



**THE DURO-A RC.
FROM RÖHM.**

2022



**FINALLY, YOUR
MACHINE TOOL
CAN SHOW YOU
THE WAY FORWARD.**



THE DURO-A RC. FROM RÖHM.

The Duro-A RC is a three-jaw chuck with through-hole and quick jaw change system, which can be clamped automatically, i.e. hydraulically by a CNC machine. RC stands for rapid change and A for automatic.

It is primarily used for rotary machining of cylindrical and disk-shaped blanks with frequently changing part geometries. It outperforms similar products thanks to the very fast jaw change, short cycle times and high speeds, making it especially well suited for flexible use in automated production. The jaw interface is straight toothed for maximum compatibility. Thanks to its long service life, a 36 month warranty and an economical purchase price, the Duro-A RC offers an excellent total cost of ownership.

The Duro-A RC is a replacement for the DURO-NC and DURO-NCSE lathe chucks – in future these will only be available as part of special solutions.

DESIGNED FOR

Automatic clamping on machines for changing geometries

APPLICATION

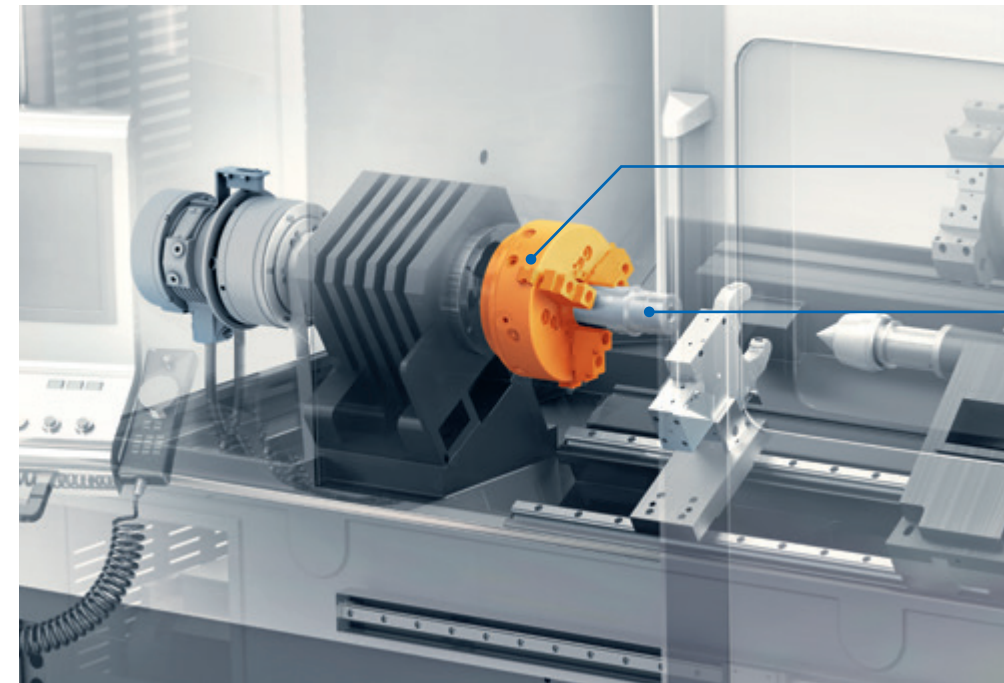
Machining of bars, pipes, adapter plates, disks

BENEFITS

- Quick jaw change (under 60s)
- High clamping forces (up to 240 kN, on the 400 version)
- High speeds (up to 6,300 rpm on the 180 version)
- No idle stroke

WHY IT'S A WISE INVESTMENT

- Extra warranty (36 months)
- Short cycle times
- Economical price



- (1) Duro-A RC lathe chuck with graduated top jaws for external clamping
- (2) Workpiece

GETTING THROUGH

Large through hole for hollow-center and partly hollow clamping

At Röhm, we designed the Duro-A RC for hollow and partly hollow clamping. This means that turning blanks can be inserted through the chuck. If the oil-operated cylinder is also designed with a through hole, bar material can be processed. Our designers have paid particular attention to large through holes, enabling raw materials with an extra large diameter to be processed.

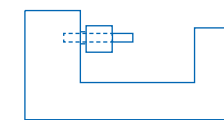


Figure 1: The extra large through hole allows processing of raw material with a large diameter using partly hollow clamping...

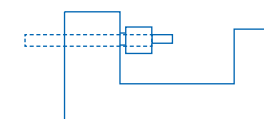
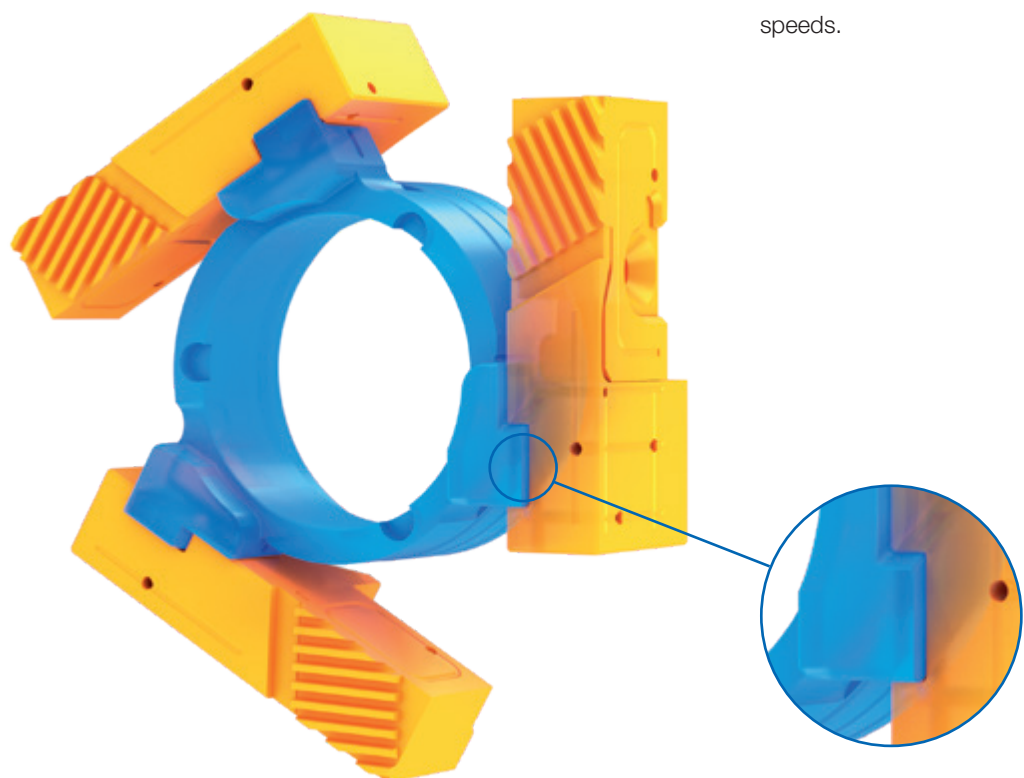


Figure 2: ... and hollow-center clamping (when using a cylinder with through hole) for processing bar material

NO INTERMEDIATE FORCE REQUIRED

The power chuck with quick jaw change that has no idle stroke and therefore cuts your manufacturing costs

There are quick jaw change chucks where nothing happens for the first few millimeters when opening or closing. And then there's the Duro-A RC. Which responds immediately. The Röhmi designers have quite simply eliminated the dreaded "idle stroke". All components are continuous engaged, which means that, when pulling or pushing, the cylinder starts to open or close the jaws immediately. And because you are interested in efficient production, you know that a few millimeters saved adds up quickly over the course of a day. That is why the Duro-A RC is simply faster when it comes to changing workpieces. It saves time, reduces non-productive time and thus reduces your manufacturing costs.



6 KG LESS WEIGHT TO CARRY

For speeds of up to 6,300 rpm

Oh, and we also made savings on the weight. Up to 6 kg compared to similar chucks. This means your machine tool isn't carrying any more weight than is needed. Less weight on the spindle results in a lower bearing load and allows faster acceleration and braking of the cylinder, spindle, and chuck combination. Ultimately, your machine tool can really show what it can do, even at high speeds. The reduced weight allows maximum speeds.

All components are continuous engaged, which means that, when pulling or pushing, the cylinder starts to open or close the jaws immediately.



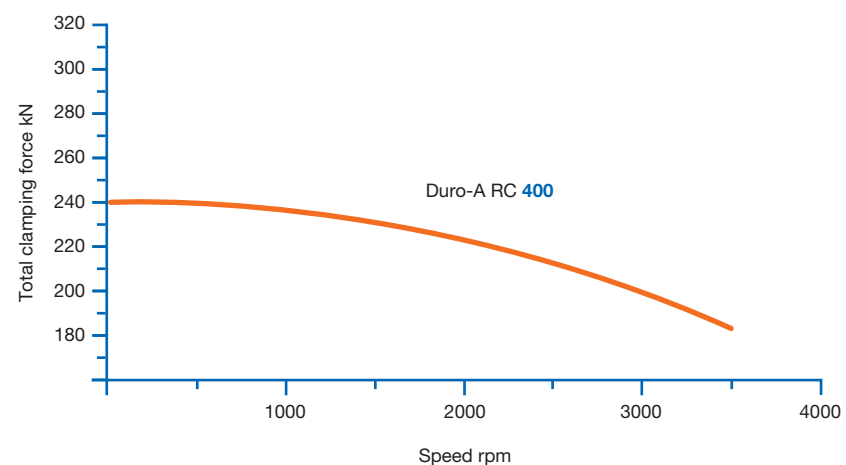
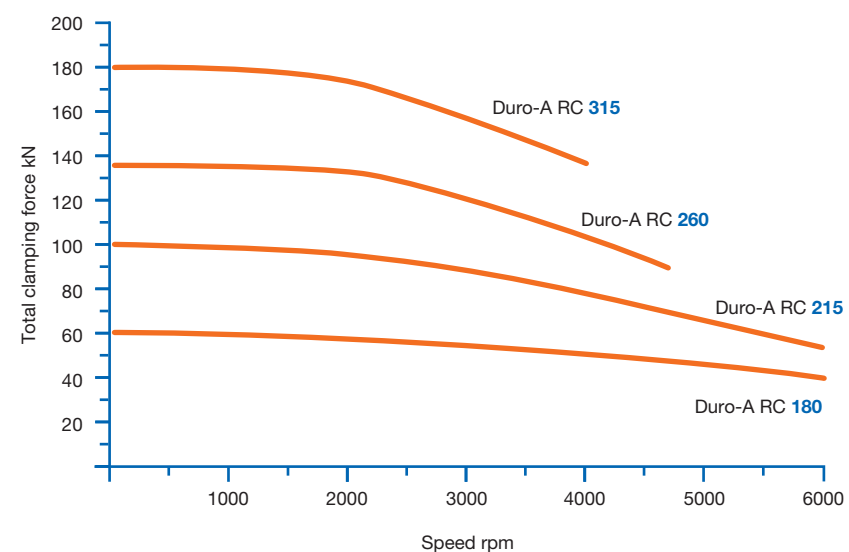
THE KEY TO QUICK CHANGING

If you are ever too fast when changing jaws and a jaw isn't stopped properly, it doesn't matter. The key can only be removed in the safe locking position.

SUPPLYING UP TO 240 kN OF FORCE TO THE CLAMPING JAW

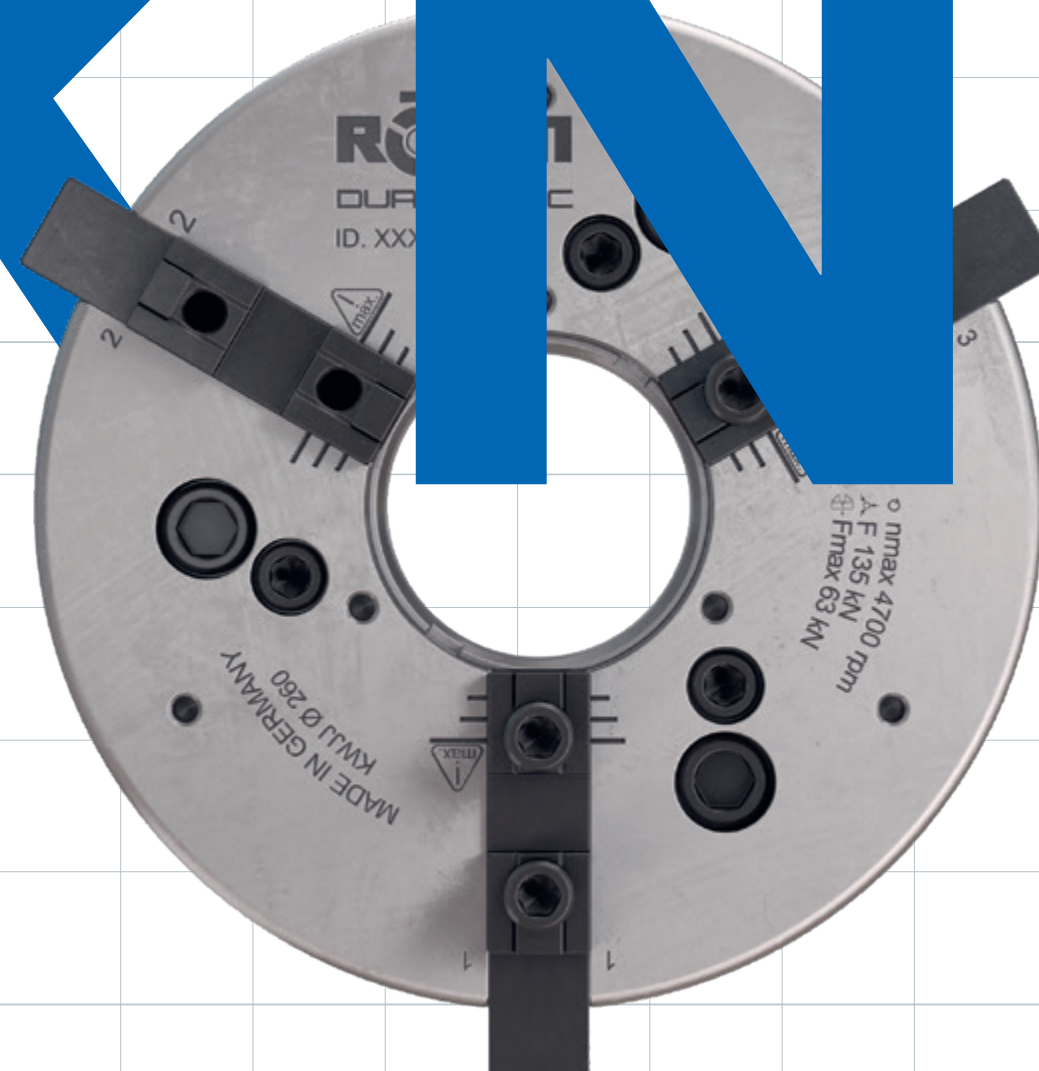
Up to 240 kN clamping force

Clamping means holding things steady. And the Duro-A RC is great at doing that. With up to 240 kN, the lathe chuck holds the clamped workpieces steady. High performance. Something for your machine tool to live up to.



240

kN



36 MONTHS IS NO BIG DEAL FOR RÖHM

36 month warranty

I'm sorry, did you say that Röhm offers a 36 month warranty on the DURO-A RC? This will only be a surprise to those who have never used a Röhm product before. Because there's one thing you hear a lot in production: "Röhm? They last forever!". That's why it's no big deal for us to provide a 36 month warranty for the DURO-A RC. Because Röhm products are up to the job. But it's vital to stress that anything that provides such exceptional performance needs a regular pit stop. This is why, even with our 36 month warranty, a chargeable service by our service specialists is required every 12 months.

TARGET THROUGHPUT UNDER 60 S

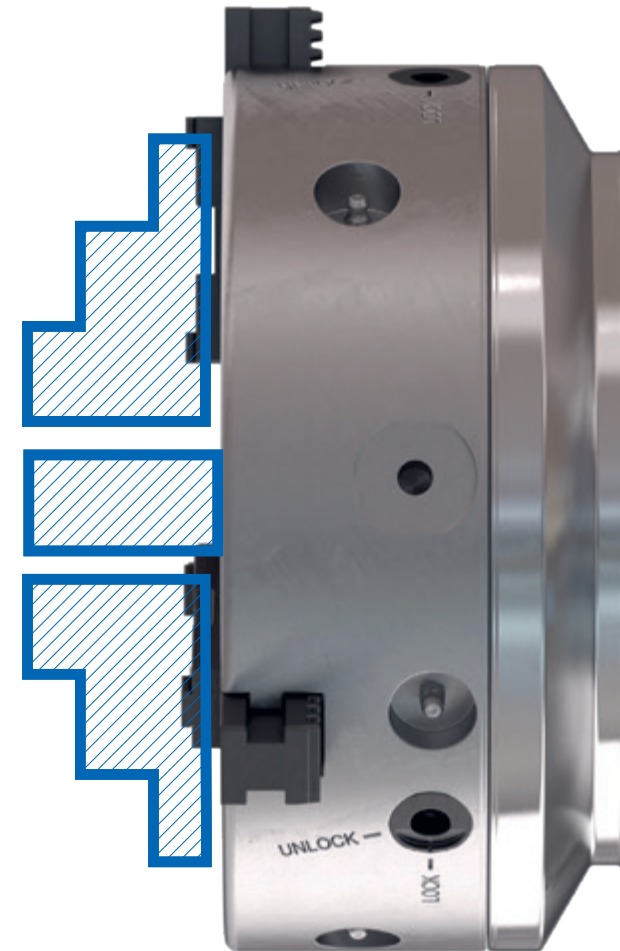
For jaw changes in under 60 s

The jaws on the Duro-A RC can be individually moved, turned, or changed. And this can be done very quickly, in under 60 s. And how does your machine tool benefit? It gets to do what you bought it for - machining - very quickly. New workpiece? Different geometry? As we said, a jaw change takes less than 60 s. That's how quickly you can retool, so that your machine can show how flexible it is.

ENSURING THE FORCE GETS TO WHERE IT IS NEEDED

Röhm jaws. In any situation.

The jaws are even closer to the workpiece than the lathe chuck. That's why we pay so much attention to them. So much so, that a Röhm jaw is developed and produced by Röhm. Made in Germany.



THE RÖHM CLAMPING JAW FINDER

www.roehm.biz/spannbacken-finder

You can find the perfect clamping jaws for your Duro-A RC very easily using the Röhm clamping jaw finder on our website: www.roehm.biz/spannbacken-finder

Base jaw



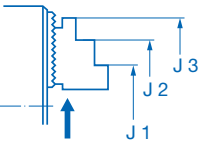
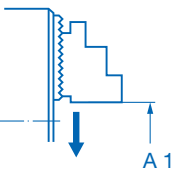
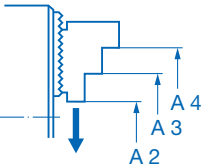
TONGUE AND GROOVE

Unit	ID#		180		215	
			Jaw length [mm]	Jaw width [mm]	Jaw length [mm]	Jaw width [mm]
3-jaw set	463548		65	20		
3-jaw set	463549				85	22
3-jaw set	463550					
3-jaw set	463551					
3-jaw set	463552					

260		315		400	
Jaw length [mm]	Jaw width [mm]	Jaw length [mm]	Jaw width [mm]	Jaw length [mm]	Jaw width [mm]
104	26				
115		32			
				125	32

Reversible
top jaws

HARDENED



Unit	ID#	Jaw step	180		215	
			External clamping	Internal clamping	External clamping	Internal clamping
3-jaw set	94012	A1/J1	6 - 88	59 - 142		
		A2/J2	10 - 92	85 - 168		
		A3/J3	54 - 136	129 - 211		
		A4	80 - 162			
3-jaw set	94013	A1/J1			14 - 126	71 - 184
		A2/J2			16 - 128	99 - 212
		A3/J3			72 - 184	155 - 268
		A4			100 - 212	
3-jaw set	94014	A1/J1				
		A2/J2				
		A3/J3				
		A4				
3-jaw set	94014	A1/J1				
		A2/J2				
		A3/J3				
		A4				
3-jaw set	94015	A1/J1				
		A2/J2				
		A3/J3				
		A4				

260		315		400	
External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping
12 - 175	93 - 256				
/	174 - 337				
44 - 174	/				
125 - 255					
		32-230	113 - 311		
		/	194 - 393		
		45 - 229	/		
		126 - 310			
				77 - 267	156 - 347
				/	264 - 454
				83 -274	/
				190 - 381	

Unstepped
top jaw AB,
standard
design

UNHARDENED



Unit	ID#	180				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	94008	0 - 220	25 - 220	85	20.3	36.5
3-jaw set	94009					
3-jaw set	94010					
3-jaw set	94010					
3-jaw set	94011					

Unit	ID#	260				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	94008					
3-jaw set	94009					
3-jaw set	94010	0 - 300	40 - 300	125	30	50
3-jaw set	94010					
3-jaw set	94011					

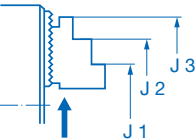
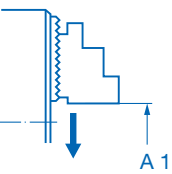
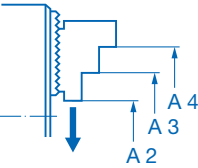
Unit	ID#	400				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	94008					
3-jaw set	94009					
3-jaw set	94010					
3-jaw set	94010					
3-jaw set	94011	15 - 460	40 - 460	145	34.3	50

215				
External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
0 - 250	25 - 250	105	22	40

315				
External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
0 - 360	40 - 360	125	30	50

One-piece
reversible jaw

HARDENED



Unit	ID#	Jaw step	180		215	
			External clamping	Internal clamping	External clamping	Internal clamping
3-jaw set	463555	A1/J1	28 - 73	57 - 103		
		A2/J2	55 - 101	89 - 134		
		A3/J3	87 - 133	120 -166		
		A4	118 - 164			
3-jaw set	463556	A1/J1			38 -85	79 - 126
		A2/J2			70 - 117	119 - 166
		A3/J3			108 - 155	157 -204
		A4			148 - 195	
3-jaw set	463557	A1/J1				
		A2/J2				
		A3/J3				
		A4				
3-jaw set	463558	A1/J1				
		A2/J2				
		A3/J3				
		A4				
3-jaw set	463559	A1/J1				
		A2/J2				
		A3/J3				
		A4				

260		315		400	
External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping
61 - 106	108 - 153				
104 - 149	153 - 198				
149 - 194	198 -243				
194 - 239					
		50 - 138	106 - 195		
		115 - 204	164 - 253		
		170 - 259	219 - 308		
		228 - 317			
				75 - 188	144 - 257
				140 - 253	214 - 327
				210 - 323	284 - 397
				280 - 393	

Block jaws,
guide
hardened and
ground

SUITABLE FOR HARDENING



Unit	ID#	180				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	463562	20 - 180	35 - 200	65	20	55
3-jaw set	463563					
3-jaw set	463564					
3-jaw set	463565					
3-jaw set	463566					

Unit	ID#	260				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	463562					
3-jaw set	463563					
3-jaw set	463564	40 - 300	50 - 300	99	26	84
3-jaw set	463565					
3-jaw set	463566					

Unit	ID#	400				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	463562					
3-jaw set	463563					
3-jaw set	463564					
3-jaw set	463565					
3-jaw set	463566	50-440	60-440	148	32	100

215				
External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
30 - 240	40 - 255	84	22	65

315				
External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
40-360	55-360	121	32	90

Reversible claw
top jaw

HARDENED



Tongue and groove, small
clamping range



Tongue and groove, medium
clamping range



Tongue and groove, large
clamping range

Version	Unit	ID#	180		215
			External clamping	Internal clamping	External clamping
Standard width, small clamping range	Pcs	137060	115 - 190	42 - 115	
	Pcs	137062	69 - 150	73 -154	
	Pcs	137065			72 - 188
	Pcs	137109			
	Pcs	137115			
Standard width, medium clamping range	Pcs	137061	21 - 87	136 - 218	
	Pcs	137064			37 - 123
	Pcs	137108			
	Pcs	137108			
	Pcs	137114			
Standard width, large clamping range	Pcs	137066			118 - 226
	Pcs	137110			
	Pcs	137110			
	Pcs	137116			
	Pcs	137068			73 - 188
Wide version, small clamping range	Pcs	137112			
	Pcs	137112			
	Pcs	137118			
	Pcs	137112			
	Pcs	137118			
Wide version, medium clamping range	Pcs	137067			46 - 124
	Pcs	137111			
	Pcs	137111			
	Pcs	137117			
	Pcs	137117			
Wide version, large clamping range	Pcs	137067			46 - 124
	Pcs	137111			
	Pcs	137111			
	Pcs	137117			
	Pcs	137117			

Pull-down
jaws for
interchangeable
clamping inserts

HARDENED



Straight toothing



Interchangeable
clamping inserts with
hardenable clamping
surface

Version	Unit	ID#	180		215
			External clamping	Internal clamping	External clamping
Standard version	Pcs	485522	48 - 92	131 - 177	
	Pcs	485524			46 - 111
	Pcs	485526			
	Pcs	485528			
	Pcs	485530			
Standard version, large clamping range	Pcs	485523	74 - 130	94 - 149	
	Pcs	485525			103 - 176
	Pcs	485527			
	Pcs	485529			
	Pcs	485531			
Interchangeable clamping inserts with claws	Pcs	141049	x	X	x
	Pcs	141052			
Interchangeable clamping inserts with groove toothing	Pcs	141050	x	x	x
	Pcs	141053			
Interchangeable clamping inserts with hardenable clamping surface	Pcs	141051	x	x	x
	Pcs	141054			

	260		315		400	
Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping
95 - 210						
	93 - 252	102 - 260				
			110 - 308	118 - 316		
					176 - 366	172 - 363
159 - 275						
	47 - 174	177 - 338				
			48 - 230	195 - 393		
					82 -271	268 - 458
71 - 172						
	136 - 287	93 - 227				
			144 - 342	96 -282		
					215 - 405	137 - 326
101 - 210						
	102 - 254	112 - 261				
			112 - 309	120 - 317		
					177 - 367	173 - 363
165 - 275						
	66 - 173	189 - 340				
			65 - 229	198 - 396		
					83 - 271	268 - 459

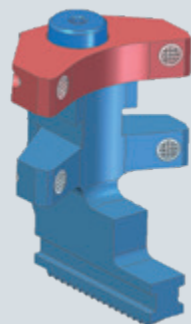
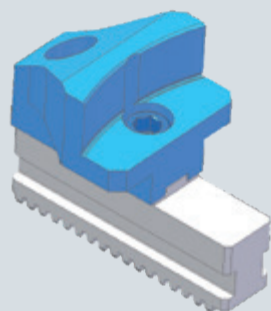
	260		315		400	
Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping
165 - 231						
	48 - 146	204 - 304				
			80 - 168	258 - 347		
					113 - 225	314 - 426
107 - 184						
	123 - 222	128 - 227				
			178 - 266	159 - 248		
					222 - 335	204 - 317
x						
	x	x	x	x	x	x
x						
	x	x	x	x	x	x
x						
	x	x	x	x	x	x

WHEN YOU'RE LOOKING FOR YOUR IDEAL SOLUTION

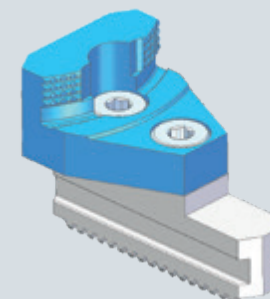
Custom jaws

Because we have been producing them for decades at Röhm there are countless possibilities for custom jaws. There are hardly any jaw geometries that we have not already produced for a machining specialist of some kind. And if we haven't produced your geometry yet, we look forward to receiving it.

**Customer-specific
pendulum jaw with
interchangeable
clamping inserts**
for interior and
exterior machining
of pistons



**Customer-specific
special jaw**
for interior and
exterior machining
of thin-walled
aluminum tubes



**Customer-specific
special jaw**
for interior and
exterior machining
of thin-walled
aluminum housings

INSTALLATION

HOW IS THE DURO-A RC
DURO-A RC FITTED ONTO
THE SPINDLE ON YOUR
MACHINE TOOL?

For different
connection methods

The Duro-A RC is available with two different mounting types. The mounting is worked directly into the body of the chuck, which means that no additional adapter plates are required.

Multiple machines with different spindle mountings? Then choose the Duro-A RC with adapter recess and also get yourself an adapter plate. This enables you to install the Duro-A RC on a machine with short taper mount (DIN 55027, ISO 702-1, "Mounting from front") or a machine with ASA B5.9 A1/A2.

1. With adapter recess

2. With short taper mount

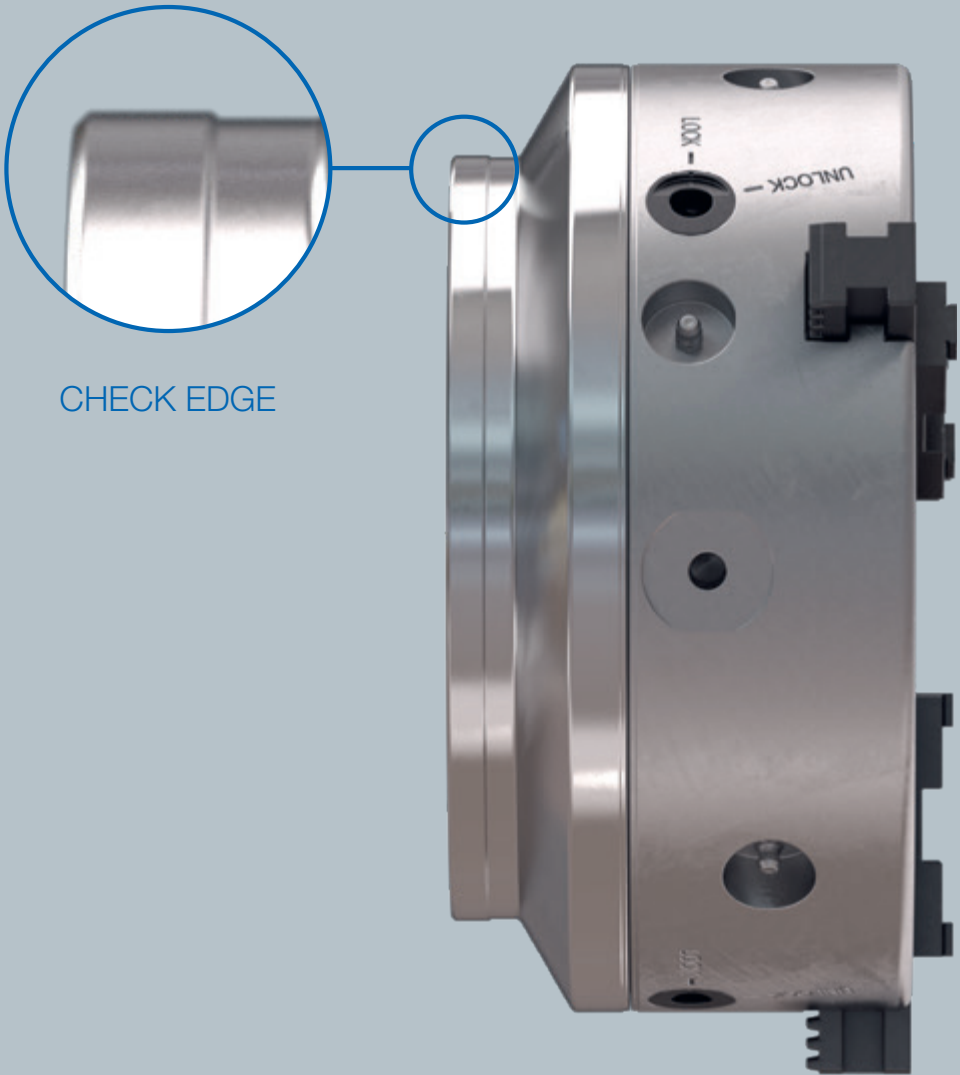


Adapter plate Ø 180 - 400

Diameter	180	180	215	260	260	315	315	400	400
KK (spindle head)	5	6	6	6	8	8	11	11	15
ID#	183131	183132	183133	183134	183135	183136	183137	183138	183139

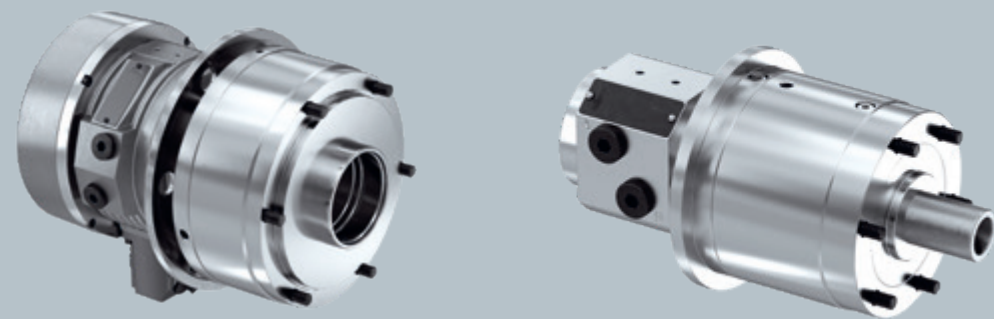
CHECK EDGE FOR
CONCENTRICITY
MEASUREMENT

A check edge is worked into the rear section of the chuck. Here, a dial gage can be used to check the concentricity of the chuck on your machine tool.



THE RIGHT CLAMPING CYLINDER. FROM RÖHM.

At Röhm, we view clamping technology as a system. A high performance lathe chuck includes an equally high performance cylinder. Röhm supplies the Forto-H cylinder without through hole and the hollow clamping version from the Forto-HT series.



For example, the force actuation can be provided by a Forto-HT type oil-operated cylinder with through hole from Röhm.

Duro-A RC	180	215	260	315	400
FORTO-HT	52/130	67/150	86/200	110/250	127/325
FORTO-H	85	100	100.125	125.15	150

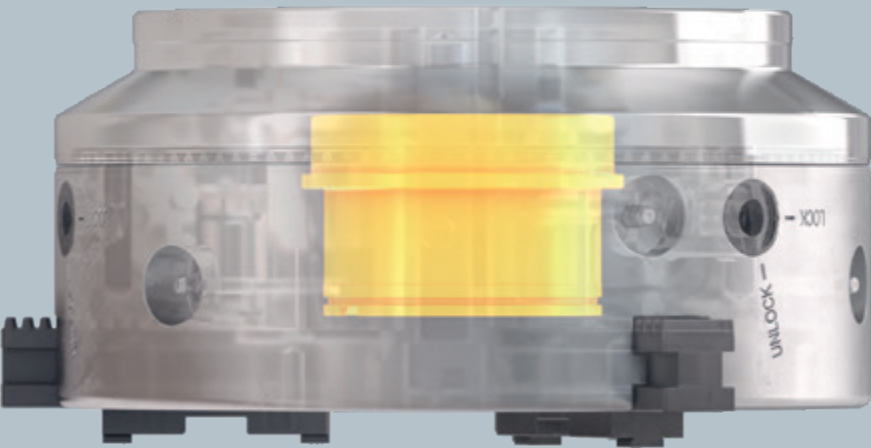
Alternatively, for partly hollow clamping you can use a Röhm Forto-H type oil-operated cylinder without through hole.

GREAT FOR DRAWING.

The connection to the clamping cylinder is made using a tensile connection. This tensile connection is always customized and is configured based on the cylinder – clamping device – machine tool combination. We are happy to support you in designing and producing an appropriate tensile connection for your configuration. Of course, the connecting thread for the draw tube is provided on the Duro-A RC.

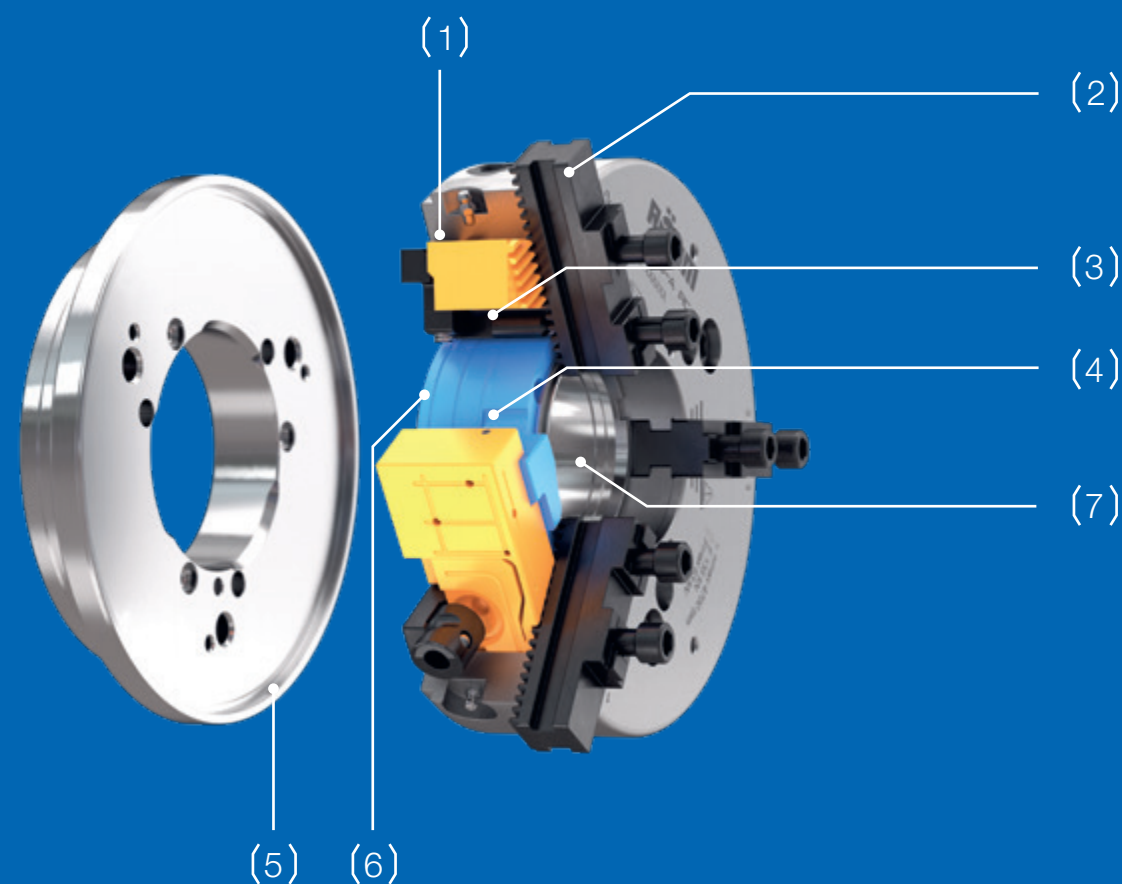
To use your Duro-A RC with an existing draw tube, the standard threading ring can be replaced. To make this as easy as possible, Röhm supplies pre-produced threaded blanks (blank adapters). They are fully machined on the chuck side and can be adapted for your individual draw tube on the machine side.

Chuck size	180	215	260	315	400
ID#	185044	185045	185046	185047	185048



The threading ring fitted as standard can be replaced so that the Duro-A RC fits on existing draw tubes.

TECHNOLOGY



- (1) Base body
- (2) Base jaws, straight toothed
- (3) Wedge bar
- (4) Annular piston
- (5) Spindle connection
- (6) Threading ring
- (7) Protective sleeve

HOW THE DURO-A RC FROM RÖHM WORKS

The steel base body (1) holds the components of the Duro-A RC and protects them. Minimal tolerances ensure precision. Towards the head stock, the spindle connection (5) is the final piece of the chuck. It has screws and an adapter recess (optional: short taper) to produce a load-carrying and positive-locking connection. A two-step kinematic system clamps the workpiece. The annular piston (4) is permanently connected to the machine cylinder using a thread. When the cylinder is hydraulically actuated, it presses the piston into base body of the chuck. In the first kinematic step, a shaped bevel moves the wedge bars (3) - hence the name "wedge bar chuck" - tangentially to the chuck axis. The wedge bars also have integral toothing, on which the base jaws (2) are positioned. In the second kinematic step, when the wedge bars move this toothing causes the base jaws to move outwards vertically to the chuck axis, releasing the workpiece.

To clamp a workpiece, the cylinder is moved in the opposite direction. For what is known as internal clamping, i.e., clamping of parts from inside, for example rings for machining on the outside, the process is the exact reverse. The protective sleeve (7) prevents chips getting into the chuck kinematic system.

The threading ring (6) is set up for connecting to the cylinder. For different connecting threads, Röhm supplies a threaded blank (draw tube adapter).

The top jaws are connected to the base jaws (2) by a tongue and groove.

You can find further information about the DURO-A RC on our website:

ROEHM.BIZ/DURO-A-RC

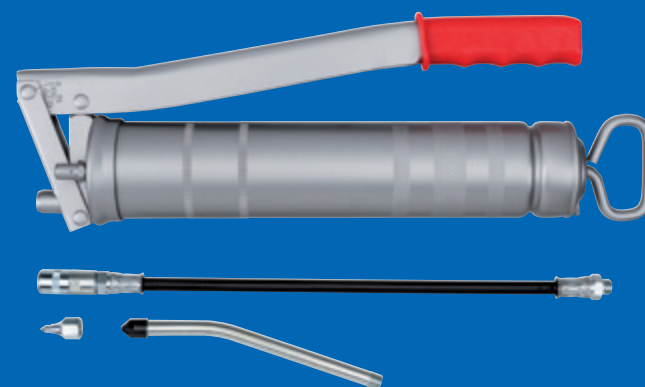
TECHNOLOGY



Röhm F80 special grease in 500g cartridge for lubricant application with grease gun



Röhm F80 special grease in 1,000g tin for lubricant application with brush



Röhm grease gun for application of F80 lubricant from the cartridge



GOOD TO KNOW

... that the efficiency of your power chuck depends to a great extent on the lubrication. If you think about it for a moment, it is obvious: the more easily the connection between the annular piston, wedge bar and jaw guide “moves”, the more clamping force is applied at the clamping point, rather than being expended to overcome friction. Röhm supplies the perfect accessories for lubricating your Duro-A RC.

You can find further information about the DURO-A RC on our website:

ROEHM.BIZ/DURO-A-RC

FROM LIGHTWEIGHT
AND SUPER FAST TO
HEAVY-DUTY POWER.
AND EVERYTHING
IN BETWEEN ON
REQUEST.
OR
SMALLER.
OR
LARGER.



Ø 180mm



Ø 215mm



Ø 260mm



Ø 400mm



Ø 315mm

Size/external diameter	180	180	215	215	260	260	315	315	400	400
Jaw travel mm	6.8	6.8	7	7	8	8	8	8	9.3	9.3
Piston stroke mm	23	23	27	27	32	32	32	32	34	34
Passage mm	53	53	66	66	81	81	104	104	128	128
Connecting thread mm	M60x1.5	M60x1.5	M75x1.5	M75x1.5	M90x1.5	M90x1.5	M110x2	M110x2	M138.2	M138.2
Max. actuating force kN	32	32	47	47	63	63	90	90	120	120
Max. total clamping force approx. kN	64	64	100	100	135	135	180	180	240	240
Max. perm. speed rpm	6300	6300	6000	6000	4700	4700	4000	4000	3500	3500

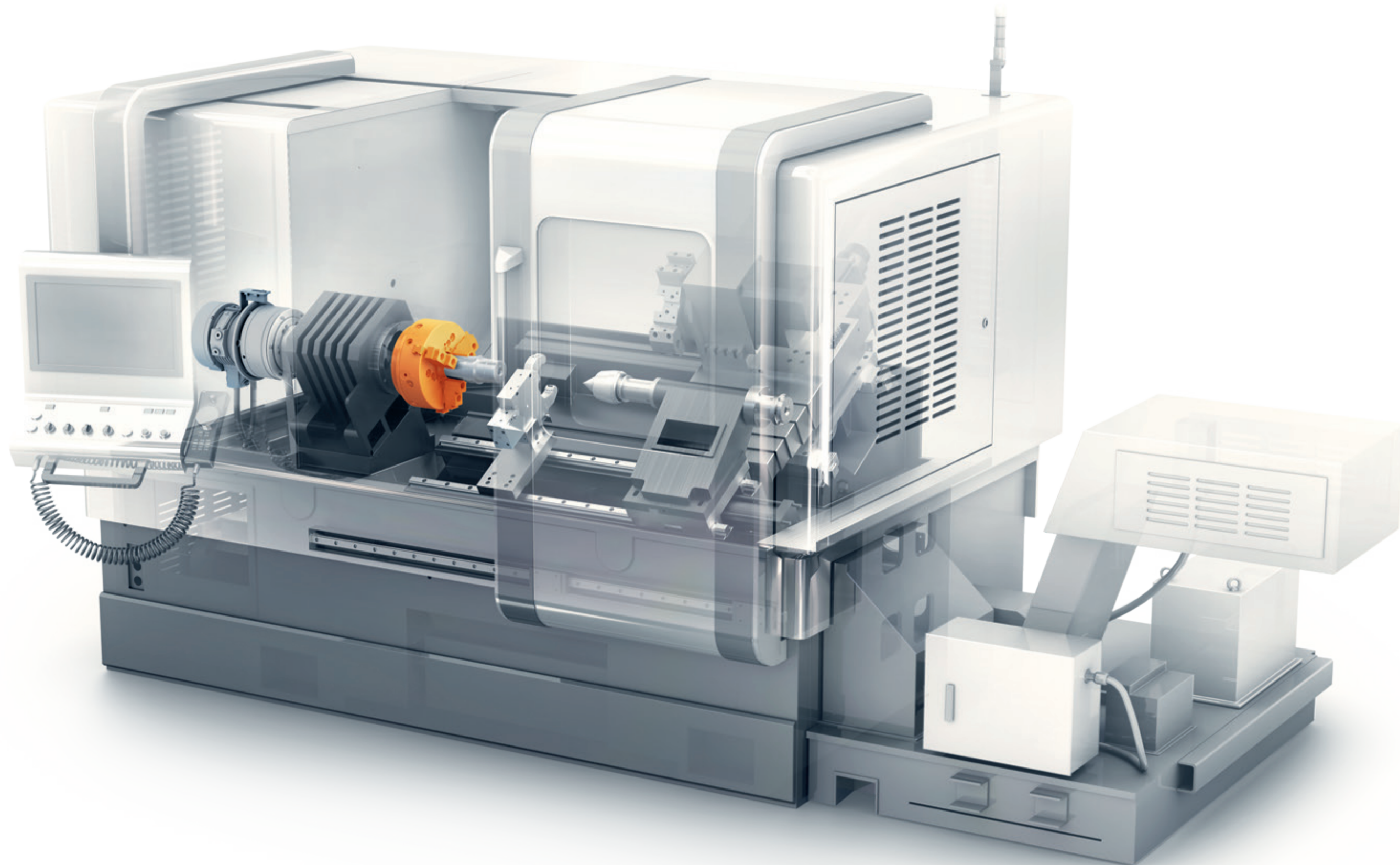
ADAPTER RECESS

Chuck height mm	93.9	93.9	103.4	-	119.7	119.7	127.7	127.7	136.2	137.7
Weight without top jaw approx. kg	14.2	15.2	22.5	-	36.4	38.1	61.6	61.6	104.7	111.2
Mass moment of inertia J kgm2	0.063	0.063	0.14	-	0.33	0.33	0.9	0.9	2.23	2.23
Spindle connection	ZA 140	ZA 170	ZA 170	-	ZA 170	ZA 220	ZA220	ZA 300	ZA 300	ZA 380
ID number	185025	185026	185029	-	185032	185033	185036	185037	185040	185041

SHORT TAPER MOUNT







Chuck height mm	111.7	112.7	124.3	126.3	141	143	153.7	155.7	159.7	160.7
Weight without top jaw approx. kg	15.8	17.6	25.9	27.7	41	40.5	69.5	67.8	118.4	116.5
Mass moment of inertia J kgm2	0.07	0.083	0.17	0.19	0.38	0.37	0.94	0.96	2.65	2.66
Spindle connection	KK5	KK6	KK6	KK8	KK6	KK8	KK8	KK11	KK11	KK15
ID number	185027	185028	185030	185031	185034	185035	185038	185039	185042	185043

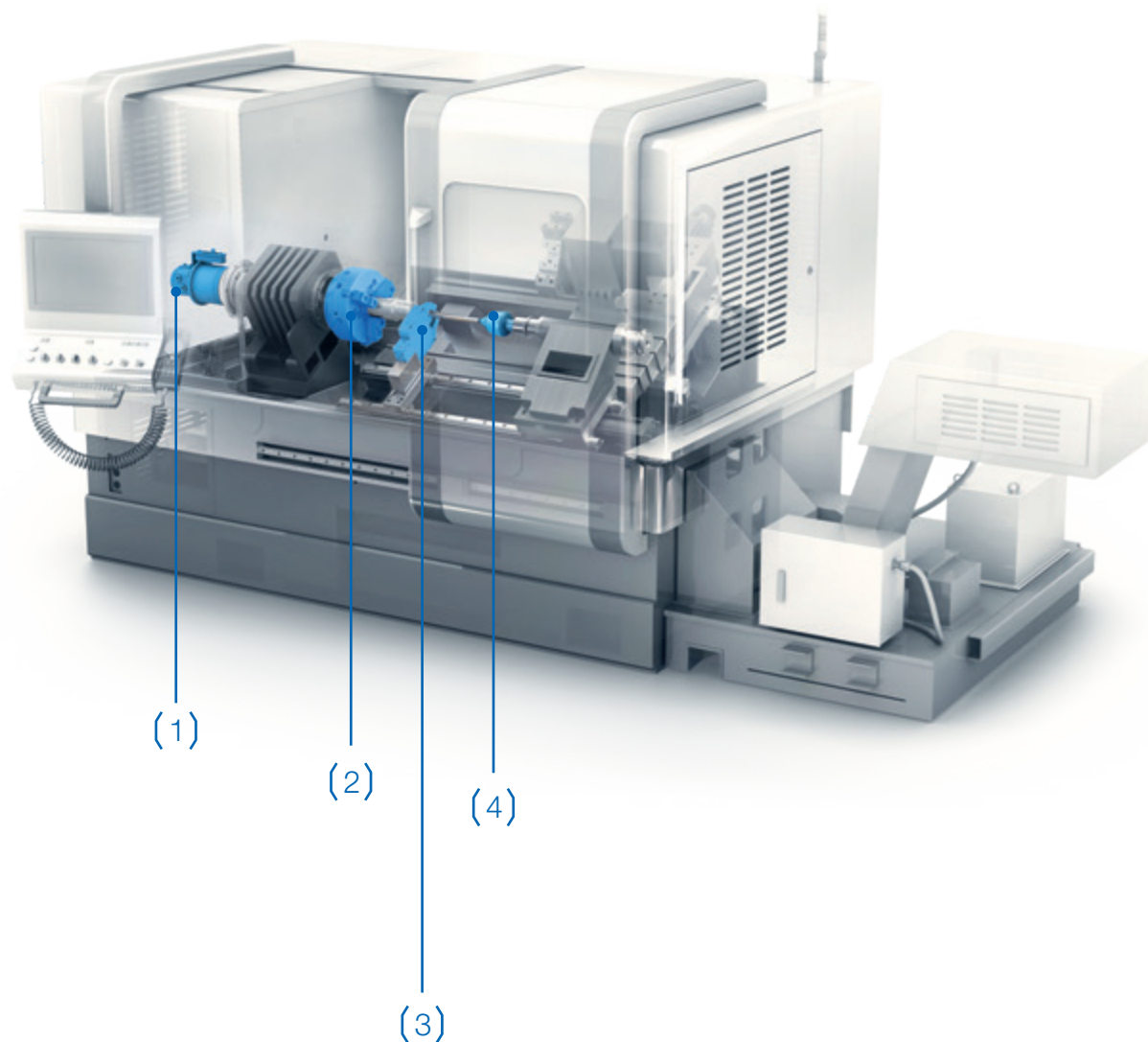
**FINALLY, YOUR MACHINE TOOL
CAN SHOW YOU THE WAY
FORWARD.**



YOU NEED THE WHOLE SYSTEM ...

The Duro-A RC lathe chuck is a crucial component for clamping on your machine tool. But precision clamping also requires other components. That's why we offer the complete system.

- | | | |
|-----|---|--|
| (1) |  | ... for automatic power chuck clamping.
Röhm supplies oil-operated cylinders with and without through hole. |
| (2) |  | ... for correct clamping of workpieces with the Duro-A RC power chuck.
Röhm supplies an extensive range of jaws. |
| (3) |  | ... to support long turned parts for maximum accuracy. That's why Röhm supplies self-centering steady rests. |
| (4) |  | ... to center long turned parts on the opposite side. That's what Röhm centering points are for. |
| |  | ... to not just achieve high clamping forces, but also to measure them. That's why Röhm offers the F-senso chuck. Simply clamp in the lathe chuck. Measure the clamping force. Done. |
| |  | ... for automated production. Röhm offers a comprehensive selection of grippers and positioners for placement and loading robots. |



You can buy clamping and gripping technology from Röhm conveniently 24/7 in our online shop:

eshop247.roehm.biz

MAYBE YOU NEED SOMETHING ELSE ...

There's no question that with the Duro-A RC we have developed a power chuck that forms a unique team with your machine tool. But maybe you have requirements that call for a special solution. Perhaps because you have different

needs in terms of the geometries to be machined. Or the volumes to be produced result in different general conditions. Whatever you need, at Röhmm we have the right clamping solution. That's our promise.

... because you produce high volumes or similar part geometries.
The Röhmm Duro-A. It has no complex rapid jaw changing system. Instead it offers even higher clamping forces and an optimized interfering contour.



... because you have high volumes. Röhmm provides clamping mandrels for internal clamping and collet chucks for external clamping. They are used for clamping geometrically very similar diameters.



... because your production involves a lot of manual work.
Choose the Duro-T from Röhmm, a manual lathe chuck with rapid jaw changing system, like the Duro-A RC.



... because you have lean geometries that you want to be able to machine right up to the end. Röhmm supplies face drivers. They transmit the rotation of the spindle and, in conjunction with a tailstock center, clamp the unmachined part only on the faces.

