



**THE DURO-A.  
FROM RÖHM.**



**GOING THE DISTANCE.  
THE FEATHERWEIGHT  
CHAMPION PUNCHING  
ABOVE ITS CLASS.**

# THE DURO-A. FROM RÖHM.

The DURO-A is a three-jaw chuck with a through-hole that can be clamped automatically (hydraulically) by a CNC machine. It is mainly used for turning cylindrical and disc-shaped blanks. It scores points over comparable products by its high speeds, high clamping forces, and a small interference contour making it especially suitable for efficient use in automated production. Due to its longevity, the Duro-A has a warranty of 36 months, and with its competitive purchase price, it has a very good total cost of ownership.

The Duro-A replaces the Röhm lathe chuck KFD-HS, as well as most of the KFD-HE sizes. In future, these will only be available as part of special solutions.

## FOR WHOM

Automatically clamping  
CNC turning centers

## WHICH APPLICATIONS

Machining of rods, tubes,  
flanges, washers

## WHY

- High clamping forces (up to 250 kN, in the 400-series version)
- High speeds (up to 8,000 rpm in the 160-series version)
- Reduced interference contour
- Large through-hole

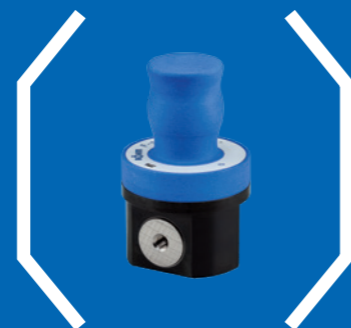
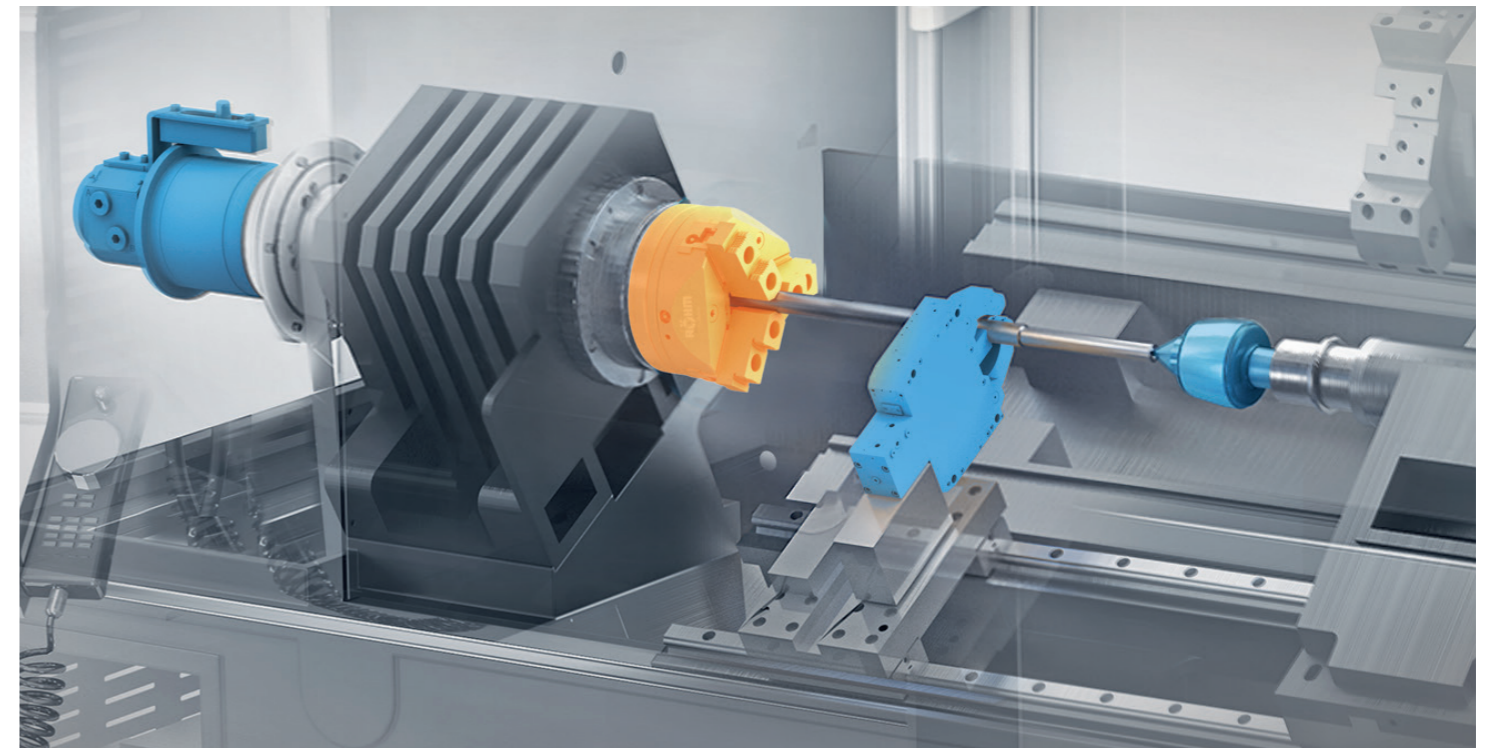
## A GOOD INVESTMENT

- Longevity
- Extra warranty (36 months)
- Best price/performance ratio

# POWER WITH BITE.

Intelligent design for up to 250 kN.

The chucks of the Duro-A family apply up to 250 kN (in the 400-series version) clamping force to the workpiece and are thus champions in the discipline of clamping force. No comparable chuck can achieve more. Thanks to the highest clamping forces, the workpieces are held securely. This enables the highest cutting performance. This saves expensive machine time.

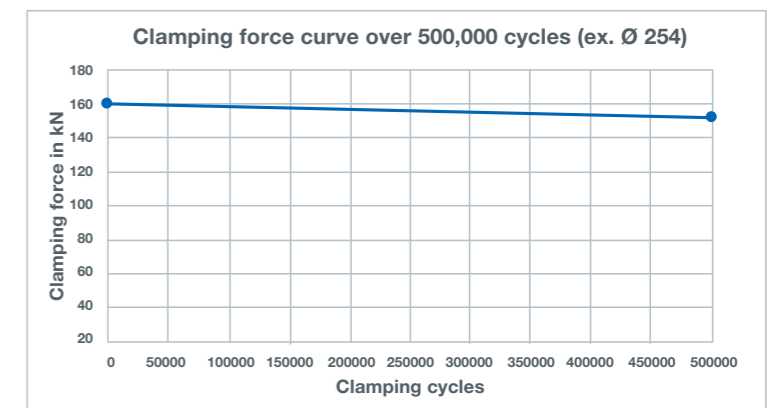


## Speaking of clamping force:

At Röhm, clamping and gripping almost always means measuring. That's why we have developed the F-Senso Chuck, a measuring device for measuring clamping force. Totally robust. Totally easy to use: switch on, clamp, read the result.

## Durable over 500,000 clamping cycles.

As a true champion, the Duro-A goes the full distance with its high clamping force. Even after 500,000 clamping cycles, the clamping force of up to 250 kN remains almost unchanged at the clamping jaws. Hardly any comparable power chuck can achieve this.



# NOT A SINGLE GRAM OF FAT

Unique design for the highest speeds up to 8,000 rpm

The characteristic design with the three Scallops not only looks appealing, but it is also an expression of Duro-A's outstanding engineering. At first glance, it looks like our Röhm engineers have simply saved material. That is also true. But with tangible consequences. First of all, the saved material reduces the moment of inertia. That enables high speeds—up to 8,000 rpm in the 160-series version. The Duro-A can take quite a bit. The scalloped design of the Duro-A can do even more: The targeted material savings and placement of the Scallops result in a considerably reduced interference contour. The Duro-A can be moved closer, so grippers and automation devices have more space and therefore more freedom.

Do you actually have to talk about precision with a Röhm chuck? Not really. But perhaps it is good for you to know that the repeat clamping accuracy is just  $\pm 0.02$  mm. Or the concentricity: two hundredths, that's a whole  $20 \mu\text{m}$ .

There is also a lot to discover in the design of the chuck body of the Duro-A. For example, the control rim on the outside of the body. You will find the stepped control rim separated by a groove. It is round-ground with the greatest precision. Why? You can use it to measure the concentricity of the chuck on the machine. Some people call this a love of detail, but we call it tried and tested.



# RING FREE FOR SECONDS AWAY FOR THE HEAVY-WEIGHTS

Large through-hole for hollow and partly-hollow clamping

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

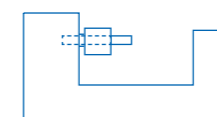


Figure 1:  
The extra-large through-hole enables the processing of raw material with a large diameter in partly-hollow clamping...

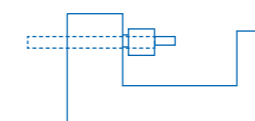


Figure 2:  
...and fully hollow clamping (using a hollow clamping cylinder) for the machining of rod material

# LEFT (WEDGE) HOOK, RIGHT (WEDGE) HOOK, LEFT (WEDGE) HOOK

Lubrication system for a constant clamping force and clean hands on a permanent basis

A sophisticated system of lubrication nipples, lubrication holes, and lubrication pockets ensures that the Duro-A is lubricated wherever it is needed. This reduces friction and makes this great clamping force possible. And it guarantees the long service life.

But the lubrication system on the Duro-A can do a lot more: Our Röhms engineers have designed all the grooves and bores so that the lubrication system is sealed tight when the chuck is under pressure. The advantage is obvious: No lubricant is lost. This protects the environment, saves lubricant, and guarantees that the lubricant is available when it is needed. And your service technicians will appreciate the fact that their hands stay clean when dismantling the machine.

# IT GOES THE DISTANCE FOR 36 ROUNDS

## 36-month warranty

Röhms gives a 36-month warranty on the Duro-A? This will only surprise those who have never worked with a Röhms product. Our reputation precedes us and manufacturing experts know that Röhms products last forever. That's why it's so easy for us to give a 36-month warranty on the Duro-A. The Röhms products can do that. But one thing is important: Anything that performs exceptionally well must have routine check-ups on a regular basis. For this reason, the same applies to the 36-month conditional warranty: Servicing is carried out by our service specialists for a fee every 12 months.



### THE RÖHM CLAMPING JAW FINDER

[www.roehm.biz/spannbacken-finder](http://www.roehm.biz/spannbacken-finder)

You can easily find the right clamping jaws for your Duro-A by using the Röhms clamping jaw finder on our website: [www.roehm.biz/spannbacken-finder](http://www.roehm.biz/spannbacken-finder)

# SOMETHING TO BITE

Röhms jaws. For all applications.

The jaws are held by the fixed base jaw. As an interface to the top jaws, they offer either 90° serration or 60° serration. A large number of different jaws from the Röhms jaw program fit on the Duro-A. They are fastened with T-slot nuts<sup>1</sup> (included in delivery).



Block jaw as top jaw

Soft

Top jaw, can be hardened	Units	110	135	165	210	254	315	400*	400**
Serration 90°	3-jaw set	149353	156452	46403	133152	133153	133154	133156	
Serration 90°	3-jaw set	154863	154863	154865	154867	154869	154871	184196	184198

\* Size 400 3/32 x 90°

\*\* Size 400 additionally 3x60°

Do you have special jaws for which you need longer T-slot nuts? This is available from Röhms, for 1/16" x 90° serration:



Extended T-slot nuts

### SERRATION 90°

Diameter	110	135	165	210	254	315	400
Groove width	10	10	12	17	17/21	21	25,5
Ident#	183775	241673	241674	183782	241675	183783	

### SERRATION 60°

Diameter	110	135	165	210	254	315	400
Groove width	10	10	12	14	16	21	25,5
Ident#	183775	183777	183779	183781	241675	183783	

<sup>1</sup> Sizes 210 and 254 have a groove width of 17, that is why offset sliding blocks are used for these chuck sizes.







Claw jaws

Hardened



SERRATION 60°

Units	Ident#	110	135	165			
Groove width		10	10	12			
Clamping		Outside	Inside	Outside	Inside	Outside	Outside
Piece	186104	35-49	113-128				
Piece	186106	49-63	101-116				
Piece	186108	62-77	86-101				
Piece	186110	76-91	73-88				
Piece	186112	91-106	60-75				
Piece	186104		45-74	123-153			
Piece	186108		72-101	96-126			
Piece	186112		98-127	67-97			
Piece	156025			49-78	169-199		
Piece	156027			64-93	156-186		
Piece	156029			89-119	134-163		
Piece	161189			119-149	102-132		
Piece	186114						
Piece	186116						
Piece	186118						
Piece	186120						
Piece	156099						
Piece	156101						
Piece	156103						
Piece	156105						
Piece	186122						
Piece	186124						
Piece	186126						
Piece	186128						
Piece	186130						
Piece	186132						
Piece	186134						
Piece	186136						
Piece	186138						
Piece	186140						
Piece	186142						
Piece	186144						

210		254	254	315		400*		400**	
14		16	16	21		25,5			
Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside
62-116	186-240								
93-145	160-213								
122-175	128-181								
171-222	77-128								
		61-112	262-314						
		100-153	224-274						
		133-186	190-241						
		162-216	160-211						
				95-175	296-377				
				169-249	223-304				
				198-279	193-274				
				279-359	112-193				
						114-269	336-494		
						204-298	308-403		
						294-392	214-311		
						379-477	134-229		
								114-266	339-494
								204-298	308-403
								294-389	217-312
								382-477	133-226

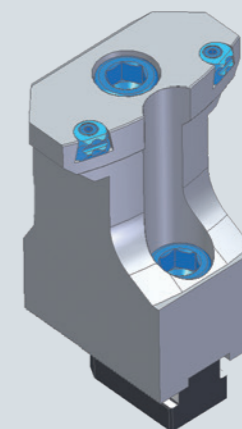
\* Size 400 3/32 x 90°  
 \*\* Size 400 additionally 3x60°



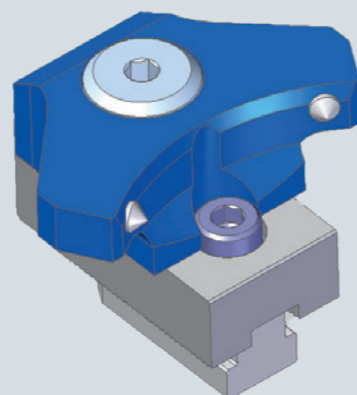
Really for all applications.

Jaws are the most direct connection to the workpiece. Therefore, they are also of particularly high priority for us. So much so that a Röhm jaw is developed and produced at Röhm. Made in Germany. And because we have been manufacturing for decades ourselves, there are also all possibilities for individual jaws at Rohm. There is hardly any jaws geometry that we haven't already manufactured for machining specialists. And if not, then we look forward to your geometry, which we have not made (yet).

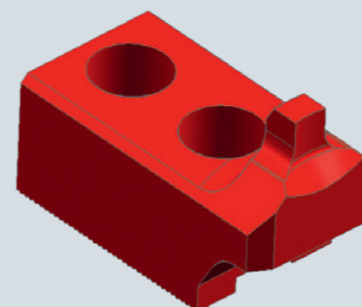
**Customized Special jaw with exchangeable inserts** for external and face machining of tubes



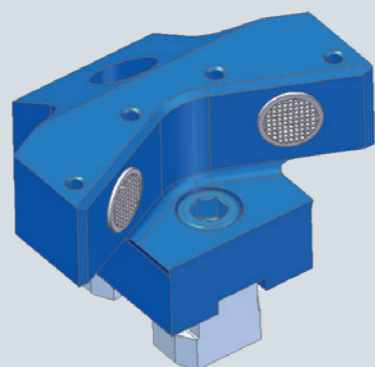
**Customized pendulum jaw with exchangeable inserts** for internal and face machining of sprockets



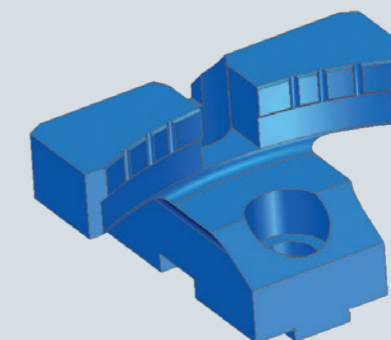
**Customized special jaw** for external and face machining of sheet metal lids



**Customized special jaw with exchangeable inserts** for internal, external and face machining of pump flanges



**Customized, wide enclosing special jaw** for internal, external and face machining of differential housings



## INSTALLATION

### MAKING THE MATCH

ZA or KK

The Duro-A is attached to the spindle of the machine tool via a standard connection with three screws. For an exact fit, the Duro-A is optionally available with a cylindrical mount (ISO 702-4) or a short taper mount (ISO 702-1).

Do you have several machines with different spindle mounts? Then opt for the Duro-A with a center mount and use an adapter flange as well. This means that you can also mount this Duro-A on a machine with a short taper mount (DIN55027, ISO 702-1, "Attachment from the front") or a machine with ASA B 5.9 A1/A2.



#### Adapter flange Ø 110 - 210

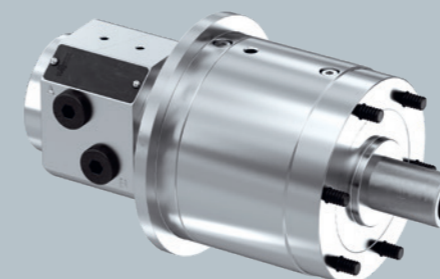
Diameter	110	135	135	165	165	165	210	210	210
Short taper (spindle head)	4	4	5	4	5	6	5	6	8
Ident#	174525	174526	174527	145125	174528	145129	145127	174529	145135

#### Adapter flange Ø 254 - 400

Diameter	254	254	315	315	400	400
Short taper (spindle head)	8	11	8	11	11	15
Ident#	174530	145143	174530	174531	145147	174532

### THE RIGHT CLAMPING CYLINDER. FROM RÖHM.

At Röhm, we understand clamping technology as a system. A high-performance lathe chuck needs an equally high-performance cylinder from us. Röhm offers the full clamping cylinders of the Forto-H series and the hollow clamping version of the Forto-HT series.



The full clamping cylinder Forto-H series



The hollow clamping cylinder Forto-HT series

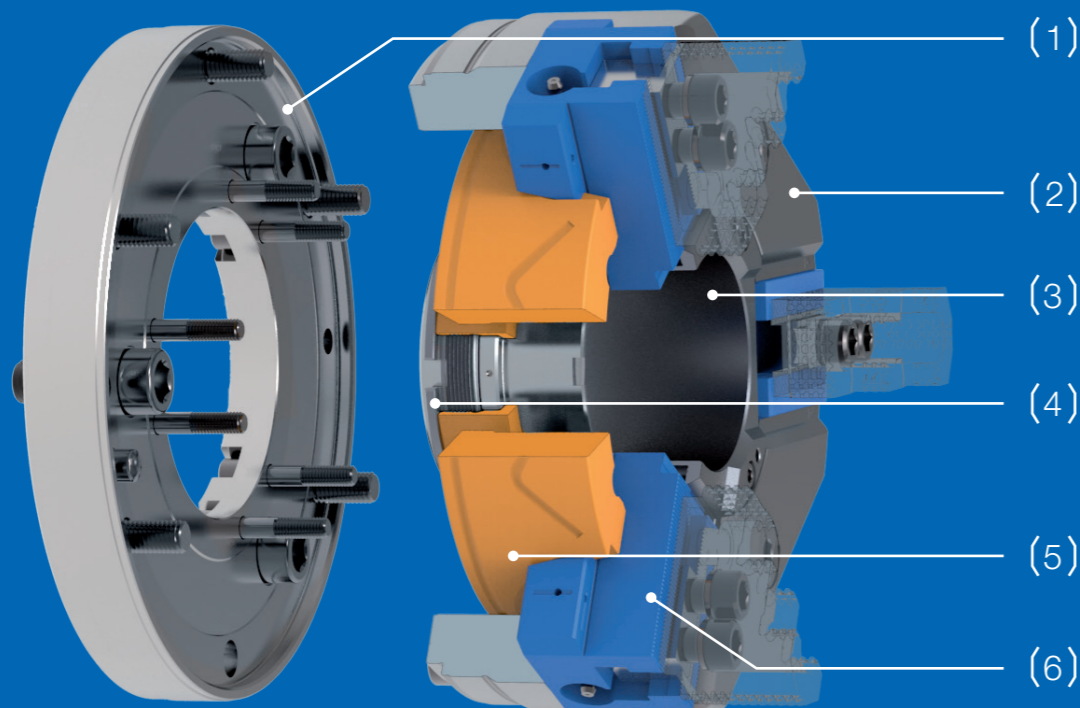
DURO-A	110	135	165	210	254	315	400
FORTO-HT	37/70	37/70	46/103	67/150	86/200	110/250	127/325
FORTO-H	70	85	85,100	100,125	125,150	125,150	150,175

The connection to the clamping cylinder is made via a draw-in connection. This draw-in connection is always individual and configured from the combination of cylinder-clamping device-machine tool. We will be happy to support you in the design and manufacture of the right draw-in connection for your configuration. The connection thread for the drawtube is already present in the Duro-A.

GOOD TO KNOW

TECHNOLOGY

# HOW THE DURO-A FROM RÖHM WORKS



- (1) Flange center mount
- (2) Steel body
- (3) Protective sleeve
- (4) Threaded ring
- (5) Ring piston
- (6) Base jaw

The steel body (2) incorporates the components of the Duro-A and protects them. The tightest tolerances ensure precision. The center mount (1) closes the chuck towards the machine head. It provides a positive and non-positive connection by means of screws and a cylindrical mount. The clamping function is handled by the three base jaws (6) in conjunction with the ring piston (5). The ring piston 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. Via the wedge hook inserted in the base jaws—which accounts for the name “wedge hook chuck”—the jaws move radially outward and release the workpiece.

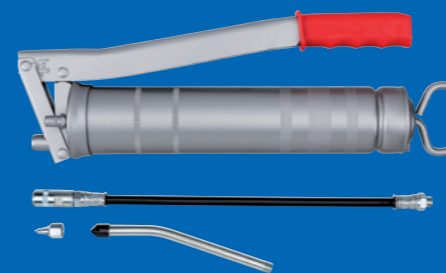
To clamp a workpiece, the cylinder is moved in the opposite direction. The process is exactly reversed for internal clamping, i.e. clamping parts from the inside, as it is, for example, when clamping rings that are to be machined on the outside. The protective sleeve (3) prevents the entry of chips into the chuck kinematics.

The threaded ring (4) 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 base jaws (6) are equipped with a choice of 60° or 90° serration.



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

Röhm special grease F80 in the 1,000 g can for lubricant application with a brush



Röhm grease gun for application of F80 lubricant from the cartridge

... that the efficiency of your power chuck depends considerably on the lubrication. If you think about it for a moment, it is obvious: the easier the connection between the ring piston, base jaws and jaw guide „runs“, the more clamping force arrives at the clamping point and does not have to be used to overcome the friction. Röhm offers the appropriate accessories for lubricating your DURO-A.

GOOD TO KNOW

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

**ROEHM.BIZ/DURO-A**

# P.S.: COVERING ALL WEIGHT CLASSES



∅ 110 mm



∅ 135 mm



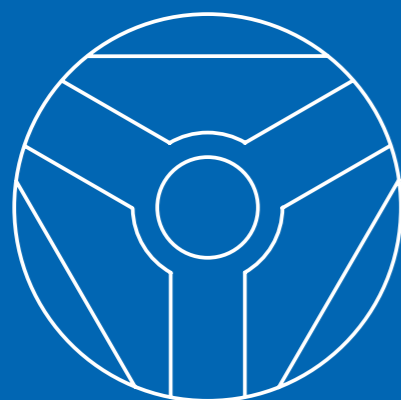
∅ 165 mm



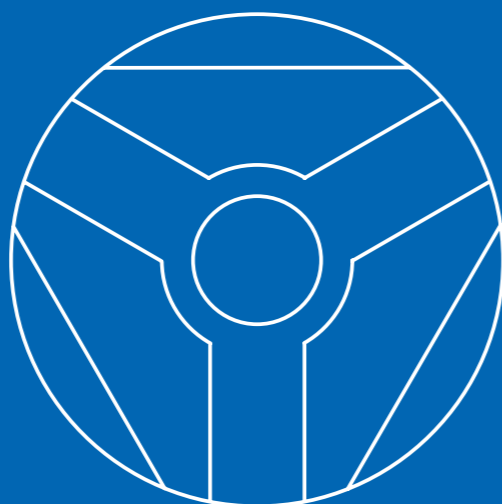
∅ 210 mm



∅ 254 mm



∅ 315 mm



∅ 400 mm

Size/Outer diameter	110	135	165	210	254	254	315	315	400	400
Jaw stroke mm	3,2	3,2	3,5	4,5	5,5	5,5	6,2	6,2	7,5	7,5
Piston stroke mm	12	12	13	17	20,5	20,5	23	23	28	28
Through-hole mm	27	34	46	54	79	79	98,5	98,5	133	133
Connection thread mm	M34x1,5	M38x1,5	M54x1,5	M74x1,5	M94x1,5	M94x1,5	M114x2	M114x2	M148x2	M148x2
Max. actuation force kN	17	25	30	38	53	53	62	62	90	90
Max total clamping force kN	48	70	86	110	150	150	180	180	250	250
Max. perm. speed per min. <sup>-1</sup>	8500	8000	8000	6500	5000	5000	4200	4200	3150	3150
Moment of inertia J kgm <sup>2</sup>	0,007	0,018	0,04	0,12	0,3	0,3	0,82	0,82	2,5	2,5

## Cylindrical center mount

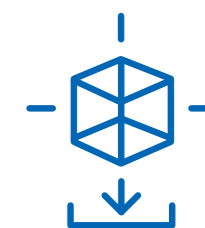
Chuck height mm	78	88	97	107	121	123,5	132,5	137	159,5	159,5
Weight without top jaws approx. kg	4,3	6,9	11,5	19,6	33	33	56,8	56,8	108,6	108,6
Spindle connection mm	ZA 60	Z 115	ZA 140	ZA 170	ZA 170	ZA 220	ZA 220	ZA 300	ZA 380	ZA 380
Ident# Fine serration 90°	183700	183701	183702	183703	183704	183705	183706	183707	-	-
Ident# Fine serration 3/32x90°	-	-	-	-	-	-	-	-	183708	-
Ident# Fine serration 60°	183722	183723	183724	183725	183726	183727	183728	183729	183730	-
Ident# Fine serration 3x60°	-	-	-	-	-	-	-	-	-	183731

## Short taper mount

Chuck height mm	84	92	105	112	136,5	134,5	146,5	147,5	174	174
Weight without top jaws approx. kg	4,5	7,5	12,9	20,9	35,6	36,7	60,8	62,6	116,6	116,6
Spindle connection DIN ISO 702-1	KK 4	KK 4	KK 5	KK 6	KK 6	KK 8	KK 8	KK 11	KK 15	KK 15
Ident# Fine serration 90°	183711	183712	183713	183714	183715	183716	183717	183718	-	-
Ident# Fine serration 3/32x90°	-	-	-	-	-	-	-	-	183719	-
Ident# Fine serration 60°	183734	183735	183736	183737	183738	183739	183740	183741	183742	-
Ident# Fine serration 3x60°	-	-	-	-	-	-	-	-	-	183743

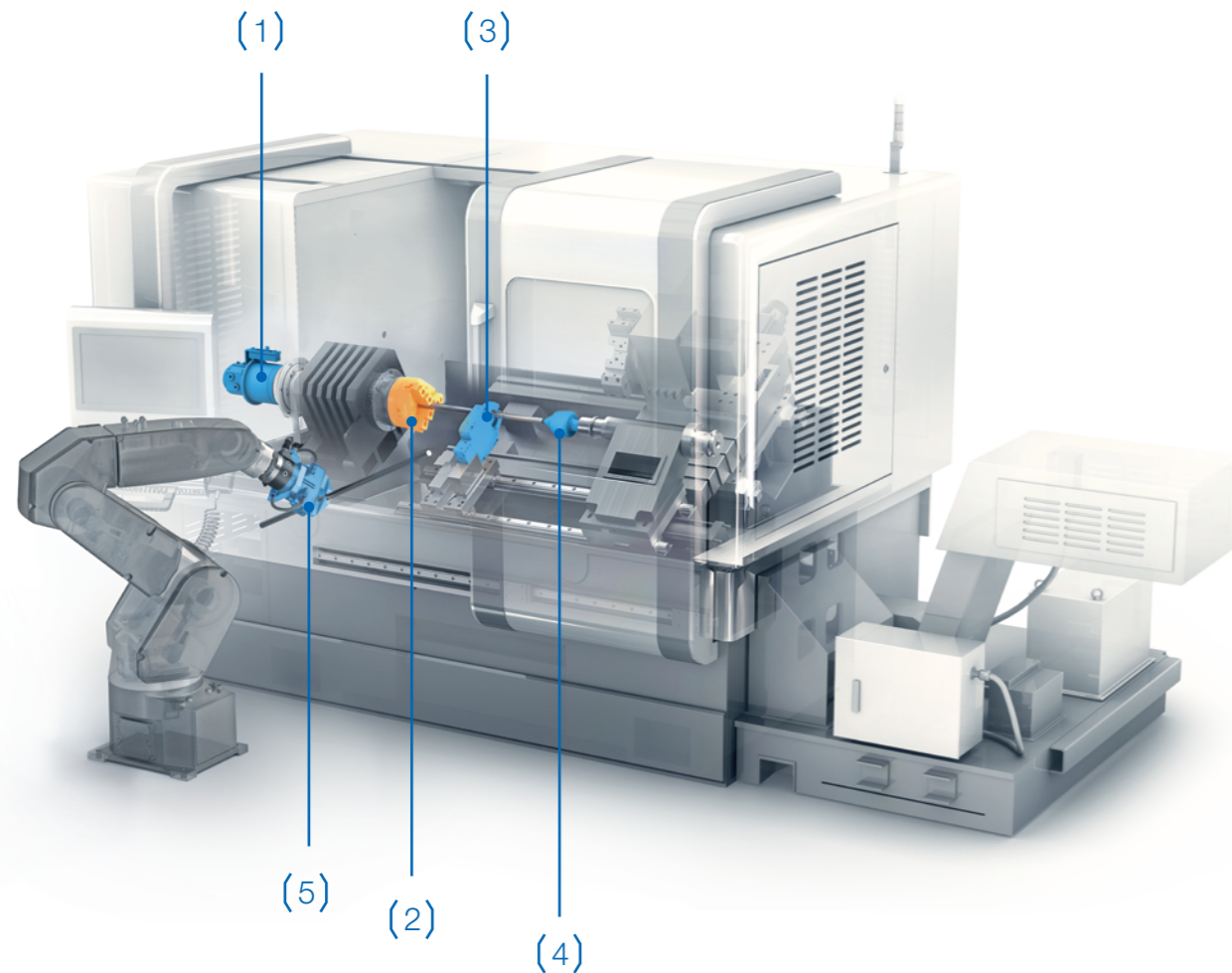
CAD data for the Duro-A  
you will find under

[www.roehm.biz/Duro-A](http://www.roehm.biz/Duro-A)



## YOU NEED THE WHOLE SYSTEM...

The Duro-A lathe chuck is an essential element when clamping on your machine tool. But precise clamping may require other components. We have the complete system for this.



(1)



... to automatically clamp power chucks. There are hydraulic clamping cylinders with and without through-holes from Röhm for this.

(2)



... to clamp workpieces properly with the Duro-A power chuck. Röhm offers an extensive range of top jaws for this.

(3)



... to support long, turned parts for maximum accuracy. There are self-centering steady rests from Röhm for this.

(4)



... to center long turned parts on the opposite side. There are live centers from Röhm for this.

(5)



... for automated manufacturing. There is also an extensive selection of grippers from Röhm for assembly and loading robots.



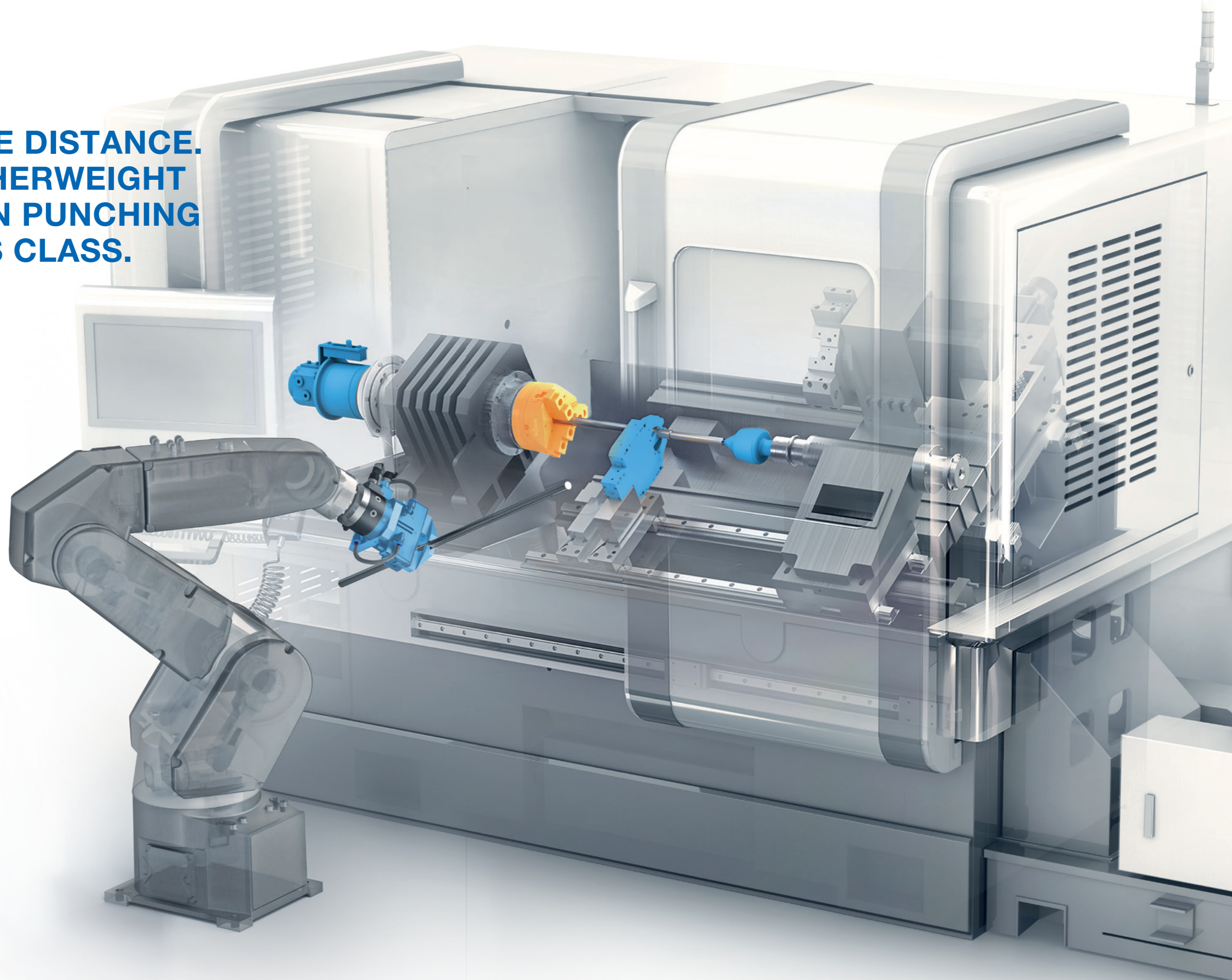
... to not only realize high clamping forces but measure them as well. There is the Röhm F-Senso Chuck for this. Simply clamp it in the lathe chuck. Measure the clamping force. Finished.



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

[eshop247.roehm.biz](https://eshop247.roehm.biz)

**GOING THE DISTANCE.  
THE FEATHERWEIGHT  
CHAMPION PUNCHING  
ABOVE ITS CLASS.**



# PERHAPS YOU NEED SOMETHING A BIT DIFFERENT ...

No question, with the Duro-A we have developed a power chuck that gets the best out of 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 Röhmm have the right clamping solution. That's a promise.

... because you have flexible production with greatly changing part geometries. There is the Duro-A RC from Röhmm for this. This automatic lathe chuck from the Duro family is equipped with a quick jaw-change system. All three jaws can be moved, turned, or changed in less than 60 seconds.



... because you need particularly large through-holes. There is the Duro-A Plus chuck from Röhmm for this.

Diameter	110	140	175	200	250	315	400
Through-hole	26	37	56	66	86	115	172



... because you have high volumes. There are mandrels from Röhmm for this for internal clamping and collets with chucks for external clamping. They are used for clamping diameters with very similar geometries.



... because you have thin geometries that you would like to machine right up to the end. There are face drivers from Röhmm for this. Together with a center on the tailstock side, they clamp the blank only at the end faces.

