



SURFACE PREPARATION  
**STEEL PLATES**



**CYM** MATERIALES S.A.  
INDUSTRIAL SOLUTIONS

# SHOT BLASTING AND PAINTING PLATES – CHV LINE

**CYM** Materiales SA manufactures complete lines for the automatic shot blasting and painting for plates and profiles recommended when there is a long manufacturing or storage time of raw material. Its exclusive design allows parts to be processed with high productivity and minimum operating costs.

The shot blasting equipment is complemented with paint booths and in-line drying ovens for shop primer applications in a 100% automatic process, avoiding unnecessary handling and optimizing production times and costs.

The length of the parallel roller conveyors is variable to suit the needs of each customer and can be equipped with a transfer for side loading and unloading, optimizing the efficiency of the system and connecting the line with other processes.

The design and technology of our equipment guarantees the safety of the personnel and the care and hygiene of the installations and the environment.

## ADVANTAGES IN THE USE OF AUTOMATIC SHOT BLASTING

- Designed for pre-blasting processes of raw material prior to the manufacture of welded structures.
- Removes scale and rust improving the cutting, drilling and welding processes, also reducing the level of dust in the facilities.
- High volume production with minimum operating cost.
- Automatic shot blasting process does not require specialized labor.
- With correct operation of the equipment, there are no health problems for personnel or damage to the facilities.



# FEATURES CONSTRUCTION



## BLAST CABINET

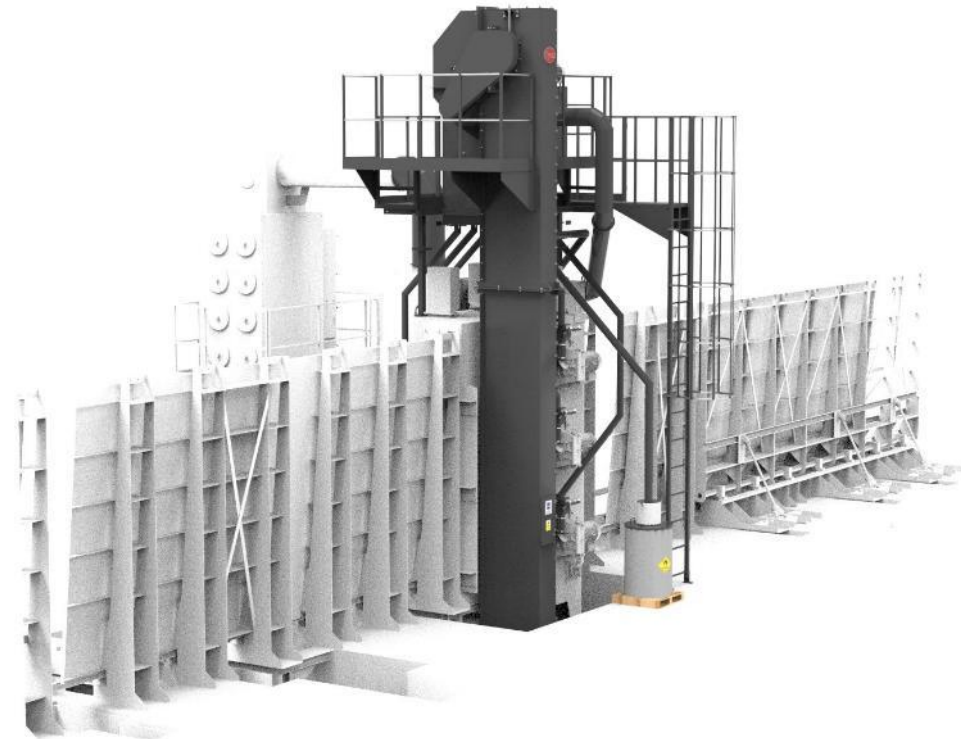
- Manufactured with triple layer of steel.
  - External in mild steel
  - Double internal protection lining
    - MN steel (11-14%) covering 100% of the main cabinet.
    - Additional reinforcement in hot areas with high chrome cast steel plates ( $\geq 64Rc$ )
- Screw conveyor - Spiral 15b30 boron-steel
- Access door blast cabinet
- Inlet and outlet chambers with sealing curtains to minimize abrasive escape from the blast compartment.

## PLATE CONVEYOR

- Parallel rollers
  - V-shaped lower rollers for plate support
  - Sides for plate backing
- Variable lengths according to requirements
- Adjustable plate feed speed for different shot blast qualities
- Optional
  - Plate loading and unloading system in horizontal position
  - Transfer and feeding equipment for loading and unloading of parts

## TURBINES

- Strategically located for better coverage and higher performance of the whole equipment.
- Direct coupling to the turbine engine
  - Power ratings from 10 HP to 60 HP.
- Turbine casing made of MN steel (11-14%).
- Internal casing lining made of high chrome cast steel ( $\geq 64\text{Rc}$ ).
- Control box positioning and fixing system, allowing a correct regulation of the hot spot.
- Shot-blast labyrinth seal between motor coupling and casing, allowing the turbines to be mounted in any position.

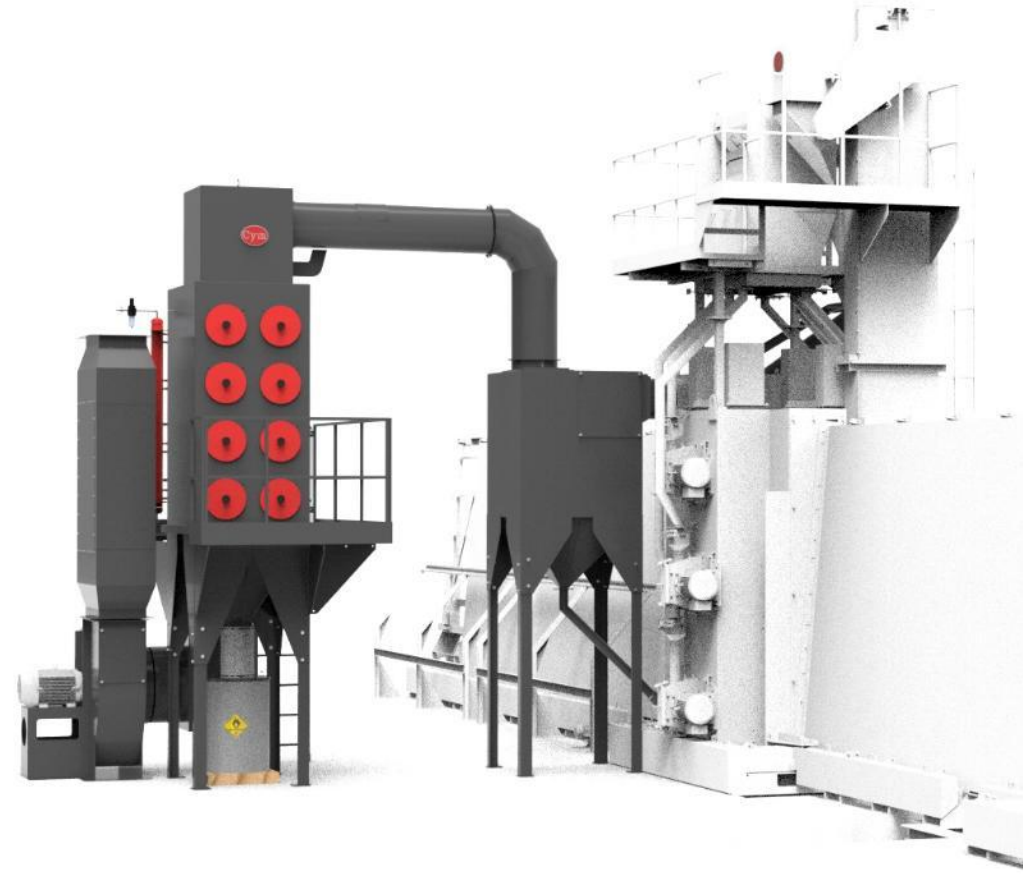


## ABRASIVE RECOVERY SYSTEM

- Bucket elevator
- High efficiency Air flow abrasive cleaning
- Upper Screw - Spiral 15b30 boron-steel
- Storage hopper for good abrasive
- Maintenance platform
- Abrasive flow control valves
- Optional
  - Automatic Abrasive Regeneration
  - Automatic abrasive curtain formation adjustment system including sensors and airflow monitoring, all controlled from the HMI

## DUST COLLECTOR

- Construction - SAE1010 Steel - 3.2 mm thickness
- Particulate matter emission less than 5 mg/Nm<sup>3</sup>
- Efficiency:  $\geq 0.5$  microns at 99.9%.
- Easy replacement of filter elements
- Continuous filter element cleaning system - Pulse jet
- Pressure differential manometer
- Ducting to connect to cabinet.
- Intermediate abrasive decanter allows high suction to be maintained in cabinet preventing good grit from being removed from the equipment.
- Optional:
  - Silencer kit for noise reduction
  - Maintenance platform



## ELECTRIC COMPONENT

- Control panel for operation control
- Components and motors: according to customer requirement IEC, Nema, UL, etc.
- PLC control: Siemens
- Emergency stop button: included.
- Wire cables to connect control panel and motors
- Optional
  - Movement sensor motors
  - Cooling
  - Soft Start motors.

## MOISTURE DRYING OVEN

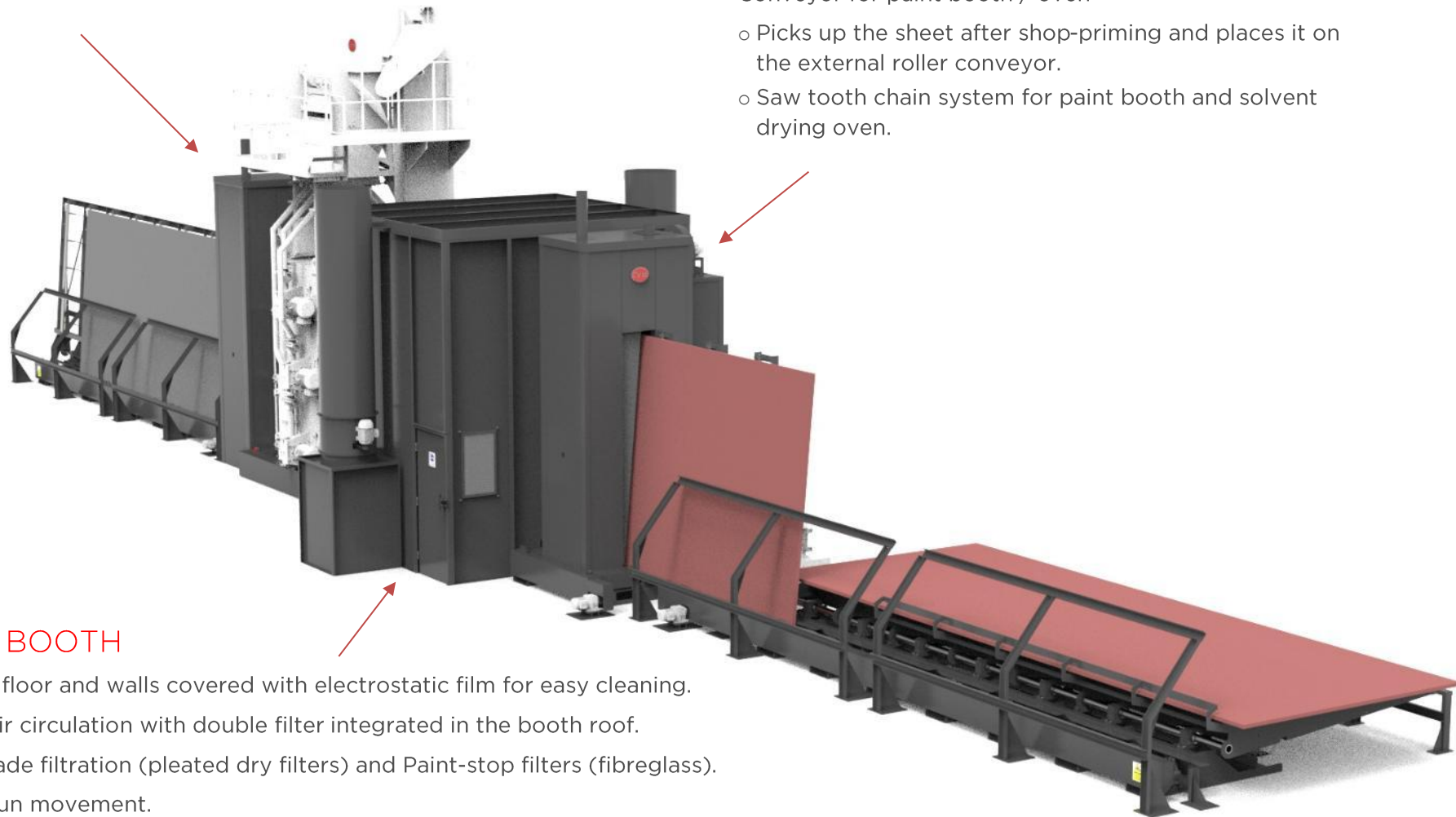
- Used for the evaporation of moisture prior to the entry of the blasting equipment.
- Double hot air flow.
- Air circulation range 20°- 60° C.
- Conveyor for oven cabinet to blast equipment.

## SOLVENT DRYING OVEN

- Used for solvent curing and evaporation downstream of the paint booth.
- Double hot air flow.
- Air circulation range 20°- 60° C.
- Conveyor for paint booth / oven
  - Picks up the sheet after shop-priming and places it on the external roller conveyor.
  - Saw tooth chain system for paint booth and solvent drying oven.

## PAINTING BOOTH

- Spray booth floor and walls covered with electrostatic film for easy cleaning.
- Downward air circulation with double filter integrated in the booth roof.
- Double cascade filtration (pleated dry filters) and Paint-stop filters (fibreglass).
- Automatic gun movement.
- Sensor for positioning and size detection of plates and profiles.
- Airless pump.



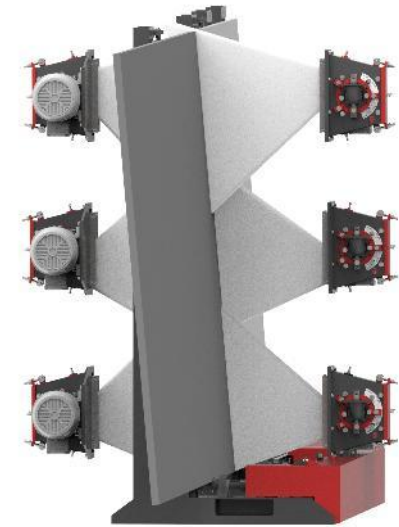
# TECHNICAL DETAIL - PLATE BLAST MACHINES - CH-V LINE

Model	Turbines		Maximum section piece passage mm (*)		Materials to process				Working Speed Mts. / min (**)
	Qty.	Power HP	Base	High	Plate	Profile	Pipes	Structure	
CH 1.5 V	4	15/20 30/40	100	1600	X	-	-	-	0.5 a 6
CH 2.5 V				2500					
CH 3 V	6	3000							

Notes:

(\*) The dimensions of the maximum part passage and production speed can be adapted to the customer's specific requirements.

(\*\*) The production of the equipment varies according to the power of the turbines installed and the amount of scale, paints, oxides and degree of finishing desired in shot blasting.



## RELEVANT FEATURES

- They can use spherical or angular shot, generating high roughness with excellent high roughness with excellent anchor profile.
- The loading of plates onto the conveyor can be carried out in a vertical or horizontal position.
- The shot blasting equipment is complemented by automatic paint spray booths and drying ovens for and drying ovens for shop-primer applications.
- Lower operating and investment costs than horizontal throughput equipment. horizontal pass-through equipment.
- No possibility of abrasive build-up on plates, no rotating brushes required, no need for rotating brushes and abrasive blowers.

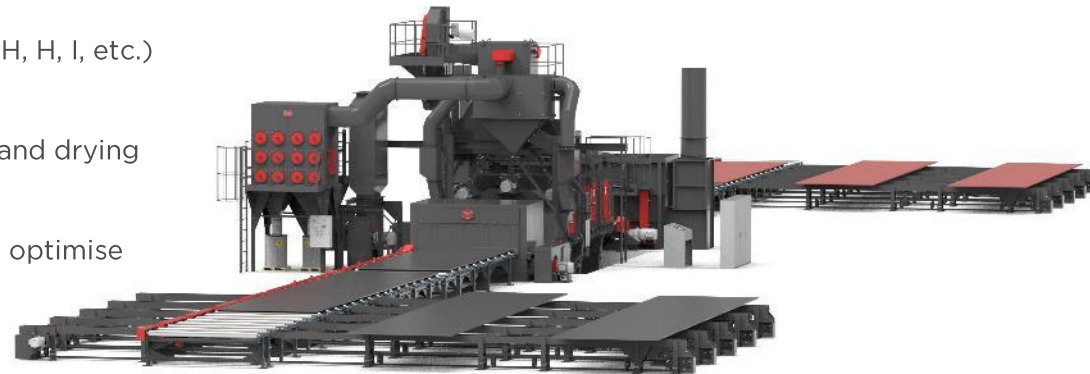
# OTHER SHOT BLASTING EQUIPMENT USED IN THE STEEL INDUSTRY

## SHOT BLASTING AND PAINTING PLATES - CH-H LINE

Specially designed to process sheets and different types of profiles (angle, L, H, H, I, etc.) with a maximum flange height of 150 mm (300 mm total).

The shot blast equipment is complemented by automatic paint spray booths and drying ovens for shop-primer applications.

Variable conveyor lengths with transfer option for side loading and unloading optimise system efficiency.



## SHOT BLASTER – PER & EST LINE

Process all types of raw materials and welded structures.

Recommended for processes requiring flexibility of operation, they allow a quick set-up for processing different sizes and types of parts.

Depending on the model, the machines are equipped with 4 to 16 shot blast turbines.

The parts can be conveyed by parallel roller bed or overhead conveyors.

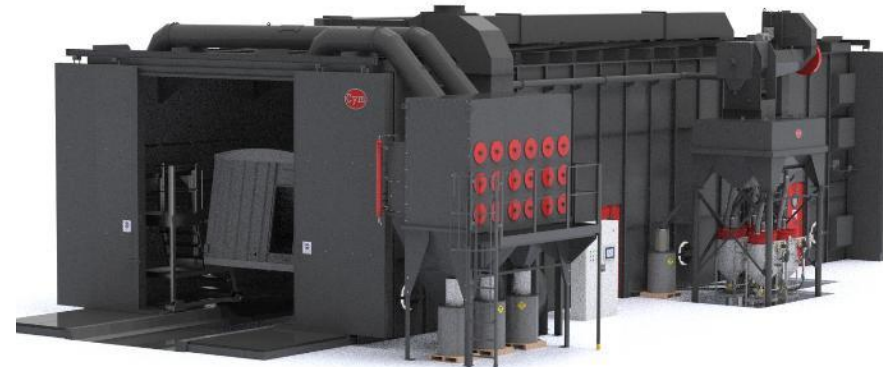


## BLAST ROOMS

Flexible blasting process allows to process all kinds of pieces that, due to their size or complexity, cannot be processed in automatic shot blasting machines.

One or more operators are inside the blast room during the blasting process using pressure blast pot to project the abrasive.

In combination with nozzle manipulators installed in the blast room, surfaces can be automatically processed.



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