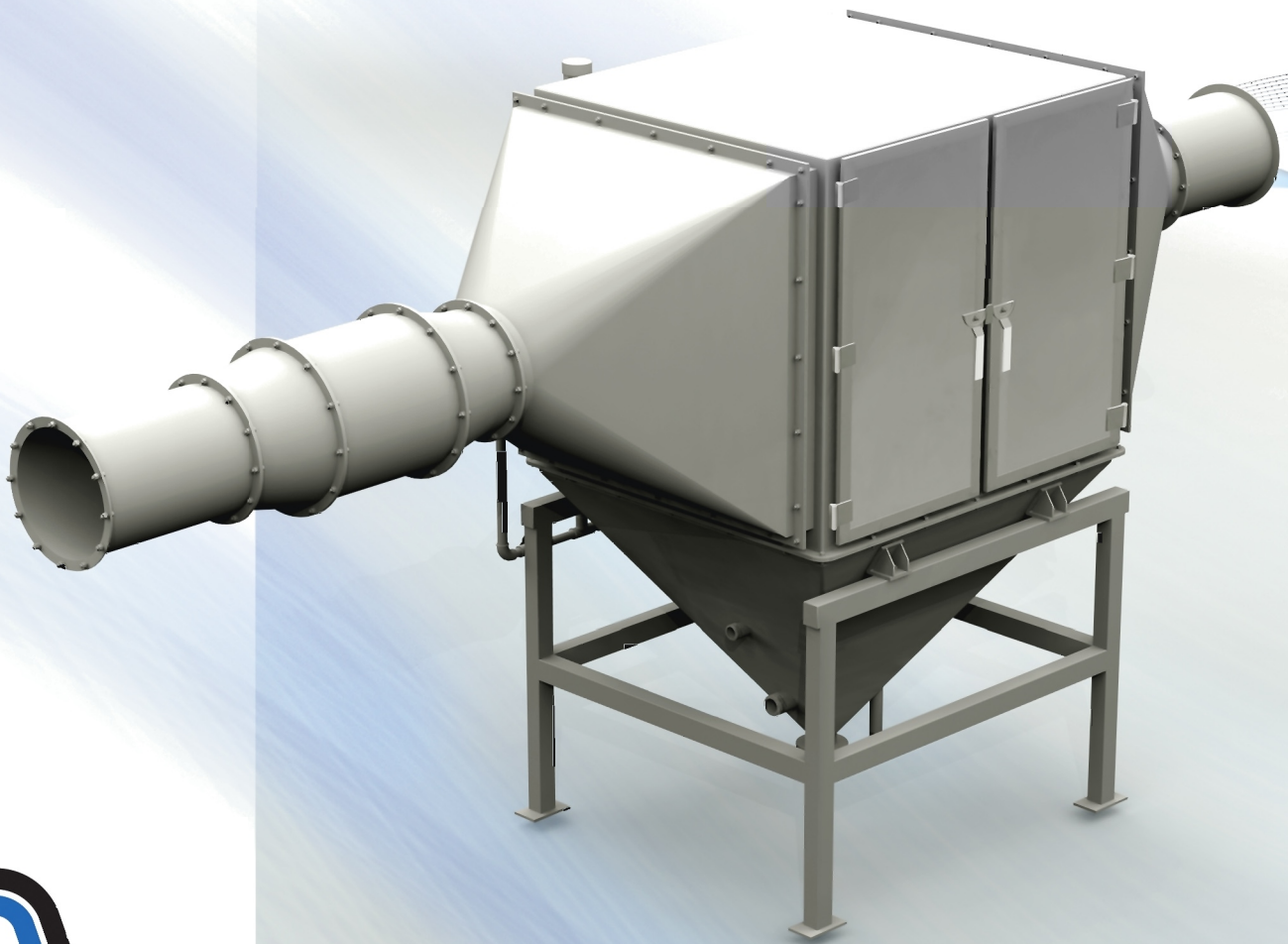




# **MistAire**

*The MistAire® Hydrodynamic  
Dust Extraction System*





# MistAire®

## Hydrodynamic Dust Extraction System

**The MistAire®** Dust Extraction System is designed to remove volatile dust emissions generated from material handling operations. Potentially explosive dust is rendered harmless as soon as it enters the MistAire Dust Extraction System and is combined with water. The collected mixture of water and dust then can be discharged to waste ponds or concentrated and returned to the original material.

**The Hudco MistAire has numerous advantages compared to dry collection systems:**

**The Problem:** Dry bag-house filter systems create perfect environments for explosions.

- **The Hudco Solution:** MistAire Dust Extraction System completely eliminates such risks.

**The Problem:** Changing bag-house filter elements is very hazardous and requires protective gear, a fresh air supply and enclosed workspaces.

- **The Hudco Solution:** Servicing the MistAire Dust Extraction System requires no special safety procedures or equipment and generates no hazardous waste disposal issues.

- **The Problem:** Dry bag-house collectors are comparatively large.  
**The Hudco Solution:** The MistAire Dust Extraction System requires far less physical space for the same CFM performance.

**The Hudco MistAire design is far superior.**

- **The Problem:** Dust extractors that rely on an axial flow fan placed in the dirty incoming airstream are subject to excessive wear and produce high noise levels.  
**The Hudco Solution:** The MistAire's intelligent design uses a centrifugal fan in the clean air downstream of the extraction unit, providing constant flow rates at any static pressure required.
- **The Problem:** High-speed axial flow impellers are inherently loud and cannot be located remote from the cleaning unit.  
**The Hudco Solution:** The MistAire Fan can be located remote from the MistAire Hydrodynamic Unit and equipped with silencers for extremely quiet operation.

- **The Problem:** The direct drive axial flow fan scrubbers require non-standard long shaft motors with a relatively short service life caused by stressful impeller loads.

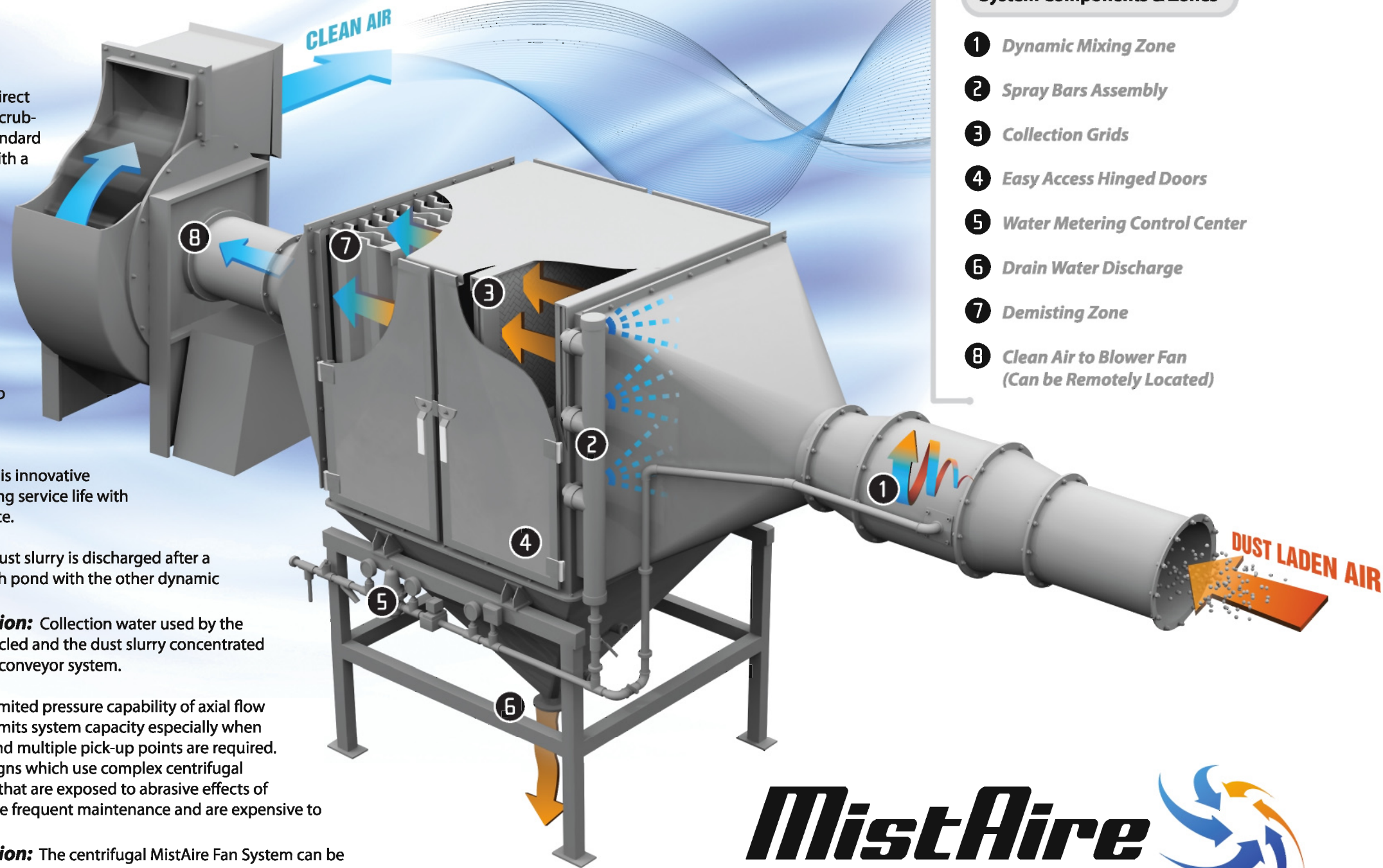
**The Hudco Solution:** Actuation of the dynamic mixing zone is induced by and proportionate to airflow rates to assure positive dust capture without component wear. This innovative concept provides long service life with minimal maintenance.

- **The Problem:** The dust slurry is discharged after a single pass to the ash pond with the other dynamic scrubbers.

**The Hudco Solution:** Collection water used by the MistAire can be recycled and the dust slurry concentrated and returned to the conveyor system.

- **The Problem:** The limited pressure capability of axial flow scrubbers likewise limits system capacity especially when extensive ducting and multiple pick-up points are required. Other scrubber designs which use complex centrifugal rotatory assemblies that are exposed to abrasive effects of dust-laden air require frequent maintenance and are expensive to replace.

**The Hudco Solution:** The centrifugal MistAire Fan System can be sized to accommodate any length of duct, number of pick-up points and elevation changes; furthermore, being positioned anywhere downstream of the cleaning action, the MistAire Fan operates free of the wear, clogging and balance problems caused by the dirty airstream. The service life of the MistAire Fan Assembly is not subject to service conditions.



### System Components & Zones

- 1 Dynamic Mixing Zone
- 2 Spray Bars Assembly
- 3 Collection Grids
- 4 Easy Access Hinged Doors
- 5 Water Metering Control Center
- 6 Drain Water Discharge
- 7 Demisting Zone
- 8 Clean Air to Blower Fan (Can be Remotely Located)



The MistAire® Hydrodynamic  
Dust Extraction System



The MistAire® Dust Extraction System is a cost-effective method to increase facility safety and improve the working environment.

The superior design of the MistAire® Hydrostatic Dust Extractor operates with constant airflow rates regardless of the dust loading concentrations. The constant self-cleaning operating principles are not subject to accumulations cycles. The result is a cost-effective, low-maintenance, high-efficiency system.

In contrast, airflow rates cycle as a design allowance of dry “bag-houses” and are, therefore, not constant. As dust collects on the filter and impedes the flow rate, static pressure increases. A cleaning effort is initiated in response to a set pressure differential measured across the filter elements. This is usually achieved by introducing a pulse of high pressure air against the prevailing airflow to “shock” accumulated dirt from the filter surface after which flow rate is restored. Maximum flow rate is usually achieved for a short time after the installation of new filters and is maintained only to the extent that dust accumulations can be efficiently cleaned between cycles.

## MistAire® Size Chart

Model	Size (CFM)	Typ. Fan (HP)*	Water Supply Rate (GPM)
● Model 60	1,000	10	2
	2,000	15	2-3
	4,000	20	2-4
	6,000	25	3-6
● Model 150	8,000	30	4-8
	11,000	40	6-11
	15,000	50	8-15
● Model 250	17,000	75	9-17
	21,000	100	12-19
	25,000	125	13-20
● Model 500	50,000	200	25-30

*\* Dependent on ductwork size and run*



**HUDCO Industrial Products, Inc.**  
 3100 Morgan Road  
 Bessemer, AL 35022  
**1-800-247-9908**  
[www.hudcoinc.com](http://www.hudcoinc.com)

Each MistAire installation is carefully designed to insure consistent velocities in the incoming airstream to insure no dangerous accumulation in the collection ducts. Air mover selections are based on actual system design requirements.

This reference guide is not intended as a substitute for the product manual for the products referenced herein. Product manuals for the above products contain important precautions, directions for use and product warranty and liability limitations that must be read before using the product. Always read and follow all manual directions and precautions.