

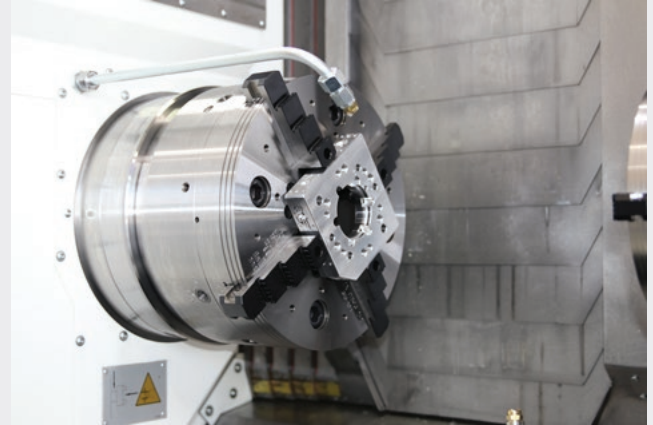


ROTA THW3 2+2

**Sealed 2+2 power lathe
chucks with jaw quick
change**

Centrically compensating workpiece clamping of any workpiece geometry

Clamping round, cubic and geometrically bulky parts – now absolutely no problem with the ROTA THW3 2+2 power lathe chuck. Thanks to the innovative drive concept, any workpiece geometries can be clamped centrically and without overdetermination. The new chuck also offers the impressive characteristics of the ROTA THW3 family, such as the jaw quick-change system and patented seal. The jaw quick-change system makes the chucks particularly suitable for small batch sizes. The patented seal in turn ensures constant clamping forces and minimal maintenance costs while enabling use with fine chips and dirty environments.



Advantages – Your benefits

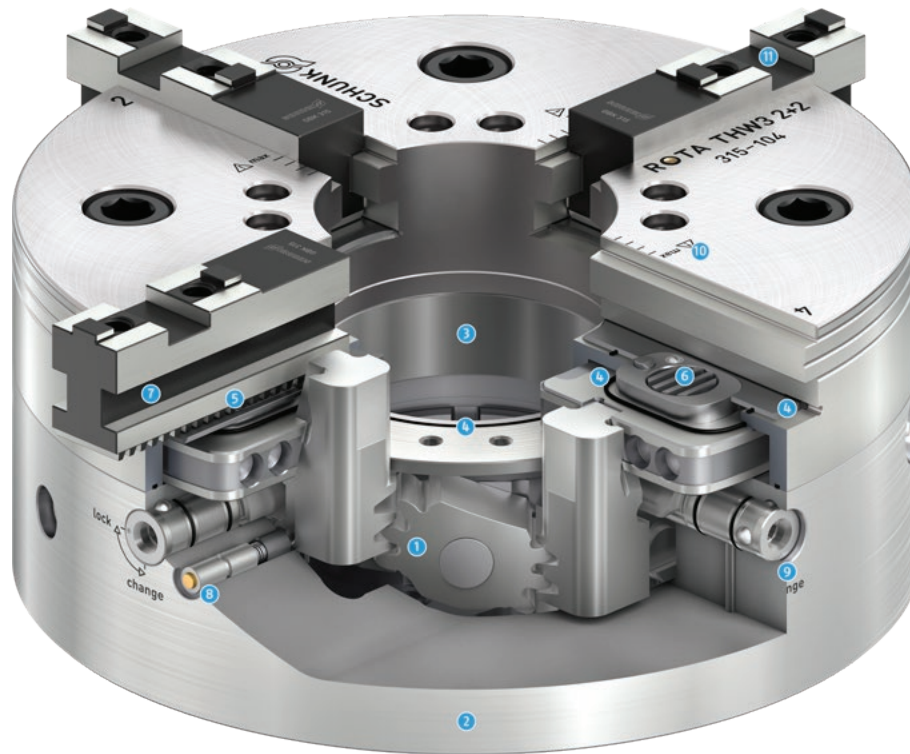
- + Sealed power lathe chuck**
For significantly longer maintenance intervals
- + Innovative drive concept**
Independent installation of the jaw pairs with subsequent centrically compensating workpiece clamping
- + Flexible clamping system**
For clamping round, cubic, or geometrically bulky workpieces
- + Compensation mechanism**
Enables centric clamping of any workpiece geometries
- + Permanent grease lubrication**
For consistently high clamping forces
- + Convenient jaw quick-change system**
Minimizing set-up times and costs
- + Visual clamping release**
As an indicator for the range in which safe clamping can be ensured
- + Straight serrated base jaws GBK**
Compatible with ROTA THW3, ROTA THW plus 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]	Compensation stroke/jaw [mm]	Piston stroke [mm]	Through-hole [mm]
ROTA THW3 2+2 230-66	4200	82	41	7	6	20	66
ROTA THW3 2+2 315-104	3000	150	80	7	6	20	104

Function of ROTA THW3 2+2

A gear rack compensation mechanism mounted on the piston transmits the axial movement of the piston to the pusher jaws. The opposing pairs of jaws contact the workpiece one after the other and center it in the corresponding plane. The workpiece is then clamped evenly at full clamping force. The innovative sealing system located on the pusher jaws prevents grease from being rinsed out, and the clamping force from being lost gradually.

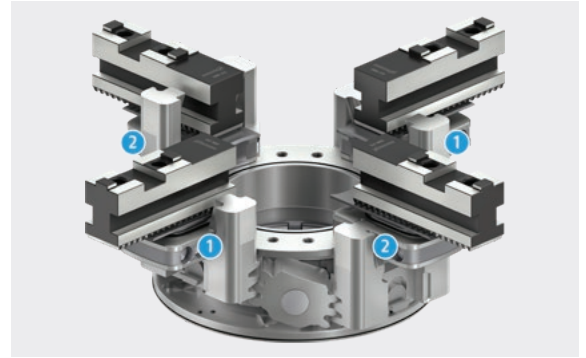


- 1 Compensation mechanism**
As a basis for centrally compensating workpiece clamping
- 2 Hardened and extremely rigid base body**
Therefore a longer service life at highest precision. Even with maximum clamping force
- 3 Large through-hole**
For machining of all standard raw material diameters
- 4 Patented sealing system**
For consistently high clamping forces
- 5 Jaw quick-change system**
Shortest set-up times due to individual unlocking of jaws
- 6 Locking mechanism**
The pusher jaw enables a safe base jaw position, ensuring safe engagement of the base jaw serration with the chuck body serration
- 7 Base jaws with straight serration (GBK)**
Compatible with ROTA THW3, ROTA THW plus and System "R" (Reishauer)
- 8 Indicator pin**
As a visual indicator of the usable range of the jaw stroke
- 9 Admissible jaw locking**
The jaw change wrench can only be pulled off if the driver is properly engaged in the base jaw
- 10 Display of maximum jaw position**
To prevent incorrect operation and associated overloading of the guideways
- 11 Standard jaw interface**
For the use of standard top jaws from SCHUNK

Compensating workpiece clamping

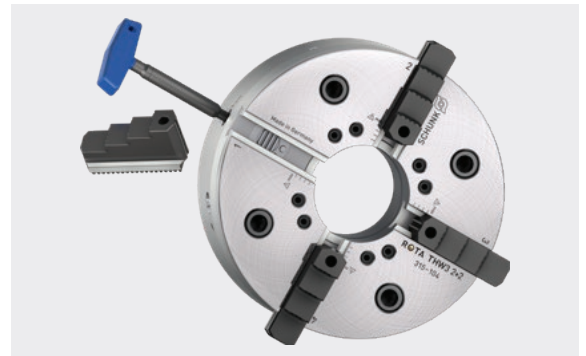
Due to the innovative drive concept, round, cubic and geometrically unshaped workpieces can be clamped in a compensating manner. The opposite jaws are always connected to each other via compensating segments. Overdetermination is prevented by the compensation mechanism.

- ❶ First pair of jaws
- ❷ Second pair of jaws



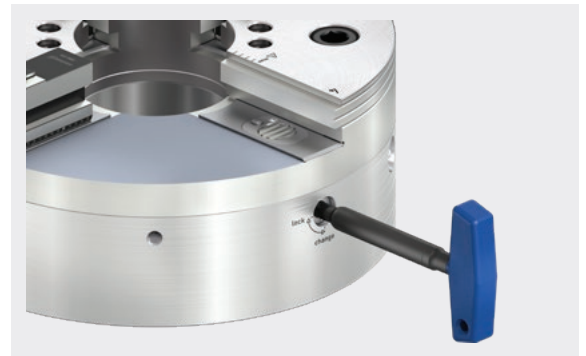
Quick jaw change

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.



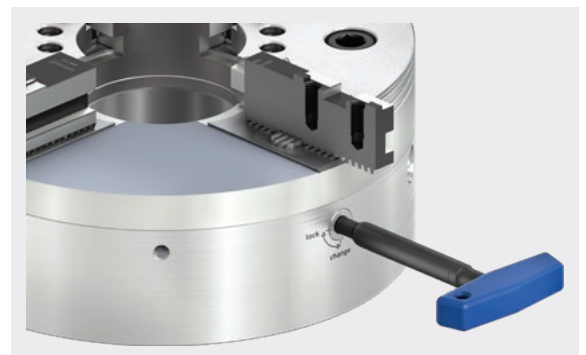
Removal of the chuck jaws

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



Insertion of the chuck jaws

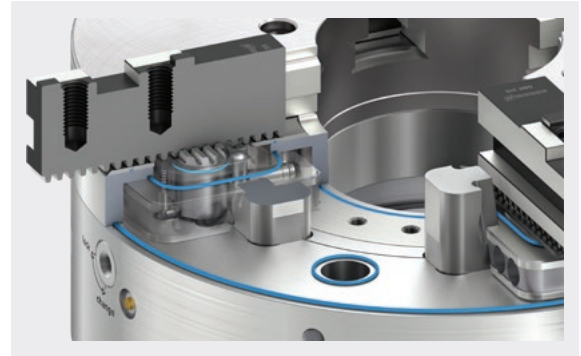
Simply insert the new chuck jaws into the guidance. The plunger pre-positions the serration. Detaching the jaw change wrench safely locks the jaw in its position.



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 achieves consistently high clamping forces and significantly minimizes maintenance costs.



Patented jaw locking

The base jaw of the ROTA THW3 2+2 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.

1 Driver for the base jaw



Visual clamping release

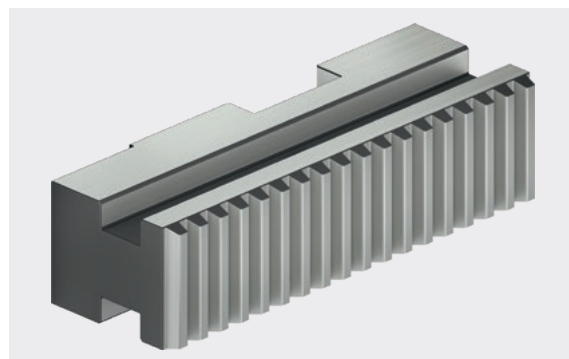
To ensure safe working, an indicator pin shows when the chuck mechanism is close to the stroke end position. As soon as the indicator pin moves outwards, the workpiece is no longer clamped correctly and machining must not be started.

1 Indicator pin

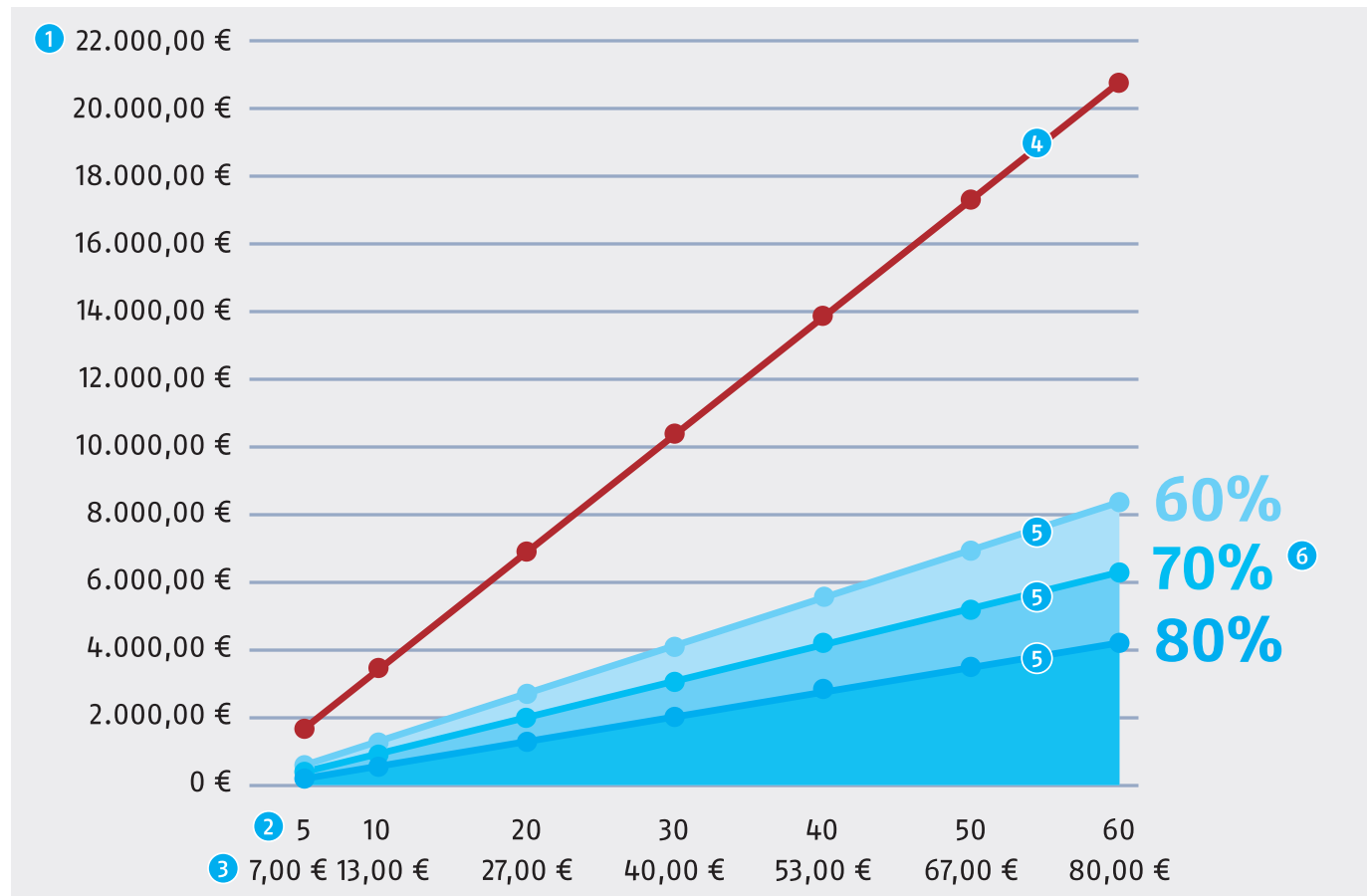


Jaws 100% compatible with ROTA THW3 and ROTA THW plus

The base and top jaws of the ROTA THW3 2+2 are 100% compatible with ROTA THW3 and ROTA THW plus. This means that existing jaws can continue to be used without significant costs.



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

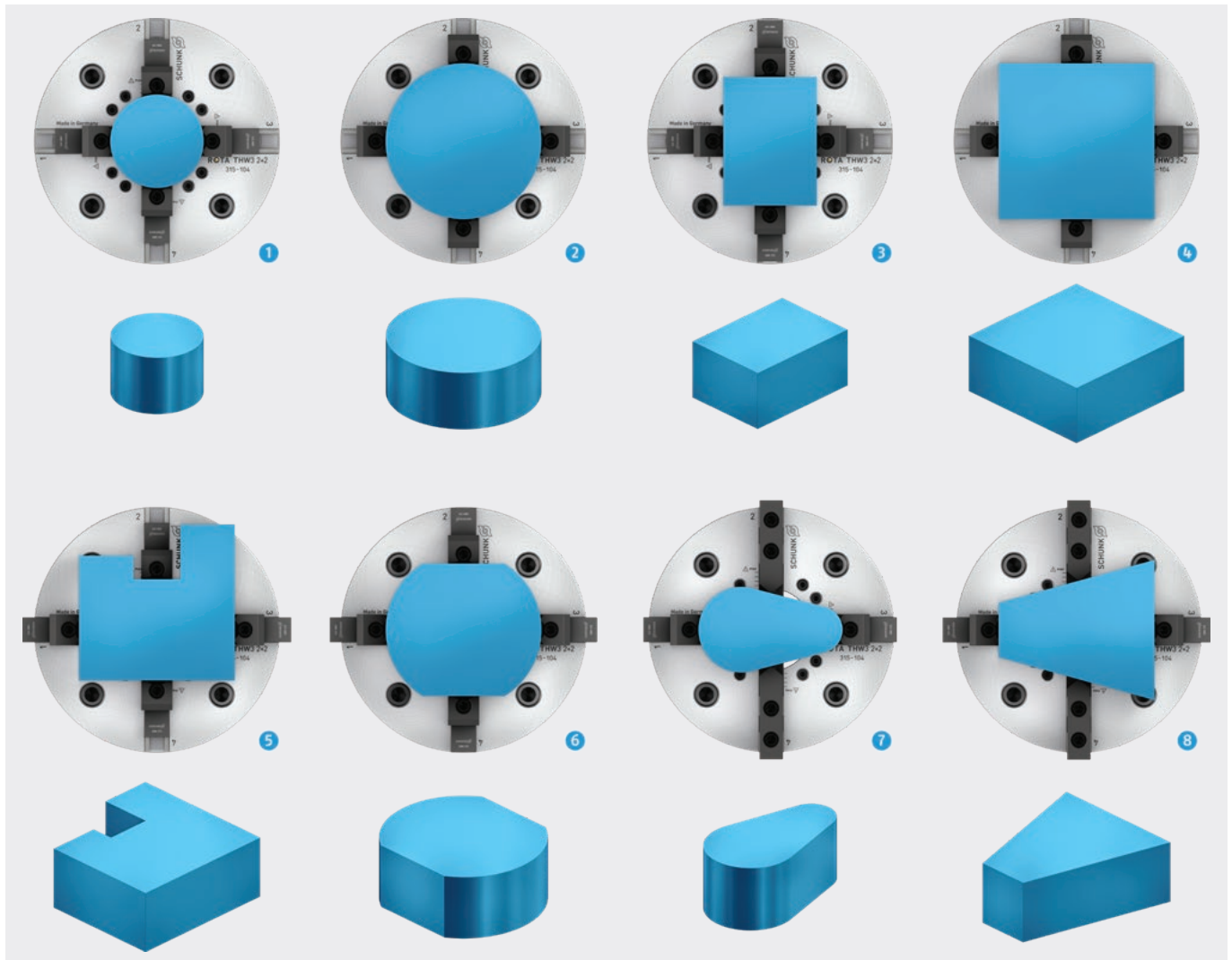


The jaw quick-change system is the ideal clamping tool for clamping tasks even up from batch size 1. Ideally the set-up times can be reduced – depending on the number of jaw changes – by up to 80% in comparison to power lathe chucks with fine serration.

- 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

Highest flexibility



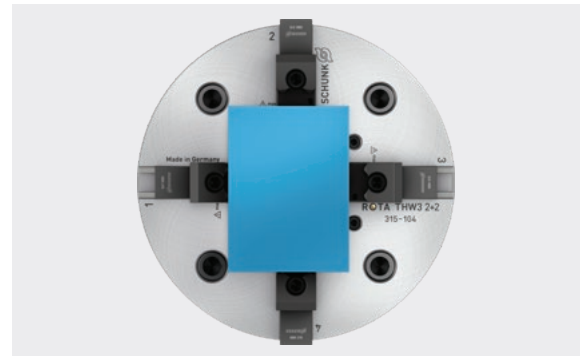
The ROTA THW3 2+2 is impressive with its high degree of flexibility. With this centrally compensating clamping lathe chuck, there is virtually no workpiece that cannot be clamped with it. With a selection of proper top jaws, round, cubic and a variety of geometrically unshaped parts can be clamped.

- ① Small workpieces
- ② Large workpieces
- ③ Rectangular workpieces
- ④ Square workpieces
- ⑤ Free-form parts
- ⑥ Semicircular and angular workpieces
- ⑦ Cams
- ⑧ Inclined workpieces

Functionality: Compensating workpiece clamping

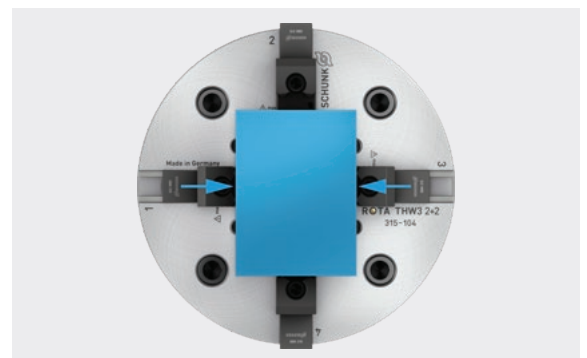
Step 1: Insert the workpiece

Round, cubic or geometrically unshaped parts can be inserted in open state.



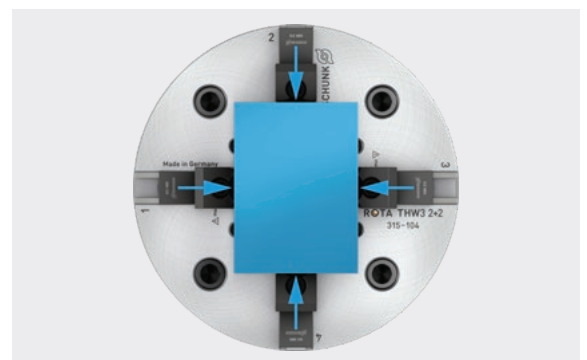
Step 2: Install the first pair of jaws

By actuating the power lathe chuck, the first pair of jaws contacts the workpiece. The workpiece is now centered in this plane.



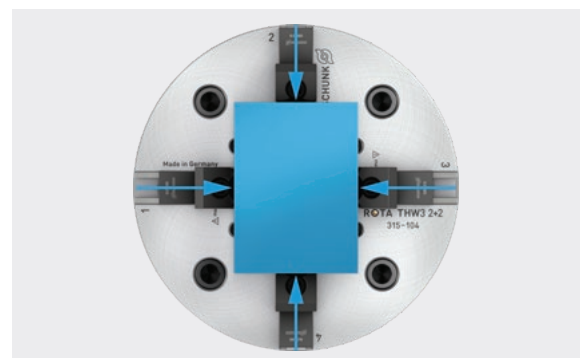
Step 3: Install the second pair of jaws

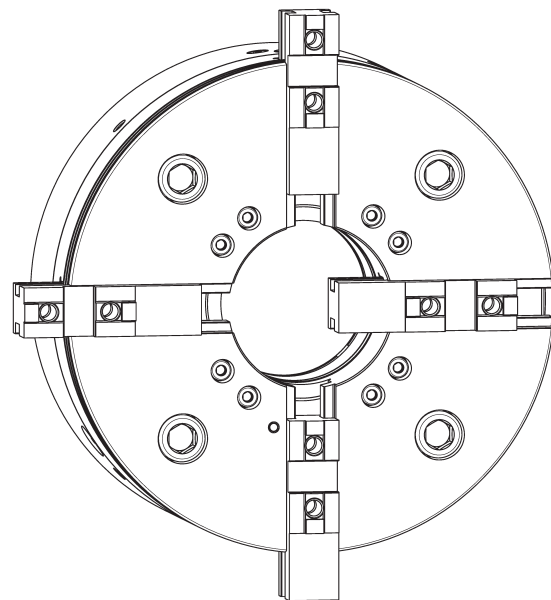
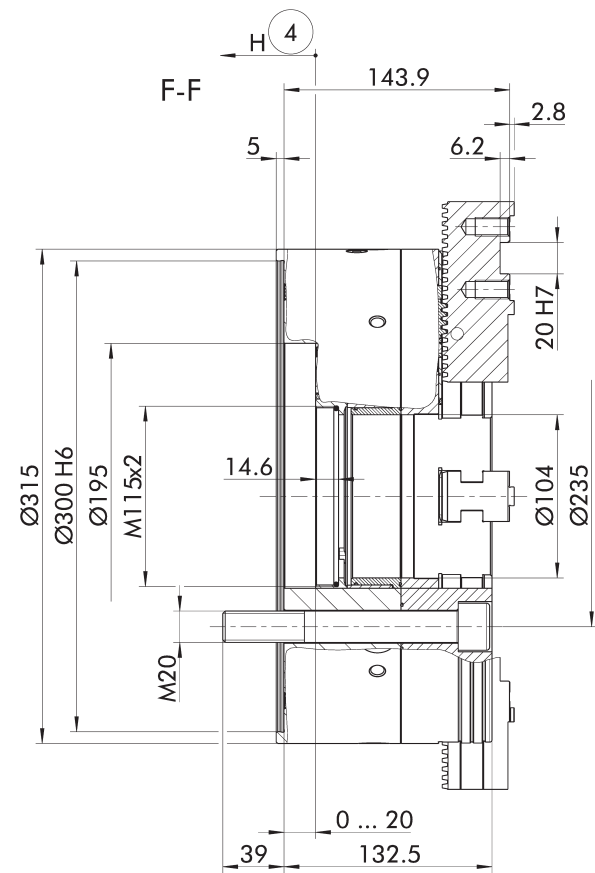
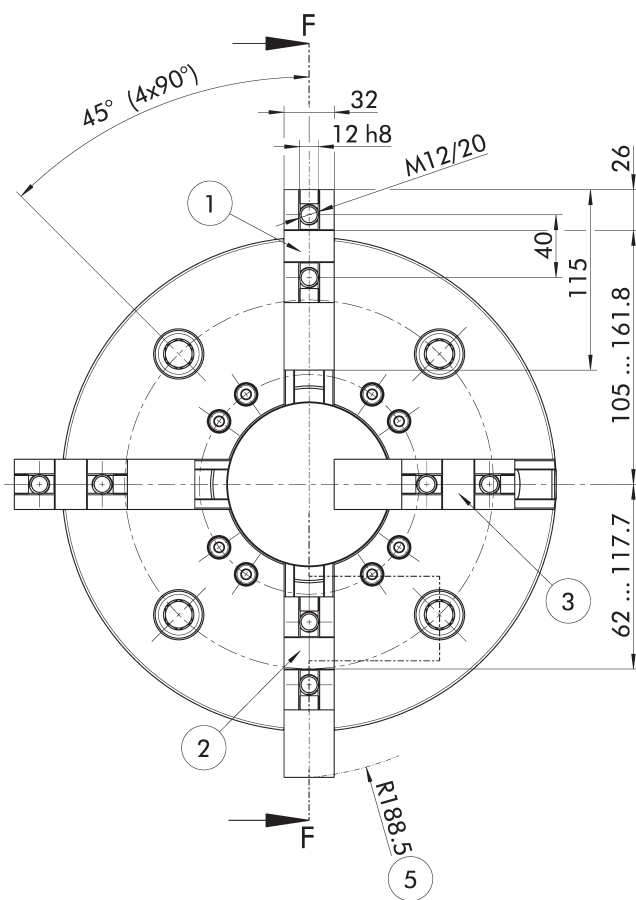
During further actuation, the second pair of jaws also contacts the workpiece and moves the workpiece in this plane to the center.



Step 4: Clamp the workpiece

If both pairs of jaws are in contact with the workpiece, the workpiece is clamped evenly and centrally with the full clamping force (depending on the actuation force).





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

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

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. 11 (Z300)	1589258	3000	150	80	0.95	63.5

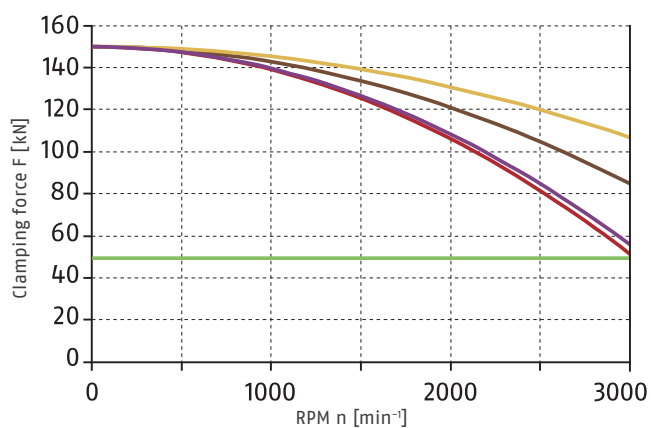
Scope of delivery

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

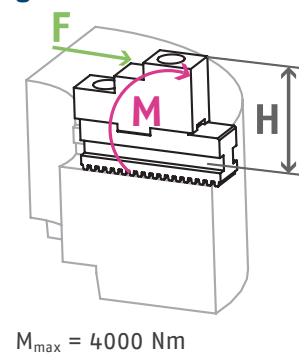
Chuck type	Through-hole	Stroke/jaw	Compensation stroke/ jaw	Tooth pitch	Piston stroke (H)	Center jaw height
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
ROTA THW3 2+2 315-104	104	7	6	5.498	20	80

Clamping force-RPM-diagram

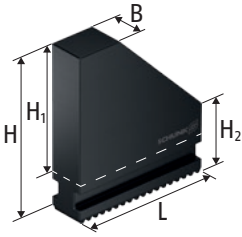


- Required minimum clamping force F_{spmin} 33%
- SHF 250
1.9 kg
- SFA 250
3.7 kg
- GST 315
3.5 kg
- UVB 315
7.6 kg

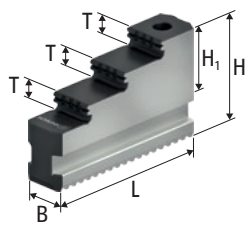
Load of base jaw guidance



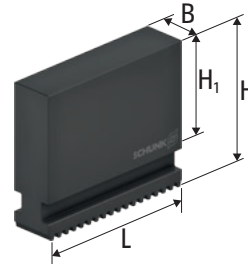
Base jaws, Hard stepped block jaws, Soft monoblock jaws with straight serration



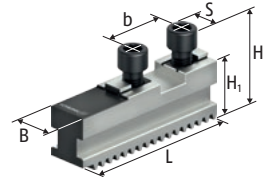
UVB-HS
Soft monoblock jaws



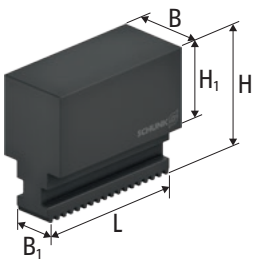
GST
Hard stepped block jaws



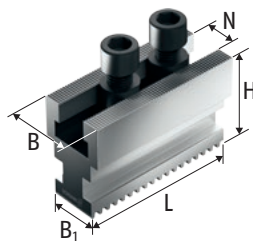
UVB
Soft monoblock jaws



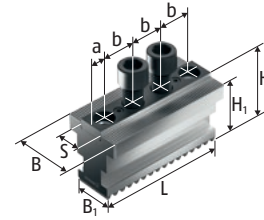
GBK
Base jaws



UVB-B
Soft monoblock jaws



STB-G
Base jaws



STN
Base jaws

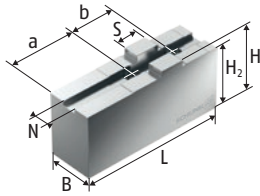
Technical data

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 2+2 315-104	UVB 315/4	1649645			32		90	56		121					10.1
ROTA THW3 2+2 315-104	UVB-B 315/4	1649646			46	32	90	52		121					12.8
ROTA THW3 2+2 315-104	UVB-H 315/4	1649647			32		135	101		121					15.4
ROTA THW3 2+2 315-104	UVB-HS 315/4	1649647			32		135	101	52	121					12.0
ROTA THW3 2+2 315-104	GBK 315/4	1649805	20	12	32		46	43		115			40	M12	4.0
ROTA THW3 2+2 315-104	GBKL 315/4	1649809	20	12	32		46	43		137			40	M12	4.7
ROTA THW3 2+2 315-104	GBK-V 315/4	1649810	20	12	32		46	43		115			40	M12	4.0
ROTA THW3 2+2 315-104	STB-G 315-2/4	1649813	21		54	32	76			115				M16	10.0
ROTA THW3 2+2 315-104	STN 315-6/4	1649816		21	45	32	58.5	56		110		13	28	M16	6.0
ROTA THW3 2+2 315-104	STNJ 315-5/4	1649819		18	50	32	56	54		120		15	30	M14	6.5
ROTA THW3 2+2 315-104	STNJ 315-6/4	1649830		21	50	32	60	58		125		17.5	30	M16	7.3
ROTA THW3 2+2 315-104	GST 315/4	1649831			32		66	32		116.3	10				4.7

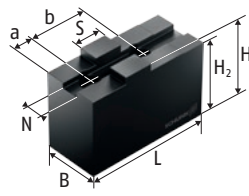
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on [schunk.com](https://www.schunk.com)

Soft top jaws

with tongue and groove



SFA-AL
Soft top jaws



SFA
Soft top jaws

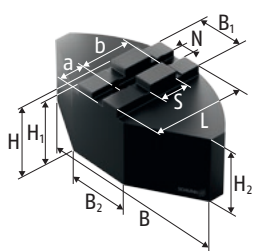
Technical data

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 2+2 315-104	SFA 250/4	1649667	12	20	30	55.5	50.5	125	60	40	M12	4.9
ROTA THW3 2+2 315-104	SFA-AL 250/4	1649668	12	20	40	60	55	125	60	40	M12	2.8
ROTA THW3 2+2 315-104	SFA 250-C1/4	1649658	12	20	40	60	55	90	34	40	M12	5.2
ROTA THW3 2+2 315-104	SFA 250-C2/4	1649669	12	20	40	60	55	125	69	40	M12	7.5
ROTA THW3 2+2 315-104	SFA 250-C3/4	1649670	12	20	40	80	75	125	69	40	M12	10.3
ROTA THW3 2+2 315-104	SFA 250-C4/4	1649671	12	20	40	100	95	125	69	40	M12	13.1
ROTA THW3 2+2 315-104	SFA 250-C5/4	1649672	12	20	40	120	115	125	69	40	M12	15.7
ROTA THW3 2+2 315-104	SFA 250-C6/4	1649673	12	20	60	60	55	90	34	40	M12	8.0
ROTA THW3 2+2 315-104	SFA 250-C7/4	1649674	12	20	80	60	55	90	34	40	M12	11.3
ROTA THW3 2+2 315-104	SFA 250-C8/4	1649675	12	20	80	100	95	125	69	40	M12	27.5

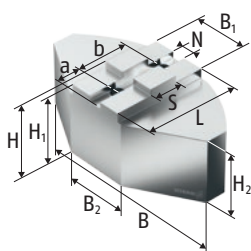
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Hard stepped top jaws, Full grip jaws

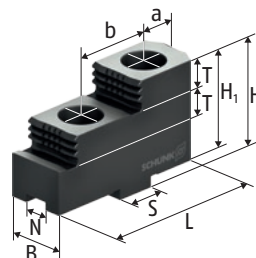
with tongue and groove



SFA-SM
Full grip jaws



SFA-SA
Full grip jaws



SHF
Hard stepped top jaws

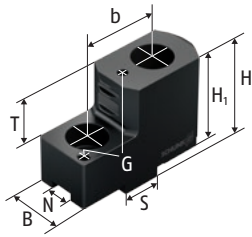
Technical data

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 2+2 315-104	SFA-SA 250/4	1649681	12	20	180	40	58	53	43	87.5		33.75	40	M12	4.5
ROTA THW3 2+2 315-104	SFA-SA 251/4	1649682	12	20	180	40	80	75	65	87.5		33.75	40	M12	6.6
ROTA THW3 2+2 315-104	SFA-SM 250/4	1649683	12	20	180	40	60	55	45	90		34.5	40	M12	17.1
ROTA THW3 2+2 315-104	SFA-SM 251/4	1649684	12	20	180	40	80	75	65	90		35	40	M12	25.2
ROTA THW3 2+2 315-104	SHF 250/4	1649838	12	20	30		55	50		90	14	21.1	40	M12	2.5

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

Universal claw jaws

with tongue and groove



SZKU
Universal claw jaws

Technical data

Chuck type	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 2+2 315-104	SZKU 250/4	1649847	12	20	30	55	50	78	25	M6	40	M12	2.1
ROTA THW3 2+2 315-104	SZKU 250/4	1649847	12	20	30	55	50	78	25	M6	40	M12	2.1

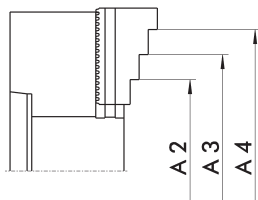
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Hard stepped block jaws

with tongue and groove



Jaw position I



Jaw position II

O.D. clamping

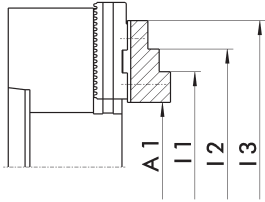
Chuck type	Description	ID	A1 [mm]	A2 [mm]	A3 [mm]	A4 [mm]
ROTA THW3 2+2 315-104	GST 315/4	1649831	20 - 130	89 - 196	145 - 252	201 - 308

I.D. clamping

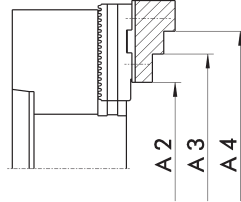
Chuck type	Description	ID	I1 [mm]	I2 [mm]	I3 [mm]
ROTA THW3 2+2 315-104	GST 315/4	1649831	81 - 188	135 - 244	191 - 300

Hard stepped top jaws

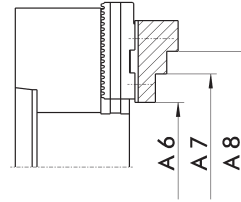
with tongue and groove



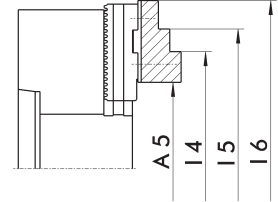
Position of base jaws II



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 2+2 315-104	SHF 250/4	1649838	24 - 132	114 - 224	194 - 304	110 - 220	52 - 136	132 - 216

I.D. clamping

Chuck type	Description	ID	I1 [mm]	I2 [mm]	I4 [mm]	I5 [mm]
ROTA THW3 2+2 315-104	SHF 250/4	1649838	106 - 213	186 - 294	191 - 301	271 - 382

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 2+2 315-104	IFT Set	1404235

Measuring head adapter for 4-jaw clamping

For use as an extension of the IFT measuring head for measuring the jaw clamping force of 4-jaw chucks.



Suitable for	Description	ID
ROTA THW3 2+2 315-104	IFT MA4	1452686

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

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 2+2 315-104	SSH-A SW8-148	8703298

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 2+2 315-104	SSH-MN Ø104-228	1375097

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



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