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Metal Finishing News

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MEC SHOT
Blasting Equipments Pvt. Ltd.

Where Technologies Innovate

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Complete Surface Treatment System for Shipyard**

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Complete Surface Treatment System for Shipyard

MEC SHOT has been the pioneer in the manufacture of surface cleaning and finishing equipment in India and Asian countries for the last 15 years. After its inception as a quality product provider it advanced quite quickly into this arena from the design & manufacture of air operated / airless shot blasting & shot peening machines with media conveying dust collectors, painting & baking rooms and their accessories. Mecshot is taking every step to be a social savior by providing environmentally friendly products to the various industries. Its products are "CE" marked.

In shipyard or marine industries bulk sized steel plates and structures are used. As the ships have to float on sea-water the hull and side walls steel structure remains dipped in salty sea-water. To increase the resistance of this structure requires special engineering techniques. MEC SHOT helps marine industries by providing inline surface treatment systems (STS) in preservation line.

The Indian company is manufacturing the total preservation line for surface

preparation as a complete solution for surface preparation of plates & structures used in shipyards. The complete system is an in line process with surface pre-heating, wheel blasting and airless spray painting and baking oven. The supplied equipment is equipped with a range of safety features, which supervise the movement, flow rates, position, etc.

Pre Heating Chamber

The electrically operated conventional heating oven has open ends on both sides to facilitate entry and exit of thick plates. It is suitable for continuous operation. It runs to a maximum of up to 60° degrees temperature to eliminate the moisture on the part and to support the de-scaling process.

Blasting Chamber

The blasting machine is engineered for automatic blasting of plates & structures. The work piece travels on the entry & exit side roller conveyors. The work piece passes through an inward



Pre heating chamber

tunnel and enters into the blasting chamber. The blast wheel stations are located strategically around the cabinet to give the plates the right exposure. The plates are arranged one-by-one or, in the case of small sections, in parallel rows on the roller conveyor. A roller conveyor system feeds the work pieces continuously through the blasting chamber and before the work pieces leave the chamber, the blowing fan will remove left over shots from the surface. The travel speed can be continuously adjusted by VFD. The shot blasted plates come out from the chamber to get painted in an online painting chamber. The media is stored in a tank fitted at the top of the blasting chamber and combined with the shot separator. The media is automatically fed into the wheels and is collected in



MECSHOT recently supplied preservation line for shipyard



Airless tunnel type shot blasting machine

Blasting



the media recovery hopper, conveyed by screw conveyors to the boot of the bucket elevator. In the separator drum the media gets air washed and separated into over & under sized media. The usable media is finally transferred to the storage tank for reuse. The blast wheels are dynamically balanced. The maintenance of the wheels can be easily carried out by simply replacing normal wearing parts like blades and liner plates.

A specially designed electro-pneumatically driven valve is provided for each wheel. By means of these valves it is possible to adjust the quantity and flow of shots of each wheel. The shot flow is stopped in case of a power failure and the shot flow rate can be manually adjusted by sliding plates.

Bucket Elevator

The conventional vertical transfer mechanism of shots and waste from the boot to the media reclamation unit is performed by the bucket elevator. This unit is designed as an air washing unit to clean the media. The clean media is stored in a storage tank. A special roller conveyor mechanism is provided for the continuous transport of blasted

plates in the blast cabinet. These rollers are driven by an electro-chain sprocket mechanism. The out side rollers are made of steel material, whereas the inside rollers are protected by replaceable manganese sleeves. The rollers speed is adjustable by VFD.

Painting Chamber

The paint spray chamber is suitable for conventional, airless and electrostatic spray painting. It consists of a painting chamber, inlet air filter, paint trap filters, and axial flow fan, etc. As the work piece passes through the paint booth on a slat conveyor, the reciprocating painting guns mounted on a manipulator will paint the plates from both sides. A slat conveyor has been provided to carry the painted plates without transferring the rollers indentation.

Baking Oven

On both sides of the oven batteries of heaters are provided. The painted plates will enter the baking oven where they will get baked. The temperature of the baking oven is displayed via a digital temperature controller. All systems are supervised by a control panel with

a programmable logic control, which controls various parameters as well as the repeatability of the process. The control panel is dust proof as per IP54. A PLC is provided for automatic and manual operations.

Dust Collector

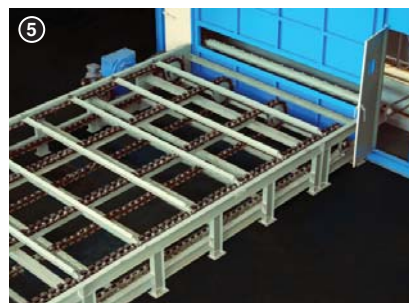
The reverse jet filter cartridge dust collector is a self cleaning system. All filter elements are automatically cleaned with the aid of timer card and solenoid valves. An anti-explosion vent is provided.

General

The current trends in surface preparation machines show high demand for good quality surface bonds, operator friendly machines and a good esthetic look of the product. In recent years the demand for abrasive blasting has become a mandatory requirement in all walks of life. Today Mec Shot is standing on the verge of becoming one of the biggest providers in the Asian territory of complete solutions in the shot blasting & shot peening field. The fluctuation in the current global industrial scenario is the main challenge faced by the surface preparation market. Mec Shot has dedicated people who have worked together for a long time and are responsible for success. Mec Shot in particular has transferred extensive knowledge of surface preparation & shot peening by way of conducting various workshops.



Paint spray booth with X manipulator



Slat conveyor



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