
SURFACE PREPARATION

# PLATES, PIPES, PROFILES AND STEEL CONSTRUCTION

CYM MATERIALES S.A.
INDUSTRIAL SOLUTIONS

# SHOT BLASTING MACHINE FOR PROFILES AND STEEL CONSTRUCTION

**CYM** Materiales SA manufactures continuous flow equipment for shot blasting, welded structural shapes, profiles, bars, plates, steel strips and pipes according to the needs of each customer.

The 4 lines of equipment that we carry are the PER, CH, PER-I and EST.

In the PER and CH lines the blast wheels are located at 90 degrees from the parts pass-line.

In the PER-I and EST lines, they are located at different abrasive projection angles.

The abrasive is propelled by centrifugal turbines. The number of turbines for each machine depends on the size of the parts to be blasted or the speed required.

The conveyors may be a parallel roller bed or an overhead rail conveyor that introduces the parts into the chamber continuously. The machine may be equipped with in-line painting to avoid costly secondary handling of the parts.

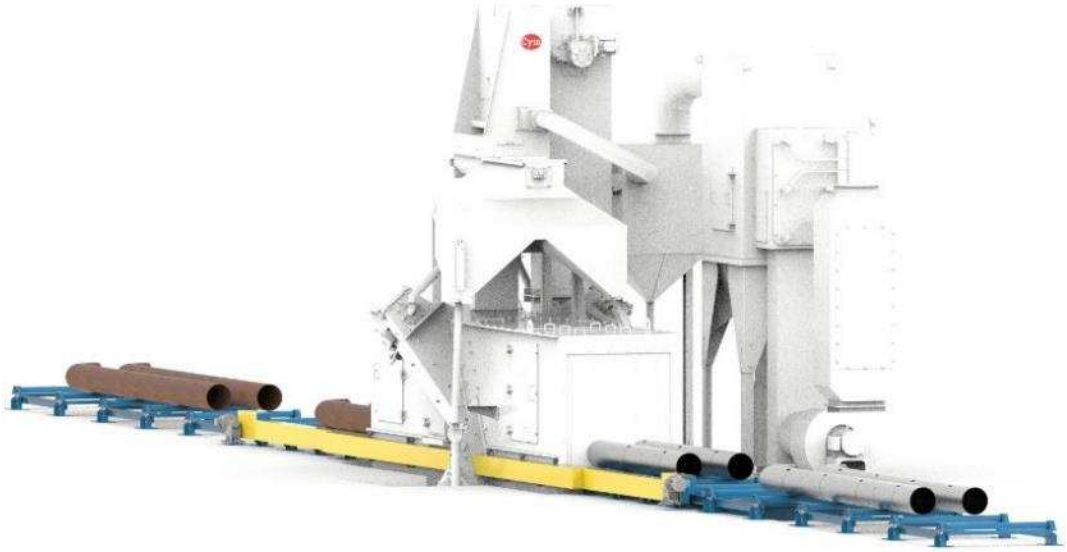
## MAIN USES AND APPLICATIONS

- Pre-shot blasting of raw material – PER-R and CH lines
  - o Process prior to the manufacture of welded structures
  - o Elimination of scale and rust, improving the processes of cutting, drilling, welding, etc.
  - o Reduces the level of dust in the facilities
- Shot blasting of welded structures - PER-I and EST lines
  - o Process prior to the application of a coating (paint)
  - o Leaves the surface clean, free of rust and scale
  - o Increased surface roughness improving the anchoring of the coating to be applied

# FEATURES CONSTRUCTION

## BLAST CABINET

- Manufactured with triple layer of steel
  - o External in mild steel
  - o 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 (≥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.



## WORK CONVEYOR

- Two options
  - o Parallel roller conveyor
  - o Continuous monorails hook conveyor allows to process parts in line with painting processes
- Conveyor length as required
- Variable speed of advance of pieces for different qualities of cleaning
- Screw conveyors return of shot to the equipment
- Transfer and feeding equipment for loading and unloading parts

## BLAST WHEEL

- Located strategically with a correct distribution of shot on the rod to be treated resulting in a better coverage and better performance of the machine.
- Direct Drive from 10 HP up to 60 HP.
- Housing manufacture in MN (11-14%) steel Forming together with the internal liners and double resistant wear wall.
- High chrome steel Internal liners (≥64Rc). Liners attached by screw with hardened cast steel head cover for abrasion protection.
- Positioning and fixing system for control cage, eliminates the risk of incorrect adjustment of the hot spot.
- Labyrinth seal of abrasive between engine coupling and housing with possibility to mount the turbines 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
  - o Automatic Abrasive Regeneration
  - o Automatic abrasive curtain formation adjustment system including sensors and airflow monitoring, all controlled from the HMI

## DUST COLLECTOR

- Manufactured with mild steel – 3,2 mm thick.
- Cartridge media cleaning: reverse Pulse jet.
- Easy replacement of cartridges.
- Emission: ≤ 1 mg/m3
- Efficiency ≥ 0.5 micron / 99.9%
- 200L dust accumulation drum with lid transition to drum with sleeve filter
- Intermediate gravitational separator located between blast cabinet and dust collector allows for increasing the air flow inside the cabinet without risk of carrying good abrasive to the dust collector drum.
- Optional
  - o Silencer and Mineral wool cover kit to reduce noise ≤ 85dBA a 1.52m.
  - o 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
  - o Movement sensor motors
  - o Cooling
  - o Soft Start motors
  - o Ewon for PLC programming remote communication

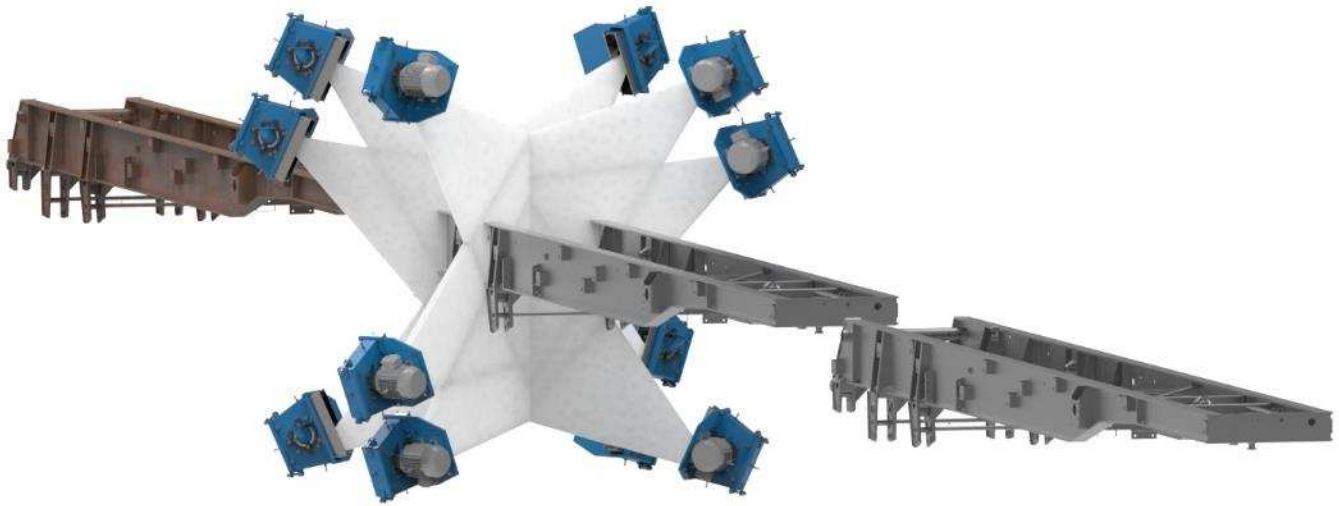
# TECHNICAL DATA – STEEL CONSTRUCTION SHOTBLASTING SYSTEM - EST

| Model | Blast Wheel | | Maximum passage section of pieces mm (*) | | Parts to be processed | | | | Working speed Mts. / min (**) |
|---|---|---|---|---|---|---|---|---|---|
| | Qty. | HP | Width | High | Profile | Structures | Plates | Pipes & Spool | |
| EST 6 x 15 | 8 | 10 a 60 | 700 | 1500 | X | X | X | X | 0.2 a > 6 |
| EST 15 X 10 | | | 1600 | 1200 | | | | | |
| EST 15 X 15 | | | 1600 | 1700 | | | | | |
| EST 15 X 20 | 12 | | 1600 | 2000 | | | | | |
| EST 15 x 30 | 12-16 | | 1600 | 3000 | | | | | |
| EST 25 X 15 | | | 2500 | 1500 | | | | | |
| EST 25 X 25 | | | 2500 | 2500 | | | | | |
| EST 35 X 17 | | | 3500 | 1700 | | | | | |

Note:
(*) The maximum parts pass size section and the production speed can be adapted to the customer precise requirement.
(**) The production can vary depending on the degree of rust, mill scale, and or other contaminants present

## RELEVANT FEATURES

- They process all types of welded structures, spools and raw materials (plates, angle profiles, L, H, etc. and tubes), with high production volume and minimum operating cost.
- Equipped with 8, 12 or 16 turbines, blasting the pieces at multiple angles of impact achieve a correct cleaning homogeneity in the processed parts
- Using Continuous monorails hook conveyor to process parts in suspended load allow to work in line with painting processes
- Homogeneity of finish in the processed pieces.



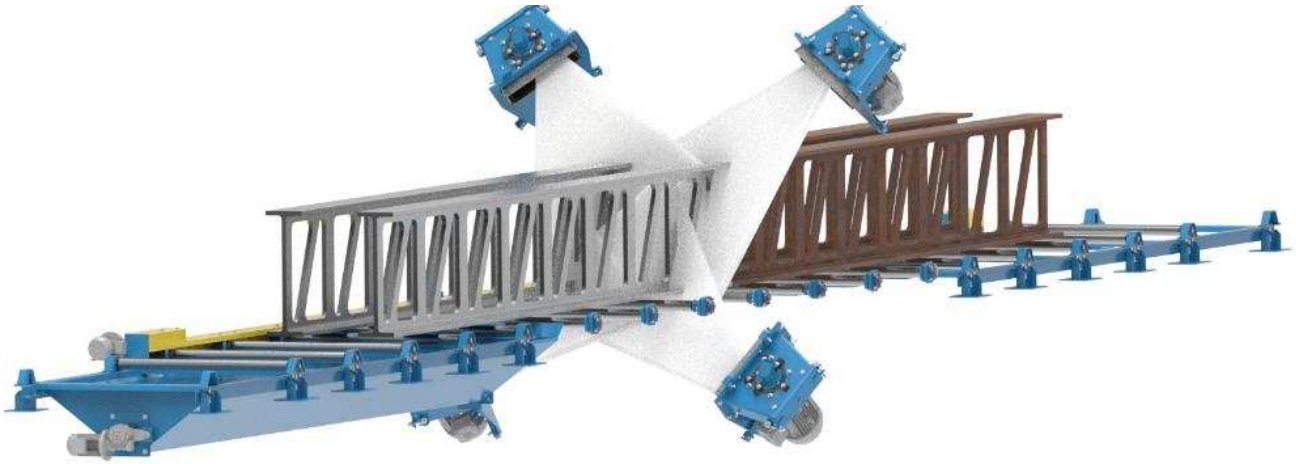
# TECHNICAL DATA – STEEL CONSTRUCTION SHOTBLASTING SYSTEM - PER-I

| Model | Blast Wheel | | Maximum passage section of pieces mm (*) | | Parts to be processed | | | | Working speed Mts. / min (**) |
|---|---|---|---|---|---|---|---|---|---|
| | Qty. | HP | Width | High | Profile | Structures | Plates | Pipes & Spool | |
| PER 6X6 I | 8 | 10 a 60 | 800 | 700 | X | X | X | X | 0.2 a > 6 |
| PER 6X15 I | | | 800 | 1500 | | | | | |
| PER 9X9 I | | | 1100 | 1050 | | | | | |
| PER 12X12 I | | | 1300 | 1400 | | | | | |
| PER 15X10 I | | | 1600 | 1200 | | | | | |
| PER 15X15 I | | | 1600 | 1700 | | | | | |
| PER 20X05 I | | | 2000 | 500 | | | | | |

Note:
(*) The maximum parts pass size section and the production speed can be adapted to the customer precise requirement.
(**) The production can vary depending on the degree of rust, mill scale, and or other contaminants present

## RELEVANT FEATURES

- Equipped with 4 inclined turbines with respect to the passage of parts, they can process both simple welded structures, spools and raw materials (plates, angle profiles, L, H, etc. and tubes) with a high production volume and minimum cost
- Complex welded structures can be processed by passing twice through the equipment so that they are properly shot blasting
- High production volume with minimum operating cost.
- Automatic shot blasting process, does not require specialized labor



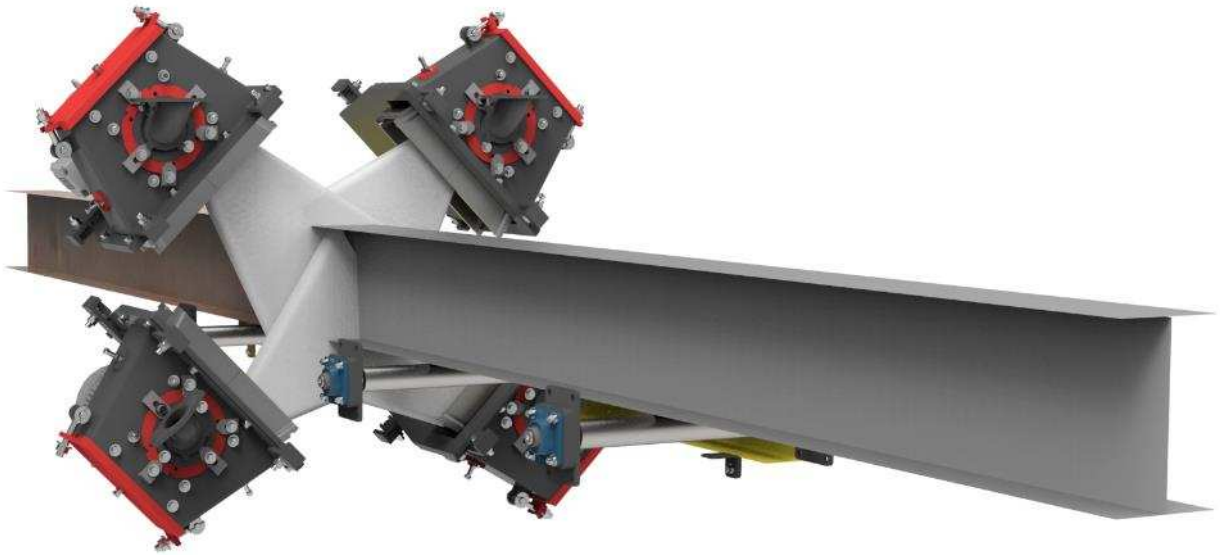
# TECHNICAL DATA – PROFILE AND PIPES SHOTBLASTING SYSTEM - PER-I

| Model | Blast Wheel | | Maximum passage section of pieces mm (*) | | Parts to be processed | | | | Working speed Mts. / min (**) |
|---|---|---|---|---|---|---|---|---|---|
| | Qty. | HP | Width | High | Profile | Structures | Plates | Pipes & Spool | |
| PER 4X4 R | 4 | 10 a 60 | 400 | 400 | X | - | X | X | 0.2 a > 6 |
| PER 6X6 R | | | 800 | 700 | | | | | |
| PER 9x9 R | | | 1100 | 1050 | | | | | |
| PER 15x10 R | | | 1600 | 1200 | | | | | |

Note:
(*) The maximum parts pass size section and the production speed can be adapted to the customer precise requirement.
(**) The production can vary depending on the degree of rust, mill scale, and or other contaminants present

## RELEVANT FEATURES

- Equipped with 4 turbines and located at 90 ° with respect to the passage of recommended parts to process raw materials (angle profiles, L, H, etc. and tubes) with high production volume and minimum operating cost
- Enhanced finish consistency of processed pieces.
- Automatic shot blasting process, which does not require skilled labor.
- With proper equipment operation, there are no health problems for the staff, or damage to the facilities and not pollute the environment



# OTHER SHOT BLASTING EQUIPMENT USED IN THE STEEL INDUSTRY

## PRESERVETION LINES – CH

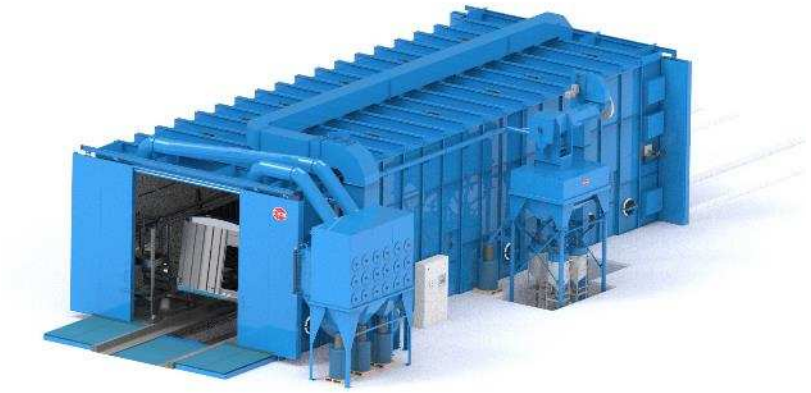
- Complete in-line shot blasting and painting lines for shop primer applications, thus avoiding unnecessary handling of parts with high productivity and low operating cost.
  - o CH-H line of horizontal passage to process raw material, plates and profiles in H and pipes
  - o CH-V vertical passage line for plates
- Variable conveyor length with transfer option for lateral loading and unloading, optimizing the efficiency of the system.

## PIPES - TUB

- Equipment for external and internal shot blasting of tubes used in the manufacture of gas pipelines, oil pipelines, aqueducts and other industries.
- Our wide portfolio allows shot blasting of tubes of very varied sizes and thicknesses, in diameters ranging from 12 mm to more than 3000 mm and shot blasting speeds between 1 m2/minute and 1 more than 20 m2/minute.

## 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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