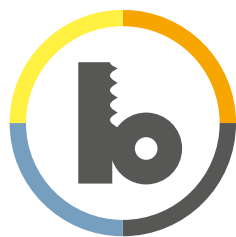




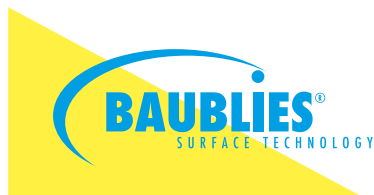
EXPERTS IN
NON-CUTTING SURFACE TREATMENT
AND THREAD PRODUCTION

PRODUCT OVERVIEW

**BAUBLIES
GROUP**



**BAUBLIES
GROUP**



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WAGNER®

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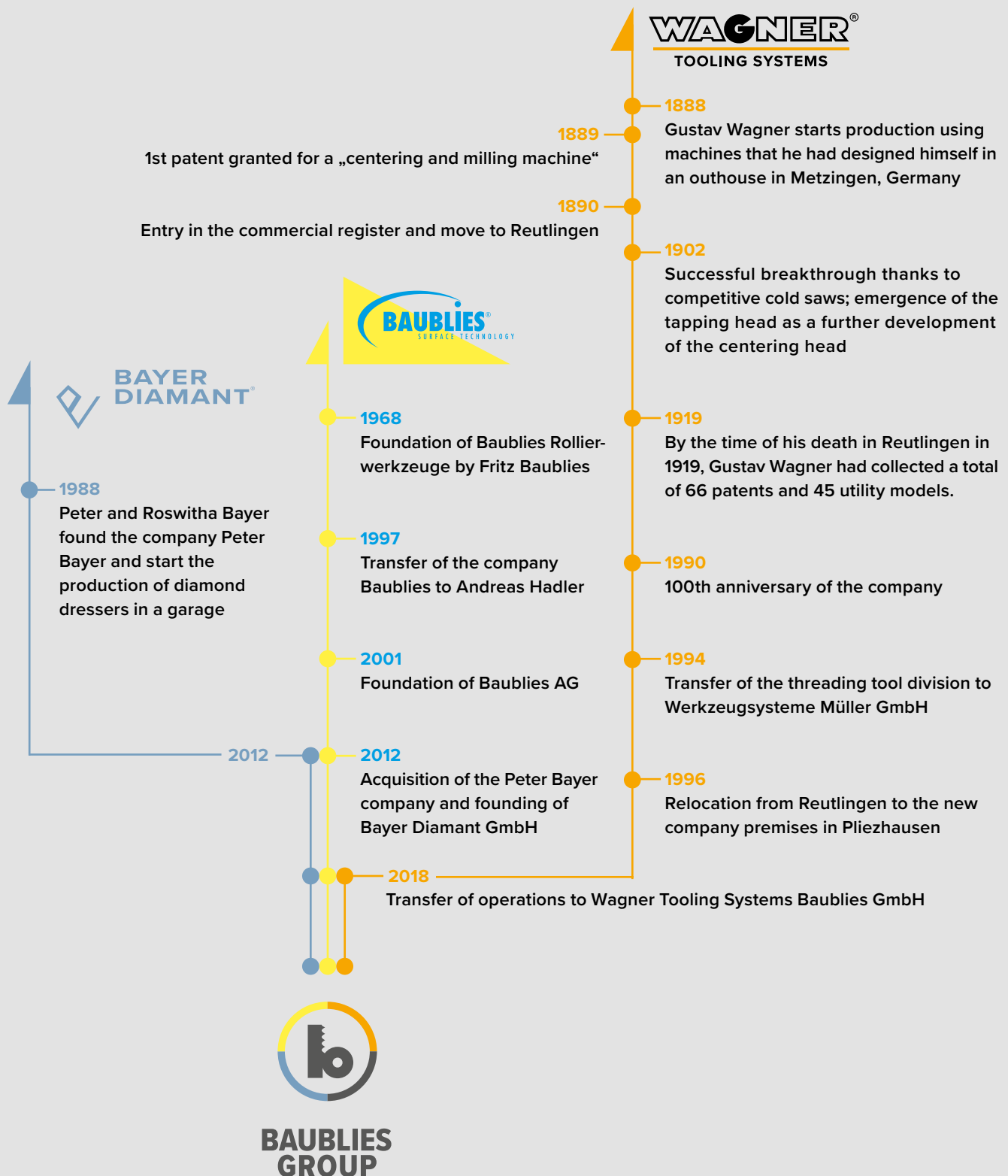
TWO LOCATIONS –
ONE GROUP OF COMPANIES



THREE COMPANIES, ONE GOAL: GROWING TOGETHER TO GROW TOGETHER.

Optimization of surfaces and production of external threads: Three companies bring these competencies to the Baublies Group. In the future, the new group of companies will offer a wide range of solutions from a single source.

Users will benefit from the high vertical range of manufacture and technical consulting expertise of an experienced full-range supplier. The products in our wide-ranging portfolio complement each other perfectly and, if required, we develop customer-specific solutions.





OPTIMIZED SURFACES BY ROLLER- BURNISHING AND DIAMOND-BURNISHING

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

For more than 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 CUSTOMERS 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

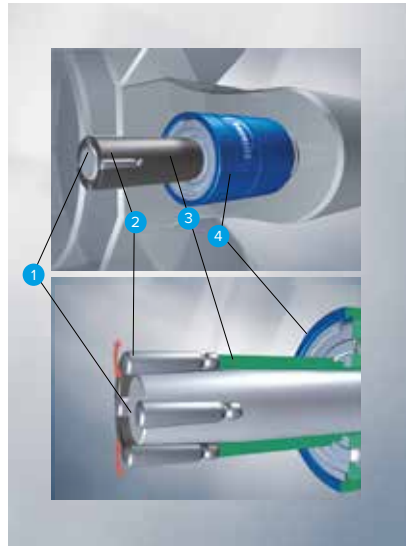
Multi-roller burnishing tools



FAST, SMOOTH AND HARD

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.

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.



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.

ADVANTAGES

- Workpiece is not subjected to lateral forces
- Short machining times
- Hardened boundary layers
- Increased fatigue strength
- Greater contact area due to plateau formation
- Higher surface resistance to wear and corrosion
- Increase material fatigue limits
- Reduced sliding friction coefficients, constant dimensions and high fitting accuracy
- Environmental sustainability (as no grinding dust is produced)
- Suitable for all standard machine tools



Multi-roller burnishing tools for external machining in various diameters



Multi-roller burnishing tool PICCOLINO 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.

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.

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



Modular tool-system



Modular tool-system



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

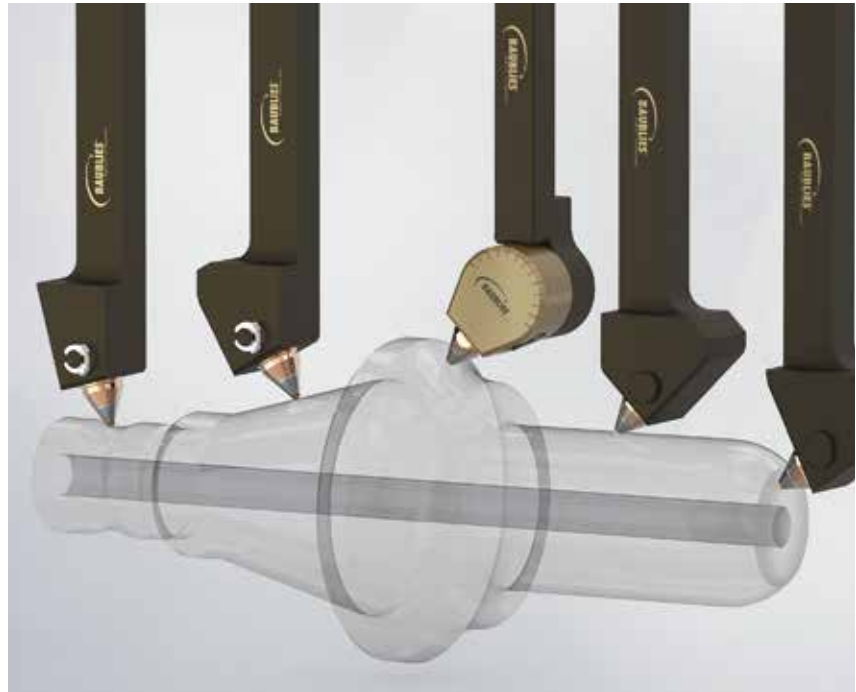
Diamond-burnishing tools expand the range of applications of roller burnishing technology, as even hardened materials up to approximately 60 HRC can be roller burnished.

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
- 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 tools

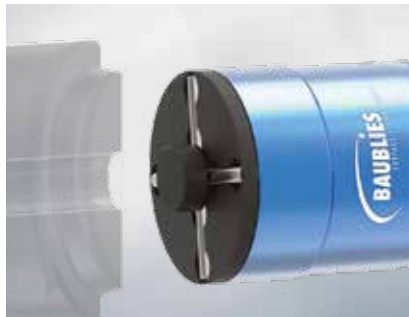
TAILOR MADE TOOLS FOR SPECIAL TASKS

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

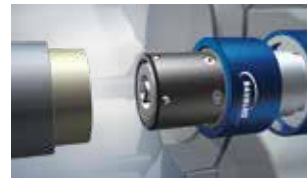
- High process reliability
- Quick processing and short cycle times
- High quality

BEADING AND JOINING

With Baublies forming tools, beads in 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.



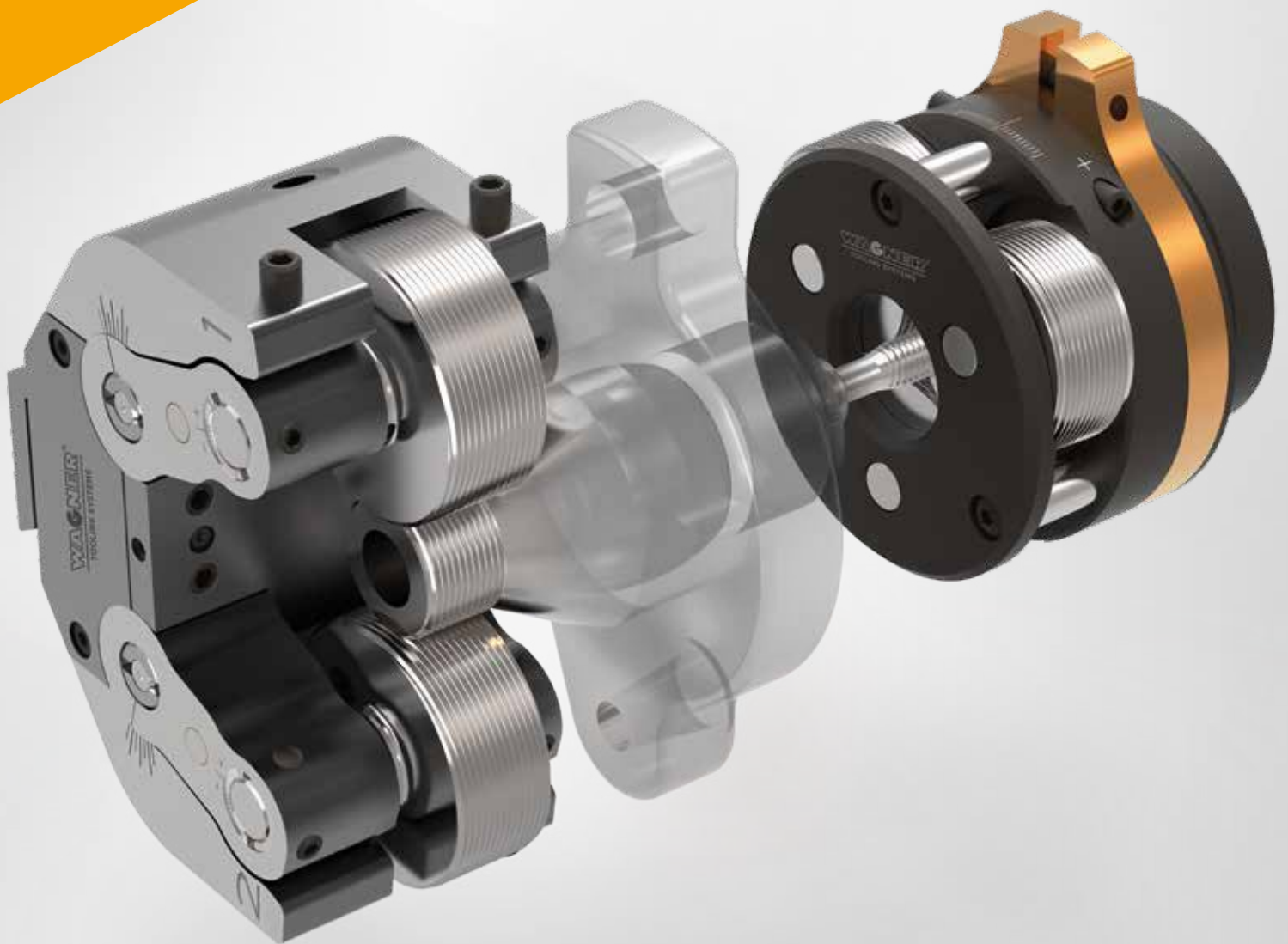
Rolling-in



External flanging



Internal flanging



EXPERTISE FOR EXTERNAL
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.

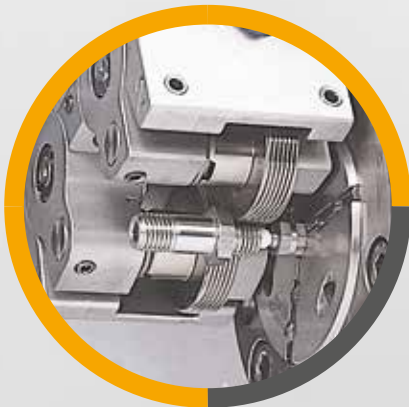
Wagner Tooling Systems enjoys an excellent reputation among international experts. This is due to the products – in particular the specially developed rollers of the thread rolling systems – as well as the outstanding services in consulting and development.

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 axial roller system developed by Wagner with interchangeable roller holder sets allows the entire working range of a tool to be covered. The rollers for all common threads can be exchanged quickly and easily.



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 have reached the centre of the workpiece the rapid return is initiated and the workpiece is released.

Optimum productivity is achieved using precise thread rolls with maximum tool life. 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 Ø 1.6–52 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 rolls 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 rolls for special applications such as rolls for lubrication grooves, knurling or smoothing are also available.

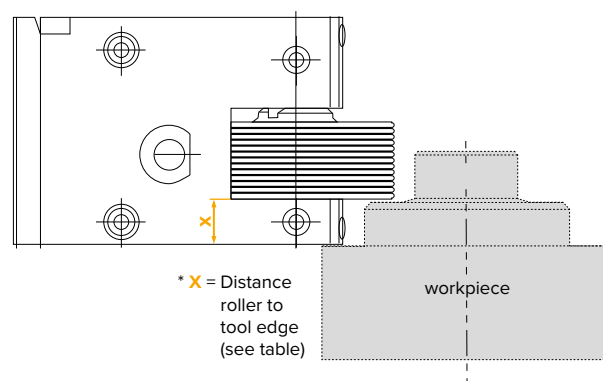


AREAS OF APPLICATION

- 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

- Very short processing time
- Large working range
- Long tool life due to large rolls and high rigidity of the tool body
- Particularly low-maintenance
- The rolled threads are suitable for high loads due to their uninterrupted fibre course.
- 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



Type	Standard thread Ø		Fine thread Ø		Thread length max. (minus 2 x thread pitch) mm	Distance roll to tool edge (X)* mm	Max. Feed force [N]	Weight in kg	
	mm	inch	mm	inch				Tool with rolls	Adapter
B8-W	1.6–12	0.06–0.5	1.6–13	0.06–0.5	14	7	1600	0.9	approx. 1.5
B10-W	2–16	0.08–0.625	2–16	0.08–0.625	19	10	2500	1.9	approx. 1.7
B14 ●	4–22	0.157–0.875	4–35	0.157–1.375	25.5	13.5	5000	3.5	approx. 2.0
B16 ●	6–22	0.25–0.875	6–45	0.25–1.75	25.5	13.5	5700	3.7	approx. 2.0
B19 ●	8–27	0.3125–1	8–52	0.3125–2	31	16.5	9800	7.5	approx. 3.0

● These tool types are also available with fine adjustment (F) for the axial play of the rolls.



TANGENTIAL THREAD ROLLING SYSTEM WITH FRONT MOUNTED ROLLS

**FRONT
MOUNTED
ROLLS –
EXCLUSIVELY AT
WAGNER**



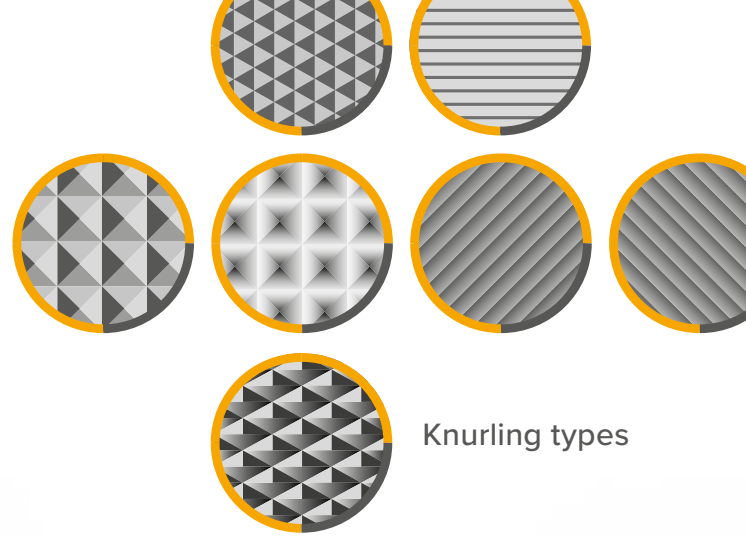
Front mounted rolls make it possible to roll threads directly up to a collar or chuck.

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	Weight in kg	
	mm	inch	mm	inch			Tool with rolls	Adapter
B13-VB	3–10	0.12–0.375	3–24	0.12–0.9375	17	4000	4.5	approx. 2.0
B16-VB	12–16	0.5–0.625	8–42	0.5–1.625	20	4000	5.4	approx. 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

- Very short processing times
- Working range of diameter 3 to 40 mm
- Roll width up to 43 mm
- Cost-effective
- Simple operation
- Quick roll change
- Simple diameter adjustment
- Rigid tool body
- Large roll diameters for long tool live



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 working ranges (M2.5–M75) of the individual rolling tool types are made possible by the quick and easy exchange of the roll holders. These differ in the working range and the holder angle. In addition, other forming operations such as knurling, beading and smoothing can be carried out. The tools are suitable for stationary or rotary use.

The axial tool is closed by radial rotation of the closing handle or rather by a closing roll or an automatic closing

device. The opening mechanism of the tool is triggered by stopping the feed and the rolls release the workpiece. The opening mechanism of the tool is triggered by stopping the feed and the rolls release the workpiece.

AREAS OF APPLICATION

- Right-hand and left-hand threads as well as regular and fine threads; pipe, trapezoidal and special threads
- Profile rolls available for special applications such as rolling for lubrication grooves, knurling or smoothing
- Rotating and stationary types for use on lathes, machining centres, rotary transfer and special machines
- Machining of long threads
- Suitable for small series and large production runs

ADVANTAGES

- Short processing times e.g. rolling time for 40 mm thread length = 1 sec. + dwell time 0.3 sec. (to opening)
- Extremely fast rolling speed (approx. 25–80 m/min)
- Reduction of acquisition costs due to modular design
- Highest quality precision thread rolls
- Self-opening for contact-free return
- Machining of right and left-handed threads with a wide variety of profile shapes with only one tool possible
- Optimum productivity
- High flexibility on almost all machines due to common tool holders
- Rapid set-up times

Type stationary

Type	Fine thread Nominal Ø mm		Standard thread Nominal Ø		Main dimensions		Weight kg	Thread length	
	mm	inch	mm	inch	Tool Ø mm	Tool Length mm		up to Ø mm	max. length mm
RS10	2.5–10	0.1–0.394	2.5–10	0.1–0.394	66	55	1.2	10	unlimited ●
RS16	3–24	0.118–0.945	3–16	0.118–0.63	88	72	2.7	16	unlimited ●
								22	27
								27	19
RS16-VB*	6–23	0.236–0.945	6–12	0.286–0.472	88	73	3.0	16	unlimited ●
								22	33
								23	26
RS22-2	5–36	0.197–1.417	5–24	0.236–0.945	125	120	10.5	27	unlimited ●
								32	50
								36	26
RS27/56	5–56	0.197–2.087	5–27	0.197–1.063	150	109	11.0	52	unlimited ●
								56	31
RS42	8–45	0.315–1.654	8–42	0.315–1.535	190–200	154.5–162.5	28.0	42	unlimited ●
								45	unlimited
RS42/75	45–75	1.654–2.953	–	–	190–200	154.5–162.5	29.5	62	86
								75	49
RS45	12–54	0.472–2.008	12–45	0.472–1.772	210	165	29	48	unlimited ●
								54	119
RS60-5	32–60	1.26–2.244	–	–	192	131	28.0	60	unlimited ●

*VB = front mounted rolls

Type rotating

Type	Fine thread Nominal Ø		Standard thread Nominal Ø		Main dimensions		Weight kg	Thread length	
	mm	inch	mm	inch	Tool Ø mm	Tool length mm		up to Ø mm	max. length mm
RAR10-2	2.5–10	0.1–0.394	2.5–10	0.1–0.394	66–108	109.5	3.4	10	unlimited ●
								16	unlimited ●
RAR16-2	3–24	0.118–0.945	3–16	0.118–0.63	88–130	126.3	5.7	22	27
								27	19
RAR16-VB*	6–23	0.236–0.945	6–12	0.286–0.472	88–130	127	6.0	16	unlimited ●
								22	33
								23	26
RR22-2	5–36	0.197–1.299	5–24	0.236–0.482	125–180	180	18.9	27	unlimited ●
								32	50
								36	26
RR27/56	5–56	0.197–2.087	5–27	0.197–1.063	150–162	175	14.5	52	unlimited ●
								56	31
RR42	8–45	0.315–1.654	8–42	0.315–1.535	190–238	217.5	45.0	42	unlimited ●
								50	unlimited ●
RR42/75	45–75	1.654–2.953	–	–	190–238	217.5	46.5	62	86
								75	49
RR45	12–54	0.472–2.008	12–45	0.742–1.772	210	228	47	48	unlimited ●
RR60-5	32–60	1.2–2.244	–	–	238	195	40.0	60	unlimited ●

● The maximum thread length can be limited by the mounting shank.

*VB = front mounted rolls

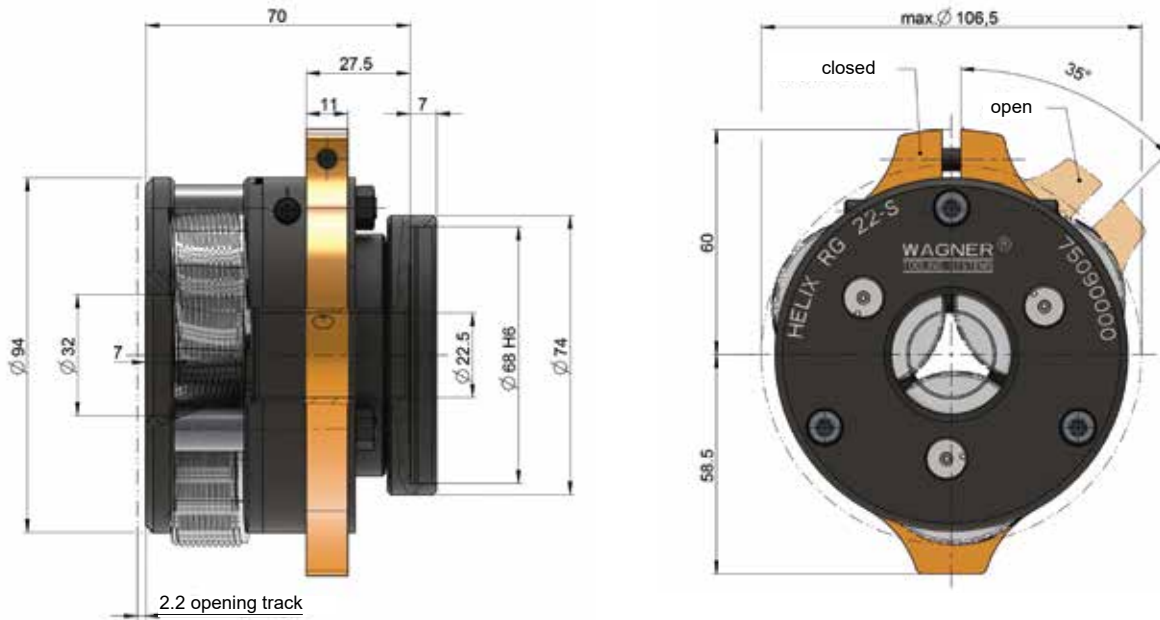
OUR EXPERT FOR THREAD ROLLING



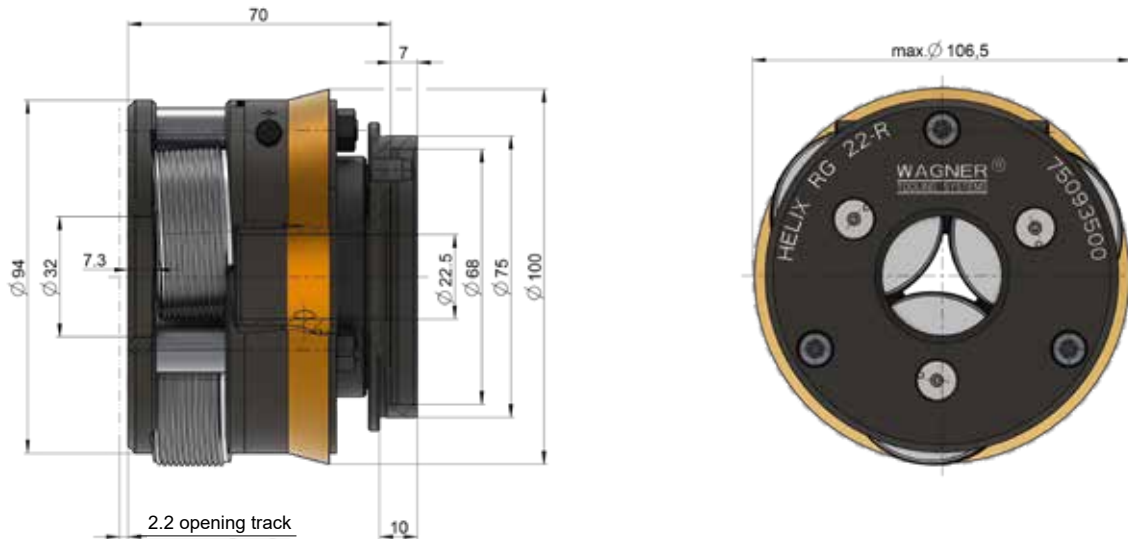
ADVANTAGES

- Large working range (M10–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 fastening of the exchangeable mounting shanks (for all common interfaces)
- Compact dimensions

HELIX Axial rolling system RG22-S/FG22-S, stationary



HELIX Axial rolling system RG22-R/FG22-R, rotating



Metric ISO thread DIN 13 standard and fine thread	American UN/UNC/UNF/UNEF/UNS thread ASME 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–M22	3/8"–16–7/8"–12UNC	G1/8"–1/2"	3/8"–3/4"BSW	3/8"–7/8"BSF	R1/8"–1/2"	1/8"–1/2"NPT
M9 × 0,5–M22 × 2	3/8"–32–15/16"–32UNEF					



THREAD CUTTING SYSTEMS

The Wagner thread cutting system is an axially operating precision tool that produces threads of the highest quality in a short time. It is available in stationary and rotary design.

The stationary thread-cutting tool is connected to the tool carrier, e.g. turret, via a tool holder. The tool moves axially onto the workpiece at a precise feed rate, cutting the thread in a single operation. When the feed is stopped, the opening mechanism of the tool is triggered. The chasers release the workpiece and the return movement in rapid traverse can take place. The tool is closed by axial movement of the closing lever or by a closing device.

The rotating thread cutting tool is flanged to the machine spindles or accommodated in a chuck. The control

for opening and closing the tool is provided by an external control linkage or an internal control rod.

APPLICATIONS

- Regular, fine, cylindrical or conical threads, right-hand or left-hand threads, pipe, trapezoidal, round and special threads
- Threads according to British and American standards
- Parallel profiles by infeed profile cutting possible
- The most difficult machining tasks and large diameters can be performed effortlessly with the WDK-WKK cutting system types

WAGNER CHASERS / THREAD CUTTING PLATES

- Standard: HSS or HSSE
- Nitratated

- Coated: TiN, TiCN, TiAlN, CrN
- Carbide
- Customized according to customer requirements

ADVANTAGES

- By exchanging the chasers, different thread types can be machined with only one cutting system
- High efficiency due to regrindable chasers
- Short set-up times due to preset chasers
- Time-saving operation due to single cut
- High-precision thread chasers adapted in pitch and shape to the thread to be cut
- High flexibility on almost all machines due to commercially available tool holders



MULTI-CUTTING TURNING SYSTEMS

With the Wagner multi-cutter turning systems, workpieces can be reduced in diameter. The starting material can be round, square or hexagonal, drawn or rolled. In addition, all machinable materials can be processed.

Depending on the material and the requirements of the turned surface, cutting depths of up to 5 mm can be achieved.

A distinction is made between MSD with four cutting edges and an opening function and DSD with three cutting edges without an opening function.

ADVANTAGES OF MSD AND DSD

- High efficiency due to 3 to 4 times higher feed rate
- Large working range
- Easy handling due to central diameter adjustment

- High turning accuracies
- Use of DIN-ISO inserts or Wagner precision inserts

ADVANTAGES OF MSD AND DSD

- Very good chip removal

ADVANTAGES OF MSD

- The cutting forces cancel each other out due to two opposite cutting edges, which means that workpieces with a long chucking length can be machined.
- High surface quality due to original Wagner opening function. When the turning length is reached, the four carbide cutting inserts are lifted off the workpiece as the tool opens. The contact-free return ensures a score-free workpiece.

Type	Number of cutting edges	Turning-Ø		Tool-Ø mm	Opening function	Tool length mm	Weight kg
		mm	inch				
MSD20	4	2–16 (20)	0.079–0.63	70	yes	75	1.7
MSD20R	4	2–16 (20)	0.079–0.63	70	yes	82	2.0
MSD30	4	16–30	0.63–1.18	84	yes	75	2.1
MSD30R	4	16–30	0.63–1.18	84	yes	82	2.8
DSD12	3	1–12	0.04–0.472	55	no	40	0.9
DSD16	3	2–16	0.079–0.63	70	no	48	1.4

R = for rotational use



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, as a manufacturer of dressing tools, we focus on first-class quality. Based on technical know-how of diamond grinding and tool manufacturing, with decades of experience and modern machinery, we develop and manufacture dressing tools whose precision and longevity are highly valued by users at home and abroad. Our company has earned an excellent reputation as a reliable partner to the processing industry through quality awareness and customer orientation. Furthermore, we have high-precision engraving diamonds, diamond scribing needles, tracer diamonds as well as pressing and burnishing diamonds in our product 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 dressing.

COMPREHENSIVE SERVICES

We not only supply first-class dressing tools, but also offer our customers comprehensive services tailored to their needs. Whether this involves repairing, reworking, resharpenering or regrooving, our users can rely on our competent support when it comes to maintaining the quality of their dressing tools over the long-term. Sustainability is a high priority for us, both in terms of 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 seam stones with optimum geometry to ensure maximum service life.



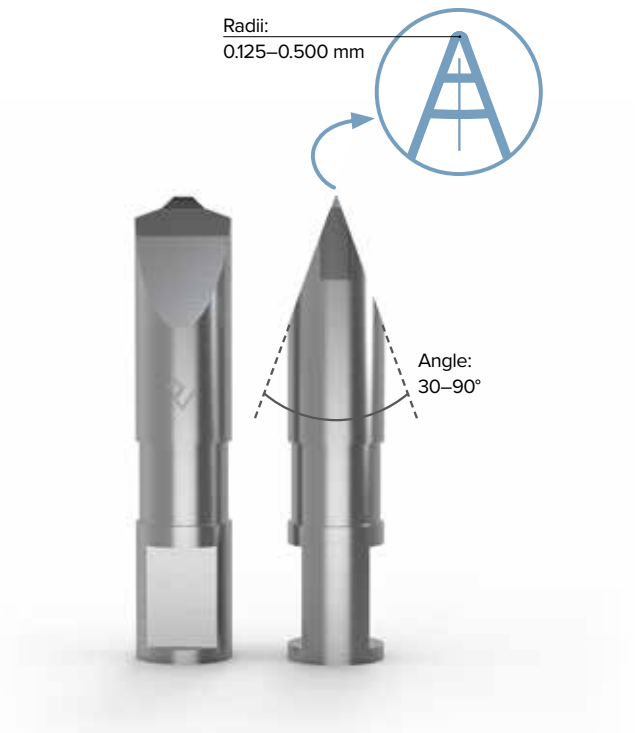
Our customers benefit from a wide range of products, which includes not only standard sizes, but also individually tailored custom solutions.

AREAS OF APPLICATION

- > 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 THE 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
- > Regrinding service for maximum service life



AVAILABLE DIAMONDS:



Flat seam diamond triangles



CVD cutting



Large arched natural diamond triangles



MKD diamonds

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.

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)
- > Economical solution for internal grinding

ADVANTAGES OF THE BAYER DIAMONDS

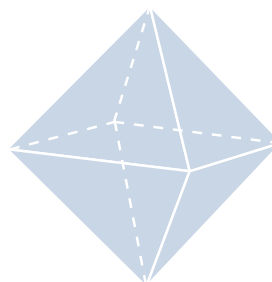
- > Selected quality through individually chosen diamonds is our standard
- > Available as octahedron or dodecahedron, depending on application
- > Product alternatives with natural point or sharpened point
- > Careful selection of diamonds by competent experts
- > 0.1–0.2 carat (ct) for single-use dressing tools
- > Octahedron from 0.25–2.5 carat (ct), larger diamonds on request
- > Regrinding and resetting as a service feature possible
- > Low dressing pressure
- > Good surface finish possible

WHAT IS A CARAT?

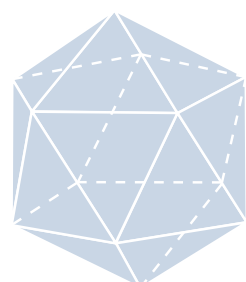
1 carat = 0.20 g



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



Octahedron shape
of a diamond

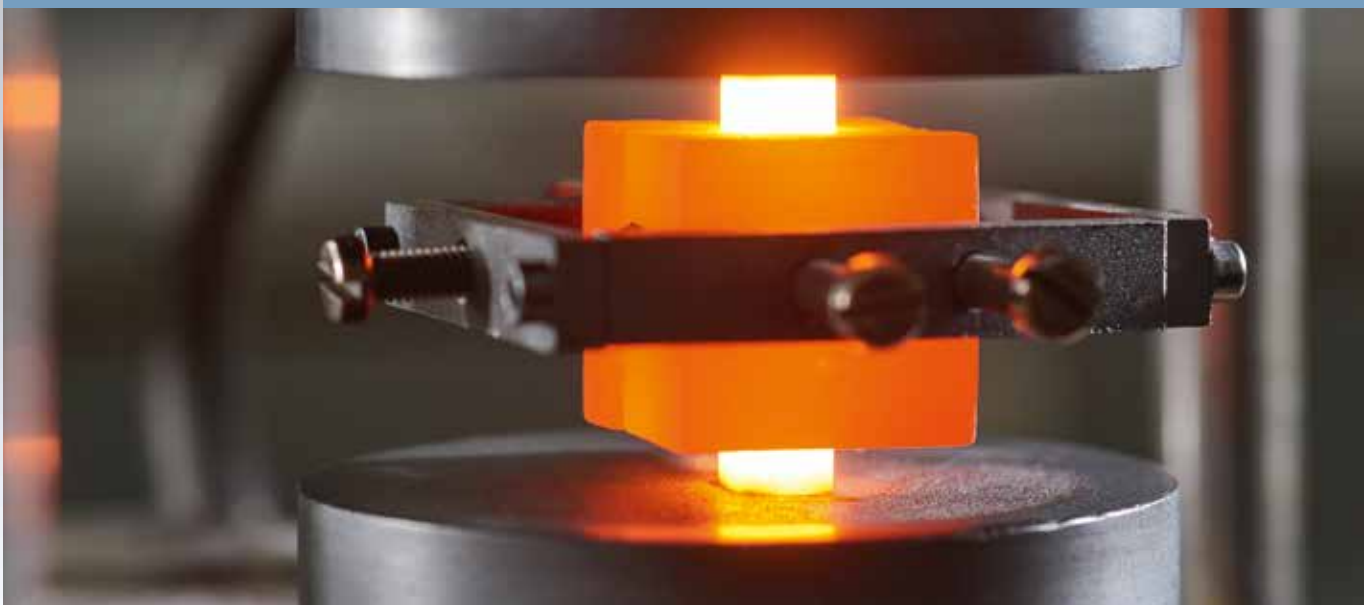


Dodecahedron shape
of a diamond

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.

PLATE BY PLATE ADVANTAGES

Dressing plates 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.

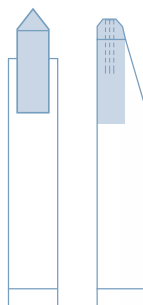
AREAS OF APPLICATION

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

ADVANTAGES OF THE BAYER DIAMONDS

- > Dressing plate tile consists of CVD rods or MKD rods
- > 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
- > Low dressing forces
- > Long service life
- > Constant effective roughness depth R_{ts} over the entire range of use

- > The tiles are available in central and lateral versions



HOLDER FOR DRESSING PLATES

- > Suitable holders are available for central, left- and right-sided tiles
- > Holder also available for standard taper mounts, e.g. MK0 and MK1



- > 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 0.3–1.4 mm.



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.

INEXPENSIVE, FAST AND ROBUST: MULTIGRAIN BRINGS ADDED VALUE

Multigrain dressers/multigrain-, multipoint- and needle tiles 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/multigrain-, multipoint- and needle tiles 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 THE BAYER DIAMONDS

- > Multigrain dressers/needle tiles are set in one ply from D601 upwards and the remaining diamonds are mixed with sintered metal powder. Below D601 the diamonds are only mixed.
- > Economical universal solution thanks to small carats of individual diamonds
- > Sintered bonds are matched to applications

ADVANTAGES OF MULTIGRAIN DRESSERS AND TILES:

- > Larger feed rate possible, since several diamonds are engaged simultaneously, thus transferring the work load to many diamond tips. This results in a faster dressing of the grinding wheel.
- > Multigrain dressers are very low-wear, so there is no need for readjustment except for occasional turning
- > Economical method of dressing
- > Also suitable for large grinding wheel diameters

ADVANTAGES OF MULTIPOINT- AND NEEDLE TILES:

- > Due to the single-ply set grain /needles the dressing of a sharp edge is possible
- > Economical method of dressing
- > Can be used up completely

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.

ADVANTAGE OF MULTIPOINT TILES:

- > The dressing surface is always sharp due to many small diamonds.

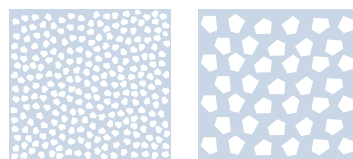
ADVANTAGE OF NEEDLE TILES:

- > The use of elongated diamond needles provide good stability.



GRIT SIZES

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



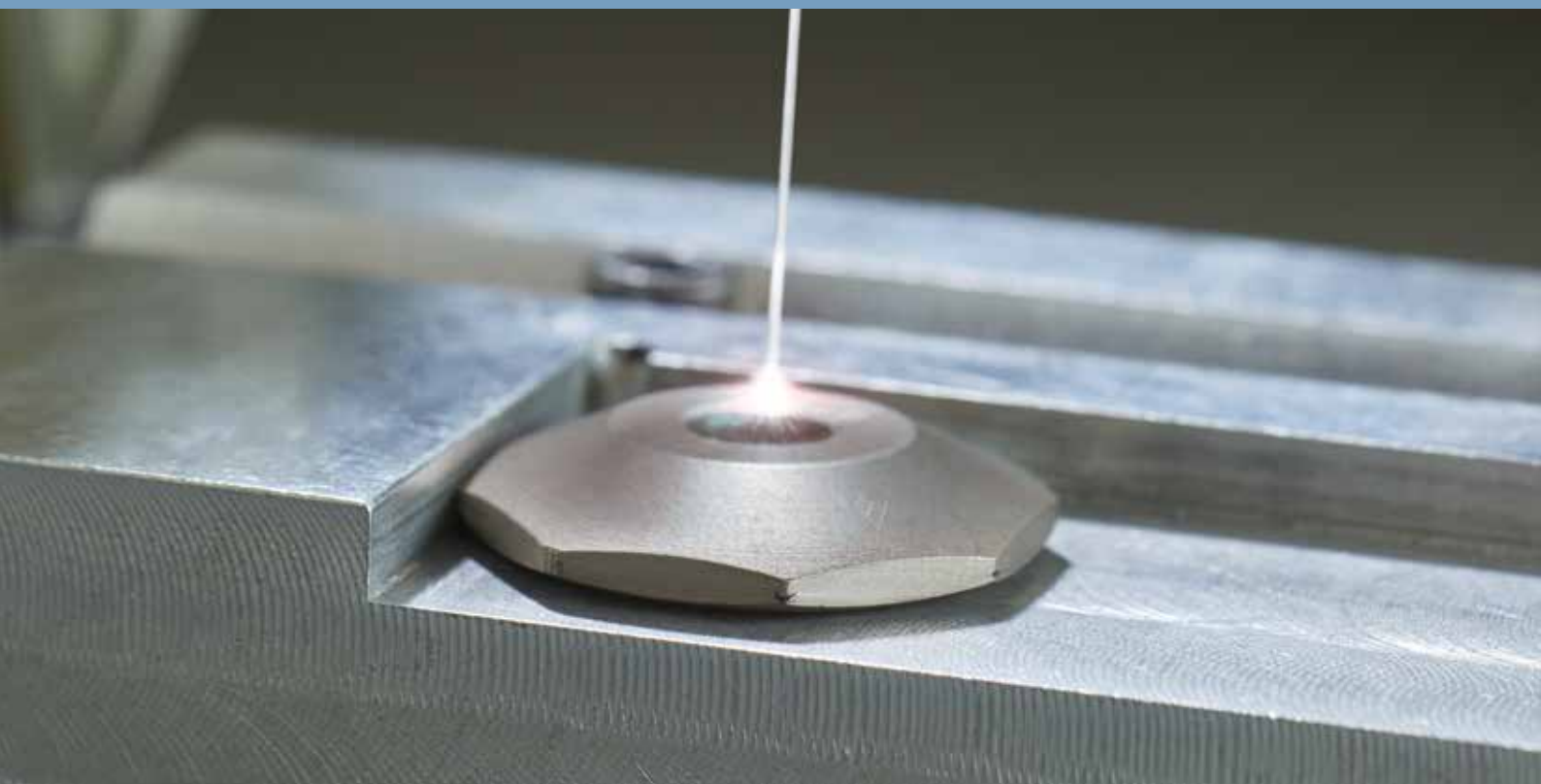
The designation D46 or D1181 stands for the mesh size in microns of the sorting grids used to determine the size of the diamonds.



**BAYER
DIAMANT®**

IN TOP FORM ALL ROUND

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.



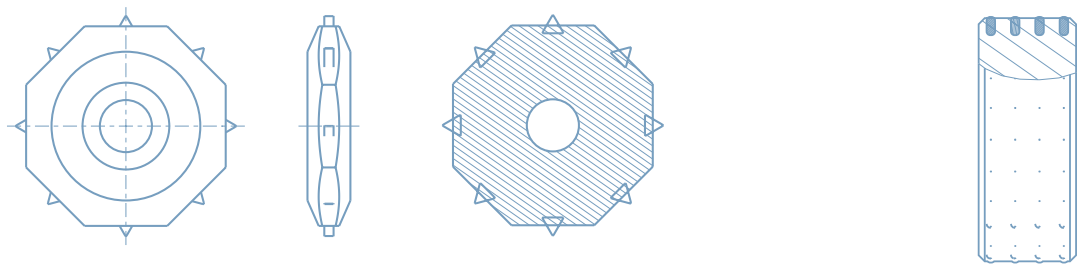
If a diamond is worn out, the dressing wheel is simply turned to the next tip – thus economical dressing with uniform results can be achieved.

AREAS OF APPLICATION

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

ADVANTAGES OF THE 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.

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



DIAMOND TRACER

- > MCD- or PCD-fine grain (polycrystalline diamonds)
- > 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 various radii and angles
- > Can be used for almost all materials
- > Available for standard 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 $R_z 1.0 \mu\text{m}$ 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
- > Different radii of the triangular plates are available
- > Layer thickness of 0.5 mm or 0.8 mm available
- > Vibration-free due to conical holder





BAUBLIES AG

baublies@baublies-group.com
www.baublies.com

WAGNER TOOLING SYSTEMS BAUBLIES GMBH

wagner@baublies-group.com
www.wagner-werkzeug.de

BAYER DIAMANT GMBH

bayer@baublies-group.com
www.bayer-diamant.com

www.baublies-group.com