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Blasting

"Smart Abrasive System" Lowers Energy Consumption, Blast Media Usage And Equipment Wear

At GIFA 2023 Walther Trowal introduces the "Smart Abrasive" option in its THM troughed belt continuous flow shot blast machines. The "intelligent" control of the media flow drastically reduces the energy consumption and significantly extends the usable life of the blast media as well as of the entire shot blast machine.

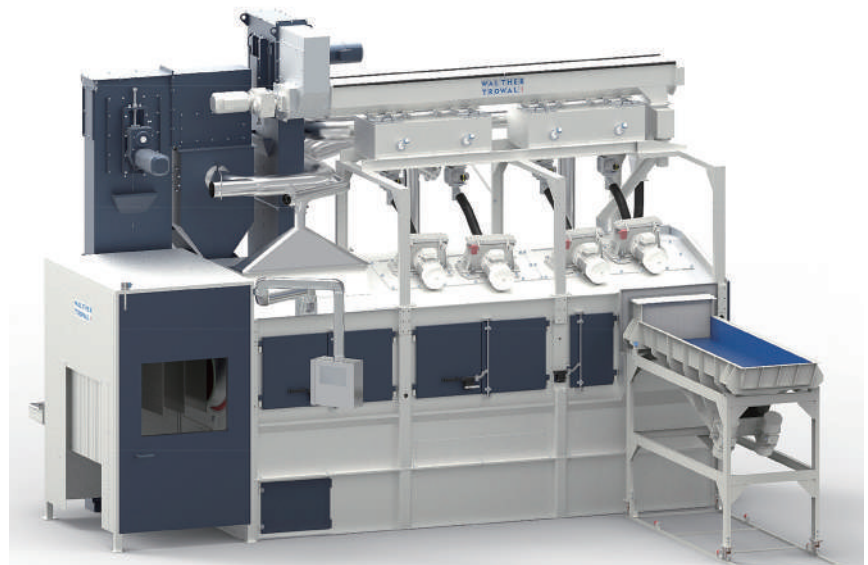
To ensure perfect blast cleaning results on all work pieces large continuous flow shot blast machines normally work with a surplus of blast media. This results in higher energy consumption.

To eliminate this waste of energy, Walther Trowal developed the "Smart Abrasives" option for its THM 700 and 900 shot blast machines, which are equipped with up to four turbines. It adjusts the media flow rate in the entire media recycling system to the blast cleaning requirements as well as the shape and size of the work pieces. If a particular blast cleaning process requires a lower blast performance, the system reduces the media flow through the turbines and the RPM of the augers. This innovative control system saves not only energy. Since less media is passing through the shot blast machine,

it also reduces the media consumption. In addition, the overall uptime of the shot blast machine is increased, and the amount of required work for maintenance is decreased.

With suitable processing trials the optimal shot blasting parameters, such as turbine RPM, media flow rate, etc., are defined for each individual work piece type. Based on these data processing programs are created, which are then stored in the PLC of the machine controls.

Typical applications for the THM machines are automotive components, for example, chassis parts made from aluminum like transverse links, swivel bearings or steering knuckles. For the surface refinement of these light-weight work pieces the manufacturers are increasingly using aluminum blast media. It allows to make the entire blast clean-



The "Smart Abrasive" system significantly lowers the energy consumption in the troughed belt continuous flow shot blast machines THM 700 and THM 900



The troughed belt continuous flow shot blast machines from Walther Trowal are ideal for blast cleaning of forged chassis components



Typical applications for the THM shot blast machines are forged chassis components made from aluminum like transverse links, swivel bearings or steering knuckles. They are equally suitable for high volumes of mass-produced aluminum die-castings.

ing process particularly gentle. Meik Seidler, sales manager for mass finishing and shot blasting at Walther Trowal, expects a growing demand for shot blast machinery that can handle the high work piece volumes typical for the automobile industry: „With the increased production of hybrid and electrical cars more high-strength chas-

sis components will be required. Since such vehicles have a higher weight and require a higher torque in their drivetrain, the components must be more resistant against tensile and bending stress. For these applications the THM shot blast machines with the “Smart Abrasives” control system represent a highly economical solution.”

The THM troughed belt continuous flow shot blast machines

The THM shot blast machine can handle high volumes of bulk goods as well as large and delicate components with complex shapes. Especially for processing delicate work pieces the THM continuous flow machines offer numerous



The Trowal test and training center is equipped with several THM shot blast machines that can be used for processing trials with the customers' work pieces.



A THM 500 troughed belt continuous flow shot blast machine in the Trowal test and training center in Haan/ Germany



A THM 400 shot blast machine in the TTC test and training center in Grand Rapids/USA is loaded with aluminum die-castings for the automobile industry

advantages: The work pieces are evenly spaced across the entire length of the troughed belt. For this reason, they are not colliding but may simply touch each other. Moreover, they are not falling on top of each other but gently tumble over

the polyurethane coating of the transport rods. The innovative troughed belt transport system ensures that the finished work pieces are discharged from the machine without any nicking or scratching.

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In the Spotlight:

About Walther Trowal: 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 and training center, 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.