

### FINALLY YOUR MACHINE TOOL CAN SHOW WHICH WAY IS FORWARDS.



## THE DURO-A RC. FROM RÖHM.

The DURO-A RC is a three-jaw chuck with a throughhole and quick jaw change system that can be clamped automatically (hydraulically) by a CNC machine. RC stands for rapid change, A for automatic. It is mainly used for turning of cylindrical and disc-shaped blanks with frequently changing part geometries. It scores points over comparable products by its very quick jaw change, low height and high speeds, making it especially suitable for flexible use in automated production. Due to its longevity, the DURO-A RC has a warranty of 36 months, and with its competitive price, it has a low total cost of ownership.

The DURO-A RC replaces the Röhm DURO-NC and DURO-NCSE chucks. They will only be available in the future as part of custom solutions.

## OPPONENT PASSED IN LESS THAN 60 SECONDS

## For jaw changes in less than 60 seconds

The jaws of the DURO-A RC can be individually moved, turned or changed in less than 60 seconds. How does your machine tool benefit from this? It can do what you bought it for: machine. New workpiece? Different geometry? As we said, the jaws change won't even take 60 seconds. You will retool very quickly, and your machine can show just how flexible it is.



### **DESIGNED FOR**

Automatic machining equipment for changing geometries

### **APPLICATION**

Machining bars, tools, flanges, and discs

### BENEFITS

- Fast jaw change (less than 60 s)
- High clamping forces (up to 240 kN, in the 400-series version)
- High speeds (up to 6,300 rpm in the 180-series version)
- Low height

### WHY IT'S A WISE INVESTMENT

- Backed by a 36-month warranty
- Competitive pricing

THE KEY TO A QUICK CHANGE

And, if you were too fast during a jaw change and didn't lock a jaw properly – it doesn't matter. The key can be removed only in the safe locked position.

## 7 KG LESS WEIGHT IN PLAY

### Speeds up to 6,300 rpm

Oh yes, we also saved more weight. Up to 7 kg compared to similar chucks. To ensure that your machine tool no longer needs to carry around more than necessary. Less weight on the spindle ensures less bearing load and enables faster acceleration and braking of the cylinder, spindle and chuck unit. Your machine tool can show what it can do at those speeds. That is because the reduced weight enables maximum speeds.

## PUTS UP TO 240 KN ON THE ROAD – PARDON, ON THE CLAMPING JAW

### Up to 240 kN clamping force

Clamping also means holding. And the DURO-A RC can do that really well. The lathe chuck holds the clamped workpieces firmly at up to 240 kN. New all-time best. Your machine tool can really hold its own.

## YOU HAVE FREE PASSAGE WITH THIS

## Large through-hole for hollow and partly-hollow clamping

We designed the DURO-A RC at Röhm for hollow and partly hollow clamping. That means turning blanks can be inserted through the chuck. If the hydraulical cylinder is also designed as a hollow clamping cylinder, then it can also process bar material. Our designers attributed importance to particularly large throughholes, so that you can process raw material with extralarge diameters.



#### Figure 1:

The extra-large through-hole enables the processing of raw material with a large diameter in partly-hollow clamping ...

#### Figure 2:



... and fully hollow clamping (using a hollow clamping cylinder) for the machining of rod material.

## 15 MM MORE SPACE ON THE WINNER' PODIUM

### Up to 15 mm lower height

When developing the DURO-A RC, we saved not only on the price, but on the installation space as well. The result is a lathe chuck that is up to 15 mm shorter than comparable chucks. That is up to 15 mm more effective length for machining or up to 15 mm more space for a machining tool or up to 15 mm more maneuverability for automated blank loading.

## SO THAT THE FORCE IS ALSO KEPT ON TRACK

### Röhm jaws. For all cases.

Jaws are even closer to the workpiece than the lathe chuck. That is why they are so important to us. So much so that all our Röhm jaws are developed and produced in Germany. And because we have been manufacturing them for decades ourselves, there are also all possibilities for individual jaws at Röhm. There is hardly any jaws geometry that we haven't already manufactured. If not, then we look forward to your geometry, which we have not made (yet).



Reversible top jaws hardened, tongue and groove, external and internal clamping



Unstepped top jaw soft, tongue and groove



One-piece reversible jaws hardened



Block jaws can be hardened, guidance hardened and ground



Reversible claw-type top jaws tongue and groove, large clamping range



Draw-down jaws with additional clamping range for interchangeable clamping inserts, straight toothing



Reversible claw-type top jaws tongue and groove, small clamping range



Customized pendulum jaw with changeable clamping inserts used for in- and outside machining of pistons



Reversible claw-type top jaws tongue and groove, medium clamping range



Customized special jaw used for in- and outside machining of thin aluminum pipes



**Draw-down jaws** for interchangeable clamping inserts, straight toothing



Customized special jaw used for in- and outside machining of thin aluminum housings

### TECHNOLOGY



(1) Base jaws, straight teeth

(2) Body

(3) Key bar

(4) Ring piston

(5) Centre mount

(6) Threaded ring

(7) Centre sleeve

## HOW THE RÖHM DURO-A RC WORKS

The body (1) made of steel incorporates the components of the DURO-A RC and protects them. The tightest tolerances ensure precision. The centre mount (5) closes the chuck against the machine stock. It uses screws and a cylindrical mount (optional: short taper) to ensure a friction and form-fitting connection. Two-stage kinematics clamps the workpiece. The ring piston (4) is firmly connected via a thread to the cylinder of the machine. If the cylinder is hydraulically actuated, it pushes the piston into the body of the chuck. In the first step of the kinematics, a molded bevel displaces the key bars (3) - hence the name "key bar chuck" - tangentially to the chuck axis. Gearing is also incorporated in the key bar chuck on which the base jaws (2) sit. In the second step of the kinematics, the base jaws move during the displacement of the key bars by this gearing,

perpendicular to the chuck axis outwards, and they release the workpiece. For clamping a workpiece, the cylinder is moved in the opposite direction. The process is exactly the reverse for so-called internal clamping, i.e. the clamping of parts from the inside, as it is, for example, when clamping rings that are to be machined on the outside. The protective sleeve (7) prevents the entry of chips into the chuck kinematics. The threaded ring (6) is fully prepared for connection to the cylinder. For deviating connecting threads, there is a thread blank (draw tube adapter) from Röhm. There are optional, matching adapter rings for connection to a machine spindle with a short taper. The top jaws are connected with the base jaws (2) by a tongue and groove.

More information on the DURO-A RC can be found on our website:



## **DURO-A RC SIZES AND SPECS.** YOU CAN HAVE IT ALL.





Ø 260 mm





Item No.	183100	183101	183104	183106	183107	183108	183111	183112	183114	183115
Size / outside diameter	180	180	215	215	260	260	315	315	400	400
Jaw movement mm	6.8	6.8	7.4	7.4	8.2	8.2	8.8	8.8	9.4	9.4
Chuck height mm	83.9	83.9	95.9	113.9	108.5	108.5	117.7	117.7	125.7	125.7
Piston stroke mm	20	20	25	25	28	28	28	28	30	30
Through-hole mm	53	53	66	66	81	81	104	104	128	128
Connection thread mm	M60x1.5	M60x1.5	M75x1.5	M75x1.5	M90x1.5	M90x1.5	M110x2	M110x2	M138x2	M138x2
Max. actuating force kN	32	32	47	47	63	63	90	90	120	120
Max. total clamping force ca. kN	64	64	100	100	135	135	180	180	240	240
Max. perm. speed per min. <sup>-1</sup>	6300	6300	6000	6000	4700	4700	4000	4000	3500	3500
Moment of inertia J kgm <sup>2</sup>	0.056	0.056	0.14	0.15	0.32	0.33	0.8	0.84	2.3	2.4
Weight without top jaws ca. kg	12.74	13.5	21.2	24	34.7	34.8	57.5	60	104	108
Universal draw tube adapter	Optionally available	Optionally available	Optionally available	Optionally available	Optionally available	Optionally available	Optionally available	Optionally available	Optionally available	Optionally available
Spindle connection mm	ZA 140	Z 170	ZA 170	КК8	ZA 170	ZA 220	ZA 220	ZA 300	ZA 300	ZA 380
Optionally: Adaption to short taper mount DIN ISO 702-1	KK5	KK6	KK6	-	KK6	KK8	KK8	KK11	KK11	KK15

# YOU CAN HAVE IT ALL ....

The DURO-A RC lathe chuck is an essential element when clamping on your machine tool. But precise clamping may require other components. There is also the complete system from us.



... automatically clamp power chucks with Röhm's hydraulic full and hollow clamping cylinders.

C

... center long rotating parts with Röhm's live centers.



 measure clamping force with the Röhm
F-senso chuck. Simply clamp it into the lathe chucks and measure the clamping force.



... equip your material handling robots with one of Röhm's grippers and swiveling units.



... support long rotating pieces with unparalleled precision using a Röhm self-centering steadyrest.



Did you know that you can also design a custom top jaw online? Our Industry 4.0 interface shares your configuration with our processing control center.

... ensure your materials are properly clamped

with Röhm jaws.



### roehm.biz/en/products/product-configurator

# MAYBE YOU NEED SOMETHING DIFFERENT...

Not an issue – with the DURO-A RC, we have developed a power chuck that forms a unique team with your machine tool. But perhaps you have requirements that can be covered better with a special solution. Maybe because you have other requirements of the geometries to be machined. Or, there are other boundary conditions due to the number of units you have to manufacture. In any case, we at Röhm have the right clamping solution. We promise.

- ... Do you manufacture large quantities or with similar part geometries? The DURO-A is the perfect fit. It is not a quick jaw change chuck, instead it offers even higher clamping forces and an optimized interference contour.
- ... Do you run part family jobs? In this case, Röhm offers clamping mandrels for internal clamping and collet chucks for external clamping. Our mandrels and collet chucks are ideal for the geometrical clamping of pieces with very similar diameters.
- ... Do you have cylindrical parts you would like to process end to end? In this scenario you can implement Röhm face drivers and a live center. The face driver and live center engage the workpiece on the end face only, allowing you to machine the entire shaft.

Röhm GmbH • Heinrich-Roehm-Strasse 50 • 89567 Sontheim/Brenz • Germany TEL +49 7325 16 0 • FAX +49 7325 16 510 • info@roehm.biz • roehm.biz



