SURFACE
PREPARATION
SPECIALIST

Coil Rod Shot-Blasting Machines

CYM MATERIALES S.A.
Industrial Solutions

Cym Materiales SA manufactures blasting equipment for the mechanical descaling of wire rods by batch ensuring high productivity with a low operating cost and a process that does not pollute the environment.

The COIL blasting machine has been designed to process wire rods of up to 3000 kilos of weight at a time ranging from 7 to 20 minutes depending on the type of steel and diameters of wire to be treated.

Two models of machines available, COIL4 and COIL5 with 4m and 5m mandrel and 6 and 8 turbines, respectively, ensure optimum coverage in the rolls of processed wires.

According to customer requirements, COIL equipment can have one or two mandrel loading doors. The double door machine minimizes downtime and optimizes the process by allowing the loading of a coil while the inside of the equipment is being blasting.

Features Construction

Blast Cabinet

- Triple housing layers
  - External 1010 steel - 8 - 12 mm thick
  - Double internal liners coverage
    - 100% coverage 4 mm manganese steel (11-14%) full welded
    - Extra lining (hot area) with 8 -10 mm high CR (≥64Rc). Bolt-on replaceable
- Screw conveyor - Spiral 15b30 boron-steel
- Door designed to provide access to the blast cabinet and support the mandrel. Equipped electric drive for opening and closing.
- Pneumatic door lock to hold door closed during blast cycle

Optional

- Second door to reduce down time for coil loading and unloading.

Mandrel

- Mandrel with special coil lifter for more efficient expansion and retraction of coil to expose all rod surfaces to the abrasive.
- 4 m & 5 m length
- Max load capacity: 3 ton
- Swinging type mandrel, allows the door to open independent of the mandrel for easy loading / unloading coils
- Pneumatic operated manganese steel closing plate on the end of the mandrel to ensure that shaft mandrel not work cantilevered - preventing premature failure due to fatigue
- Rubber Shaft coverage
- Lifters Steel – SAE 1045
- Variable speed drive for rotation control

Blast Wheel

- Located strategically to assure correct distribution of shot on the coil to be treated resulting in a better coverage and better performance of the machine
- Direct Drive 40 HP (30 Kw) & 50 HP (37.5Kw)
- 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.
- Durable labyrinth seal coupling between motor and housing prevents abrasive seepage and allows mounting each turbine in a variety of positions.

Abrasive Recovery System

- Bucket elevator
  - Cast bucket – SAE 1035 steel
- High efficiency Air flow abrasive cleaning
- Upper Screw- Spiral 15b30 boron-steel
- Storage hopper for good abrasive
- Flow valve control
- Maintenance platform

Optional

- Automatic Abrasive Regeneration System

Dust Collector

- Steel construction: 3.2 mm thick
- Cartridge media cleaning: reverse Pulse jet
- Easy replacement of cartridges
- Efficiency ≥ 0.5 micron / 99.9%
- Emission<1 mg/m3
- 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

- Silencer and Mineral wool cover kit to reduce noise ≤ 85dBA a 1.52m
- Maintenance platform

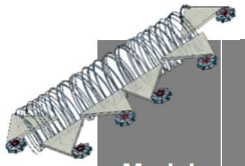
Electrical Component

- Control panel is divided in four (4) cabinets
  - Control cabinet contactors, electro valves, etc.
  - Operation control cabinet 24 V
  - Two operation mandrel cabinet 24 V - mounted in each door.
- Components and motors: according to customer requirement IEC, Nema, UL, etc.
- Siemens S7-1200 PLC control
- Total HP/Kw
  - COIL 4 – 347 HP / 260.25 Kw
  - COIL 5 - 464 HP / 348 Kw

Optional

- Movement sensor motors
- Cooling system
- Soft Start motors

Technical Data – Coil Wire Rod Shot Blasting - COIL



Model	Blast Wheel		Mandrel		Coil Rod					Ton/hour (**)
	Qty.	HP	Length (m)	Load (ton) (*)	Section	Steel	Ø Rod (mm)	Ø Inside Coil (mm)	Ø OutsideCoil (mm)	
COIL 4	6	4 x 40 2 x 50	4	3	Round Hexagonal Square	Low and high carbon Stainless	5.5 - 35	> 900	< 1500	2 - 15
COIL 5	8	6 x 40 2 x 50	5							

Note
(*) The maximum kilos of load for the different diameters of coils differ according to the diameter of the same.

(**) The production can vary depending the diameter and weight of rod, degree of rust, mill scale, and or other contaminants present

(***) If the equipment you requireis not in this catalog please contact our sales or engineering departments which will help to develop the best equipment to suit your needs with our goal to reduce operating costs and increase profitability in your production systems.

Mechanical Descalers Advantages

- Eliminate environmental pollution problems
- Do not need facilities for the regeneration or post treatment of waste material such as those required for the treatment of chemical effluents and toxic fumes
- When the machine is operated properly they do not cause any health problems or damages to the plant as those caused by the steam released from the chemical descaling process
- Lower production costs
- Automatic shot blasting process does not require skilled labor.

Other Machines Used in the Wire Drawing Industry

In-Line Shot Blasting Machine - BAR

- In-line BAR machines are designed for descaling wire rods, bars and billets and can process in single-strand or multi-strand at the same time with high throughput speeds (more than 250 m / min.).

- According to the model, the machines are equipped with between one (1) and four (4) turbines

- Blasting machine are complemented with pay-off for wire rod when the equipment is integrated with drawing lines and with external roller conveyors with automatic loading and unloading systems to process bars or billets.

Wilco Mechanical Descalers

- Wilco system is designed to process low through high carbon rods, Ø 0.218 inch (5.5mm) through Ø 0.500 inch (12.7mm).

- Six (6) standard models of WILCO Mechanical Descaling Systems

- Using high quality components that support years of service in wire drawing processes, significantly reducing process costs and simultaneously eliminating environmental problems associated with chemical pickling

Dust Collector

- Used to retain dust generated in various processes of the steel industry for the manufacture of wires and bars

• Scale generated during the mechanical descale process

• Fumes and gases

- from melting furnaces

- welding processes

- plasma or laser cutting processes

• Grinding processes

- Manual vacuum kit for cleaning in the sector

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