

**Multi-Cutter Turning Head
MSD**

Focussing on your success

We claim:

- For us only the best is just good enough! **High quality** has its home in Pliezhausen:
- You **save** time and money with our Multi-Cutter Turning Head (MSD):
- We have even improved our Multi-Cutter Turning Head for **even more users**:
- The MSD is **specially manufactured** for extra long work pieces:
- A wide range of **materials** can be cut with the Multi-Cutter Turning Head:

We prove:

Only first-class materials are manufactured into high-quality tools according to our consequent quality system.

With its four cutting edges, it achieves an infeed which is 3 up to 6 times higher than with usual tools with just one cutting edge.

Besides the plate holders for WAGNER® reversing plates, we now deliver you even plate holders for DIN reversing plates.

By grouping of the four reversing plates, precise turning jobs in a diameter from 0.01 up to 0.02 mm can be achieved.

All kinds of non-cutting materials are to be cut with the WAGNER® Multi-Cutter Turning Head: besides non-ferrous metals and steel, wood and even synthetic materials.



WAGNER® Multi-Cutter Turning Head (MSD), stationary design



WAGNER® Multi-Cutter Turning Head (MSD), rotary design

Dear reader,

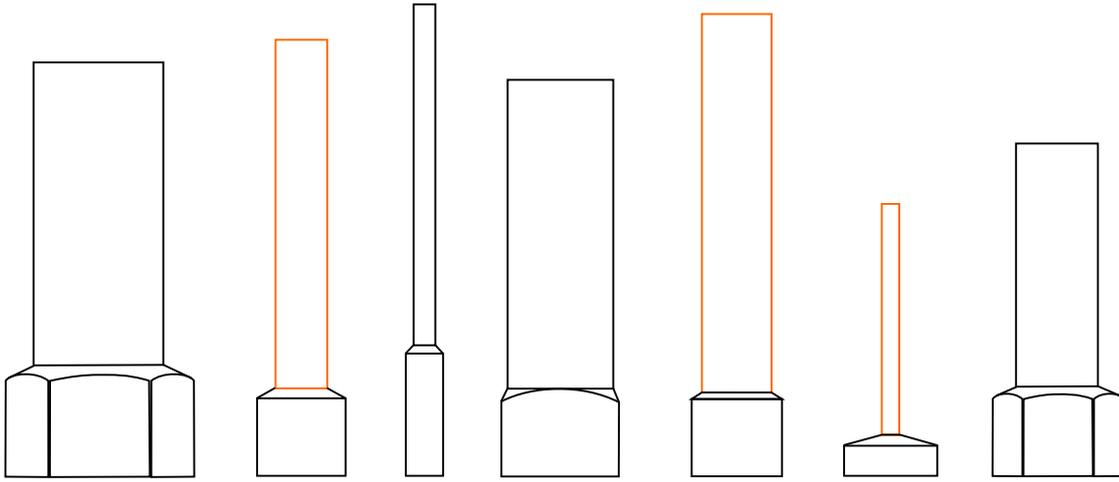
we are a company specialised on the machining of external thread tools. With our **thread cutting heads** one does cut threads on different materials in various sizes and to an enormous good price all over the world for more than 100 years.

And our **Thread Rolling Heads** and **Thread Rolling Attachments** are used in firms dealing with metal-machining for thread cutting, where besides speed and good value an enormous load bearing capacity of the threads is necessary.

For machining these rolled threads, we have developed our **Multi-Cutter Turning Head**. With its four cutting edges, it cuts diameters fast and neatly.

On the following pages you will find more information about its wide range of application.

Yours sincerely,



Cutting More Threads

The WAGNER® Multi-Cutter Turning Head is used where diameters have to be cut to an exact dimension.

The precision tool possesses four heavy metal- reversing plates which can cut diameters up to 6 mm at one stage. Here the initial objects may be round, square or hexagonal, both drawn and rolled.

The WAGNER® Multi-Cutter Turning Head performs extremely well when big length of workpieces have to be cut.

Or precise diameters have to be kept, for rolling threads afterwards for instance, or grinding diameters or reducing the primary processing time.

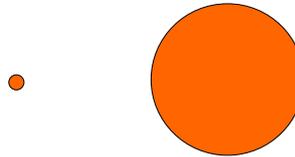
Materials

All cutting materials with a tensile strength up to about 1300 N per mm² can be dealt with the WAGNER® Multi-Cutter Turning Head - free cutting and structural steel, highly-alloyed steel, casting materials as well as non-ferrous metals, synthetic material and wood.

Installation sizes

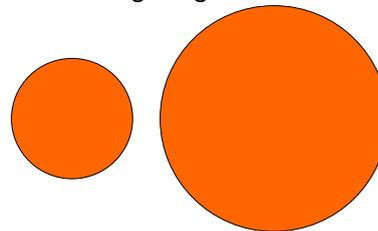
We offer you the WAGNER® Multi-Cutter Turning Head in two installation sizes: MSD 20 and MSD 30. Both of them have a wide turning range and are therefore fit for various turning jobs.

The turning range of the MSD 20:



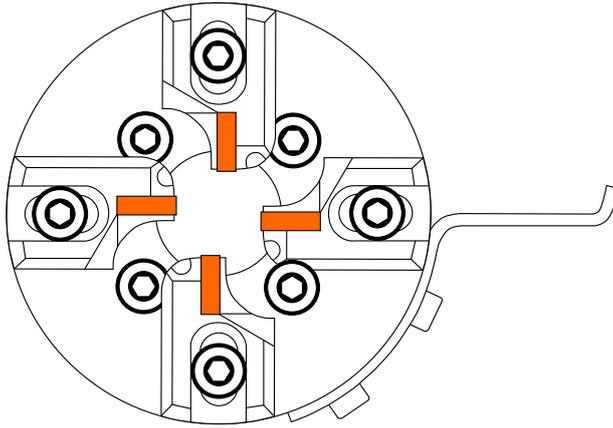
from 2 until 20 mm

The turning range of the MSD 30:

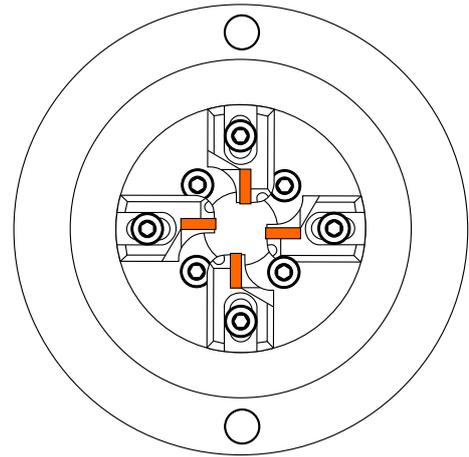


from 16 until 30 mm Ø

Both installation sizes have small building measurements. Thus they optimally match with the narrow fitting conditions of tool machines.



WAGNER® - MSD stationary design



WAGNER® - MSD rotary design

The Cost-Reducing Factor

We thus have build our Multi-Cutter Turning Head so that it opens and lifts off its four heavy metal- cutting edges of the workpiece when reaching the turning length. Then the fast and contactless return travel of the MSD begins and you will have a flawless workpiece in top quality.

Speed

The four carbide-reversing plates of the Multi-Cutter Turning Head produce a turning dividing into four equal parts. The cutting thickness of one cutting edge amounts to only $\frac{1}{4}$ of the total infeed. Resulting in the infeed of this WAGNER® tool which is 3 to 6 times higher than usual tools with just one cutting edge.

Precision

Two of the four reversing plates are respectively situated exactly opposite of each other. Thus they can neutralise the radical powers which emerge when working on the work piece. So a turning precision of a diameter of

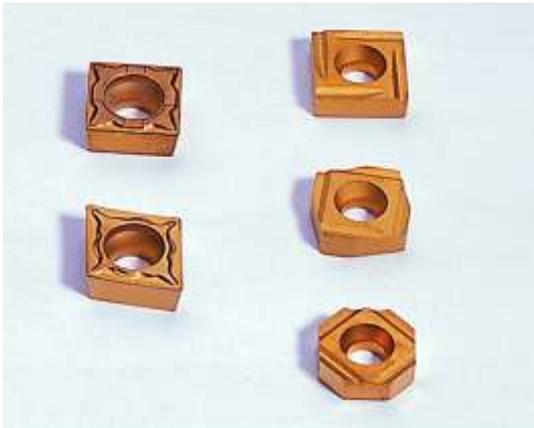
0.01 - 0.02 mm can be achieved. Long workpieces or to be precise extra long workpieces are therefore to be worked on with the WAGNER® Multi-Cutter Turning Head successfully.

Precise and fast setting

It is easy to fit the precisely ground carbide reversing plates into the reversing plate holders. Due to the exact position the four reversing plate holders and the four bolts of the Multi-Cutter Turning Head possess a precision gearing with a 1 mm division. As a result the turning diameter of the workpiece can be pre-set in the 2 mm framework. All you need is a slide gauge.

The patented Multi-Cutter Turning Head by WAGNER® possesses at the perimeter a fine adjustment for its turning diameter. You can read off the setting figures on a scale.

You can also make corrections upwards or downwards via the central setting of the four cutting edges in the tool machine without any difficulties.



DIN Plates:
Design SCMT and
Design CCMT

WAGNER® - Plates:
90°, 70° and 45°



Reversing plate holders for DIN plates and
WAGNER® plates

Reversing Plates and their Holders

Design of the Workpiece	HM-reversing plate	Type	Measurements		Position of the cutting edges	Cutting Angles	Angular Radius 0.1 mm	Article-Numbers			
			L mm	X mm				K 10	P 25	CM 3	HT 2
<p>89° (1° at 3 mm Shoulder ≈ 0,05)</p>		W 01	9,5	4,5	90°	20°	R 00	721216			
							R 02			740414	
							R 04	718873		730000	734084
							R 08	733155		740812	
							R 10	725954			
							R 12	733157			
		W 02	8,0	3,5	90°	0°	R 04	725619			
							R 16	730200			
							R 00	721217			
							R 04			730002	

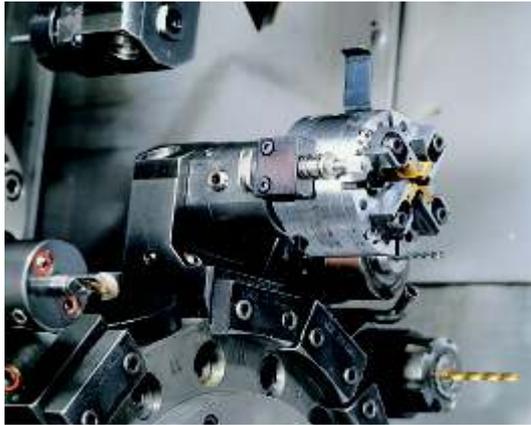
DIN - Reversing Plate Holders

Design of the Workpiece	Carbide (CB)-Reversing Plate (RP)		RP-Holder Article-Number	Turning Range Ø mm	Turning Range Ø mm
	Design	Name			
<p>89°</p>		SCMT 09 T 3 ...	742220	2 - 16	16 - 30
		CCMT 09 T 3 ...	742965	2 - 16	16 - 30

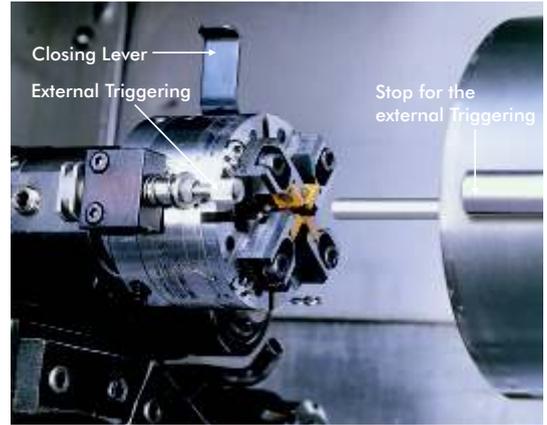
WAGNER® - Reversing Plate Holders

MSD Type	Turning Range Ø mm	CB-Reversing Plate	RP-Holder Name
20 and 20 - R	2 - 16 6 - 20	W 01	W 01 B5 ...
		W 02	W 02 B5 ...
30 and 30 - R	16 - 30	W 01	W 01 B5 ...

■ There are various types available.



MSD 20 with external triggering build up on a tool turret



A ready made workpiece with the MSD 20

Model: Stationary

The WAGNER® Multi-Cutter Turning Head model stationary is built to cut rotary workpieces. Designed for clockwise spindles it is used on single- or multi spindle automatic lathes as well as CNC- lathes.

The opening of the Multi-Cutter Turning Head for lifting off the cutting edges can either be done by an external triggering as by an internal triggering. The closing process is done by a closing lever.

To take up tools in the die carrier of turning lathes, we provide various shaft measurements with or without internal triggering.

Shank measurements with external- or internal triggering available:

MSD 20: \varnothing 20, 25, 30 or 40 mm

3/4 " or 1" inch

\varnothing 20, 30, or 40 mm

according to DIN 69880

MSD 30: \varnothing 25, 30, 40 or 50 mm

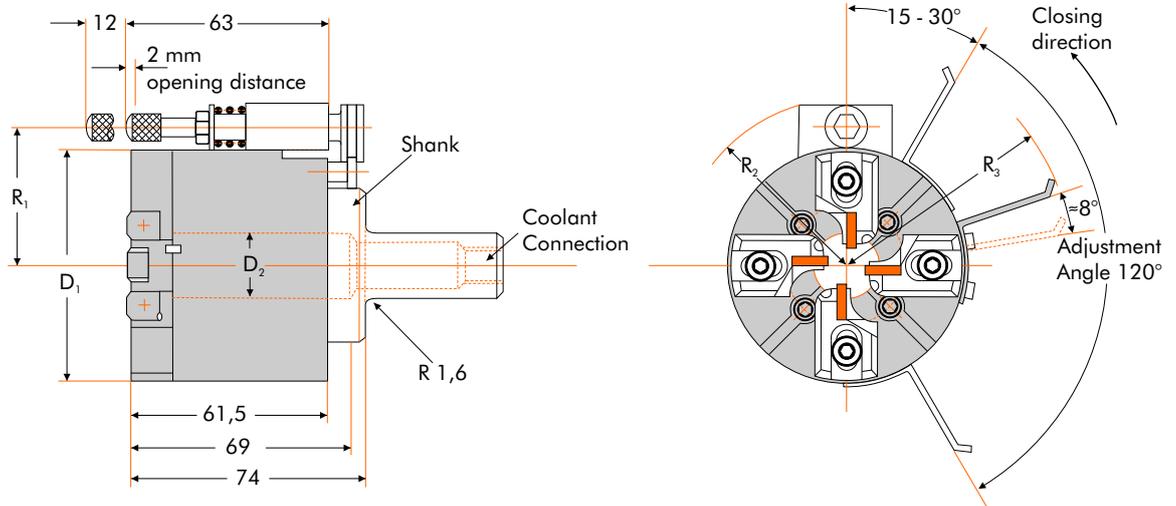
1" or 2" inch

\varnothing 30 according to DIN 69880

Measurements of the MSD stationary

Type	D ₁	D ₂	R ₁	R ₂	R ₃
MSD 20	70	20,5	42	52	68
MSD 30	84	32	49	59	75

Measurements in mm





MSD 20 - R built up on a special purpose machine



A ready made work piece with the MSD 20-R

Model: Rotary

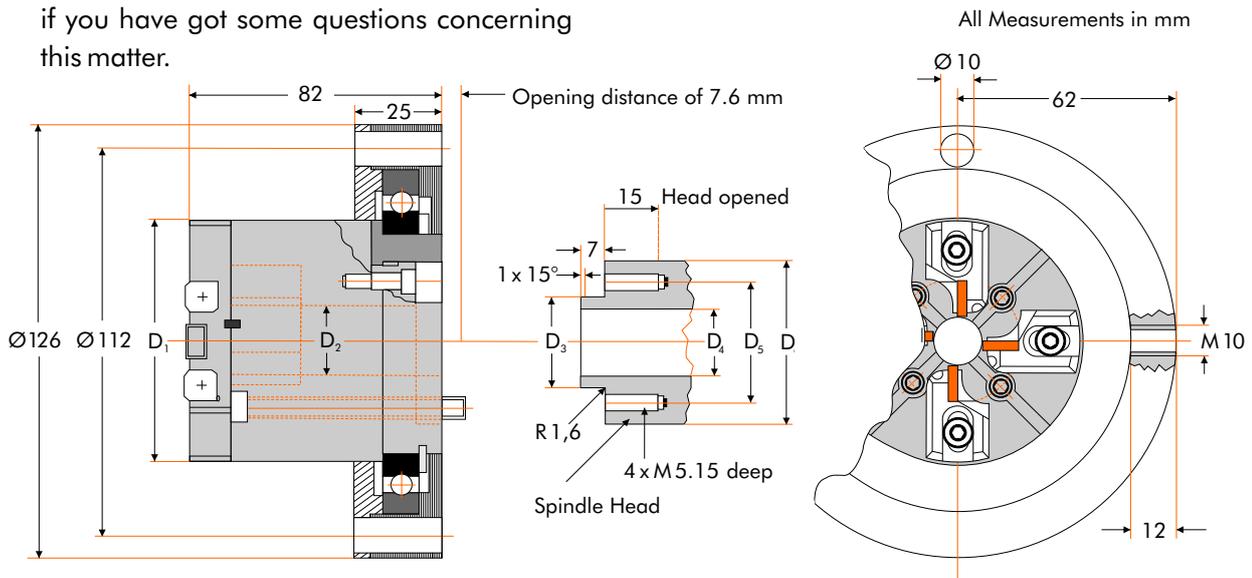
The WAGNER® Multi-Cutter Turning Head model rotary is designed for cutting stationary workpieces. It is used on circular clock rate-, control disc- or flange automatic lathes. Furthermore on transfer- and special purpose machines. The model rotary is clockwise. The opening of the Multi-Cutter Turning Head for lifting off the cutting edges can be done both by an external triggering and by an internal triggering. The closing process is done by the same devices. There are many ways for taking up tools on the machine. Please do not hesitate to contact us if you have got some questions concerning this matter.

Measurements of the MSD model rotary

Type	Turning Head		Spindle Head (Adapter)			
	D ₁	D ₂	D ₃ j6	D ₄ max.	D ₅	D ₆
MSD 20-R	70	20,5	25	20,5	35	47
MSD 30-R	84	32	39	32	49	61

Applicable with opening function
 MSD 20-R(i) until about 4000 min⁻¹
 MSD 30-R(i) until about 2300 min⁻¹

All Measurements in mm





Sample parts no. 1 until no. 6 (from left to right)



MSD 20 with the ready made sample part no.3

Examples of Production and Performance

	Sample no. 1	Sample no. 2	Sample no. 3
Material:	St 37, galvanised	1,4305	1,4305
Tool:	MSD 20	MSD 20	MSD 20
Machine:	CNC-lathe	CNC-lathe	CNC-lathe
Starting-Ø:	8 mm	5 mm	8 mm
Turning Length:	30 mm	44 mm	63 mm
Cutting Depth:	1.6 mm	0.4 mm	0.4 mm
Cutting Speed:	100 m/min.	70 m/min	70 m/min.
Feed:	0.15 mm	0.2 mm	0.2 mm
Machining Time:	3 s	3 s	6.8 s
	Sample no. 4 (excentric)	Sample no. 5	Sample no. 6
Material:	42 Cr Mo 4	55 Si Mn 8	Synthetic material
Tool:	MSD 20-R	MSD 20	MSD 20-R
Machine:	Special machine	CNC-lathe	Special machine
Starting-Ø:	10 mm	23 mm	7.8 mm
Turning Length:	21 mm	30 mm	12 mm
Cutting Depth:	0.1 - 2 mm (1 mm excentric)	5 mm	0.4 mm
Cutting Speed:	100 m/min.	108 m/min.	150 m/min.
Feed:	0,2 mm	0,25 mm	0.1 mm
Machining Time:	2 s	4.8 s	1.2 s



Thread Cutting Head



Thread Rolling Head



Thread Rolling Attachment



Multi-Cutter Turning Head
MSD



Driven Tools
Radial



Driven Tools
Radial offset



Driven Tools
Axial



Driven Tools
Axial offset

WAGNER® - Tool Systems
fulfil all your wishes when dealing with
metal machining!

Besides the wide range of highly- precise tools for producing external threads, we offer you even more! Also made in Germany are the Driven Tools made by WAGNER®. Our Driven Tools will meet your needs - if it comes to drilling or milling, the versions axial or radial, axle shifted or back shifted with individual intakes and shafts.

Where may we be at your assistance?