SCHUNK

ROTA NCA

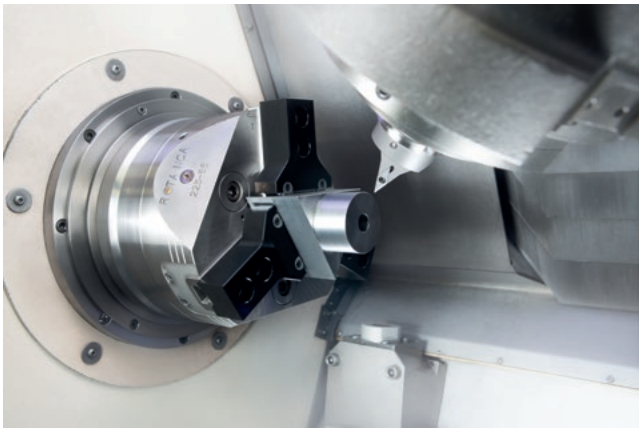
Sealed power lathe chuck for modern turn/mill centers

Hand in hand for tomorrow

Power lathe chuck with sophisticated sealing system for permanent lubrication and constant clamping forces

Field of application

Constant clamping forces, minimum maintenance effort, as well as a high energy efficiency and productivity are ensured with the versatile ROTA NCA power lathe chuck. The geometry of the chuck body makes ensures a good accessibility of the tools, meaning that the ROTA NCA can be also used on modern turn/mill centers.



Advantages – Your benefits

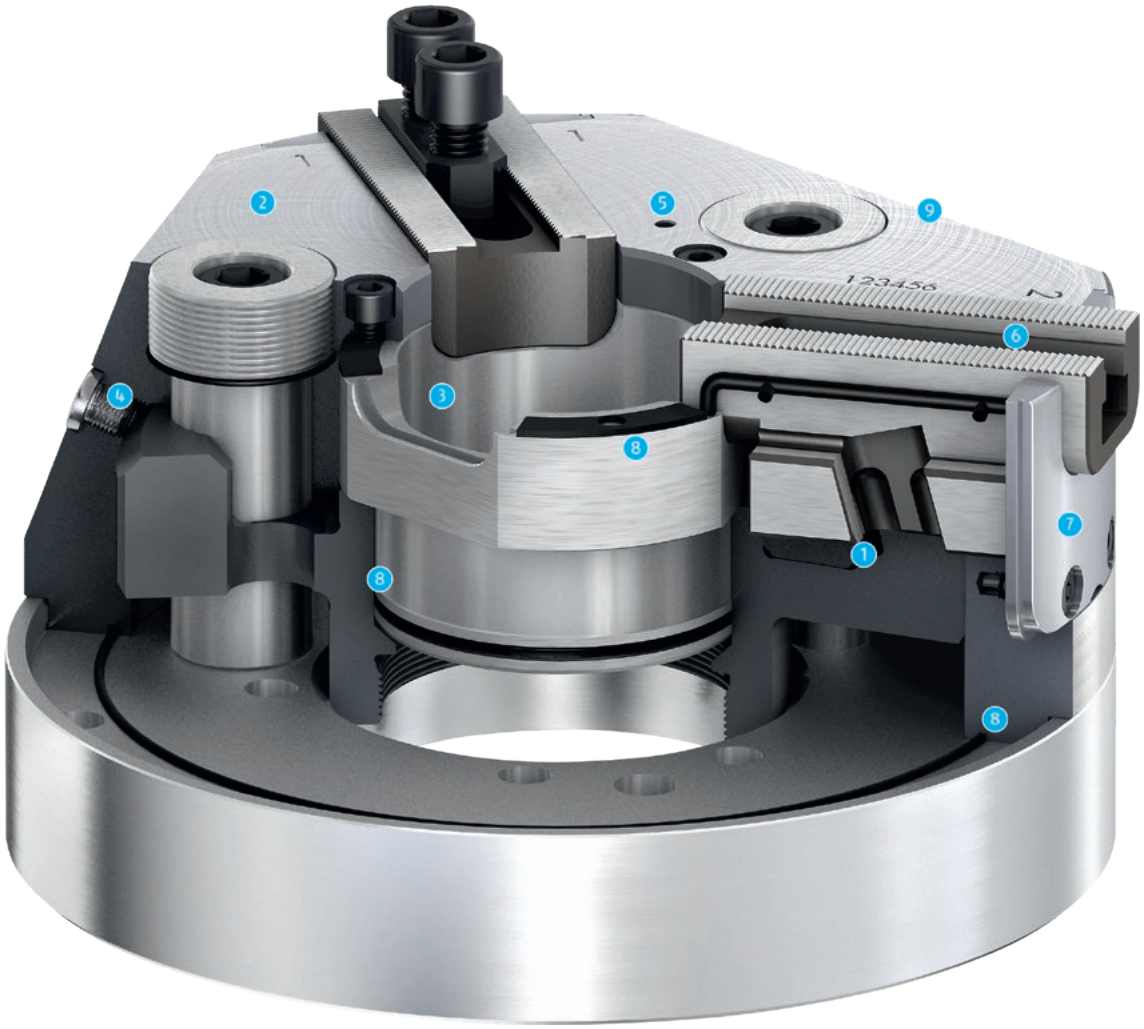
- **Sealed power lathe chuck**
  For significantly longer maintenance intervals
- **Permanent grease lubrication**
  For consistently high clamping forces
- **Precision wedge-hook power lathe chuck for highest quality requirements**
  Allows excellent machining processes
- **High efficiency of the wedge hook system**
  Process-reliable clamping due to high clamping forces
- **Low chuck weight**
  Fast acceleration and deceleration operations shorten the cycle times
- **Base jaws with fine serration 1.5 mm x 60° and 1/16" x 90° as standard**
  High flexibility in the range of top jaws
- **All functional parts are ground and hardened**
  Ensures a long life span

Technical data

Description	Max. RPM [min^{-1}]	Max. clamping force [kN]	Max. actuating force [kN]	Stroke/jaw [mm]	Piston stroke [mm]	Through-hole [mm]
ROTA NCA 160-32	5500	45	20	4	15	32
ROTA NCA 200-52	5000	72	32	5.3	20	52
ROTA NCA 225-66	5000	100	45	5.3	20	66
ROTA NCA 280-86	4000	140	63	5.3	20	86
ROTA NCA 330-104	3500	160	72	5.3	20	104

Function of ROTA NCA

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

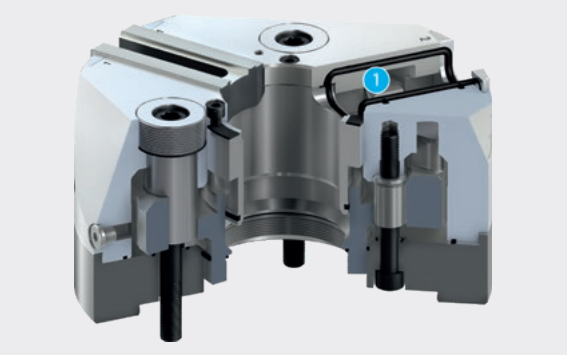


1. **Wedge hook drive in ring piston design**
   Offers constantly high clamping forces in operation
2. **Hardened and extremely rigid base body**
   Therefore a longer life span at highest precision. Even with maximum clamping force
3. **Large through-hole**
   For machining of all commercially available raw pipe material diameters
4. **Ventilation hole**
   To drain off excess grease
5. **Mounting threads**
   For workpiece stops
6. **Base jaw serration**
   Available in inch or metric sizes
7. **Cover**
   Serves to seal the lathe chuck and additionally as base jaw safety feature
8. **Sealing of the lathe chuck**
   For significantly longer maintenance intervals
9. **Weight-optimized design**
   For great economy in daily use

Innovative sealing system

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.

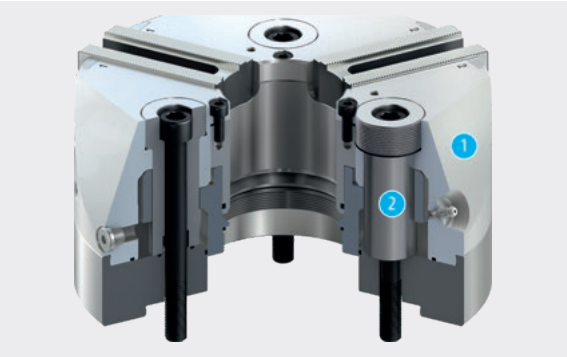
1. **Gasket**



Inlays at the mounting holes

In order to further increase the tightness and stiffness of the chuck, special inlays are installed in the area of the fastening screws.

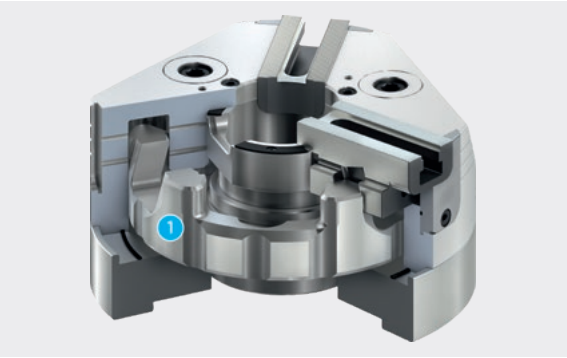
1. **Chuck body**
2. **Inlay**



Long and precise piston guidance

For high clamping repeatability and long service life. All functional components used for force transmission are hardened and ground.

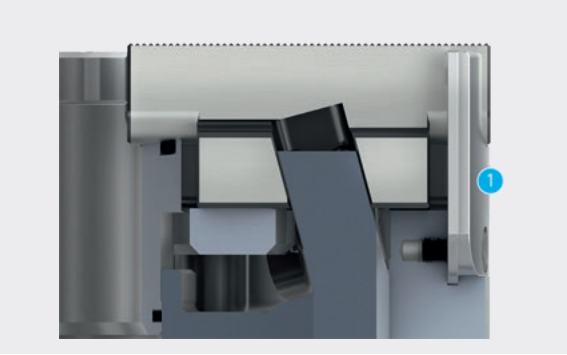
1. **Ring piston**



Base jaw safety feature

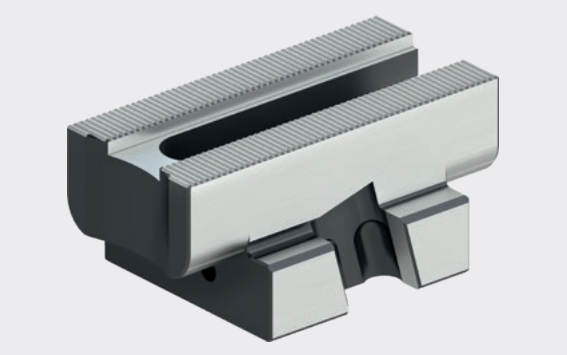
The cover elements form the end piece of the base jaw guidance. Even in the event of a crash it is avoided e.g. in the case of a component failure that the base jaws will be ejected out of the chuck.

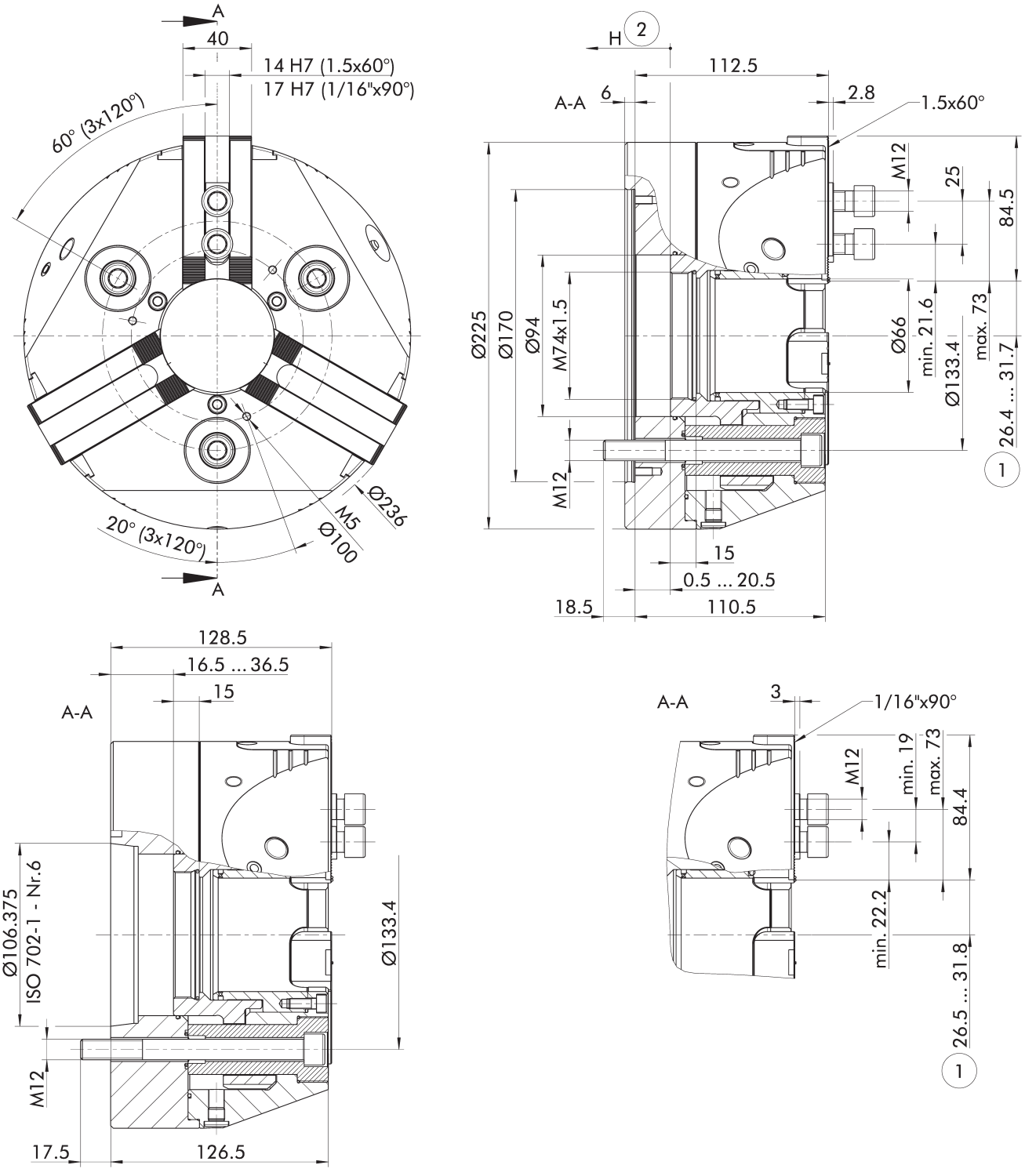
1. **Cover**



Absolute flexibility of the base jaw

Select between two standard jaw interfaces 1/16" x 90° or 1.5 mm x 60° with the benefit of being able to continue using your existing top jaws on the new SCHUNK lathe chuck.





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

(1) Distance to center of first tooth

(2) Piston stroke direction

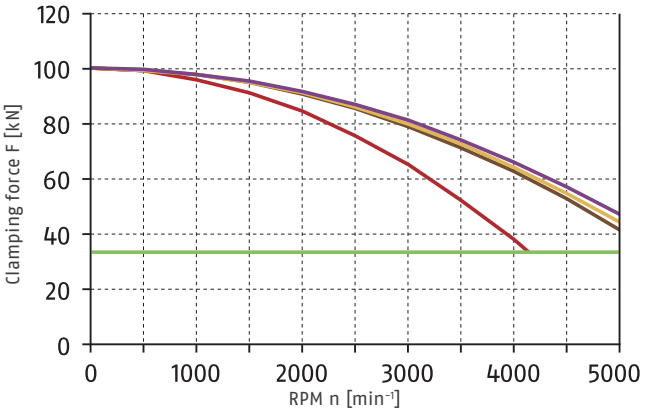
Technical data

Spindle type	Spindle size	ID	Serration	Max. RPM [min⁻¹]	Max. clamping force [kN]	Max. actuating force [kN]	Stroke/jaw [mm]	Piston stroke (H) [mm]	Moment of inertia [kgm²]	Weight [kg]
ISO 702-4	Nr. 6 (Z170)	1320178	1/16" x 90°	5000	100	45	5.3	20	0.18	26.1
ISO 702-1	Nr. 6	1307923	1/16" x 90°	5000	100	45	5.3	20	0.2	28.9
ISO 702-4	Nr. 6 (Z170)	1320179	1.5 mm x 60°	5000	100	45	5.3	20	0.18	26.1
ISO 702-1	Nr. 6	1320180	1.5 mm x 60°	5000	100	45	5.3	20	0.2	28.9

Scope of delivery

Chuck, T-nuts with screws, chuck mounting screws, and operating manual

Clamping force-RPM-diagram



Required minimum clamping force F_{spmin} 33%

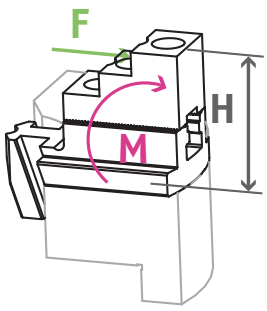
SHB 210
2 kg

SWB 200
4.1 kg

SHB-J 80
1.85 kg

KM-WB 88
2.7 kg

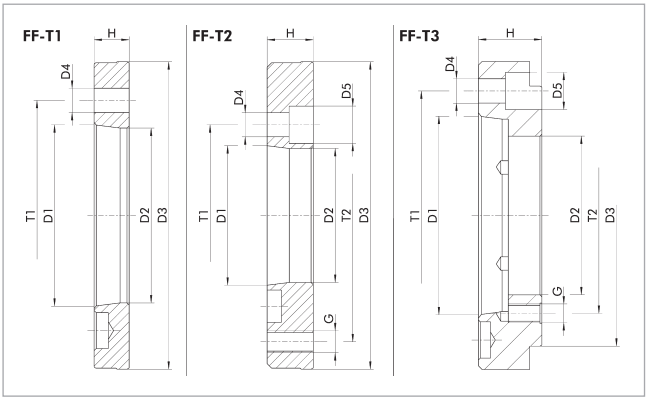
Load of base jaw guidance

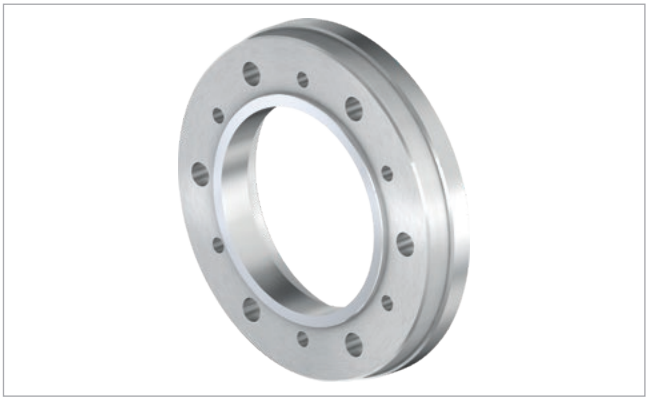


M_{max} = 1433 Nm

Adapter plates

Z-mount on short taper ISO 702-1





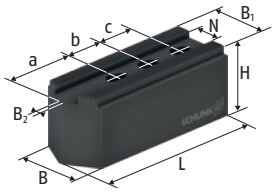
Technical data

Description	Adapter plate type	ID	Suitable for	D1	D2 [mm]	D3	D4 [mm]	D5 [mm]	G	H [mm]	T1 [mm]	T2 [mm]
FF-T2 Z170-A5	FF-T2	0805001	ROTA NCA 225-66	Nr. 5	79.6	Z170	11 (6 x 60°)	18	M12 (12 x 30°)	25	104.8	133.4
FF-T1 Z170-A6	FF-T1	0803001	ROTA NCA 225-66	Nr. 6	103.2	Z170	13 (6 x 60°)			17	133.4	
FF-T3 Z170-A8	FF-T3	0801001	ROTA NCA 225-66	Nr. 8	113	Z170	17 (6 x 60°)	26	M12 (6 x 60°) M12 (2 x 180°)	40	171.4	133.4

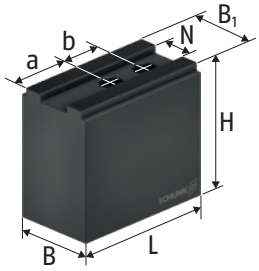
Direct adapter plates FF-T1
Direct adapter plates are used if the spindle mounting bolt circle has the same size as the lathe chuck mounting bolt circle. The adapter plate has to be mounted on to the spindle together with the lathe chuck. The adapter plate is preassembled on the lathe chuck.
Reduction adapter plates FF-T2
Reduction adapter plates are used if the mounting bolt circle of the spindle is smaller than the 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 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

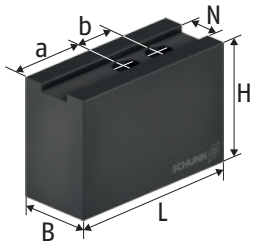
with fine serration 60°



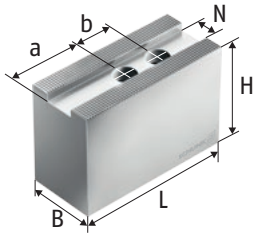
SKNL
Soft top jaws



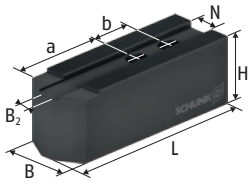
SKN
Soft top jaws



KM-WB
Soft top jaws



KM-WBAL
Soft top jaws



KM-WBL
Soft top jaws

Technical data

Chuck type	Description	ID	N [mm]	B [mm]	B1 [mm]	H [mm]	L [mm]	a [mm]	b [mm]	c [mm]	Screws	m/SET [kg]
ROTA NCA 225-66	KM-WBL 80	0132601	14	35		40	102	57	25		M12	2.7
ROTA NCA 225-66	KM-WBL 81	0132607	14	40		80	102	57	25		M12	6.0
ROTA NCA 225-66	KM-WBL 82	0132615	14	40		100	102	57	25		M12	7.6
ROTA NCA 225-66	SKNL 215	0128101	14	40	34	42	102	42	22	22	M10	2.9
ROTA NCA 225-66	KM-WB 84	0132126	14	35		60	95	46	25		M12	3.9
ROTA NCA 225-66	KM-WB 85	0132127	14	40		80	95	46	25		M12	6.1
ROTA NCA 225-66	KM-WB 88	0132139	14	35		40	95	46	25		M12	2.7
ROTA NCA 225-66	KM-WBAL 80	0132522	14	40		60	90	45	25		M12	1.5
ROTA NCA 225-66	SKN 215	0127103	14	35	34	60	89	45	26		M10	3.6

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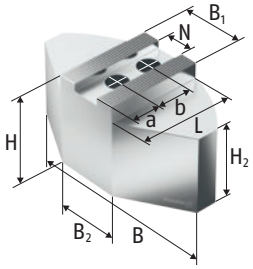
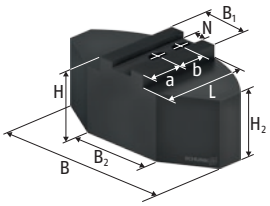
Hard stepped top jaws, Full grip jaws

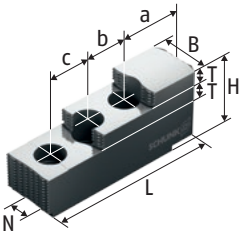
with fine serration 60°



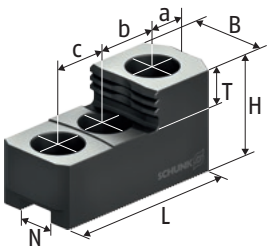
KMWB-SA
Full grip jaws



KMWB-SM
Full grip jaws



SHB-J
Hard stepped top jaws



SHB-J
Hard stepped top jaws

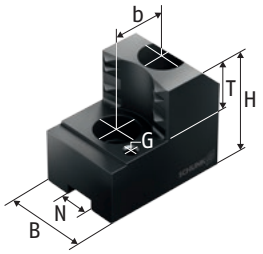
Technical data

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 NCA 225-66	KMWB-SA 210	0132801	14	140	35	58	48	72.5		35	25		M12	3.1
ROTA NCA 225-66	KMWB-SA 211	0132805	14	140	35	80	70	72.5		35	25		M12	4.5
ROTA NCA 225-66	KMWB-SM 210	0132701	14	140	35	60	50	70		30	25		M12	8.8
ROTA NCA 225-66	KMWB-SM 211	0132705	14	140	35	80	70	70		30	25		M12	12.3
ROTA NCA 225-66	SHB-J 80	0133109	14	35		51		87	12	15.5	25	25	M12	1.8
ROTA NCA 225-66	SHB-J 82	0133110	14	32		38		79	12	16	25	25	M12	1.2

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

Claw jaws

with fine serration 60°



SZAJ
Claw jaws

Technical data

Chuck type	Clamping range ØD [mm]	Swing diameter SDmax [mm]	Description	ID	N [mm]	B [mm]	H [mm]	T [mm]	G	b [mm]	Screws	m/SET [kg]
ROTA NCA 225-66	29 - 87	237	SZAJ 20-1	0138110	14	35	53	25	M6	25	M12	1.9
ROTA NCA 225-66	56 - 114	238	SZAJ 20-2	0138112	14	35	53	25	M6	25	M12	1.6
ROTA NCA 225-66	86 - 145	238	SZAJ 20-3	0138114	14	40	53	25	M6	25	M12	1.7
ROTA NCA 225-66	116 - 175	240	SZAJ 20-4	0138116	14	40	53	25	M6	25	M12	1.6

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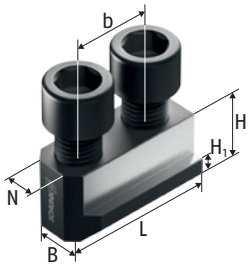
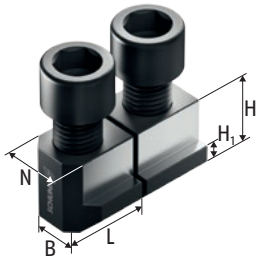
T-nut

with fine serration 60°



NJ
T-nut



NJ sawn
T-nut

Chuck type	Description	ID	H [mm]	H1 [mm]	b [mm]	G	Cyl.-screw	Max. adm. tightening torque [Nm]
ROTA NCA 225-66	NJ 82 gesägt/sawn	0146005	20.5	8.5		M12	M12 x 30	70
ROTA NCA 225-66	NJ 82	0146131	20.5	8.5	25	M12	M12 x 30	70

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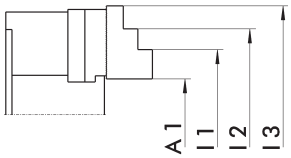
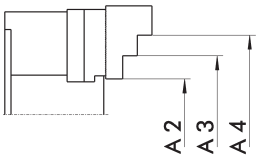
Hard stepped top jaws

with fine serration 60°



Jaw position I



Jaw position II

O.D. clamping

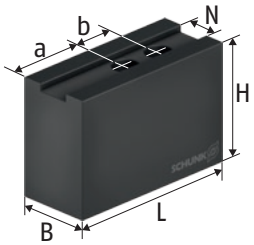
Chuck type	Description	ID	A1 [mm]	A2 [mm]	A3 [mm]	A4 [mm]
ROTA NCA 225-66	SHB-J 80	0133109	18 - 73	22 - 76	84 - 138	134 - 188

I.D. clamping

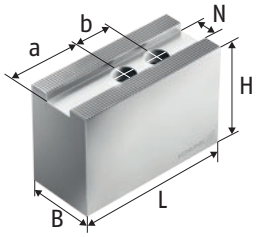
Chuck type	Description	ID	I1 [mm]	I2 [mm]	I3 [mm]
ROTA NCA 225-66	SHB-J 80	0133109	80 - 135	130 - 186	190 - 247

Soft top jaws

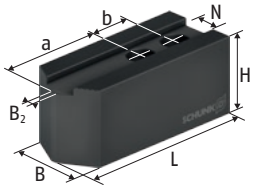
with fine serration 90°



CWB
Soft top jaws



FR-AL
Soft top jaws



SWBL
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 NCA 225-66	SWBL 200	0120153	17	35	40	98	61	22	M12	2.6
ROTA NCA 225-66	CWB 200	0100006	17	40	40	90	43	22	M12	2.7
ROTA NCA 225-66	SWB 200	0120104	17	40	60	90	43	22	M12	4.1
ROTA NCA 225-66	SWB-FR 200	0120404	17	40	60	70	39	19	M12	3.1
ROTA NCA 225-66	SWB-FR 250	0120405	17	40	60	90	59	19	M12	4.1
ROTA NCA 225-66	FR-AL 200	0120602	17	40	60	90	59	19	M12	1.6
ROTA NCA 225-66	SWB-AL 200	0168101	17	40	60	90	43	22	M12	1.5

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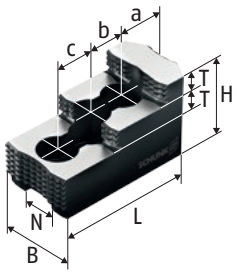
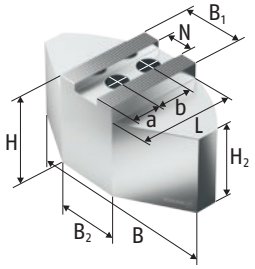
Hard stepped top jaws, Full grip jaws

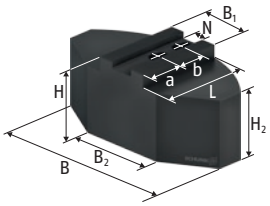
with fine serration 90°



SHB
Hard stepped top jaws



SWB-SA
Full grip jaws



SWB-SM
Full grip jaws

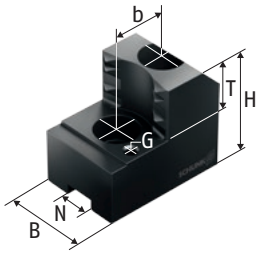
Technical data

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 NCA 225-66	SWB-SA 200	0170101	17	140	40	58	48	72.5		35	22		M12	3.1
ROTA NCA 225-66	SWB-SA 201	0170106	17	140	40	75	65	72.5		35	22		M12	4.2
ROTA NCA 225-66	SWB-SM 200	0169101	17	140	40	60	50	69.5		35	22		M12	8.6
ROTA NCA 225-66	SWB-SM 201	0169106	17	140	40	75	65	69.5		35	22		M12	11.5
ROTA NCA 225-66	SHB 210	0121102	17	40		49		84.3	12	28.7	19	19	M12	2.0

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

Claw jaws

with fine serration 90°



SZA
Claw jaws

Technical data

Chuck type	Clamping range ØD [mm]	Swing diameter SDmax [mm]	Description	ID	N [mm]	B [mm]	H [mm]	T [mm]	G	b [mm]	Screws	m/SET [kg]
ROTA NCA 225-66	24 - 88	243	SZA 20-14	0138195	17	35	50	25	M6	22	M12	1.8
ROTA NCA 225-66	51 - 117	243	SZA 20-15	0138196	17	35	50	25	M6	22	M12	1.5
ROTA NCA 225-66	80 - 146	244	SZA 20-16	0138197	17	40	50	25	M6	22	M12	1.5
ROTA NCA 225-66	107 - 173	245	SZA 20-17	0138198	17	40	50	25	M6	22	M12	1.6
ROTA NCA 225-66			SZA 20-18	0138199	17	40	50	25	M6	22	M12	1.8

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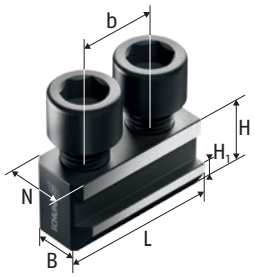
T-nut

with fine serration 90°



NKA
T-nut

NKS
T-nut

Chuck type	Description	ID	H [mm]	H1 [mm]	b [mm]	G	Cyl.-screw	Max. adm. tightening torque [Nm]
ROTA NCA 225-66	NKA 2	0145104	20.5	7.5	22	M12	M12 x 25	70
ROTA NCA 225-66	NKS 2	0143106	20.5	7.5		M12	M12 x 25	70

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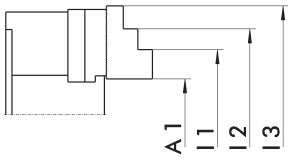
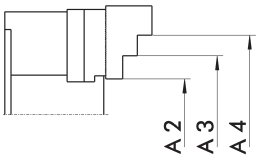
Hard stepped top jaws

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 NCA 225-66	SHB 210	0121102	9 - 83	30 - 83	80 - 132	126 - 179

I.D. clamping

Chuck type	Description	ID	I1 [mm]	I2 [mm]	I3 [mm]
ROTA NCA 225-66	SHB 210	0121102	82 - 133	128 - 181	176 - 252

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

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 NCA 225-66	IFT Set	1404235

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2023-12-13