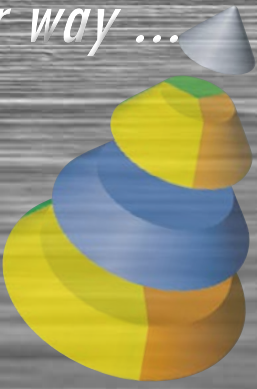


ON THE News from the surface technology

RÖSLER[®]
finding a better way ...

SURFACE 2016

Surface Finishing | Shot Blasting | Engineering | Environmental Technology



Rösler Automation	02-03
Shot Blasting	04-05
Shot Blasting/Vibratory Finishing	06-07
News from the Branches	08



Editorial

Stephan Rösler

President & CEO of the
Rösler Oberflächentechnik GmbH

Our expansion strategy continues!

During the past year our company was confronted with a quite a few challenges. The generally weaker situation in the global markets has also affected our business. Because of lower growth, extreme currency fluctuations and political tensions many former boom economies are facing serious problems. While receiving high praise in the past, emerging countries like Brazil, Russia and even China are now experiencing a drastic drop in capital investments, which, of course, is also impacting our business. We reacted to this increasingly more difficult business environment with innovative products and a more aggressive market development. We have proven our innovative prowess on the blast and mass finishing equipment side again with new products such as the revolutionary Gamma@G blast turbine and the Surf Finisher. Another positive highlight is the development of our media business. Grinding and polishing media, the most important consumptive material for mass finishing processes, contribute significantly to our overall sales success. We are responding to the increasing business volume in this area by expanding our production in Hausen/Bad Staffelstein with an investment program of 4 million Euro. The new, modernized manufacturing facility will become operational in January 2017. Capacity utilization in all our business sectors is quite good so that the expected sales volume of 260 million Euro at the end of this fiscal year will match the record we had achieved last year. At our two German locations 980 employees are on the payroll, whereas globally we employ more than 1600 people. My two colleagues in the Rösler management team, the managing directors Volker Löhner and Frank Möller, have adapted well to their new position and as such we are optimistic about our future business development. For this reason we will continue our aggressive investment strategy. Please enjoy reading the new edition of our "On The Surface" magazine!

Stable, efficient and flexible treatment of precision parts

In recent years the technical requirements for finishing the surface of complex, high-value components have become a lot more stringent. Because of increasing competitive pressures customers are not only demanding stable finishing processes with perfect results but also a higher degree of automation. Rösler meets these requirements with innovative solutions for the efficient, automated processing of precision components, even regarding targeted finishing of specific surface areas on work pieces.



The innovative Surf-Finisher opens new possibilities for the fully automatic processing of components with complex shapes. It even allows the targeted deburring, smoothing and polishing of specific surface areas on the work pieces.

Fully Automatic Processes!



In order to completely automate the deburring of precision components like tool bodies, drag finishers like the model R 6/1000 SF-Auto were completely redesigned to allow robotic loading/unloading of the work pieces.

Automation in vibratory finishing, trends, perspectives, new paths **02 - 03**

Shot Peening – blasting for longer component life **04 - 05**

Efficient shot peening of gears and shafts with consistently uniform results

High quality shot blast solutions at low costs

Perfectly shot blasted forged and cast work pieces

Shot peening doubles the uptime of prongs/tines on soil cultivation implements **06 - 07**

Rotary vibrators without inner dome – ideal for finishing work pieces with complex shapes

Automatic gap adjustment – the guarantee for stable finishing processes

Perfect surface finishes for parts produced with additive manufacturing

Compounds guarantee high quality mass finishing processes

Gentle single part processing in large vibratory systems

News from the Branches **08**

Imprint

Publisher and Dtp:
Rösler Oberflächentechnik GmbH • Vorstadt 1 • 96190 Untermerzbach • Germany
Tel.: +49 / 9533 / 924-0 • Fax: +49 / 9533 / 924-300 • E-Mail: info@rosler.com • Internet: www.rosler.com
Editorial office:
SCHULZ PRESSE TEXT • Doris Schulz, freie Journalistin (DJV) • Martin-Luther-Straße 39/1 • 70825 Kometal
Tel.: +49 / 711 / 854085 • Fax: +49 / 711 / 815895 • E-Mail: ds@presstextschulz.de
Print:
Schneider Printmedien GmbH • Reußenberg 22b 1 • 96279 Weidhausen • Germany
Tel.: +49 / 9562 / 9853-3 • Fax: +49 / 9562 / 9853-53 • Internet: www.schneiderprintmedien.de

For decades mass finishing methods have been successfully used for deburring, edge radiusing, surface smoothing and polishing of mass-produced parts in batch or continuous feed systems. Nowadays, however, there is a growing demand for the defined finishing of single, high value components with complex or freeform surfaces that cannot touch each other during the process. For the reliable and efficient treatment of such components Rösler offers various new and improved systems, which guarantee absolute repeatable finishing results.

Surf Finisher – the new standard for precision surface finishing

With its many technical features the innovative Rösler Surf Finisher opens completely new possibilities for the precise, targeted dry or wet surface treatment of complex components. The heart of this finishing center consists of one, occasionally, two 6-axis robots and a rotating work bowl filled with specially selected grinding or polishing media. The work bowl comes in different sizes allowing the treatment of relatively large components or the simultaneous, entirely touch-free finishing of multiple work pieces. The robot fulfills two functions: For one, equipped with a specially designed gripper, it performs a material handling task. In a second function the robot is guiding the work pieces through the processing media in pre-programmed movements including defined treatment angles, different immersion depths and rotary motion. This flexibility allows the targeted finishing of specific surface areas on the work pieces. During the complete process the work bowl with the processing media is also rota-

ting at a speed of up to 80 RPM. The actual speed is determined by the work pieces to be treated and the respective finishing task. The robotic movement and the work bowl rotation create a "surfing" effect with a very high pressure between work piece and media. This pressure with the concurrent intensive surface smoothing effect produces perfect finishes within relatively short cycle times. Even with complex work piece geometries surf finishing generates surface readings of as low as Ra = 0.04 µm (1.6 micro inches).

High-Frequency-Finishing – perfect and quick surface finishes through vibration

The newly developed Rösler High-Frequency-Finisher (HFF) also includes one or multiple robots with the dual function of material handling and programmed movement of the work pieces through the processing media. In the innovative HFF systems the media for dry or wet processing in the work bowl is agitated by vibration with a speed of up to 3,000 RPM. The robot, equipped with a specially designed gripper, immerses the work pieces into the agitated media. The dual movement of robot and media results in a high pressure and an all-around, highly intensive treatment of the parts. The combination of the independent robotic movement of the work pieces and the vibratory movement of the specially selected media produces perfectly homogeneous and repeatable deburring, grinding and polishing results in surprisingly short cycle times.

Optimized drag finishing process with fully automatic work piece handling

This concept was implemented at Walter AG. This globally active company and leading supplier of precision machining tools uses Rösler drag finishing technology for fully automatic deburring of a variety of different-sized tool bodies. The custom engineered system consists of two inter-linked drag finishers with six (6) working spindles each and a robot that fully automatically mounts and dismounts the components to and from the

spindles. To ensure that no crash occurs electronic initiators continuously monitor the correct pneumatic coupling of the work pieces to the spindles. Different tool bodies are "dragged" through the stationary processing media at different speeds, immersion depths and treatment times in line with pre-set programs stored in the PLC. After completion of the cycle the robot removes the tool bodies, moves them to a rinse cleaning station and then deposits them on a tray. This new Rösler drag finishing system allows fully automatic

dry or wet processing without the work pieces ever touching each other. To date such components had mostly to be deburred, smoothed and polished manually, which is not only costly but produces somewhat erratic finishing results. The new technology represents a significant milestone towards the stable and efficient surface finishing of orthopedic implants, geared components, machining tools and all kinds of automotive and aerospace components.



During the HFF process the robot immerses the rotating work pieces mounted to a specially designed gripper into the media agitated by vibration. The finished work pieces undergo a subsequent rinse cleaning process.



Please scan the QR-Code to get contact details for Mr. Rüdiger Böhm.

By scanning the QR-Code for each article you will get contact details for the right person.

Shot Peening – blasting for longer component life

The strength and service life of components exposed to high dynamic stresses can be significantly improved by shot peening. In order to be able to quickly develop tailor made shot peening solutions for our customers, Rösler recently invested in a lab equipped with x-ray diffractometer costing approximately 250,000.00 Euro.



Shot peening increases the fatigue life of components exposed to dynamic stress, for example, of toothed gear components.

Shot peening is a special shot blasting process during which spherical blast media is thrown at the surface of metallic work pieces at high speeds and under highly controlled operating conditions. The impact energy of the "pellets" "cold forms" the upper layers of the metal similar to hammering and forging processes. The metal is alternately stretched and compacted causing a compressive stress in the upper surface layers. This offsets any inherent tensile stress as well as external tensile or compressive loads acting on the work piece. It increases fatigue strength and significantly reduces the risk of stress cracks. Depending on the components and the loads they are exposed to, shot peening can increase their fatigue life by up to 1,300%.

X-ray diffractometry expedites the development of peening processes

Starting with the customer specifications, Rösler, with a wealth of experience and knowhow, develops the required process and equipment parameters through exten-

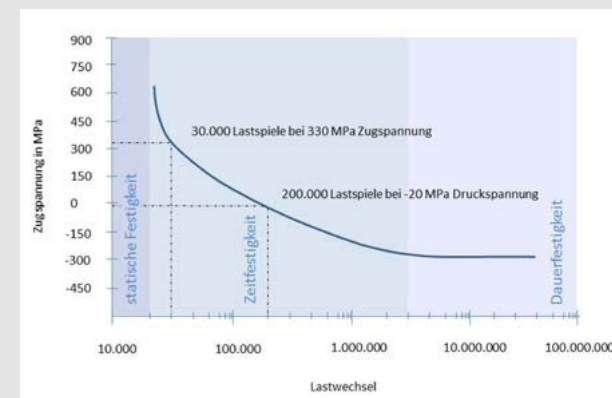


Please scan the QR-Code to get contact details for Mr. Jan Reimann.

sive test trials and their careful documentation. Important process parameters are:

- Material, nature and shape of the work pieces
- Material and size of the blast media
- Throwing speed and impact angle of the blast media on the work piece surface and
- Blast media quantity and coverage (number of "hits" within a certain time period)

To ensure that the peening process is perfectly adapted to the material and the shot peening objectives, the compressive stress values achieved during the processing trials must be carefully measured and documented. X-ray diffractometry has proven to be a highly accurate and reliable method to make such compressive stress measurements. The upper work piece layers are exposed to x-rays hitting the crystalline and partially crystalline structure of the metal at a preset angle. The majority of the x-rays are passing through the crystals. However, a special detecting device registers the small portion of x-rays that are deflected or reflected by the crystals. Based on the known material characteristics this x-ray diffraction in combination with the Bragg equation al-



The reduction of the tensile stress on a metal surface by 350 MPa through shot peening improves the fatigue life of a component by 560%.

lows measuring the compressive stress values. Multiple measurements with different angle settings ensure that the compressive stress readings are highly accurate. Investing in a lab with an x-ray diffractometer now gives Rösler the ability to make these measurements in-house without having to send the results of processing trials to external labs for evaluation. This helps significantly speed up the development of customer specific shot peening processes. In addition, it allows a faster reaction to the challenges posed by the development of new metal alloys. Rösler can now also offer x-ray diffraction measurements for different types of work pieces as a service, thus allowing the review of complete shot peening processes, even those run in other manufacturers' peening equipment.

Monitoring of the shot peening process with Almen tests

A simple method for controlling the parameters of shot peening processes is the Almen test. Standardized test



The new x-ray diffractometer in the Rösler test center allows the development of customer specific shot peening processes much more quickly.

New: X-Ray Diffractometer

strips made from tool steel are mounted onto a special steel block and exposed to the blast stream over different time periods at a constant blast intensity which causes the strips to bend. The maximum arc height of the Almen strips provides a measurement of the degree of peening saturation, which is entered into a saturation curve. The saturation point is reached when a doubling of the blasting time increases the arc height by no more than 10%.

High quality shot blast solutions at low costs

Nowadays, due to competitive pressures, many manufacturers invest only in plant and equipment, when their order books allow it. At the same time they also reduce the outsourcing of manufacturing capacity. Rösler is responding to this growing trend with an expansion of its range of economical standard shot blast machines.

Profitability



Standard spinner hanger machines, for example, the compact RHBE 11/15 L allow the shot blasting of a wide spectrum of different work pieces. Like with all Rösler turbine blast machines the blast chamber is made from wear resistant manganese steel.

Equipment purchased for fulfilling certain customer orders must amortize itself quickly. But high quality, excellent wear resistance and high up-times are equally important. Of course, these requirements also apply to investments in shot blast equipment to help keeping blast operations in-house, even at a somewhat lower equipment utilization, and to prevent the need of outsourcing to external service organizations. For exactly such applications Rösler significantly expanded its range of standard shot blast machines.

High manufacturing depth and fewer equipment variants keep prices low

The term "standard" means that these machines are only available in a few different versions. This allows the cost efficient manufacturing of small machine quantities for stock allowing extremely short delivery times. Rösler's high manufacturing depth with steel fabrication, control panel assembly, machining, IT and machine assembly, all located in-house, is also a significant cost saving factor and guarantees the proven Rösler quality for standard equipment at reasonable prices. Of course, these machines, designed for "plug-and-play" installation and easy operation can also be quickly installed and operated at the customer site.

A design that meets today's market requirements

The Rösler range of standard shot blast equipment including dust collectors consists of more than 50 machine types with several hundred equipment variants for such diverse industries as light metal and steel foundries, automotive suppliers and steel fabrication. To meet the growing demand in different industries and markets Rösler is continuously expanding its range of standard machinery with specially designed variants. This also includes sizable investments in new

manufacturing facilities around the world allowing the production of standard shot blast machines for local markets at competitive prices, but always to the strict Rösler quality and design standards. This strategy is key for strengthening our global market presence. Responsibility for R & D and engineering for standard equipment as well as custom engineered shot blast systems remains at our headquarters in Untermerzloch, Germany.



Everything made in-house: Laser cutting, control panel design and assembly, machining and steel fabrication are just a few examples of the unequalled manufacturing depth at Rösler.

Please scan the QR-Code to get contact details for Mr. Johannes Lindner.



Perfectly shot blasted forged and cast work pieces

The range of components produced by forging and casting is nearly limitless. To meet the challenges arising from such a work piece variety Rösler offers many different application-specific shot blasting solutions.

When it comes to castings and forged parts, descaling, de-sanding removal and general blast-cleaning operations are indispensable manufacturing steps. For the forge and foundry industry Rösler develops shot blasting concepts that are precisely adapted to the individual customer needs and equipment requirements – including complete process automation.

Shot blasting of two engine blocks in 25 seconds

For a globally operating manufacturer of power train components Rösler developed the custom engineered RMBS shot blaster, equipped with dual robots, for blast-cleaning of four-, six-, and eight-cylinder engine blocks in a 3-shift operation. The eight

meter (26 ft) high, barrelike machine has two blast chambers allowing simultaneous shot blasting and loading/unloading of the work pieces. The engine blocks, each weighing up to 43 kg (95 lbs), arrive at the blast machine on a transport belt. A robot equipped with two special work piece fixtures picks up the engine blocks in pairs of two and transfers them to a "grripper system" in the blast chamber in an exactly defined position. Once the work pieces are placed in the machine, the barrel rotates by 180°, and the part-specific shot blasting process starts. Four Rösler Long Life high performance turbines, type Gamma®, with a drive power of 22 kW each are directing their blast stream from different angles onto the engine blocks rotating in the gripper system. Depending on the work piece type and blast program the blasting times can vary between 25 and 55 seconds. At the conclusion of the cycle the barrel rotates again by 180°, the robot removes the two engine blocks and places them on a rack. There the second robot picks up the finished parts.

Crankshaft shot blast machine sets new standards

Short cycle times and perfect blast coverage were the main requirements for a new, fully automatic shot blast system for forged crankshafts at the Swedish subsidiary of an automotive supplier headquartered in India. The components with a length of up to 700 mm (28") weigh between 10 and 25 kg (22 – 55 lbs) and have an orbital diameter of up to 200 mm (7.8"). Rösler met this technical challenge with the innovative crankshaft blast cleaning system RKVVS equipped with two independent blasting stations and one single robot. The system controls



Two independent blasting stations are at the center of this crankshaft blast-cleaning machine. The turbines can be easily replaced with different turbine types allowing quick, low-cost adaptation of the shot blast machine to future crankshaft designs.

are integrated into a higher-level computer that provides information about the crankshafts to be processed to the blast machine for automatic selection of the assigned blast program. The crankshafts arrive on a transport belt. The robot picks up one crankshaft at a time and places it on a work piece carrier, which travels through the blasting stations, both containing two Gamma 400 G turbines with a drive power of 22 kW each. The two blast stations are blasting for 10 seconds from different angles delivering up to 600 kg/min (1,320 lbs/min) of blast media per turbine.

This high processing intensity guarantees that the scale is completely removed from all surface areas – even from the hard to reach the flanks of the crankshafts. The robot removes the finished crankshaft from the carrier and places it on another transport belt. The turbines can be easily replaced with different turbine types. This allows the quick, low-cost adaptation of the shot blast machine to future crankshaft types, which in line with automotive trends are re-designed every two to three years.

Please scan the QR-Code to get contact details for Mr. Thomas Pohl.



Efficient shot peening of gears and shafts with consistently uniform results

A manufacturer of spare parts for gearboxes and differentials used in commercial vehicles turned to Rösler for the supply of a custom engineered shot peening system. It allows fully automatic shot peening of a wide range of gears and shafts with a high degree of process stability.

The gearboxes and differentials in commercial vehicles are exposed to extremely high loads. Until recently a supplier of spare parts for such drivetrains was using an outside shot peening job shop to extend the service life of parts including gears and shafts. Stricter quality requirements by its customers and increasing production volumes prompted the company to bring the shot peening operation in-house. The custom engineered Rösler shot peening system RVT13-2-S allows the fully automatic shot blasting of gears and shafts with diameters as large as 500 mm (20"), heights of maximum 550 mm (22") and weights of up to 60 kg (132 lbs.). The machine design is based on a proven swing table principle with two (2) separate chambers. This equipment concept minimizes non-productive times, because one work piece can be loaded/unloaded in one chamber, while another work piece is shot peened in the other chamber. For this reason the RVT can easily process 30 parts per hour.

Blast nozzles that can be easily adapted to different work pieces

Equipped with a 6-nozzle blast unit with horizontal and vertical movement, the Rösler shot peening system can be easily adjusted to the wide part spectrum and produces excellent

and repeatable peening results irrespective of work piece shape and size. For surface areas with angled gear teeth the blast nozzles can be tilted from 0 to 90° allowing the perfect adaptation of the blast stream to the surface contours. Depending on the processed work piece type, the blast media is thrown at the rotating gear or shaft with a pressure of one to six bars (14 to 90 psi). Since parameters like nozzle position and pressure are stored in the PLC, they can be automatically called off for the various work pieces. Up to 30 processing programs can be stored in the system controls.

Multiple system controls for high process safety

A dual pressure vessel allows an uninterrupted, consistent shot peening operation. A sensor in the lower vessel monitors the blast media fill level. As soon as the preset minimum level is reached, the lower vessel automatically receives media from the upper vessel, which in turn is replenished from the media storage hopper. In addition, sensors placed in the compressed air supply hose monitor the compressed air supply to the individual nozzles. Finally, the operating pressure of the peening system is continuously checked.

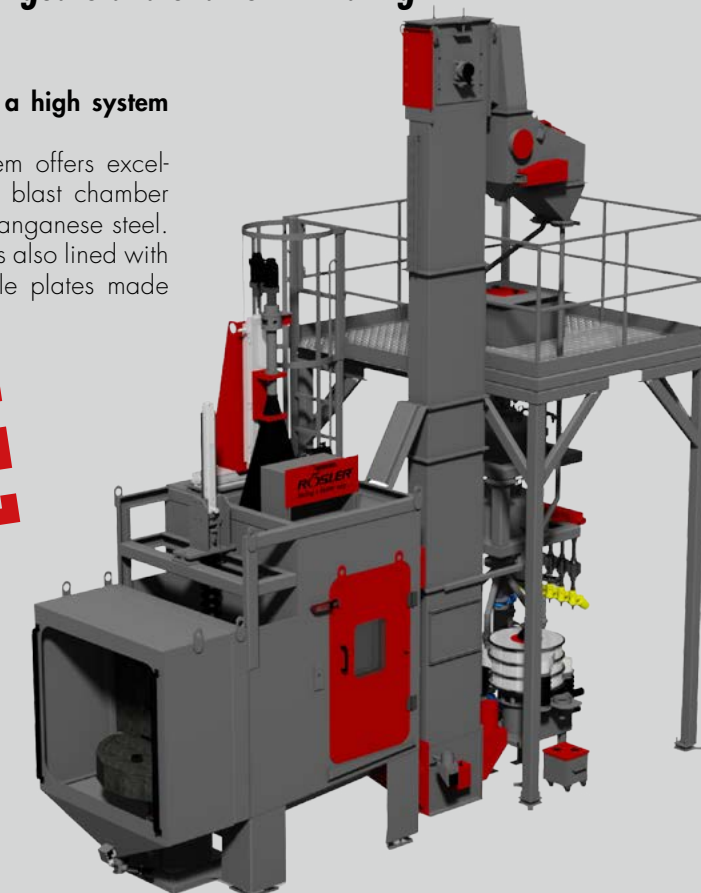
Wear protection guarantees a high system uptime

The Rösler shot peening system offers excellent wear characteristics. The blast chamber is made from wear-resistant manganese steel. And in the direct blast zone it is also lined with 25 mm (1") thick, replaceable plates made from chilled cast iron.

Process Reliability



Please scan the QR-Code to get contact details for Mr. Stefan Baumann.



The shot peening system can handle gears and shafts with a diameter of up to 500 mm (20"), a maximum height of 550 mm (22") and weights of up to 60 kg (132 lbs).



The barrelike engine block shot blast machine has two blast chambers. This allows the simultaneous shot blasting and loading/unloading of the work pieces.

Shot peening increases the uptime of tines on soil cultivation implements

Equipment for soil cultivation is exposed to extreme loads. In order to increase the life of parts like tines, Andersen Steel Sp. z o.o. is blast-cleaning and shot peening these products in equipment built by Rösler.



Andersen Steel supplies tines and wear parts to agricultural implements like cultivators, grubbers and front packers equipped with vibrating tines for professional soil cultivation. These tines are manufactured in a new plant – Andersen Steel Sp. z o.o. located in Poland utilizing specially arched rolled and flat steel. The tines are shot peened to further improve their wear resistance. However, prior to shot peening the work pieces need to pass through a blast machine first for removing mill scale and other contaminants. For these dual shot blasting requirements Andersen Steel invested in two similar hanger machines, type RHBD 13/18 K.

Implementing at Andersen Steel shot peening technology was done under a license agreement between Andersen Steel Sp. z o.o. and the Institute of Precision Mechanics in Warsaw, uses technology patent for an invention No. PL204718 on „Dynamic surface treatment of products“. Crucial for the customer's decision to go with Rösler equipment were successful blasting trials in the Rösler test center. They proved that by shot peening the uptime of the tines could be increased, an improvement that considerably exceeded the expectations of Andersen Steel.

Excellent blast performance with Gamma® 400 G Turbines

Each of the two hanger blast machines is equipped with eight (8) Gamma® 400G turbines with an installed power of 15 kW each. Compared to conventional blast wheels this newly developed Rösler turbine type offers a 15 – 20% higher blast performance with significantly increased uptime of wear parts.

One common transport system for all manufacturing steps

After the shaping process 16, respectively, 25 work pieces are attached to the transport system on special carriers. They are then passing through the various stages; blast-cleaning, shot peening, painting and drying. For an optimum



The work pieces are passing through two identical, sequentially arranged hanger machines for blast-cleaning and subsequent shot peening.

workflow the two shot blast machines are arranged sequentially in the building. But their operation is entirely independent from each other.



During operation the vibrating tines of the cultivators are exposed to heavy loads. With shot peening their uptime could be significantly increased.



Each blast machine is equipped with eight (8) Gamma® 400 G turbines. Their placement ensures that the individual blast patterns are not overlapping and guarantees perfect blast coverage on the tines.

Rotary vibrators without inner dome – ideal for finishing work pieces with complex shapes

Vibratory finishing systems are best known for the treatment of high volumes of mass produced parts. However, thanks to various innovative new equipment designs they are increasingly utilized for finishing single work pieces with highly complex geometries. These new equipment designs include rotary vibrators without inner dome, for example, the model R 150/2 DL. For the finishing process the work pieces are bolted to the vibratory processing bowl. This tight connection ensures that the

processing media reaches the smallest cavities in the work pieces without getting lodged and, at the same time, it causes an intensive "rubbing" action between media and work pieces resulting in a highly effective metal removal rate. The latest version of this machine type is equipped with two vibratory foot motors mounted to the outside of the processing bowl. This motor arrangements along with other design

details produces excellent surface finishes in very short cycle times on work pieces like automotive wheels, impellers, hydraulic pump housings and other rotationally symmetrical components that can be found in drive trains and material handling equipment. For certain work pieces this machine can be equipped with a pneumatic lifting device, which greatly facilitates the work piece handling.

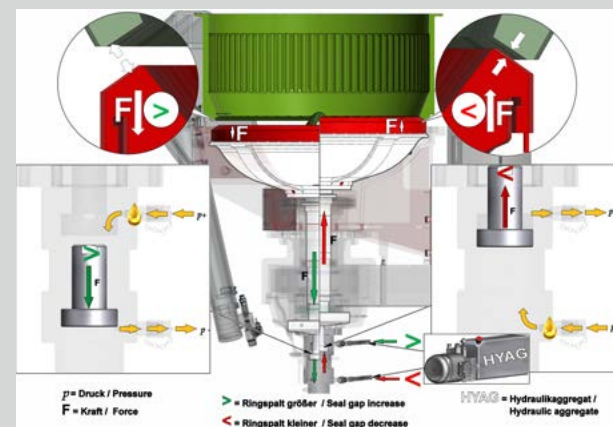


R 150/2 DL vibratory systems allow the effective surface finishing of work pieces with complex geometries in very short cycle times. Bolting the work pieces to the vibrating processing bowl greatly enhances the finishing intensity.

Automatic gap adjustment – the guarantee for stable finishing processes

The semi- and fully automatic Rösler high energy centrifugal disk finishing machines with their excellent performance and versatility have become the second most popular equipment line for mass finishing processes behind vibratory finishing systems. Their applications range from relatively heavy transmission components all the way to very light, thin-walled stamped and fine blanked sheet metal parts. A pre-condition

for safe and stable finishing processes and high equipment uptimes is the correct setting and constant adjustment of the gap width between stationary work bowl and rotary spinner. With the newly developed, patented gap adjustment system Rösler can now offer a unique solution for automatically setting of the gap throughout the complete the finishing process. Furthermore, the temperature in the gap area is continuously monitored. This automatic gap monitoring and adjustment system prevents very thin work pieces from getting squeezed into the gap, which could cause increased wear or even an equipment crash.



The continuous monitoring and automatic adjustment of the gap during the finishing process guarantees an absolutely stable operation and a high equipment uptime.

Perfect surface finishes for parts produced with additive manufacturing

Additive manufacturing, the creation of 3-D solid objects by using a series of layered materials, allows the production of complex individual components from various materials like plastic, nickel alloys, titanium, stainless steel and precious metals. It permits the creation of shapes and geometries, which are not possible with any other production method. However, the surface finish of parts created with additive manufacturing frequently does not meet expectations. This opens an exciting new application for mass finishing methods for the intensive or very gentle surface smoothing of such components. The adaptation to particular work piece geometries and surface requirements can be achieved by the development of tailor-made finishing solutions. Our test and development center will assist you in resolving any surface finishing issues you may encounter with this new manufacturing technology.



Whenever the surface of consumer goods or industrial components produced with additive manufacturing must be improved, mass finishing methods will provide the perfect solution.



Please scan the QR-Code to get contact details for Mr. Rüdiger Böhm.

Compounds guarantee high quality mass finishing processes

Besides the equipment, the media and the treatment method, chemical additives, called compounds, are an essential element in maintaining stable, high quality mass finishing operations.



Degreasing, brightening, polishing, corrosion protection and producing surfaces free of stains – these are some of the tasks compounds fulfill during mass finishing processes. Another important compound function is keeping the process clean by continuously flushing tiny metal particles from the work pieces, tiny media particles and other contaminants out of the mass finishing system. This makes compounds indispensable tools for recycling the process water and, thus, ensuring eco-friendly finishing operations. At Rösler a team of pro-

fessionals works tirelessly to furnish the right compounds for a multitude of mass finishing applications. With decades of practical experience, detailed knowledge of the manufacturing systems and the chemical raw materials this team guarantees that the compounds meet the most stringent technical specifications. Supported by a strict quality control for the raw materials and finished products, production control and the mixing and bottling specialists work hand in hand to produce the over 700 different types of top-of-the-line Rösler compounds. With their

high work ethic our colleagues in the compound production are making an invaluable contribution towards maintaining Rösler's global leadership in the field of surface finishing and surface preparation. This is impressively reflected in our annual sales of more than 11,000 metric tons of different compounds produced at our headquarters in Untermerzloch and our plant in the United States. With our ongoing technical modernization program we intend to further improve the effectiveness and cost efficiency of our compound production. This will help us to not only maintain but also further increase our competitive edge in this high volume business.



The right compound for any mass finishing application – the colleagues in our compound production make sure that more than 700 different high quality products are made and delivered on time.

Our active role in the IHO, for the benefit of our customers

Rösler is a leading member of the committee for "metal processing industries and technical cleaning" (MT) in the German association "hygiene and surface protection" (IHO). With this membership we receive the latest information about new regulations as well as legal and application-related issues. In addition, we actively participate in the formulation of guidelines for the implementation of new legal rules and regulations. We use our IHO membership to provide our customers with efficient and practical solutions for their surface treatment issues and to continuously expand our knowledge base regarding a wide variety of technical and legal questions in our industry.

Gentle single part processing in large vibratory systems

The deburring, edge radiusing and polishing of large, long, heavy and, at the same time, delicate components, usually poses a considerable technical challenge. This challenge can be met head-on with large vibratory systems from Rösler, which allow the cost effective processing of large, single components with absolutely repeatable finishing results.

One would have expected that surface finishing by hand disappeared from the industrial landscape a long time ago. But this is not so at all: Manual deburring and surface smoothing is still the prevailing method for finishing the surface of very large, heavy and delicate components. Apart from the fact that such manual work produces somewhat inconsistent surface finishes, it is also very expensive. Various manufacturers, especially those active in aerospace, are looking for ways to mechanize, and even automate, the finishing of such components. With its large tub vibrators Rösler offers a highly effective solution for the automatic finishing of large and heavy single work pieces.



The option to partition the tub into several chambers allows the processing of assorted smaller work pieces or, alternatively, one single component.

Many aerospace applications

For example, a leading aircraft manufacturer is utilizing tub vibrators for deburring and edge radiusing of structural fuselage components made from aluminum with lengths of up to 7,150 mm (282"). The processing

tub with a width of 425 and a length of 7,400 mm (17 x 292") is equipped with a powerful vibratory TUD drive. The drivesystem, directly connected to the processing tub, is evenly distributing the vibratory energy over the complete tub length with multiple imbalance units. At another aircraft manufacturer various sizes of complex, structural components are finished in a Rösler tub vibrator

measuring 650 x 4,000 mm (26 x 158") after CNC machining. Besides deburring and edge radiusing, these components, which to date were finished manually, also require a homogeneous surface finish. In order to process assorted smaller work pieces at the same time, the processing tub can be partitioned into several chambers with special dividing plates. The work pieces are

loaded into and removed from the tub with a crane. A leading supplier of landing gears is also utilizing large vibratory systems from Rösler. These components are milled from a 2 m (79") long titanium slab weighing 400 kg (880 pounds). After the milling stage burrs must be removed, the edges radiused and the milling grooves smoothed out to prevent a potential notching effect. The milled component is lifted into the processing tub, measuring 800 x 3,000 mm (32 x 1,181" (this can't be correct as this would be 30mtrs long), with a crane. This particular tub vibrator is equipped with a so-called TSD direct drive. All three vibratory tub systems are equipped with custom engineered noise suppressing enclosures. Their design ensures not only a significant reduction of the operating noise but also easy access to the tubs for quick loading and unloading of the work pieces.



The processing tub with a width of 425 and a length of 7,400 mm (17 x 292") is equipped with a powerful vibratory TUD drive that distributes the vibratory energy evenly over the complete tub length.



Please scan the QR-Code to get contact details for Mr. Michael Striebe.

08 *News from the Branches*

Our global sales and service teams are ready to serve you!

In this edition of the CHIP magazine we want to briefly introduce you to the latest additions to our global sales and service network: China (2004), Romania (2006) and India (2008).

Rosler Surface Tech (Beijing) Co., Ltd – After serving the Chinese market through an external sales agency for several years, in 2004 we decided to establish a small Rosler office in Beijing, followed by another one in Shanghai. In the meantime, both locations have evolved into fully owned limited companies with 17 employees. To be able to better serve our Chinese customers we maintain a local warehouse with a sizeable stock of media and spare parts.

Rösler Romania SRL – this sales branch, after rather modest beginnings with a small rented space in a forwarding company, was founded in 2006 as a fully owned subsidiary of Rösler Austria. Today, nearly 10 years later, Rösler Romania employs a team of 12 people in administration, the job shop, test lab and warehouse. Besides Romania the team also covers the markets in Bulgaria and Moldavia.

Rosler SurfaceTech Pvt. Ltd., India – In 2008 Rösler set up a sales branch in Bangalore in the form of a “registered office”. This was followed by the establishment of a manufacturing facility in Pune with 3,500 sqm (35,000 sqft) complete with

job shop, warehouse and offices. Since then the company has been successfully manufacturing mass finishing and shot blast equipment for the Indian market. Currently, our Indian operation has a staff of 45 employees.

Do not hesitate to contact our global specialists!



<http://www.rosler.com/company/global-presence/>

Great Britain



Netherlands - Belgium



Switzerland



Spain



Italy



France



Austria - Romania - Serbia



USA



India



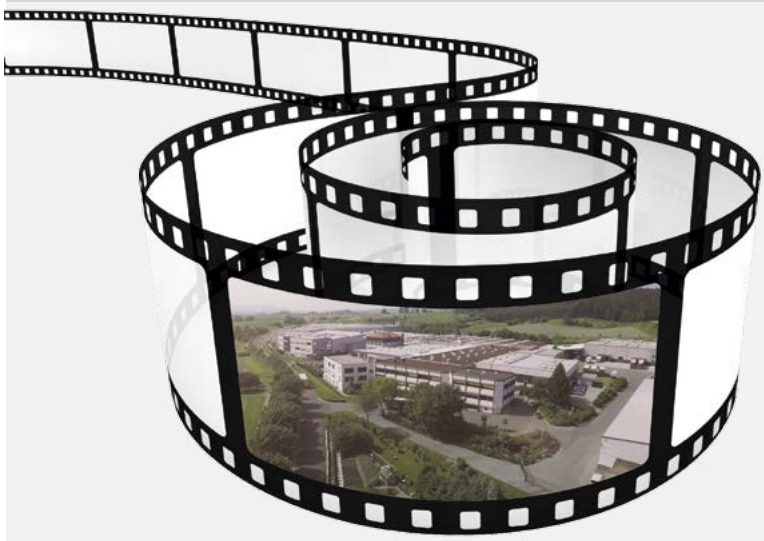
Russia



Brasil



China



Get to know us better!



<https://vimeo.com/143602812>

