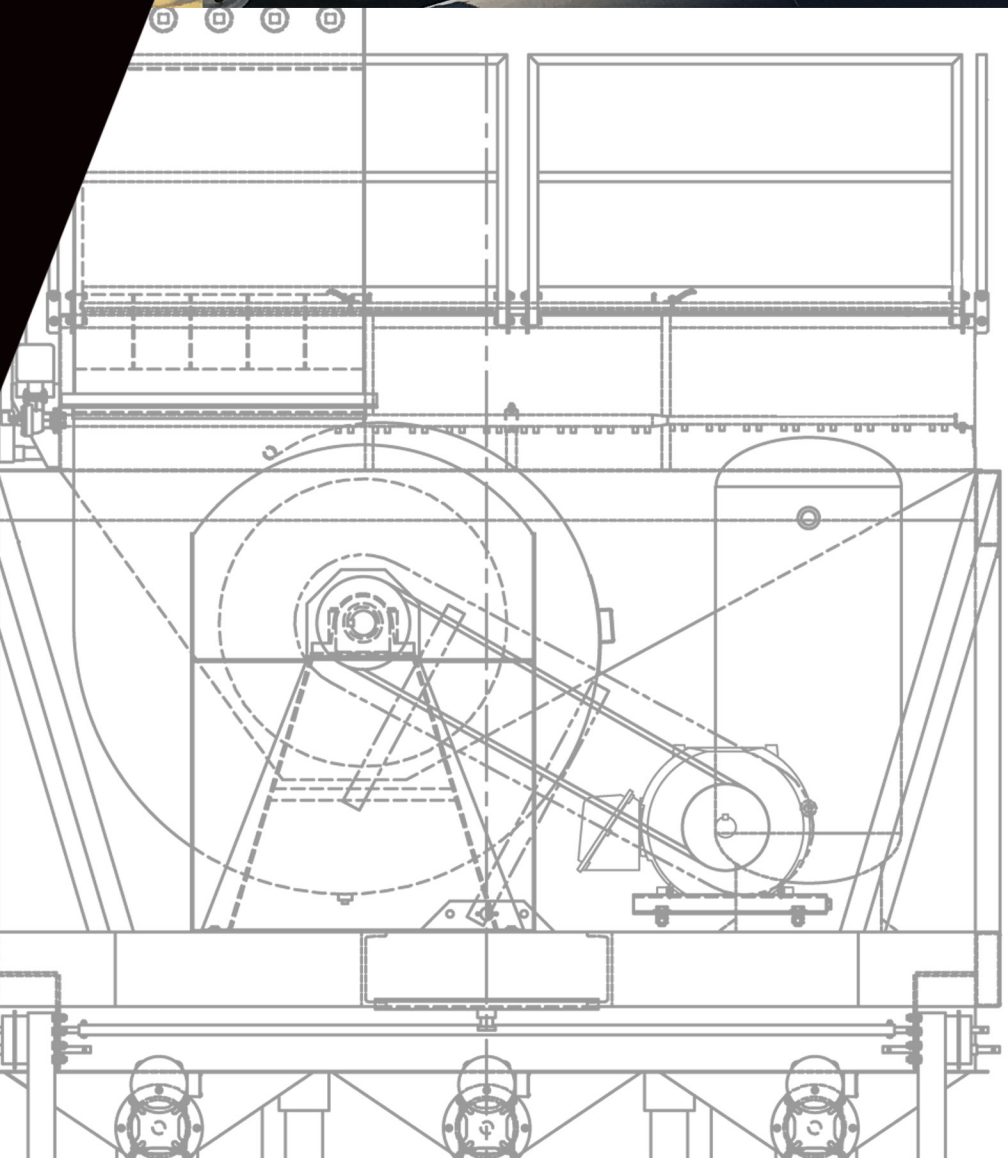
HIGH RATIO BAGHOUSE

HRB SERIES



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HRB SERIES

High Ratio Baghouse

Available in both portable and stationary models, Aesco Madsen's High Ratio Baghouse series operates at an air to cloth ratio as high as 10:1. As a result of this efficiency, a more compact collector at a lower initial cost is now available for your plant operations.

This advanced filtering technology allows for fewer bags and cages to maintain, less wear and tear of the filter media, lower pressure drops, and reduced energy consumption.

For additional information on how the HRB Series can improve your plant operations, reach out to one of Aesco Madsen's knowledgeable sales representatives today.

www.aescomadsen.com | 253.939.4150 | sales@aescomadsen.com

Model Specifications

Portable Units

Model	Overall Length	Total Weight	Airflow
HRB 544	53’ 0”	55,400 lbs.	45,000 CFM
HRB 680	59‘ 2”	68,000 lbs.	55,000 CFM
HRB 816	69’ 7“	79,000 lbs	65,000 CFM
HRB 1054	81‘ 10”	95,900 lbs.	75,000 CFM

*add 8,000 lbs for cyclone

HRB 680

Model Specifications

Stationary Units

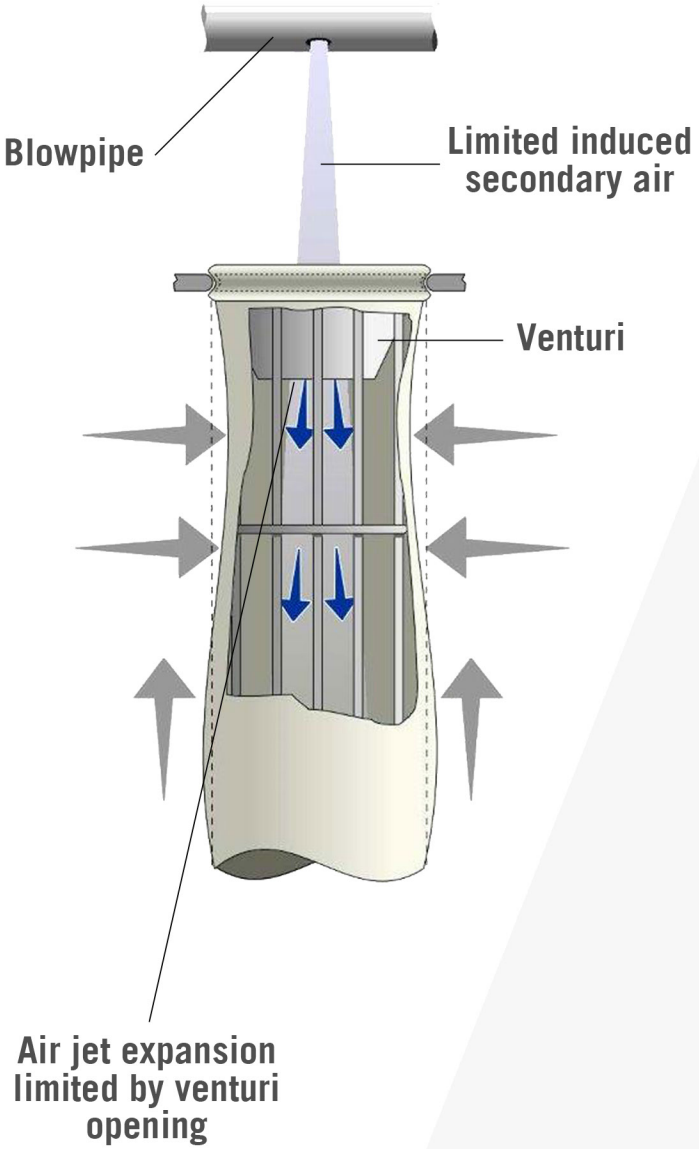
Model	Overall Length	Overal Width	Airflow
HRB 168S	14’ 0”	13’ 4“	30,000 CFM
HRB 216S	17‘ 0”	13’ 4”	40,000 CFM
HRB 312S	23’ 0“	13’ 4”	55,000 CFM
HRB 384S	27’ 6”	13’ 4”	65,000 CFM
HRB 432S	30’ 6”	13’ 4”	75,000 CFM
HRB 480S	33’ 6”	13’ 4”	85,000 CFM

*overall height of all stationary baghouses at top of handrails is 37’ 4”.

High Ratio Cleaning System

To develop a truly innovative dust control system, industry experts within Aesco Madsen studied the airflow and filtering processes of conventional baghouses. Among their more notable discoveries was that the widely used venturi system had some glaring efficiency issues with which they were ready to improve upon.

Typical Venturi System



In a typical venturi system the high velocity air at the discharge of the venturi creates negative pressure at the top of the bag. This causes dust to cling to the bag in this area, reducing the effective filter area of the bag and causing fine dust particles to embed into the filter cloth. Additionally the low velocity air jet located close to the bag opening limits the induction of secondary cleaning air.

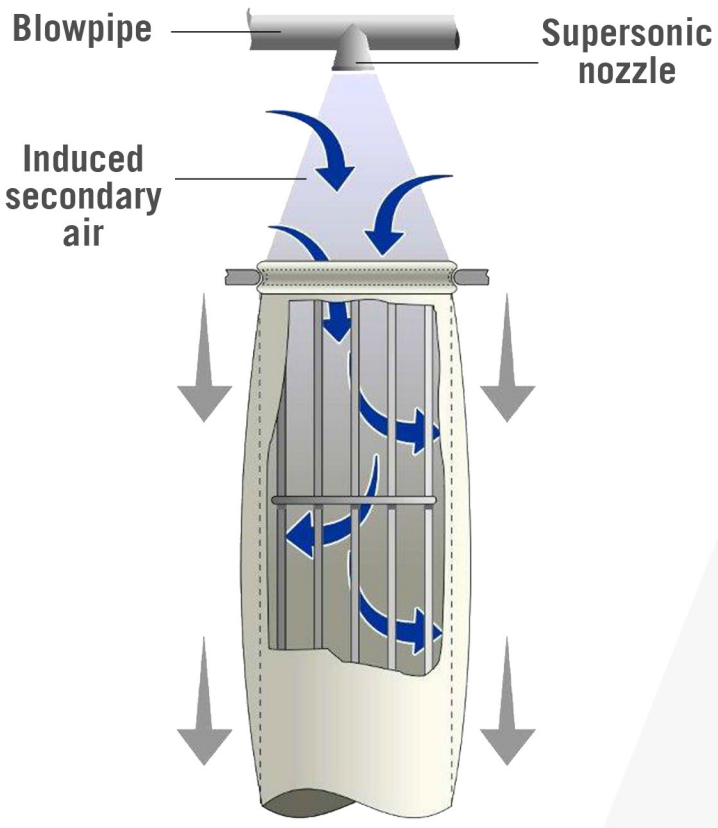
The restricted opening of the venturi also accelerates the filtered air moving up into the plenum. This results in more required velocity from the downward cleaning air jet in order to overcome the upward moving filtered air. By using a higher velocity cleaning jet more energy is required, thus lowering overall plant efficiency.This increased jet velocity also creates a strong shock through the bag, accelerating bag wear over time.

High Ratio Cleaning System

By eliminating the venturi at the top of the bag and instead utilizing a supersonic converging/diverging nozzle to generate the cleaning air jet, the high ratio system is able to induce more secondary air to assist in the cleaning process. The absence of the venturi also results in lowered throat velocity at the inlet of the bag. This eliminates the negative pressure issues seen at the top of the bag in traditional venturi systems.

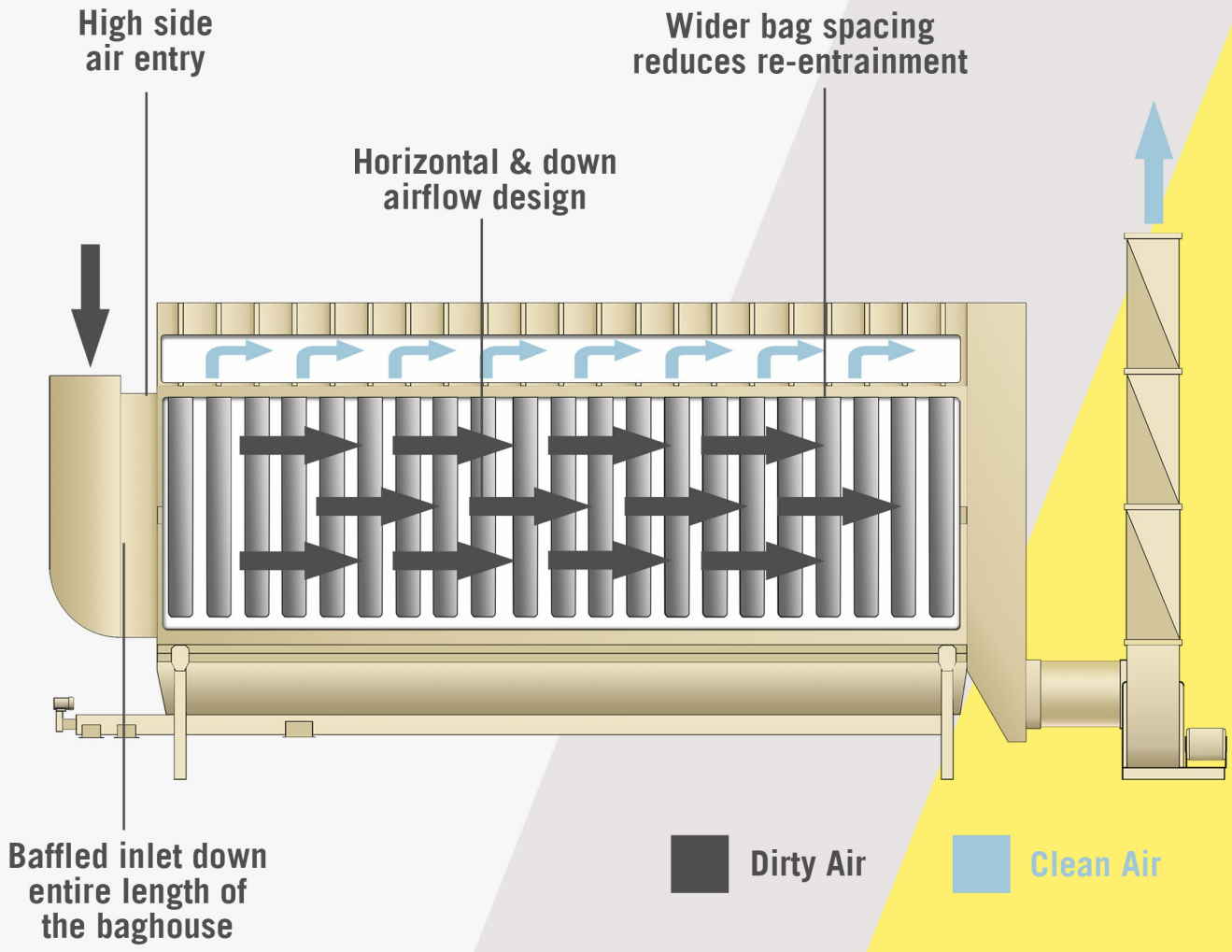
Utilizing the whole open area of the bag mouth limits air jet expansion leading to less of a chance of dust cake blow out to occur since the cleaning air jet is alerady expanded to the full diameter of the bag. This even bag inflation also reduces wear and cleans the bag more efficiently. Being able to clean the bag more efficiently means that the HRB series baghouse uses only half the filter area required in traditional venturi systems, allowing Aesco Madsen to offer higher performance in a smaller package.

Aesco Madsen High Ratio System

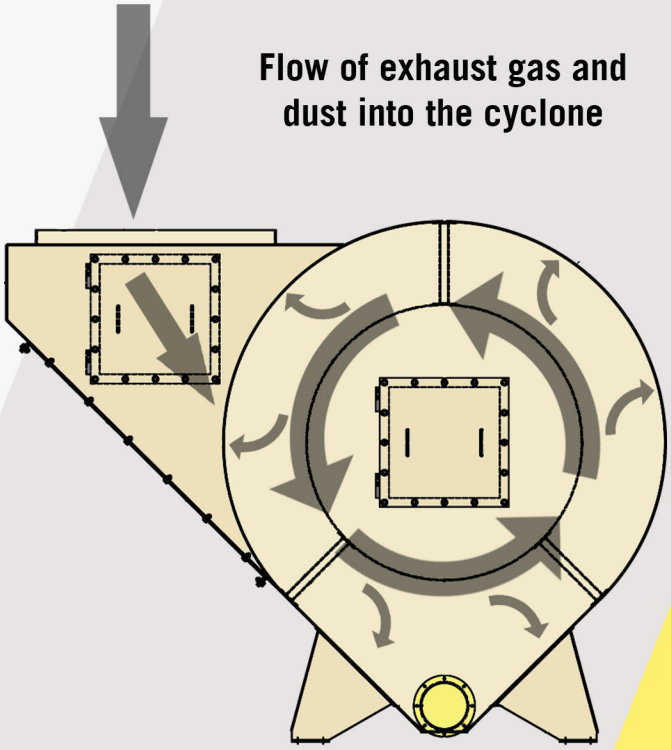


Superior Design Features

- High side air entry eliminates upward air movement - a true down flow design
- Built in knockout chamber drops out larger dust particles before bag section
- Baffled air inlet protects bags from abrasion and aids in even air distribution
- Supersonic nozzles increase energy of air jet pulse for better cleaning and lower pressure drop
- Wider bag spacing eliminates dust re-entrainment on adjacent bags
- Uniform dust cake distribution along entire length of the bag for maximum filtering efficiency



Superior Design Features



Cyclone

Mounted on the inlet end of the baghouse, the cyclone is where the initial dust collection takes place. As the dust rides along the exhaust gas stream and enters the cyclone, it encounters the inner walls of the cyclone. The gas and dust follow the curve of this inner wall and as a result move in a circular motion within the cyclone chamber. The gas and dust, now spinning inside the cyclone, creates centrifugal force which pulls the heaviest 70% of the dust outward, allowing those heavy particles to fall to the bottom of the cyclone.

High Side Inlet

The remaining 30% of fine dust material enters the baghouse through a high side inlet port which ensures that the airflow is horizontal and downward rather than upward. This design is vital in assisting the fine dust particles to move downward into the hopper instead of upward where they risk being re-entrained into the bags. The air entrance knockout chamber extends the entire length of the baghouse, decelerating the airflow and causing more material to drop out into the hopper. Internal baffles protect the bags from abrasion and aid in even air distribution as the remaining airborne dust moves into the bag section.