THE DURO-A RC.
FROM RÖHM.

INNOVATIVE TECHNOLOGY DESIGNED TO DRIVE YOU FORWARD

RÖHM

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 replaces the RÖHM lathe chuck DURO-NCSE. In future, the DURO-NCSE will only be available as part of special solutions.

Changed clamping force ratio from 2022

The DURO-A RC has a modified power transmission. This additionally increases the clamping force applied to the jaws.

DESIGNED FOR

Automatic clamping on machines for changing geometries

APPLICATION

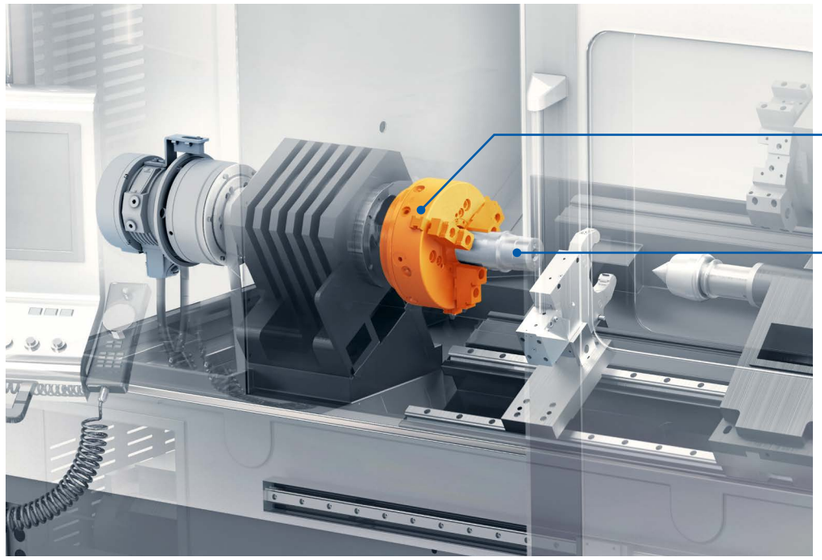
Machining of bars, pipes, adapter plates, disks

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 feeders can be utilized. Our designers have paid particular attention to large through holes, enabling raw materials with an extra large diameter to be processed.

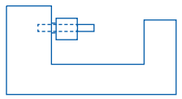


Figure 1: The extra large through hole allows processing of raw material with a large diameter using partly hollow clamping...

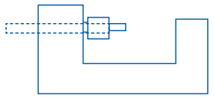
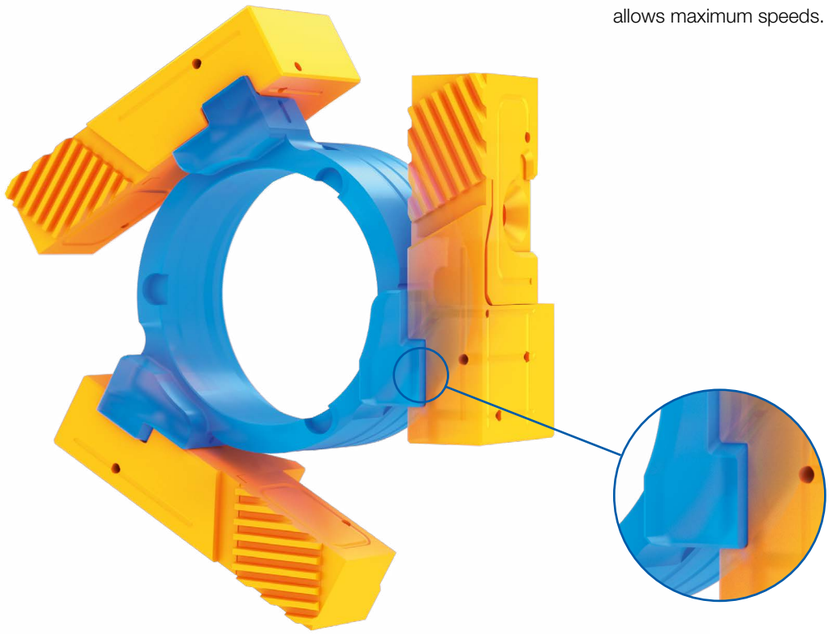


Figure 2: ... and hollow-center clamping (when using a cylinder with through hole) for processing bar material

KEEP THE FORCE ON

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 RÖHM 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.



REDUCING THE DEAD WEIGHT BY UP TO 6 KG

For speeds of up to 6,300 rpm

Oh, and we also made savings on the weight. Up to 6 KG (13 lbs) less weight 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.

The moving components are machined to high precision tolerances for optimum fit and operation, when the cylinder actuates the jaws move immediately.

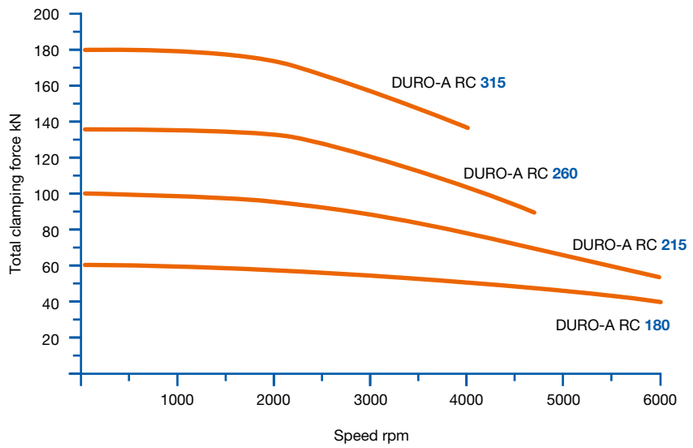
THE KEY TO QUICK CHANGING

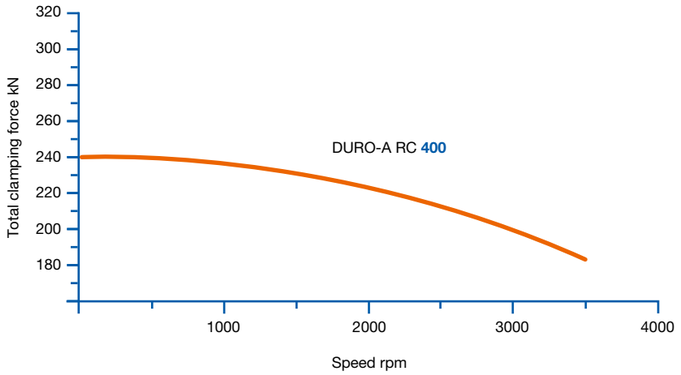
Just in case you are trying to save even more time changing jaws, we've made sure that you are safe. As a safety feature, the key cannot be removed before the jaw is properly locked in.

PROVIDING UP TO 240 KN OF CLAMPING FORCE TO THE JAWS

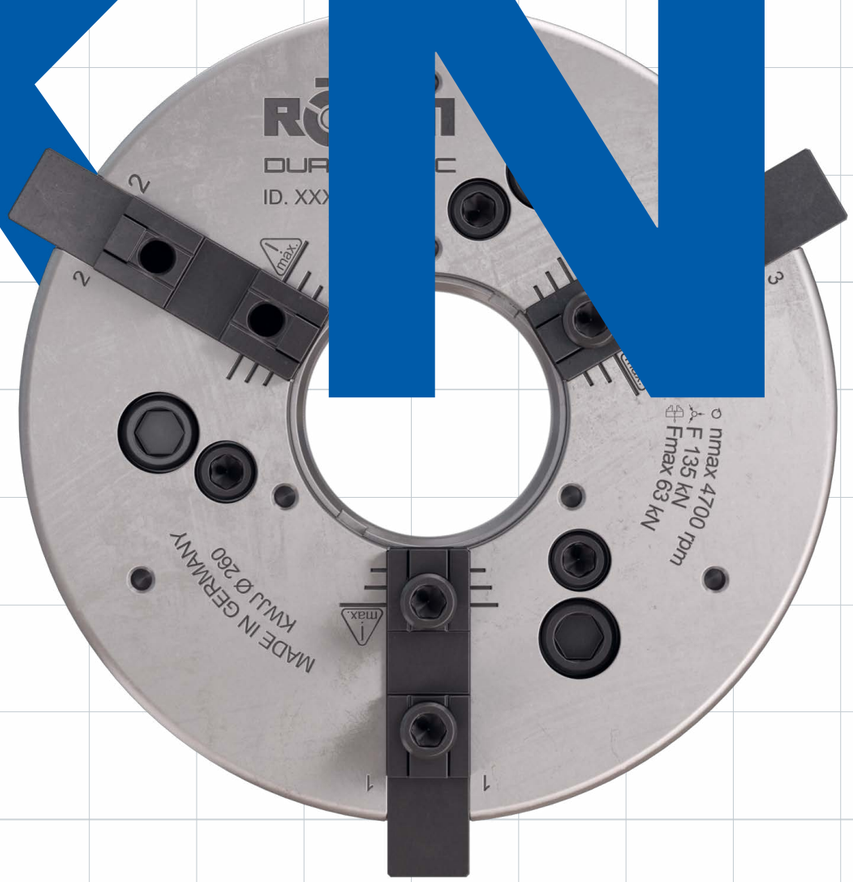
Up to 240 kN clamping force

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. High performance is emphasized through the minimized loss of clamping force to effects of centrifugal forces.





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. A prerequisite for this extended warranty from RÖHM, is a factory approved service every 12 months.

FINISH TIME UNDER 60 SECONDS

For faster jaw changes

The jaws on the DURO-A RC can be individually moved, turned, or changed. And this can be done very quickly, in under 60 seconds. 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 seconds. 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

You can find the perfect clamping jaws for your DURO-A RC very easily using the RÖHM clamping jaw finder on our website:

https://www.roehm.biz/en/jawfinder/

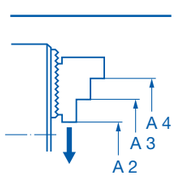
Base jaw

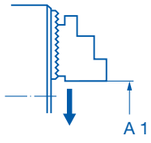
TONGUE AND GROOVE

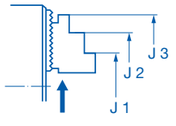
Unit	ID#		180		215		260		315		400	
			Jaw length [mm]	Jaw width [mm]	Jaw length [mm]	Jaw width [mm]	Jaw length [mm]	Jaw width [mm]	Jaw length [mm]	Jaw width [mm]	Jaw length [mm]	Jaw width [mm]
3-jaw set	**463548**		65	20								
3-jaw set	**463549**				85	22						
3-jaw set	**463550**						104	26				
3-jaw set	**463551**								115	32		
3-jaw set	**463552**										125	32

Reversible top jaws

HARDENED







Unit	ID#	Jaw step	180		215		260		315		400	
			External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping	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					12 - 175	93 - 256				
		A2/J2					/	174 - 337				
		A3/J3					44 - 174	/				
		A4					125 - 255					
3-jaw set	**94014**	A1/J1							32-230	113 - 311		
		A2/J2							/	194 - 393		
		A3/J3							45 - 229	/		
		A4							126 - 310			
3-jaw set	**94015**	A1/J1									77 - 267	156 - 347
		A2/J2									/	264 - 454
		A3/J3									83 -274	/
		A4									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#	215				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	94008					
3-jaw set	94009	0 - 250	25 - 250	105	22	40
3-jaw set	94010					
3-jaw set	94010					
3-jaw set	94011					

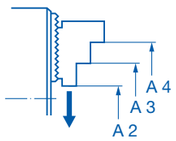
Unit	ID#	260				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	94008					
3-jaw set	94009					
3-jaw set	94010	0 - 300	40 - 300	125	30	50
3-jaw set	94010					
3-jaw set	94011					

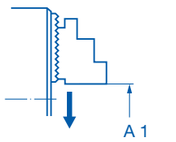
Unit	ID#	315				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	94008					
3-jaw set	94009					
3-jaw set	94010					
3-jaw set	94010	0 - 360	40 - 360	125	30	50
3-jaw set	94011					

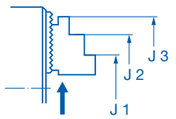
Unit	ID#	400				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	94008					
3-jaw set	94009					
3-jaw set	94010					
3-jaw set	94010					
3-jaw set	94011	15 - 460	40 - 460	145	34.3	50

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#	215				
		External clamping	Internal clamping	Jaw length [mm]	Jaw width [mm]	Jaw height [mm]
3-jaw set	463562					
3-jaw set	463563	30 - 240	40 - 255	84	22	65
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#	315				
		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	40-360	55-360	121	32	90
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

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		260		315		400	
			External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping
Standard width, small clamping range	Pcs	137060	115 - 190	42 - 115								
Standard width, medium clamping range	Pcs	137062	69 - 150	73 -154								
	Pcs	137065			72 - 188	95 - 210						
	Pcs	137109					93 - 252	102 - 260				
	Pcs	137109							110 - 308	118 - 316		
	Pcs	137115									176 - 366	172 - 363
Standard width, large clamping range	Pcs	137061	21 - 87	136 - 218								
	Pcs	137064			37 - 123	159 - 275						
	Pcs	137108					47 - 174	177 - 338				
	Pcs	137108							48 - 230	195 - 393		
	Pcs	137114									82 -271	268 - 458
Wide version, small clamping range	Pcs	137066			118 - 226	71 - 172						
	Pcs	137110					136 - 287	93 - 227				
	Pcs	137110							144 - 342	96 -282		
	Pcs	137116									215 - 405	137 - 326
Wide version, medium clamping range	Pcs	137068			73 - 188	101 - 210						
	Pcs	137112					102 - 254	112 - 261				
	Pcs	137112							112 - 309	120 - 317		
	Pcs	137118									177 - 367	173 - 363
Wide version, large clamping range	Pcs	137067			46 - 124	165 - 275						
	Pcs	137111					66 - 173	189 - 340				
	Pcs	137111							65 - 229	198 - 396		
	Pcs	137117									83 - 271	268 - 459

Pull-down jaws for interchangeable clamping inserts

HARDENED

Straight toothing

Interchangeable clamping inserts with hardenable clamping surface

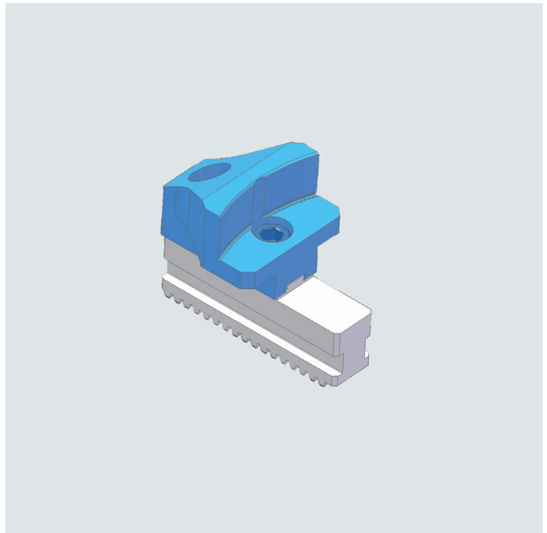
Version	Unit	ID#	180		215		260		315		400	
Standard version			External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping	External clamping	Internal clamping
	Pcs	485522	48 - 92	131 - 177								
	Pcs	485524			46 - 111	165 - 231						
	Pcs	485526					48 - 146	204 - 304				
	Pcs	485528							80 - 168	258 - 347		
	Pcs	485530									113 - 225	314 - 426
Standard version, large clamping range	Pcs	485523	74 - 130	94 - 149								
	Pcs	485525			103 - 176	107 - 184						
	Pcs	485527					123 - 222	128 - 227				
	Pcs	485529							178 - 266	159 - 248		
	Pcs	485531									222 - 335	204 - 317
Interchangeable clamping inserts with claws	Pcs	141049	x	X	x	x						
	Pcs	141052					x	x	x	x	x	x
Interchangeable clamping inserts with groove toothing	Pcs	141050	x	x	x	x						
	Pcs	141053					x	x	x	x	x	x
Interchangeable clamping inserts with hardenable clamping surface	Pcs	141051	x	x	x	x						
	Pcs	141054					x	x	x	x	x	x

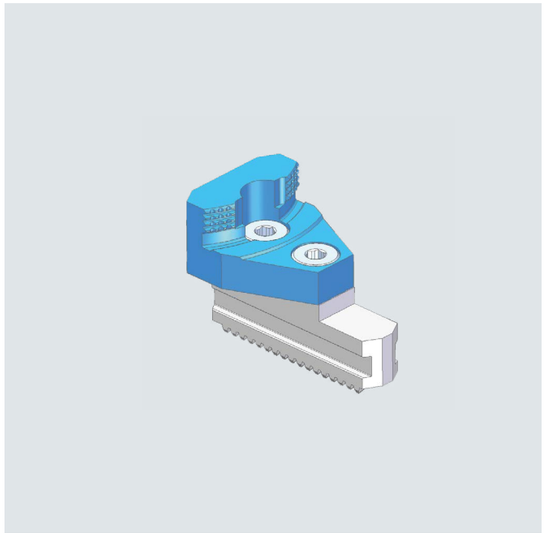
IF YOU ARE LOOKING FOR SOMETHING SPECIAL

Custom jaws

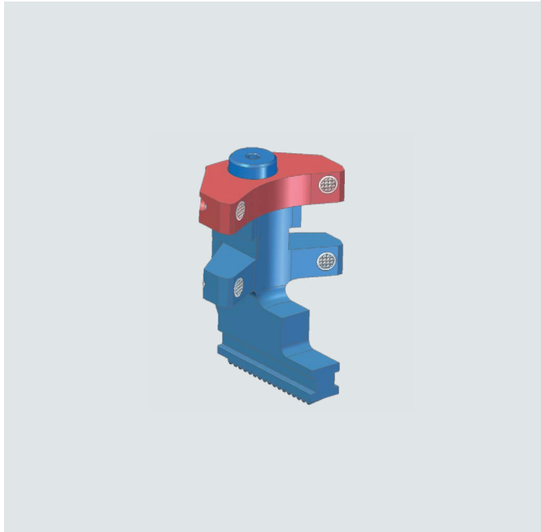
Because we have been producing them for decades at RÖHM there are countless possibilities for custom jaws. There are hardly any jaw geometries that we have not already produced for a machining specialist of some kind. And if we haven't produced your geometry yet, give us the challenge.

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



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

INSTALLATION

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

For different connections

The DURO-A RC is available with two different mounting types. The mounting is integrated 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 with an 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

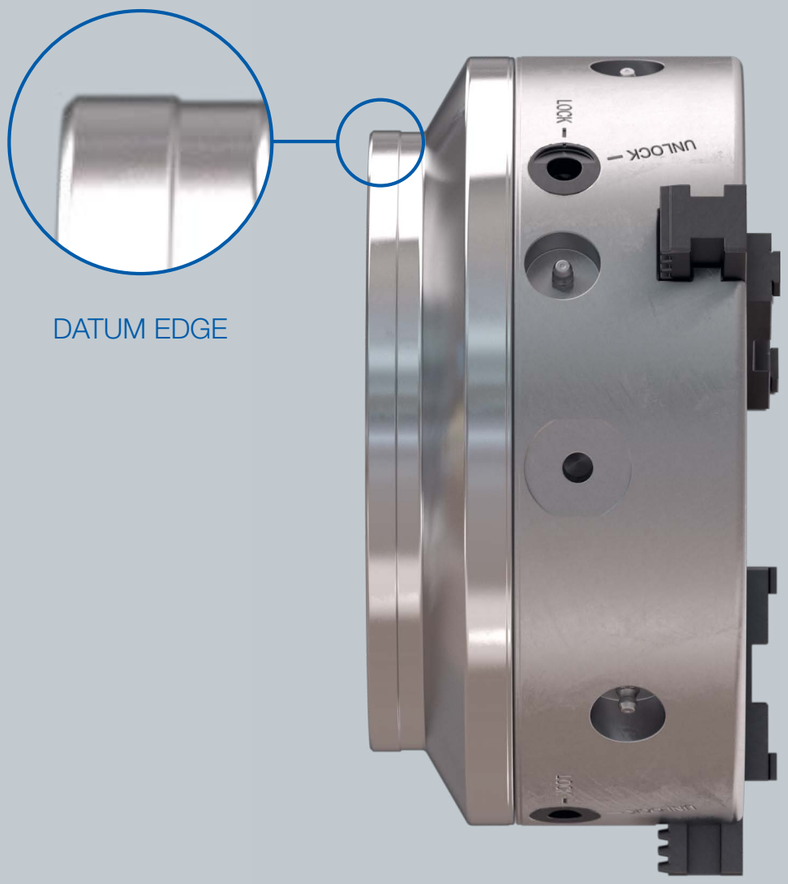
2. With short taper mount

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**

DATUM EDGE FOR CONCENTRICITY MEASUREMENT

A datum 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.

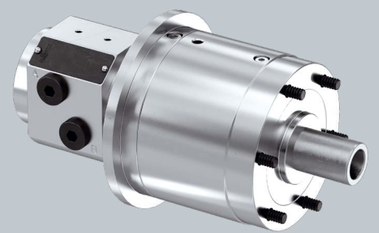


DATUM EDGE

THE MATCHING 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 a 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 a through hole from RÖHM.



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

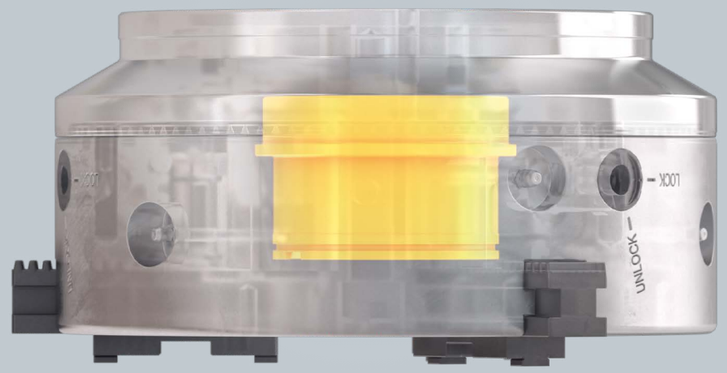
DURO-A RC	180	215	260	315	400
FORTO-HT	52/130	67/150	86/200	110/250	127/325
FORTO-H	85	100	100.125	125.15	150

GREAT FOR PULLING.

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.

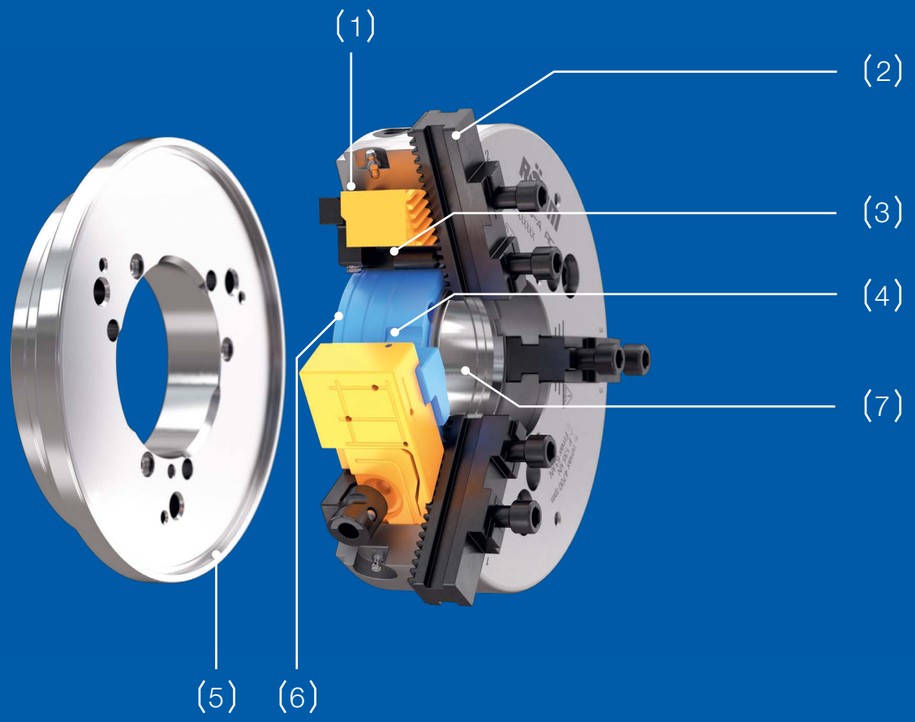
To use your DURO-A RC with an existing draw tube, the standard threaded ring can be replaced. To make this as easy as possible, DURO A-RC chucks are supplied with threaded draw tube adapters for customization. They are fully machined on the chuck side and can be adapted for your individual draw tube on the machine side.

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



The threaded ring fitted as standard can be replaced with existing draw tube adapters.

TECHNOLOGY



(1) Base body
(2) Base jaws, straight toothed
(3) Wedge bar
(4) Annular piston
(5) Spindle connection
(6) Threaded 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 mechanical power transmission clamps the workpiece. The chuck 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 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 threaded step, when the wedge bars move this toothing causes the base jaws to move outwards vertically to the chuck axis, releasing the workpiece.

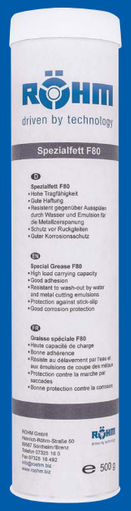
To clamp a workpiece, the cylinder is moved in the opposite direction. For what is known as internal clamping, i,e, clamping of parts from inside, for example rings for machining on the outside, the process is the exact reverse. The protective sleeve (7) prevents chips getting into the chuck prevents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

The threaded 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.

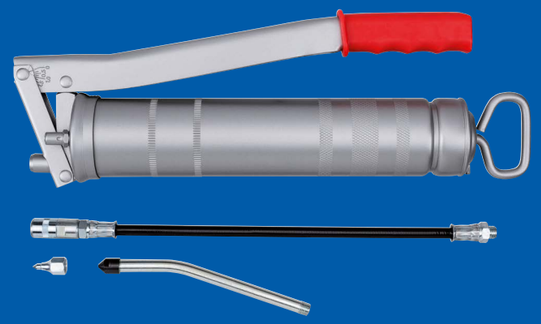
You can find further information about the DURO-A RC on our website:
roehm.biz/duro-a-rc

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

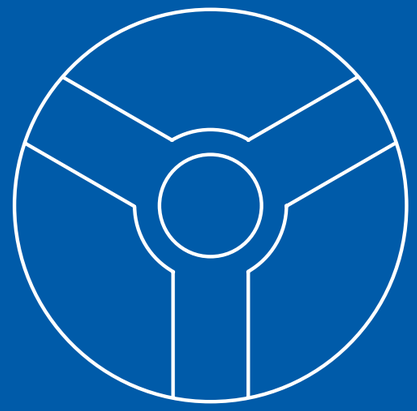
FROM LIGHTWEIGHT AND SUPER FAST TO HEAVY-DUTY POWER. AND EVERYTHING IN BETWEEN ON REQUEST.

⌀ 180mm

⌀ 215mm

⌀ 260mm

⌀ 315mm



⌀ 400mm

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

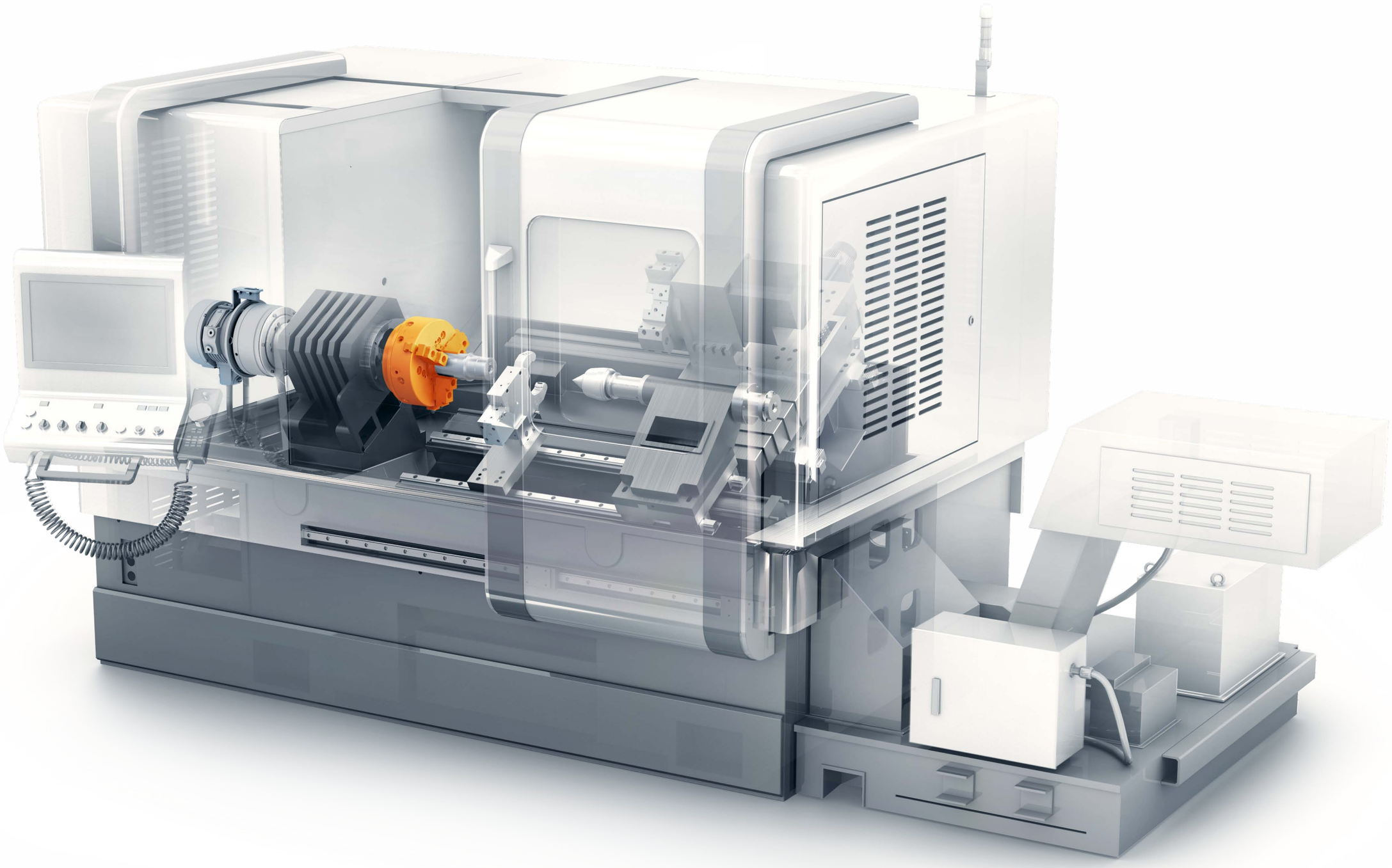
ADAPTER RECESS

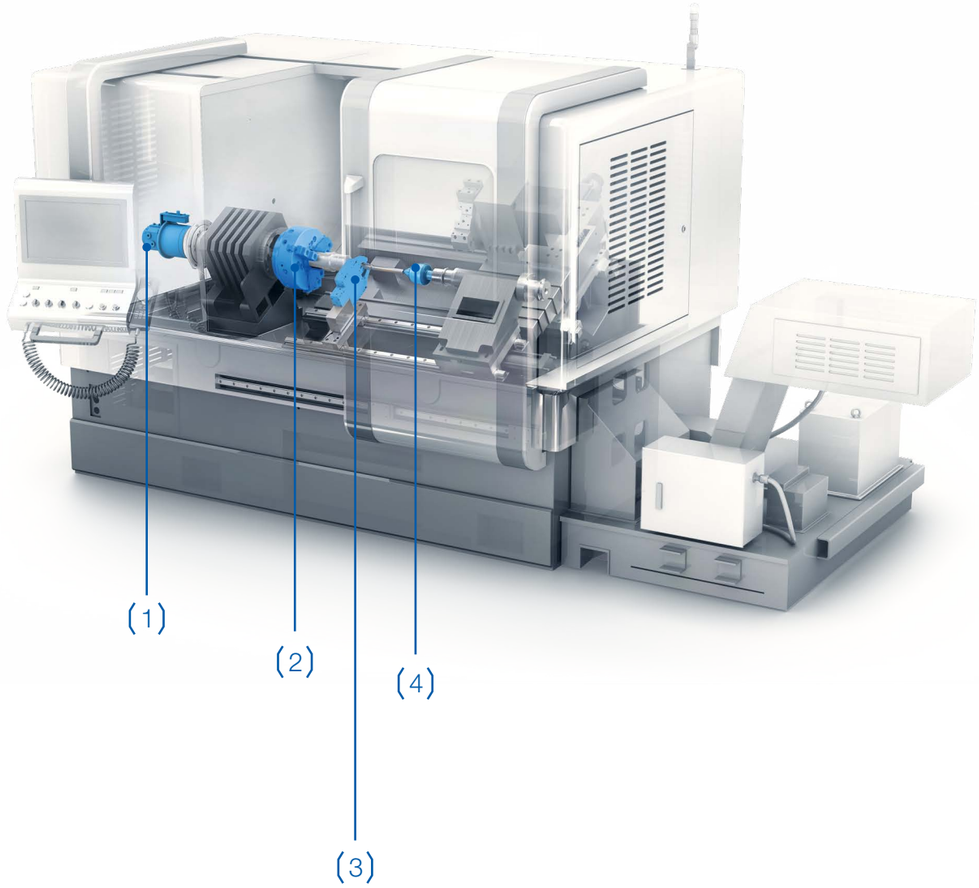
Chuck height mm	93.9	93.9	103.4	-	119.7	119.7	127.7	127.7	136.2	137.7
Weight without top jaw approx. kg	14.2	15.2	22.5	-	36.4	38.1	61.6	61.6	104.7	111.2
Mass moment of inertia J kgm2	0.063	0.063	0.14	-	0.33	0.33	0.9	0.9	2.23	2.23
Spindle connection	ZA 140	ZA 170	ZA 170	-	ZA 170	ZA 220	ZA220	ZA 300	ZA 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

INNOVATIVE TECHNOLOGY DESIGNED TO DRIVE YOU 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 RÖHM we have the right clamping solution. That's our promise.

... because you produce high volumes or similar part geometries. The RÖHM DURO-A. It has no complex rapid jaw changing system. Instead if offers even higher clamping forces and an optimized nterfering contour.

... because you have high volumes. RÖHM 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 RÖHM, 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. RÖHM 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.

RÖHM GmbH ○ Heinrich-Roehm-Straße 50 ○ 89567 Sontheim/Brenz ○ Deutschland
TEL +49 7325 16 0 ○ sales@roehm.biz ○ roehm.biz

roehm.biz

ID no. 1242479 / 0324