low non-productive times per workpiece

TANDEM Overview




Actuation Types	Pneumatic (KSP plus)	Hydraulic (KSH plus)	Manually (KSA plus)	Spring-loaded (KSF plus)
				

Variants	Standard stroke	Long stroke (-LH)	With fixed jaw (-F)
			

TANDEM Portfolio



TANDEM Jaw Program

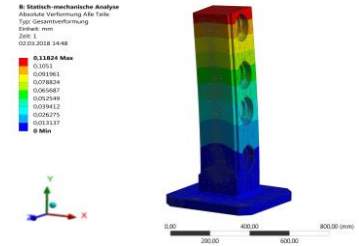
Top Jaws Blank		
Mounting: via tongue and groove	Mounting: via fine serrations 1,5 x 60°	
KTR / KTR-H	STR / STR-H	STR-S
		

Supporting Jaws + SCHUNK Jaw Program	
TBA-D	Chuck Jaws
	  

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



TANDEM Overview

Pneumatic



Hydraulic



Manual

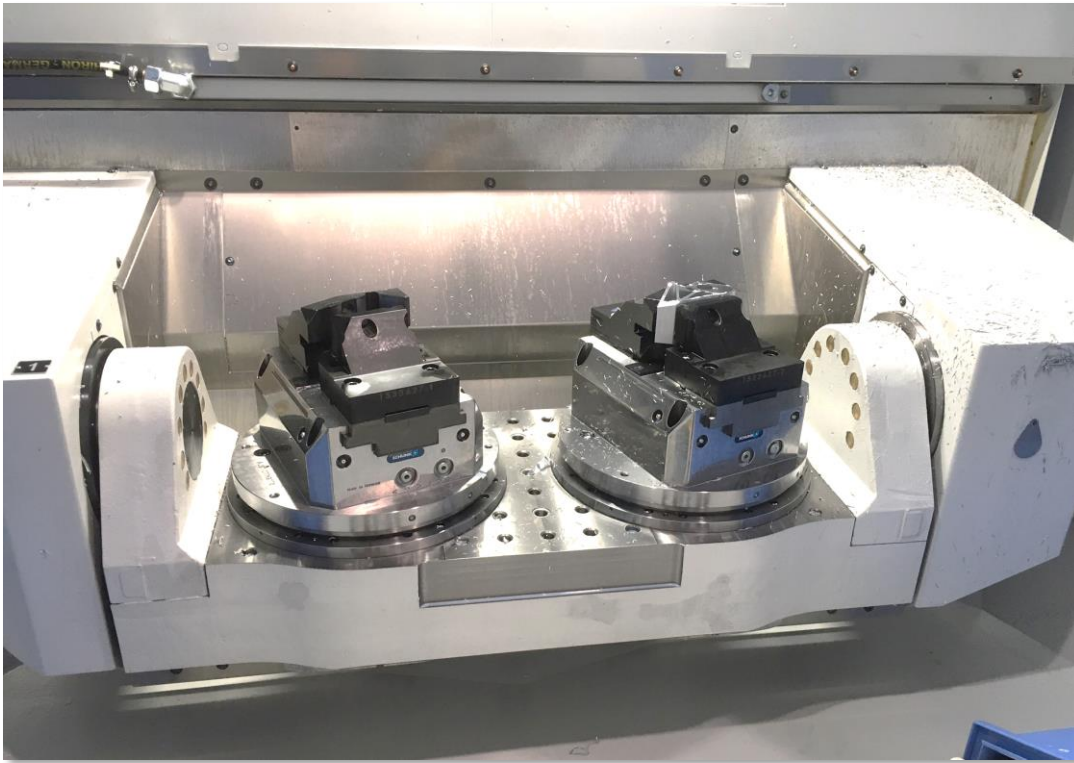


Spring force



TANDEM KSH plus

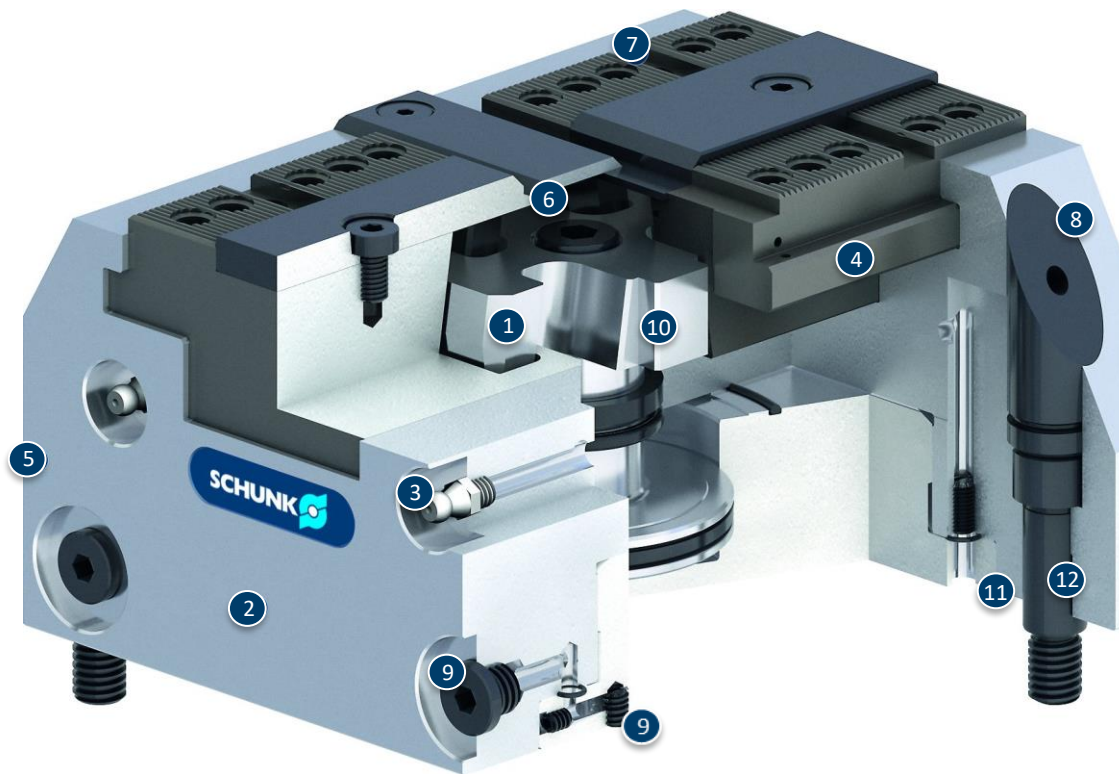
Application Example



Clamping Device:

KSH plus 250.

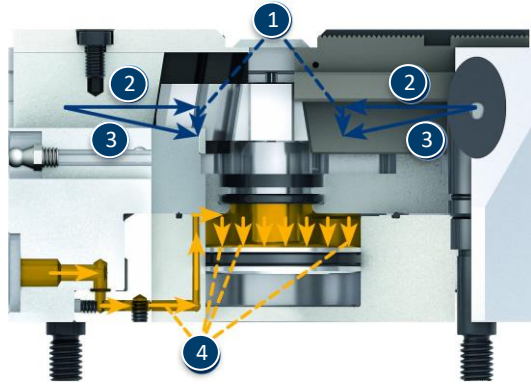
TANDEM KSH plus



- ① Wedge hook drive
- ② Hardened and extremely rigid base body
- ③ Optimized lubrication system
- ④ Long jaw guidance
- ⑤ Low height
- ⑥ Improved design which is insensitive to dirt
- ⑦ Standard chuck jaw interface
- ⑧ Optimized outside contour
- ⑨ Control of the clamping modules
- ⑩ Chuck pistons guided in the body
- ⑪ Lubrication channels in the cover plate
- ⑫ Fitting screws available as an option

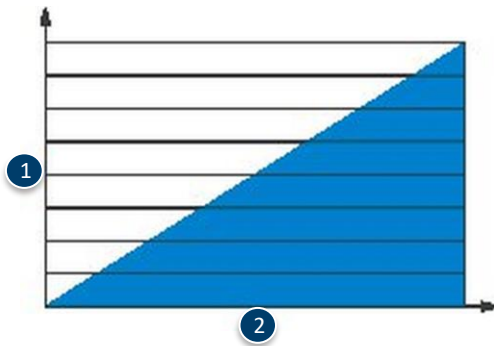
TANDEM KSH plus

Force Flow in the KSH plus



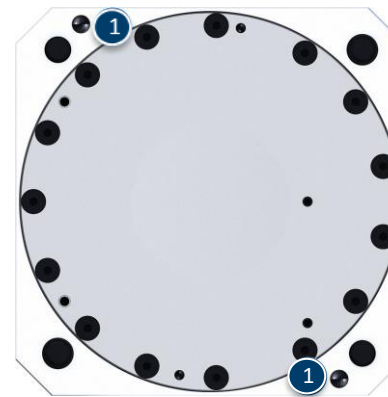
- 1 Actuating force depending on the hydraulic pressure and piston area
- 2 Clamping force depending on the actuating force and the transmission ratio
- 3 Normal force between the base jaw and chuck body
- 4 Hydraulic pressure

Clamping Force dependent on the Actuation Pressure



- 1 Clamping force
- 2 Actuation force

Z-version (optional)



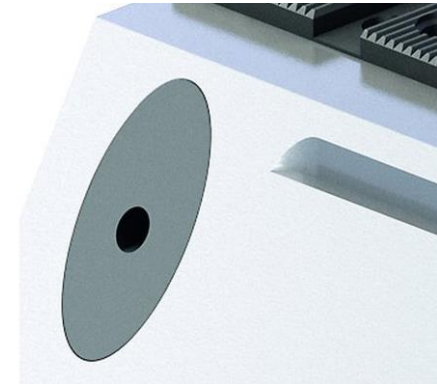
- 1 Positioning bore

TANDEM KSH plus

Chip-repellent design



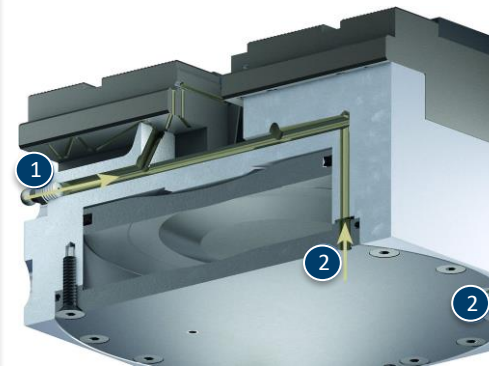
Cover plugs for the mounting screws



Alignment edge



Lubrication system



1 Manual lubrication

2 Central lubrication

Variants of TANDEM KSH plus

Technical data	KSH plus 64			KSH plus 100			KSH plus 160		
	KSH	KSH-LH	KSH-F	KSH	KSH-LH	KSH-F	KSH	KSH-LH	KSH-F
Stroke/jaw [mm]	2	4	4	2	6	4	3	8	6
Clamping force [kN]	4.5	4.5	4	18	16	18	45	40	45
Max. pressure [bar]	60	120	60	60	120	60	60	120	60
Repeat accuracy vise [mm]	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02
Max. jaw height [mm]	60	60	60	60	60	60	60	60	60
Oil consumption per double stroke [cm ³]	10	10	10	30	30	30	100	100	100
Closing/opening time [s]	0.5	0.5	0.5	1	1	1	1.5	1.5	1.5
Weight [kg]	1.5	1.5	1.5	5	5	5	14	14	14

Superior Clamping and Gripping



© 2021 SCHUNK GmbH & Co. KG
schunk.com