



FACE DRIVER CoAE.
FROM RÖHM.



**IT CAN DO (ALMOST) ANYTHING*.
OF COURSE! IT'S FROM RÖHM.**

*TURNING AND MILLING



THE CoAE. FROM RÖHM.

The CoAE is a face driver that is manually clamped in a turning machine. It is mainly used for turning over the entire length. The components are clamped on the face side. In addition, milling can be carried out in the same clamping process. It scores points with constant clamping force even with an uneven end face or large deviations from the orthogonality. The mount has no radial play. Due to the modular construction, it is possible to use different centers as well as different driver discs with a single face driver and that way machine a great variety of geometries. The CoAE can be used with both clockwise and counter-clockwise rotation.

The CoAE replaces Röhm face drivers CoA as well as CoE. It combines the benefits of both face drivers in one.

FOR WHOM

Manual machining equipment
(CoK variant for automatic machining equipment)

FOR WHAT

Turning and milling of rotationally symmetric geometries over the entire length

WHY

- Concentricity of up to 0.01 mm
- Up to 8 kN axial loading
- Up to 350 kg workpiece weight
- Sensitive, axially-adjustable spring assembly for adaptation of the centering force
- No radial play

HOW MANY

- It is possible to machine a multitude of geometries within one size with one body

YOUR SHORTCUT TO INCREASED PRODUCTIVITY

Complete OD turning over the entire length

Experienced lathe operators recommend 'turning between centers' for machining a turned part over the entire length. But if the cutting force should be somewhat higher, then just one center is soon not enough for the torque to be transferred. Now a face driver on the side of the main spindle comes into play. Its teeth (2) press into the material on the front face of the workpiece (4) and that way transfer the torque. That's where the name 'face driver' comes from: the workpiece is driven on the face side. The CoAE face driver (1) has an integrated center (3) to guide the workpiece. The CoAE can be loaded axially by up to 8 kN in order to transfer sufficient torque. The force for this comes from the tailstock, which transfers it via a live center (5). Here, we recommend using a center with force measurement such as the Röhm Control center.



Here, we recommend using a center with integrated force measurement on the tailstock side, such as the Röhm Control center.

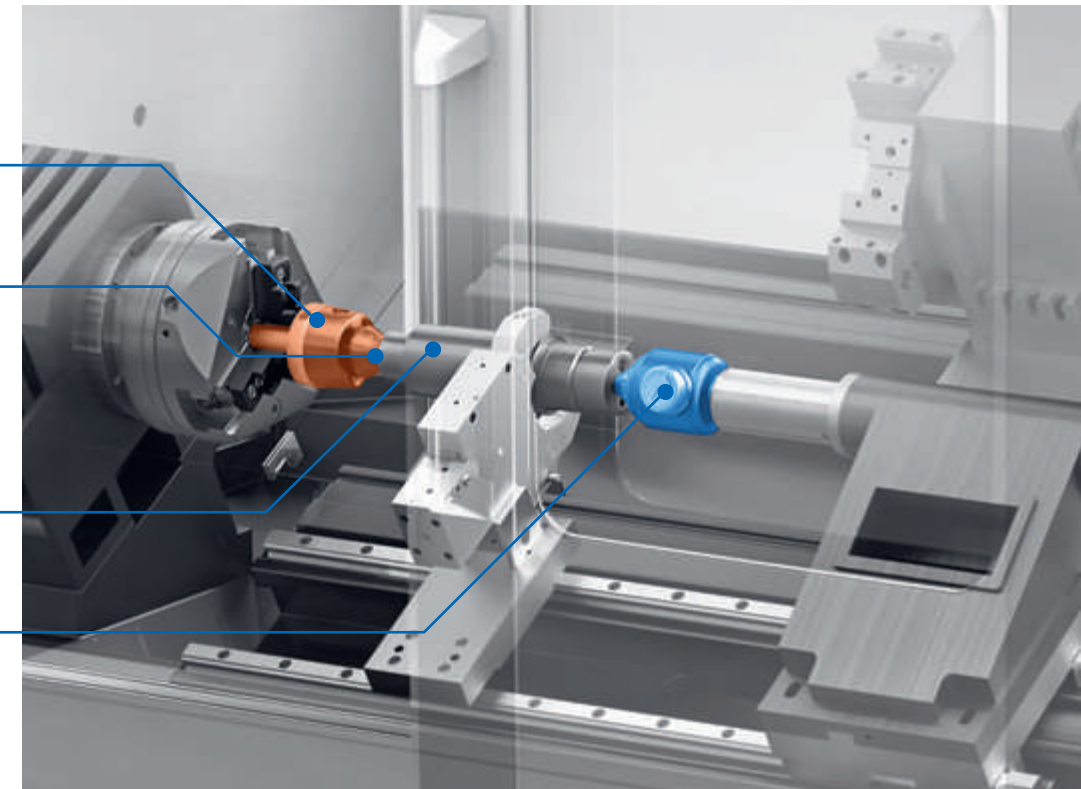
(1) Body of the face driver

(2) Replaceable driver disc

(3) Replaceable center

(4) Workpiece

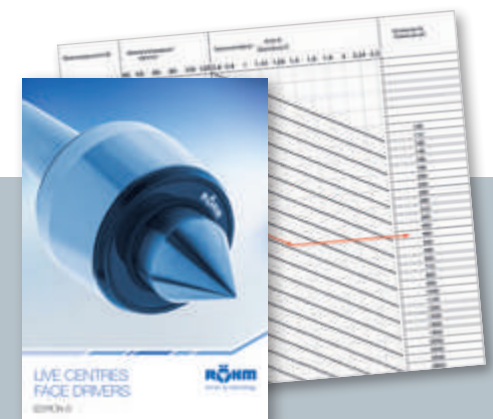
(5) Live center



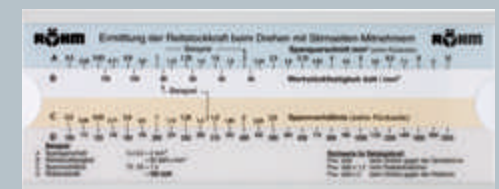
The CoAE is always used when rotationally-symmetric parts are to be machined along the entire length, or the surface does not allow any impressions of the clamping device, or if subsequently cutting off the clamping is not possible for reasons of accuracy, or reclamping is not expedient – whether for financial reasons (tooling costs) or in order to not damage the surface.

Typical applications:

- drive shafts
- gear shafts
- camshafts
- rotor shafts
- crankshafts



The correct axial force can be determined easily based on the clamping force charts. You can find them in the Röhm catalogue or in the internet at www.roehm.biz.



The axial force can be determined even easier with the Röhm slide rule.

NO RADIAL PLAY

For turning and milling in one clamping process

The driver disc is supported on one level made of three bolt heads. The bolts transfer the torque to the driver disc. This happens without any play due to the design of the bolt heads and pockets on the bottom of the driver disc. As a result, you can also machine the workpiece clamped in the CoAE with the milling spindle at any time. The workpiece remains. For the highest precision.

HYDRAULIC BOLT MOUNTING¹

For uneven end faces and deviations in the orthogonality

What does the driver disc do if the end face is not completely perpendicular to the axis of rotation? And, what do you do if the end face is not completely flat? Nothing. More specifically, it doesn't make any difference. The driver disc is supported on one level made of three rounded bolt heads. They are hydraulically mounted and can be moved axially. What's the benefit? The driver plate always adapts to the position of the end face of the workpiece. The bolts shift against each other and support the disc in exactly this position.

¹ Excluded: CoAE with short taper mount – compensation is mechanical here. The supporting bolts are supported via a movable disc.

HOW CAN YOU MOUNT THE CoAE ON THE MAIN SPINDLE?

For different connection possibilities

There are different types of mounts for the CoAE:

1. With a morse taper – when working with higher forces, we recommend the configuration with an additional draw-off nut in order to easily remove the face driver from the mount after use.



here are matching mounting sleeves to clamp the CoAE with morse taper in a chuck.

2. With a cylinder shank – with it, the face driver can be clamped directly in a lathe chuck that is already mounted on the machine. This saves removing the chuck.

3. With short taper ISO 702-1 (DIN55026)



„The CoAE with a short taper can also be clamped in a three-jaw chuck to be incorporated in the machine. A corresponding centering shoulder is provided for this.“

4. With a center mount



There is a matching mounting flange (these are identical to the ones for the CoK-AE) to clamp the CoAE with a center mount in a spindle with short taper mount.



THE CoK-AE FACE DRIVER

For power-operated, automatic clamping

There is the CoK-AE face driver for power-operated, automatic clamping on CNC machine tools or turning/milling centers.

It was developed especially for clamping heavy workpieces up to 350 kg. In the process, the CoK-AE was designed so that the axial force is initiated via the actuation cylinder of the processing machine.

Like with the CoAE with short taper mount, compensation of uneven end faces is handled mechanically. A Röhmm cylinder of type OVS, for example, is suitable for actuation. There are matching mounting flanges with short taper for mounting a single CoK-AE body on different cylinder sizes.

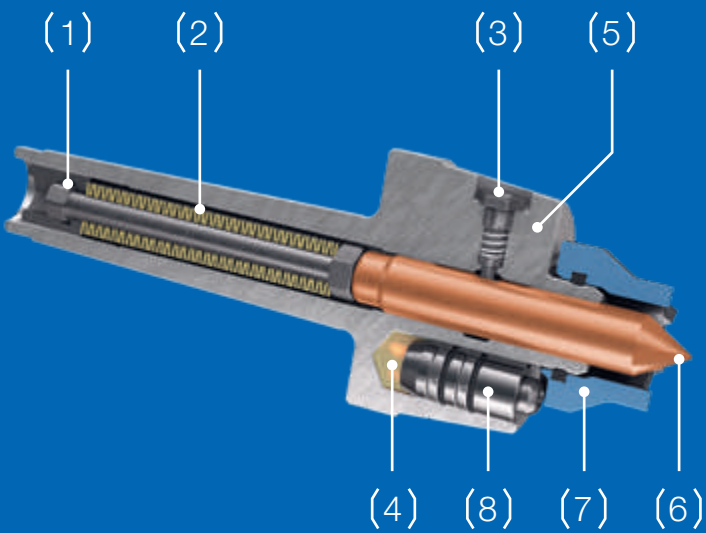


The power operation can be handled by a hydraulic cylinder from Röhmm of the type OVS, for example. We would be happy to offer you the matching tie rods to go with the cylinder, on request.



The mounting flange for cylinders with short taper is available in taper sizes 5, 6, 8, and 11. The threaded connection is available in sizes ISO 702-1 (DIN55026, threaded connection), 701-2 (DIN55029, camlock) and 702-3 (studs with nuts). The flanges also fit on the CoAE with center mount.

TECHNOLOGY



- (1) Set screw
- (2) Spring assembly
- (3) Locking device
- (4) Hydraulic reservoir
- (5) Body
- (6) Center
- (7) Driver disc
- (8) Bolts

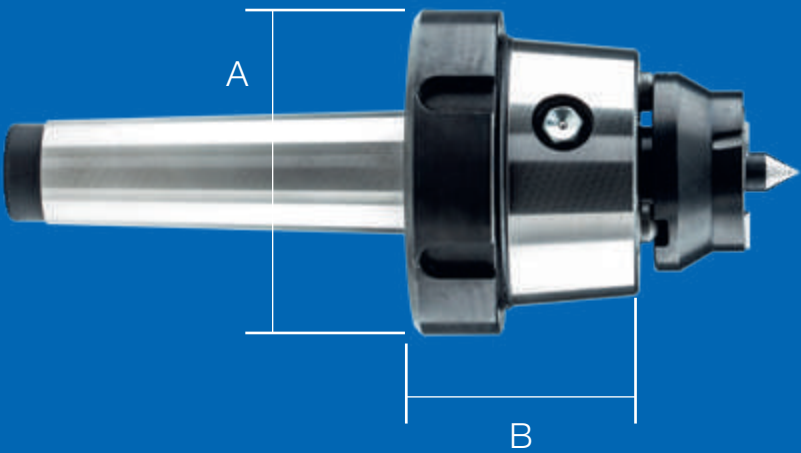
HOW THE CoAE FROM RÖHM WORKS

The body (5) made of steel accommodates the components of the CoAE and protects them. It is made of one piece and ensures precision during machining due to its high inherent stiffness. The workpiece is centered via exchangeable centers (6). A locking device (3) ensures a firm hold in the body. The center is supported axially with a spring assembly (2), with preloading that can be set via a set screw (1). The workpiece is clamped via easily exchangeable driver discs (7), which are snapped on the body of the CoAE. The actual torque transmission from the body

to the driver disc is handled by three bolts (8). They can be moved axially and are connected to each other hydraulically (4). That way, they can compensate for skewing of the driver disc caused by uneven or non-perpendicular end face of the workpiece.

The body is connected to the machine tool via morse taper, center mount, cylindrical mount or short taper.

For the variant with short taper, the bolts are mounted mechanically (instead of hydraulically).



Type of mount	MT3	Cylindrical Shank	Cylindrical Shank	MT4	MT5	MT6	ST5	Flange	Cylindrical Shank	ST6	ST8
A [mm]	70	N.A.	N.A.	70	70	70	133	142	85	165	210
B [mm]	54	56,5	N.A.	56,5	56,5	56,5	N.A.	30	N.A.	35	40
Stroke [mm]	10	15	15	15	15	15	15	15	15	15	15
Shank diameter	-	25	32	-	-	-	-	-	85	-	-
Flange diameter	-	-	-	-	-	-	-	100	-	-	-
Id.-No.	1340429	1341541	1341542	1340430	1340431	1340432	1340439	1340442	1340437	1340440	1340441

WITH DRAW-OFF NUT

Id.-No.	1340433	-	-	1340434	1340435	1340436	-	-	-	-	-
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CoK-AE

Stroke [mm]	-	-	-	-	-	-	-	5	-	-	-
Id.-No.	-	-	-	-	-	-	-	1340442	-	-	-

For further information about CoAE visit our website:

ROEHM.BIZ/COAE

EXCHANGEABLE DRIVER DISCS

For different geometries

The driver disc is simply snapped onto the body of the CoAE. That way, different driver discs can be used for various applications. One face driver for (almost) all cases.

If particularly high cutting forces are called for, driver discs lend themselves especially for clockwise or alternatively counter-clockwise rotation.

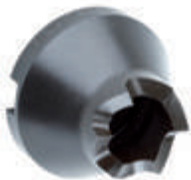
If the workpiece is hard (up to 40 HRC) so that the teeth of the driver disc cannot bite into the material

very well, there are driver discs with teeth designed with exchangeable hard metal driving plates. It goes without saying that the hard metal plates are also available from Röhmi.

The driver discs of the new CoAE fit on the current CoA (Please note: for technical reasons, this does not work the other way around. The old CoA and CoE driver discs do not fit on the new CoAE).

GOOD TO KNOW

DRIVER DISC, DIRECT TOOTHED, AS OF 8 MM CLAMPING CIRCLE DIAMETER, FOR MATERIALS UP TO 35 HRC



COUNTER-CLOCK-
WISE ROTATION
Picture shows Ø25



CLOCKWISE
ROTATION
Picture shows Ø20



COUNTER/CL
OCKWISE ROTATION
Picture shows Ø12

DRIVER DISC, WITH EXCHANGEABLE HARD METAL PLATES, AS OF 40 MM CLAMPING CIRCLE DIAMETER, FOR MATERIALS UP TO 40 HRC



COUNTER-CLOCK-
WISE ROTATION
Picture shows Ø63



CLOCKWISE
ROTATION
Picture shows Ø63



COUNTER/CL
OCKWISE ROTATION
Picture shows Ø63



HARD METAL DRIVER PLATES
for clockwise OR counter-clockwise
(left) rotation as well as clockwise AND
counter-clockwise (right)

EXCHANGEABLE CENTERS

For different geometries

The center point is simply plugged into the body of the CoAE and radially locked via a spring bolt. That way, it is possible to use different centers with various head geometries for numerous applications. One face driver really for (almost) all cases.

The centers are axially supported in the CoAE by springs. Here, uniform spring force ensures sensitive adjustment. The spring can be preloaded by means of a screw.



CENTER POINT
as of an 8 mm clamping diameter



CENTRING TAPER
as of a 21 mm taper diameter

MODULAR
USE



DRIVER DISC

Diameter [mm]	8	10	12	16	20	25	32	40	50	63	80
Driver disc counter-/clockwise rotation	1341603	1341604	1341605	1341606	1341607	1341608	1341609	-	-	-	-
Driver disc clockwise rotation	1341610	1341611	1341612	1341613	1341614	1341615	1341616	-	-	-	-
Driver disc counter-clockwise rotation	1341617	1341618	1341619	1341620	1341621	1341622	1341623	-	-	-	-
Driver disc counter-/clockwise rotation with hard metal driver plates (6x3,2 mm)	-	-	-	-	1341624	1341625	1341626	-	-	-	-
Driver disc clockwise rotation with hard metal driver plates (6x3,2 mm)	-	-	-	-	1341628	1341629	1341630	-	-	-	-
Driver disc counter-clockwise rotation with hard metal driver plates (6x3,2 mm)	-	-	-	-	1341631	1341632	1341633	-	-	-	-
Driver disc counter-/clockwise rotation with hard metal driver plates (9,5x3,2 mm)	-	-	-	-	-	-	-	1341627	1341635	1341636	1341637
Driver disc clockwise rotation with hard metal driver plates (9,5x3,2 mm)	-	-	-	-	-	-	-	1341638	1341639	1341640	1341641
Driver disc counter-clockwise rotation with hard metal driver plates (9,5x3,2 mm)	-	-	-	-	-	-	-	1341642	1341643	1341644	1341645

Body CoAE													
	Id.-No.	With draw-off nut											
MT3	1340429	1340433	x	x	x	x	x	x	x	x	x	x	x
Cylinder shank Ø 25	1341541	-	x	x	x	x	x	x	x	x	x	x	x
Cylinder shank Ø 32	1341542	-	x	x	x	x	x	x	x	x	x	x	x
MT4	1340430	1340434	x	x	x	x	x	x	x	x	x	x	x
MT5	1340431	1340435	x	x	x	x	x	x	x	x	x	x	x
MT6	1340432	1340436	x	x	x	x	x	x	x	x	x	x	x
Cylinder shank Ø 85	1340437	-	x	x	x	x	x	x	x	x	x	x	x
ST5	1340439	-	x	x	x	x	x	x	x	x	x	x	x
Flange	1340442	-	x	x	x	x	x	x	x	x	x	x	x
ST6	1340440	-	x	x	x	x	x	x	x	x	x	x	x
ST8	1340441	-	x	x	x	x	x	x	x	x	x	x	x
Body CoK-AE													
Flange	1340444	-	x	x	x	x	x	x	x	x	x	x	x

⊖ = Not compatible ⊗ = Compatible with Id.-No. ⊗ = Limited application

CENTRES COAE						
Circle diameter	8-10	12	16	20	25-80	25-80
Size	4	6	10	12	16	16
Id.-No.	1341941	1341942	1341943	1341944	1341945	1342112
Body CoAE						
MT3	x	x	x	x	x	x
Cylinder shank Ø 25	x	x	x	x	x	x
Cylinder shank Ø 32	x	x	x	x	x	x
MT4	x	x	x	x	x	x
MT5	x	x	x	x	x	x
MT6	x	x	x	x	x	x
Cylinder shank Ø 85	x	x	x	x	x	x
ST5	x	x	x	x	x	x
Flange	x	x	x	x	x	x
ST6	x	x	x	x	x	x
ST8	x	x	x	x	x	x

CENTRES COK-AE					
Circle diameter	8-10	12	16	20	40-80
Size	4	6	10	12	14x1,5
Id.-No.	88121	88122	88123	88124	85002
Body CoK-AE					
Flange	x	x	x	x	x

CENTRING TAPER						
Taper diameter	21	27	34	40	48	56
Id.-No.	1341946	1341947	1341948	1341949	1341950	1341951
Body CoAE						
MT3	x	x	x	x	x	x
Cylinder shank Ø 25	x	x	x	x	x	x
Cylinder shank Ø 32	x	x	x	x	x	x
MT4	x	x	x	x	x	x
MT5	x	x	x	x	x	x
MT6	x	x	x	x	x	x
Cylinder shank Ø 85	x	x	x	x	x	x
ST5	x	x	x	x	x	x
Flange	x	x	x	x	x	x
ST6	x	x	x	x	x	x
ST8	x	x	x	x	x	x

MOUNTING SLEEVES				
MT (inside)	3	4	5	6
Id.-No.	85033	85034	85035	85036
Body CoAE				
MT3	x	-	-	-
Cylinder shank Ø 25	-	-	-	-
Cylinder shank Ø 32	-	-	-	-
MT4	-	x	-	-
MT5	-	-	x	-
MT6	-	-	-	x
Cylinder shank Ø 85	-	-	-	-
ST5	-	-	-	-
Flange	-	-	-	-
ST6	-	-	-	-
ST8	-	-	-	-

FLANGE					
MORSE TAPER		5	6	8	11
Id.-No.	ISO-702-1	88485	88486	88487	88488
Id.-No.	ISO-702-3	88480	88481	88482	88483
Id.-No.	ISO-702-2	88495	88496	88497	88498
Body CoAE					
MT3		-	-	-	-
Cylinder shank Ø 25		-	-	-	-
Cylinder shank Ø 32		-	-	-	-
MT4		-	-	-	-
MT5		-	-	-	-
MT6		-	-	-	-
Cylinder shank Ø 85		-	-	-	-
ST5		-	-	-	-
Flange		x	x	x	x
ST6		-	-	-	-
ST8		-	-	-	-
Body CoK-AE					
Flange		x	x	x	x

 = Not compatible  = Compatible with Id.-No.  = Limited application

 INTERCHANGEABLE DRIVING DISCS												
Diameter [mm]	Id.-No.	8	10	12	16	20	25	32	40	50	63	80
Driving disc counter-/clockwise rotation		1341603	1341604	1341605	1341606	1341607	1341608	1341609	-	-	-	-
Driving disc clockwise rotation		1341610	1341611	1341612	1341613	1341614	1341615	1341616	-	-	-	-
Driving disc counter-clockwise rotation		1341617	1341618	1341619	1341620	1341621	1341622	1341623	-	-	-	-
Driving disc with interchangeable carbide driving plates counter-/clockwise rotation (9,5x3,2mm)		-	-	-	-	-	-	-	1341627	1341635	1341636	1341637
Driving disc with interchangeable carbide driving plates clockwise rotation (9,5x3,2mm)		-	-	-	-	-	-	-	1341638	1341639	1341640	1341641
Driving disc with interchangeable carbide driving plates counter-clockwise rotation (9,5x3,2mm)		-	-	-	-	-	-	-	1341642	1341643	1341644	1341645
Centres CoAE												
Ø4	1341941	x	x	-	-	-	-	-	-	-	-	-
Ø6	1341942	-	-	x	-	-	-	-	-	-	-	-
Ø10	1341943	-	-	-	x	-	-	-	-	-	-	-
Ø12	1341944	-	-	-	-	x	-	-	-	-	-	-
Ø16	1341945	-	-	-	-	-	x	x	x	x	x	x
Ø16	1342112	-	-	-	-	-	x	x	x	x	x	x
Centres CoK-AE												
Ø4	88121	x	x	-	-	-	-	-	-	-	-	-
Ø6	88122	-	-	x	-	-	-	-	-	-	-	-
Ø10	88123	-	-	-	x	-	-	-	-	-	-	-
Ø12	88124	-	-	-	-	x	x	x	-	-	-	-
M14x1,5	85002	-	-	-	-	-	-	-	x	x	x	x
Taper												
21	1341946	-	-	-	-	-	-	-	-	x	x	x
27	1341947	-	-	-	-	-	-	-	-	-	x	x
34	1341948	-	-	-	-	-	-	-	-	-	x	x
40	1341949	-	-	-	-	-	-	-	-	-	x	x
48	1341950	-	-	-	-	-	-	-	-	-	-	x
56	1341951	-	-	-	-	-	-	-	-	-	-	x

 DRIVING DISCS												
Diameter [mm]	Id.-No.	8	10	12	16	20	25	32	40	50	63	80
Driving disc counter-/clockwise rotation with interchangeable carbide driving plates (6x3,2mm)		-	-	-	-	1341624	1341625	1341626	-	-	-	-
Driving disc clockwise rotation with interchangeable carbide driving plates (6x3,2mm)		-	-	-	-	1341628	1341629	1341630	-	-	-	-
Driving disc counter-/clockwise rotation with interchangeable carbide driving plates (6x3,2mm)		-	-	-	-	1341631	1341632	1341633	-	-	-	-
Centres CoAE												
Ø4	1341941	-	-	-	-	x	(x)	(x)	-	-	-	-
Ø6	1341942	-	-	-	-	x	(x)	(x)	-	-	-	-
Ø10	1341943	-	-	-	-	-	x	x	-	-	-	-
Ø12	1341944	-	-	-	-	-	-	x	-	-	-	-
Ø16	1341945	-	-	-	-	-	-	x	-	-	-	-
Ø16	1342112	-	-	-	-	-	-	x	-	-	-	-
Centres CoK-AE												
Ø4	88121	-	-	-	-	x	(x)	(x)	-	-	-	-
Ø6	88122	-	-	-	-	x	(x)	(x)	-	-	-	-
Ø10	88123	-	-	-	-	-	x	x	-	-	-	-
Ø12	88124	-	-	-	-	-	-	x	-	-	-	-
M14x1,5	85002	-	-	-	-	-	-	x	-	-	-	-

 = Not compatible  = Compatible with Id.-No.  = Limited application



LIVE CENTRES (TYPE: RÖHM CONTROL)					
MT		3	4	5	6
Id.-No.	Standard design	60798	60874	60906	60915
Id.-No.	with profiled centre point	79920	79921	79922	1341944
Body CoAE					
MT3		x	-	-	-
Cylinder shank Ø 25		x	x	x	x
Cylinder shank Ø 32		x	x	x	x
MT4		-	x	-	-
MT5		-	-	x	-
MT6		-	-	-	x
Cylinder shank Ø 85		x	x	x	x
ST5		x	x	x	x
Flange		x	x	x	x
ST6		x	x	x	x
ST8		x	x	x	x

ASSORTMENT TO GET STARTED IMMEDIATELY

Basic assortment (in the box)



consisting of 1x base body,
2x driver discs
(clamping diameter 12, 32),
2x center points (centering Ø 6, 16)

Direction of rotation	Draw-off nut	MT3	MT4	MT5	MT6	Cylinder Shank 25	Cylinder Shank 32
Right	none	1341543	1341547	1341551	1341555	1341559	1341561
Right	with	1341544	1341548	1341552	1341556		
Left	none	1341545	1341549	1341553	1341557	1341560	1341562
Left	with	1341546	1341550	1341554	1341558		

Small assortment (in the wooden box)



consisting of 1x base body,
4x driving plates
(clamping diameter 12, 20, 32, 50),
2x center points (centering Ø 6, 12)

Direction of rotation	Draw-off nut	MT3	MT4	MT5	MT6	Cylinder Shank 25	Cylinder Shank 32
Right	none	1341563	1341567	1341571	1341575	1341579	1341581
Right	with	1341564	1341568	1341572	1341576		
Left	none	1341565	1341569	1341573	1341577	1341580	1341582
Left	with	1341566	1341570	1341574	1341578		
Left and right	none	1381611	1381612	1381613	1381614	1381609	1381610
Left and right	with	1382283	1382284	1382285	1382286		

Large assortment (in the wooden box)

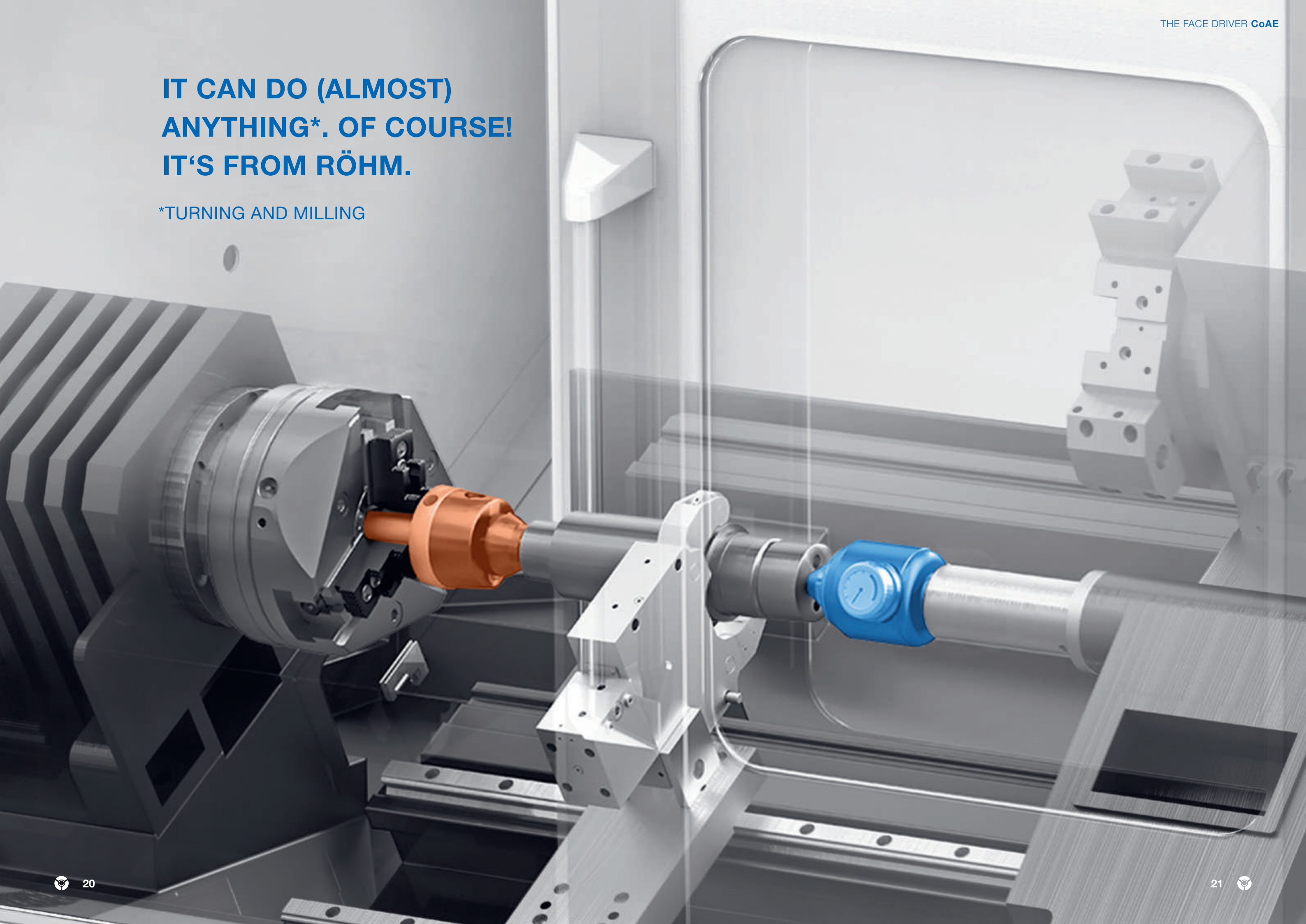


consisting of 1x base body,
10x driving plates
(clamping diameter 10, 12, 16, 20, 25),
32, 40, 50, 63, 80),
5x center points
(centering Ø 4, 6, 10, 12, 16),
1x axial force slide rule

Direction of rotation	Draw-off nut	MT3	MT4	MT5	MT6	Cylinder Shank 25	Cylinder Shank 32
Right	none	1341583	1341587	1341591	1341595	1341599	1341601
Right	with	1341584	1341588	1341592	1341596		
Left	none	1341585	1341589	1341593	1341597	1341600	1341602
Left	with	1341586	1341590	1341594	1341598		
Left and right	none	1381617	1381618	1381619	1381620	1381615	1381616
Left and right	with	1382287	1382288	1382289	1382290		

**IT CAN DO (ALMOST)
ANYTHING*. OF COURSE!
IT'S FROM RÖHM.**

*TURNING AND MILLING



YOU NEED THE WHOLE SYSTEM ...

The CoAE face driver is an essential element when clamping on your machine tool. However, precision clamping can still call for other components – in any case a matching center when clamping with face drivers. We have the complete system for this.

(1)



... to clamp face drivers with a cylindrical mount. There are manually-operated chucks from Röhm for this.

(2)



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

(3)



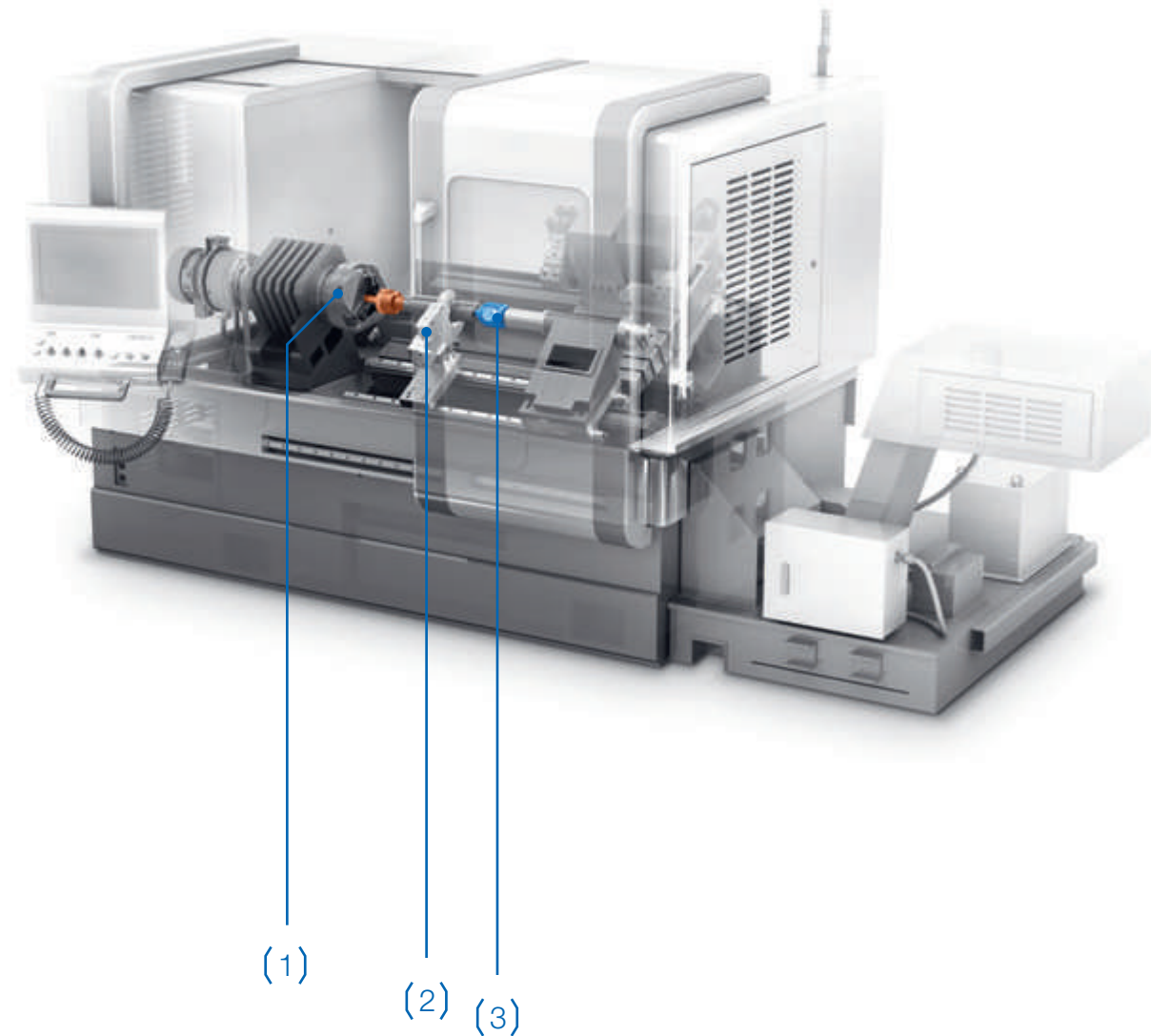
... to clamp on the opposite side with a center.



... to clamp tools for milling. There are HSK and SK clamping sets from Röhm for this.



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



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

eshop247.roehm.biz

PERHAPS YOU NEED SOMETHING A BIT DIFFERENT ...

No question about it: We have been setting standards for years with our face drivers, and the new CoAE will set the bar even higher. 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 Rohm have the right clamping solution. That's a promise.

... because you don't want to machine your parts over the entire length, or because you will simply cut off the clamped end after machining. There is the DURO-T chuck, for example, from Röhm for this. This manual chuck is equipped with a quick jaw change system.



... because you don't want to machine your parts over the entire length, but don't want to damage the surface when clamping. There are collets with chucks for external clamping for this from Röhm.



... because you would like to turn between centers but don't want to transfer any torque that is too high. There is a broad selection of centers for this from Röhm.

