



Представництво в Україні:
ТОВ "ФРАКТАЛЬНІСТЬ"

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TSCHORN®

Probes & Tools Technology

2021



www.fractalnost.com.ua



Our commitment to environmental protection

Because it is our earth. And we only have it once.



We produce with
100% green electricity.

We use long-lasting and energy-saving LED lighting throughout the company.



Look for the **Green Packing logo** in the catalogue.:



All these products have already been switched to sustainable packaging.

Example:
Thanks to Green Packing, we save over 3000 liters of foam every year - only with the 3D Tester SLIMplus.



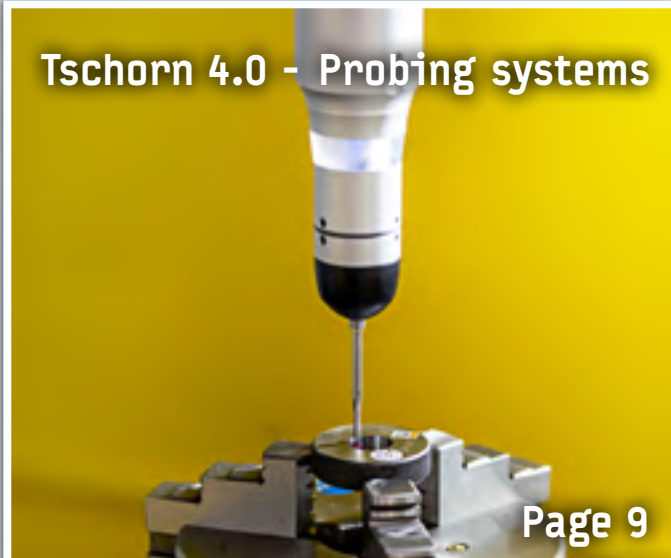
We ship environmentally conscious and 100% recyclable:





**Our probing and clamping technologies make
the world of manufacturing simple, precise
and competitive.**

Tschorn 4.0 - Probing systems



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Clamping systems



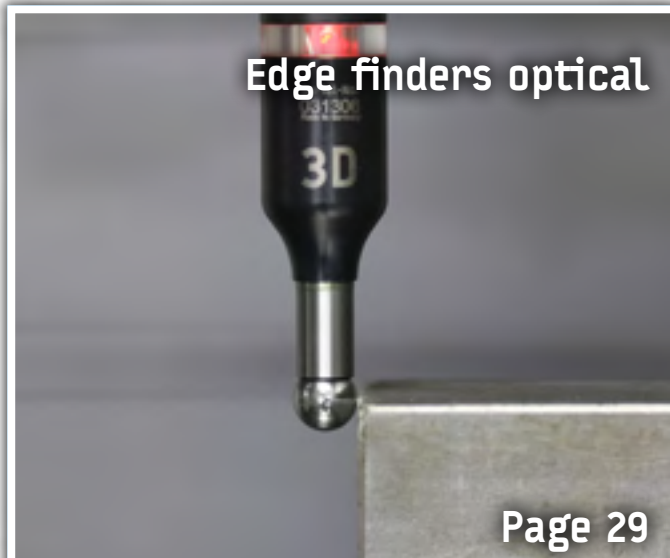
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3D Testers



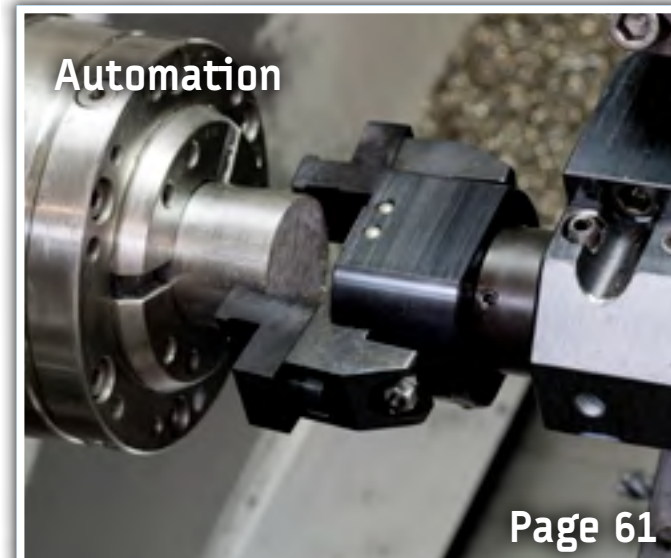
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Edge finders optical



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Edge finders mechanical



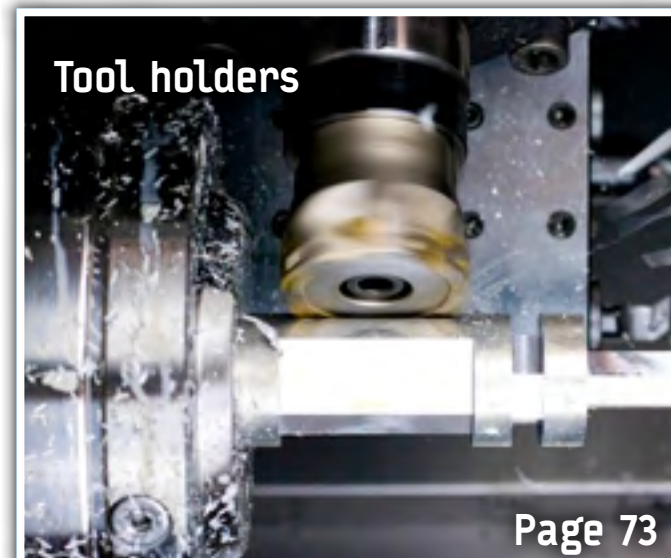
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Repair service



Crashed?

All our devices can be repaired.

Our worldwide resellers support you for any repair or service question.



Tschorn 4.0

The smart solution for your zero point!

Manual probing belongs to the past!

There are different testers, e.g. mechanical edge finders, optical edge finders or 3D Testers. They all have one thing in common:

- the manual probing process depends on the user
- it requires a lot of intuition
- it carries risks such as transmission or typing errors

In the end, working hours and potential mistakes cost a lot of money!

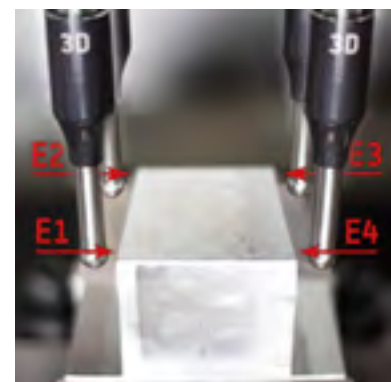


Automation has never been that easy!

TSCHORN 4.0

For example: **measure the corner automatically**

- Manually pre-position the probe in X
- Start the cycle
- That's it!



What happens in the background?

Position the tester at the corner which you want to measure. You just define the edge which you want to measure and simply start the cycle. That's it! Now, the cycle starts in X axis and probes the workpiece.

During the probing movement, the machine control waits until the edge is reached. At this moment, the probe transmits the probing signal via radio signal to the receiver and to the machine control. The movement stops immediately and picks up the actual position.

After that, the cycle goes to the Y axis and measures it as well as the Z axis. Finally, it automatically writes all measured values into the currently active workpiece offset.



Small investment - big benefits!

+ Time saving

+ Repeatability +/- 3 µm

+ The accuracy is independent from the user

+ Cost savings

+ The receiver can flexibly be placed outside

+ The user has a good overview of the status LEDs at all times

Cycles / macros for Fanuc or Siemens

Axis X, Y or Z



Position the tester in front of the edge.
Preselect axis X, Y or Z, as well as the direction + or - .
After starting, the cycle probes automatically and writes into the offset - that's it!

Measure the corner automatically



Position the tester in the X axis in front of the edge.
Preselect the edge 1, 2, 3 or 4.
Start: the cycle automatically measures first X, then Y, then Z, and automatically writes all axes into the offset - that's it!

Circle centre (inside/outside)



Position the tester approximately on the centre of the circle.
Preselect if you want to probe inside or outside and give an approximate diameter.

After starting, the cycle automatically probes in X axis, Y axis and automatically writes into the offset - that's it!

Groove centre (inside/outside)



Position the tester approximately on the centre of the slot or the key.
Then you chose if you want to measure inside or outside, preselect the axis and give an approximate width.

After starting, the cycle automatically probes the centre in the X axis or Y axis and automatically writes into the offset - that's it!

Tool breakage detection



Chose the milling tool you want to check and start the cycle.
After starting, the cycle automatically probes the tool length. If the tool is broken, the cycle does not find any probing signal and stopps the machine. Additionally, you can

preselect a confidence range as a tolerance. Is the tool out of tolerance, the machine stopps. Otherwise, the machine goes on working.

Tool length



Wähle den zu messenden Fräser aus und starte den Zyklus.
Nach dem Starten tastet der Zyklus die Werkzeuglänge automatisch an und trägt die Werkzeuglänge in das Werkzeug-Offset der Maschine ein.

Easy!

Software installation

Simple copying of sub program files (simple copy-paste).

Installing the software on the machine control is extremely easy. All you have to do is to copy all the sub program files from the USB flash drive to the subprogram directory of the machine.



Installation - quick & easy



Easy!

Electrical connection

- Connect power supply 12V- 24V (DC)
- Connect the probing signal
- That's it!

Basically, every machine control has an input terminal for the probing signal as a standard. We even succeeded in installing many older models. Thus, only two wires have to be connected for a simple power supply and a third wire with just this probing signal.

Successful!

Many installations - many satisfied customers

We have already successfully installed the system on many different machines.



DMG Mori MILLTAP 700



YCM - Fanuc



Maho MH1600S- Philips



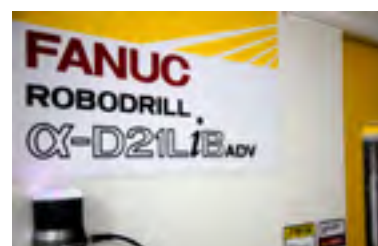
Hermle - Heidenhain



Spinner - Siemens 840D



LK-Machinery - Siemens 828



Fanuc - Robodrill



Anayak plus 4000 - Heidenhain

Smart automation for a small price!



Article No.	Description
0014WP110 *	Probing system workpiece tester WP110 (incl. receiver RC100)
0014WP200 *	Probing system workpiece tester WP200 (incl. receiver RC100) (coming soon...)
0014TP100 *	Probing system tool tester TP100 (incl. receiver RC100)
0014TP125 *	Probing system tool tester TP125 (incl. receiver RC100) (coming soon...)
0014WTP01 *	Complete system (workpiece/tool tester WP100/TP100) (incl. receiver RC100)
0014WTP02 *	Complete system (workpiece/tool tester WP200/TP125) (incl. RC100) (coming soon...)

Delivery contains:

* Each 1 tester, 1 receiver, 2 m cable and fitting Siemens or Fanuc macros (measuring cycles).





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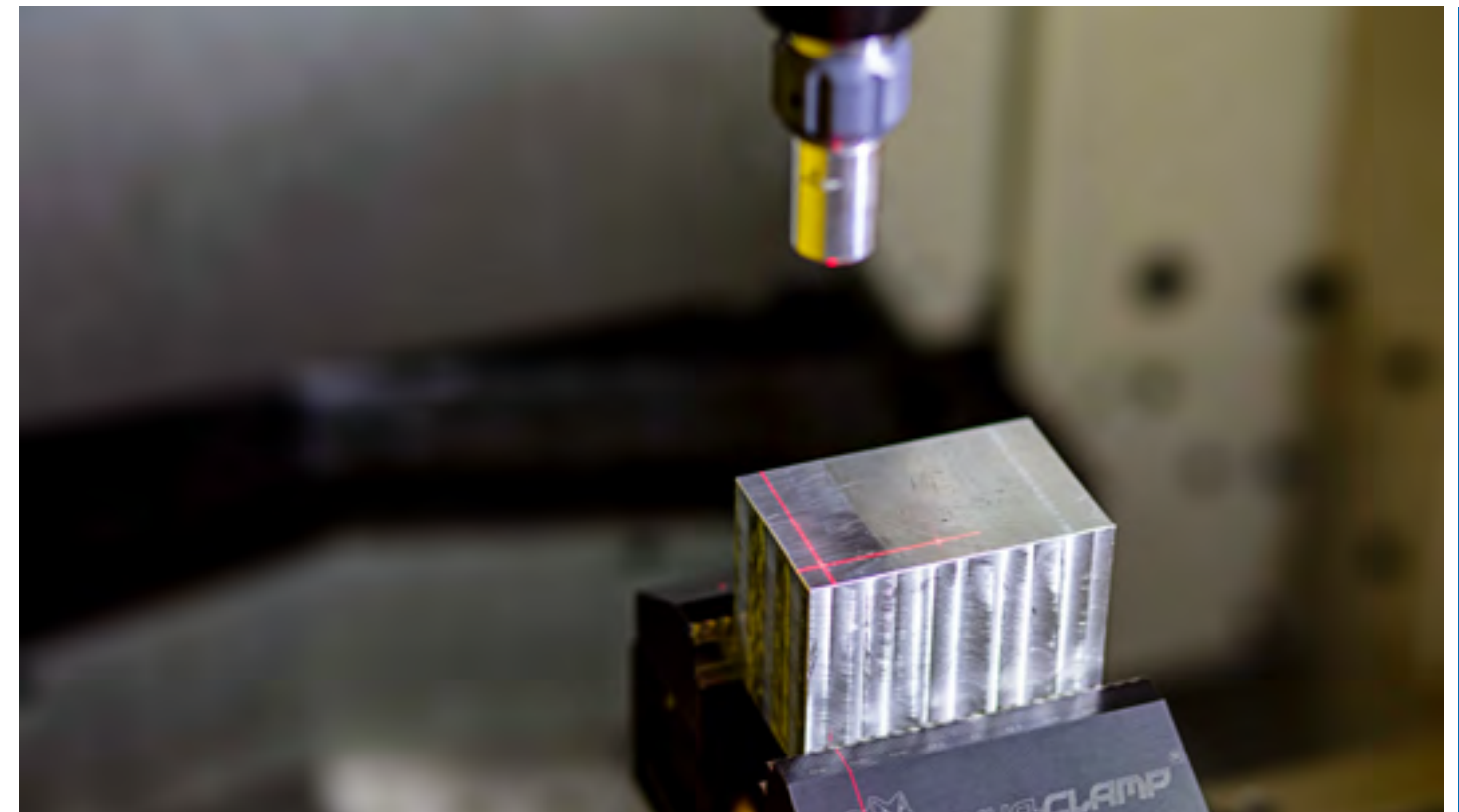
Repair service



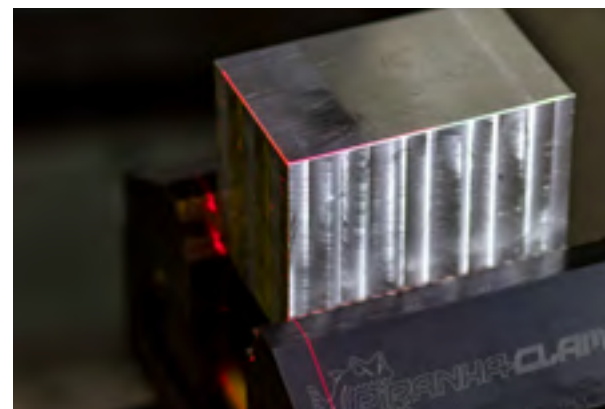
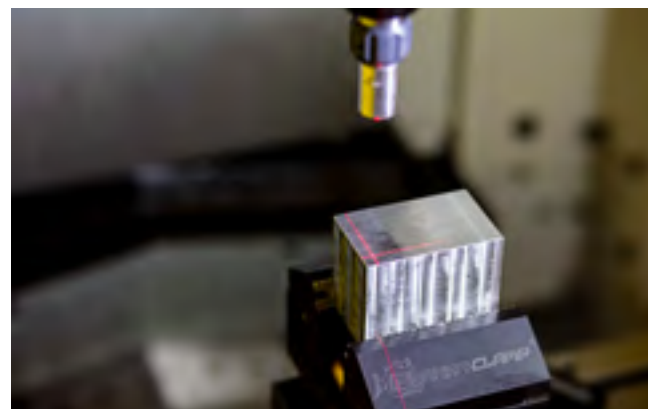
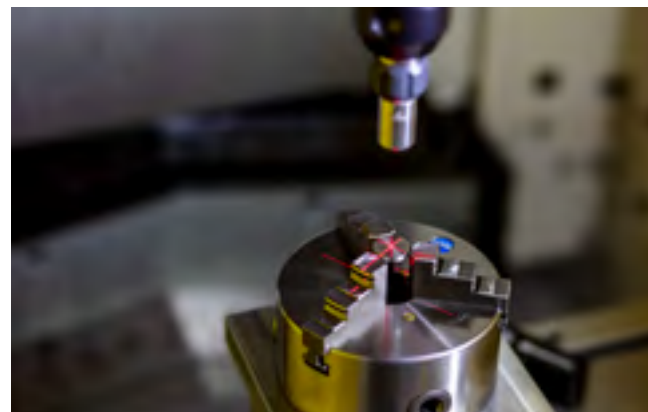
Crashed?

All our devices can be repaired.

Our worldwide resellers support you for any repair or service question.



Laser finder



Laser finder - for contactless and rough probing



With the laserfinder, workpiece positions can be determined very quickly and easily without any direct contact to the workpiece. It is particularly suitable for determining rough workpieces e.g. for raw materials with allowance. Furthermore, the laser cross is also well suited to find the approximate centre of a round workpiece.

The focus of the laser cross is approximately 100 mm above the workpiece. The device is switched on and off manually by a rotary switch.

Article No.	Description	Shank	Focus
00120X016	Laser finder	Ø16	100 mm

Spare parts for laser finder

Article No.	Description	Volt
0011Z6000	Spare battery 23A	12V





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Slim. robust. waterproof. With Tschorn 3D Testers you quickly and easily determine workpiece zero points and length measurements or adjust your workpiece or vice parallel to your machine axis.

3D stands for three-dimensional probing in all axial directions (X/Y/Z) - and all of this is possible with the same indicator resolution.

V2 stands for the newest generation of our 3D Testers.

A seal protects the 3D Tester from oil and coolant (IP67).



The universal device,
the bestseller



Identical to SLIMplus
WHITE but easier to
read because of the
black dial face



Especially on big machines ea-
sier to read but nevertheless
slim built



How to work with the 3D Tester:

Clamp the 3D Tester into your tool holder.

Adjust the run-out as explained in the manual.

Approach your workpiece with the 3D Tester.

As soon as the indicators show „0“, the spindle axis precisely stands on the workpiece edge.



Crashed? Contact your reseller for service!

Delivery contains:

3D Tester with serial number, incl. probe tip ceramic Ø3, adjusting key, with factory certificate

Article No.	Description	Shank	Length	Tester
001V2D012*	3D Tester SLIMplus V2 WHITE	Ø12	approx. 132,5 mm	Ø3
001V2DB12*	3D Tester SLIMplus V2 BLACK	Ø12	approx. 132,5 mm	Ø3
001V2DA40	3D Tester SLIMplus V2 WHITE with shank DIN69871 A40	DIN69871 A40	approx. 132,5 mm	Ø3
001V2V012	3D Tester VIplus V2	Ø12	approx. 150,0 mm	Ø3

*also available with shank Ø8 and Ø10 as special construction.

You can find spare parts on page 24.

The special
probe tip Ø56:

Depth extreme!



Video

Advantages:

- probing extremely depth
- also parallel running

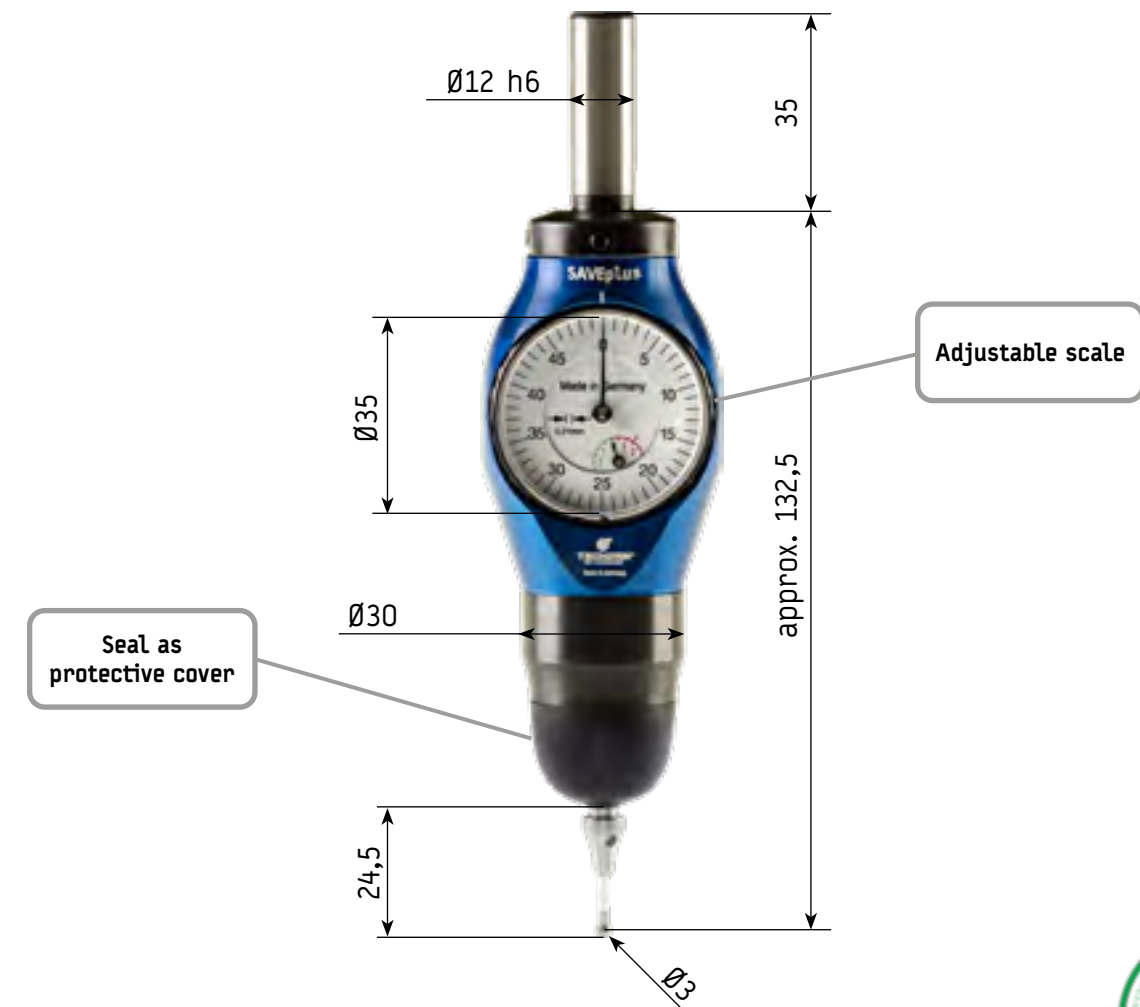
Because its diameter is bigger than the body of the 3D Tester this probe tip allows probing in almost endless depth and opens up new possibilities. When using slim tool holders to clamp the 3D Tester (diameter smaller than 50 mm), you can extend the depth of probing as deep as you want. Find your workpiece position and check parallelism in almost endless depth.



Article No.	Description	Length	Tester
00163D056	Probe tip Ø56 for 3D Tester SLIMplus	62	Ø56

SAVEplus

The 3D Tester SAVEplus is also characterized by its slim design - however, it is the cost-effective variant among our 3D Tester models.



Delivery contains:

3D Tester incl. probe tip ceramic Ø3

Article No.	Description	Shank	Length	Tester
00163B012	3D Tester SAVEplus	Ø12	approx. 134 mm	Ø3



Crashed? Contact your reseller for service!



Spare parts

The spare parts can be used for our 3D Tester models.



Easy screwing in and unscrewing of the probe tip thanks to the practical borehole.

Two hexagon keys size 2 are supplied with each 3D Tester SLIMplus, VIplus and DREHplus.

Article No.	Description	Length	Tester
00163C003	Probe tip ceramic	approx. 27 mm	Ø3
00163C006	Probe tip long ceramic*	approx. 62 mm	Ø6
00163D099	Seal for 3D Tester	-	-

*deliverable from July 2021 onwards. As long as not on stock, we will deliver steel, art.no. 00163D006.



Important Note:

When changing the probe tip, make sure not to damage the seal (see picture 1.), and check the run-out each time after changing the probe tip (see picture 2.). You will find a detailed description in the operating instructions.



Videos for training



3D Tester:
Scope of delivery



3D Tester:
Run-out



3D Tester:
Probing



Repair service



Crashed?

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The plus for your lathe!

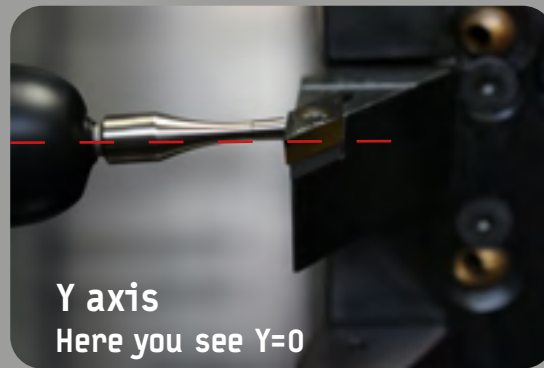
Tool measurement in all axes also in the rotating center (Y)

Innovative probing technology

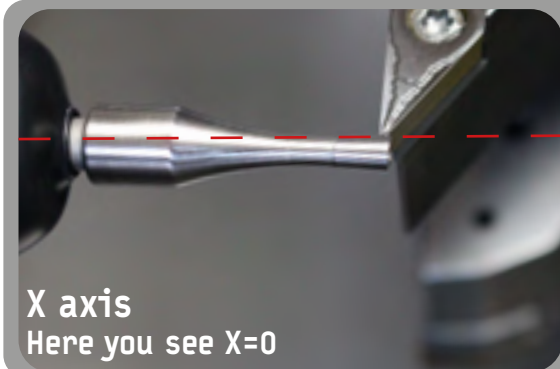
The conical probing corpus allows you to measure any possible cutting insert with various radii and / or angles at any point of the probing corpus. You probe until both indicators show „0“. In this position, the outline of the conical probing corpus is exactly on the symmetry axis.

No other measuring equipment gives you the possibility to measure the rotating centre so simply, precisely and directly in your lathe.

Y=0 corresponds to the rotating centre. As a result, you ensure the best possible processing, achieve long lifetime and preserve best surfaces.



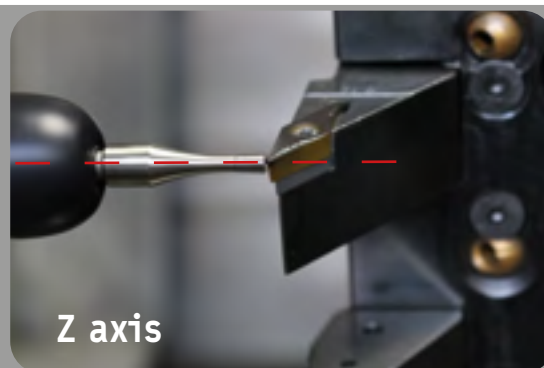
Y axis
Here you see Y=0



X axis
Here you see X=0

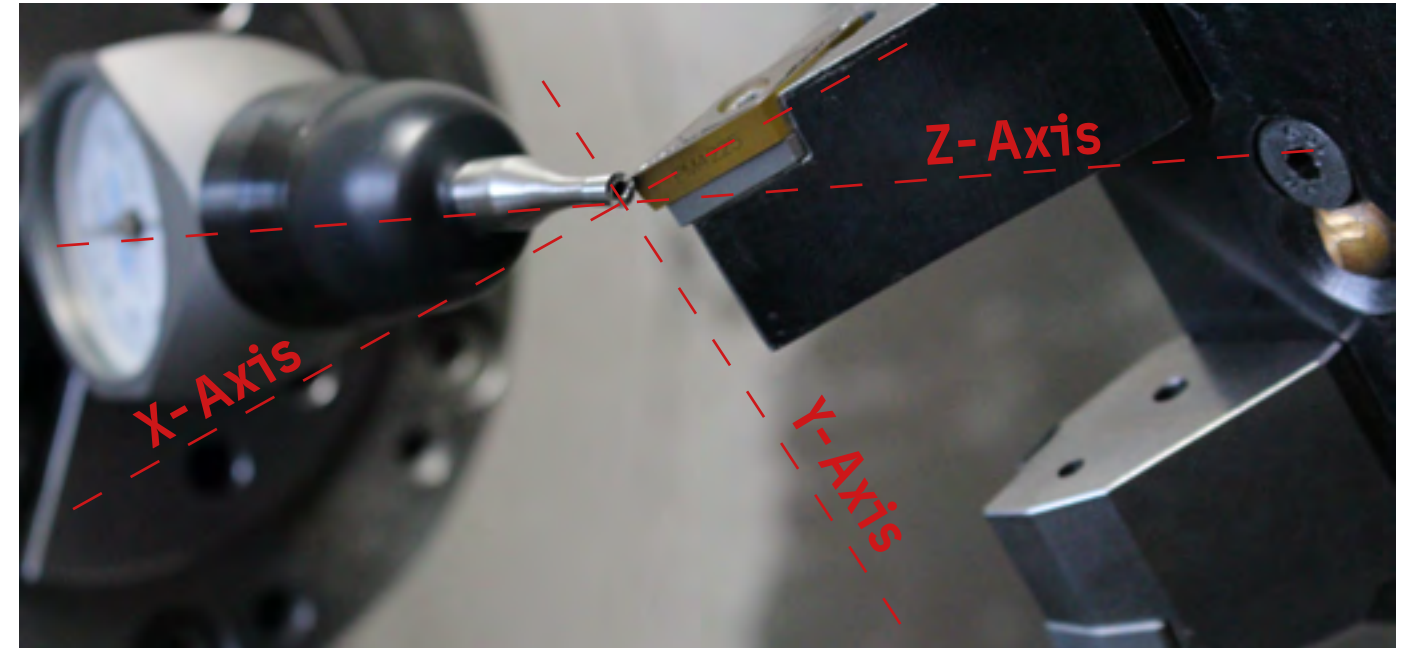
Without any further calculation, you measure your tools to the centre of the spindle, respectively X=0.

Also in Z, you can measure all tools, taking into account the length offset in your machine.



Z axis


Measure your tools in all axes - especially in Y



No other measuring equipment gives you the possibility to measure your tool to the rotating centre simply, precisely and directly in your lathe. This is made possible by our unique probing technology which we have developed specifically for the use in your lathe.

On a ball, it is impossible to precisely measure sharp turning tools. This is why the 3D Tester DREHplus has a patented conical probing corpus. With this, you directly probe the centre of the spindle, both in X axis and in Y axis.

No need for further calculations, since $X = 0$ and $Y = 0$.

 Crashed? Contact your reseller for repair service!



Delivery contains:

3D Tester incl. probe tip DREHplus, adjusting key, with factory certificate

Article No.	Description	Shank	Length	Tester
001V2T020	3D Tester V2 DREHplus V2	Ø20	approx. 138 mm	Ø3,6/Ø3,2
00163T036	Probe tip DREHplus	-	approx. 34 mm	Ø3,6/Ø3,2



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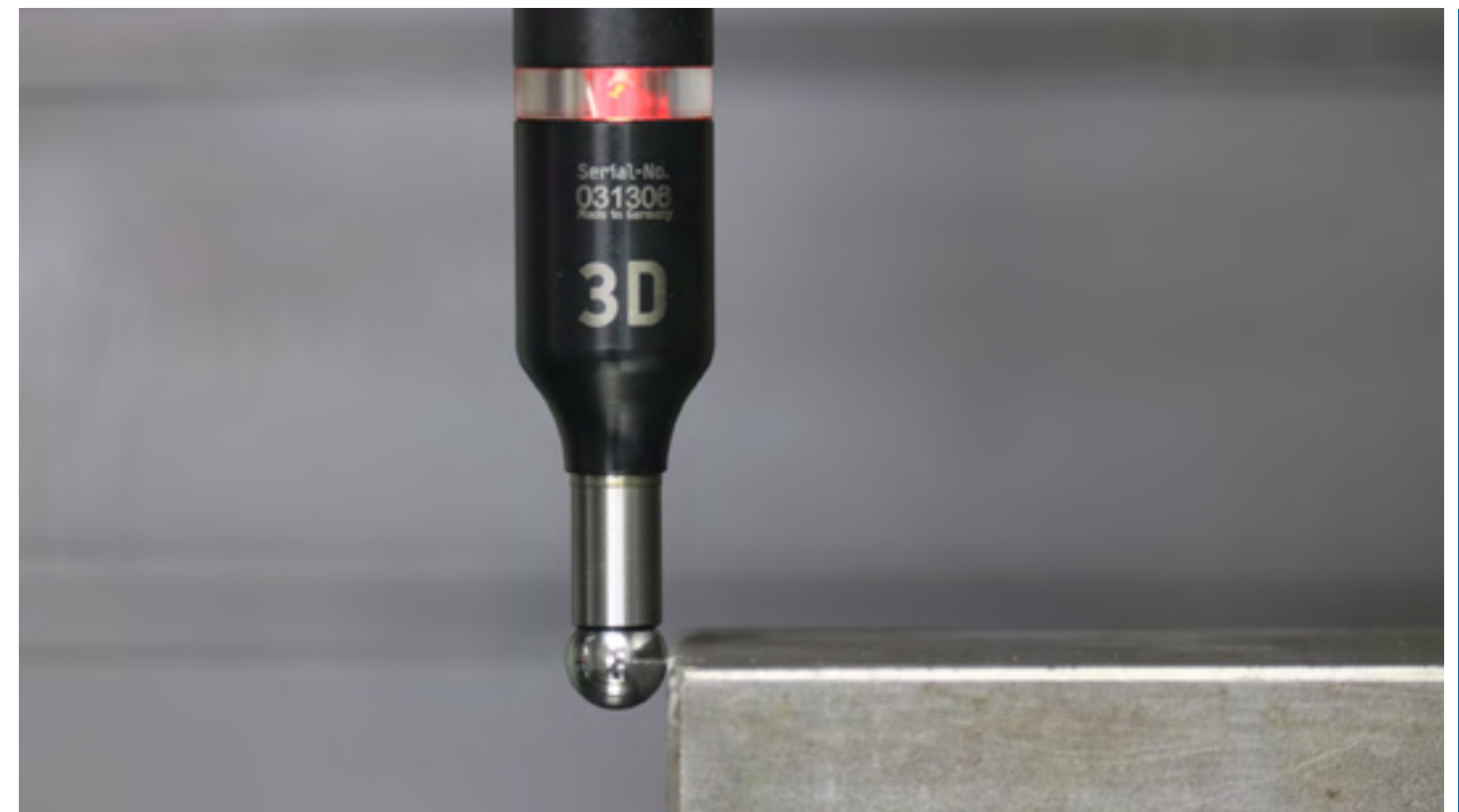
Repair service



Crashed?

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Edge finders optical

Edge finders 3D

Developed by us.
Produced only by us.

Functionality:

If a conductive workpiece and the probing ball touch (within the axis X, Y and Z), the electrical circuit gets closed and a LED signal appears.

When the LED signal appears, the workpiece's edge is reached with a distance of 5 mm (= radius of probing ball Ø10).

In Z axis, the reference length has to be measured and taken into account respectively.



Probing X/Y axis

Probing X/Y axis

Pass over

Probing Z axis



Probing accuracy ≤ 0.010 mm

3D version:
Probing in X, Y and Z



Application:

For accurate zero point determination and bore centers to the spindle with an accuracy of probing smaller than 0.010 mm.

Please note:

Protection against humidity is essential for the edge finder due to the built-in electronic components.

Delivery includes:

Edge finder with serial number and test certificate in a plastic case.

Article No.	Description	Shank	Length	Probing ball	Battery
001031200	Edge finder 3D	Ø12	approx. 111	Ø10	12V-Type 27A
001031600	Edge finder 3D	Ø16	approx. 111	Ø10	12V-Type 23A
001032000	Edge finder 3D	Ø20	approx. 106	Ø10	12V-Type 23A
001032500	Edge finder 3D	Ø25	approx. 116	Ø10	12V-Type 23A
00103M200	Edge finder 3D	MK2	approx. 146	Ø10	12V-Type 27A



Edge finders optical 3D in wooden case

Article No.	Description	Shank	Length	Probing ball	Battery
001031299	Edge finder 3D	Ø12	approx. 111	Ø10	12V-Type 27A
001031699	Edge finder 3D	Ø16	approx. 111	Ø10	12V-Type 23A
001032099	Edge finder 3D	Ø20	approx. 106	Ø10	12V-Type 23A
001032599	Edge finder 3D	Ø25	approx. 116	Ø10	12V-Type 23A



Edge finder optical 2D

Probing accuracy ≤ 0.010 mm



2D version:
Probing in X, Y and Z



Application:

For accurate zero point determination and bore centers to the spindle with an accuracy of probing smaller than 0.010 mm.

Please note:

Protection against humidity is essential for the edge finder due to the built-in electronic components.

Delivery includes:

Edge finder with serial number and test certificate in a plastic case.

Article No.	Description	Shank	Length	Probing ball	Battery
001021200	Edge finder 2D	Ø12	approx. 99	Ø10	12V-Type 27A
001021600	Edge finder 2D	Ø16	approx. 99	Ø10	12V-Type 23A
001022000	Edge finder 2D	Ø20	approx. 94	Ø10	12V-Type 23A
001022500	Edge finder 2D	Ø25	approx. 104	Ø10	12V-Type 23A
00102M200	Edge finder 2D	MK2	approx. 133	Ø10	12V-Type 27A

Edge finder optical 2D in wooden case

Article No.	Description	Shank	Length	Probing ball	Battery
001021299	Edge finder 2D	Ø12	approx. 99	Ø10	12V-Type 27A
001021699	Edge finder 2D	Ø16	approx. 99	Ø10	12V-Type 23A
001022099	Edge finder 2D	Ø20	approx. 94	Ø10	12V-Type 23A
001022599	Edge finder 2D	Ø25	approx. 104	Ø10	12V-Type 23A



Edge finder optical 2D Eco

TschornECO

The cost-effective version of our optical 2D edge finder:
without serial number, without factory certificate - but Made in Germany

Article No.	Description	Shank	Length	Probing ball	Battery
0010216EP	Edge finder 2D	Ø16	approx. 99	Ø10	12V-Type 23A
0010220EP	Edge finder 2D	Ø20	approx. 94	Ø10	12V-Type 23A



Crashed? Contact your reseller for repair service!

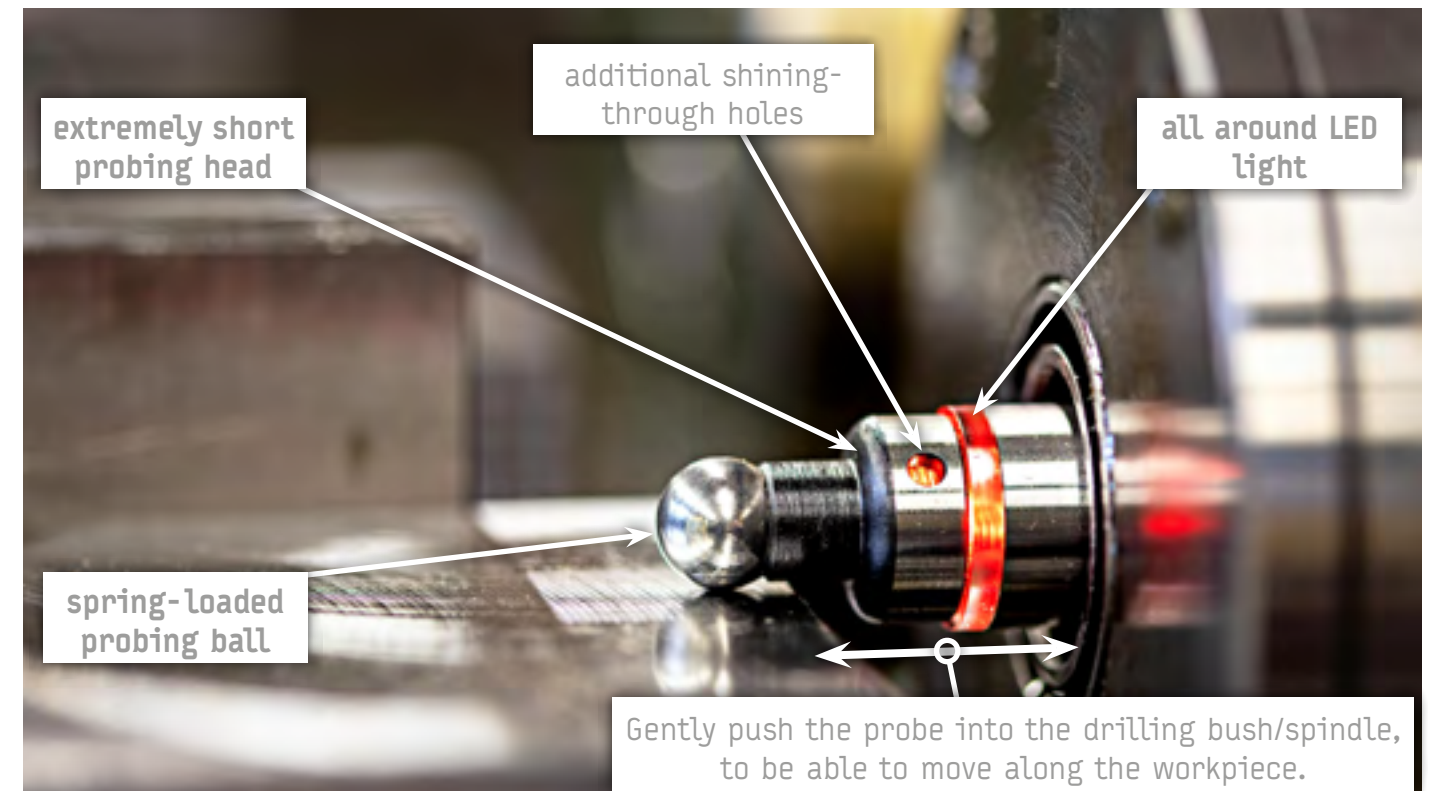
Spare parts for optical edge finders

Article No.	Description	Volt
0011Z6000	Spare battery 23A	12V
0012Z6000	Spare battery 27A	12V



Edge finder gun-drilling

Quick and precise determination of the workpiece position on gun-drilling machines



Innovative construction:

The shank and the probe head have been optimized for the use on gun-drilling machines. The construction has been optimized in a way that the edge finder can be pushed gently into the drilling bush/spindle. That's why the edge finder can be moved past the workpiece even if the distance between the drilling bush and the workpiece is extremely small.

Optical LED probing signal:

Thanks to additional shining-through holes and the all around LED light, the LED probing signal can always be seen easily and clearly, even when the distance between the drilling bush and the workpiece is very close.

Operating mode:

The red LED of the edge finder lights up as soon as the ball touches an electrical conductive workpiece. This reduces the time required to determine the workpiece position to a minimum compared to the conventional method.

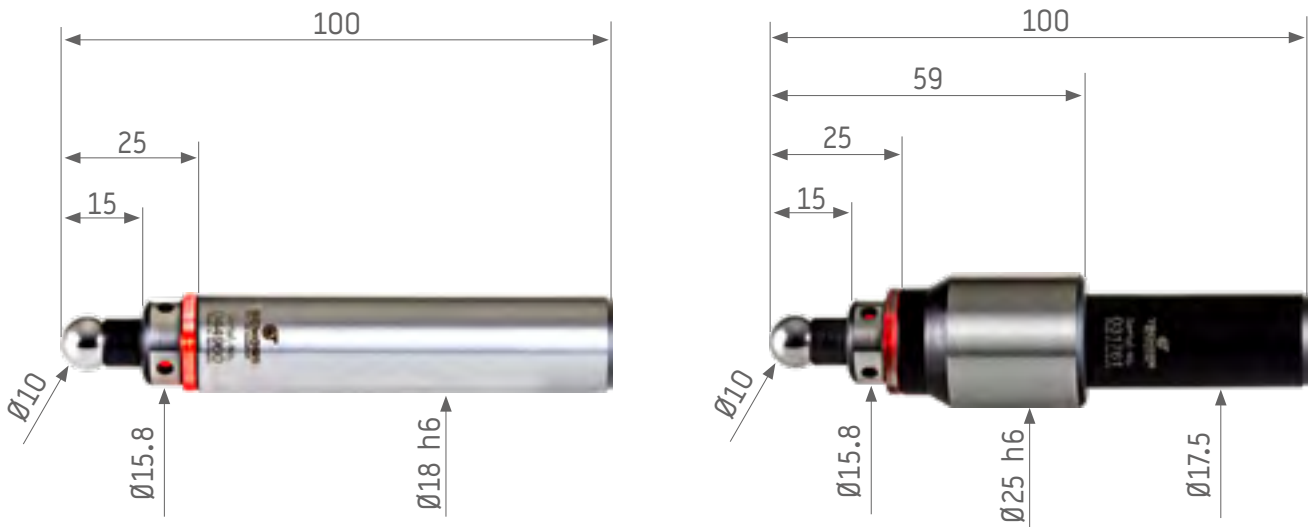
Built-in security:

The probing ball is spring-mounted in the edge finder. This ensures protection from overrunning in X and Y.



Wide application range: chose between two shank diameters Ø18 and Ø25.
The edge finder for gun-drilling is clamped directly at the shank in the drilling bush/spindle.

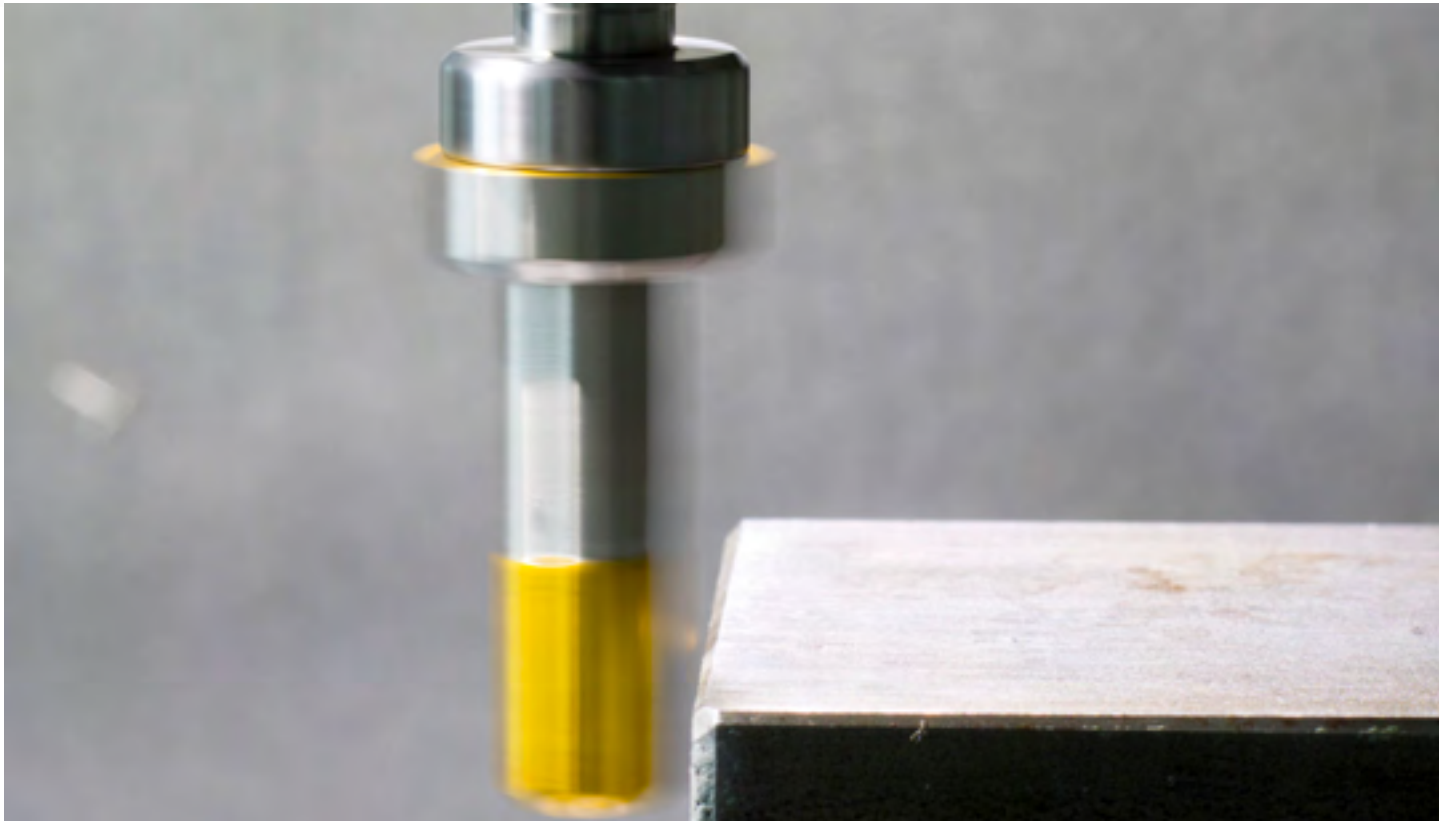
Edge finder gun-drilling



Article No.	Description	Shank	Probing ball
001821800	Edge finder gun-drilling 2D - shank Ø18	Ø18	Ø10
001822500	Edge finder gun-drilling 2D - shank Ø25	Ø25	Ø10
0011Z6000	Spare battery 23A		



Crashed? Contact your reseller for service!



Edge finders mech.

The origin of all testers!

To approach reference surfaces or edges with a highly precise repeatability. We deliver all standard version edge finders with probe head Ø6 mm, Ø10 mm as well as the popular probe head Ø10/4 mm. Shanks are available with Ø6 mm, Ø10 mm and also Ø8 mm.

Special versions are our TIN edge finders. These are made out of antimagnetical stainless steel and are coated with a wear-resistant TIN layer.

We deliver all our edge finders in a plastic case. We also offer a wooden case for storage.



1. The edge finder body can be tilted out from the axis' centre by a gentle tip of the finger and is out-of-the-round.



2. By slowly and carefully approaching the rotating edge finder to the respective reference surface, the oscillation movement steadies successively.



3. When reaching the final position, the edge finder body passes along the edge. Now, the position corresponds to the radius of the tracer.



001001000

001010400

001081000

001081400

001000600

Edge finders mechanical



Standard version:

(Made in India)

The standard version is manufactured by our long-term supplier in India according to our quality standards. Here in Germany, we check the edge finders in details in our quality laboratory so that we can guarantee the unique quality of our edge finders.

Article No.	Description	Shank	Tester
001000600	Edge finder mech.	Ø6	Ø6
001001000	Edge finder mech.	Ø10	Ø10
001010400	Edge finder mech.	Ø10	Ø10 / Ø4
001081000	Edge finder mech.	Ø8 (Ø10)	Ø10
001081400	Edge finder mech.	Ø8 (Ø10)	Ø10
001000699	Edge finder (in wooden case)	Ø6	Ø6
001001099	Edge finder (in wooden case)	Ø10	Ø10
001010499	Edge finder (in wooden case)	Ø10	Ø10 / Ø4
001081099	Edge finder (in wooden case)	Ø8 (Ø10)	Ø10
001081499	Edge finder (in wooden case)	Ø8 (Ø10)	Ø10 / Ø4



Edge finders TIN



TIN version:

(Made in Germany)

The TIN version is **antimagnetical** and the probe head is made out of stainless steel. The probe head is covered with a wear-resistant TIN layer.

Article No.	Description	Shank	Tester
001TIN010	Edge finder TIN	Ø10	Ø10
001TIN104	Edge finder TIN	Ø10	Ø10 - Ø4



Edge finders straight

Straight version without collar

(Made in India)

Artikel-Nr.	Description	Shank	Tester
001010000	Edge finder mech. Ø10 / Ø10 (straight)	Ø10	Ø10
001010600	Edge finder mech. Ø6-Ø10 / Ø10 (straight)	Ø10	Ø6 - Ø10



Edge finders ECO

TSCHORN ECO

The cost-efficient version of our mechanical edge finders.
(Made in India)

Article No.	Description	Shank	Tester
0010010EP	Edge finder mech.	Ø10	Ø10
0010104EP	Edge finder mech.	Ø10	Ø10 / Ø4



Spare springs

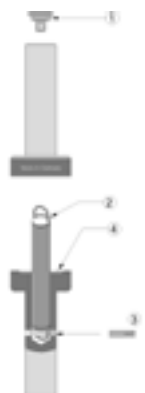


Article No.	Description	Shank	Tester
001Z01000	Spare spring Ø4,6 x 40 (package contains: 10 pcs.)	Ø10 / Ø8	Ø10 / Ø10-Ø4
001Z00600	Spare spring Ø2,6 x 25 (package contains: 10 pcs.)	Ø6	Ø6

Repair kit

Content:

- 1 - Cover
- 2 - Spring
- 3 - Pin
- 4 - Mounting paste



Article No.	Description	Shank	Tester
001K01000	Repair Kit	Ø10 / Ø8	Ø10 / Ø10-Ø4
001K00600	Repair Kit	Ø6	Ø6

Coaxial indicator CENTREplus V2

For simple centering of boreholes and spindles.



Application:

To determine centres of a circle to the spindle with a probing accuracy < 0.010 mm. The dial gauge shows 1/100 mm sub-steps.

Design:

Thanks to the horizontal arrangement of the dial gauge, you can always see the dial gauge.



Fine adjustment:

With the fine adjustment, you can position the dial gauge precisely.

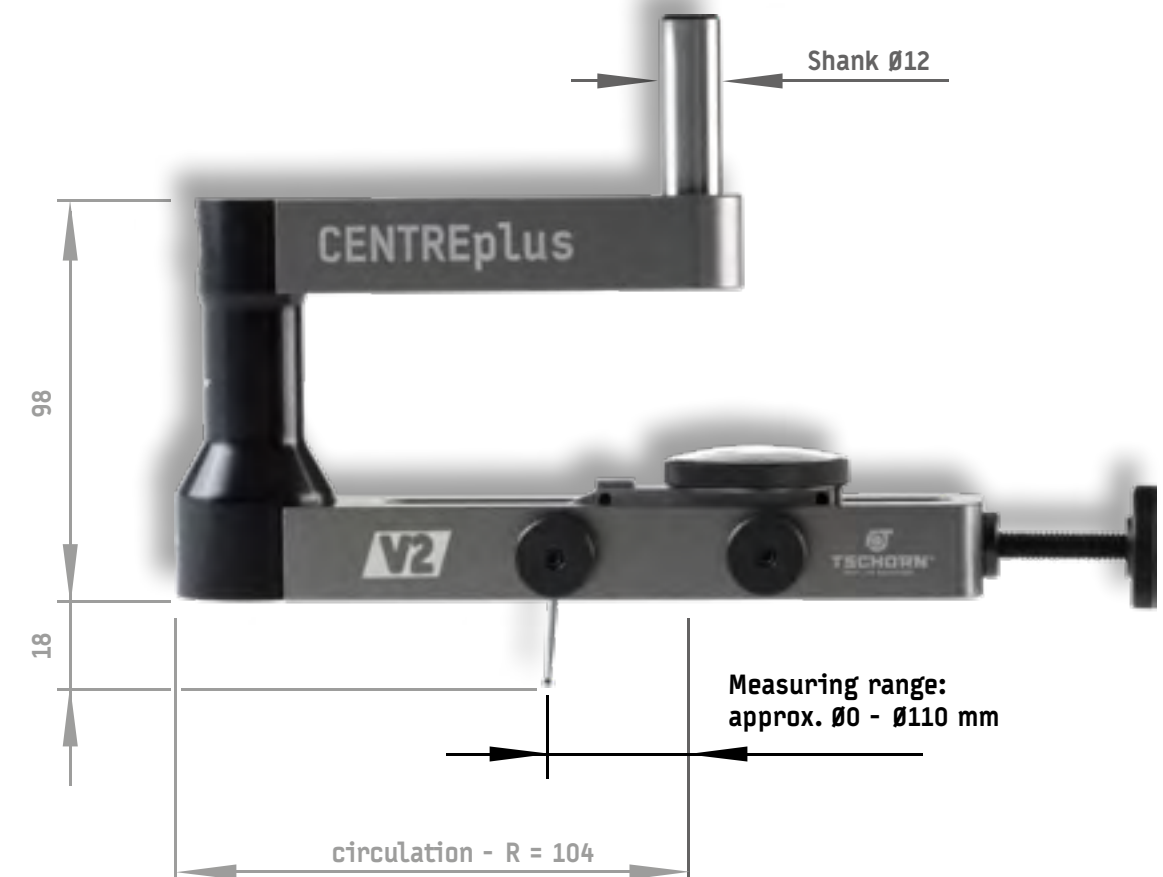


Clamping:

With the two knurled screws, you can clamp the dial gauge quickly and precisely.

The **high-class Peacock dial gauge** offers you additional benefits:

- 30% longer sensor
- thereby more flexible processing options
- Peacock dial gauge: precision Made in Japan
- incl. Peacock test certificate



Optional spare part:

You can order separately a short-arm which increases the measuring range up to Ø200 mm.



Article No.	Description	Shank
0017C2012	Coaxial indicator CENTREplus V2 Ø0-Ø110 (without dial gauge)	Ø12
0017C2098	Dial gauge for coaxial indicator V2	
0017C1099	Short arm (measuring range up to Ø200)	



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Repair service



Crashed?

All our devices can be repaired.

Our worldwide resellers support you for any repair or service question.



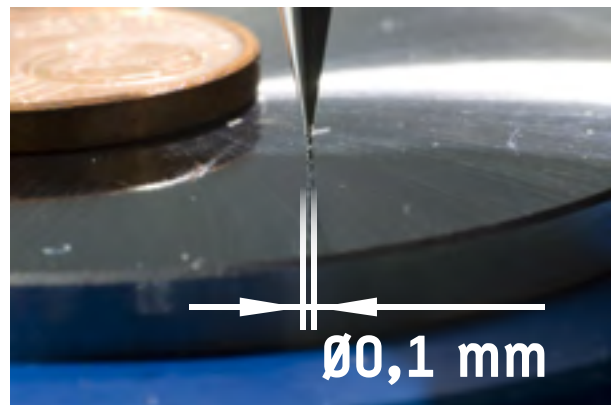
Zero setters

Zero setter Micro



Micro tools:

We even measured milling tools with $\varnothing 0,1$ mm without any problems.



Simple adjustment:

Push tester
Small indicator at -2 mm
Turn scale for large indicator to 0
Ready!

Application:

To determine the position of workpiece surfaces or tool lengths in Z-direction at milling machines or lathes. The zero setter is placed on the workpiece. The spindle has to be moved carefully onto the tracer until the dial gauge indicates „0“. The reference dimension 100 mm to the workpiece has been reached. A safety spring range of max. 2 mm is included.

Type:

To allow lateral mounting, a zero setter with built-in magnets is also available.

Delivery includes:

Zero setter with serial number and test certificate.

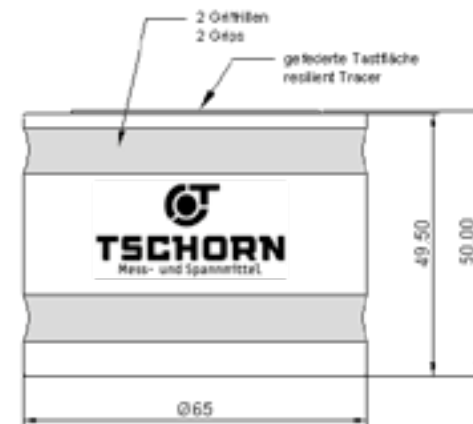


Article No.	Description	Body	Tester
002400100	Zero setter Micro 100 mm	Ø54,5	Ø42
002402100	Zero setter Micro 100 mm (Magnet)	Ø54,5	Ø42
002UM0100	Spare dial gauge for zero setter Micro 100 mm		



Crashed? Contact your reseller for repair service!

Zero setter mechanical



Application:

To determine the position of workpiece surfaces or tool lengths in Z-direction at milling machines or turning lathes. The zero setter is placed on the workpiece. The spindle has to be moved carefully onto the tracer until the dial gauge indicates „0“. The reference dimension 50 mm to the workpiece has been reached. A safety spring range of max. 2 mm is included.

Type:

To allow lateral mounting, a zero setter with built-in magnets is also available.

Delivery includes:

Zero setter with serial number and test certificate.



Article No.	Description	Body	Tester
002101000	Zero setter 50 mm	Ø65	Ø47
002102000	Zero setter 50 mm (with magnet)	Ø65	Ø47

Zero setter mechanical Eco

TSCHORNECO

The cost-efficient version of our mechanical zero setters: without serial number, without factory certificate - but Made in Germany



Article No.	Description	Body	Tester
0021010EP	Zero setter ECO 50 mm	Ø39	Ø20
0021020EP	Zero setter ECO 50 mm (with magnet)	Ø39	Ø20



Crashed? Contact your reseller for repair service!

Spare parts for mechanical zero setters

Article No.	Description	Body	Reading
002U01000	Spare dial gauge	Ø40	0,01 mm



Zero setter optical

Quick length measurement when turning and milling.

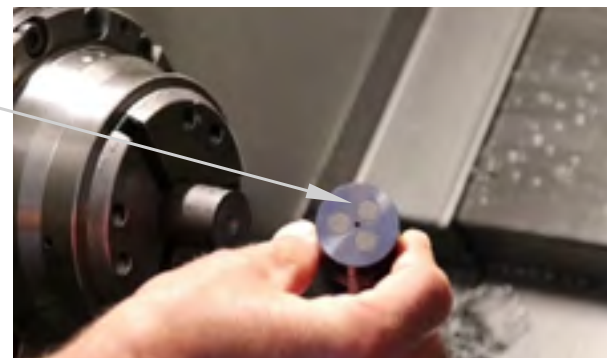


Application on the lathe thought-out in detail

Secure horizontal grip
already at Ø8
thanks to 3 powerful magnets



Tolerance for the turning scrap,
avoids measuring faults



Application:

To determine the position of workpiece surfaces or tool lengths in Z-direction at milling machines or lathes. The zero setter is placed on the workpiece. The spindle has to be moved carefully onto the tracer until the dial gauge indicates „0“. The reference dimension 60 mm to the workpiece has been reached. A safety spring range of max. 2 mm is included.

Type:

To allow lateral mounting, a zero setter with built-in magnets is also available.

Delivery includes:

Zero setter with serial number and test certificat.

Article No.	Description	Body	Tester
002060100	Zero setter optical 60 mm	Ø32	Ø19
002060200	Zero setter optical 60 mm (with magnet)	Ø32	Ø19
0013Z4400	Spare battery SR44		



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Repair service



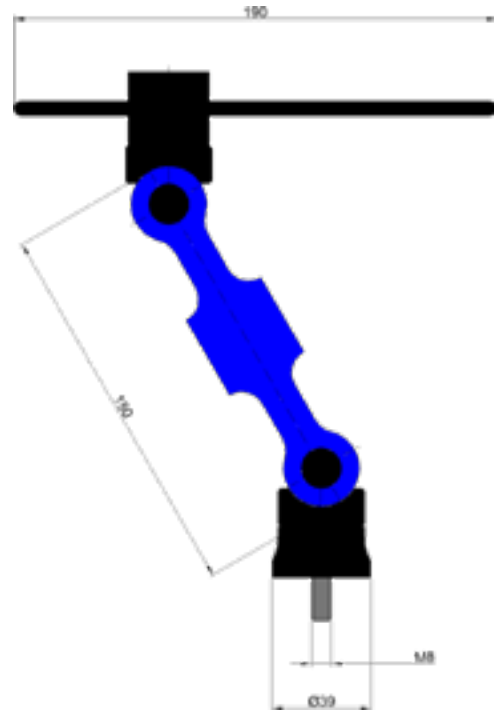
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5D workpiece stopper



Combination element
to extend or to
combine two stoppers



Application:

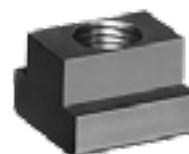
One of the various application of the workpiece stopper is as a versatile instrument for the positioning on processing machines or during assembly.

Delivery includes:

Workpiece stopper with slide block M8x12 and fitting hexagon key.

Article No.	Description	Size
003420150	5D workpiece stopper	150
003400Z01	Combination element	
020080028	Slide block	M8 x 10
020140301	Slide block	M8 x 12
020140327	Slide block	M8 x 14
020153460	Slide block	M8 x 16
020153478	Slide block	M8 x 18

Side block
10 - 18 mm



Workpiece stoppers with magnet



With its built-in magnets the workpiece stopper gets fixed directly to a bench vice (for example) and applies for exact positioning of your workpiece. After clamping, it can simply be removed and releases the positioning surface for processing.

The FlexiMag version is also equipped with a flexible rotate and swivel mechanism and makes it possible to position in a wide variety of places.

EasyMag



FlexiMag



Article No.	Description	Shank	Holding force
003420001	FlexiMag - workpiece stopper	Ø30	200 N
003420002	EasyMag - workpiece stopper	Ø30	200 N





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Clamping systems



Quick setting with the clamping bolts: move each single bolt without clamping screw into the slide block of the machine table and position the bolt by hand as a stopper at the workpiece. Tighten the clamping bolt and it automatically helps you to position the workpiece.

Flexible for diverse workpiece shapes: no matter if round, oval, quadratical or even pentagonal - with the help of the clamping bolts, you can clamp all forms.



Safely fixed: the clamping screws are added from above. They clamp the workpiece powerfully and securely. A soft exchangeable brass ring avoids damages or scratches at the workpiece.

Drill-through: there is not much disturbing space under the workpiece - no clamping jaws, no base, nothing is disturbing when you drill-through your workpiece with diverse divisions of pitch circles.

The small disturbing contour enables multi-purpose machining even at places which you normally hardly reach.



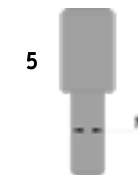
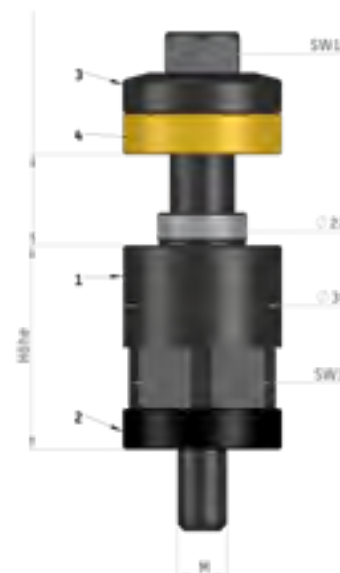
Clamping bolt 50 mm
with thread
M10 oder M12



Clamping bolt 100 mm
with exchangeable
threaded bolt



Clamping bolt 150 mm
with exchangeable
threaded bolt



- 1 - clamping bolt
- 2 - spring washer
- 3 - clamping screw
- 4 - clamping ring
- 5 - threaded bolt

Type:

Flexible clamping tool for direct clamping on the machine table with direct fixation in the T-slot. Precise tolerance classes guarantee parallel clamping to the machine table. For the bolts with length 100 mm and 150 mm, exchangeable threaded bolts are available. The clamping ring prevents a damage of the workpiece.

Almost all types of flat workpieces can be clamped powerfully and precisely with these clamping bolts. The standard clamping range is 8-40 mm. With the clamping screws (available as spare part) it can be widened to a maximum of 87 mm.

Scope of delivery for height 50 mm:

Clamping bolts with fixed thread, ring & clamping screw with clamping ring

Article No.	Description	Height	Thread
003000050	Clamping bolt	50 mm	M10
003M12050	Clamping bolt	50 mm	M12

Scope of delivery for height 100 mm/150 mm:

Clamping bolts, threaded bolt M10, ring & clamping ring with clamping screw

Article No.	Description	Height	Thread
003000100	Clamping bolt	100 mm	M10
003000150	Clamping bolt	150 mm	M10



Ersatzteile für Aufspannbolzen

Article No.	Description	Thread
003000Z00	Washer	-
003000Z02	Clamping ring	-
003000Z01	Clamping screw	8 mm - 40 mm
003000Z03	Clamping screw	40 mm - 67 mm
003000Z04	Clamping screw	65 mm - 87 mm
003000M10	Threaded bolt	M10
003000M12	Threaded bolt	M12
003000M14	Threaded bolt	M14
003000M16	Threaded bolt	M16

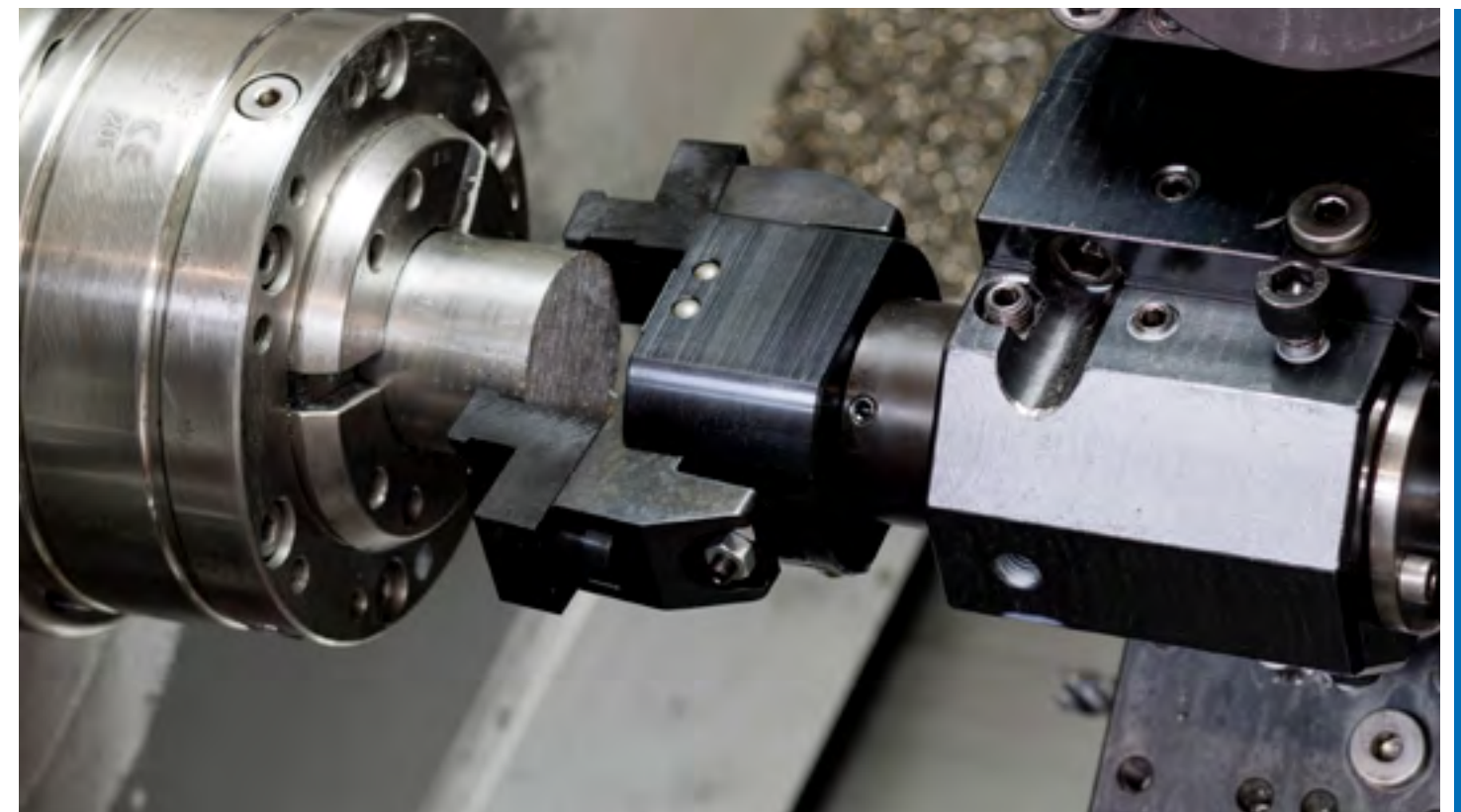


Set of clamping bolts

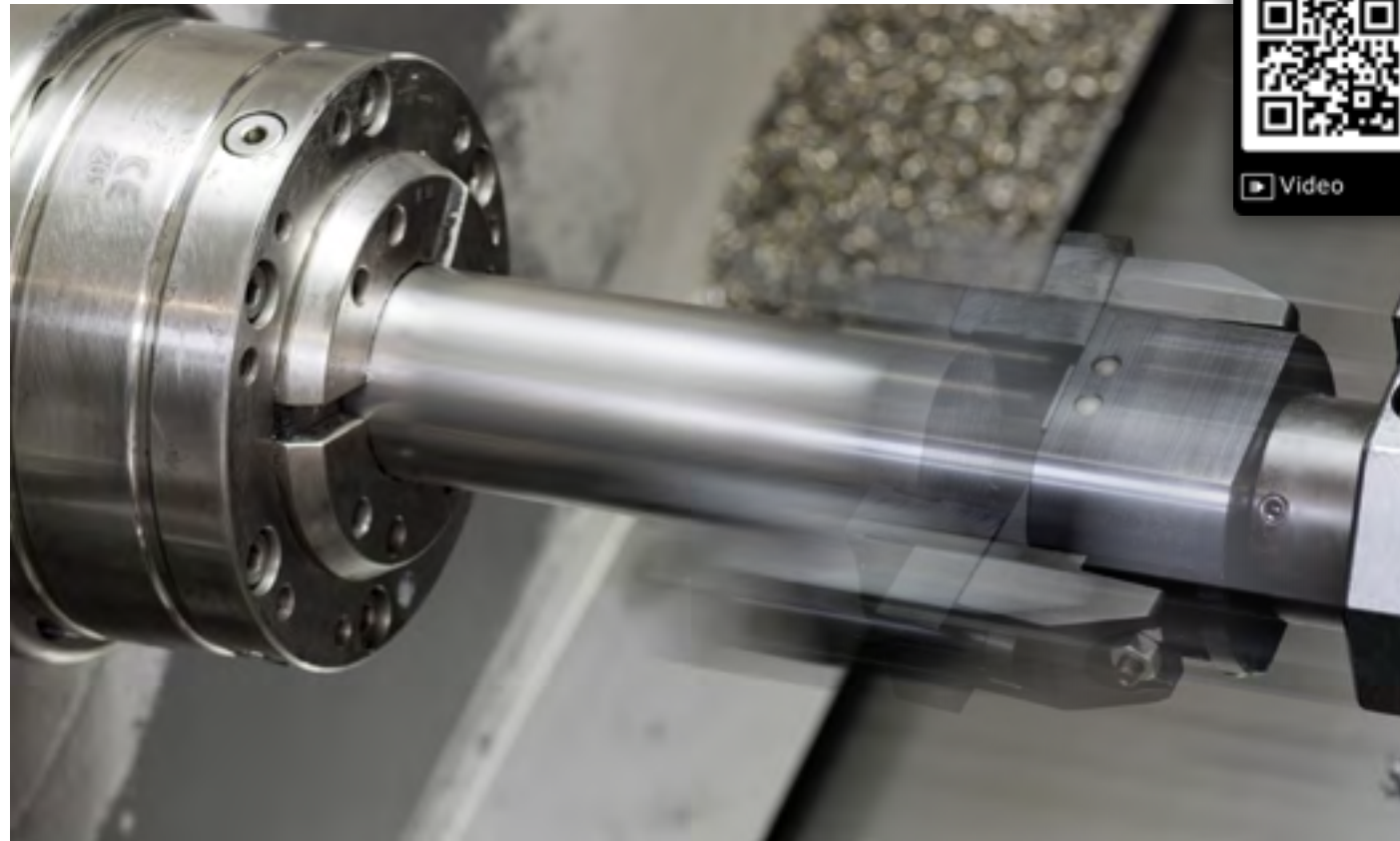
Delivery includes:

3 pcs. clamping bolts length 50 or 100, 3 pcs. clamping screw 40-67, 3 pcs. clamping screw 65-87, 1 pcs. The set is in a high-quality wooden case.

Article No.	Description	Height	Thread
003990050	Clamping bolt set	50 mm	M10
003990100	Clamping bolt set	100 mm	M10



Automate your lathe!



You do not want to stand permanently at the machine and insert material?

A bar gripper does this work for you. It automates your lathe - now your lathe is a fully automated production centre and saves money and time.

Easy and quickly, the bar gripper pulls the raw material and the machine goes on with the production directly. You do not need any expensive employees who add the material.

The bar gripper is available in diverse shank sizes - this is why you can use it on every lathe. Thanks to the flexible reversible jaws, it is usable in a wide clamping range which enables a wide range of applications.



Position the bar gripper in Z axis in front of the bar.



Now move onto the bar and open the chuck.



Pull the bar to the desired position in Z.



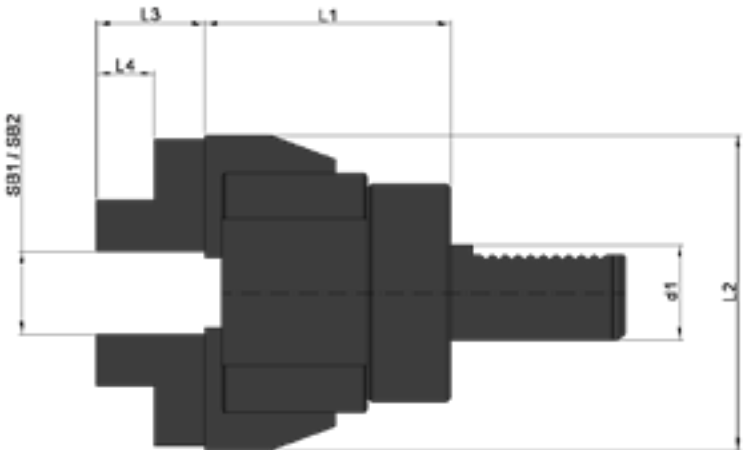
Close the chuck.



Move the bar gripper in Z direction off the bar and start machining.

Important note of safety:

Please use appropriate reducing tubes in your spindle and make sure that the rotating bar does not protrude out of the machine.



Delivery includes:
Bar gripper, set of reversible clamping jaws

Bar gripper with VDI shank

Article No.	Description	Shank	SB1	SB2	L1	L2	L3	L4
OOSTG2000	Bar gripper	VDI20	6-45	45-100	77	99	34	18
OOSTG3000	Bar gripper	VDI30	6-45	45-100	77	99	34	18
OOSTG4000	Bar gripper	VDI40	6-56	56-100	79	111	34	18
OOSTG5000	Bar gripper	VDI50	6-56	56-100	79	111	34	18

Bar gripper with cylindrical shank

Article No.	Description	Shank	SB1	SB2	L1	L2	L3	L4
OOSTG20ZY	Bar gripper	Ø20	6-45	45-100	77	99	34	18
OOSTG25ZY	Bar gripper	Ø25	6-45	45-100	77	99	34	18
OOSTG32ZY	Bar gripper	Ø32	6-45	45-100	77	99	34	18
OOSTG40ZY	Bar gripper	Ø40	6-56	56-100	79	111	34	18

Spare parts

Article No.	Description
OOSTG0001	Set of reversible clamping jaws



Assembly system

The practical assistant for quick and easy tool changes!

Long-lasting



Flexible



Quick



Rotatable



The assembly system is flexible: all popular adapter types and sizes are available and offer a quick and precise handling of your tools. The change of the adapters is easy and simple – you can mount your tools holders within seconds.

The assembly system is not only time-saving but also helps you to have long-lasting tool holders: thanks to our unique technology, the tool holder is not clamped at its precise conus - the conus is free. This is safer for your tool holders and no damages ensure a precise processing of the parts you have to manufacture.

As the adapter is **rotatable**, you can turn your tool at any time within seconds to the desired position. This enables **ergonomic** and healthy working conditions.

Also **job safety** is important. All adapters have been developed to guarantee form-closed and safe fixation of the tool holders. It is not possible to slip off, even not with a lot of power. This prevents accidents and injuries.

Ergonomic



Safe



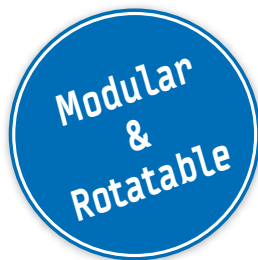


IS026623
PSC

DIN69893
HSK-A

DIN69871
SK

DIN69880
VDI



Type

- aluminum body
- 4 x 90° revolving
- modular tool holders made of steel
- quick and easy exchange system
- high fl exibility
- interlocking fi xation of the tools
- conus cannot be damaged
- minimum space required
- optimal ergonomics
- quick and safe tool exchange within seconds



Assembly system basic unit

Article No.	Description
004000000	Assembly system basic unit



Assembly system adaptors

Article No.	Description	Norm	Size
004100130	Adaptor	JIS B 6339 – BT40	SK30
004100140	Adaptor	DIN69871, JIS B	SK40
004100150	Adaptor	DIN69871, JIS B	SK50
004100540	Adaptor	DIN69893	HSK40-A
004100550	Adaptor	DIN69893	HSK50-A
004100563	Adaptor	DIN69893	HSK63-A
004100580	Adaptor	DIN69893	HSK80-A
004100510	Adaptor	DIN69893	HSK100-A
004100620	Adaptor	DIN69880	VDI20
004100625	Adaptor	DIN69880	VDI25
004100630	Adaptor	DIN69880	VDI30
004100640	Adaptor	DIN69880	VDI40
004100650	Adaptor	DIN69880	VDI50
004100C32	Adaptor	ISO26623	PSC32
004100C40	Adaptor	ISO26623	PSC40
004100C50	Adaptor	ISO26623	PSC50
004100C63	Adaptor	ISO26623	PSC63
004100C80	Adaptor	ISO26623	PSC80



Assembly device



Assembly device with tool holder made out of steel for **safe clamping** of your tool holders. Thanks to a unique technology, the tool holders are not clamped at their precise cones. So the cones are free. This is unique safe for your tool holders and ensures **precise processing** of the parts you have to manufacture.



Turn your tool at any time within seconds into the desired position. Ergonomic and healthy working conditions thanks to the **practical rotating function**.

The assembly device is **stepless rotatable** at 45° to the left and 45° to the right.



The assembly device is available at the sizes SK30, SK40, HSK63 as well as VDI25, VDI30 and VDI40. Other sizes are available on request.



Article No.	Description	Norm	Size
004300130	Assembly device	DIN69871, JIS B	SK30
004300140	Assembly device	DIN69871, JIS B, DIN2080	SK40
004300563	Assembly device	DIN69893	HSK63
004300625	Assembly device	DIN69880	VDI25
004300630	Assembly device	DIN69880	VDI30
004300640	Assembly device	DIN69880	VDI40

Other sizes are available on request.



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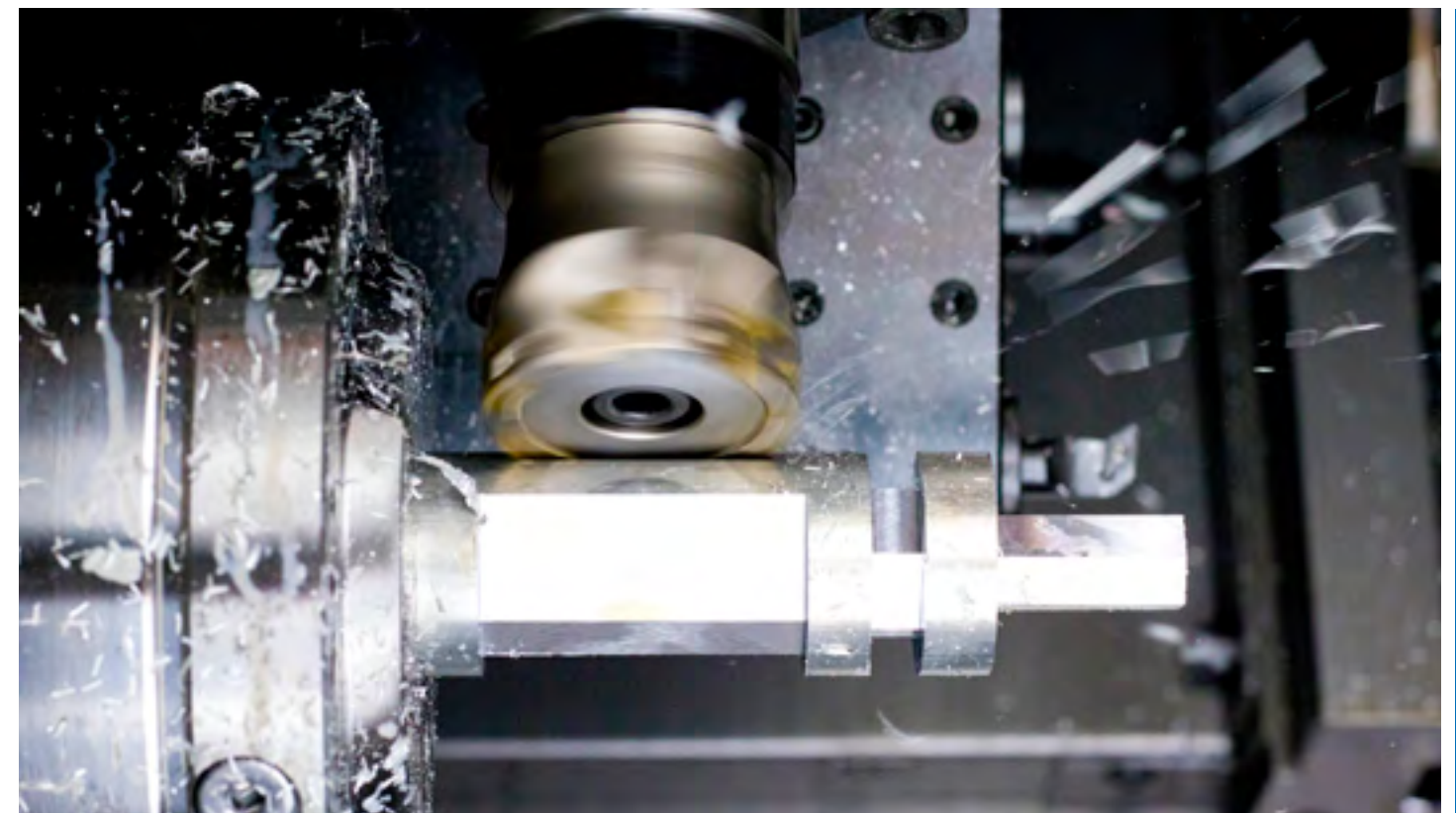
Repair service



Crashed?

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Tool holders

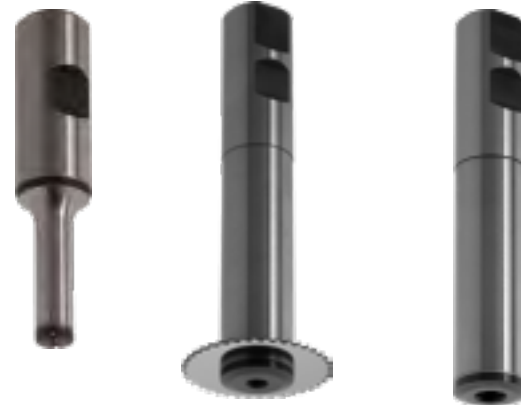
Saw blade holders

Application:

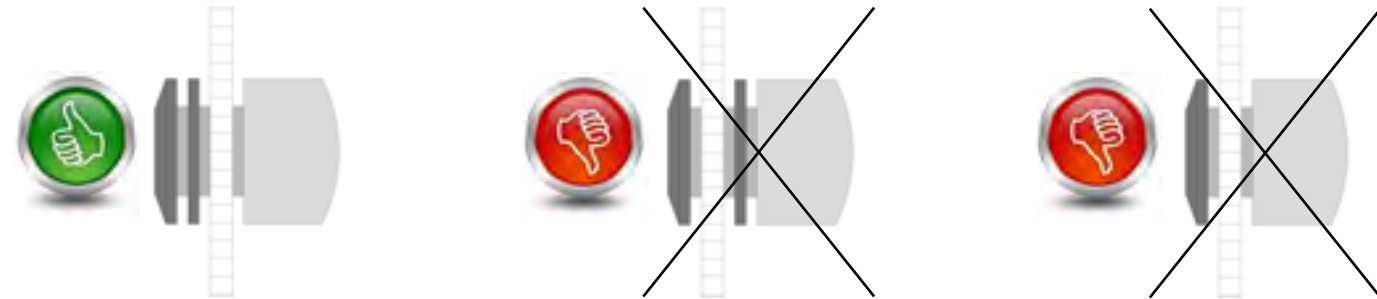
For precise holding of saw blades.

Type:

With parallel shank for a fixture in plain chuck jaws, high true running accuracy.



For the precise use of your saw blade holder, please pay attention to the correct insertion of the washer (see picture below). When choosing your cutting data, e.g. cutting speed and the feed rate, please take into account that your saw blade is only held by surface pressure. Too high cutting data or a dull saw blade can lead to hooking or stopping of the saw blade which can result in damages at your workpiece, saw blade, saw blade holder or even at your machine.



Article No.	Description	L1	L2	D1	D2	D3
0000S1020	Saw blade holder for saw blade Ø20	75	30	Ø10	Ø10	Ø5
0000S2020	Saw blade holder for saw blade Ø20	90	30	Ø20	Ø10	Ø5
0000S1025	Saw blade holder for saw blade Ø25	88	48	Ø10	Ø13	Ø8
0000S2025	Saw blade holder for saw blade Ø25	100	42	Ø20	Ø13	Ø8
0000S1032	Saw blade holder for saw blade Ø32	93	53	Ø10	Ø16	Ø8
0000S2032	Saw blade holder for saw blade Ø32	105	53	Ø20	Ø16	Ø8
0000S1040	Saw blade holder for saw blade Ø40	100	60	Ø10	Ø19,5	Ø10
0000S2040	Saw blade holder for saw blade Ø40	110	60	Ø20	Ø19,5	Ø10
0000S1650	Saw blade holder for saw blade Ø50	126	78	Ø16	Ø24,5	Ø13
0000S2550	Saw blade holder for saw blade Ø50	136	78	Ø25	Ø24,5	Ø13
0000S1663	Saw blade holder for saw blade Ø63	126	78	Ø16	Ø24,5	Ø16
0000S2563	Saw blade holder for saw blade Ø63	136	78	Ø25	Ø24,5	Ø16
0000S2080	Saw blade holder for saw blade Ø80	142	92	Ø20	Ø34	Ø22
0000S2580	Saw blade holder for saw blade Ø80	150	92	Ø25	Ø34	Ø22
0000S2010	Saw blade holder for saw blade Ø100	142	92	Ø20	Ø39,5	Ø22
0000S2510	Saw blade holder for saw blade Ø100	150	92	Ø25	Ø39,5	Ø22



Saw blade holder set

Saw blade holders in the following sizes: Ø20, Ø25, Ø32, Ø40, Ø50 und Ø63 with allen key in a suitcase.

Article No.	Description
0000S0020	Saw blade holder set



Spare parts

Safe use of the saw blade holders:

The saw blade stops rotation when the cutting force is greater than the holding force. This can happen because chips have got stuck, the saw blade is worn or blunt or the cutting values have been selected inappropriately.

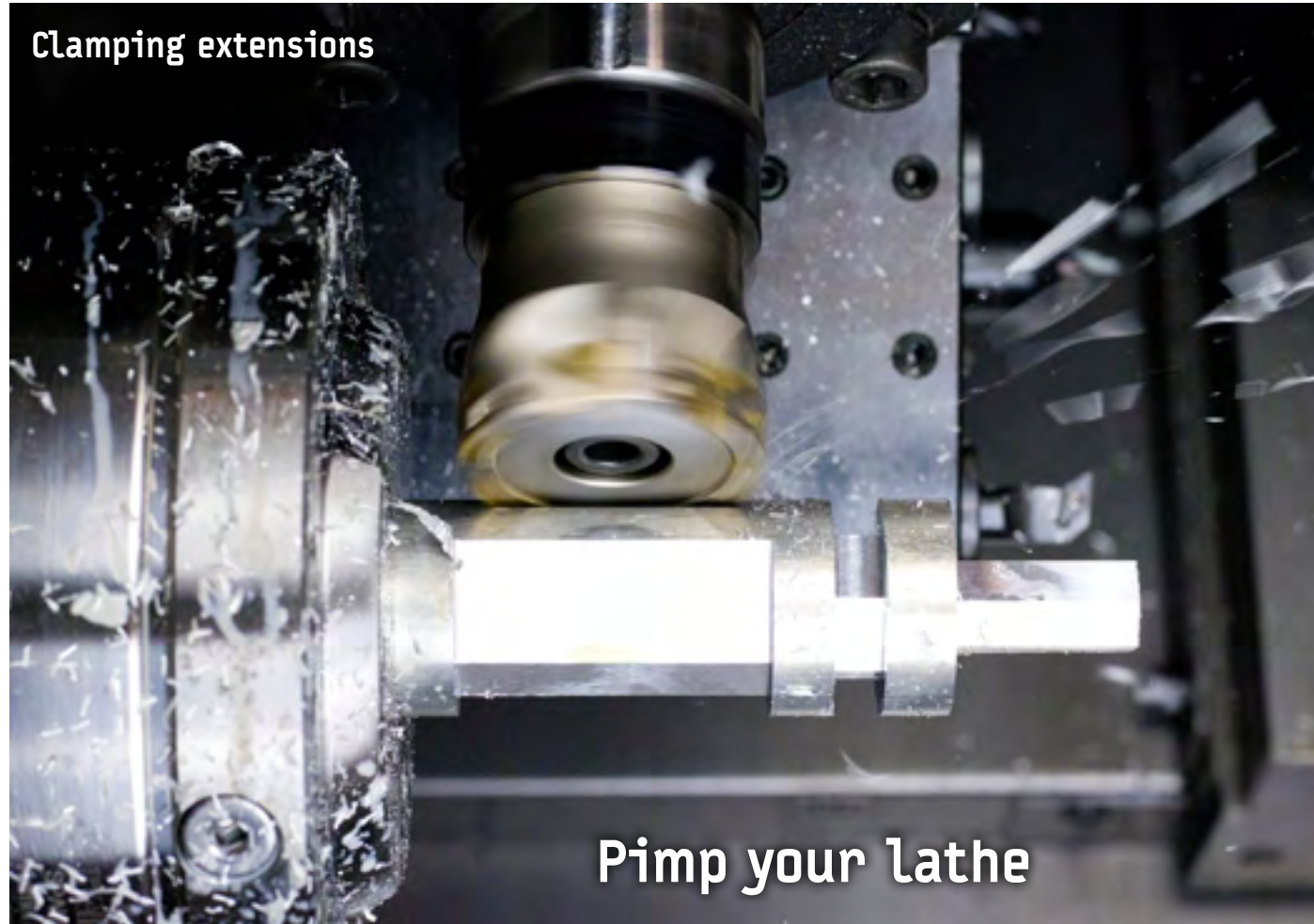
As the spindle continues rotation, a stopped saw blade can inevitably result in the screw being screwed into the saw blade holder and consequently shearing off the screw head completely.

If your saw blade or the screw is broken, please check whether the saw blade holder, the screw or the washer are damaged. If in doubt, we also recommend replacing the washer, as it protects and ensures the precision of your saw blade holder.

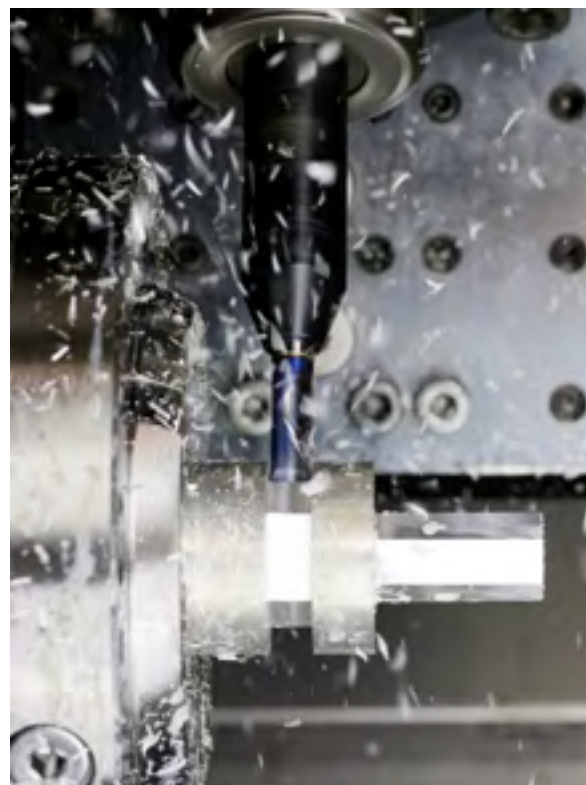
Article No.	Description	Size
0101S2020	Spare spring washer for saw blade holder	Ø20
0101S2025	Spare spring washer for saw blade holder	Ø25
0101S2032	Spare spring washer for saw blade holder	Ø32
0101S2040	Spare spring washer for saw blade holder	Ø40
0101S2550	Spare spring washer for saw blade holder	Ø50
0101S2563	Spare spring washer for saw blade holder	Ø63
0101S4080	Spare spring washer for saw blade holder	Ø80
0101S4010	Spare spring washer for saw blade holder	Ø100
0102S2020	Spare screw for saw blade holder	Ø20
0102S2025	Spare screw for saw blade holder	Ø25
0102S2032	Spare screw for saw blade holder	Ø32
0102S2040	Spare screw for saw blade holder	Ø40
0102S2550	Spare screw for saw blade holder	Ø50
0102S2563	Spare screw for saw blade holder	Ø63
0102S4080	Spare screw for saw blade holder	Ø80
0102S4010	Spare screw for saw blade holder	Ø100



Clamping extensions



Pimp your lathe



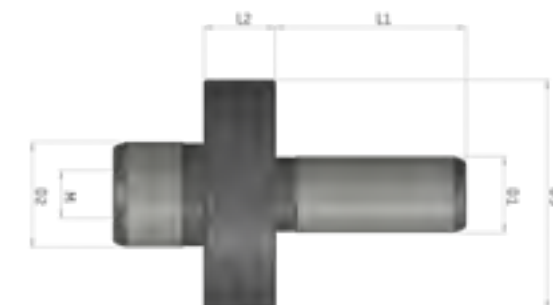
- The tool holder is disturbing?
- The milling tool is too short?
- Tools are clamped extremely long in order to be able to work with them?
- Collision ?!
- Vibrations ?!

If you know these problems, we have small and helpful solutions for you!

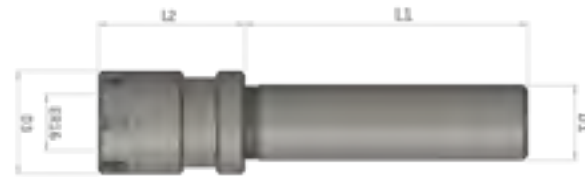


Article No.	Description	D1 (shank)	D2 (Weldon)	D3	L1	L2
00SPV1606	Clamping extension Ø6 - 60 mm	Ø16	Ø6	Ø18	40	60
00SPV1608	Clamping extension Ø8 - 60 mm	Ø16	Ø8	Ø20	40	60
00SPV1610	Clamping extension Ø10 - 60 mm	Ø16	Ø10	Ø23	40	60
00SPV1612	Clamping extension Ø12 - 60 mm	Ø16	Ø12	Ø25	40	60
00SPV1616	Clamping extension Ø16 - 60 mm	Ø16	Ø16	Ø29,5	40	60
00SPV2606	Clamping extension Ø6 - 30 mm	Ø16	Ø6	Ø18	40	30
00SPV2608	Clamping extension Ø8 - 30 mm	Ø16	Ø8	Ø20	40	30
00SPV2610	Clamping extension Ø10 - 30 mm	Ø16	Ø10	Ø23	40	30
00SPV2612	Clamping extension Ø12 - 30 mm	Ø16	Ø12	Ø25	40	30

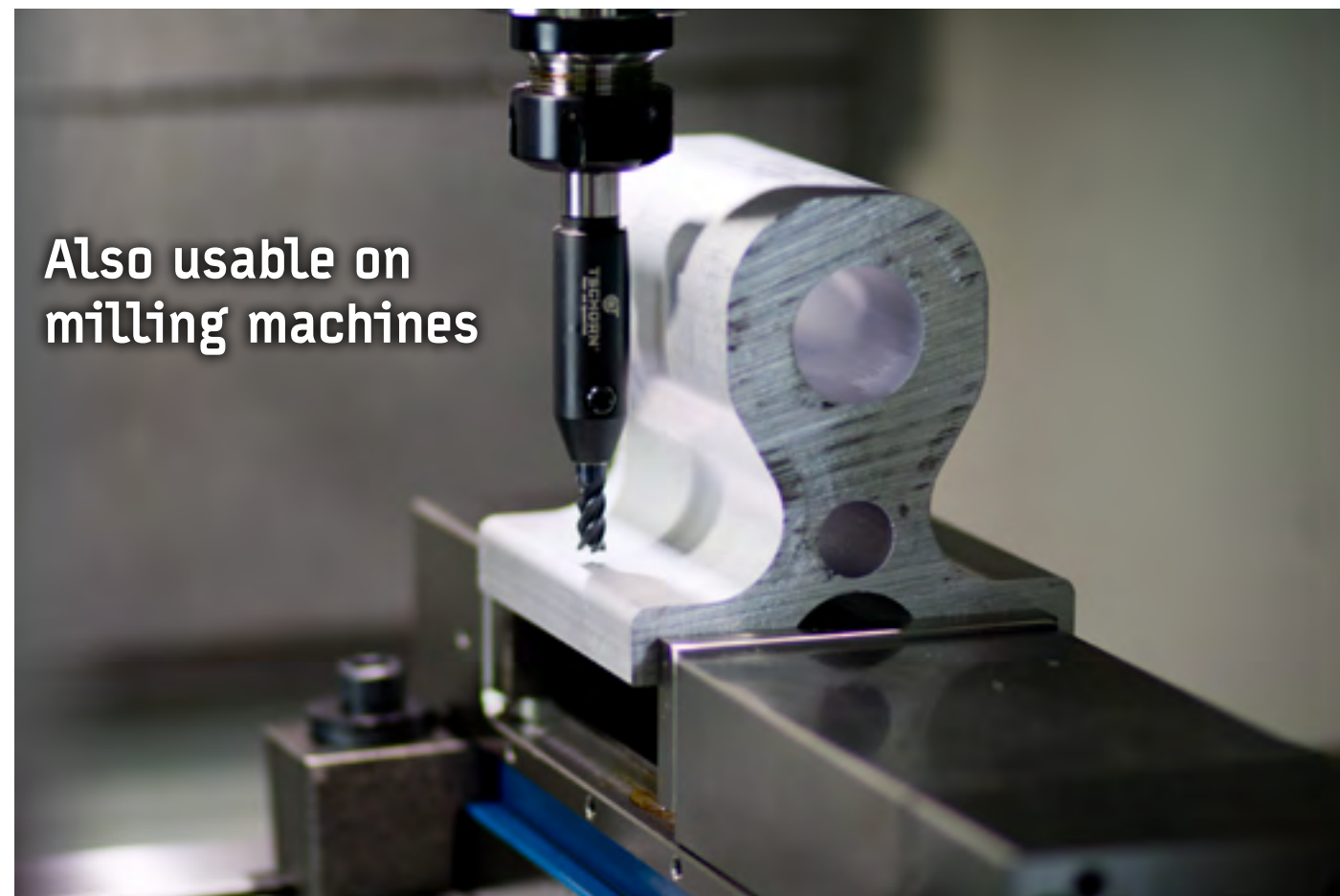
Clamping extension milling head



Article No.	Description	D1 (shank)	D2	D3	L1	L2
00SPM1638	Clamping extension Ø40	Ø16	Ø16	Ø38	40	15
00SPM1648	Clamping extension Ø50	Ø16	Ø22	Ø48	40	15
00SPM2058	Clamping extension Ø63	Ø20	Ø27	Ø58	40	20
00SPM2578	Clamping extension Ø80	Ø25	Ø32	Ø78	40	32



Article No.	Description	D1 (shank)	DIN6499	D3	L1	L2
OOSPE1601	Clamping extension ER16	Ø16	ER16	Ø21,8	60	30
OOSPE1602	Clamping extension ER16	Ø16	ER16	Ø21,8	100	30





Impossible to produce external threads quicker!

Process-reliable

precise

Quick

Impossible to produce external threads quicker! Our video shows the comparison: with the help of our die holder, you cut M16 threads with 50 mm length in only 12 seconds. This is **3 times faster** as conventional thread chasing.

Additionally: a threading die has many blades - conventional thread chasing only one. This is why a defect blade at the die does not matter anymore. This optimizes your **process stability** extremely.

The die holder enables **precise and cylindrical threads** as you cut the thread in the die cylindrical. While chasing, the cutting pressure operates against the workpiece which can lead to vibrations, to evasion or even to conical threads.

The die holder is internally cooled: the coolant supply ensures that the workpiece is **permanently surrounded by coolant**. This leads to high-quality threads and as the coolant flushes away all chips.



The **MINIflex**-holder has an axial and radial damping.

axial flexible damping

radial flexible damping

The damping compensates imprecisions of the control or run-out/positioning errors of a reamer.

Modular



External threading



Tapping



Reaming



Cylindrical
shank



DIN69880
VDI



DIN69871
SK40

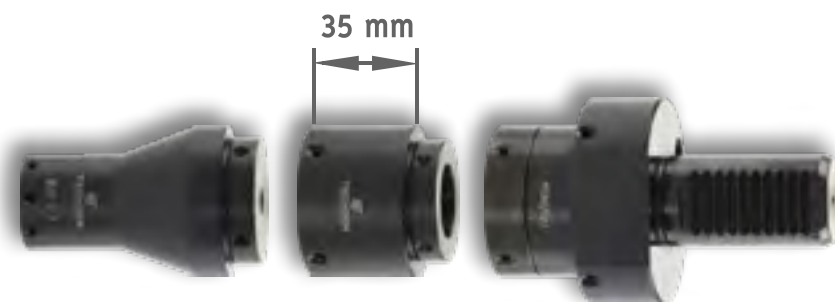


DIN69893
HSK63

Article No.	Description	Shank	Length
OOSFLOZ20	Base holder MINIflex	Ø20	55 mm
OOSFLOZ25	Base holder MINIflex	Ø25	55 mm
OOSFLOV20	Base holder MINIflex DIN69880	VDI20	55 mm
OOSFLOV30	Base holder MINIflex DIN69880	VDI30	55 mm
OOSFLOV40	Base holder MINIflex DIN69880	VDI40	55 mm
OOSFLOS40	Base holder MINIflex DIN69871	SK40	58 mm
OOSFLOH63	Base holder MINIflex DIN69893	HSK63	71 mm



Extension



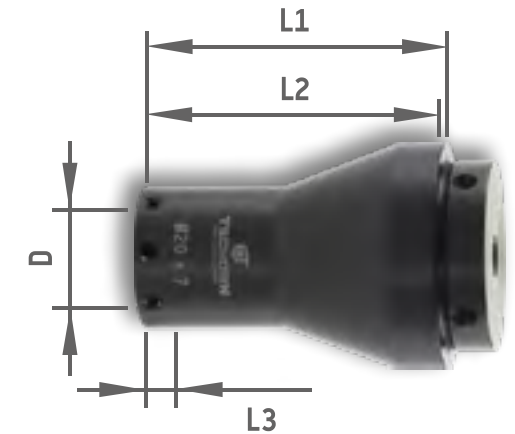
Article No.	Description	Shank	Length
00SEH4035	Extension	-	35 mm



Information:
You can find suitable
dies on page 87.

D = Ø of the die
L1 = Clamping length
L2 = Usable length
L3 = Width die

Please note:
With an extension, you can extend the usable length
(several times) about 35 mm.

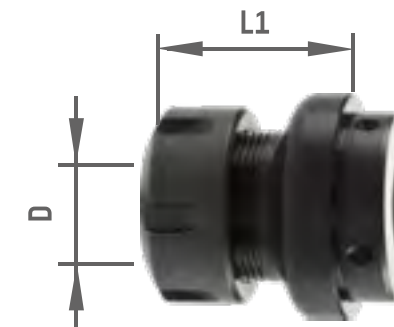


Die holders/MINIflex

Article No.	Description	D	L1	L2	L3	Thread
00SEH1605	Exchange module	16	75	74	5	M1-M2,5
00SEH2005	Exchange module	20	75	74	5	M3-M4
00SEH2007	Exchange module	20	75	74	7	M5-M6
00SEH2509	Exchange module	25	75	74	9	M7-M9
00SEH3011	Exchange module	30	75	74	11	M10
00SEH3814	Exchange module	38	75	74	14	M12-M14
00SEH4518	Exchange module	45	85	84	18	M16-M20



ER moduls



Article No.	Description	D	L1	clamping-Ø
00SEHER25	Exchange module	ER25	43	Ø2 - Ø16
00SEHER32	Exchange module	ER32	43	Ø2 - Ø20





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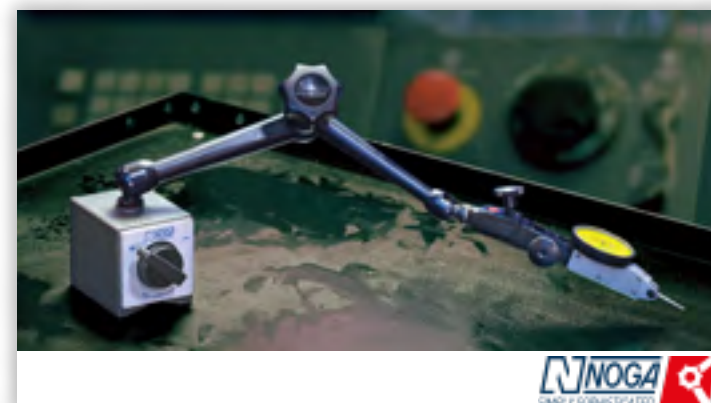
Repair service



Crashed?

All our devices can be repaired.

Our worldwide resellers support you for any repair or service question.



Art. No.	Saw blades rough
PASBG040100	Saw blade rough VHM-B 40x1,00x10-Z32
PASBG040120	Saw blade rough VHM-B 40x1,20x10-Z32
PASBG040150	Saw blade rough VHM-B 40x1,50x10-Z32
PASBG040160	Saw blade rough VHM-B 40x1,60x10-Z32
PASBG040180	Saw blade rough VHM-B 40x1,80x10-Z32
PASBG040200	Saw blade rough VHM-B 40x2,00x10-Z32
PASBG040250	Saw blade rough VHM-B 40x2,50x10-Z32
PASBG040300	Saw blade rough VHM-B 40x3,00x10-Z32
PASBG040400	Saw blade rough VHM-B 40x4,00x10-Z32
PASBG040500	Saw blade rough VHM-B 40x5,00x10-Z32
PASBG040600	Saw blade rough VHM-B 40x6,00x10-Z32
PASBG050040	Saw blade rough VHM-B 50x0,40x13-Z48
PASBG050050	Saw blade rough VHM-B 50x0,50x13-Z48
PASBG050060	Saw blade rough VHM-B 50x0,60x13-Z48
PASBG050070	Saw blade rough VHM-B 50x0,70x13-Z40
PASBG050080	Saw blade rough VHM-B 50x0,80x13-Z40
PASBG050090	Saw blade rough VHM-B 50x0,90x13-Z40
PASBG050100	Saw blade rough VHM-B 50x1,00x13-Z40
PASBG050120	Saw blade rough VHM-B 50x1,20x13-Z40
PASBG050150	Saw blade rough VHM-B 50x1,50x13-Z32
PASBG050160	Saw blade rough VHM-B 50x1,60x13-Z32
PASBG050180	Saw blade rough VHM-B 50x1,80x13-Z32
PASBG050200	Saw blade rough VHM-B 50x2,00x13-Z32
PASBG050250	Saw blade rough VHM-B 50x2,50x13-Z32
PASBG050300	Saw blade rough VHM-B 50x3,00x13-Z24
PASBG050400	Saw blade rough VHM-B 50x4,00x13-Z24
PASBG050500	Saw blade rough VHM-B 50x5,00x13-Z24
PASBG050600	Saw blade rough VHM-B 50x6,00x13-Z20
PASBG063040	Saw blade rough VHM-B 63x0,40x16-Z64
PASBG063050	Saw blade rough VHM-B 63x0,50x16-Z64
PASBG063060	Saw blade rough VHM-B 63x0,60x16-Z48
PASBG063070	Saw blade rough VHM-B 63x0,70x16-Z48
PASBG063080	Saw blade rough VHM-B 63x0,80x16-Z48
PASBG063090	Saw blade rough VHM-B 63x0,90x16-Z48
PASBG063100	Saw blade rough VHM-B 63x1,00x16-Z48
PASBG063120	Saw blade rough VHM-B 63x1,20x16-Z40
PASBG063150	Saw blade rough VHM-B 63x1,50x16-Z40
PASBG063160	Saw blade rough VHM-B 63x1,60x16-Z40
PASBG063180	Saw blade rough VHM-B 63x1,80x16-Z40
PASBG063200	Saw blade rough VHM-B 63x2,00x16-Z40
PASBG063250	Saw blade rough VHM-B 63x2,50x16-Z32
PASBG063300	Saw blade rough VHM-B 63x3,00x16-Z32
PASBG063400	Saw blade rough VHM-B 63x4,00x16-Z32
PASBG063500	Saw blade rough VHM-B 63x5,00x16-Z24
PASBG063600	Saw blade rough VHM-B 63x6,00x16-Z24
PASBG080060	Saw blade rough VHM-B 80x0,60x22-Z64
PASBG080070	Saw blade rough VHM-B 80x0,70x22-Z64
PASBG080080	Saw blade rough VHM-B 80x0,80x22-Z64
PASBG080090	Saw blade rough VHM-B 80x0,90x22-Z48
PASBG080100	Saw blade rough VHM-B 80x1,00x22-Z48
PASBG080120	Saw blade rough VHM-B 80x1,20x22-Z48
PASBG080150	Saw blade rough VHM-B 80x1,50x22-Z48
PASBG080160	Saw blade rough VHM-B 80x1,60x22-Z48
PASBG080180	Saw blade rough VHM-B 80x1,80x22-Z40
PASBG080200	Saw blade rough VHM-B 80x2,00x22-Z40
PASBG080250	Saw blade rough VHM-B 80x2,50x22-Z40
PASBG080300	Saw blade rough VHM-B 80x3,00x22-Z40
PASBG080400	Saw blade rough VHM-B 80x4,00x22-Z32
PASBG080500	Saw blade rough VHM-B 80x5,00x22-Z32
PASBG080600	Saw blade rough VHM-B 80x6,00x22-Z32
PASBG100060	Saw blade rough VHM-B100x0,60x22Z=80
PASBG100070	Saw blade rough VHM-B100x0,70x22Z=80
PASBG100080	Saw blade rough VHM-B100x0,80x22Z=64
PASBG100090	Saw blade rough VHM-B100x0,90x22Z=64
PASBG100100	Saw blade rough VHM-B100x1,00x22Z=64
PASBG100120	Saw blade rough VHM-B100x1,20x22Z=64
PASBG100150	Saw blade rough VHM-B100x1,50x22Z=48
PASBG100160	Saw blade rough VHM-B100x1,60x22Z=48
PASBG100180	Saw blade rough VHM-B100x1,80x22Z=48



Art. No.	Saw blades rough
PASBG100200	Saw blade rough VHM-B100x2,00x22Z=48
PASBG100250	Saw blade rough VHM-B100x2,50x22Z=48
PASBG100300	Saw blade rough VHM-B100x3,00x22Z=40
PASBG100400	Saw blade rough VHM-B100x4,00x22Z=40
PASBG100500	Saw blade rough VHM-B100x5,00x22Z=40
PASBG100600	Saw blade rough VHM-B100x6,00x22Z=32

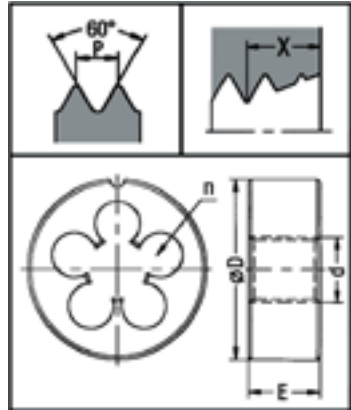
High performance dies

High performance dies

DIN EN 22568

Metric ISO thread DIN13

Article No.	Description	d	P mm	Ø D x E mm	n
PSE001M0200	Die HSSE 6g	M2	0,4	16x5	4
PSE001M0300	Die HSSE 6g	M3	0,5	20x5	5
PSE001M0400	Die HSSE 6g	M4	0,7	20x5	5
PSE001M0500	Die HSSE 6g	M5	0,8	20x7	5
PSE001M0600	Die HSSE 6g	M6	1	20x7	5
PSE001M0800	Die HSSE 6g	M8	1,25	25x9	5
PSE001M1000	Die HSSE 6g	M10	1,5	30x11	5
PSE001M1200	Die HSSE 6g	M12	1,75	38x14	5
PSE001M1600	Die HSSE 6g	M16	2	45x18	5
PSE001M2000	Die HSSE 6g	M20	2,5	45x18	5



$X = 2.25 \cdot P$

NOGA measuring arms

Version:

- movable in all directions
- extremely stable mech. execution
- central clamping mechanism
- easily and quickly adjustable
- fine adjustment at the top with universal dial gauge holder
- optionally with or without magnetic foot



Article No.	Description	Connection (below)	L1	L2	Arm length (total)	Magnet (L / B / H / force)
PANNF6103	NOGA measuring arm	Magnet	56	51	178	40 / 30 / 35 / 320N
PANNF6013	NOGA measuring arm	M5	56	51	178	-
PANDG6103	NOGA measuring arm	Magnet	110	101	282	60 / 50 / 55 / 800N
PANDG6013	NOGA measuring arm	M8	110	101	282	-
PANMG6103	NOGA measuring arm	Magnet	133	113	317	60 / 50 / 55 / 800N
PANMG6013	NOGA measuring arm	M8	133	113	317	-
PANMA6103	NOGA measuring arm	Magnet	287	223	580	120 / 50 / 55 1300N
PANMA6013	NOGA measuring arm	M10x1.25	287	223	580	-
PANDG1000	NOGA dial gauge 0,01 mm					
0017C1098	TSCHORN lever gauge 0,01 mm					



TSCHORN lever gauge
Art.-Nr. 0017C2098

Advantages:

- German collet steel
- durable
- finely deburred
- Concentricity < 6µm



Information:

XXX= clamping Ø
e.g.: Ø1,0 = 010

Article No.	Description	Size	Sealed	clamping Ø
PAJOE11XXX	Collet chuck DIN6499 B	ER11	no	Ø1,0 - Ø7,0
PAJOE16XXX	Collet chuck DIN6499 B	ER16	no	Ø1,0 - Ø11,0
PAJOE20XXX	Collet chuck DIN6499 B	ER20	no	Ø2,0 - Ø13,0
PAJOE25XXX	Collet chuck DIN6499 B	ER25	no	Ø2,0 - Ø16,0
PAJOE32XXX	Collet chuck DIN6499 B	ER32	no	Ø2,0 - Ø20,0
PAJOE40XXX	Collet chuck DIN6499 B	ER40	no	Ø3,0 - Ø26,0



Piranha centering vises



Snapper: the most snappish!

The centering vise for roughing

Advantages:

- Minimal material loss at 3 mm clamping depth
- Clamping of raw parts without predetermination
- High repeatability: 0.01 mm

Article No.	Description	Size	Clamping range
PAP540362	Centering vise Snapper	170	5 mm - 118 mm
PAP540446	Centering vise Snapper (+10 mm)	170	5 mm - 118 mm
PAP540401	Centering vise Snapper	300	5 mm - 238 mm
PAP540447	Centering vise Snapper (+10 mm)	300	5 mm - 238 mm



Gepard: the quickest!

The centering vise for finishing

Advantages:

- Quick changing system for jaws within seconds
- Replaceable Snapper jaws (the snappy ones!)
- High precision coated guide pillars



Please note:

A wide selection of different jaws is available!

Artikel-Nr.	Description	Size	Clamping range
PAP540444	Centering vise Gepard	170	0 mm - 160 mm
PAP540400	Centering vise Gepard	300	0 mm - 250 mm
PAP551018	Set top jaws ALUMINIUM M 50x98x41 mm	170	0 mm - 160 mm
PAP551020	Set top jaws ALUMINIUM M 50x131x51 mm	300	0 mm - 250 mm
PAP551033	Set top jaws STEEL M 50x98x41 mm	170	0 mm - 160 mm
PAP551046	Set top jaws STEEL M 50x131x51 mm	300	0 mm - 250 mm
PAP551009	Set top jaws Snapper short 50x98x22 mm	170	7 mm - 71 mm
PAP551007	Set top jaws Snapper short 50x131x22 mm	300	7 mm - 154 mm



YIH TROUN
ENTERPIRISE CO., LTD.

Countersink with cutting inserts

Application area:

For countersinking and deburring with cordless screwdrivers, hand drills, milling machines, boring mills and machining centres.

Advantages:

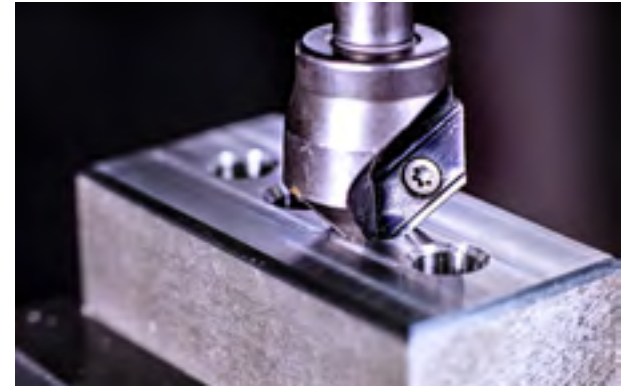
- Increase efficiency
- Increase lifetimes
- Reduce costs

Article-No.	Description	Cutting insert	smallest Ø	largest Ø	Shank Ø
PAYCI1760	Countersink 60°	Gr. 2	Ø7,0	Ø17,0	Ø10
PAYCI3160	Countersink 60°	Gr. 3	Ø15,5	Ø31,0	Ø12
PAYCI1090	Countersink 90°	Gr. 1	Ø4,0	Ø10,0	Ø10
PAYCI2290	Countersink 90°	Gr. 2	Ø5,5	Ø22,0	Ø10
PAYCI3690	Countersink 90°	Gr. 3	Ø15,0	Ø36,0	Ø12
PAYCI2612	Countersink 120°	Gr. 2	Ø7,0	Ø26,0	Ø10
PAYCI3912	Countersink 120°	Gr. 3	Ø11,0	Ø39,0	Ø12
PAYWP0001	Universal cutting insert	Gr. 1			
PAYWP0002	Universal cutting insert	Gr. 2			
PAYWP0003	Universal cutting insert	Gr. 3			



Information:

A cutting insert is included with the countersink.

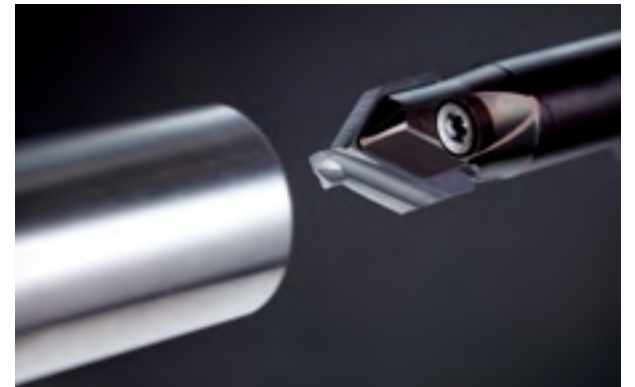


YIH TROUN
ENTERPIRISE CO., LTD.

Centre drill with cutting inserts

Compared to conventional centre drills:

- many times faster
- precise insert position does not require a new measurement after change
- increase lifetimes



Please note:

There is no cutting insert included with the centre drill.

Article-No.	Description	centering form	small Ø	large Ø	angle
PAYTU0860	Centering holder shank Ø8	-	-	-	-
PAYTU1065	Centering holder shank Ø10	-	-	-	-
PAYWPA0816	Cutting insert (similar to DIN332)	A	Ø1,6	Ø8,0	60°
PAYWPA0820	Cutting insert (similar to DIN332)	A	Ø2,0	Ø8,0	60°
PAYWPA1025	Cutting insert (similar to DIN332)	A	Ø2,5	Ø10,0	60°
PAYWPA1030	Cutting insert (similar to DIN332)	A	Ø3,0	Ø10,0	60°
PAYWPB0816	Cutting insert (similar to DIN332)	B	Ø1,6	Ø8,0	60°
PAYWPB0820	Cutting insert (similar to DIN332)	B	Ø2,0	Ø8,0	60°
PAYWPB1025	Cutting insert (similar to DIN332)	B	Ø2,5	Ø10,0	60°
PAYWPB1030	Cutting insert (similar to DIN332)	B	Ø3,0	Ø10,0	60°
PAYWPC0816	Cutting insert	A	Ø1,6	Ø8,0	90°
PAYWPC0820	Cutting insert	A	Ø2,0	Ø8,0	90°
PAYWPC1025	Cutting insert	A	Ø2,5	Ø10,0	90°
PAYWPC1030	Cutting insert	A	Ø3,0	Ø10,0	90°

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Shareholder: Ralf Tschorn



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