

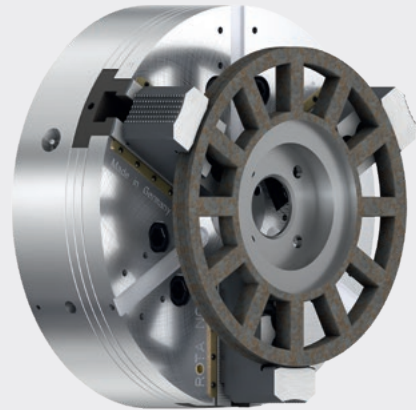


ROTA NCO

**Precision power lathe chuck
with long jaw stroke**

A true problem solver with both the longest jaw stroke and the highest jaw clamping force

The ROTA NCO is considered to be a problem solver par excellence on horizontal as well as vertical lathes. The long jaw stroke enables the lathe chuck to clamp over interfering contours of the workpiece. The special feature: Despite a long jaw stroke, the ROTA NCO generates a high clamping force, which means that clamping of these components is also process reliable.



Advantages – Your benefits

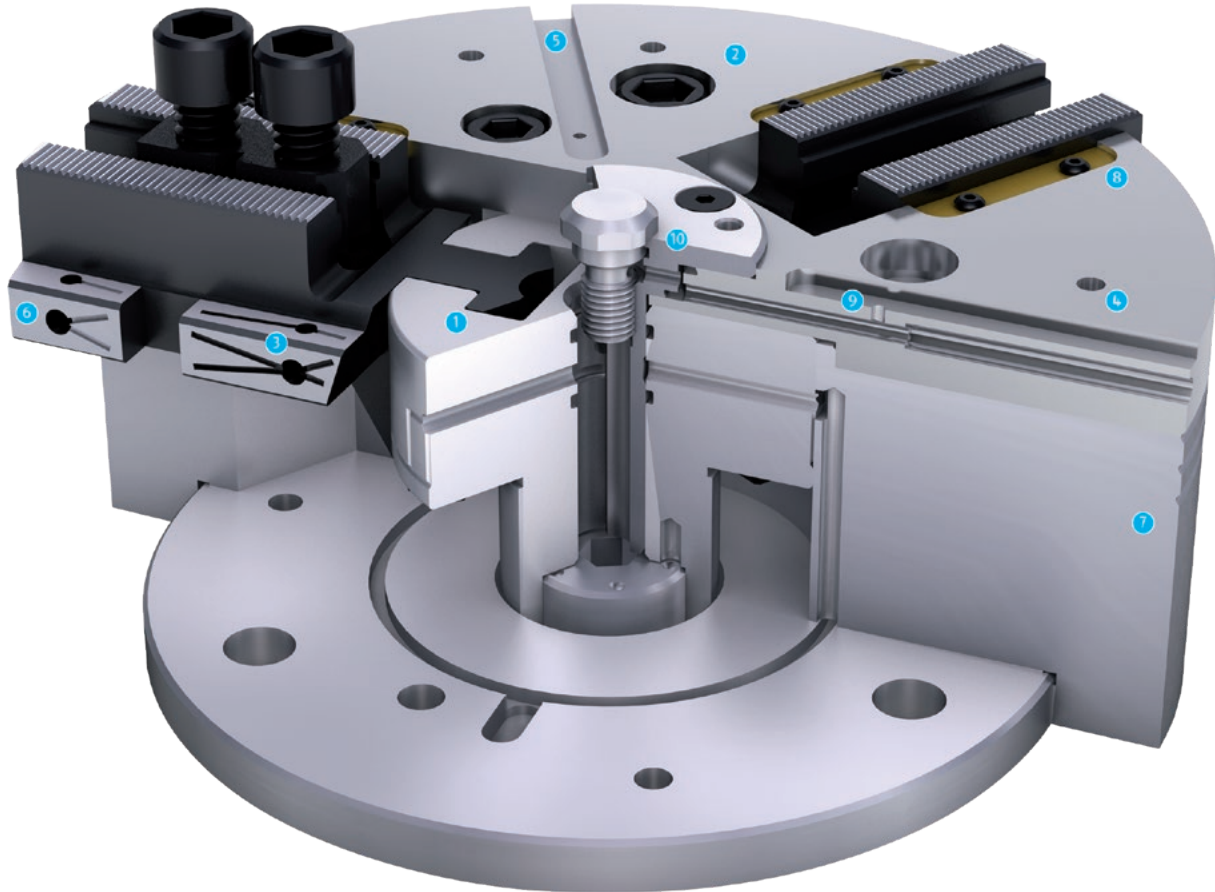
- + Precision wedge-hook power lathe chuck for highest quality requirements**
Allows excellent machining results
- + High efficiency of the wedge hook system**
Process-reliable clamping due to high clamping forces
- + Optimum jaw support for O.D. and I.D. clamping due to a very long base jaw guidance**
Allows high clamping forces at a long service life
- + Optimized lubrication system**
Consistently high clamping forces ensured
- + Longest jaw stroke at high jaw clamping force**
Reliable and variable clamping of workpieces over interfering contours
- + Sealed against coolant and chips as standard via wiper strips, seals and sealed through-hole**
Excellently suitable for the use on vertical lathes
- + Media feed-through (coolant or air) as standard option integrated in the chuck body**
Flexibility depending on the application
- + Low height design**
Maximum use of the machine room and maximum rigidity of the system
- + 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 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]
ROTA NCO 165	6000	72	30	6.4	24
ROTA NCO 210	5000	95	42	9	27
ROTA NCO 260	4500	150	62	10	30
ROTA NCO 315	3600	190	90	13	40
ROTA NCO 400	2500	270	120	15	45
ROTA NCO 500	2000	330	140	15	45
ROTA NCO 630	1600	330	140	15	45

Function of ROTA NCO

The axially movable piston transfers the force to the base jaw and generates a radial jaw movement synchronized with the rotational axis.

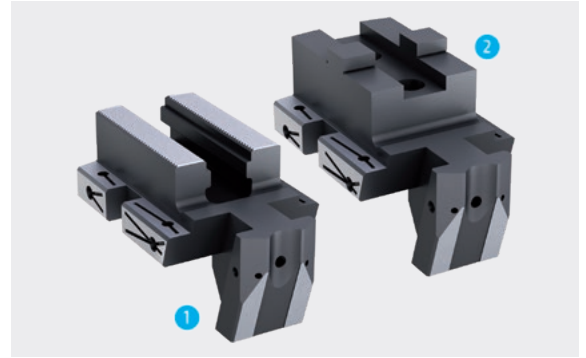


- | | |
|---|--|
| <ul style="list-style-type: none"> ❶ Wedge hook drive
Offers constantly high clamping forces in operation ❷ Hardened and extremely rigid base body
Therefore a longer service life at highest precision.
Even with maximum clamping force ❸ Optimized lubrication system
For consistently high clamping forces ❹ Mounting thread
For workpiece stops or cover plates ❺ Additional slot guidance on the chuck face
For workpiece stops or cover plates | <ul style="list-style-type: none"> ❻ Long jaw guidance
Offers optimal support for O.D.- and I.D. clamping ❼ Low height design
Expands your machine's workspace ❽ Wiper strips
Seal the base jaw guidances and offer a good protection against coolant and chips ❾ Integrated air supply with mounting holes
For mounting an air monitoring system ❿ Central media supply
Available on request for air control or coolant |
|---|--|

Three standardized jaw interfaces available

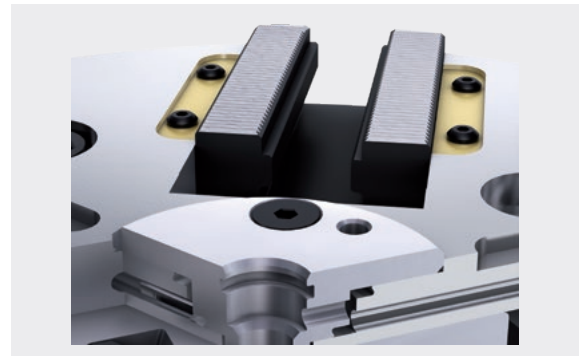
Select one standardized jaw interface from the 3 standardized versions and benefit from the fact that existing top jaws can also be used on the new SCHUNK lathe chuck.

- ❶ **Fine serration**
 - 1/16" x 90°
 - 3/32" x 90°
- ❷ **Metric tongue and groove**



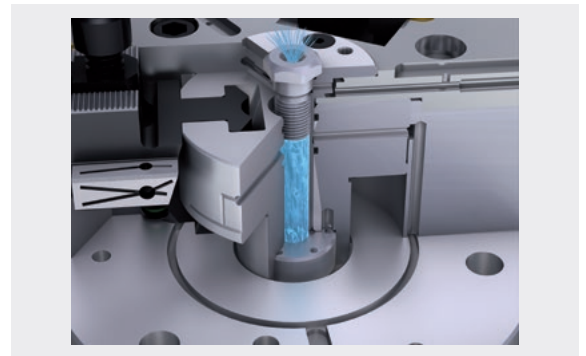
Adjustable brass wiper bars

Adjustable brass wiper bars seal the base jaws to give protection against coolant and chips.



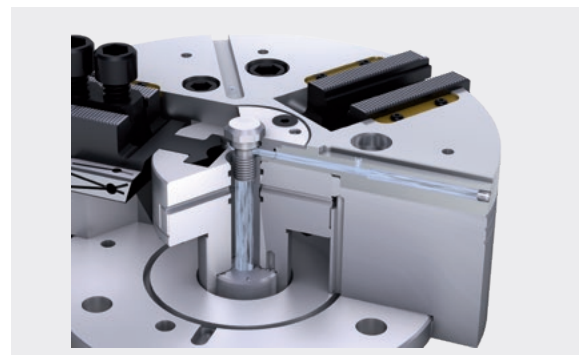
Modification coolant supply

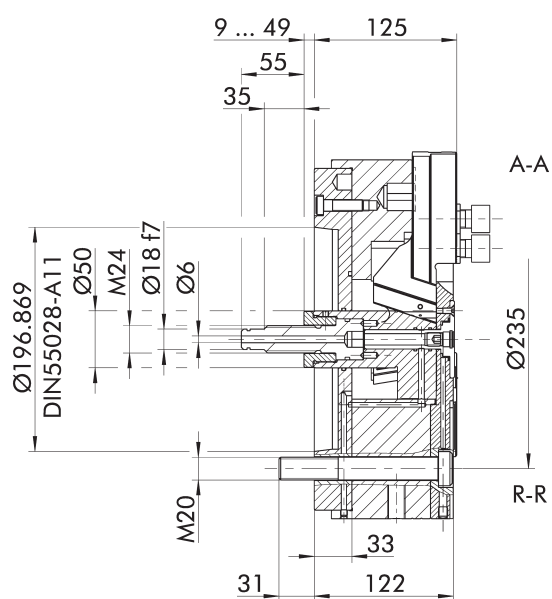
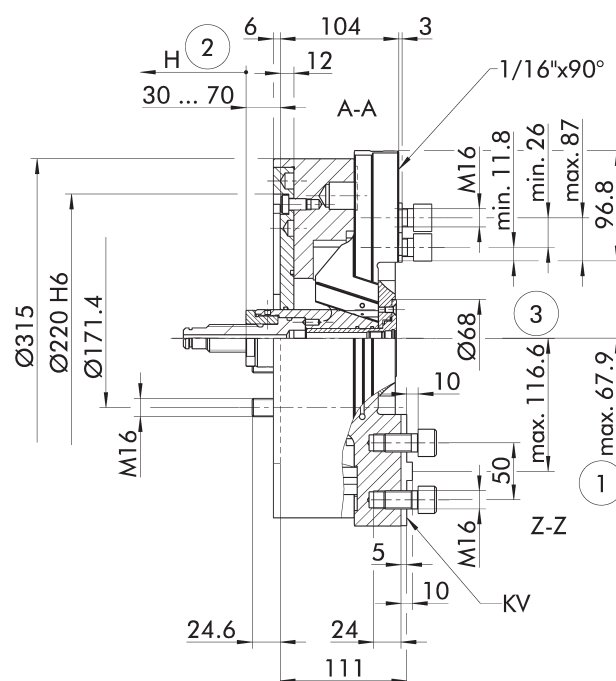
The lathes with integrated coolant supply via the spindle can be directly fed to the workpiece through the lathe chuck.



Modification air control

In automated series production, air control can be used to check whether the workpiece is in contact and can be clamped securely.





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

③ Distance to center of tongue and groove

Technical data

Spindle type	Spindle size	ID	Serration	Max. rotational speed [min ⁻¹]	Max. clamping force [kN]	Max. actuating force [kN]	Moment of inertia [kgm ²]	Weight [kg]
ISO 702-4	Nr. 8 (Z220)	0856030	1/16" x 90°	3600	190	90	0.77	59
ISO 702-1	Nr. 8	0856032	1/16" x 90°	3600	190	90	0.86	66
ISO 702-1	Nr. 11	0856033	1/16" x 90°	3600	190	90	0.85	65
ISO 702-4	Nr. 8 (Z220)	0856034	Tongue and groove	3600	190	90	0.77	59
ISO 702-1	Nr. 8	0856036	Tongue and groove	3600	190	90	0.86	66
ISO 702-1	Nr. 11	0856037	Tongue and groove	3600	190	90	0.85	65

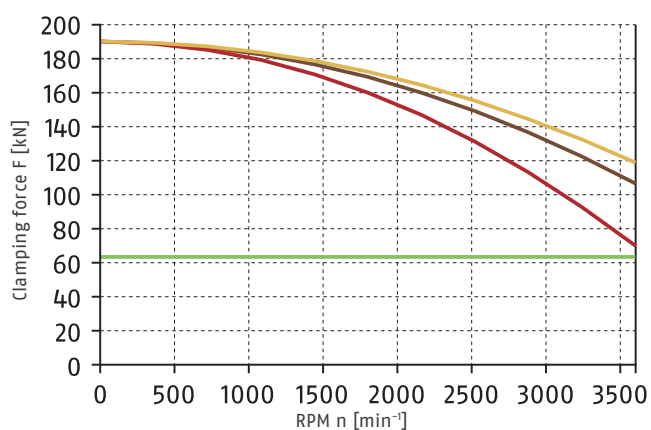
Scope of delivery

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]	Piston stroke (H) [mm]	Center jaw height [mm]
ROTA NCO 315	13	40	84

Clamping force-RPM-diagram

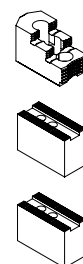


Required minimum clamping force F_{spmin} 33%

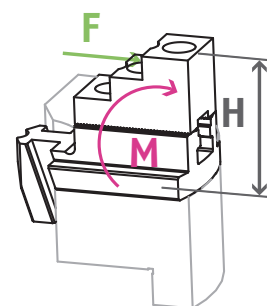
SHB 315
4.6 kg

SWB 250
9.2 kg

SWB-AL 250
3.29 kg



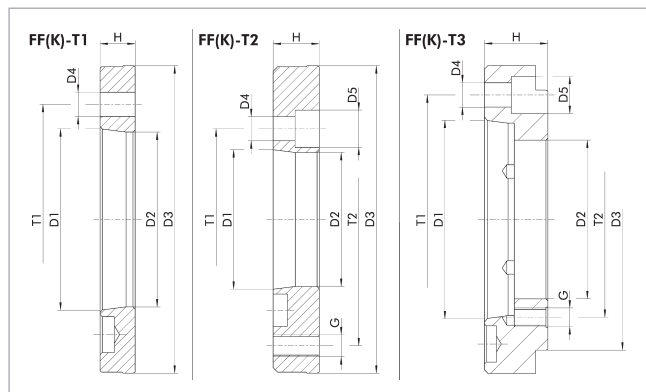
Load of base jaw guidance



$$M_{max} = 5320 \text{ Nm}$$

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
				[mm]			[mm]	[mm]		[mm]	[mm]	[mm]
FF-T2 Z220-A5	FF-T2	0805002	ROTA NCO 315	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 NCO 315	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 NCO 315	Nr. 8	136.2	Z220	17 (6x60°) 17 (2x180°)			19	171.4	
FF-T3 Z220-A11	FF-T3	0803003	ROTA NCO 315	Nr. 11	130	Z220	21 (6x60°)	32	M16 (12 x 30°)	50	235	171.4
FF-T3 Z220-A15-1	FF-T3	0803020	ROTA NCO 315	Nr. 15	145	Z220	26 (6x60°)	38	M16 (6x60°)	55	330.2	171.4
FF-T3 Z220-A15-2	FF-T3	0803021	ROTA NCO 315	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

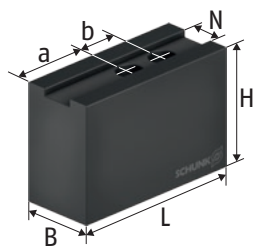
Reduction adapter plates are used if the mounting bolt circle of the spindle is smaller than the one of the lathe chuck mounting bolt circle. The adapter plate is first mounted on the spindle and then the lathe chuck is mounted on the adapter plate.

Expansion adapter plates FF-T3

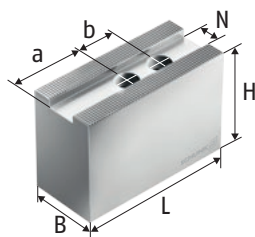
Expansion adapter plates are used if the mounting bolt circle of the spindle is larger than the one of the lathe chuck mounting bolt circle. The adapter plate is first mounted on the spindle and then the lathe chuck is mounted on the adapter plate.

Soft top jaws

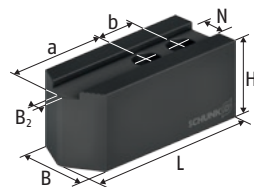
with fine serration 90°



CWB
Soft top jaws



SWB-AL
Soft top jaws



SWBL
Soft top jaws

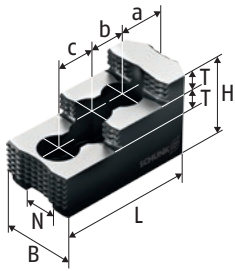
Technical data

Chuck type	Description	ID	N [mm]	B [mm]	H [mm]	L [mm]	a [mm]	b [mm]	Screws	m/SET [kg]
ROTA NCO 315	SWBL 250-21	0120155	21	50	50	120	72	28	M16	5.4
ROTA NCO 315	CWB 251	0100012	21	50	60	95	52	28	M16	5.2
ROTA NCO 315	SWB 250	0120105	21	50	80	120	62	28	M16	9.2
ROTA NCO 315	SWB-AL 250	0168102	21	50	80	120	62	28	M16	3.3

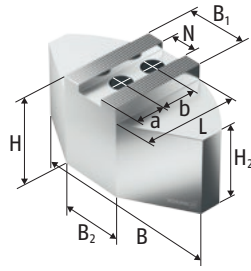
Our complete range of chuck jaws can be found online in our Chuck Jaw Quickfinder and on [schunk.com](https://www.schunk.com)

Hard stepped top jaws, Full grip jaws

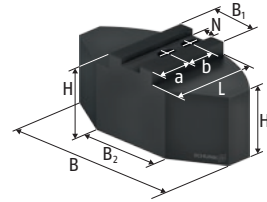
with fine serration 90°



SHB
Hard stepped top jaws



SWB-SA
Full grip jaws



SWB-SM
Full grip jaws

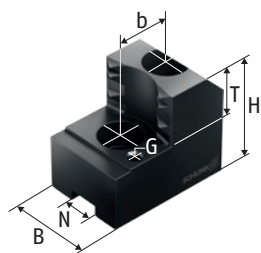
Technical data

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 NCO 315	SWB-SA 315	0170104	21	240	50	78	63	117		70	28		M16	11.0
ROTA NCO 315	SWB-SM 315	0169104	21	240	50	70	55	110		60	28		M16	26.6
ROTA NCO 315	SHB 315	0121111	21	50		58		128	14	46	30	30	M16	4.6

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Claw jaws

with fine serration 90°



SZA
Claw jaws

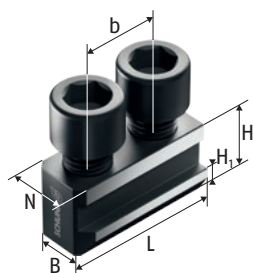
Technical data

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 NCO 315	45 - 143	344	SZA 31-10	0138184	21	50	58	115.4	25	M8	28	M16	3.4
ROTA NCO 315	100 - 201	344	SZA 31-11	0138185	21	50	58	92.1	25	M8	28	M16	3.4
ROTA NCO 315	165 - 267	343	SZA 31-12	0138186	21	50	58	87.3	25	M8	28	M16	3.2
ROTA NCO 315	229 - 315	387	SZA 31-13	0138187	21	50	58	111.1	25	M8	28	M16	4.7

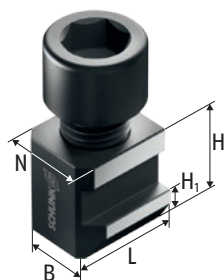
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T-nut

with fine serration 90°



NKA
T-nut



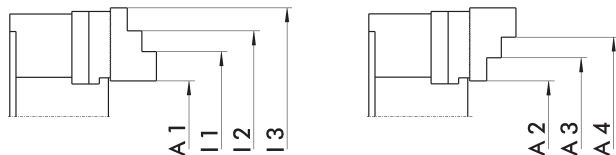
NKS
T-nut

Chuck type	Description	ID	N	B	H	H1	L	b	Cyl.-screw	Max. adm. tightening torque
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[Nm]
ROTA NCO 315	NKA 3	0145105	21	25	26.5	10	54	28	M16 x 35	150
ROTA NCO 315	NKS 3	0143107	21	25	26.5	10	25		M16 x 35	150

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Hard stepped top jaws

with fine serration 90°



Jaw position I

Jaw position II

O.D. clamping

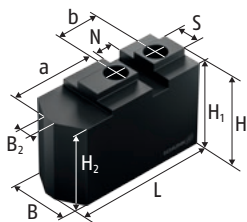
Chuck type	Description	ID	A1 [mm]	A2 [mm]	A3 [mm]	A4 [mm]
ROTA NCO 315	SHB 315	0121111	16 - 154	32 - 137	124 - 229	216 - 315

I.D. clamping

Chuck type	Description	ID	I1 [mm]	I2 [mm]	I3 [mm]
ROTA NCO 315	SHB 315	0121111	88 - 192	180 - 283	271 - 380

Soft top jaws

with tongue and groove



SRK
Soft top jaws

Technical data

Chuck type	Description	ID	N [mm]	S [mm]	B [mm]	H [mm]	H1 [mm]	H2 [mm]	L [mm]	a [mm]	b [mm]	Screws	m/SET [kg]
ROTA NCO 315	SRK 315	0136109	16	20	50	80	75.5	75	149	67	50	M16	10.9

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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 NCO 315	IFT Set	1404235

Modification air control

Transfer of the medium via threaded holes at the face of the groove which is integrated in the chuck body.



Suitable for	Description	ID
ROTA NCO 315	ROTA NCO-L 315	0856231

Modification coolant supply

Coolant through feeding with integrated non-return valve and spray nozzle.



Suitable for	Description	ID
ROTA NCO 315	ROTA NCO-K 315	0856232

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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