

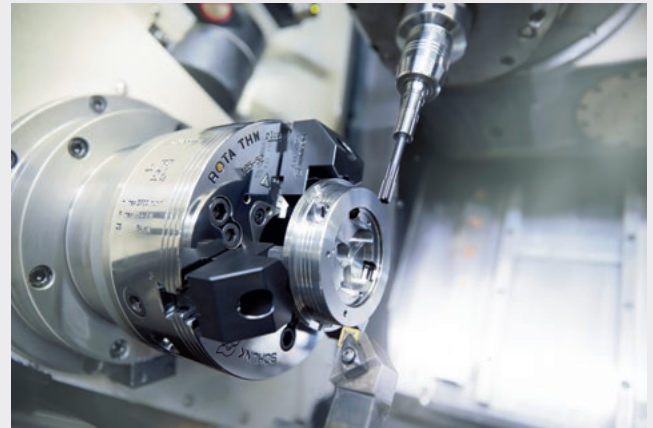


ROTA THWplus

**Jaw quick-change chuck with
straight serrated base jaw
interface**

Jaw quick-change chuck for maximum flexibility starting from batch size 1

The ROTA THW plus jaw quick-change chuck from SCHUNK, which has demonstrated its value for decades, embodies the concept of flexible production starting from batch size 1. The jaw quick-change system reduces set-up times to a maximum and adapts the chuck to the new clamping task within 60 seconds. High jaw quick-change repeatability allows existing jaws to be reused directly without their having to be ground again.



Advantages – Your benefits

- + Convenient jaw quick-change system**
Minimizing set-up times and costs
- + Large through-hole**
Machining all standard pipe diameters
- + High efficiency of the wedge bar system**
Process-reliable clamping due to high clamping forces
- + High jaw quick-change repeat accuracy**
No reboring of already machined jaws necessary
- + Optimized lubrication system**
Consistently high clamping forces ensured
- + Modular center sleeve system**
Optimal adjustment to new clamping tasks thanks to the exchangeable center sleeves
- + Straight serrated base jaws GBK**
Compatible to ROTA-G and system "R" (Reishauer)
- + Two mounting bolt circles**
For fast and direct attachment to all commercially available spindle heads
- + 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 THW plus 165-43	6000	45	30	5.9	20	43
ROTA THW plus 185-52	5700	64	36	6.7	23	52
ROTA THW plus 215-66	5400	82	46	7.4	25	66
ROTA THW plus 260-81	4000	115	65	8.2	28	81
ROTA THW plus 315-104	3600	160	90	8.6	28	104

Function of ROTA THW plus

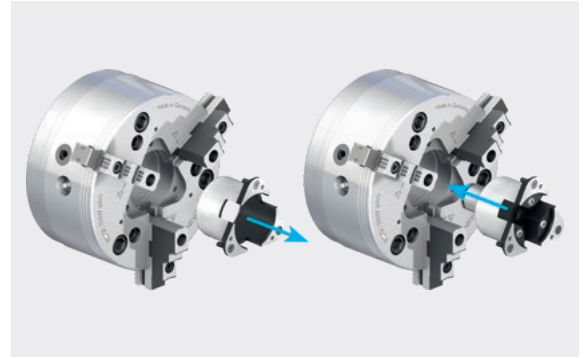
The wedge bars that can be tangentially moved in the chuck are driven via slanted effective surfaces of an axially guided piston. The wedge bars transmit the force to the base jaws, generating a jaw movement that is synchronous and radial to the rotational axis. The jaw change occurs by drawing back the wedge bar serration.



- | | |
|---|--|
| <ul style="list-style-type: none"> ❶ Wedge bar actuation system
It offers high run-out accuracies even at high speeds ❷ Hardened and extremely rigid base body
Therefore a longer service life at highest precision.
Even with maximum clamping force ❸ Large through-hole
For machining of all standard raw material diameters ❹ Optimized lubrication system
For a high level of efficiency ❺ Mounting thread
For workpiece stops or cover plates ❻ Jaw quick-change system
Shortest set-up times due to individual unlocking of jaws ❼ Base jaws with straight serration (GBK)
Compatible with the ROTA THW and ROTA-G | <ul style="list-style-type: none"> ❽ Locking mechanism
Enables a safe base jaw position and thus ensures secure intermeshing of the base jaw serration with the wedge-bar serration ❾ Two mounting bolt circles
For fast and direct attachment to all commercially available spindle heads ❿ Admissible jaw locking
The jaw change wrench can only be removed if the wedge bar is properly engaged in the base jaw. ⓫ Various direct mountings
Without additional flange ⓬ Modular center sleeve system
Therefore optimal adjustment to new clamping tasks ⓭ Additional seals
For sealing against coolants and chips |
|---|--|

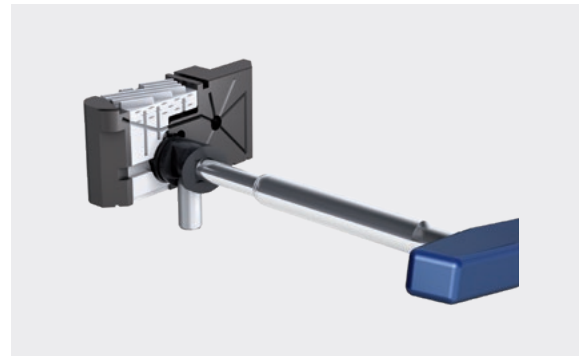
Changing the center sleeve

The modular center sleeves can be changed quickly and easily while the chuck remains mounted. When the three screws are undone, all the protection sleeves can be pulled off from the front and replaced.



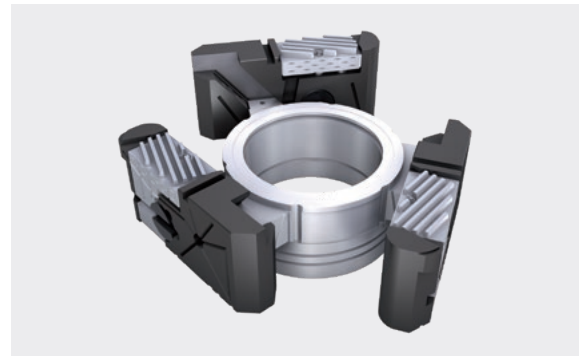
Quick jaw change

Due to an easy pull back of the wedge bar serration. This ensures a 100% grip of the serrations. This increases the safety factor since the clamping force is ideally distributed on a large surface.



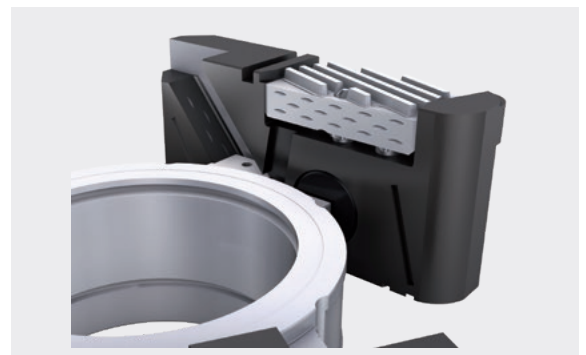
High changing repeatability

Due to the proven wedge bar system and the double guided piston.



Optimized lubrication system

Three lubrication nipples positioned on the chuck body facilitate lubrication of all functional surfaces. The special shape of the grease grooves ensures constant lubrication of the friction surfaces. This improves the clamping behavior during operation.



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.



Removal of the chuck jaws

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

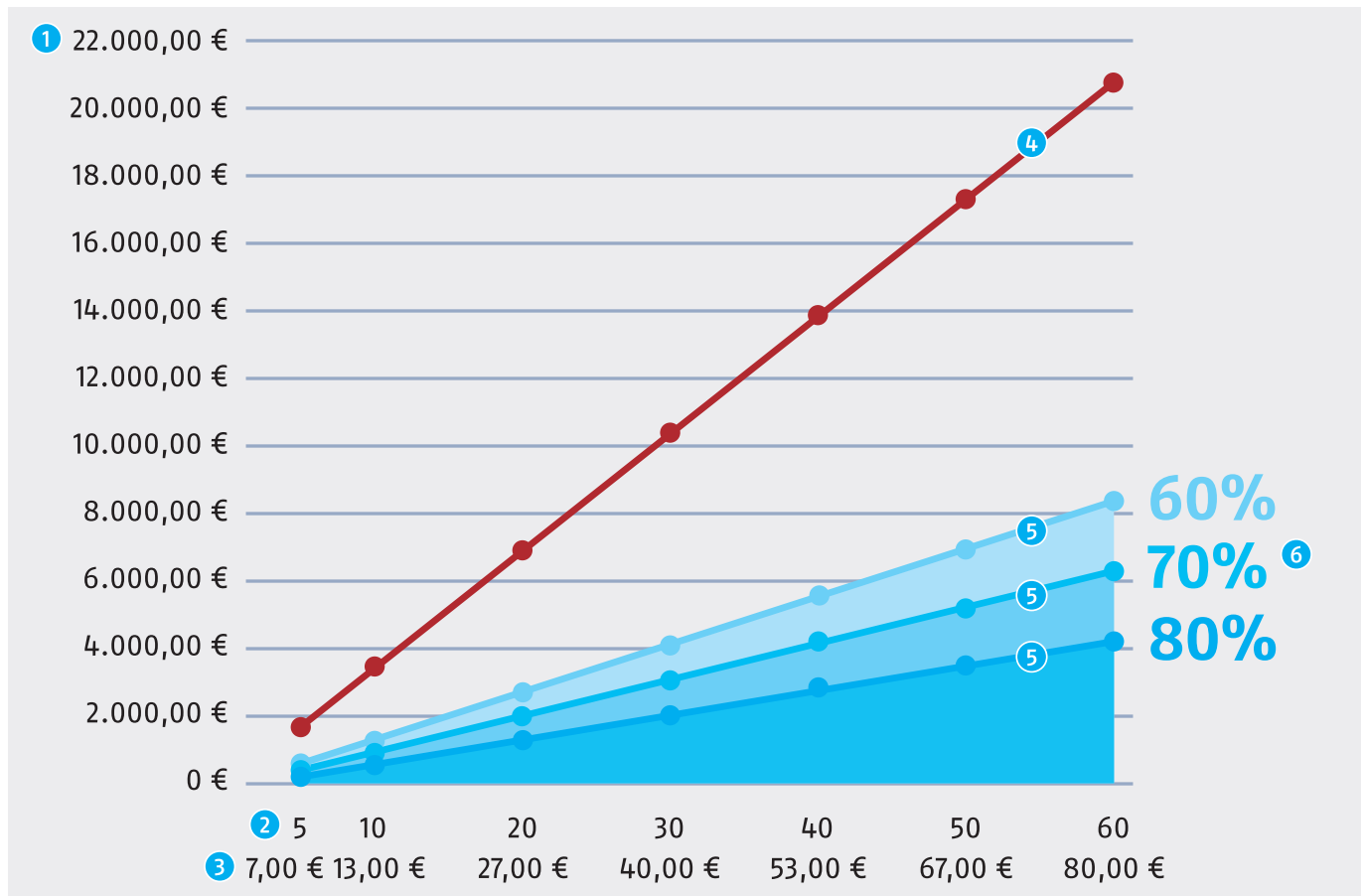


The jaws are interchangeable

Straight serration, fits SCHUNK ROTA THW3, ROTA THW, ROTA-G and the "R" system (Reishauer). This allows jaws to be used on multiple chucks or in multiple applications.



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

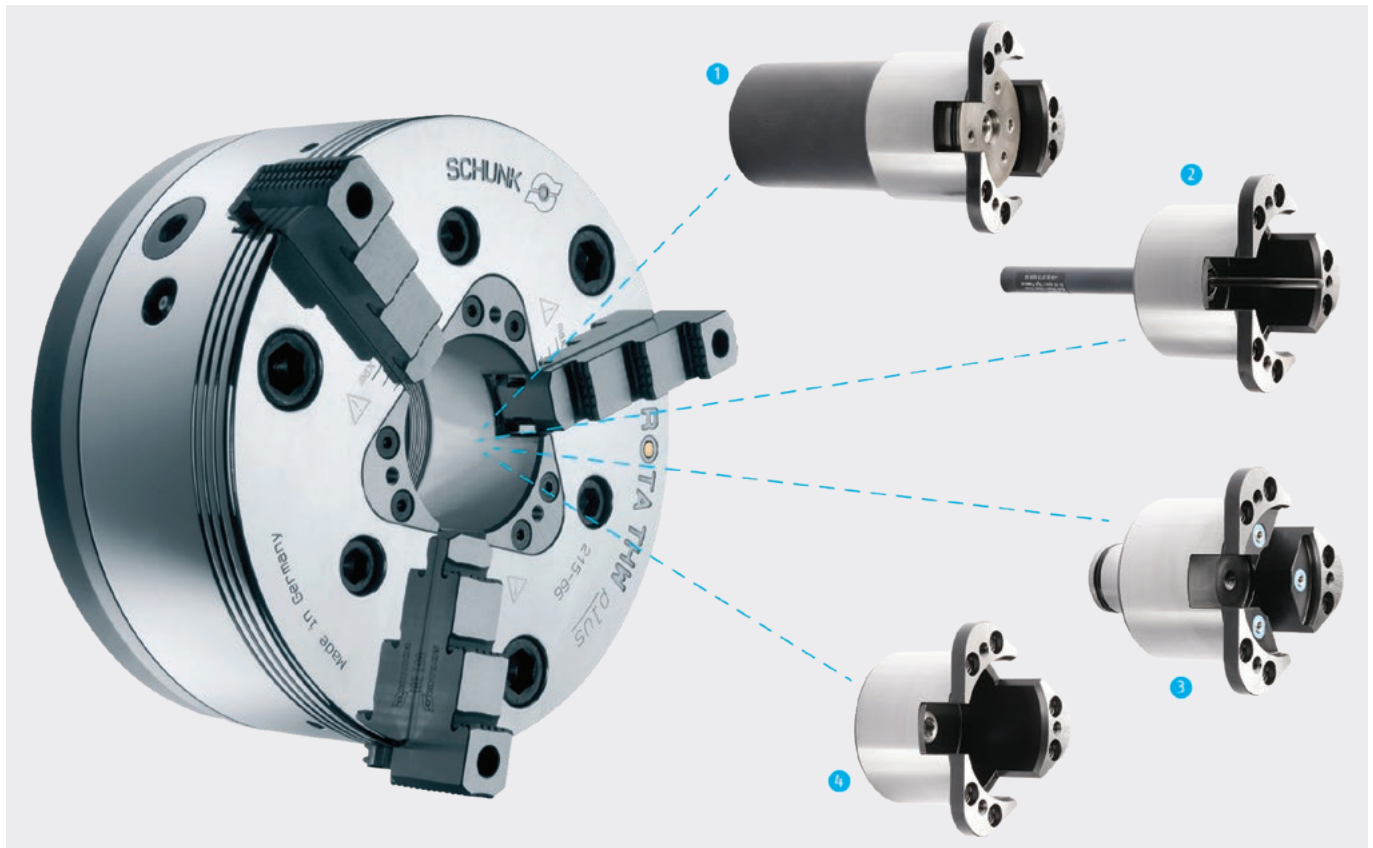


The jaw quick-change system is the ideal clamping tool for clamping tasks even up from batch size 1. Ideally the set-up times can be reduced – depending on the number of jaw changes – by up to 80% in comparison to power lathe chucks with fine serration.

- 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

Modular center sleeve system



The modular center sleeve system increases flexibility for the most various applications in everyday life.

1 Adjustable stop in the center sleeve

The adjustable stop ensures that all workpieces are stopped with high repeat accuracy in the same selectable position. This makes handling quick and easy.

2 Part ejector in the center sleeve

An optimum addition for automatic loading. The part ejector disposes of a gas spring, which will eject your workpiece safely out of the chuck.

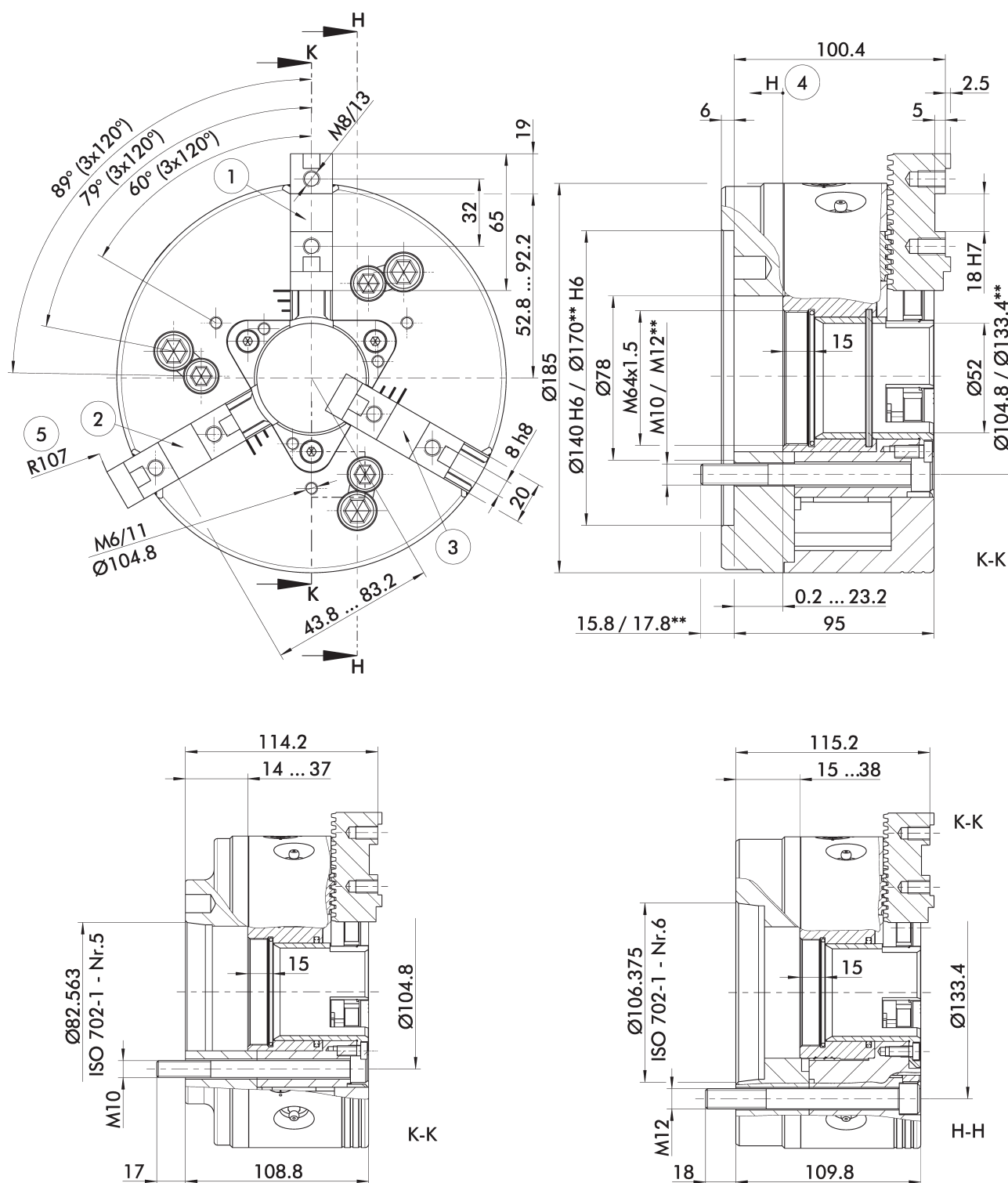
3 Coolant nozzles in the center sleeve

Ideal as an additional component if your machine is equipped with a central coolant supply. For I.D. machining, coolant will be fed directly to the tool.

4 Closed center sleeve

The closed center sleeve prevents penetration of chips and coolant into the through-hole.

① Modular center sleeve system up to size 315 possible.



Chuck for shaft clamping drawn in open position.
** For straight recess mount 170.
Subject to technical changes.

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. 5 (Z140)	0800610	5700	64	36	0.08	16
ISO 702-4	Nr. 6 (Z170)	0800611	5700	64	36	0.08	16
ISO 702-1	Nr. 5	0800612	5700	64	36	0.08	17
ISO 702-1	Nr. 6	0800613	5700	64	36	0.08	18

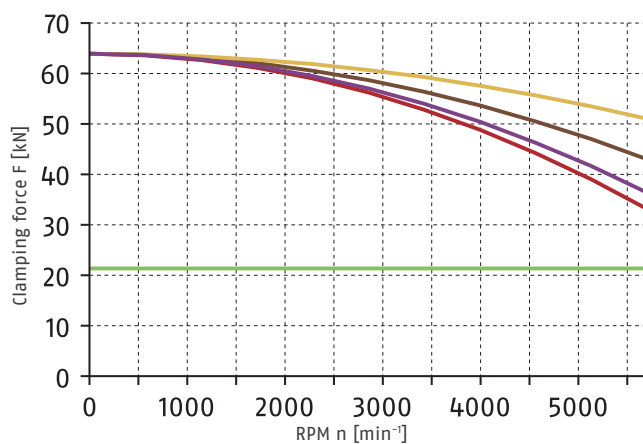
Scope of delivery

Chuck, 1 set of base jaws with screws, jaw change wrench, chuck mounting screws 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 THW plus 185-52	52	6.7	4.712	23	43

Clamping force-RPM-diagram



Required minimum
clamping force F_{spmin} 33%

SHF 160
0.6 kg



SFA 160
1.2 kg



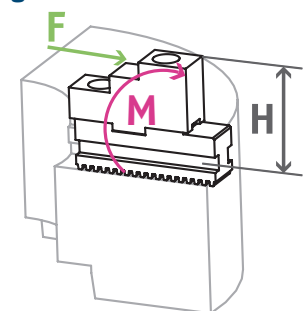
GST 140-160 I
0.7 kg



UVB 160
1.6 kg



Load of base jaw guidance



$M_{max} = 917 \text{ Nm}$

Center sleeves

Center sleeve closed



Technical data

Description	ID	Suitable for	ØA [mm]	B [mm]	K	Weight [kg]
SBS-G-W 185	8703506	ROTA THW plus 185-52	52	44.6	M16x1.5	0.4

Protection sleeve with ejector

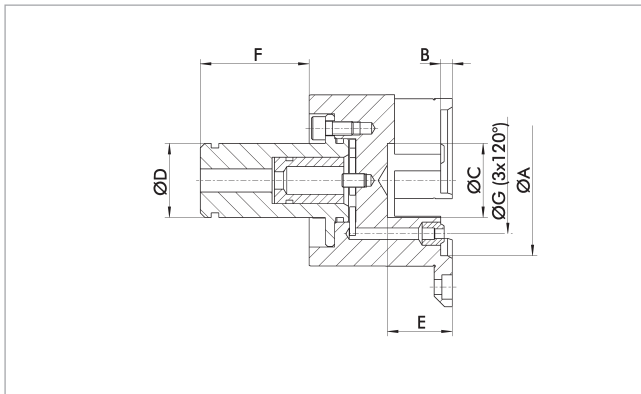


Technical data

Description	Suitable for	ØA [mm]	B [mm]	ØC [mm]	ØD [mm]	E [mm]	F [mm]	K
SBS-A-W 185	ROTA THW plus 185-52	52	44.6	4.8	14	10 - 100	35	M16x1.5

- Center sleeves with ejector are available on request
- The ejector stroke is selectable in increments of 10 from 10 - 100 mm
- The ejection force is selectable with 40, 100, 150, 200, 250, or 300 N

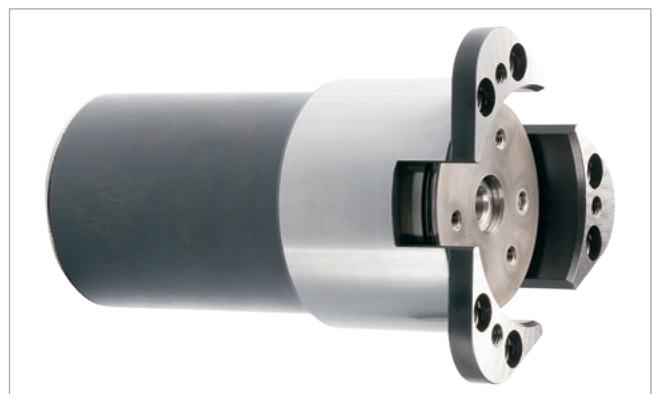
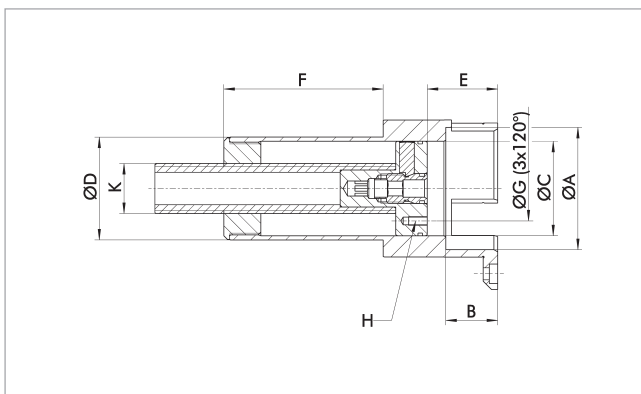
Protection sleeve with spray nozzles



Technical data

Description	ID	Suitable for	ØA [mm]	B [mm]	ØC [mm]	ØD [mm]	F [mm]	ØG [mm]	K	Weight [kg]
SBS-S-W 185	8703249	ROTA THW plus 185-52	52	5	28	32	34	41	M16x1.5	1.1

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-W 185-46	8703690	ROTA THW plus 185-52	52	23.5	42	46.5	23.5 - 110.8	88.4	30	M4x8	M27	1.2
SBS-T-W 185-55	8703235	ROTA THW plus 185-52	52	23.5	51	55.5	23.5 - 110.8	88.4	35	M5x10	M27	1.3

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

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 Z140-A4	FF-T2	0805000	ROTA THW plus 185-52	Nr. 4	61	Z140	11 (6x60°)	17	M10 (6x60°)	21	82.6	104.8
FF-T1 Z140-A5	FF-T1	0803000	ROTA THW plus 185-52	Nr. 5	79.6	Z140	11 (6x60°)			16	104.8	
FF-T3 Z140-A6	FF-T3	0801000	ROTA THW plus 185-52	Nr. 6	85	Z140	13 (6 x 60°)	20	M10 (6x60°)	34	133.4	104.8
FF-T2 Z170-A5	FF-T2	0805001	ROTA THW plus 185-52	Nr. 5	79.6	Z170	11 (6x60°)	18	M12 (12 x 30°)	25	104.8	133.4
FF-T1 Z170-A6	FF-T1	0803001	ROTA THW plus 185-52	Nr. 6	103.2	Z170	13 (6 x 60°)			17	133.4	
FF-T3 Z170-A8	FF-T3	0801001	ROTA THW plus 185-52	Nr. 8	113	Z170	17 (6x60°)	26	M12 (6x60°) M12 (2x180°)	40	171.4	133.4

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.

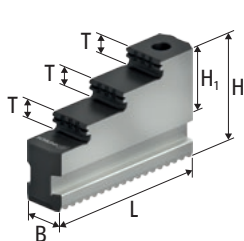
Reduction adapter plates FF-T2

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.

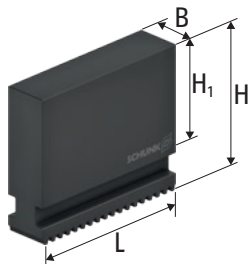
Expansion adapter plates FF-T3

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.

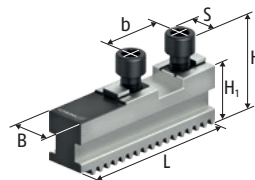
Base jaws, Hard stepped block jaws, Soft monoblock jaws with straight serration



GST
Hard stepped block jaws



UVB
Soft monoblock jaws



GBK
Base jaws

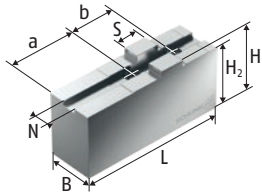
Technical data

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 THW plus 185-52	UVB 160	0164106			20	55.5	35	65				1.6
ROTA THW plus 185-52	GBK 160	0159106	18	8	20	30	27.5	65		32	M8	0.6
ROTA THW plus 185-52	GBK-V 160	0159156	18	8	20	30	27.5	65		32	M8	0.6
ROTA THW plus 185-52	GST 140-160 I	0162097			20	43.5	22	58.1	7			0.7
ROTA THW plus 185-52	GST 140-160 II	0162098			20	43.5	22	58.1	7			0.7

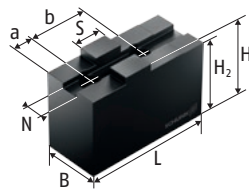
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on schunk.com

Soft top jaws

with tongue and groove



SFA-AL
Soft top jaws



SFA
Soft top jaws

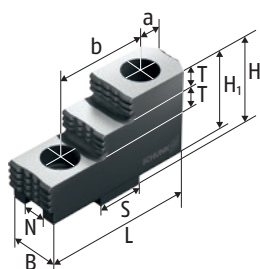
Technical data

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 THW plus 185-52	SFA 160	0153100	8	18	20	40	36	85	35	32	M8	1.2
ROTA THW plus 185-52	SFA-AL 160	0172100	8	18	25	50	46	85	35	32	M8	0.7
ROTA THW plus 185-52	SFA 160-C1	0154121	8	18	30	55.5	51.5	85	41	32	M8	2.7
ROTA THW plus 185-52	SFA 160-C2	0154127	8	18	35	40	36	63	19	32	M8	1.6
ROTA THW plus 185-52	SFA 160-C3	0154131	8	18	40	60	56	70	26	32	M8	3.3
ROTA THW plus 185-52	SFA 160-C4	0154133	8	18	40	80	76	85	41	32	M8	5.6

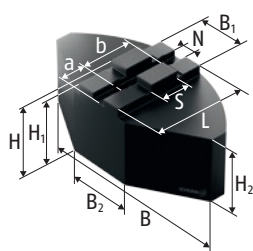
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Hard stepped top jaws, Full grip jaws

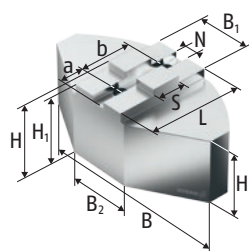
with tongue and groove



SHF
Hard stepped top jaws



SFA-SM
Full grip jaws



SFA-SA
Full grip jaws

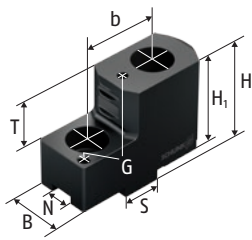
Technical data

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
ROTA THW plus 185-52	SFA-SA 160	0174100	8	18	120	35	50	46	40	59.5		15.75	32	M8	1.4
ROTA THW plus 185-52	SFA-SM 160	0173100	8	18	120	30	50	46	40	60		16.5	32	M8	4.8
ROTA THW plus 185-52	SHF 160	0155100	8	18	20		36.5	32.5		63	7.5	16.8	32	M8	0.6

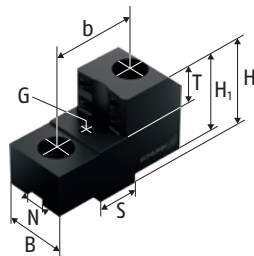
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Claw jaws, Universal claw jaws

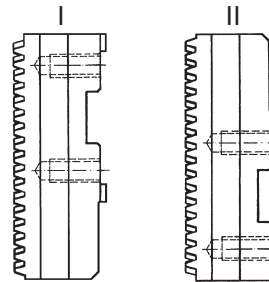
with tongue and groove



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 THW plus 185-52	75 - 138	219	I	SZKA 163	0165146	8	18	40	44	40	60	20	M6	32	M8	1.5
ROTA THW plus 185-52	28 - 90	212	I	SZKA 169	0165174	8	18	26	44	40	71	20	M6	32	M8	1.0
ROTA THW plus 185-52	92 - 129		I	SZKU 160	0139300	8	18	22	42	38	60.5	20	M6	32	M8	0.7
ROTA THW plus 185-52	112 - 176	233	II	SZKA 168	0165151	8	18	30	44	40	76	20	M6	32	M8	1.3
ROTA THW plus 185-52	73 - 111		II	SZKU 160	0139300	8	18	22	42	38	60.5	20	M6	32	M8	0.7

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

Hard stepped block jaws

with tongue and groove



Jaw position I



Jaw position II

O.D. clamping

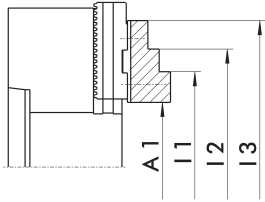
Chuck type	Description	ID	A1 [mm]	A2 [mm]	A3 [mm]	A4 [mm]
ROTA THW plus 185-52	GST 140-160 I	0162097	5 - 86	32 - 107	63 - 138	94 - 169
ROTA THW plus 185-52	GST 140-160 II	0162098	3 - 87	30 - 107	61 - 138	92 - 169

I.D. clamping

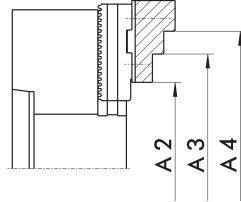
Chuck type	Description	ID	I1 [mm]	I2 [mm]	I3 [mm]
ROTA THW plus 185-52	GST 140-160 I	0162097	38 - 116	67 - 147	98 - 178
ROTA THW plus 185-52	GST 140-160 II	0162098	35 - 119	66 - 150	97 - 181

Hard stepped top jaws

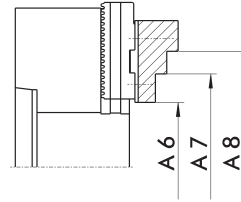
with tongue and groove



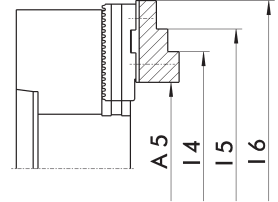
Position of base jaws II



Position of base jaws I



Position of base jaws II



Position of base jaws I

O.D. clamping

Chuck type	Description	ID	A1 [mm]	A2 [mm]	A3 [mm]	A4 [mm]	A5 [mm]	A6 [mm]	A7 [mm]	A8 [mm]
ROTA THW plus 185-52	SHF 160	0155100	7 - 83	29 - 106	74 - 152	99 - 177	23 - 101	15 - 89	60 - 134	85 - 159

I.D. clamping

Chuck type	Description	ID	I1 [mm]	I2 [mm]	I4 [mm]	I5 [mm]
ROTA THW plus 185-52	SHF 160	0155100	63 - 137	87 - 162	78 - 155	103 - 180

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 THW plus 185-52	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 THW plus 185-52	SSH-A SW8-148	8703298

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