SCHUNK

ROTA THW3

Sealed jaw quick-change chuck with straight serrated base jaw interface

Hand in hand for tomorrow

Jaw quick-change chuck with patented sealing system for permanent lubrication and constantly high clamping forces

Constant clamping forces, minimal maintenance costs and increased energy efficiency – all in a power chuck with jaw quick-change system – that's exactly what the new ROTA THW3 promises. Thanks to the jaw quick-change system, the chucks are suitable for flexible production starting from batch size 1. Furthermore, the patented seal allows for use in applications with fine chips and dirty environments.

Advantages – Your benefits

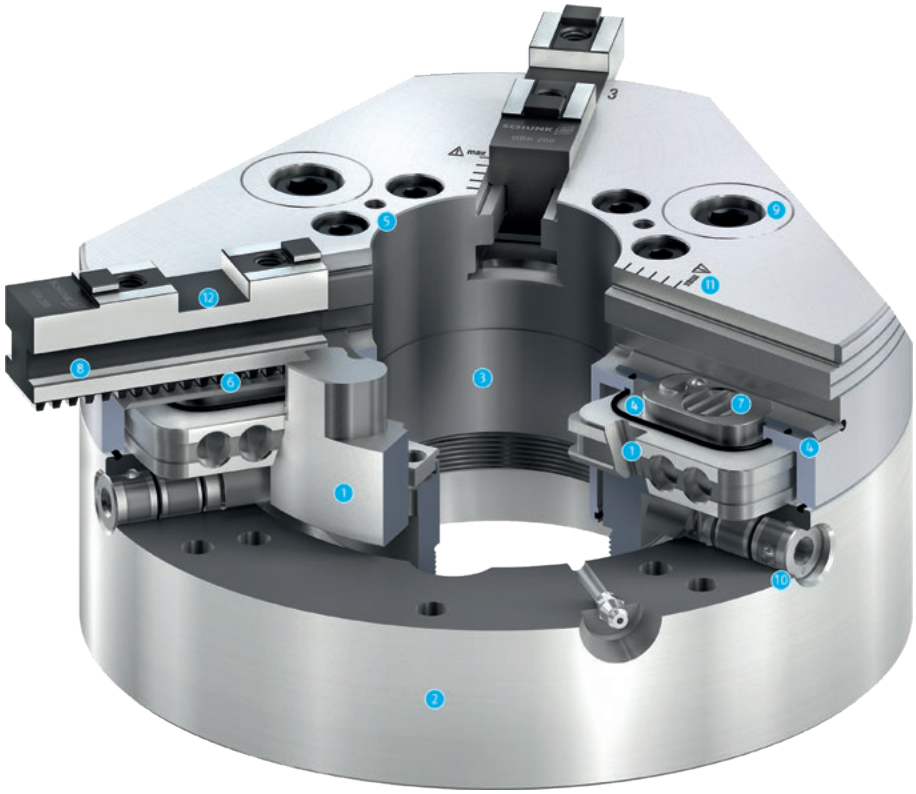
- **Sealed power lathe chuck**
  For significantly longer maintenance intervals
- **Permanent grease lubrication**
  For consistently high clamping forces
- **Convenient jaw quick-change system**
  Minimizing set-up times and costs
- **Large through-hole**
  Machining all standard pipe diameters
- **High degree of efficiency of the ring piston system**
  Process-reliable clamping due to high clamping forces
- **High jaw quick-change repeat accuracy**
  No reboring of already machined jaws necessary
- **Modular center sleeve system**
  Optimal adjustment to new clamping tasks thanks to the exchangeable center sleeves
- **Straight serrated base jaws GBK**
  Compatible to ROTA THW plus, ROTA-G and system "R" (Reishauer)
- **All sides of the functional parts are hardened and ground**
  Ensures a long service life

Technical data

Description	Max. rotational speed [min^{-1}]	Max. clamping force [kN]	Max. actuating force [kN]	Stroke/jaw [mm]	Piston stroke [mm]	Through-hole [mm]
ROTA THW3 200-52	6000	64	38	6.7	17.5	52
ROTA THW3 225-66	5400	82	41	7.4	21	66
ROTA THW3 265-81	4000	115	59	8.2	24	81
ROTA THW3 315-104	3600	150	80	8.6	25	104
ROTA THW3 400-128	3000	240	128	8.6	25	128
ROTA THW3 500-165	2200	240	128	10.5	30	165
ROTA THW3 630-165	1700	240	128	10.5	30	165

Function of ROTA THW3

The axially movable piston transfers the force to the thrust jaws and generates a radial jaw movement synchronized with the rotational axis. The innovative sealing system located on the pusher jaws prevents grease from being rinsed out, and the clamping force from being lost gradually.



1. **Wedge hook drive in ring piston design**
   It offers high run-out accuracies even at high speeds
2. **Hardened and extremely rigid base body**
   Therefore a longer service life at highest precision. Even with maximum clamping force
3. **Large through-hole**
   For machining of all standard raw material diameters
4. **Patented sealing system**
   For consistently high clamping forces
5. **Mounting thread**
   For workpiece stops or modular center sleeves
6. **Jaw quick-change system**
   Shortest set-up times due to individual unlocking of jaws
7. **Locking mechanism**
   The pusher jaw enables a safe base jaw position, ensuring safe engagement of the base jaw serration with the chuck body serration
8. **Base jaws with straight serration (GBK)**
   Compatible with ROTA THW plus, ROTA THW, ROTA-G and the "R" (Reishauer) system
9. **Inlays at the mounting holes**
   To increase the tightness and rigidity of the chuck
10. **Admissible jaw locking**
    The jaw change wrench can only be pulled off if the driver is properly engaged in the base jaw
11. **Display of maximum jaw position**
    To prevent incorrect operation and associated overloading of the guideways
12. **Standard jaw interface**
    For the use of standard top jaws from SCHUNK

Quick jaw change

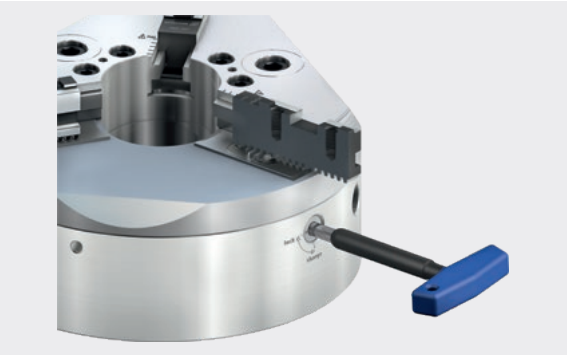
Turning the jaw change wrench by 90° pulls the driver out of the base jaw serration. The jaw change wrench does not have to be held during the change process, allowing quick and easy replacment of the base jaw with one-hand operation. The complete jaw set can be exchanged in less than a minute.

Removal of the chuck jaws

In opened position the jaws can be adjusted or removed in seconds with the jaw change wrench.

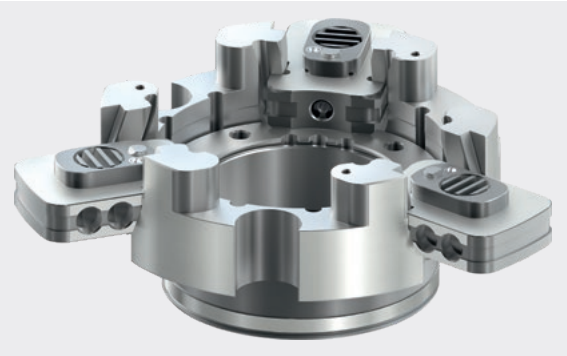
Insertion of the chuck jaws

Simply insert the new chuck jaws into the guidance. The plunger pin pre-positions the serration. Detaching the jaw change wrench safely locks the jaw in its position.



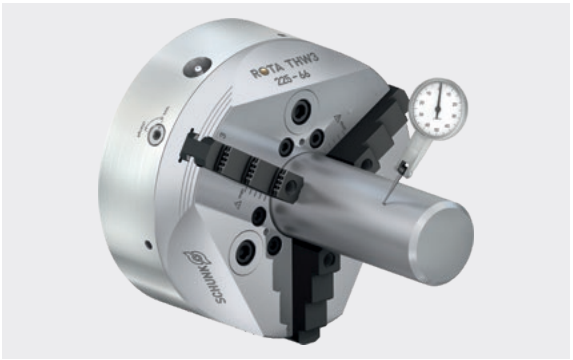
High repeat accuracy after changing jaws

The dual-guided piston, the direct power transmission and the system consisting of the pusher jaw and integrated driver result in an extremely rigid system. This is evidenced by the extremely high repeat accuracy of the chuck.



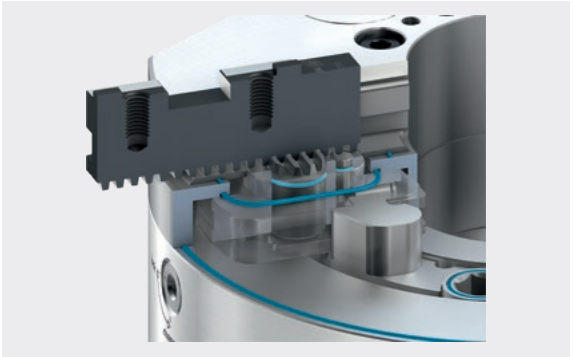
High run-out accuracy after a jaw change

Chuck jaws only have to be turned once. The repeat accuracy of < 0.02 mm ensures permanently high concentricitoes on the workpiece.



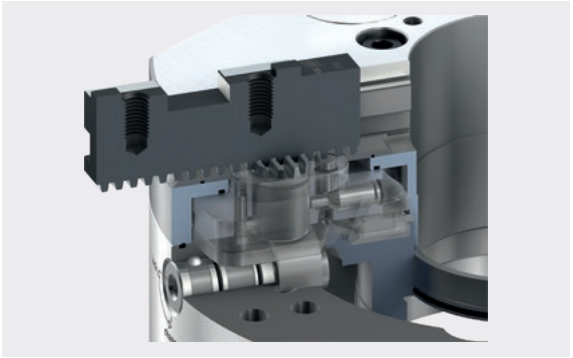
Patented sealing system

A patented sealing system – consisting of a specially manufactured seal on the pusher jaws of the chuck and on the driver – prevents dirt and fine chips from entering the chuck and thus the chuck mechanism.
Advantage: The jaw quick-change chuck can now also be used for applications such as cast machining.



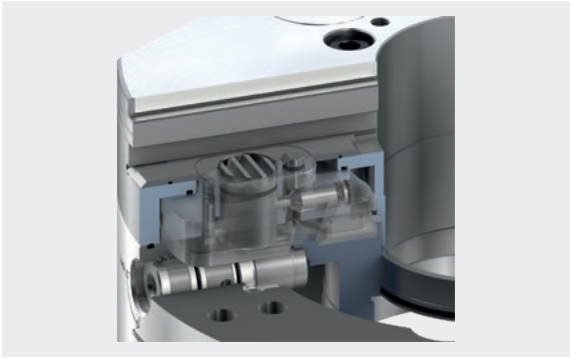
Consistent clamping forces

The patented sealing system also prevents grease escaping from the chuck during machining. This makes it possible to achieve unprecedented consistent clamping forces for jaw quick-change chucks. The maintenance costs for the ROTA THW3 are also significantly reduced compared to the previous version.



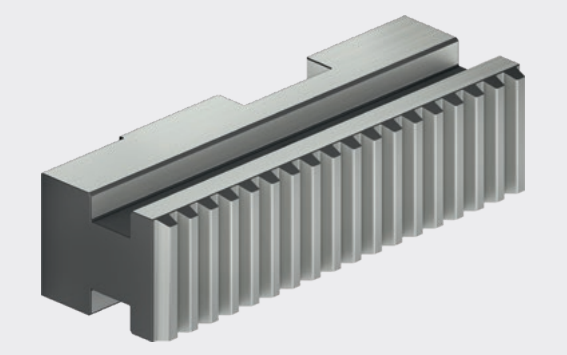
Patented jaw locking

The base jaw of the ROTA THW3 is locked in the chuck by a driver. Pulling the driver back into the pusher jaw releases the base jaw for the jaw change. This patented system also completely seals the release mechanism of the jaw quick-change system.



Jaws 100% compatible with ROTA THW plus and ROTA THW

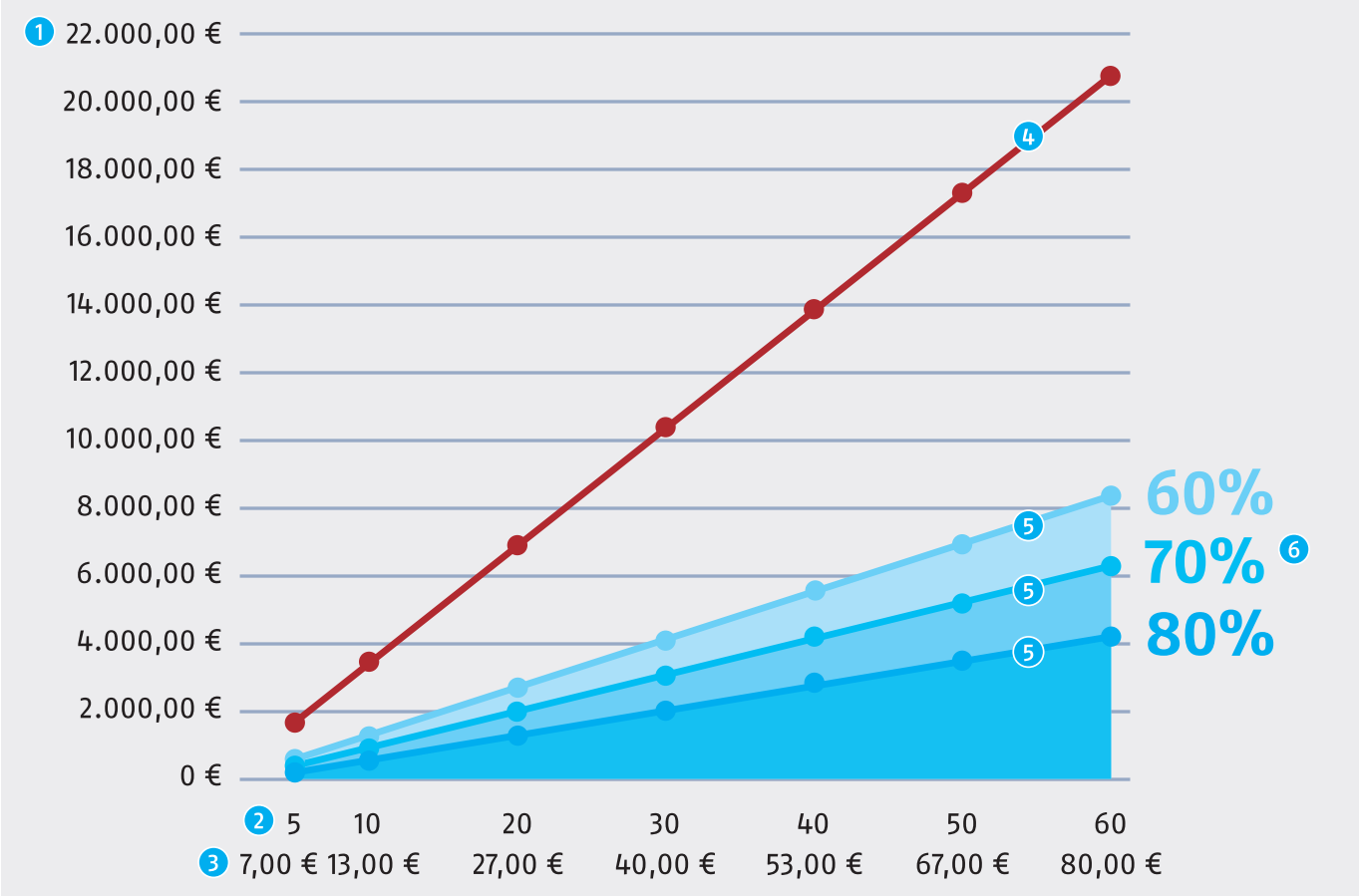
The base and top jaws of the ROTA THW3 are 100% compatible with the predecessors ROTA THW plus and ROTA THW. This means that existing chucks can be exchanged for new generation chucks with little effort.



Weight optimized chuck

Weight-reducing bore holes and bevels on the chuck body achieve optimum inertia behavior. This makes it possible to achieve faster acceleration and braking operations. In addition, the accessibility of the tool to the workpiece is significantly improved.

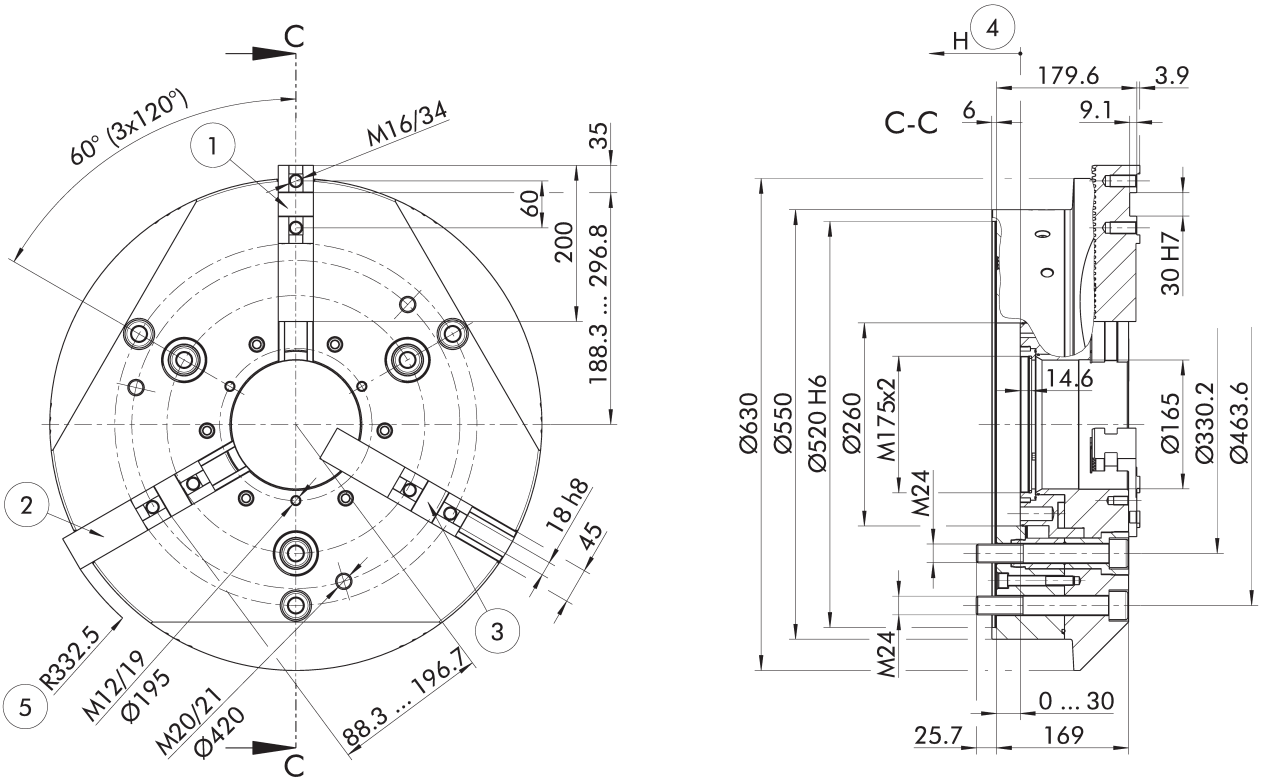
Savings in set-up costs due to jaw quick-change chuck

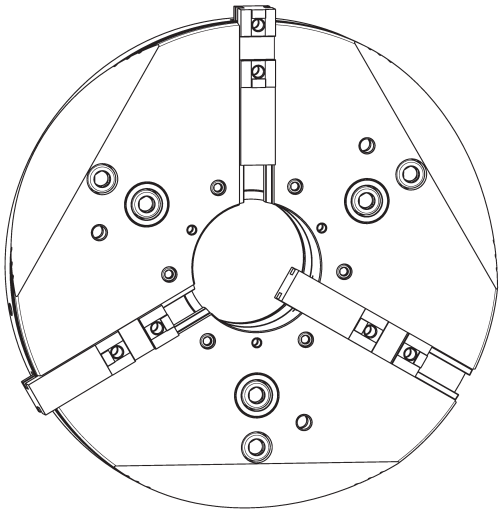


The jaw quick-change system is the ideal clamping tool for clamping tasks even up from batch size 1. Ideally the set-up times can be reduced – depending on the number of jaw changes – by up to 80% in comparison to power lathe chucks with fine serration.

1. **Set-up costs***
   In EURO per year
2. **Set-up time**
   In minutes per day
3. **Set-up costs***
   In EURO per day
4. **Set-up costs**
   Per year without jaw quick-change
5. **Set-up costs**
   Per year with jaws quick-change
6. **Savings potential**
   Depending on the set-up rate

ⓘ * Set-up costs per minute 1.33 € (80 € per hour) at 260 business days





Chuck for shaft clamping drawn in open position.
Subject to technical changes.

(1) Position of base jaws I outermost position
(2) Position of base jaws II outermost position
(3) Position of base jaws I innermost position
(4) Piston stroke direction
(5) Swing diameter radius

Technical data

Spindle type	Spindle size	ID	Max. rotational speed [min⁻¹]	Max. clamping force [kN]	Max. actuating force [kN]	Moment of inertia [kgm²]	Weight [kg]
ISO 702-4	Nr. 20 (Z520)	*1366724*	1700	240	128	14.2	292

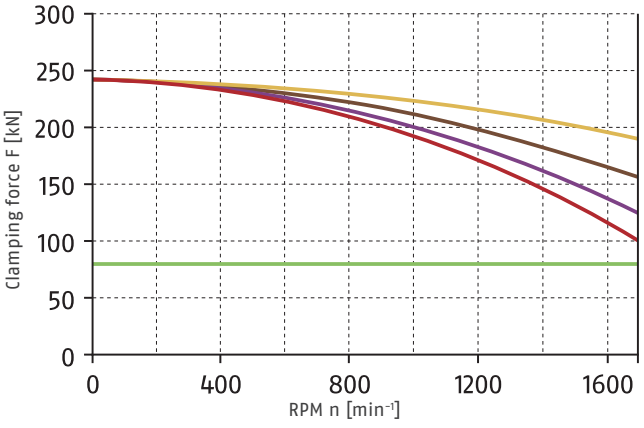
Scope of delivery

Chuck, 1 set of base jaws with screws, jaw change wrench, chuck mounting screws, mounting wrench for turnable threaded ring, eye bolt, and operating manual

Further technical data

Chuck type	Through-hole [mm]	Stroke/jaw [mm]	Tooth pitch [mm]	Piston stroke (H) [mm]	Center jaw height [mm]
ROTA THW3 630-165	165	10.5	7	30	103

Clamping force-RPM-diagram



Required minimum clamping force F_{spmin} 33%

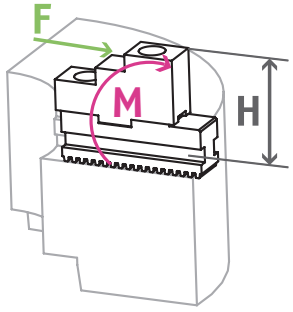
SHF 400
6.8 kg

SFA 400
13.7 kg

GST 500-630
13.99 kg

UVB 630
30.58 kg

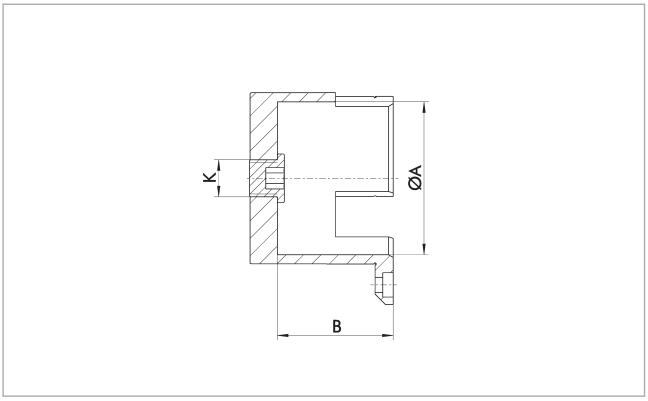
Load of base jaw guidance

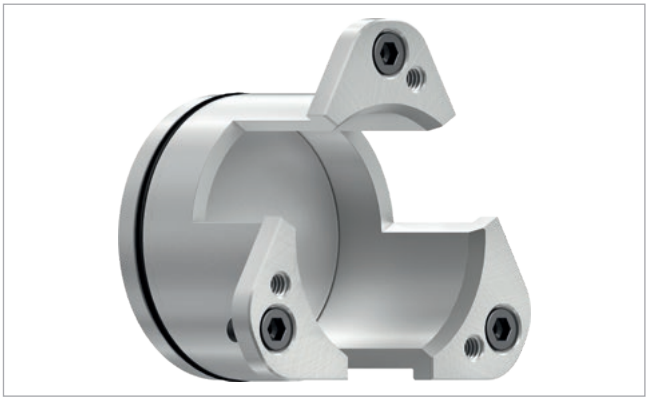


M_{max} = 8240 Nm

Center sleeves

Center sleeve closed



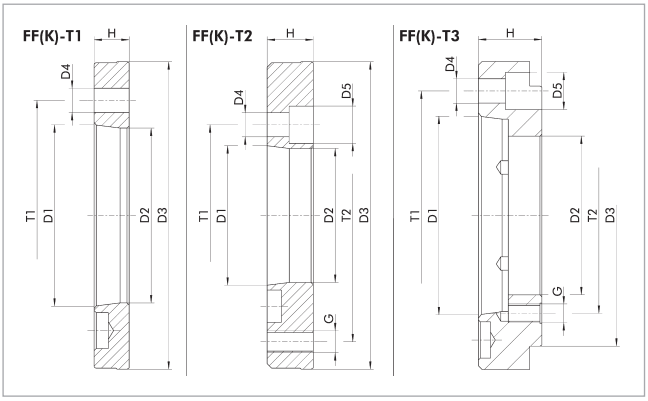


Technical data

Description	ID	Suitable for	ØA [mm]	B [mm]	K	Weight [kg]
SBS-G-W3 500/630	*1447529*	ROTA THW3 630-165	155	75	-	3.6

Adapter plates

Z-mount on short taper ISO 702-1



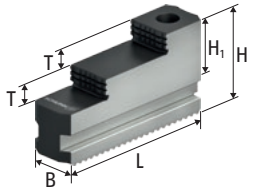
Technical data

Description	Adapter plate type	ID	Suitable for	D1	D2	D3	D4	D5	G	H	T1	T2
					[mm]		[mm]	[mm]		[mm]	[mm]	[mm]
FF-T2 Z520-A20	FF-T2	0805008	ROTA THW3 630-165	Nr. 20	290	Z520	26 (6x60°)	40	M24 (12 x 30°)	62	330.2	463.6

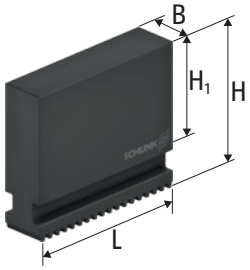
Direct adapter plates
Direct adapter plates are used if the spindle mounting bolt circle has the same size as the lathe chuck mounting bolt circle. The adapter plate has to be mounted on to the spindle together with the lathe chuck. The adapter plate is preassembled on the lathe chuck.
Reduction adapter plates FF-T2
Reduction adapter plates are used if the mounting bolt circle of the spindle is smaller than the one of the lathe chuck mounting bolt circle.
The adapter plate is first mounted on the spindle and then the lathe chuck is mounted on the adapter plate.
Expansion adapter plates FF-T3
Expansion adapter plates are used if the mounting bolt circle of the spindle is larger than the one of the lathe chuck mounting bolt circle.
The adapter plate is first mounted on the spindle and then the lathe chuck is mounted on the adapter plate.

Base jaws, Hard stepped block jaws, Soft monoblock jaws

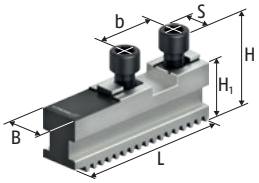
with straight serration



GST
Hard stepped block jaws



UVB
Soft monoblock jaws



GBK
Base jaws

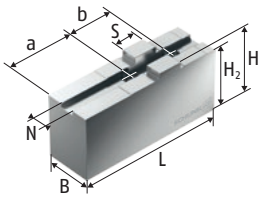
Technical data

Chuck type	Description	ID	N [mm]	S [mm]	B [mm]	H [mm]	H1 [mm]	L [mm]	T [mm]	b [mm]	Screws	m/SET [kg]
ROTA THW3 630-165	UVB 630	*0164105*			45	134	87	230				30.6
ROTA THW3 630-165	GBK 630	*0159105*	30	18	45	61	57	200		60	M16	9.6
ROTA THW3 630-165	GST 500-630	*0162104*			45	93	46	167.1	20			14.0

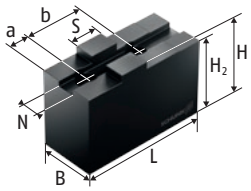
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on schunk.com

Soft top jaws

with tongue and groove



SFA-AL
Soft top jaws



SFA
Soft top jaws

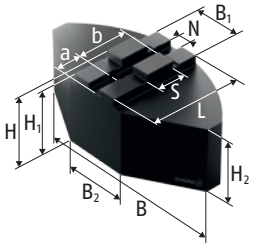
Technical data

Chuck type	Description	ID	N [mm]	S [mm]	B [mm]	H [mm]	H2 [mm]	L [mm]	a [mm]	b [mm]	Screws	m/SET [kg]
ROTA THW3 630-165	SFA 400	*0153104*	18	30	50	80	73	180	85	60	M16	13.7
ROTA THW3 630-165	SFA-AL 400	*0172105*	18	30	50	80	73	180	85	60	M16	6.3
ROTA THW3 630-165	SFA 400-C1	*0154116*	18	30	60	80	73	130	50	60	M16	11.8
ROTA THW3 630-165	SFA 400-C3	*0154118*	18	30	60	100	93	155	75	60	M16	18.2
ROTA THW3 630-165	SFA 400-C4	*0154119*	18	30	60	120	113	155	75	60	M16	22.1
ROTA THW3 630-165	SFA 400-C5	*0154120*	18	30	80	80	73	130	50	60	M16	16.0
ROTA THW3 630-165	SFA 400-C6	*0154125*	18	30	58	180	173	160	80	60	M16	33.6
ROTA THW3 630-165	SFA 400-C7	*0154135*	18	30	96	115	108	115	35	60	M16	25.2

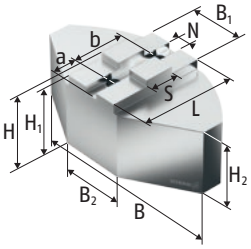
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on schunk.com

Hard stepped top jaws, Full grip jaws

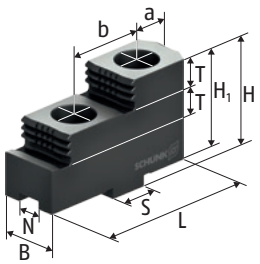
with tongue and groove



SFA-SM
Full grip jaws



SFA-SA
Full grip jaws



SHF
Hard stepped top jaws

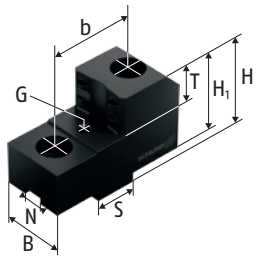
Technical data

Chuck type	Description	ID	N [mm]	S [mm]	B [mm]	B1 [mm]	H [mm]	H1 [mm]	H2 [mm]	L [mm]	T [mm]	a [mm]	b [mm]	Screws	m/SET [kg]
ROTA THW3 630-165	SFA-SA 400	*0174104*	18	30	330	60	90	83	60	160		81	60	M16	16.3
ROTA THW3 630-165	SFA-SM 400	*0173104*	18	30	330	45	85	78	55	160		81	60	M16	55.2
ROTA THW3 630-165	SHF 400	*0155104*	18	30	45		82	75		130	20	27.05	60	M16	6.8

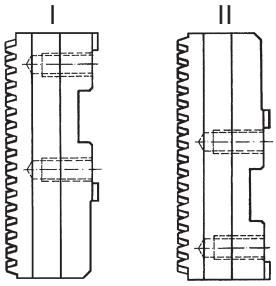
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on schunk.com

Claw jaws

with tongue and groove



SZKA
Claw jaws



Position of base jaws

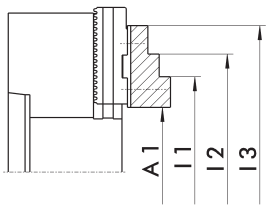
Technical data

Chuck type	Clamping range ØD [mm]	Swing diameter SDmax [mm]	Position of base jaws	Description	ID	N [mm]	S [mm]	B [mm]	H [mm]	H1 [mm]	L [mm]	T [mm]	G	b [mm]	Screws	m/SET [kg]
ROTA THW3 630-165	232 - 447	665	I	SZKA 409	*0139170*	18	30	50	78	71	126	33	M8	60	M16	6.0
ROTA THW3 630-165	329 - 545	665	I	SZKA 412	*0139173*	18	30	50	78	71	103	33	M8	60	M16	5.1
ROTA THW3 630-165	44 - 247	665	II	SZKA 409	*0139170*	18	30	50	78	71	126	33	M8	60	M16	6.0
ROTA THW3 630-165	132 - 346	665	II	SZKA 412	*0139173*	18	30	50	78	71	103	33	M8	60	M16	5.1

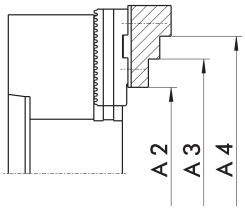
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on schunk.com

Hard stepped top jaws

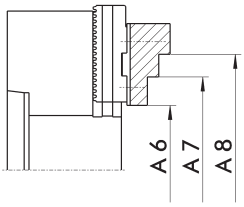
with tongue and groove



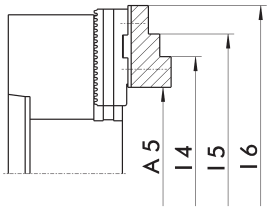
Position of base jaws II



Position of base jaws I



Position of base jaws II



Position of base jaws I

O.D. clamping

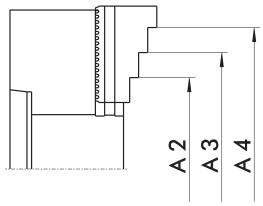
Chuck type	Description	ID	A1 [mm]	A3 [mm]	A4 [mm]	A5 [mm]	A7 [mm]	A8 [mm]
ROTA THW3 630-165	SHF 400	*0155104*	35 - 235	231 - 431	351 - 551	235 - 435	59 - 231	179 - 351

I.D. clamping

Chuck type	Description	ID	I1 [mm]	I2 [mm]	I4 [mm]	I5 [mm]
ROTA THW3 630-165	SHF 400	*0155104*	146 - 346	267 - 467	346 - 546	468 - 667

Hard stepped block jaws

with tongue and groove



Jaw position II

O.D. clamping

Chuck type	Description	ID	A1 [mm]	A2 [mm]	A3 [mm]
ROTA THW3 630-165	GST 500-630	0162104	28 - 241	132 - 346	282 - 495

I.D. clamping

Chuck type	Description	ID	I2 [mm]	I3 [mm]
ROTA THW3 630-165	GST 500-630	0162104	138 - 352	288 - 502

Accessories

Clamping force tester
For measuring the jaw clamping force of 2, 3 and 6-jaw chucks up to 6,000 RPM.

Suitable for	Description	ID
ROTA THW3 630-165	IFT Set	*1404235*

Jaw change wrench
Wrench for fast change of the jaws for power lathe chucks with jaw quick-change system.

Suitable for	Description	ID
ROTA THW3 630-165	SSH-A SW8-148	*8703298*

Extension set for large chucks
For use as an extension of the IFT measuring head for measuring the jaw clamping force of large chucks of Ø 400 mm and more.

Suitable for	Description	ID
ROTA THW3 630-165	IFT adapter set	*1498512*

Mounting wrench
For power lathe chucks with turnable threaded rings as wrench design with driving pins that snap into the threaded ring.

Suitable for	Description	ID
ROTA THW3 630-165	SSH-MN Ø165-228	*1446103*

Grease

LINOMAX plus
High-performance grease as standard for regularly lubricating SCHUNK manual and power lathe chucks and steady rests.

Bundle	Description	ID
Cartridge	LINOMAX plus cartridge	*1342585*
Can	LINOMAX plus can	*1342586*
Bucket	LINOMAX plus bucket	*1342587*

Grease gun
Auxiliary tools for lubrication of all kinds of SCHUNK products. The grease gun can be used for cartridges of all types of SCHUNK grease.

Bundle	Description	ID
Cartridge	Grease gun	*9900543*

H.-D. SCHUNK GmbH & Co.
Spanntechnik KG

Lothringer Str. 23
D-88512 Mengen
Tel. +49-7572-7614-1300
Fax +49-7572-7614-1039
CMM@de.schunk.com
schunk.com

2025-11-06