

EXPERTS IN
NON-CUTTING SURFACE TREATMENT
AND THREAD PRODUCTION

PRODUCT OVERVIEW

**BAUBLIES
GROUP**



**BAUBLIES
GROUP**



4 – 17

Multi-roller burnishing tools.....	6 – 7
Single-roller burnishing tools.....	8 – 9
Diamond burnishing tools.....	10 – 11
Tailor made burnishing tools.....	12 – 13
Forming tools.....	14 – 15
Roller burnishing machine.....	16 – 17

WAGNER®

TOOLING SYSTEMS

18 – 29

Tangential rolling systems.....	20 – 21
Tangential thread rolling systems with front mounted rolls.....	22
TSW knurling system.....	23
Axial rolling systems modular.....	24 – 25
Axial rolling system Helix.....	26 – 27
Thread cutting systems.....	28
Multi-cutter turning systems.....	29



**BAYER
DIAMANT®**

30 – 43

Profile dressing tools.....	32 – 33
Single point dressing tools.....	34 – 35
Dressing plates (needle tiles).....	36 – 37
Multipoint and multigrain dressing tools.....	38 – 39
Dressing wheels.....	40 – 41
Additional products.....	42 – 43



OPTIMIZED SURFACES BY ROLLER- BURNISHING AND DIAMOND-BURNISHING

Maximum surface quality while increasing the strength and hardness of the workpiece.

For almost 50 years Baublies AG has been one of the few companies specializing in roller burnishing technology. Through constant innovation and in close cooperation with our customers from all over the world, we have been able to build up extensive know-how. Both our products and our consulting and development services enjoy an excellent reputation among international experts.

TECHNOLOGY AND DEVELOPMENT

Roller burnishing is a highly efficient and future-oriented process for optimizing metal surfaces. We deliver innovative and sophisticated solutions of excellent quality, developed with a creative approach, and offer the user maximum economy and durability.

Within the company we create the conditions for the development of first-class roller burnishing tools by maintaining an appreciative and collegial approach, promoting the qualifications of our employees and keeping the enthusiasm for innovation alive. In addition, we cooperate with universities and thus maintain a close integration of current theory and proven practice.

HOW OUR CUSTOMER BENEFIT

We offer users of our roller burnishing tools a wide range of standardized and tailor-made solutions. The well-engineered design down to the smallest detail and a large in-house manufacturing range make it possible to provide customers with durable precision tools of the highest quality. All production processes are certified and subject to a complete quality control. To enable the user to minimize set-up times, we pay attention to simple handling and quick tool changes.

As an additional service we offer our customers workshops and seminars. Interested users can learn how to achieve optimum productivity when using roller burnishing technology.

With this brochure you get an overview of our product range.



IT'S A „SPRINT“ TO THE FINISH

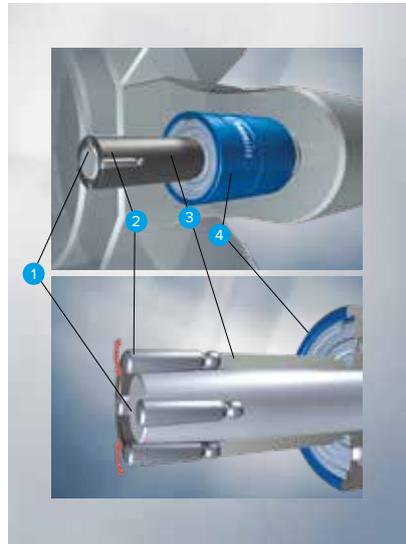
Extremely smooth surfaces in just seconds

Multi-roller burnishing tools



FAST, SMOOTH AND HARD

The best surface quality fast - that describes the main attribute of Baublies multi-roller burnishing tools. Depending on the burnishing task various numbers of hardened rollers are arranged in a cage. The machining times are kept short by using several rollers simultaneously. During roller burnishing with multi-roller tools, a roll-off process with kinematics similar to those of a planetary gear results. A taper supports the rollers and provides the contact force for forming the material. The rolling diameter is adjusted by axial shifting of the taper relative to the roller. Therefore multi-roller burnishing tools are particularly suitable for small and filigree workpieces.



Principle of a planetary gear:
The taper (1) is permanently connected to the tool holding fixture (4). The cage (3) with mounted rollers (2) can be freely rotated.

Baublies multi-roller burnishing tools are available as standard tools for an extremely broad range of interior and exterior applications. We also develop individual solutions for your special application.

ADVANTAGES

- workpiece is not subjected to lateral forces
- short machining times
- hardened boundary layers
- increased fatigue strength
- larger contact area ratios due to plateau formation
- greater surface resistance to wearing and corrosion
- shifting of the material fatigue limits
- reduction of coefficients of sliding friction
- environmental friendliness due to a lack of waste products
- suitable for all standard machine tools



Multi-roller burnishing tools for external machining in various diameters



Mini multi-roller burnishing tool for internal machining of small diameters

THE PRESSURE IS ON

Powerful compression
and smooth surfaces

Single-roller burnishing tools



VERSATILE USE

Interchangeable single-roller tools and the Baublies modular tool system achieve a significant increase in the material surface hardness in combination with a very smooth surface. With single-roller burnishing, a hardened roller flattens the surface of the workpiece by contacting it at one single point: In this area of contact the steplessly adjustable roller pressure reaches the yield point of the material. During the process, work hardening of the surface layer and an increase in surface-hardness takes place. The generation of residual compressive stresses significantly increases vibration resistance in the workpiece.



Modular tool-system

Whether variable, in a modular system or as a tailor made tool, Baublies can provide tooling solutions to suit your specific machining tasks.

Variable single-roller burnishing tools are flexibly adjustable for various contours and can also be used in hard-to-reach places. The rolling unit can be swiveled by 180°.

The modular single-roller tool system for lathe machines is an innovative solution for virtually all roller burnishing and roller compression tasks. A basic element is used to mount the interchangeable system components or rolling units. As a result, the tool can be converted in an extremely short time. This enables special machining tasks to be carried out quickly.



Modular tool-system

ADVANTAGES

- high flexibility, broad range of applications
- maximum process reliability
- high-quality and rugged
- surface roughnesses of under Rz 1.0 µm
- larger contact area ratios due to plateau formation
- greater surface resistance to wearing and corrosion
- constant dimensions and high fitting accuracy
- shifting of the material fatigue limits
- low investment
- fast return of invest
- environmental friendliness due to a lack of waste products
- the possibility of complete processing in one setting



Single-roller burnishing tool for internal diameters



HARD AND VERSATILE

Smoothing and work-hardening
in new dimensions

Diamond-burnishing tools



DIAMOND-BURNISHING TOOLS: FOR HIGHEST SURFACE QUALITY

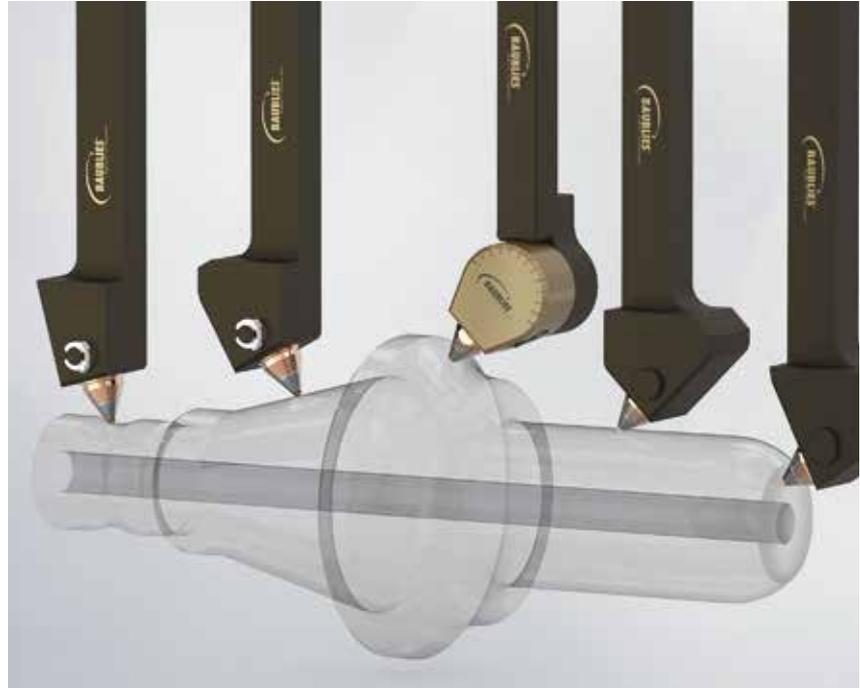
Diamond-burnishing tools expand the range of applications of roller burnishing technology, as even hardened materials up to approximately 60 HRC can be roller burnished.

In the process, a high-precision, micropolished diamond glides over the surface. As soon as the yield point of the material is exceeded, the profile peaks of the workpiece surface flow into the adjacent recesses in the μm range. Compared to the machining by means of rollers, the contact area between the workpiece and the diamond is much smaller. Therefore, plastic cold working with a reduced influence of force can take place.

Baublies diamond roller burnishing tools advance into hardness and diameter areas in which conventional roller burnishing tools cannot be used due to the workpiece characteristics or geometry. With diamond-burnishing tools, all contours – internally and externally – can be roller-burnished and deep-rolled.

ADVANTAGES

- maximum process reliability
- top surface qualities
- harder outer layers
- smoothing of hardened components > 60 HRC
- no need for additional equipment such as hydraulic units
- increase in fatigue strength
- larger contact area ratios due to plateau formation
- higher surface resistance to wear and corrosion
- expanding of material fatigue limits
- reduced sliding friction coefficients



Colibri-Series

COLIBRI: PERFECT FINISH FOR SOPHISTICATED WORKPIECES

Small, fine and in excellent Baublies quality: these are the new burnishing tools which we have developed especially for filigree applications. We have optimized our many years of know-how in diamond burnishing for the machining of small precision parts and thin-walled workpieces in a compact form.

RANGE OF APPLICATIONS OF THE COLIBRI-SERIES

Diamond burnishing tools from the Colibri series are always optimally suitable when the peak-to-valley height of filigree workpieces is to be minimized and at the same time the strength is to be increased.

Typical application areas are:

- components for medical devices and the optical industry
- connecting elements for aerospace and automotive technology
- as well as other compact precision parts in which surface quality plays a crucial role



BEYOND THE STANDARD

Special tasks require special solutions

Tailor made burnishing tools

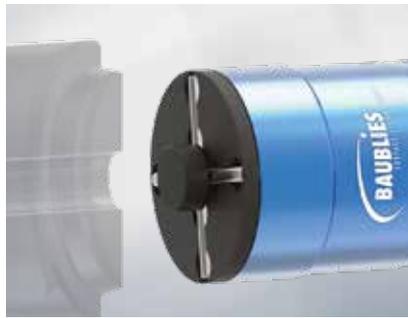
TAILOR MADE TOOLS FOR SPECIAL TASKS

With our broad product range of standard tools we cover almost all applications. Nevertheless, there will always be special requirements. Your individual machining task is our

motivation to develop the special solution you need. Trust our extensive know-how and the experience of our specialists. Sometimes it is already enough to modify existing components.



BALL-BURNISHING



BURNISHING PLANE SURFACES



BURNISHING STEPPED HOLES



BURNISHING THREADS



BURNISHING CONTOURS



**BURNISHING TOOLS
SMALL DESIGN**



BURNISHING TAPERS



THE RIGHT CONNECTION

flanging, creasing and expanding

Forming tools



FORMING IN CONVINCING QUALITY

Forming tools from Baublies are used in a wide variety of applications including expanding, flanging and beading. Baublies forming tools are versatile, robust and durable. They enable the machining of small series on standard machines as well as the machining of

large series on specialized machines. Baublies solutions are used for joining and assembly operations in various industries.

ADVANTAGES

- high process reliability
- quick processing and short cycle times
- high quality
- low investment, no special machining necessary
- completely mechanical

BEADING AND JOINING

With Baublies forming tools, beads in sheet metal, cylinders and tubes can be produced reliably in the shortest possible time and components can be connected in a form-fit manner. These tools can be used for both internal and external machining.



External beading



Internal beading



EXPANDING AND ROLLING-IN

Baublies rolling tools for expanding and rolling-in join different components together in a force-locking or form-fit manner.



Rolling-in



External flanging



Internal flanging

SIMPLY FAST

Precise finishing of external diameters
of cylindrical workpieces

Roller burnishing machine



BAUBLIES ROLLER BURNISHING MACHINE

The RM 2/35 Baublies roller burnishing machine was developed for the precision machining of the outer diameter of cylindrical workpieces (\varnothing 2 - 35 mm).

The workpiece diameter range is manually adjustable; machining is carried out in a continuous process. The power tool achieves roughness depths of less than Rz 1 μ m.

Due to its ergonomic design and compact dimensions, the machine is particularly suitable for flexible use within the manufacturing process. The roller burnishing machine can be integrated into an automated production process.

The machine is self-fed. The optimum speed stage can be selected depending on workpiece diameter and length. The simple settings of the nominal diameter and the easy adjustment of the machine inclination in 30° steps is particularly convenient.

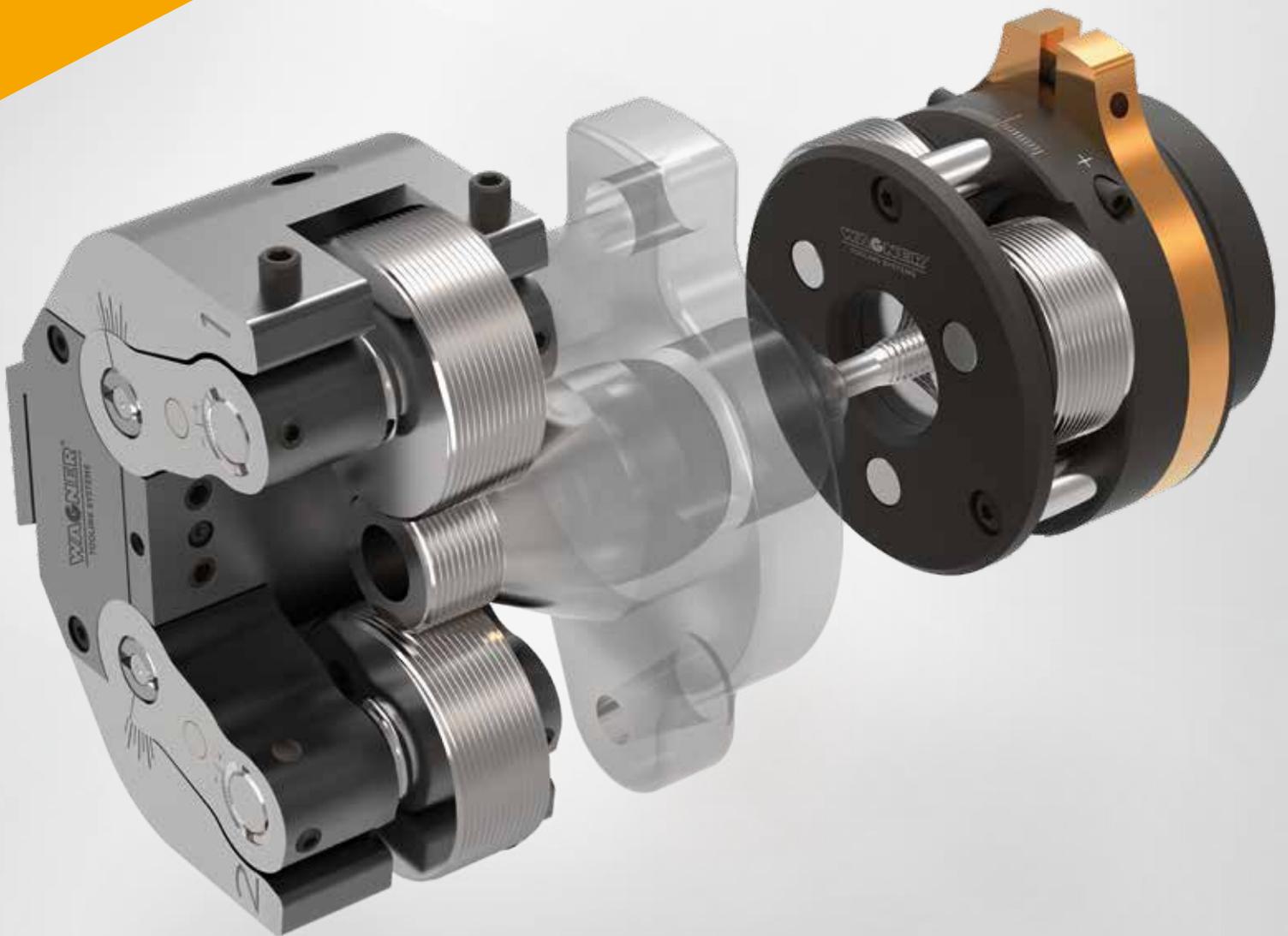


A minimum quantity of lubrication is optionally available



ADVANTAGES

- maximum process reliability
- peak-to-valley heights Rz up to under 1 μ m
- maximum fitting accuracy
- machining in seconds
- flexible usage of the table-top unit
- robust machine frame



EXPERTISE FOR CUTTING AND
NON-CUTTING THREAD PRODUCTION:
FORMING AND CUTTING TECHNOLOGY

FROM A TRADITIONAL COMPANY TO AN INNOVATIVE ENTERPRISE

Since 1890, WAGNER TOOLING SYSTEMS has specialized in precision tools for the efficient production of external threads and external machining of all kinds. The proven thread cutting systems and thread rolling systems, whose tradition goes back to the era of Gustav-Wagner-Maschinenfabrik, have been manufactured in Pliezhausen, Germany with exacting quality standards since 1994. In 2018 the company Wagner Werkzeugsysteme was integrated into the Baublies Group under the new name Wagner Tooling Systems.

We are transporting the tradition of the Gustav-Wagner-Maschinenfabrik with innovative technology into the future through the further development of our product range consisting of rolling systems axial and tangential, cutting systems and multi-cutter turning systems.

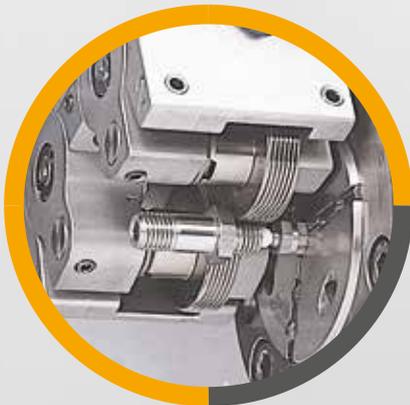
Our aim is to develop sophisticated solutions that offer the user maximum economy and durability. Our products, particularly the castors of the thread rolling heads specially developed by WAGNER TOOLING SYSTEMS, as well as our consulting and development services enjoy an excellent reputation among international experts.

The continuous development efforts by our engineers ensure that our technology is always among the world's most advanced. Because commitment to innovation is our constant objective! Each of our products is developed and manufactured for you with Swabian precision to meet the growing demands and requirements of the markets.

The modular system developed by WAGNER for axial rolling systems with exchangeable roller holding sets covers the entire operating range of a tool. Changing the rollers for all common threads is both quick and uncomplicated.



TANGENTIAL ROLLING SYSTEMS



Threads of the highest surface quality can be produced with minimum machining times using the WAGNER tangential roller systems.

The tangential rolling tool is mounted with the adapter on the tool carrier, e.g. turret disc. It moves with a constant feed onto the rotating workpiece. The thread rolls are set in rotation by touching the workpiece and form the thread as the tool carrier continues to feed. As soon as the thread rolls are centred on the workpiece, the rapid return is triggered without dwell time and the workpiece is released.

Optimum productivity is achieved using precise thread rolling. The diameter, pitch and shape of these rolls are adapted to the thread to be rolled.

WAGNER tangential rolling systems are available in various sizes and are suitable for machining workpieces from $\varnothing 2 - 52$ mm.

Premium rolling results in fine-pitch threads can be achieved by using our tool variant "F". For threads with very small pitches, it is important to keep the axial play of the thread rollers as low as possible. By means of the patented WAGNER® axial play fine adjustment, the axial roll play can be minimized in 0.02 mm steps. The fine adjustment is available as an option.

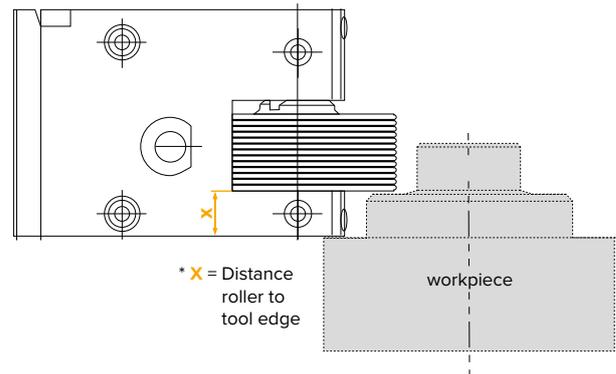
Profile rollers for special applications such as rollers for lubrication grooves, knurling or smoothing are also available.

AREAS OF APPLICATION

- cylindrical and conical threads, right- and left-hand threads as well as regular and fine threads
- threads behind a collar
- threads close up to a collar
- very short threads
- threads where the end of the workpiece is not free
- threads with very short run-outs

ADVANTAGES

- large working range
- long service life due to large rollers and high rigidity of the tool body
- particularly low-maintenance
- the rolled threads are suitable for high loads due to their uninterrupted fibre direction.
- durable, wear-resistant and corrosion-resistant threads
- high flexibility due to numerous adapter variants for use on different machines, e.g. single and multi-spindle lathes as well as special machines
- short processing time



Typ	Standard thread Ø		Fine thread Ø		Thread length max. (minus 2 x thread pitch) mm	Distance roller to tool edge (X)* mm	Max. Feed force [N]	Weights in kg	
	mm	inch	mm	inch				Tool with rollers Adapter	Adapter
B 8-W	1.6 - 12	0.06–0.5	2 - 12	0.06–0.5	14	7	1.600	0.9	ca. 1.5
B 10-W	2 - 16	0.08–0.625	2 - 17	0.08–0.625	19	10	2.500	1.9	ca. 1.7
B 14 ●	4 - 22	0.157–0.875	4 - 24	0.157–1.375	25.5	13.5	5.000	3.5	ca. 2.0
B 16 ●	6 - 22	0.25–0.875	6 - 45	0.25–1.75	25.5	13.5	5.700	3.7	ca. 2.0
B 19 ●	8 - 27	0.3125–1	8 - 52	0.3125–2	31	16.5	9.800	7.5	ca. 3.0

● These tool types are also available with fine adjustment (F) for the roller clearance.



TANGENTIAL THREAD ROLLING SYSTEM WITH FRONT MOUNTED ROLLS

FRONT MOUNTED ROLLS – EXCLUSIVELY AT WAGNER



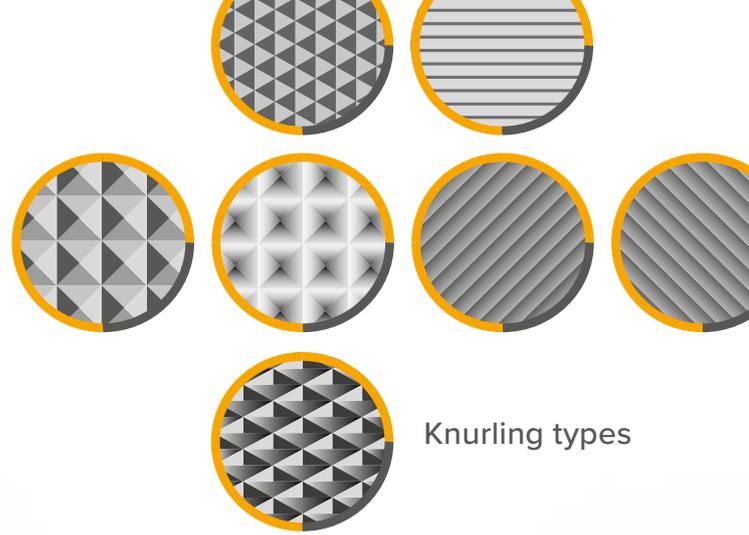
Only WAGNER offers tangential rolling tools with front mounted roll. This makes it possible to roll threads directly up to the collar or the chuck enabling the shortest machining times.

ADVANTAGES

- Working range M3 – M42 / UN 5 – 40 to UN 1 5/8"
- Problem solver for demanding workpiece geometries and special workpiece clampings
- For highest thread quality
- Process reliability due to high performance thread rolls
- Simple operation and quick roll change
- Shortest machining times
- Ideal e.g. for stainless steel fittings

Type	Standard thread Ø		Fine thread Ø		Thread length max. (minus 2 x thread pitch) mm	Max. Feed force [N]	Weights in kg approx.	
	mm	inch	mm	inch			Tool with rollers	Adapter
B 13-VB	3 – 10	0.12 – 0.375	3 – 24	0.12 – 0.9375	17	4.000	4.5	2.0
B 16-VB	8 – 16	0.315 – 0.625	8 – 42	0.315 – 1.625	20	4.000	5.4	2.0

TSW – THE KNURLING PROFESSIONAL



Knurling types

The TSW tangential tool is the „knurling professional“ among the WAGNER tools and is characterized by excellent cost-efficiency.

The TSW knurling tool can be used to roll profiles, parallel grooves, knurls and beads in a time-saving manner. During machining — preferably on single and multispindle lathes — the workpiece must rotate; the tool itself is stationary.

ADVANTAGES

- Cost-effective
- Simple operation
- Quick roll change
- Simple diameter adjustment
- Sturdy tool body
- With a roll width of up to 43 mm working range from diameter 3 to 40 mm



Type	Working range Ø		Roll width		Dimensions approx.			Weights in kg approx.	
	mm	inch	mm	inch	Height mm	Width mm	Depth mm	Tool with rolls	Adapter
TSW 10	3–18	0.118–0.709	20	0,787	80	103	53	1,9	2–3
TSW 18	14–36	0.551–1.417	40	1,575	114	140	75	5,9	3–5
TSW 24	18–40	0.709–1.575	43,9	1,728	115	147	79	6,1	3–5
TSW 24-SR	18–40	0.709–1.575	20	0,787	115	147	53	4,1	3–5



AXIAL ROLLING SYSTEMS MODULAR

Threads of the highest surface quality are produced in short processing times with the use of the axially operated WAGNER® thread rolling systems.

The large machining capacities (M2,5 - M75) of the individual rolling system types are made possible by the quick and easy replacement of the roller holders. These differ in the working range and the holder angle.

Other forming operations such as knurling, beading, rolling and smoothing can also be carried out. The heads are suitable for stationary or rotational use.

The axial system of the type RS is closed by radial rotation of the closing handle or respectively by an

integrated closing device.

The opening mechanism of the head is triggered by the feed stop and the rollers release the workpiece.

APPLICATION AREAS

- right-hand and left-hand threads as well as standard and fine pitch threads, pipe threads, trapezoidal threads and special threads
- profile rollers available for special applications such as rollers for lubrication grooves, knurling or smoothing
- rotating and stationary designs for use on lathes, machining centres, rotary transfer machines and special machines
- machining of long threads — suitable for both small series and large batch sizes

ADVANTAGES

- short processing times e.g. rolling time for 40 mm thread length = 1 sec. + dwell time 0.3 sec. (to open)
- reduction of acquisition costs due to modular design
- precision thread rolls of the highest quality
- self-opening for non-contact return flow
- machining of threads with various profile shapes right- and left-handed with only one head possible
- highest efficiency
- high flexibility on the majority of machines due to commercially available holders
- short set-up times

Type stationary

Type	Fine thread Nominal Ø mm		Standard thread Nominal Ø		Main Structural Dimensions		Weight kg	Thread Length	
	mm	inch	mm	inch	Head Ø mm	Head Length mm		up to Ø mm	max. length mm
RS 10	2.5–10	0.1–0.394	2.5–10	0.1–0.394	66	55	1.2	10	unlimited ●
RS 16	3–24	0.118–0.945	3–16	0.118–0.63	88	72	2.7	16	unlimited ●
								22	27
								27	19
RS 16-VB	6–23	0.236–0.945	6–12	0.286–0.472	88	73	3.0	16	unlimited ●
								22	33
								23	26
RS 22-2	5–36	0.197–1.299	5–24	0.236–0.482	125	120	10.5	27	unlimited ●
								32	50
								36	26
RS 27/56	5–56	0.197–2.087	5–27	0.197–1.063	150	109	11.0	52	unlimited ●
								56	31
RS 42	8–45	0.315–1.654	8–42	0.315–1.535	190 - 200	154.5 - 162.5	28.0	42	unlimited ●
								45	unlimited
RS 42/75	45–75	1.654–2.953	–	–	190 - 200	154.5 - 162.5	29.5	62	86
								75	49
RS 45	12–54	0.472–2.008	12–45	0.472–1.772	210	165	29	48	unlimited ●
								54	119
RS 60-5	32–60	1.26–2.244	–	–	192	131	28.0	60	unlimited ●

VB = prefabricated castors

Type rotary

Type	Fine thread Nominal Ø		Standard thread Nominal Ø		Main Structural Dimensions		Weight kg	Thread Length	
	mm	inch	mm	inch	Head Ø mm	Head Length mm		up to Ø mm	max. length mm
RAR 10-2	2.5–10	0.1–0.394	2.5–10	0.1–0.394	66 - 108	109.5	3.4	10	unlimited ●
								16	unlimited ●
RAR 16-2	3–24	0.118–0.945	3–16	0.118–0.63	88 - 130	126.3	5.7	22	27
								27	19
								16	unlimited ●
RAR 16-VB	6–23	0.236–0.945	6–12	0.286–0.472	88 - 130	127	6.0	22	33
								23	26
								27	unlimited ●
RR 22-2	5–36	0.197–1.299	5–24	0.236–0.482	125 - 180	180	18.9	32	50
								36	26
								52	unlimited ●
RR 27/56	5–56	0.197–2.087	5–27	0.197–1.063	150 - 162	175	14.5	56	31
								RR 42	8–45
RR 42/75	45–75	1.654–2.953	–	–	190 - 238	217.5	46.5	50	unlimited ●
								62	86
RR 45	12–54	0.472–2.008	12–45	0.742–1.772	210	228	47	75	49
								48	unlimited ●

● The maximum thread length can be limited by the mounting shaft.
VB = prefabricated castors



OUR EXPERT FOR THREAD ROLLING

HELIX RG 22-S

stationary for standard threads up to M22

HELIX RG 22-R

rotating for standard threads up to M22

HELIX FG 22-S

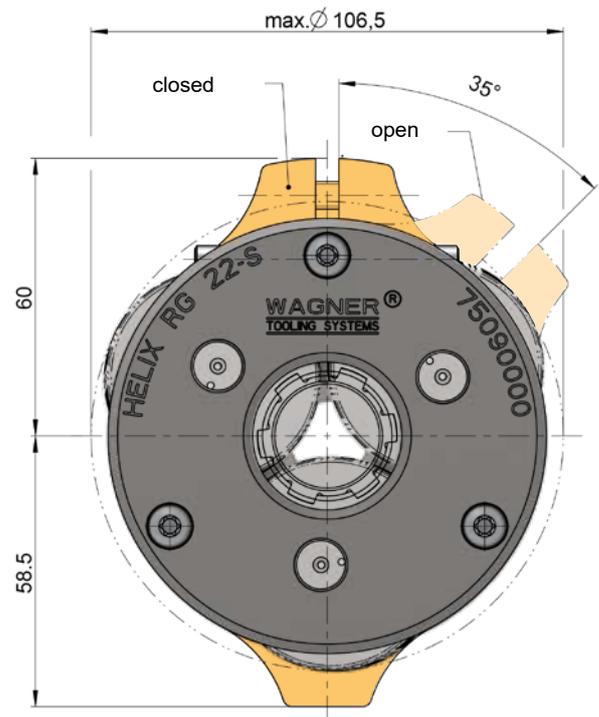
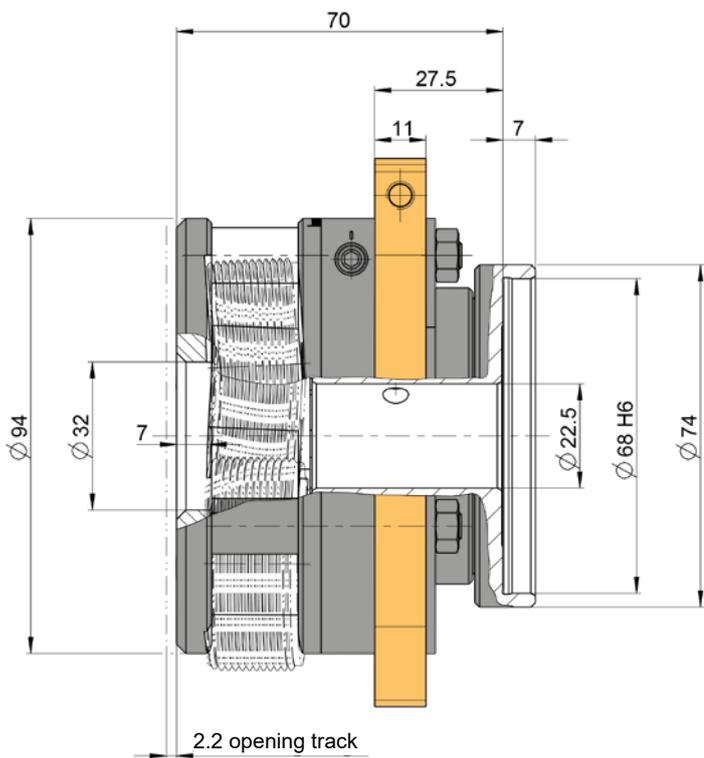
stationary for standard threads up to M22x2

HELIX FG 22-R

rotating for standard threads up to M22x2

ADVANTAGES

- large operational range (M10 to M22)
- large bore diameter
- large roll diameter
- front panel with large bore for large collar diameters
- user-friendly due to easy handling and replaceable wearing parts
- sturdy attachment of the exchangeable receptacle shafts (for all common interfaces)
- small measurements



Metric ISO thread standard- and fine thread DIN13	American UN/UNC/ UNF/UNEF/UNS thread B1.1	Pipe thread DIN EN ISO 228	Whitworth standard thread BS84 (BSW)	Whitworth fine thread BS84 (BSF)	Pipe thread DIN EN 10226 ISO 7, K1/16	American tapered pipe threads ANSI/ASME B1.20.1 ANSI 1.20.3
M10 to M22 M9x0,5 to M22x2	UNC 3/8" - 16 to 7/8" - 12 UNEF 3/8" - 32 to 15/16 - 32	G 1/8" to G 1/2"	BSW 3/8" to BSW 3/4"	BSF 3/8" to BSF 7/8"	R 1/8" to R 1/2"	NPT 1/8" to NPT 1/2"



THREAD CUTTING SYSTEMS

The **WAGNER** thread cutting system is an axial operating precision tool, which produces threads of highest quality in a short time. It is available in stationary and rotating design.

The stationary tapping system is connected to the tool carrier, e.g. turret, via a tool holder. The tool moves axially on the workpiece at a feed rate that is accurate to the pitch, which cuts the thread in a single operation. The opening mechanism of the tool is triggered by the feed stop. The chasers release the workpiece and the return can take place in rapid motion. The head is closed by moving the closing lever axially or by means of an automatic closing device.

The rotating thread cutting system is flanged to the machine spindles or picked up in a chuck. The opening and

closing of the head is controlled by an external control rod or an internal drawbar.

AREAS OF APPLICATION

- cylindrical control, fine pitch threads or tapered threads, right- or left-hand threads, pipe, trapezoidal, round and special threads
- thread according to English and American standards
- parallel profiles possible in grooving process
- the heaviest cutting tasks and large diameters are effortless with the cutting head types WDK-WKK

WAGNER CHASERS / THREAD CUTTING PLATES

- standard: HSS or HSSE
- nitrated
- coated: TiN, TiCN, TiAlN, CrN
- hard metal
- adapted to customer requirements

ADVANTAGES

- by exchanging the chasers it is possible for different thread types to be machined with only one cutting system
- high efficiency due to chasers which can be ground
- short set-up times due to preset chasers
- time-saving working method due to single cut
- high-precision thread chasers, the pitch and shape of which are adapted to the thread to be cut
- high flexibility on almost all machines due to commercially available holders
- suitable for thin walled workpieces
- suitable for materials that can not be thread rolled



MULTI-CUTTING TURNING SYSTEMS

With the WAGNER® multi-cutting turning systems, workpieces can be reduced in diameter by up to 6 mm in one pass. The starting material can be round, square or hexagonal, drawn or rolled. In addition, all cuttable materials can be machined.

ADVANTAGES

- high economic efficiency results from the very high cutting performance due to 3 to 4 times higher feed rates
- large operational range
- easy handling due to central diameter adjustment
- high turning accuracy (0.01 - 0.02 mm in diameter) achievable

- long and slim workpieces can be processed quickly and reproducibly
- large and unstable workpiece lengths can be turned with good results
- high surface quality due to original WAGNER® opening function. When the turning length is reached, the four carbide inserts are lifted off the workpiece when the head is opened. This contact-free return ensures a score-free workpiece.
- use of DIN-ISO reversing plates or WAGNER® precision reversing plates

Type	Number of cutting edges	Turning Ø		Head Ø mm	Opening function	Head length mm	Weight kg
		mm	inch				
MSD 20	4	2–16 (20)	0.079–0.63	70	ja	75	1.7
MSD 20R	4	2–16 (20)	0.079–0.63	70	ja	82	2.0
MSD 30	4	16–30	0.63–1.18	84	ja	75	2.1
MSD 30R	4	16–30	0.63–1.18	84	ja	82	2.8
DSD 12	3	1–12	0.04–0.472	55	nein	40	0.9
DSD 16	3	2–16	0.079–0.69	70	nein	48	1.4

R = for rotational use



**BAYER
DIAMANT®**



A PASSION FOR PRECISION

Diamond dressing tools of the highest quality

HIGH-QUALITY DIAMONDS – HIGH-PRECISION TOOLS

YOUR PARTNER FOR THE PERFECT PROFILE

The final touch is perfect when the grinding wheel has been optimally prepared – and that is why we as a manufacturer of dressing tools rely on first-class quality. Technical know-how in diamond grinding and tool production, decades of experience and modern machinery – on the basis of these strengths, we develop and manufacture dressing tools which are highly valued by users at home and abroad due to their precision and durability. Based on quality awareness and customer orientation, the company has acquired an excellent reputation as a reliable partner of the processing industry. We also have high-precision engraving diamonds, diamond scribing needles, tracer tools and pressing- and burnishing diamonds in its range.

EFFICIENT SOLUTIONS MADE TO MEASURE

A particular strength of ours: In addition to our standard program, we manufacture individual dressing tools that are specially tailored to the customer's requirements. With such optimized custom tools, users can increase process quality and efficiency during profile grinding.

COMPREHENSIVE SERVICES

We not only supply first-class dressing tools, but also offer our customer's comprehensive and needs-based services. Whether repair, reworking, regrinding or reprofiling, our users can rely on our competent support when it comes to maintaining the long-term quality of their dressing tools. After all, sustainability has very high priority for us, both in the service life of our products and in the satisfaction of our customers.



BEST PERFORMANCE FOR SPECIAL TASKS

High-precision and ground with extreme care – our profile dressers perform special tasks when dressing difficult and complex grinding profiles. We prefer to use triangle suture stones with optimum geometry to ensure maximum service life.



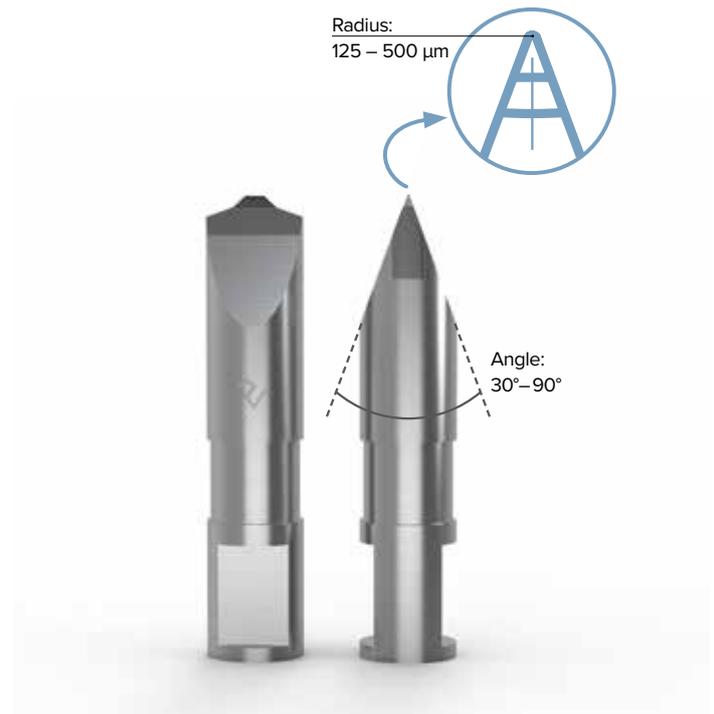
Our customers benefit from a wide range of products, which includes not only standard sizes, but also individually tailored custom solutions.

AREAS OF APPLICATION

- > Profiling is the main focus, it is also possible to level material
- > Copy dressing of high-precision profiles in grinding wheels
- > Dressing the following types of grinding wheels: corundum, white corundum, silicon carbide, sintered corundum

ADVANTAGES OF BAYER DIAMONDS

- > High-precision diamond cutting geometry and exact cutting form
- > Special grinding geometry for optimized results
- > Selection is made according to largest flank angle and robustness
- > High-quality diamonds are selected to suit individual requirements
- > Diamond grinding is carried out by competent and experienced experts
- > Use of monocrystalline natural or synthetic diamonds of consistent quality
- > Regrinding service for maximum service life



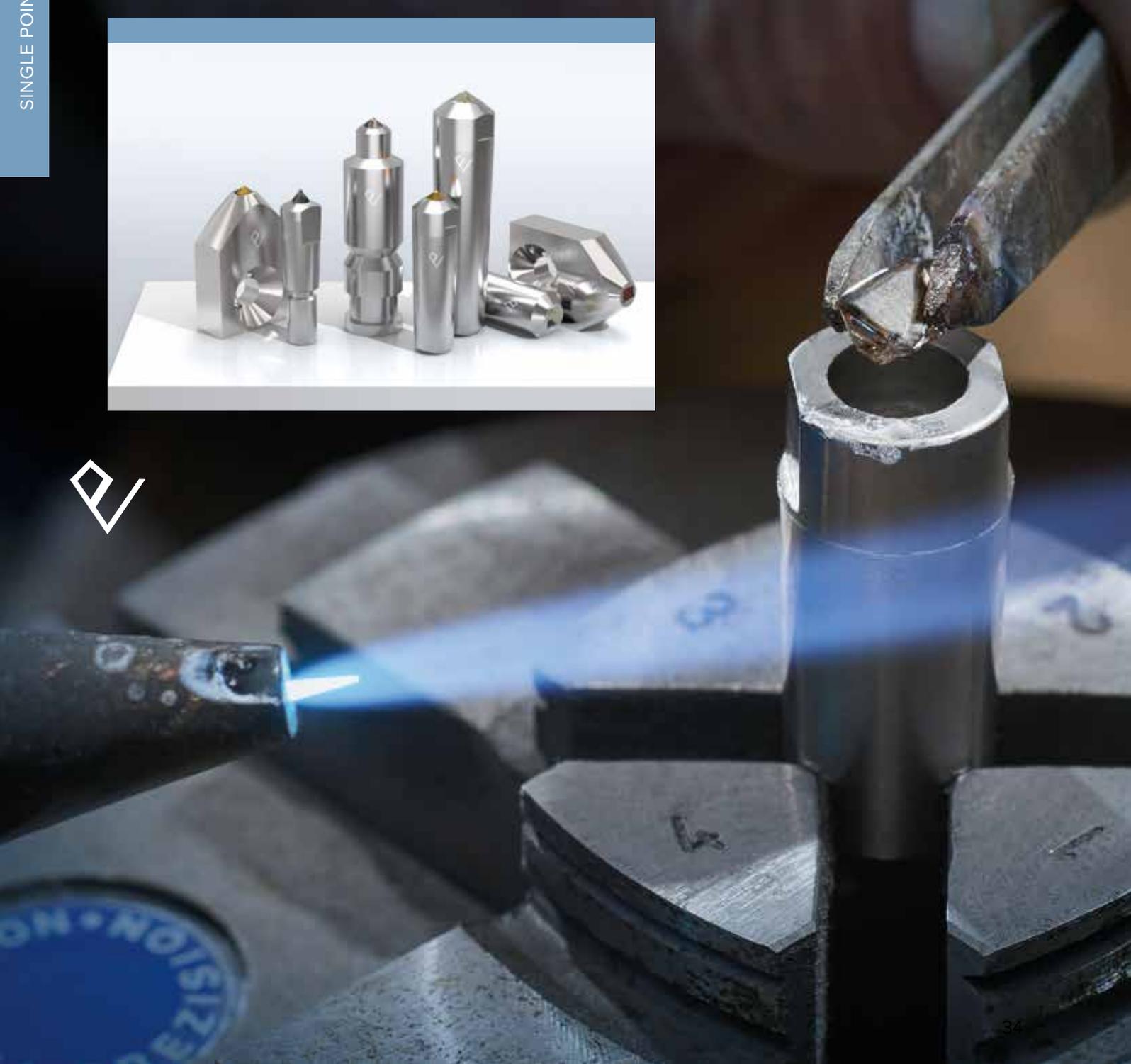
We manufacture custom-made profile dressing tools according to your wishes and especially for your grinding tasks. Of course, we also supply all standard sizes and designs. Allow us to create an offer for you.



**BAYER
DIAMANT®**

THE ECONOMICAL SOLUTION FOR FLEXIBLE USE

For optimal results, we rely on diamonds of the highest quality. Our customers have confidence in our expertise in the selection and setting of diamonds.



In this manner, the shape accuracy and surface finish of the grinding wheel can be restored economically. Depending on customer requirements, we can supply disposable or regrindable reusable dressing tools.

AREAS OF APPLICATION

- > Dressing of single-profile straight grinding wheels
- > External cylindrical grinding in small series
- > Internal cylindrical grinding (for special applications)

ADVANTAGES OF BAYER DIAMONDS

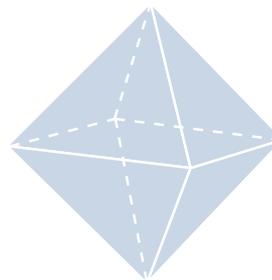
- > Top quality is our standard (structural strength, sharpness, flawlessness)
- > Available as octahedron or dodecahedron, depending on application
- > Product variants with natural tip or ground tip
- > Careful selection of diamonds by competent experts
- > 0.1 to 0.5 carat for single-use dressing tools
- > Octahedron from 0.33 to 2.5 carat, larger diamonds on request
- > Re-grinding and re-setting as a service feature possible



- > The diamond tip can be natural or ground. In the case of reusable single-point dressers, natural tips can be reground after wear.

WHAT IS A CARAT?

1 carat = 0.20 g



Octahedron shape
of a diamond



Dodecahedron shape
of a diamond

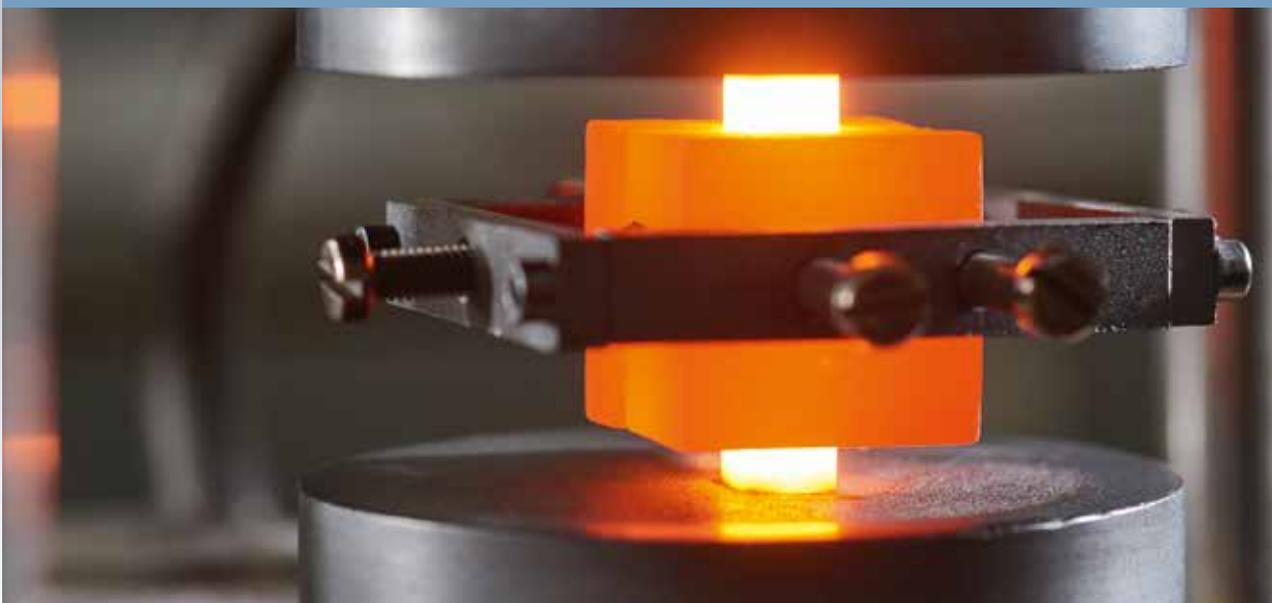
We manufacture custom-made single point dressing tools according to your wishes and especially for your grinding tasks. Of course, we also supply all standard sizes and designs. Allow us to create an offer for you.



**BAYER
DIAMANT®**

PLATE-BY-PLATE ADVANTAGES

Dressing plates and needle tiles from Bayer Diamant offer the user many advantages in dressing and profiling. The suitability for a multitude of dressing processes and the cost-effectiveness in use ensures high efficiency and the high-quality diamonds guarantee long service lives and excellent results.



Whether MCD-, CVD- or natural needles, hard material or metal bond, we deliver according to your needs and individual solutions for high-precision profiles and optimum dressing conditions.

AREAS OF APPLICATION

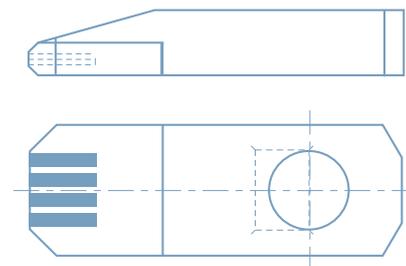
- > Dressing single-profile, straight grinding wheels and profile dressing for sophisticated requirements
- > Economical replacement for ground profile dressers

ADVANTAGES OF BAYER DIAMONDS

- > Needle tile consists of CVD, MKD or natural needles
- > Dressing plate can be used for different grinding wheel specifications
- > Minimal maintenance effort
- > Dressing plates and tiles are completely usable
- > High dressing quality due to several cuts directly one after the other during dressing

HOLDER FOR DRESSING PLATES

- > Suitable holders are available for central, left- and right-sided tiles
- > Holder also available for standard taper mounts, e.g. MKO and MK1

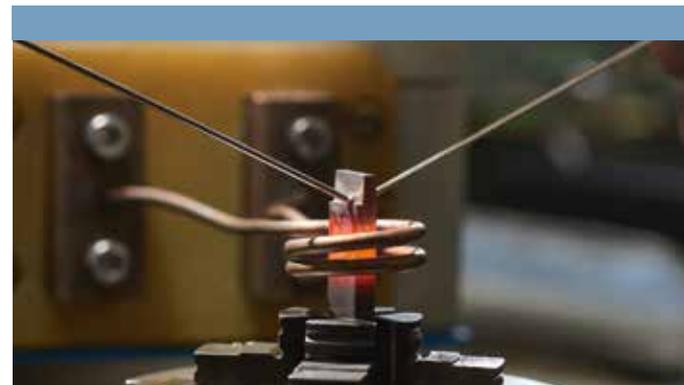


- > The tiles are available in central and lateral versions
- > Diamond needles can be set straight or at an angle of 45°. The number and thickness of the needles can be adapted to the customer's requirements. The edge length of the needles is 0.3 mm to 1.4 mm.



angle 45°

straight



We manufacture custom-made dressing plates according to your wishes and especially for your grinding tasks. Of course, we also supply all standard sizes and designs. Allow us to create an offer for you.



**BAYER
DIAMANT®**

INEXPENSIVE, FAST AND ROBUST: MULTIPOINT BRINGS ADDED VALUE

Multipoint dressers are the economical solution when it comes to efficient removal at higher feed rates. The simultaneous engagement of several diamonds distributes the stress – this enables long service lives even at higher loads. Another advantage is the insensitivity to shocks or bumps.



We produce multigrain dressers and, on request, optimize dimensions, grit size, and binding individually to our customer's requirements.

APPLICATIONS

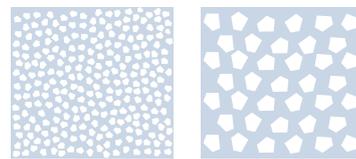
- > Single-profile dressing of straight and even grinding wheel surfaces
- > Rough dressing
- > Fast dressing without scoring
- > Correction of imbalances

ADVANTAGES OF BAYER DIAMONDS

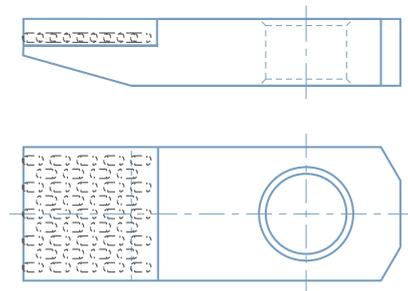
- > Diamonds of selected quality are hand-set in several layers
- > Economical universal solution thanks to small carats of individual diamonds
- > Sintered bonds are matched to applications

GRIT SIZES

- > We use grit sizes from D46 (0.05 mm) to D1181 (1.2 mm)



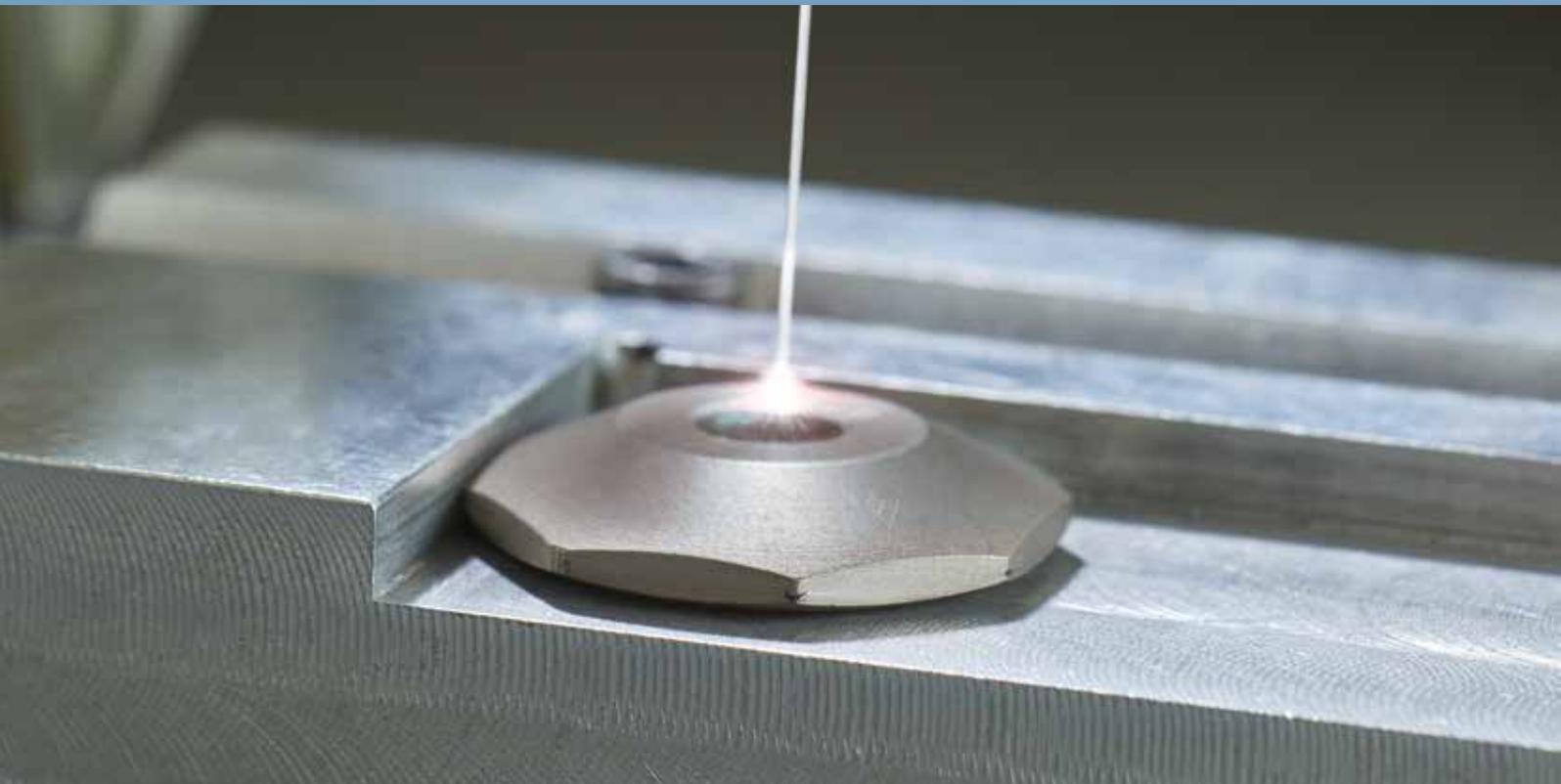
The designation D46 or D1181 stands for the mesh size in microns of the sorting grids used to determine the size of the diamonds.



We manufacture custom-made multipoint and multigrain dressing tools according to your wishes and especially for your grinding tasks. Of course, we also supply all standard sizes and designs. Allow us to create an offer for you.

ALL ROUND IN TOP FORM

Easy to handle, economical in use, dressing and profile wheels are primarily suitable for straight dressing, but can also be used for profiling with single-row design. We use diamond needles or selected suture stones, which are reliably held by sintered binding.



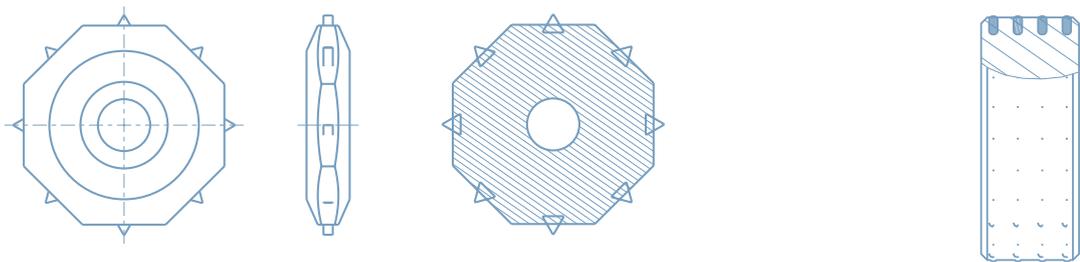
If a diamond is worn out, the dressing wheel is simply turned to the next tip – thus economical dressing with uniform results can be achieved.

AREAS OF APPLICATION

- > Dressing of straight grinding wheels as well as for profiling
- > Well suited for medium and coarse grinding wheel grit

ADVANTAGES OF BAYER DIAMONDS

- > High efficiency due to several diamonds that can be used one after the other
- > Advantageous price-performance ratio: one gear can replace several conventional dressers
- > Dressing and profiling wheels are available for commercial holders



We manufacture custom-made dressing and profiling wheels according to your wishes and especially for your grinding tasks. Of course, we also supply all standard sizes and designs. Allow us to create an offer for you.



**BAYER
DIAMANT®**

DIAMOND TRACER
ENGRAVING DIAMONDS
DIAMOND SCRIBING NEEDLES
HAND DRESSING TOOLS
PRESSING- AND BURNISHING DIAMONDS
TRIANGULAR DRESSER



DIAMOND TRACER

- > PCD-fine grain (polycrystalline diamonds)
- > Soldered steel shaft
- > Extremely low wear due to the high hardness of the diamond
- > Extended stylus life as result of diamond tracers
- > Available in different versions

MCD / CVD-ENGRAVING DIAMONDS AND CVD-DIAMOND SCRIBING NEEDLES

- > Engraving diamonds of the highest precision
- > Available in different radius and angles
- > Suitable for almost all materials
- > Available for commercial holders

HAND DRESSING TOOLS

- > Easy to handle and robust dressers in various designs
- > Application: for finishing of edges on SiC grinding wheels on grinding stands and machines without a dressing device
- > Maintenance free
- > Universally applicable
- > High quality performance
- > Economic due to long-term service life

PRESSING- AND BURNISHING DIAMONDS

- > Various diamond inserts for burnishing tools possible
- > Application: burnishing of metallic surfaces
- > Materials above 60 HRC can be burnished
- > Roughness below Rz 1.0 μm possible
- > Diamond version with the radii 0.4 – 2.0 mm, others available on request

TRIANGULAR DRESSER

- > PCD or CVD plate on carbide carrier
- > Multiple use due to triangular shape
- > Application: dressing of grinding wheels and internal grinding wheels
- > High surface quality, thus increased dimensional accuracy of the workpieces
- > Only suitable for corundum grinding wheels
- > Common holders available
- > Flexibility through interchangeable holders and diamond triangles
- > Radii of the diamonds are flexibly exchangeable
- > Layer thickness of 0.5 mm or 0.8 mm available
- > Vibration-free due to conical holder





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