AKon
WERKZEUGE

Self-manufactured Tools

AKON
WERKZEUGE

1940

The company "Adolf Kober Werkzeug-Masch inenbauteil e " is set up in Ostfildern-Nellingen as a "one-man brand".

1965

The company specializes in the production of die and tap holders. The AKON brand is born.

1990

Once Roland Kober obtains his Master Craftsman's Certificate in 1987, there is nothing stopping him taking over the reins on 1 January 1990. With 2 employees, the small company from Nellingen starts taking orders from all over the world.

OUR PRODUCTS

As a pioneer manufacturer of die and tap holders, we offer a wide range of products of highest quality.

Our products include die and tap holders, lathe mandrels with adjustable torque coupling (clutch grip), short die holders with 1/2“ square drive for recutting damaged threads, die holders for cutting/ recutting threads using a hand or cordless drill, and die holders for cutting threads on a drill press as well as on a CNC machine.

In addition, we are producer of Rubometric type D self-opening die heads and their chasers in all common sizes and slide hammer sets for easy removal of pins, wedge bars, pulleys, etc.

The advantages of our products are a cost-saving production and an accelerated manufacturing process..

1998

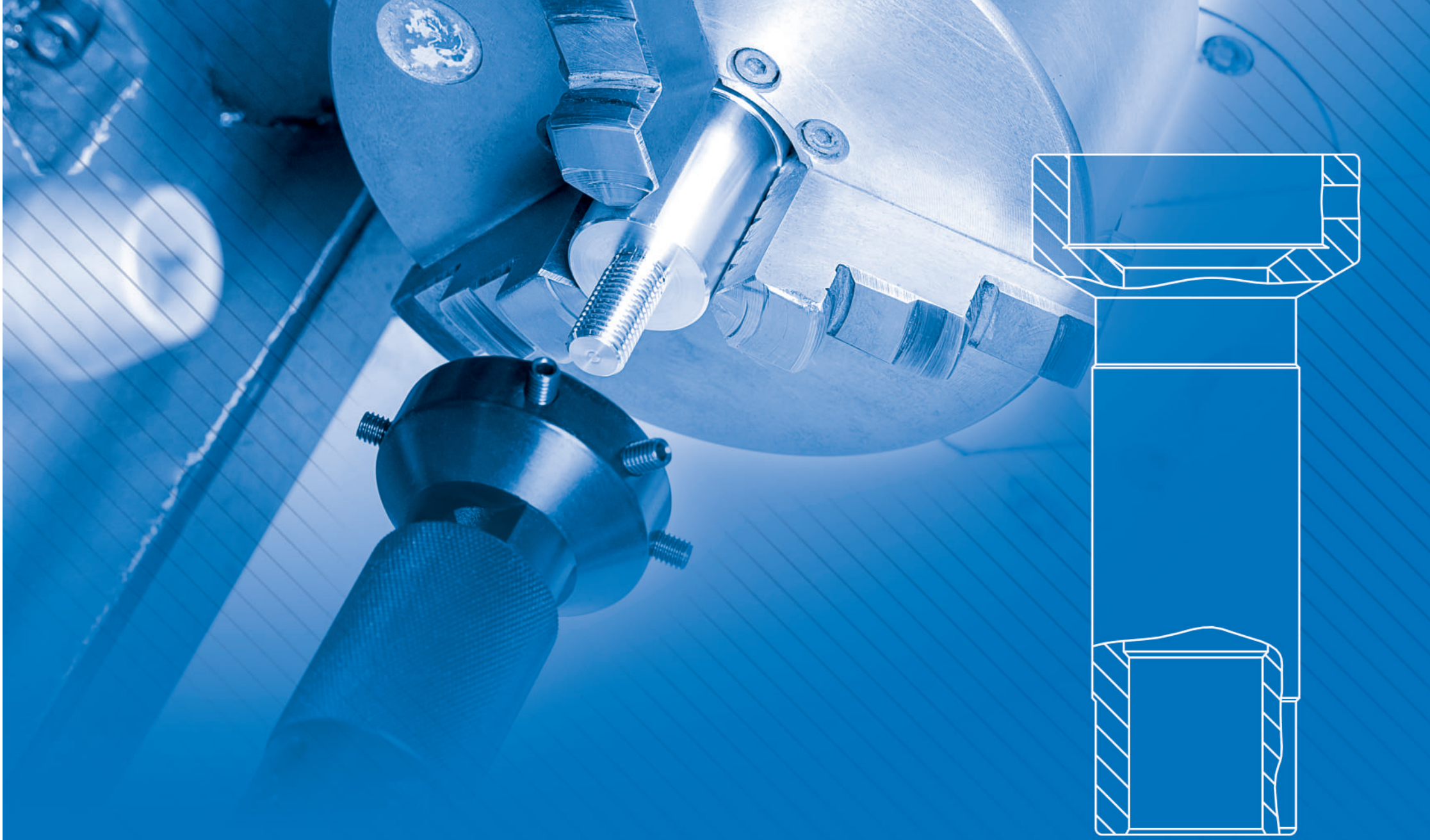
Production expands to include die heads under the Raster & Bosch name. The company takes over the Rubometric range and expands and enhances the production of chasers.

2014

As the company has always produced parts under contract from time to time, even when it was still Adolf Kober Maschinenbauteile, this segment is developed into a second pillar and on 1 February 2014, the company takes over the contract manufacturer CNC Ristau eK in Sindelfingen. The workforce it inherits allows it to serve major clients in the contract manufacturing sector. At the end of the year, the entire company headquarters moves from Ostfildern to Sindelfingen.

2019

After Immanuel Kober completes his bachelor‘s degree in mechanical engineering, he joins the family business and takes over AKON Werkzeuge GmbH on October 1, 2019.



PRODUCT OVERVIEW

AKon WERKZEUGE

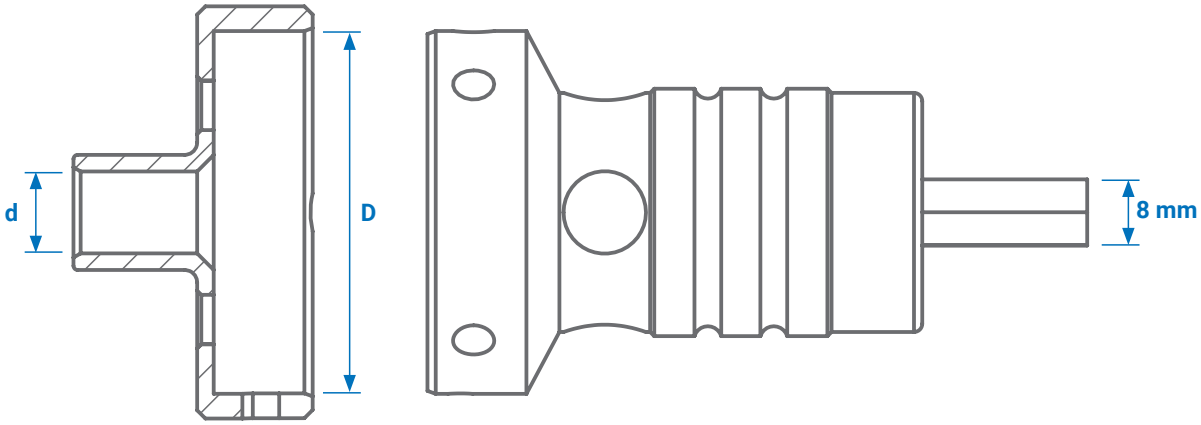
1. DIE HOLDERS FOR HAND AND CORDLESS DRILLS

This holder enables cutting and recutting of external threads using hand or cordless drills. The holder can be directly attached to the drill and is therefore immediately ready for use. The blue guide attachment facilitates cutting perfectly straight new threads. The metric thread sizes that can be cut include M4 - M10. A matching guide attachment for every thread size is available.

Advantages

- **Quick and easy cutting of threads**
- **The guide attachment enables straight cutting of new threads**
- **High flexibility thanks to easy transportation of hand/ cordless drills**
- **Increased productivity due to their functionality**

1. DIE HOLDERS FOR HAND AND CORDLESS DRILLS

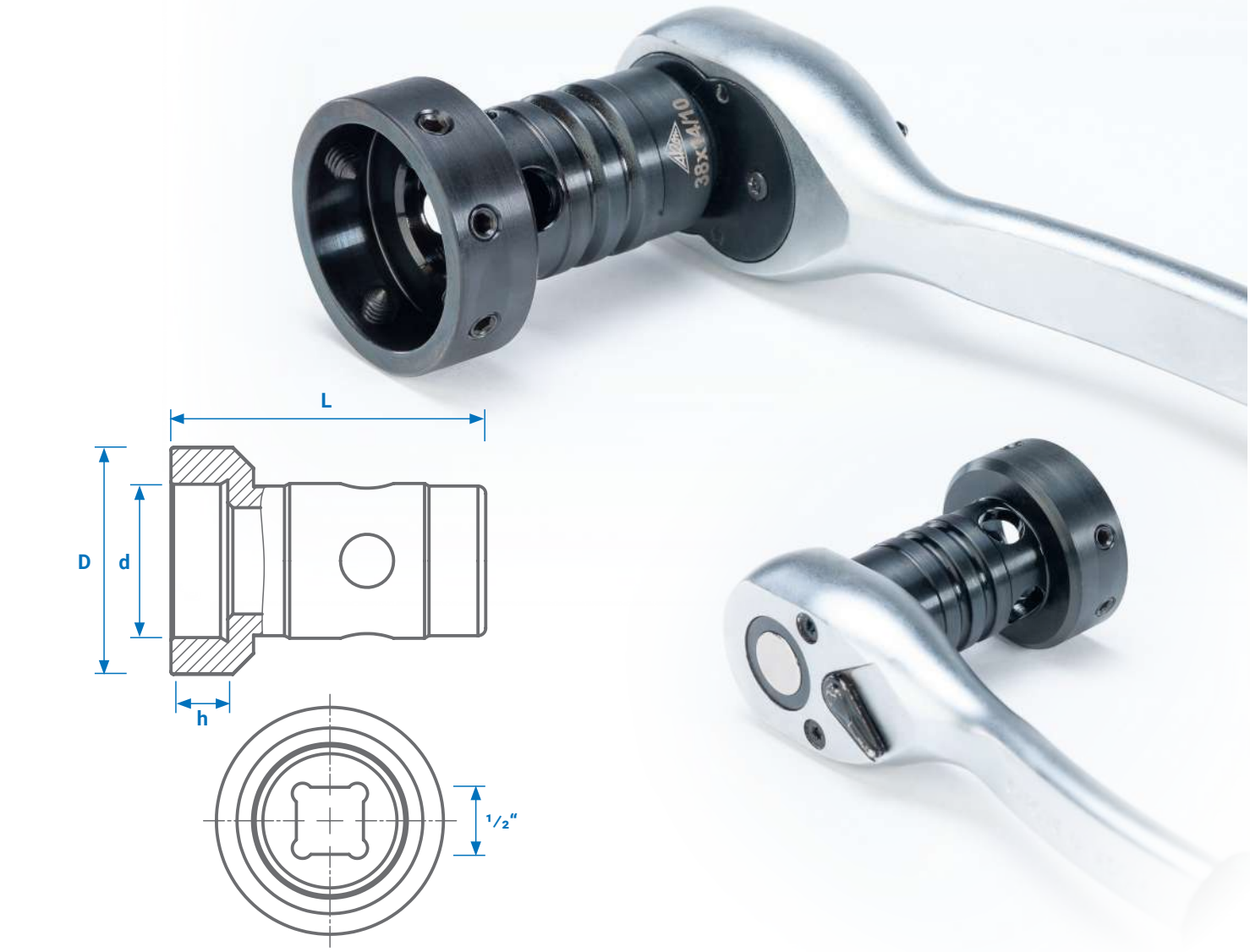


Part No.	Description	Dimensions (mm)		Thread size to be cut ISO metric coarse thread size - DIN 13
		D	d	
800410	Holder set			M4 - M10
802007	Holder 20x7/5	31	4 - 6	M4 - M6
802509	Holder 25x9	39	8	M8
803011	Holder 30x11	44	10	M10
803814	Holder 38x14/10			M12

Part No. 803814 is only recommended for recutting of threads.
Maximum thread length is 40 mm.

2. SHORT 1/2“ SQUARE DRIVE DIE HOLDERS

Our AKON short holders for dies acc. DIN 223/ EN 22568 were developed specially for recutting damaged external threads in all types of vehicles, on construction sites, for use by plumbers, etc. The ½ inch drive is designed for all common socket wrench sets.



The ratchet is not included in the scope of supply.

Part No.	Holder dimensions (mm)				Square drive size	For die OD and height (mm)	Maximum thread length (mm)
	D	L	d	h			
602007	30	55	20	7	1/2”	20 x 7	40
602509	35	58	25	9	1/2”	25 x 9	40
603011	40	60	30	11	1/2”	30 x 11	40
603814	48	62	38	14	1/2”	38 x 14	45
604518	60	68	45	18	1/2”	45 x 18	50
605522	70	80	55	22	1/2”	55 x 22	65

3. SLIDE HAMMER SET

Application

For easy removal of cylindrical and conical pins, wedge bars, pulleys and more.

Design

Interchangeable bits in sizes M3, M4, M5, M6, M8, and M10, fastened to the ring holder for safe storage, a slide hammer bar, and an extension bar, all made of hardened, burnished industrial quality steel.

Advantages

The bits are available in the most common sizes and therefore suitable for a wide range of applications. The extension bar allows the slide hammer bar to extend up to 356 mm, allowing for maximum power transmission. Even pins in hard to reach or deep locations become easy to reach thanks to the possible total length (356 mm).

- **High tensile strength owing to the contoured fine thread connections**
- **Complete set with sturdy design and a firm stand**
- **Comes in a convenient storage box**

Part No.	Consisting of
900310	Slide hammer driver
	Slide hammer bar (220 mm)
	Extension bar (136 mm)
	Ring holder together with 6 bits in sizes M3, M4, M5, M6, M8, & M10


M6

Arbor

WERKZEUGE

4.1 For external threads w/ quick change system: Holders for dies (DIN 223 / EN 22568)

For use on lathes, CNC machines or drill presses

Our new AKON die holders with quick change system enable problem-free and exact threading. Place the die in the threading attachment and get started.

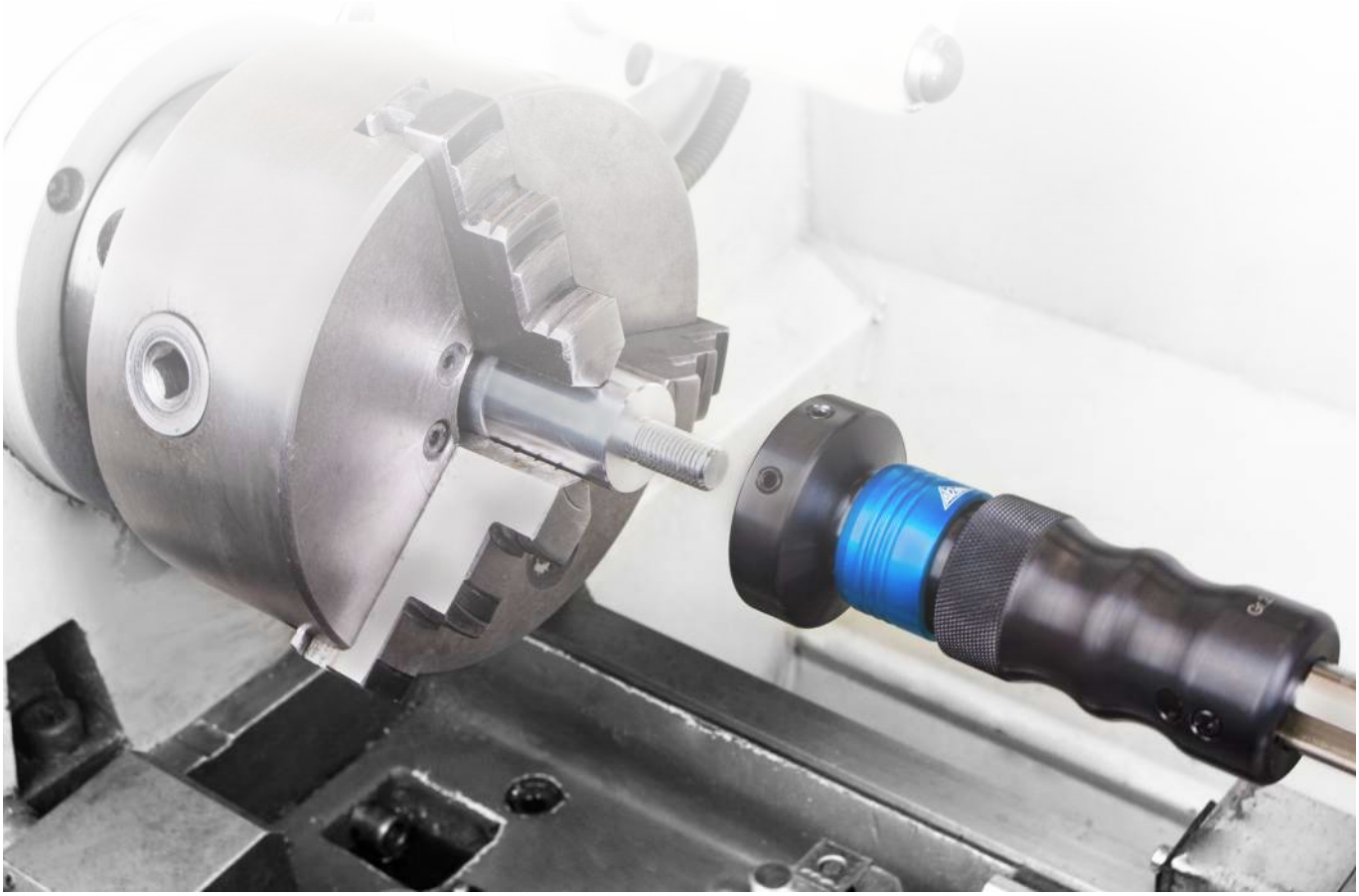
Advantages

Fast exchange
The new AKON die holders consist of a basic holder and several threading attachments, which can be exchanged easily and quickly.

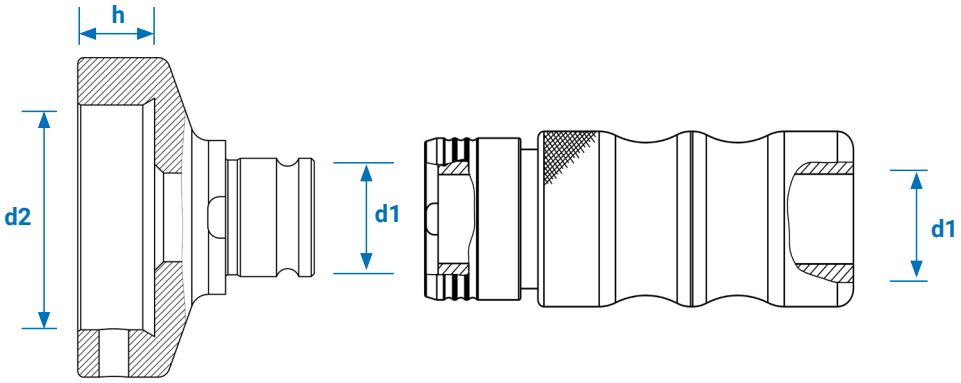
Easy to use
The basic holder is merely placed onto the lathe mandrel fitted in the tailstock. The holders are secured against torsion with parallel keys.

Thread cutting through straight alignmnet on a lathe
The holder is guided precisely on the lathe mandrel and therefore threads are cut perfectly and straight. No more poor finish or defective threads.

For CNC machines and drill presses
The threading attachments together with the matching holders can also be used on CNC machines or drill presses.



4.1 For external threads w/ quick change system: Holders for dies (DIN 223 / EN 22568)



A lathe mandrel is to be ordered together with the basic holder.

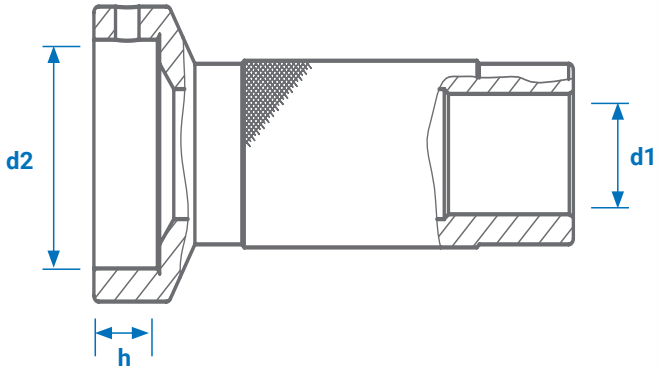
Part No.	Size	For die OD and hight (mm)	Dimensions (mm)			Thread size to be cut		
			d1	d2	h	ISO metric coarse thread size - DIN 13	ISO metric fine thread size - DIN 13	Max. thread length (mm)
021000	2	Grundhalter	20					
022007	2	Aufsatz für 20 x 7/5		20	7	M3 - M6	M3 x 0.35 M6 x 0.75	70
022509	2	Aufsatz für 25 x 9		25	9	M7 - M9	M7 x 0.75 M9 x 1	80
023011	2	Aufsatz für 30 x 11		30	11	M10 - M11	M10 x 0.75 M11 x 1	
023814	2	Aufsatz für 38 x 14/10		38	14	M12 - M14	M12 x 1 M14 x 1.5	

Scope of supply: Shim rings are not included in the scope of supply.

The threads to be machined represent only a small selection. Please refer to your die catalog for additional dies which can be used with, to cut Whitworth threads, Whitworth pipe threads, etc.

4.2 For external threads w/o quick change system: Holders for dies (DIN 223 / EN 22568)

For lathes



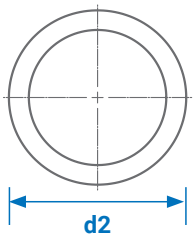
A lathe mandrel is to be ordered together with the die holder.

Part No.	Size	For die OD and hight (mm)	Dimensions (mm)			Thread size to be cut		
			d1	d2	h	ISO metric coarse thread size - DIN 13	ISO metric fine thread size - DIN 13	Max. thread length (mm)
101605	1	16 x 5	12	16	5	M1 - M2,6	M2 x 0.25 M2.6 x 0.35	60
102007	1	20 x 7/5	12	20	7	M3 - M6	M3 x 0.35 M6 x 0.75	70
304518	3	45 x 18/14	25	45	18	M16 - M20	M16 x 1 M20 x 2	80
305522	3	55 x 22/16	25	55	22	M22 - M24	M22 x 1 M26 x 1.5	70
306525	3	65 x 25/18	25	65	25	M27 - M36	M27 x 1.5 M36 x 2	

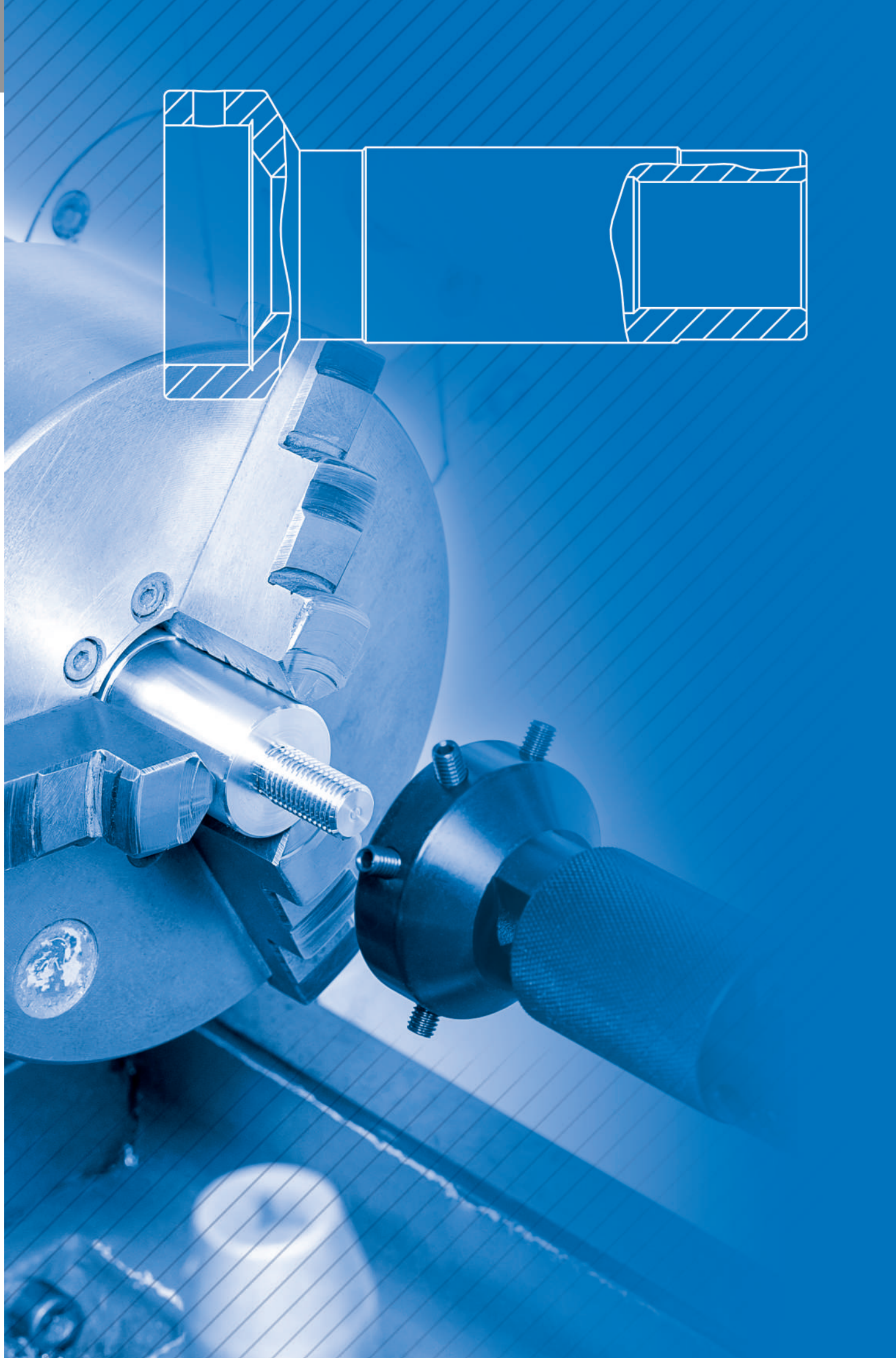
Scope of supply: Die holders include a hex key. Shim rings are not included in the scope of supply.
The threads to be machined represent only a small selection. Please refer to your die catalog for additional dies which can be used with, to cut Whitworth threads, Whitworth pipe threads, etc.

Accessories for die holders - Shim rings

The shim ring is required for cutting fine threads. It is inserted into the holder together with the die.



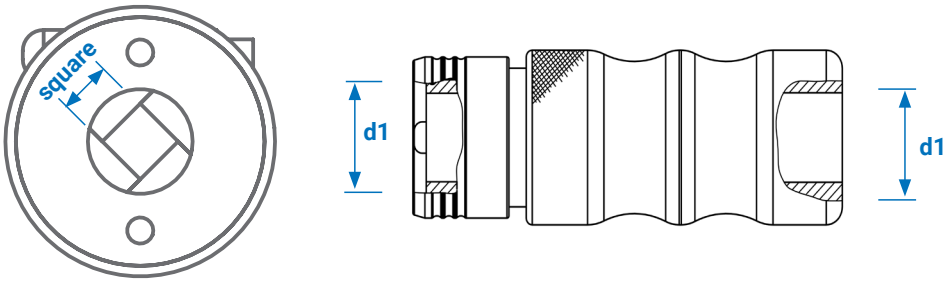
Part No.	Dimension d2 (mm)	For holder/ attachment part No.
012205	20	102007 & 022007
023810	38	023814
034514	45	304518
035516	55	305522
036518	65	306525



4.3 For internal threads: Tap holders with 4-jaw square chuck

With quick change system

The new AKON tapping attachment with quick change system and modern design could be easily replaced by the attachments for dies, as all attachments can be fitted to the same basic holder.



A lathe mandrel is to be ordered together with the basic holder.

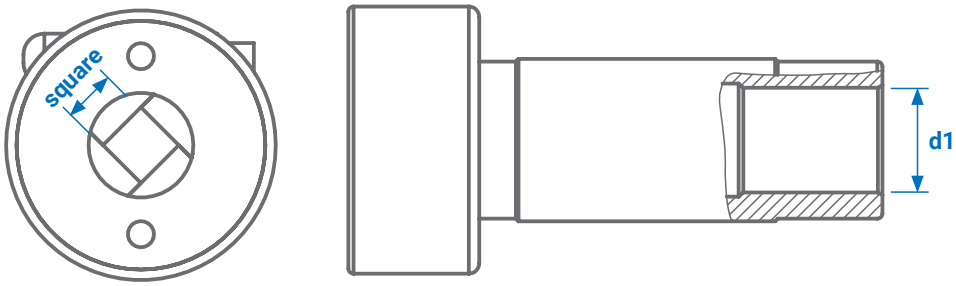
Part No.	Description	Dimensions (mm)		Thread size to be cut ISO metric coarse thread size - DIN 13
		d1	square	
021000	Basic holder	20		
020316	Attachment		2.7 - 9.0	M3 - M16
200316	Holder+Attachment			M3 - M16

Scope of supply: Tapping attachment include a T-handle wrench.
Please refer to your tapping catalog for additional taps which can be used with.

4.4 For internal threads: Tap holders with 4-jaw square chuck

Without quick change system

AKON tap holders center the tap exactly in the provided drill-hole. A finely aligned positioning results in a perfectly straight thread. No more poor finish or defective threads. Cut your threads in an uncomplicated way, fast and with high quality.



A lathe mandrel is to be ordered together with the tap holder.

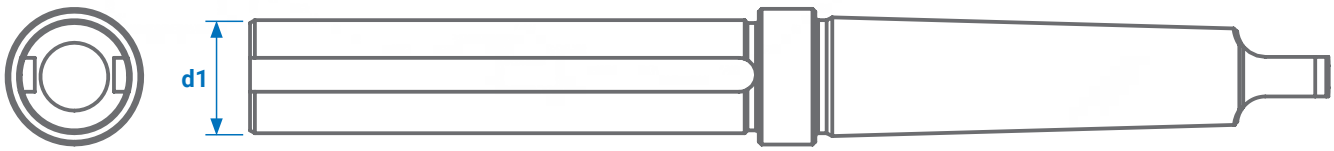
Part No.	Größe	Dimensions (mm)		Thread size to be cut ISO metric coarse thread size - DIN 13
		d1	square	
100106	1	12	2.1 - 4.9	M1 - M6
300424	3	25	3.4 - 14.5	M4 - M24

Scope of supply: Tap holders include a T-handle wrench.
WPlease refer to your tapping catalog for additional taps which can be used with.

5.1 Lathe mandrels for die and tap holders

For use on lathes

Fit the shank Morse taper into the tailstock. The die or tap holder can then be easily and precisely positioned on the cylindrical shank.



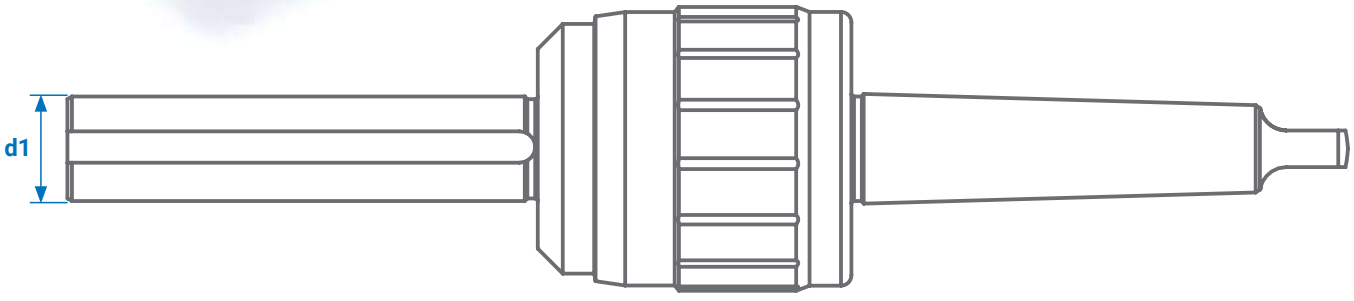
The lathe mandrel is to be ordered together with a holder.

Part No.	Size	Dimensions		Remarks
		d1 (mm)	MT	
100001	1	12	1	with lug and depth scaling
100002	1	12	2	with lug and depth scaling
100003	1	12	3	with lug and depth scaling
200002	2	20	2	with lug and depth scaling
200003	2	20	3	with lug and depth scaling
200004	2	20	4	with lug and depth scaling
300003	3	25	3	with lug and depth scaling
300004	3	25	4	with lug and depth scaling

5.2 Lathe mandrels with adjustable torque coupling (clutch grip)

Characteristics of torque coupling

The lathe mandrels with adjustable torque coupling (clutch grip) are especially ideal for cutting threads in drill-holes with a limited depth. The required torque for the thread to be cut can be regulated easily using the adjusting sleeve. As soon as the tap reaches the final depth the torque coupling loosens and therefore it is not possible for the tap to break off.



Artikel-Nr.	Size	Dimensions		Thread size	Remarks
		d1 (mm)	MT		
200022	2	20	2	M6 - M12	with lug and depth scaling
200023	2	20	3	M8 - M16	with lug and depth scaling
300034	3	25	4	M12 - M24	with lug and depth scaling

5.3 Basic holders for threading with quick change system

For use on CNC machines

The new basic holder for CNC-machines with its cylindrical shaft addresses the great demand for using our holder set in addition on CNC machines.

The AKON die attachments are also compatible with holders for CNC-machines.The thread sizes that can be cut include M3 - M14 or N5x40 - 9/16"x12 UNC.

Part No.	Size	Shank diameter d1 (mm)	Thread size to be cut* ISO metric coarse thread size DIN 13	Remarks
200071	2	16	M3 - M14	for CNC machines

*** The AKON threading attachments are to be ordered together with the basic holder for CNC machines.**

For use on drill presses

Simply insert the basic holder for drill presses with Morse taper shank MT2 into the drilling spindle, pull back the blue aluminium sleeve and fit the dthreading attachment.

The aluminium sleeve will drop down automatically and is then secured in place by a ball. These AKON basic holders can be used on all drill presses with clockwise or counter-clockwise rotation.

Part No.	Size	Dimensions MT	Thread size to be cut* ISO metric coarse thread size DIN 13	Remarks
200072	2	2	M3 - M14	for drill presses

*** The AKON threading attachments are to be ordered together with the holder for drill presses.**

6.1 Holderset size 2 with quick change system for CNC machines and drill presses

For external threads

External threads M3 - M14

For external threads DIN 223 / EN 22568
20x7/5 mm, 25x9 mm, 30x11 mm, 38x14/10 mm

Set consists of:

Part No.	Description	For die OD and hight (mm)	Thread size to be cut ISO metric coarse thread size DIN 13
022007 022509 023011 023814	Threading attachment	20x7/5 25x9 30x11 38x14/10	M3 - M6 M7 - M9 M10 - M11 M12 - M14
012025 022030	Hex key		

Basic holder optional.
Maximum length of external thread 70 mm.

For CNC machines

The threading attachments are compatible with both types of basic holders, for CNC machines or drill presses.
The thread sizes that can be cut include M3 - M14 or N5x40 - 9/16“x12 UNC.

Part No.	Basic holder
200171	Cylindrical Ø16 mm for CNC machines

For drill presses

These holder set can be used on all drill presses with clockwise or counter-clockwise rotation.
The thread sizes that can be cut include M3 - M14 or N5x40 - 9/16“x12 UNC.

Part No.	Basic holder
200172	MT2 for drill presses

6.2 Holder set size 2 with quick change system for lathes

For external and internal threads

External threads M3 - M14

For dies DIN 223 / EN 22568

20x7/5 mm, 25x9 mm, 30x11 mm, 38x14/10 mm

Internal threads M3 - M16

Shank diameter d1=20 mm

Part No.	For optional lathe mandrel
200202	MT2 with lug and depth scaling
200203	MT3 with lug and depth scaling
200204	MT4 with lug and depth scaling
200200	without a lathe mandrel

Bestehend aus:

Part No.	Description	For die OD and height (mm)	ISO metric coarse thread size to be cut - DIN 13
021000	Basic holder		
		Square chuck	
020316	Attachment for tapping	2.7 - 9.0 mm	M3 - M16
022007 022509 023011 023814	Attachment for threading	20x7/5 25x9 30x11 38x14/10	M3 - M6 M7 - M9 M10 - M11 M12 - M14
012025 022030	Hex key		
022316	T-handle wrench		

Lathe mandrel optional.

Maximum length of external threads 70 - 80 mm.

6.2 Holder set size 2 with quick change system for lathes

For external threads

External threads M3 - M14

For dies DIN 223 / EN 22568

20x7/5 mm, 25x9 mm, 30x11 mm, 38x14/10 mm

Shank diameter

d1=20 mm

Part No.	For optional lathe mandrel
200102	MT2 with lug and depth scaling
200103	MT3 with lug and depth scaling
200104	MT4 with lug and depth scaling
200100	without a lathe mandrel

Bestehend aus:

Part No.	Description	For die OD and height (mm)	ISO metric coarse thread size to be cut - DIN 13
021000	Grundhalter		
022007 022509 023011 023814	Attachment for threading	20x7/5 25x9 30x11 38x14/10	M3 - M6 M7 - M9 M10 - M11 M12 - M14
012025 022030	Hex key		

Lathe mandrel optional.

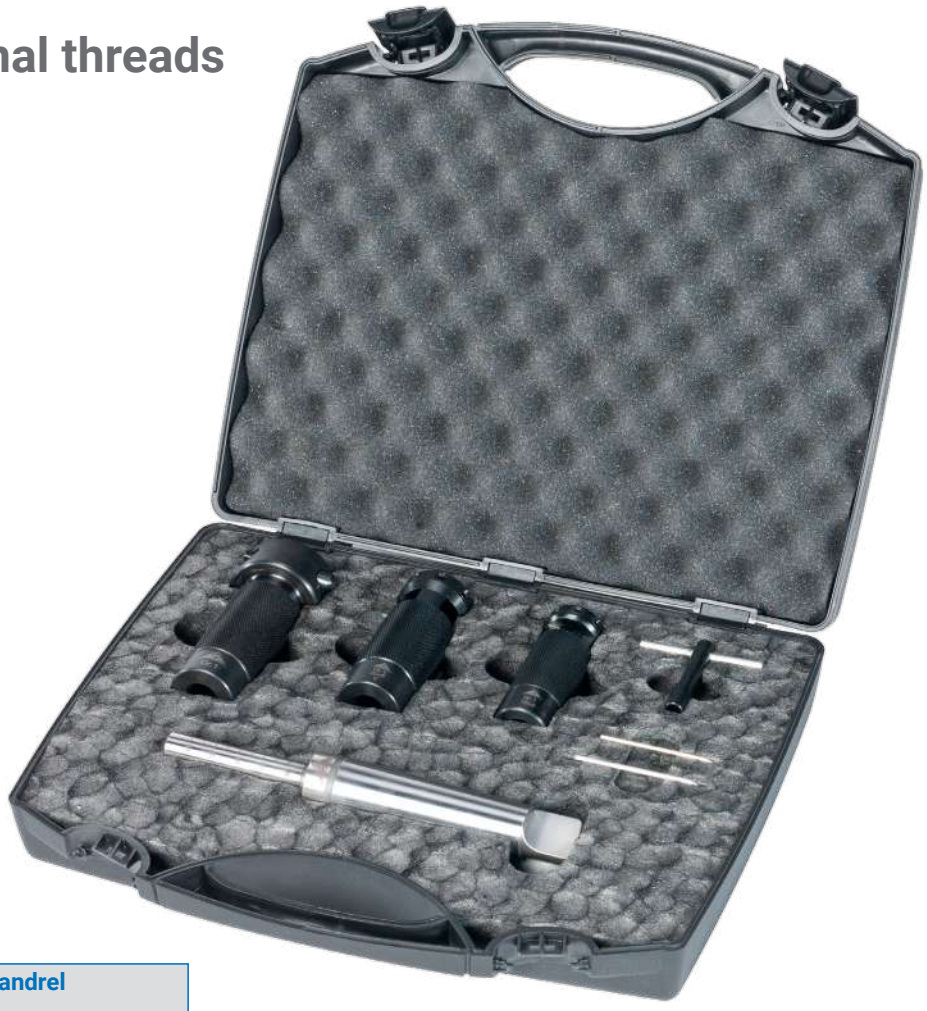
Maximum length of external threads 70 - 80 mm.

6.3 Holder set size 1 without quick change system for lathes

For external and internal threads

External threads M1 - M6
For dies DIN 223 / EN 22568
16x5 mm, 20x7/5 mm

Internal threads M1 - M6
Shank diameter d1=12 mm



Part No.	For optional lathe mandrel
100201	MT1 with lug and depth scaling
100202	MT2 with lug and depth scaling
100203	MT3 with lug and depth scaling
100200	without a lathe mandrel

Bestehend aus:

Part No.	Description	For die OD and height (mm)	ISO metric coarse thread size to be cut - DIN 13
101605 102007	Die holder	16x5 20x7/5	M1 - M2,6 M3 - M6
Square chuck			
100106	Tap holder	2.1 - 4.9 mm	M1 - M6
011015 012025	Hex key		
012106	T-handle wrench		

Lathe mandrel optional.
Maximum length of external threads 60 - 70 mm.

6.3 Holder set size 1 without quick change system for lathes

For external threads

External threads M1 - M6

For dies DIN 223 / EN 22568

16x5 mm, 20x7/5 mm

Shank diameter

d1=12 mm

Part No.	For optional lathe mandrel
100101	MT1 with lug and depth scaling
100102	MT2 with lug and depth scaling
100103	MT3 with lug and depth scaling
100100	without a lathe mandrel

Bestehend aus:

Part No.	Description	For die OD and height (mm)	ISO metric coarse thread size to be cut - DIN 13
101605 102007	Die holder	16x5 20x7/5	M1 - M2,6 M3 - M6
011015 012025	Hex key		

Lathe mandrel optional.

Maximum length of external threads 60 - 70 mm.

6.4 Holder set size 3 without quick change system for lathes

For external and internal threads

External threads M16 - M24
For dies DIN 223 / EN 22568
45x18/14 mm, 55x22/16 mm

Internal threads M4 - M24
Shank diameter d1=25 mm

Part No.	For optional lathe mandrel
300203	MT3 with lug and depth scaling
300204	MT4 with lug and depth scaling
300200	without a lathe mandrel

Bestehend aus:

Part No.	Description	For die OD and height (mm)	ISO metric coarse thread size to be cut - DIN 13
304518 305522	Die holder	45x18/14 55x22/16	M16 - M20 M22 - M24
		Square chuck	
300424	Tap holder	3.4 - 14.5 mm	M4 - M24
033040 033050	Hex key		
032424	T-handle wrench		

Lathe mandrel optional.
Maximum length of external threads 70 - 80 mm.

6.4 Holder set size 3 without quick change system for lathes

For external threads

External threads M16 - M24

For dies DIN 223 / EN 22568

45x18/14 mm, 55x22/16 mm

Shank diameter

d1=25 mm

Part No.	For optional lathe mandrel
300103	MT3 with lug and depth scaling
300104	MT4 with lug and depth scaling
300100	without a lathe mandrel

Bestehend aus:

Part No.	Description	For die OD and height (mm)	ISO metric coarse thread size to be cut - DIN 13
304518 305522	Die holder	45x18/14 55x22/16	M16 - M20 M22 - M24
033040 033050	Hex key		

Lathe mandrel optional.

Maximum length of external threads 70 - 80 mm.

7. RUBOMETRIC TYPE D SELF-OPENING DIE HEADS

Application

RUBOMETRIC Type D self-opening die heads are suitable for economical cutting of all common forms of threads in every length no matter right or left-hand; the latter requires using left-hand chasers.

The die heads can be used on turning machines, turret lathes, single and multi-spindle automatic lathes, threading machines, drilling machines, or on other machines suitable for cutting threads.

RUBOMETRIC Type D die heads are manufactured in accordance with the GEOMETRIC system and therefore the chasers of other brands of die heads such as GEOMETRIC type D and EFEM type G fit into RUBOMETRIC Type D die heads as well.

Advantages of the die heads:

- **Shorter working time**
  Reverse movement is no more necessary as the die head opens automatically after the cutting process has ended, and the chasers are automatically retracted from the threads.

- **No reversal in the rotary direction of the machine's spindle is necessary after thread cutting has been completed**

- **Usage of the die head in accordance with the machine's construction type**
  (The die head is inserted into the tailstock of the machine, and thread is cut by rotating the workpiece)

or:

- **Rotating**
  (The die head rotates and the workpiece remains static)

- **Simple and accurate adjustment of the die head, for cutting threads in fine tolerance**

- **By adjusting the die head you can cut over- or undersized threads using the same chasers**

7. RUBOMETRIC TYPE D SELF-OPENING DIE HEADS

Part No.	Description	Thread size
500208	RUBOMETRIC die head DS 5/16“ shank Ø 16 mm	M2 - M8
500414	RUBOMETRIC die head D 9/16“ shank Ø 26 mm	M4 - M14
500620	RUBOMETRIC die headD 3/4“ shank Ø 40 mm	M6 - M20
500824	RUBOMETRIC die head D 1“ shank Ø 40 mm	M8 - M24

Operation of the die head

To initaite thread cutting you need to either manually or mechanically move the die head to the workpiece.

The thread length to be cut is set by means of a work stop, where the release path (a) needs to be taken into consideration as well.

Once the desired length is reached, the die head will no longer move forward. The die head opens automtically and the chasers release the work.

The die head can now be withdrawn over the cut thread and reset.

Die heads with a Morse taper shank

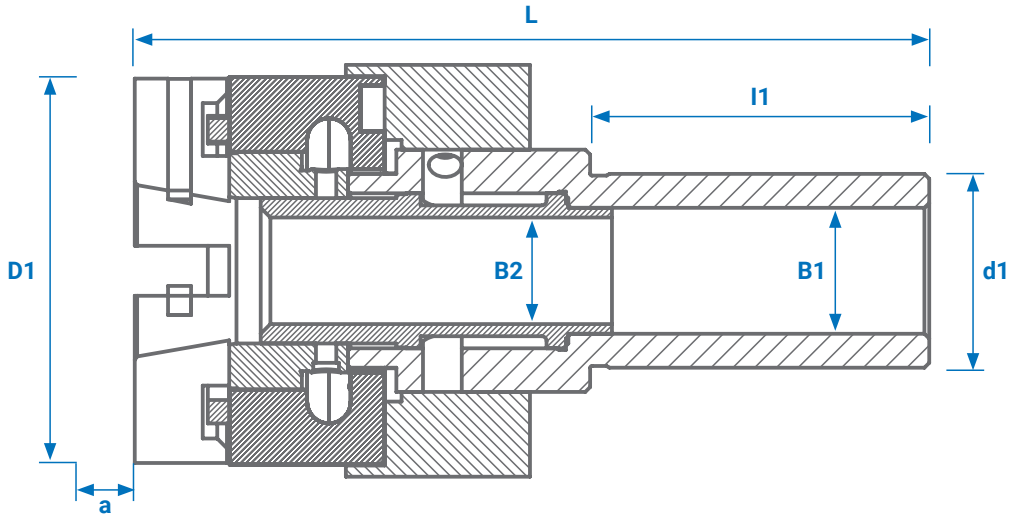
RUBOMETRIC die heads can also be supplied with Morse taper shanks, in accordance with DIN 228. When utilizing this design, the thread length to be cut is limited, as the Morse taper does not permit cutting of just-any thread length. The maximum possible thread lengths are:

Size DS 5/16“ = approx. 70 mm
Size D 9/16“ = approx. 100 mm
Size D 3/4“ = approx. 130 mm
Size D 1“ = approx. 140 mm

Each die head is supplied with a user instruction manual.

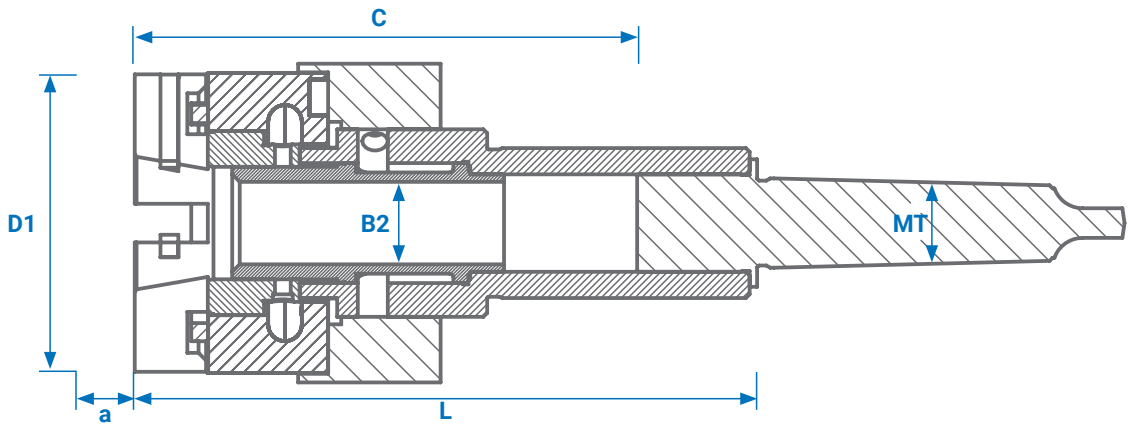
7. RUBOMETRIC TYPE D SELF-OPENING DIE HEADS

7.1 RUBOMETRIC die head Type D with cylindrical shank



Size	Thread size			a	B1	B2	D1	d1	l1	L	Die head's weight
	Metric	Whitworth	Pipe	Release path (mm)	Bigger bore-Ø (mm)	Smaller bore-Ø (mm)	Head-Ø (mm)	Shank-Ø (mm)	Shank length (mm)	Total length (mm)	approx. (kg)
DS 5/16"	M2 - M8	3/32" - 5/16"	-	3	11	9	40	16	40	97	0.6
D 9/16"	M4 - M14	5/32" - 9/16"	1/8" - 1/4"	4	17	15	62	26	52	126	1.4
D 3/4"	M6 - M20	1/4" - 3/4"	1/8" - 1/2"	4,5	26	22	80	40	70	164	3.2
D1"	M8 - M24	5/16" - 1"	1/8" - 3/4"	4,5	28.5	27	92	40	70	176	4.2

7.2 RUBOMETRIC die head Type D with Morse taper shank



Size	Thread size			a	B2	C	D1	MT	L	Die head's weight
	Metric	Whitworth.	Pipe	Release path (mm)	Smaller bore-Ø (mm)	Maximum thread length (mm)	Head-Ø (mm)	Morse taper	Total length (mm)	approx. (kg)
DS 5/16"	M2 - M8	3/32" - 5/16"	-	3	9	70	40	MK 2	97	0.6
D 9/16"	M4 - M14	5/32" - 9/16"	1/8" - 1/4"	4	15	100	62	MK 3	126	1.4
D 3/4"	M6 - M20	1/4" - 3/4"	1/8" - 1/2"	4.5	22	130	80	MK 3	164	3.2
D1"	M8 - M24	5/16" - 1"	1/8" - 3/4"	4.5	27	140	92	MK 3	176	4.2

7.3 Examples of use

First option

Die head inserted into the tailstock

Insertion into the tailstock quill (remove the dead center and use die head with Morse taper shank). Pressing of the die head against the workpiece is carried out by means of a hand wheel, or the corresponding lever device.

First option

Die head attached to the tool post

Attachment to a commercially available quick change tool post. The use of lead screw results in particularly pitch-accurate threads. It is recommended, and necessary, to use the lead screw on large and heavy turning machines.

7.4 Chasers

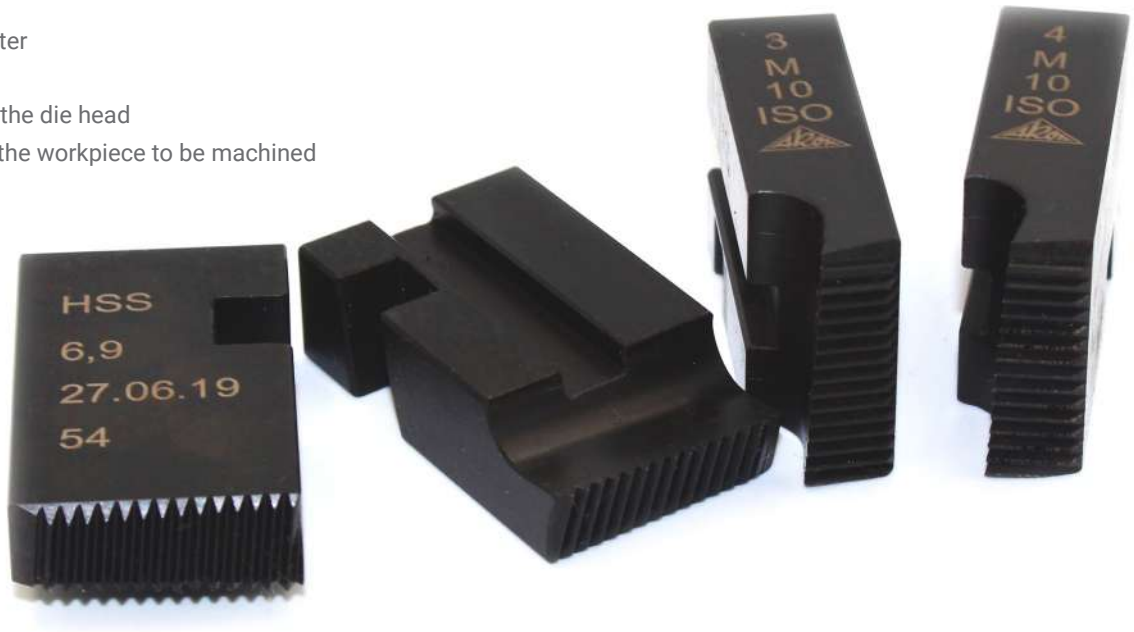
Advantages

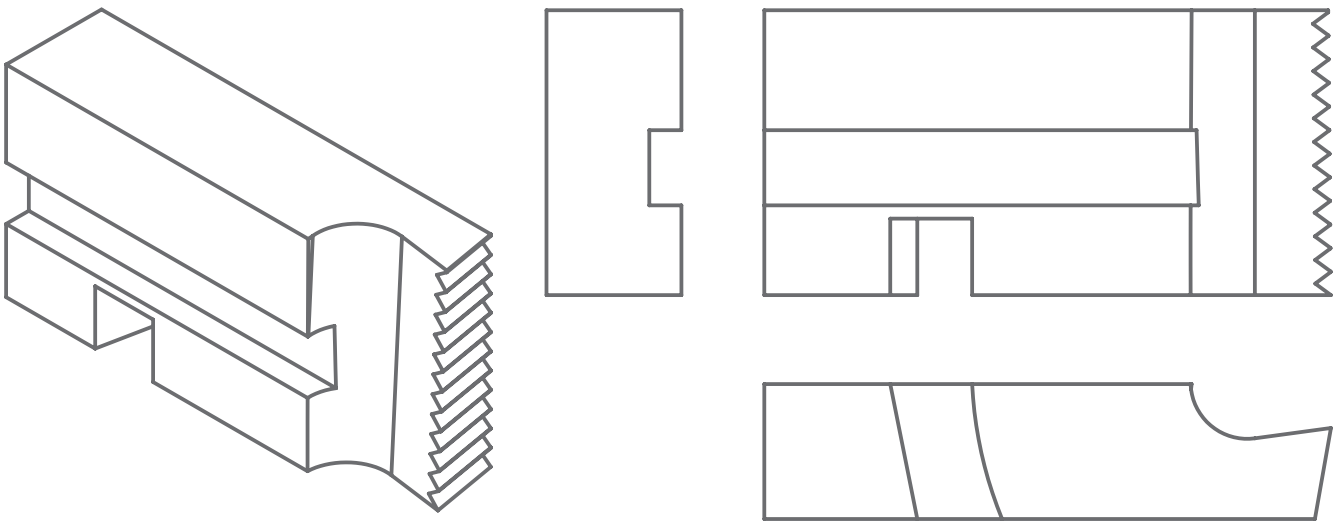
The chasers are manufactured from the best high performance high-speed steel. The actual cutting performance of the chasers is achieved by the chamfer, and the subsequent thread teeth serve as guides.

The RUBOMETRIC type D chasers fit into the die heads of other makes such as EFEM type G, GEOMETRIC type D (execpt for D 3”), and other similar brands as well.

When placing an order, the following details are required:

- Thread dimensions
  a) Thread form
  b) Thread diameter
  c) Thread pitch
- Size and type of the die head
- Specification of the workpiece to be machined



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