



ROTA THW3

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

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 replacement 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

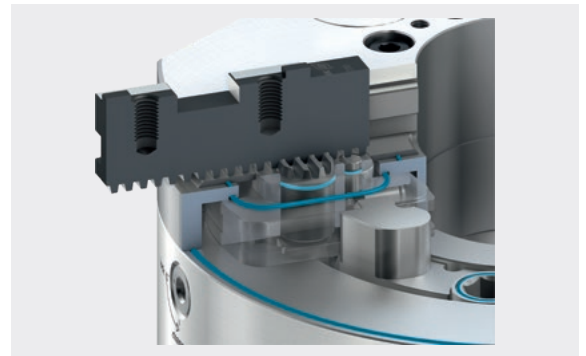
Chuck jaws only have to be turned once. The repeat accuracy of < 0.02 mm ensures permanently high concentricities on the workpiece.



Patented sealing system

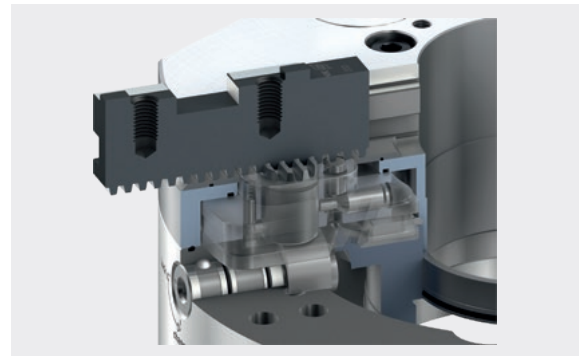
A patented sealing system – consisting of a specially manufactured seal on the pusher jaws of the chuck and on the driver – prevents dirt and fine chips from entering the chuck and thus the chuck mechanism.

Advantage: The jaw quick-change chuck can now also be used for applications such as cast machining.



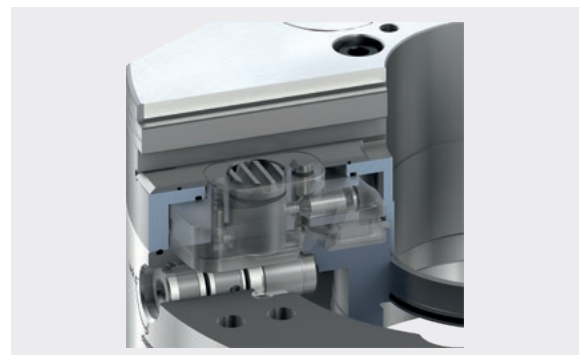
Consistent clamping forces

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.



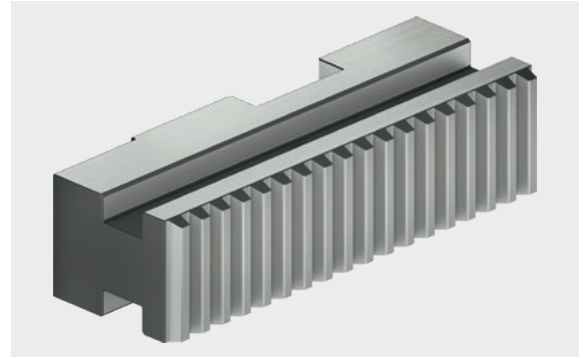
Patented jaw locking

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.

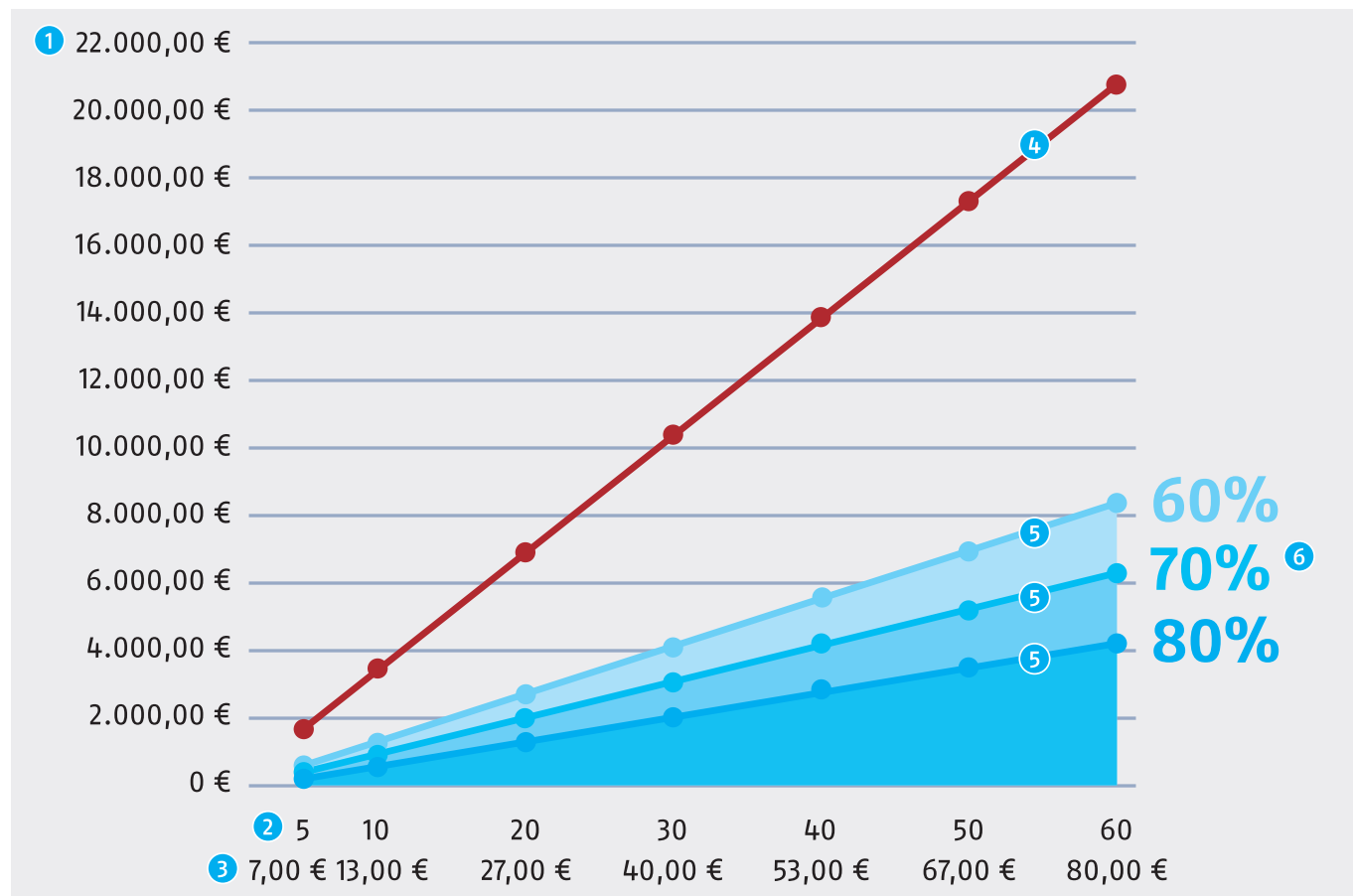


Weight optimized chuck

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.



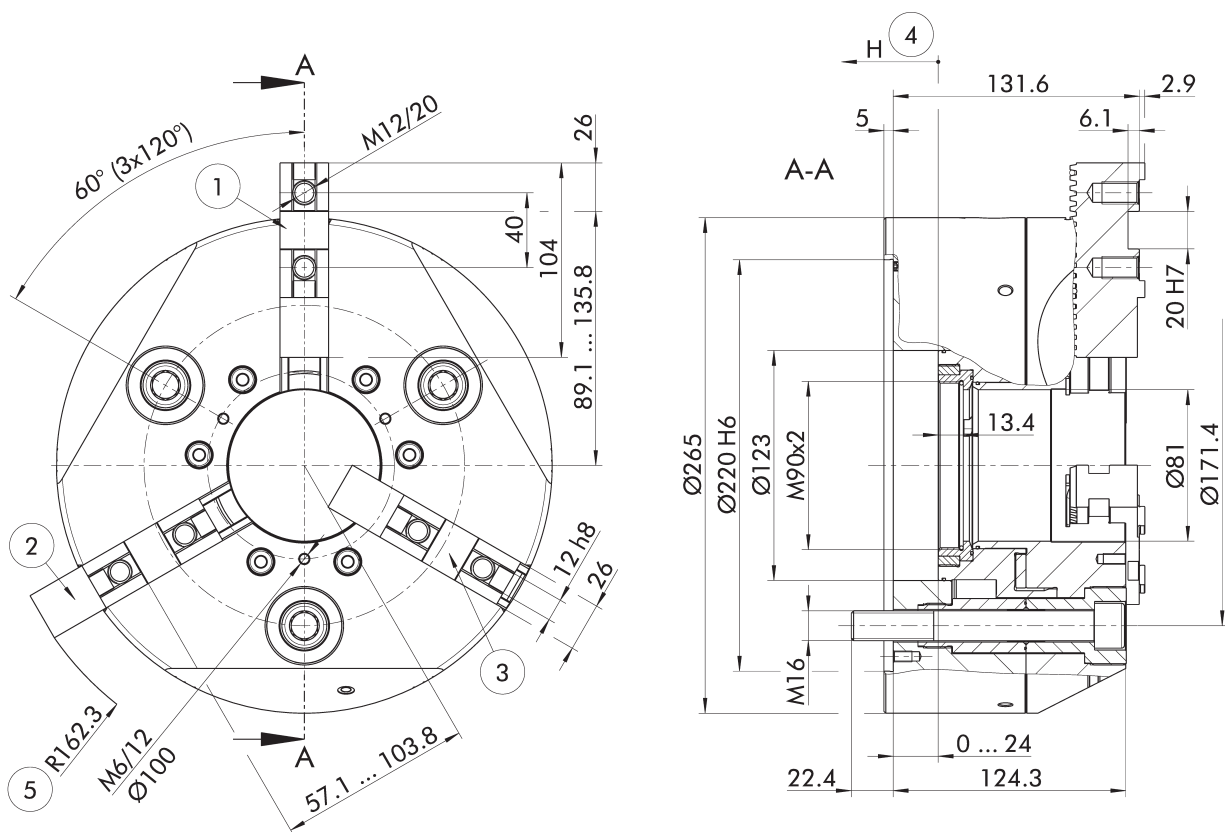
Savings in set-up costs due to jaw quick-change chuck



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

① * 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 [kgm ²]	Weight [kg]
ISO 702-4	Nr. 6 (Z170)	1366710	4000	115	59	0.48	49.3
ISO 702-4	Nr. 8 (Z220)	1366711	4000	115	59	0.44	43.3
ISO 702-1	Nr. 6	1366712	4000	115	59	0.48	49.3
ISO 702-1	Nr. 8	1366713	4000	115	59	0.47	47.1

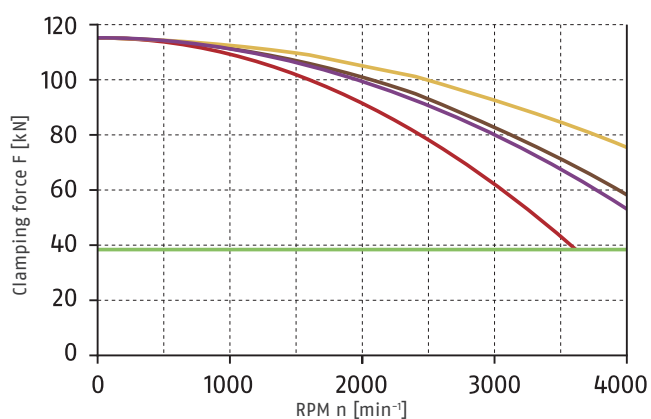
Scope of delivery

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 265-81	81	8.2	5.498	24	66.5

Clamping force-RPM-diagram



Required minimum clamping force F_{spmin} 33%

SHF 250
1.9 kg



SFA 250
3.7 kg



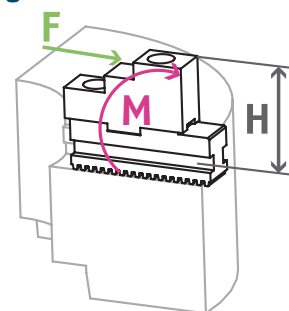
GST 251
2.8 kg



UVB 250
4.8 kg



Load of base jaw guidance



$$M_{max} = 2549 \text{ Nm}$$

Center sleeves

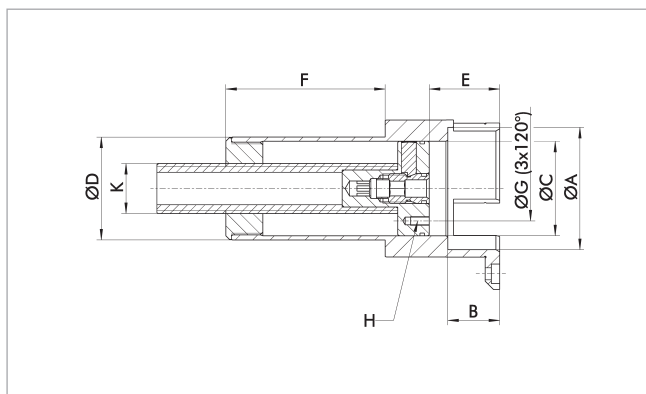
Center sleeve closed



Technical data

Description	ID	Suitable for	ØA [mm]	B [mm]	K	Weight [kg]
SBS-G-W3 265	1442951	ROTA THW3 265-81	71	45	-	0.8

Center sleeve with adjustable stop



Technical data

Description	ID	Suitable for	ØA [mm]	B [mm]	ØC [mm]	ØD [mm]	E [mm]	F [mm]	ØG [mm]	H	K	Weight [kg]
SBS-T-W3 265	1444958	ROTA THW3 265-81	71	39.5	61	65.5	39.5 - 111	141.8	40	M5x10	M27	2.5

- Important: Check the spindle/draw tube through-hole
- The spindle through-hole must be at least $\varnothing D + 0.5$ mm

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 Z220-A5	FF-T2	0805002	ROTA THW3 265-81	Nr. 5	79.6	Z220	11 (6x60°)	17	M16 (6x60°) M16 (2x180°)	28	104.8	171.4
FF-T2 Z220-A6	FF-T2	0805003	ROTA THW3 265-81	Nr. 6	103.2	Z220	13 (6 x 60°)	20	M16 (6x60°) M16 (2x180°)	28	133.4	171.4
FF-T1 Z220-A8	FF-T1	0803002	ROTA THW3 265-81	Nr. 8	136.2	Z220	17 (6x60°) 17 (2x180°)			19	171.4	
FF-T3 Z220-A11	FF-T3	0803003	ROTA THW3 265-81	Nr. 11	130	Z220	21 (6x60°)	32	M16 (12 x 30°)	50	235	171.4
FF-T3 Z220-A15-1	FF-T3	0803020	ROTA THW3 265-81	Nr. 15	145	Z220	26 (6x60°)	38	M16 (6x60°)	55	330.2	171.4
FF-T3 Z220-A15-2	FF-T3	0803021	ROTA THW3 265-81	Nr. 15	145	Z220	23 (6x60°)	35	M16 (6x60°)	55	330.2	171.4

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.

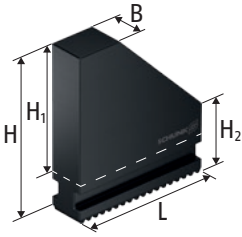
Reduction adapter plates FF-T2

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.

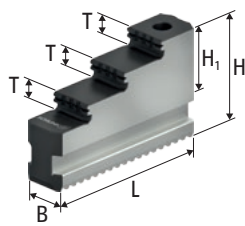
Expansion adapter plates FF-T3

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.

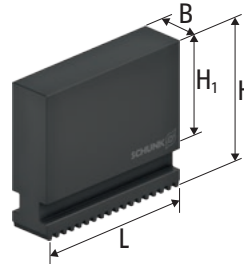
Base jaws, Hard stepped block jaws, Soft monoblock jaws with straight serration



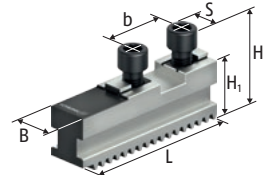
UVB-HS
Soft monoblock jaws



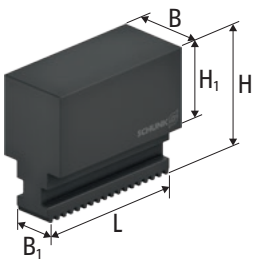
GST
Hard stepped block jaws



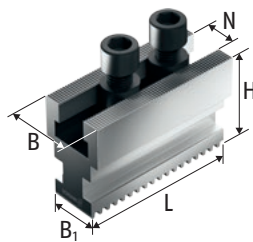
UVB
Soft monoblock jaws



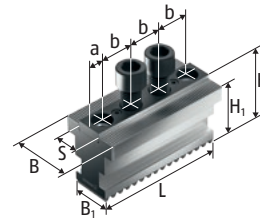
GBK
Base jaws



UVB-B
Soft monoblock jaws



STB-G
Base jaws



STN
Base jaws

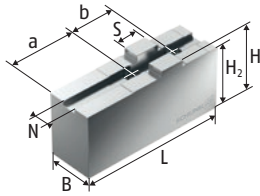
Technical data

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 265-81	UVB 250	0164101			26		84	55		99					4.8
ROTA THW3 265-81	UVB-B 250	0164114			46	26	84	52		99					7.2
ROTA THW3 265-81	UVB-H 250	0164117			26		115	86		99					6.6
ROTA THW3 265-81	UVB-HS 250	0164120			26		115	86	48	99					5.2
ROTA THW3 265-81	GBK 250	0159101	20	12	26		40	37		104			40	M12	1.8
ROTA THW3 265-81	GBKL 250	0159121	20	12	26		40	37		125			40	M12	2.2
ROTA THW3 265-81	GBK-V 250	0159151	20	12	26		40	37		104			40	M12	1.8
ROTA THW3 265-81	STB-G 250-2	0160657	21		50	26	71			104				M16	5.2
ROTA THW3 265-81	STN 250-5	0160600		17	40	26	50.5	48		86		10	22	M12	2.6
ROTA THW3 265-81	STN 250-6	0160601		21	45	26	54.5	52		110		13	28	M16	4.0
ROTA THW3 265-81	STNJ 250-5	0160651		16	40	26	52.5	49		110		10	30	M12	2.9
ROTA THW3 265-81	GST 251	0162105			26		65	36		107.5	10				2.8

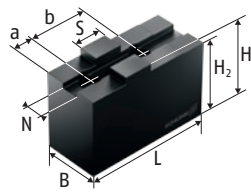
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on schunk.com

Soft top jaws

with tongue and groove



SFA-AL
Soft top jaws



SFA
Soft top jaws

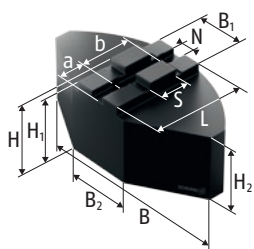
Technical data

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 265-81	SFA 250	0153102	12	20	30	55.5	50.5	125	60	40	M12	3.7
ROTA THW3 265-81	SFA-AL 250	0172103	12	20	40	60	55	125	60	40	M12	2.1
ROTA THW3 265-81	SFA 250-C1	0154101	12	20	40	60	55	90	34	40	M12	3.9
ROTA THW3 265-81	SFA 250-C2	0154102	12	20	40	60	55	125	69	40	M12	5.6
ROTA THW3 265-81	SFA 250-C3	0154103	12	20	40	80	75	125	69	40	M12	7.7
ROTA THW3 265-81	SFA 250-C4	0154104	12	20	40	100	95	125	69	40	M12	9.8
ROTA THW3 265-81	SFA 250-C5	0154105	12	20	40	120	115	125	69	40	M12	11.8
ROTA THW3 265-81	SFA 250-C6	0154106	12	20	60	60	55	90	34	40	M12	6.0
ROTA THW3 265-81	SFA 250-C7	0154107	12	20	80	60	55	90	34	40	M12	8.5
ROTA THW3 265-81	SFA 250-C8	0154134	12	20	80	100	95	125	69	40	M12	20.6

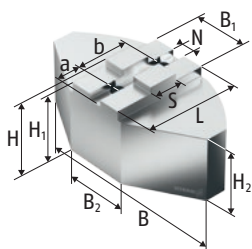
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Hard stepped top jaws, Full grip jaws

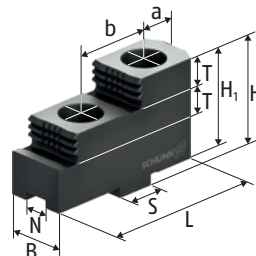
with tongue and groove



SFA-SM
Full grip jaws



SFA-SA
Full grip jaws



SHF
Hard stepped top jaws

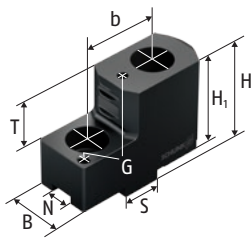
Technical data

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 265-81	SFA-SA 250	0174102	12	20	180	40	58	53	43	87.5		33.75	40	M12	3.4
ROTA THW3 265-81	SFA-SA 251	0174106	12	20	180	40	80	75	65	87.5		33.75	40	M12	5.0
ROTA THW3 265-81	SFA-SM 250	0173102	12	20	180	40	60	55	45	90		34.5	40	M12	12.8
ROTA THW3 265-81	SFA-SM 251	0173106	12	20	180	40	80	75	65	90		35	40	M12	18.9
ROTA THW3 265-81	SHF 250	0155102	12	20	30		55	50		90	14	21.1	40	M12	1.9

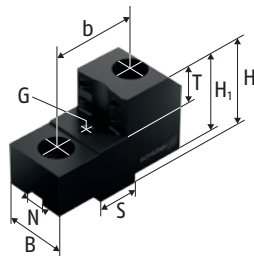
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Claw jaws, Universal claw jaws

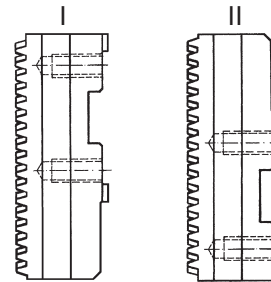
with tongue and groove



SZKU
Universal claw jaws



SZKA
Claw jaws



Position of base jaws

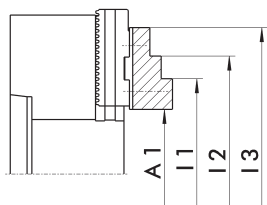
Technical data

Chuck type	Clamping range ØD	Swing diameter SDmax	Position of base jaws	Description	ID	N	S	B	H	H1	L	T	G	b	Screws	m/SET
	[mm]	[mm]				[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[kg]
ROTA THW3 265-81	84 - 177	329	I	SZKA 263	0139160	12	20	30	55	50	85	25	M6	40	M12	1.5
ROTA THW3 265-81	141 - 233	330	I	SZKA 266	0139163	12	20	40	55	50	74	25	M6	40	M12	1.9
ROTA THW3 265-81	180 - 261	340	I	SZKA 268	0139165	12	20	40	55	50	83	25	M6	40	M12	2.2
ROTA THW3 265-81	74 - 168	336	I	SZKU 250	0139302	12	20	30	55	50	78	25	M6	40	M12	1.6
ROTA THW3 265-81	28 - 113	324	II	SZKA 263	0139160	12	20	30	55	50	85	25	M6	40	M12	1.5
ROTA THW3 265-81	79 - 170	330	II	SZKA 266	0139163	12	20	40	55	50	74	25	M6	40	M12	1.9
ROTA THW3 265-81	118 - 198	340	II	SZKA 268	0139165	12	20	40	55	50	83	25	M6	40	M12	2.2
ROTA THW3 265-81	10 - 104	336	II	SZKU 250	0139302	12	20	30	55	50	78	25	M6	40	M12	1.6

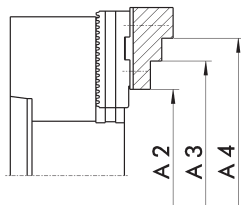
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Hard stepped top jaws

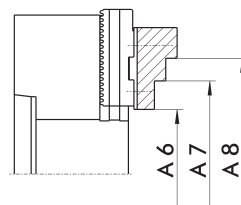
with tongue and groove



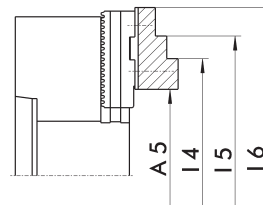
Position of base jaws II



Position of base jaws I



Position of base jaws II



Position of base jaws I

O.D. clamping

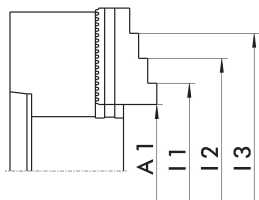
Chuck type	Description	ID	A1 [mm]	A3 [mm]	A4 [mm]	A5 [mm]	A7 [mm]	A8 [mm]
ROTA THW3 265-81	SHF 250	0155102	15 - 105	83 - 173	163 - 253	79 - 169	40 - 109	120 - 189

I.D. clamping

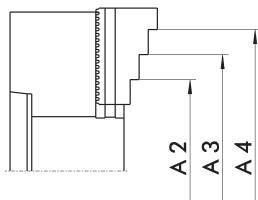
Chuck type	Description	ID	I1 [mm]	I2 [mm]	I4 [mm]	I5 [mm]
ROTA THW3 265-81	SHF 250	0155102	95 - 185	175 - 265	159 - 250	239 - 330

Hard stepped block jaws

with tongue and groove



Jaw position I



Jaw position II

O.D. clamping

Chuck type	Description	ID	A1 [mm]	A2 [mm]	A3 [mm]	A4 [mm]
ROTA THW3 265-81	GST 251	0162105	9 - 109	59 - 159	114 - 214	169 - 269

I.D. clamping

Chuck type	Description	ID	I1 [mm]	I2 [mm]	I3 [mm]
ROTA THW3 265-81	GST 251	0162105	69 - 169	124 - 224	179 - 279

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 265-81	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 265-81	SSH-A SW6-128	8705452

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

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 265-81	SSH-MN Ø81-228	1383213

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