Walther Trowal at Deburring Expo

Turbotron centrifugal disk finishing machines: gap rinsing allows the gentle finishing of extremely thin workpieces

Walther Trowal is the first supplier of mass finishing equipment offering TT centrifugal disk finishing machines with rotary spinner and wear ring made from polyurethane and integrated rinsing of the gap between spinner and wear ring.

With the "gap rinsing" option, the new Turbotron centrifugal disk machines can now be used for finishing small to mid-size, extremely thin fine blanked workpieces. They are equally suitable for deburring, edge radiusing, surface smoothing and polishing.

The new machines not only help to lower the initial investment expenses, but with their low wear rate they also contribute to significantly lower operating costs.

Rinsing of the gap (interface) between spinner and wear ring prevents thin work pieces from being wedged between spinner and work bowl. This helps avoid work piece damage and machine crashes. The gap rinsing option now permits using the high energy TT machines for processing very thin parts, which previously had to be finished in conventional mass finishing equipment at much longer cycle times.

At Deburring Expo 2017, Walther Trowal is exhibiting complete finishing systems including workpiece loading and unloading, as well as special functions like degreasing/de-oiling and corrosion protection.

Walther Trowal offers not only various types of equipment but complete surface treatment systems: By linking the various equipment modules and automating the complete process, it is able to precisely adapt our process technologies to the technical requirements of its customers. This also includes various types of peripheral equipment and process water cleaning and recycling systems. Walther Trowal also offers comprehensive pre- and after-sale service like sample processing in one of its demonstration labs and global repair and maintenance service.

Walther Trowal supplies fully automatic systems, including workpiece loading & unloading. The photo shows a double batch system with magnetic separation

In the new TT centrifugal disk finishing machines, the gap (interface) between the (lower) rotating spindle and (upper) stationary work bowl is rinsed with process water

Walther Trowal serves many customers in many industries around the world, for example in the automotive and aerospace industry, medical engineering and wind power generation.

With the innovative "gap rinsing" option, the new Turbotron centrifugal disk finishing machines from Walther Trowal are ideal for finishing extremely thin fine-blanked parts. The new machines lower the investment expenditures and offer high uptimes.

Walther Trowal is the first supplier of mass finishing equipment who brings a new line of TT centrifugal disk finishing machines to the market with spinner and wear ring completely made from polyurethane and a rinsing system for the gap between spinner and stationary work bowl. This system prevents thin parts getting caught in the gap and get damaged. The new TT machines are a cost-effective, highly wear resistant alternative to conventional mass finishing machines, especially for processing very thin workpieces.

To date the removal of burs and radiusing of edges on thin, relatively small parts required the use of centrifugal disk machines with special spinners made from ceramic or tungsten carbide steel. To prevent thin parts getting caught in the gap between the rotating spinner and stationary work bowl the precise setting of the gap was crucial for achieving the required finishing results.

Since even minor damage of the delicate spinner could result in high repair costs, the engineers at Walther Trowal were looking for a more economical solution.

The recently developed gap rinsing system now allows utilizing the spinners and wear rings Walther Trowal has been employing in large quantities in its standard centrifugal disk machines. This helps to drastically reduce the equipment expenditures, because PU is much less complicated to handle than, for example, ceramic materials. In addition, the gap size can be easily adjusted with the proven standard gap setting system. The pressure created by the rinsing system ensures that thin parts can no longer be drawn into the gap between spinner and wear ring.

Contrary to other mass finishing systems

for deburring and grinding of thin components the new disk machines are operating with high water level in the work bowl. This helps prevent the work pieces from sticking to each other or clinging to the wall of the work bowl.

The high processing intensity, typical for the Walther Trowal centrifugal disk finishing machines, is achieved by the highly intensive interaction between processing media and work pieces and the high pressure of the media on the workpiece surface created by the centrifugal force of the rotating spinner.

The spinner rotates with a speed of between 60 and 250 U/min. The centrifugal force created by this movement pushes the mix of work pieces, media and process water up the inner wall of the stationary work bowl. Once it has lost its kinetic energy the work piece/media mix collapses back to the spinner, from where it is accelerated again.

Christoph Cruse, general sales manager at Walther Trowal, sees significant benefits for his customers: "Our new machines represent an economic, low-wear solution. Ceramic materials used to date are relatively brittle and can easily chip. This can cause costly damage to spinner and wear ring.

A 0.15 mm thick weaving heddle before (left) and after (right) in a TT machine

Since we have worked with polyurethane for many years, we are very familiar with this material. To come to the heart of the matter: We have developed a smart, cost effective solution that works great for our customers."

Walther Trowal offers the option "gap rinsing" across the complete range of Turbotron disk finishing machines, from simple stand-alone units with manual work piece loading and unloading to large, fully automatic systems with hydraulic loader, external vibratory screening machine and media return conveyor.

For more than 80 years, Walther Trowal has been developing, producing and selling modular and custom engineered solutions

Knife blades before (left) and after (right) polishing in a TT machine. These workpieces require a particularly smooth, shiny surface

for a wide range of surface treatment applications. Starting out with mass finishing systems, Walther Trowal has continuously expanded its product portfolio.

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Accurate challenging deburring

The Peter Wolters compact design AC microLine® 400-D

The Precision Surfacing Solutions Group, under the Peter Wolters brand, is a world-class provider of innovative technology and productivity solutions with its high-precision machine tools and systems for high-precision surface processing of nearly any kind of work piece. As an innovative partner, customised solutions are developed and manufactured to meet the highest requirements with regards to surface quality, parallelism, flatness and accuracy. Its systems are suitable for virtually unlimited applications, including automotive, aerospace and semiconductor industries.

At the DeburringEXPO in Karlsruhe, Peter Wolters will launch the AC microLine® 400-D. The big advantage when deburring with the AC microLine 400-D is the consistent high-precision deburring of small workpieces, with surface improvement as well as achieving a defined edge rounding. The AC 400-D captivates through its compact design with maximum performance and stability, due to the innovative cast iron machine base. With the patented solution for double-sided deburring applications, a complex and costly flip-over of work piece is dispensable, because of the simultaneous processing of both surfaces. Especially, for non-magnetic components, the abolition of a flip-over device leads to cost and space savings. The loose insert of the parts into the workpiece carriers guarantees a fast change of different workpiece types. Due to the flexibility of this deburring technique a wide range of different workpiece materials as well as geometries can be processed; only exemplary precision components of the automotive industry as well as the watch and jewellery industry are out-lined here.

Some important characteristics include: brush wheel diameter 445 mm; maximum workpiece diameter 100 mm; maximum workpiece thickness 50 mm; process control with a 12" Siemens touch panel; modern Siemens PLC Control; reliable Siemens

drives; RangeCare®remote maintenance solution for fast service support.

Peter Wolters welcomes you to visit its stand at DeburringEXPO in order to explain the advantages of the Peter Wolters AC microLine 400-D.

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