



Tubular Reverse Pulse Bag Filters

 **John
thompson**

ACTOM

Tubular Reverse Pulse Bag Filters

John Thompson Air Pollution Control offers tubular reverse pulse bag filters ranging from a standard HMB to large, custom designed turnkey systems:

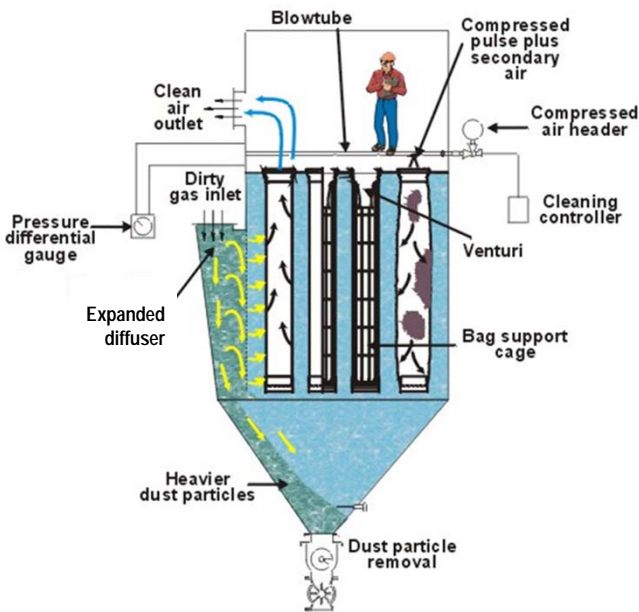
Operation:

The tubular reverse pulse bag filter employs cylindrical filter elements and is continuously cleaned on the reverse jet principle. Simplicity of design with no moving parts results in an extremely low maintenance filter.

Dust laden air enters the bag filter hopper via a heavy-duty inlet baffle. This allows large dust particles to settle out due to the reduction in velocity and drop directly into the hopper. Remaining dust particles in the raw gas are entrained on the external surface of the filter bags.

Dust removal from the filter bags is achieved by the introduction of a momentary jet of compressed air to a row of filter bags. The required jet-pulse cleaning action is achieved by a venturi, which induces a secondary airflow. Reverse flow and a shock wave are generated, sufficient to clean the filter bags.

**Tubular Reverse Pulse Bag Filter
(showing expanded diffuser inlet)**



Filter bags incorporate a snap band for location and sealing onto the bag plate without the assistance of any further clamping. A filter bag support cage is dropped into the bag and rests on the tube plate.

The compressed air header pipe is located on the outside of the bag filter and the solenoid/diaphragm valves are easily accessible for maintenance.

Bag removal is done from the clean air plenum via suitably sized access doors on the plenum roof. Bag removal and all maintenance is done from the clean air side of the filter.

Off-line pulsing:

Where necessary, off-line cleaning is achieved by providing compartments within the unit. The controller will be interlinked with a pneumatically activated damper fitted to each outlet, to isolate the compartment from the gas flow during pulsing.

Construction:

Collectors and system components are normally constructed from carbon steel. Also available are Stainless Steel or other exotic metals. All collectors are designed to meet applicable industry codes.

Tubular Reverse Pulse Bag Filters

HMB range



Automatic Reverse Pulse fabric bag filter employing tubular filter bags for larger dust control applications. The bag filters are of robust construction, jig built to provide the most cost effective solutions. Fabric areas range from 75 m² to 1,500 m² and more. It is designed in modular form with either 2.0, 3.0 or 4.0 metre bag length and with large access doors to simplify maintenance. The unit has found wide acceptance in the mining and general industries.



Foundry: Dedusting aluminium



Woodwork: Saw and Sanding Plant dedusting



Foundry: Sand reclamation, breaker and shaker drum dedusting

Modular units for large applications

Modular units



Cement kiln: Sectional units for greater cloth area



Sinter plant dedusting



Furnace: Gas cleaning

Cylindrical units

Cylindrical units for high pressure / vacuum applications.

Long bag technology

Long bag technology where space is restricted



Stainless Steel Fume



Ferro Manganese

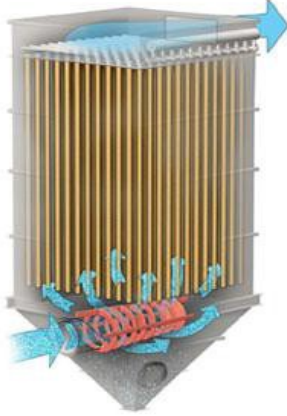


Pyroxenite Milling

Tubular Reverse Pulse Bag Filters

Inlet Technology

A variety of inlet technologies are employed to suit the specific application's requirements. This includes technologies applied to the bag chamber or the hopper. Also off-line cleaning technologies are used in specific cases. The inlet employed plays a vital role in the performance of the bag filter.

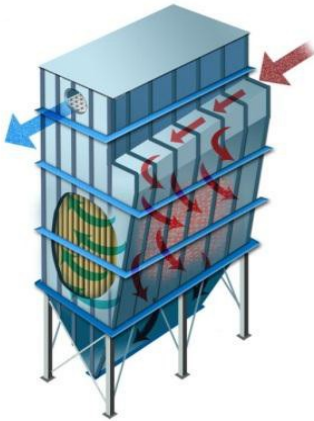


Staggered Discs

The staggered disc inlet diffuser uses a succession of orifice plates to divert a portion of the incoming air in stages into the hopper.

The results achieved:

- Increased bag life
- Lower pressure drop or significantly increased air flow
- Minimum dust re-entrainment
- Overall better filter performance



Expanded Diffuser

The expanded diffuser is a two stage inlet with diffusers at right angles to each other. Air enters the filter housing from the side.

Benefits include:

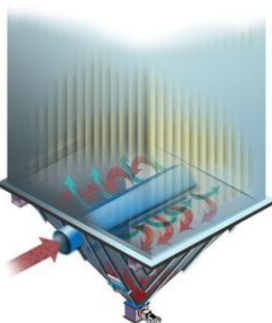
- Higher filter rate i.e. greater flow capacity
- Longer bag life
- Reduced pressure drop
- Minimization of dust re-entrainment
- Reduction of compressed air consumption
- Overall better filter performance



Casing Inlet

Used with light dust in order to distribute the inlet air throughout the bag filter, largely in a downward direction.

- Minimum re-entrainment
- Lower pressure drop
- Longer bag life



Inverted Baffle

For general de-dusting.

- Accepts high dust loads
- Handles abrasive products