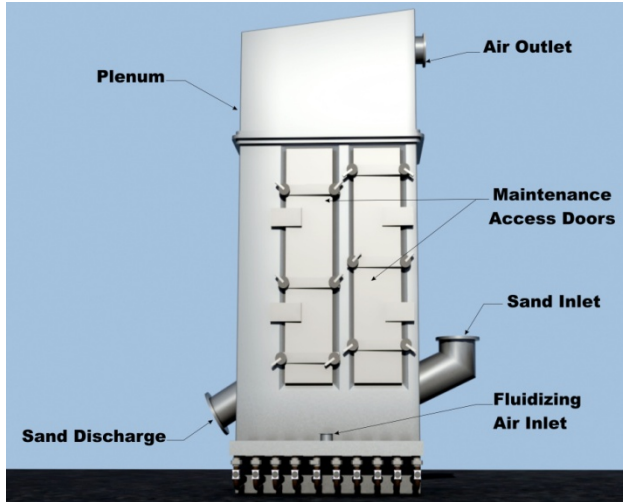




BHM Pneumatic Scrubber

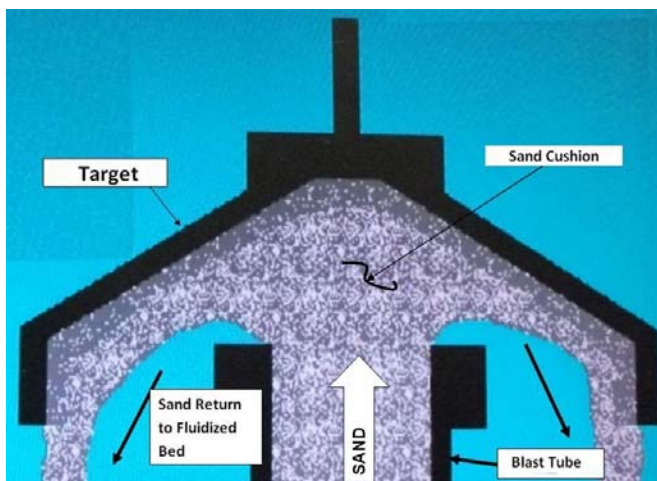
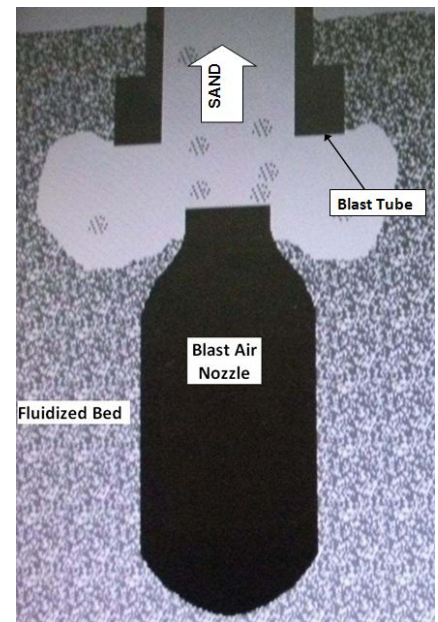
For Chemically Bonded Sands

To economically recycle chemically bonded sands the foundry owner must remove, as much possible, the residual binder attached to the sand grains or contained in the cracks, crevices and cleavage planes of the return sand grains, along with unwanted silica fines. A proven economical solution for this task is the **EC&S BHM** Pneumatic Scrubber.



The **EC&S BHM** Scrubber is a continuous flow, fluidized bed unit, complete with sand recirculation capability. Controlling the time the sand is within the unit provides the retention time necessary for good cleaning action and sand classification. The spent sand is continuously fed into the unit from a surge bin, normally having at least 2 hours storage, with a feeding device (available optionally) with a variable feed rate control. The sand in the unit is maintained in a fluidized state by the fluidizing blower. Nozzles in the fluidized bed withdraw sand from the bed through a

blast tube to a target located just above the blast tube in the upper portion of the unit. Following the sand-to-sand abrasion, which expends the kinetic energy of the sand, the sand falls back into the fluidized bed where it is collected and then again withdrawn from the fluidized bed and forced up the blast tube. This repeated cycling and vigorous sand-to-sand contact causes the organics (binder), clay and metallic oxides to dislodge from the sand grains. Any material removed from the sand grains during this process, along with unwanted silica fines, is drawn off in a controlled atmosphere and exhausted to the dust collection equipment. Recirculation of the sand continues until the sand grains suitable for reuse are captured and deflected by the impact plate into the discharge section of the fluidized bed.



A sand cushion is maintained on the underside of the target by the kinetic energy of the sand moving up the blast tube. Sand normally does not impact the plate directly. Here the sand is scrubbed by grain-to-grain action as the sand is thrust into the sand cushion underneath the target. From there the sand passes over the final weir, discharging from the **EC&S BHM** Pneumatic Scrubber ready for reuse by the foundry.

The negative pressure in the plenum (hood) and the resultant exhaust from the area above the targets is accurately controlled by the plenum pressure control.

The exhaust system carries off the remaining unwanted fines which include binders, oxides and unwanted extra-fine sand grains, delivering them to the dust collection system.

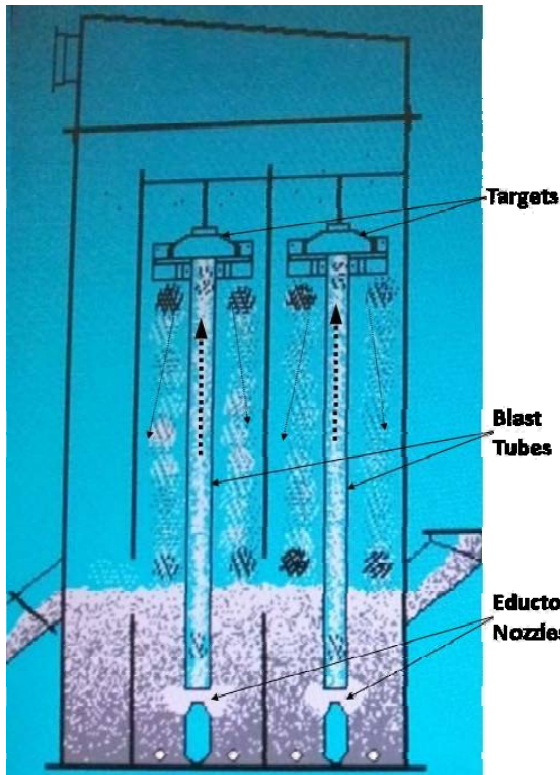
Nearly all the sand suitable for reuse is captured and deflected into the discharge section of the fluid bed where it flows over a weir and exits the unit. The deflector plate can be adjusted to change the recirculation time. The finished product is clean, reclaimed sand with an acceptable AFS grain fineness distribution suitable for reuse without dilution or blending with new sand.

Maintenance is minimal. The **EC&S BHM** Pneumatic Scrubber has only two wear items, the vertical blast tube and the impact plate. The normal life of the blast tube is 1000 hrs.; the target up to 5000 hours, depending on recirculation rate.

The Scrubber is available in models with through-put capacities ranging from 1/4T to 15 T per hour. Unit sizes vary based on flow and binder levels.

Features:

- *Less Expensive Solution for Less Demanding Applications*
- *Simple Operation*
- *Few moving parts*
- *Access Doors for Maintenance*
- *No expensive foundation required*
- *Unattended Operation*
- *Low operating cost*
- *No fuel required*



EC&S Guarantees:

- **Rated Capacity**
- **Loss on Ignition**
- **Yield (On Base Silica)**
- **Target Sand Screen Distribution**

Reclamation of sand requires that sand grains receive the amount of work required to make the final product usable in the given casting situation. The reclamation process must assure that the sand grains receive this work on an individual grain-to-grain basis.

Options:

- **Water cooled cooling section**
- **Surge Bin with variable rate feeder**

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