

# Surface treatment of castings

## Compact continuous feed shot blast machine for small, delicate castings

Troughed belt continuous shot blast machine can be easily integrated into manufacturing processes

**Haan, Germany, August 23, 2022** At the ANKIROS 2022 exhibition Walther Trowal presents the compact troughed belt continuous shot blast system THM 300/1. This machine was especially developed for processing high volumes of small, delicate work pieces. The new design combines the small footprint of batch machines with the advantages of continuous feed operation and, thus, helps streamline and speed up the blast cleaning processes for small castings.

Walther Trowal developed the THM 300/1 specifically for small, delicate or thin-walled cast work pieces like, for example, aluminum or zinc die-castings with diagonal dimensions of between 20 and 150 mm (about 0.8 to 6.0"). Work pieces can range from components for toys (model cars and trains), furniture parts, components for the computer industry and even small automotive parts.

For the first time a shot blast machine for processing small work pieces is available with the footprint of a batch tumble belt machine that permits, however, continuous feed operation. Compared to the smallest THM machines supplied to date by Walther Trowal, the THM 300/1 design is considerably more compact: It requires an area of only 1,4 x 2,7 m (5 x 9 feet) and can, therefore, be easily integrated into existing production lines.

With this new machine concept Walther Trowal meets the demands of customers in the foundry industry, who want to integrate their blast cleaning operations seamlessly into already existing manufacturing lines.

The troughed belt work piece transport system Walther Trowal is utilizing for its continuous shot blast machines is gently moving the work pieces through the machine in a spiral motion. This ensures that all work piece surface areas are equally exposed to the blast media stream.

Meik Seidler, sales manager at Walther Trowal, recognizes a significant trend towards continuous shot blasting: „The THM continuous feed machines with their unique troughed belt work piece transport system are more and more displacing the conventional batch tumble belt machines. Our customers integrate the THM systems into linked manufacturing processes allowing them to significantly simplify the work piece handling. Optionally – and with an upgrade of the PLC – Trowal also offers industry

4.0 technologies. The work pieces are continuously fed into the machine at preset cycle times determined by the actual production volume. Intermediate transport operations from one process stage to the next, as well as intermediate storage, are completely eliminated.”

For the new blast system Walther Trowal is using the newly developed WTY turbines with curved throwing blades. Compared to conventional blast turbines they generate a substantially higher throwing speed. This increases the impact energy of the blast media on the work pieces, which in turn helps reduce the processing times.

A communication processor allows integrating the shot blasting operation into higher-level process controls. Explosion protected dust collectors ensure safe operation in line with prevailing explosion prevention standards.

**Walther Trowal at ANKIROS 2022**  
**Istanbul/Turkey, October 6 – 8 2022:**  
**Hall 3, booth A170**

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*While passing through the trough the work pieces are continuously rotating. This ensures that the blast media is reaching all work piece surface areas, and always from the same distance.*



*The compact troughed belt continuous shot blast system THM 300/1 combines the small footprint of batch machines with the advantages of continuous feed operation*

#### **Background information:**

Troughed belt continuous shot blast machines guarantee gentle work piece transport

The THM troughed belt continuous shot blast machines from Walther Trowal are equally usable for mass produced bulk parts as well as for delicate individual components with complex shapes. Because of their simplified work piece handling and superior shot blast results they are more and more displacing conventional batch tumble belt machines.

The THM continuous shot blast machines are especially advantageous for processing delicate work pieces: The parts in the trough are not colliding with each other from relatively high dropping heights but are passing through the machine with a gentle rolling movement. The transport rods are covered with a polyurethane lining, which further protects the work pieces from getting damaged or nicked. Since there is a technological trend towards more delicate components, which must be blast cleaned, the gentle work piece transport through the shot blast machine is especially important. The Walther Trowal troughed belt transport system makes sure that the work pieces are passing through the machine without getting damaged.

For somewhat larger work pieces with complex shape the troughed belt machine concept also produces better blast cleaning results than spinner hanger shot blast machines: While passing through the trough the work pieces are continuously rotating. This ensures that the blast media is reaching all work piece surface areas, and always from the same distance. The result: All-around highly homogeneous shot blasting results.

#### **About Walther Trowal:**

Surface finishing technologies from the inventor of the "Trowalizing" process

Since 1931 Walther Trowal has been developing and producing systems for the refinement of surfaces. Initially focusing exclusively on mass finishing – the term "Trowalizing" originated from the company's cable address "Trommel Walther" – Walther Trowal has continuously expanded its product portfolio.

Over time the company has developed a broad range of machinery and systems for mass finishing, shot blasting and coating of mass-produced small components.

With the invention of new systems like, for example, drag finishing and the development of special finishing methods for 3D printed components, the company has proven its innovative capabilities again and again.

Walther Trowal develops and implements complete surface treatment solutions that can be seamlessly integrated into linked production systems existing at the customers. This includes the entire process technology, perfectly adapted to the specific surface finishing requirements of the work pieces: Equipment and the respective consumables always complement each other in a perfect manner.

Each individual work piece and each manufacturing process must meet special technical requirements. That is why the experienced process engineers in our test lab, in close cooperation with the customers, develop the optimal process technology for the finishing task at hand. The result: Work piece surfaces that meet exactly the required specifications... with short processing times and a high degree of consistent, repeatable results.

Walther Trowal is one of the few manufacturers who develops and produces all machines and mass finishing consumables in-house... including ceramic and plastic grinding and polishing media as well as compounds.

The company's equipment range also includes all kinds of peripheral equipment for handling the work pieces like lift and tip loaders, conveyor belts and roller conveyors, in addition, special driers for mass finishing applications and, last-but-not-least, systems for cleaning and recycling of the process water.

With its exchange program for wear items like work bowls, which are part of a continuous recycling program, Walther Trowal conserves valuable resources and, thus, makes a significant contribution towards sustainability in the field of industrial production. Quick technical support and the global repair and maintenance service ensure high uptimes for our equipment.

Walther Trowal serves customers in a wide range of different industries all over the world, for example, automotive, aerospace, medical engineering and wind power.