

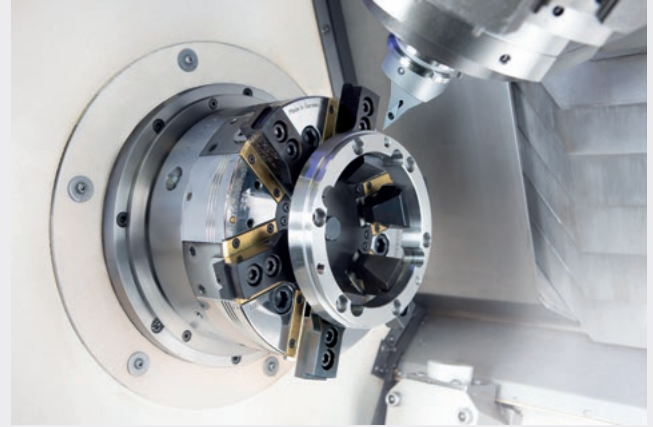


ROTA NCR-A

**Sealed 6-jaw compensation
chuck with pendular
compensation**

Sealed 6-jaw compensation chuck for deformation sensitive clamping of thin-walled workpieces

Sealed 6-jaw compensation chuck for deformation-sensitive clamping of thin-walled workpieces. The sealing system ensures constant clamping forces, minimal maintenance costs and an even wider range of applications, such as the machining of cast-iron parts.



Advantages – Your benefits

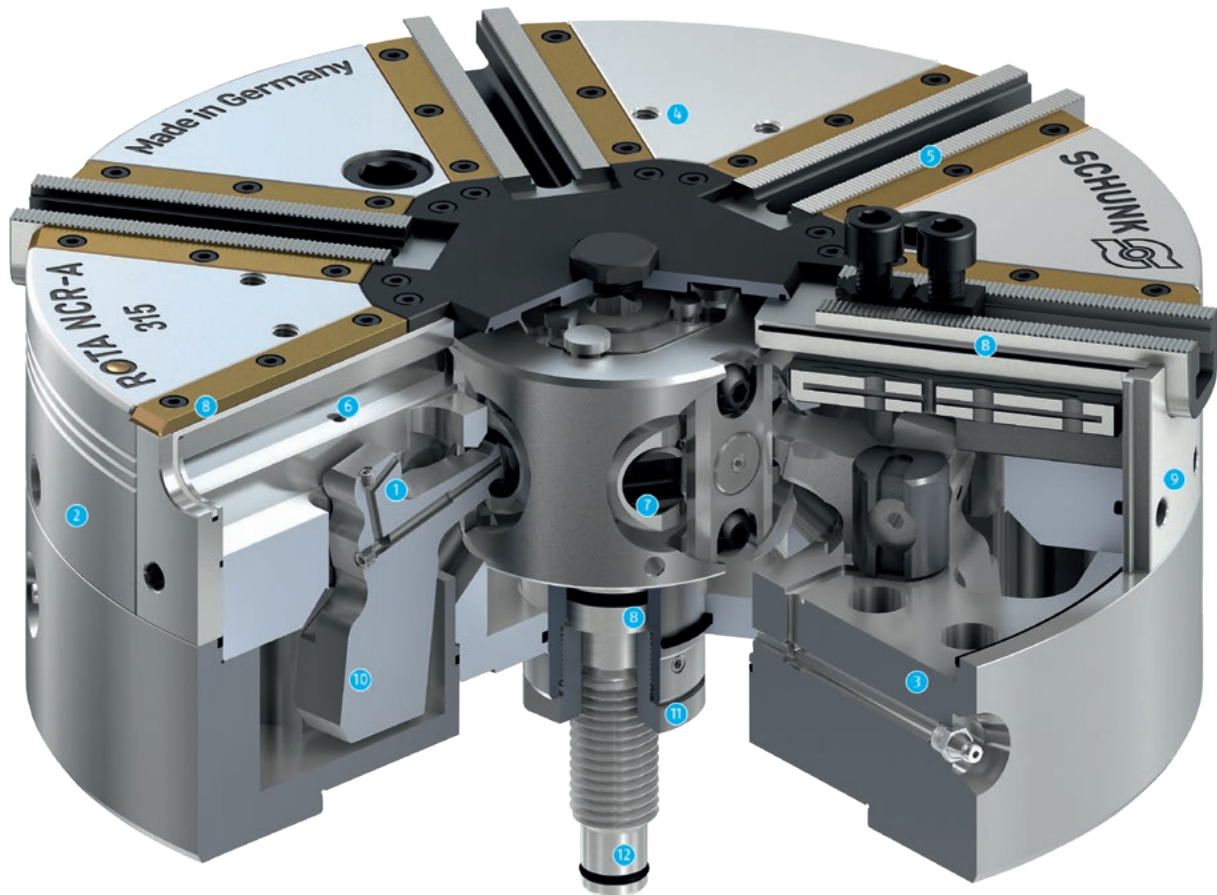
- + Sealed power lathe chuck**
For significantly longer maintenance intervals
- + Precision angle lever power lathe chuck**
Allows excellent machining results
- + High efficiency of the angle lever system**
Process-reliable clamping due to high clamping forces
- + Optimum jaw support for O.D. and I.D. clamping due to a very long base jaw guidance**
Allows high clamping forces at a long service life
- + Optimized lubrication system**
Consistently high clamping forces ensured
- + Media feed-through (coolant or air) integrated in the chuck body**
Flexibility depending on the application
- + Low height design**
For maximum utilization of the machine room
- + Deformation sensitive clamping of thin-walled workpieces**
High degree of roundness of the workpieces
- + Very accurate clamping of non-circular components**
Perfect for castings
- + All sides of the functional parts are hardened and ground**
Ensures a long service life

Technical data

Description	Max. rotational speed	Max. clamping force	Max. actuating force	Stroke/jaw	Piston stroke	Pendulum compensation
	[min ⁻¹]	[kN]	[kN]	[mm]	[mm]	[mm]
ROTA NCR-A 190	4000	36	22	6	13.5	±1
ROTA NCR-A 250	3000	64	38	8	18.5	±2
ROTA NCR-A 315	2500	80	40	8	20	±2
ROTA NCR-A 400	1400	100	54	12	30	±2.5
ROTA NCR-A 500	1200	125	65	12	30	±2.5
ROTA NCR-A 630	1000	160	80	16	40	±3.5
ROTA NCR-A 800	700	160	80	16	40	±3.5
ROTA NCR-A 1000	600	300	150	25	60	±6

Function of ROTA NCR-A

The axially movable piston transfers the force to the base jaws via angle levers mounted in the base body, and generates a radial jaw movement synchronized with the rotation axis.



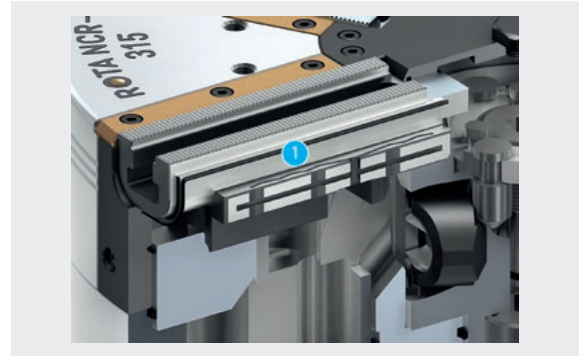
- | | |
|---|--|
| <p>1 Angle lever drive
Offers constantly high clamping forces in operation</p> <p>2 Hardened and extremely rigid base body
Therefore a longer service life at highest precision. Even with maximum clamping force</p> <p>3 Optimized lubrication system
For a high level of efficiency</p> <p>4 Mounting thread
For workpiece stops or cover plates</p> <p>5 Base jaw serration
Size 190 with tongue and groove and available in inches for size 250 and larger</p> <p>6 Long jaw guidance
Offers optimal support for O.D.- and I.D. clamping</p> | <p>7 Internal pendulum body
Connection with one each base jaw pair</p> <p>8 Sealing of the lathe chuck
Consists of a gasket and O-rings for the initial tension</p> <p>9 Cover element
Serves to seal the lining and additionally protects the base jaw</p> <p>10 Integrated centrifugal force compensation as an option
For constant clamping force even at top speeds</p> <p>11 Optimized piston mount
For easy and fast chuck assembly</p> <p>12 Central media supply
Available on request for air control or coolant</p> |
|---|--|

Innovative sealing system starting from size 250

An innovative sealing system – consisting of a specially designed gasket – prevents grease from being rinsed out during machining. This in turn prevents a gradual loss of clamping force. Advantage: The chuck is additionally protected against the penetration of dirt and chips.

1 Gasket

Guarantees a smooth pendulum mechanism



Advantages of the 6-point clamping

The inner pendulum mechanism evenly transmits the clamping force to all six jaws. Thin-walled workpiece are then clamped with minimal deformation. The deformation in the case of a ring-shaped workpiece is therefore reduced up to a factor of 10 as opposed to a comparable clamping set-up in a 3-jaw chuck.

1 Clamping of a ring in the 6-jaw pendulum compensation chuck ROTA NCR-A with 20 kN total clamping force

Diameter: Ø 114 mm

Wall thickness: 6 mm

Material: Steel

Deformation: approx. 0.035 mm

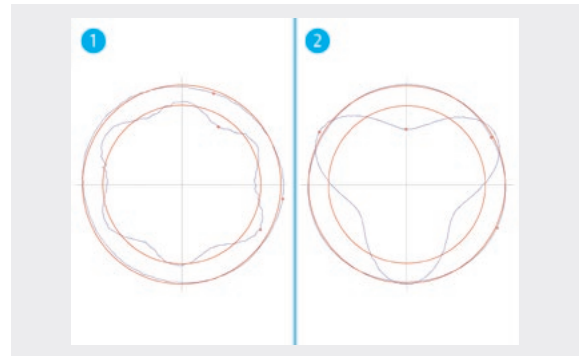
2 Clamping of a ring in the 3-jaw power lathe chuck with a total clamping force of 20 kN

Diameter: Ø 114 mm

Wall thickness: 6 mm

Material: Steel

Deformation: approx. 0.32 mm



Easy actuation

The centric, six-point workpiece clamping uses two base jaws linked by a compensation piece. The internal mechanics is contamination-free and very smoothly running. The lathe chuck actuation is also possible with very low clamping forces.

1 Pendulum bodies

2 Angle lever

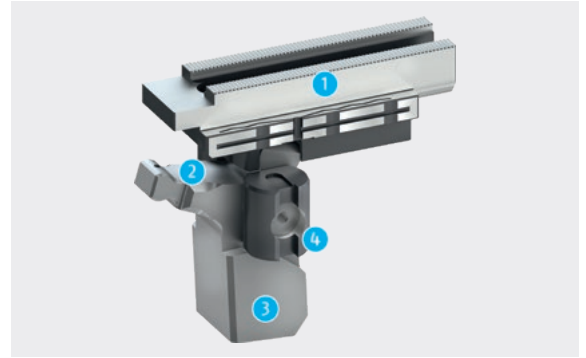
3 Chuck piston



Force transmission

The force is transmitted via extremely rigid angle levers that ensures a long service life.

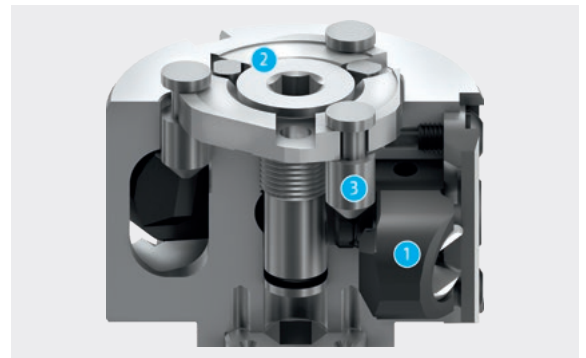
- 1 **Base jaw**
With jaw interface for standard top jaws by SCHUNK
- 2 **Angle lever**
Transfers the axial piston movement onto the jaw
- 3 **Optional with centrifugal force compensation**
For less clamping force loss
- 4 **Lever bearing**



Compensating workpiece clamping

The compensating workpiece clamping is achieved by using a floating compensation piece. The oscillating clamp is retracted completely, releasing all three compensation pieces. This allows a compensating clamping of the workpiece.

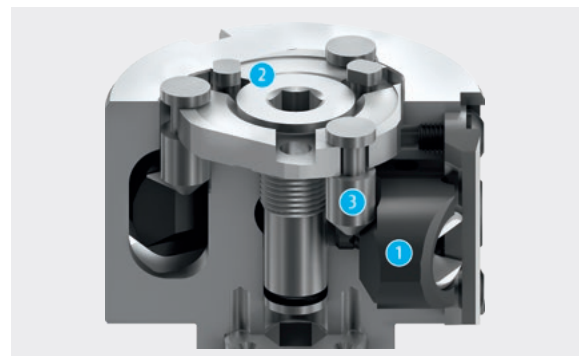
- 1 **Pendulum body loose**
- 2 **Adjusting screw**
- 3 **Pendulum locking open**

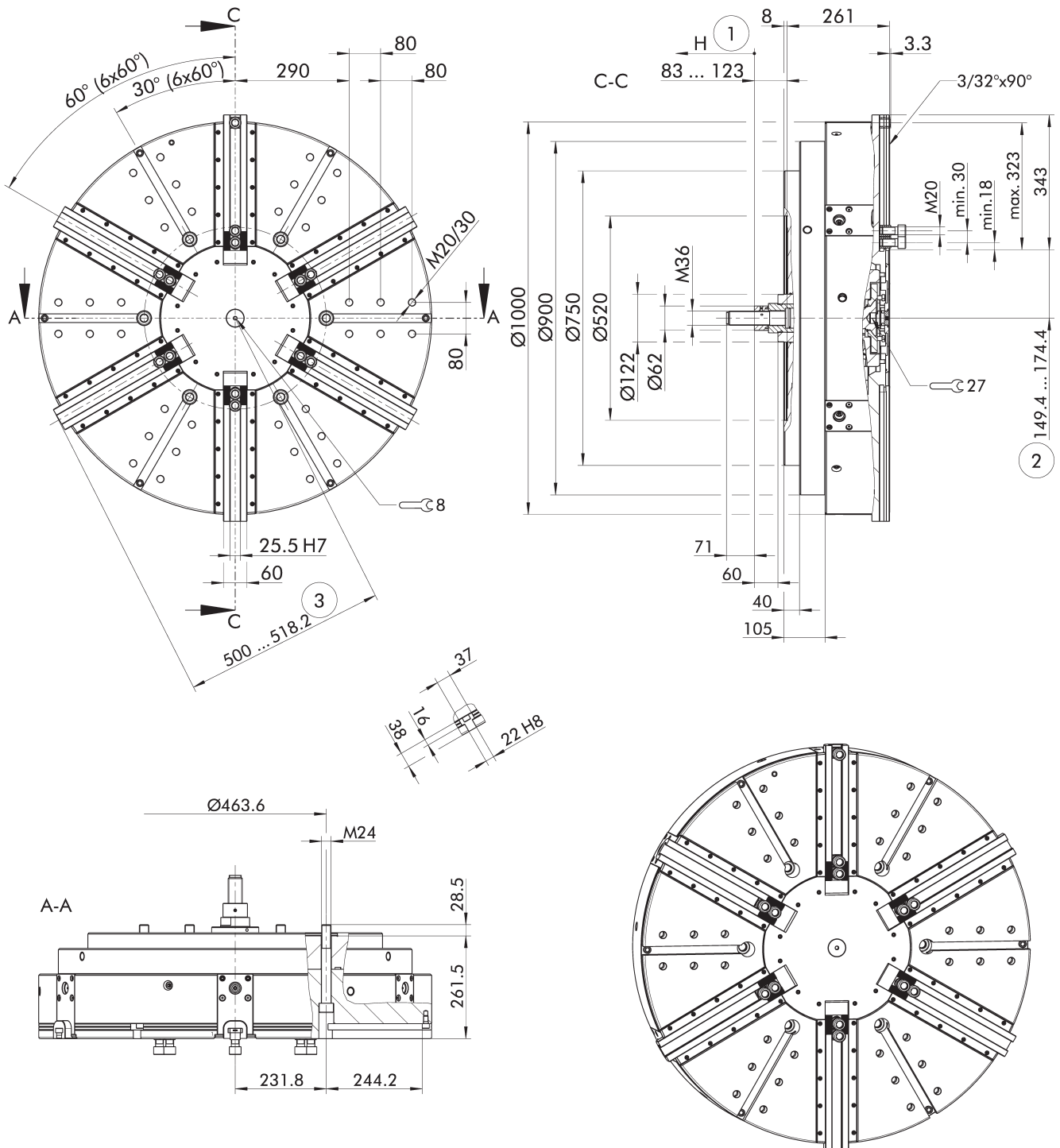


Centric workpiece clamping

The centric workpiece clamping is achieved using a fixed compensation piece. The oscillating clamp is moved all the way to the bottom so that all three compensation pieces are clamped. As a result, all six jaws clamp centrically.

- 1 **Pendulum body locked**
- 2 **Adjusting screw**
- 3 **Pendulum clamping locked**





Chuck for shaft clamping drawn in open position.
Pendulum compensation shown in center position.
Subject to technical changes.

- ① Piston stroke direction
- ② Distance to center of first tooth

- ③ Swing diameter radius

Technical data

Spindle type	Spindle size	ID	Serration	Max. rotational speed [min ⁻¹]	Max. clamping force [kN]	Max. actuating force [kN]	Weight [kg]
ISO 702-4	Nr. 20 (Z520)	1340109	3/32" x 90°	600	300	150	1244

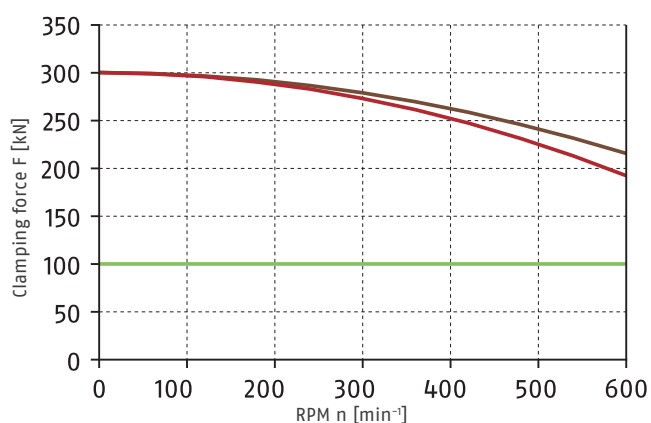
Scope of delivery

Chuck, T-nuts or mounting screws for top jaws, chuck mounting screws, eye bolt, and operating manual

Further technical data

Chuck type	Stroke/jaw [mm]	Pendulum compensation [mm]	Piston stroke (H) [mm]	Center jaw height [mm]
ROTA NCR-A 1000	25	±6	60	114

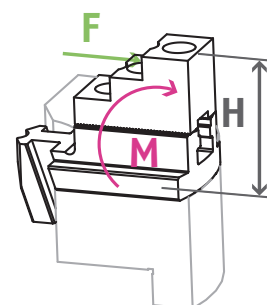
Clamping force-RPM-diagram



- Required minimum clamping force F_{spmin} 33%
- SHB 400 7.8 kg
- SWB 400 16 kg



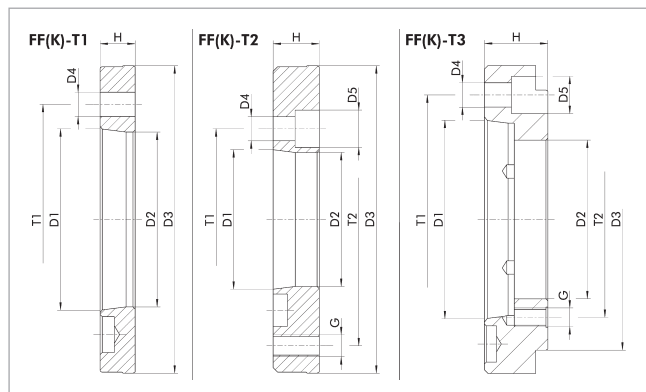
Load of base jaw guidance



$$M_{max} = 5700 \text{ Nm}$$

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	T3
					[mm]		[mm]	[mm]		[mm]	[mm]	[mm]	[mm]
FF-T2 Z520-A11	FF-T2	0801003	ROTA NCR-A 1000	Nr. 11	192.9	Z520	21 (6x60°)	33	M24 (12 x 30°)	40	235	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

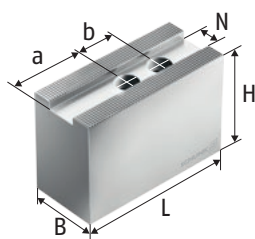
Reduction adapter plates are used if the mounting bolt circle of the spindle is smaller than the one of the lathe chuck mounting bolt circle. The adapter plate is first mounted on the spindle and then the lathe chuck is mounted on the adapter plate.

Expansion adapter plates FF-T3

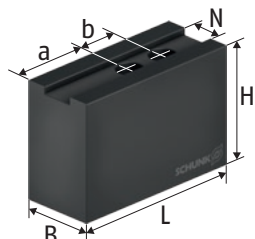
Expansion adapter plates are used if the mounting bolt circle of the spindle is larger than the one of the lathe chuck mounting bolt circle. The adapter plate is first mounted on the spindle and then the lathe chuck is mounted on the adapter plate.

Soft top jaws

with fine serration 90°



SWB-AL
Soft top jaws



SWB
Soft top jaws

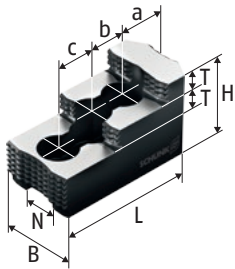
Technical data

Chuck type	Description	ID	N [mm]	B [mm]	H [mm]	L [mm]	a [mm]	b [mm]	Screws	m/SET [kg]
ROTA NCR-A 1000	SWB-AL 400	0168103	25.5	60	100	155	90	35	M20	6.4
ROTA NCR-A 1000	SWB 400	0120107	25.5	60	90	155	90	35	M20	16.0
ROTA NCR-A 1000	SP-WB 400	0124105	25.5	60	100	155	80	40	M18	18.6
ROTA NCR-A 1000	CWB 400	0100008	25.5	60	80	140	75	35	M20	12.6

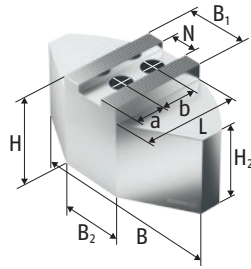
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on [schunk.com](https://www.schunk.com)

Hard stepped top jaws, Full grip jaws

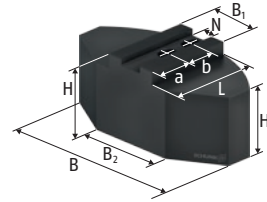
with fine serration 90°



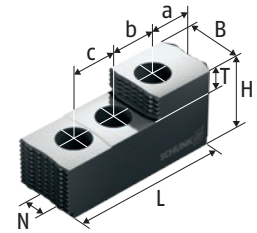
SHB
Hard stepped top jaws



SWB-SA
Full grip jaws



SWB-SM
Full grip jaws



SP-HB
Hard stepped top jaws

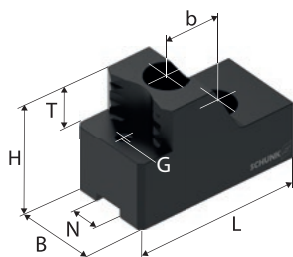
Technical data

Chuck type	Description	ID	N [mm]	B [mm]	B1 [mm]	H [mm]	H2 [mm]	L [mm]	T [mm]	a [mm]	b [mm]	c [mm]	Screws	m/SET [kg]
ROTA NCR-A 1000	SWB-SA 400	0170105	25.5	330	150	98	68	160		84.5	35		M20	24.4
ROTA NCR-A 1000	SWB-SM 400	0169105	25.5	330	60	85	55	155		83.5	35		M20	53.8
ROTA NCR-A 1000	SHB 400	0121107	25.5	60		75		140	18	53	31	31	M20	7.8
ROTA NCR-A 1000	SP-HB 400-500	0125105	25.5	57.5		73		160	22	43.1	42	42	M18	9.8

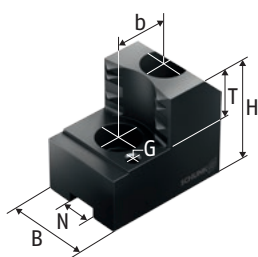
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Claw jaws, Universal claw jaws

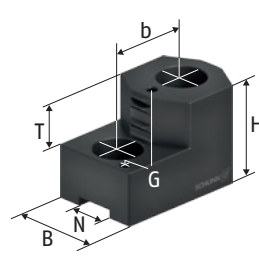
with fine serration 90°



SZA
Claw jaws



SZA
Claw jaws



SZAU
Universal claw jaws

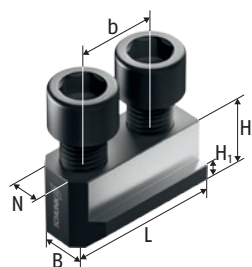
Technical data

Chuck type	Clamping range ØD	Swing diameter SDmax	Description	ID	N	B	H	L	T	G	b	Screws	m/SET
	[mm]	[mm]			[mm]	[mm]	[mm]	[mm]	[mm]		[mm]		[kg]
ROTA NCR-A 1000	182 - 771	1117	SZA 40-12	0138301	25.5	60	78	188.3	33	M8	35	M20	11.5
ROTA NCR-A 1000	366 - 956	1079	SZA 40-14	0138303	25.5	60	78	131	33	M8	35	M20	8.0
ROTA NCR-A 1000	516 - 1000	1099	SZA 40-16	0138305	25.5	60	78	178.6	33	M8	35	M20	11.0
ROTA NCR-A 1000			SZAU 400	1470621	25.5	60	75	114.5	33	M6	60		6.1

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T-nut

with fine serration 90°



NK
T-nut



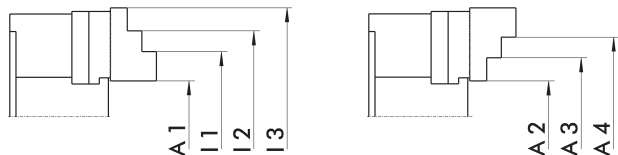
NS
T-nut

Chuck type	Description	ID	N	B	H	H1	L	b	Cyl.-screw	Max. adm. tightening torque
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[Nm]
ROTA NCR-A 1000	NK 200	0145102	25.5	36	29	11	63	35	M20 x 40	220
ROTA NCR-A 1000	NS 200	0140103	25.5	35.8	29	11	27.8		M20 x 40	220

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Hard stepped top jaws

with fine serration 90°



Jaw position I

Jaw position II

O.D. clamping

Chuck type	Description	ID	A1 [mm]	A2 [mm]	A3 [mm]	A4 [mm]
ROTA NCR-A 1000	SHB 400	0121107	173 - 830	229 - 355	331 - 457	433 - 1000

I.D. clamping

Chuck type	Description	ID	I1 [mm]	I2 [mm]	I3 [mm]
ROTA NCR-A 1000	SHB 400	0121107	246 - 371	347 - 473	449 - 1100

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 NCR-A 1000	IFT Set	1404235

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 NCR-A 1000	IFT adapter set	1498512

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



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