

EQUIPMENT



QUIOTEC
WASTEWATER, CLEAN-GAS & ENVIRONMENTAL SOLUTIONS



DUST COLLECTION EQUIPMENT & FILTRATION SYSTEMS

1- BAGHOUSE DUST COLLECTOR (PULSE JET TYPE)

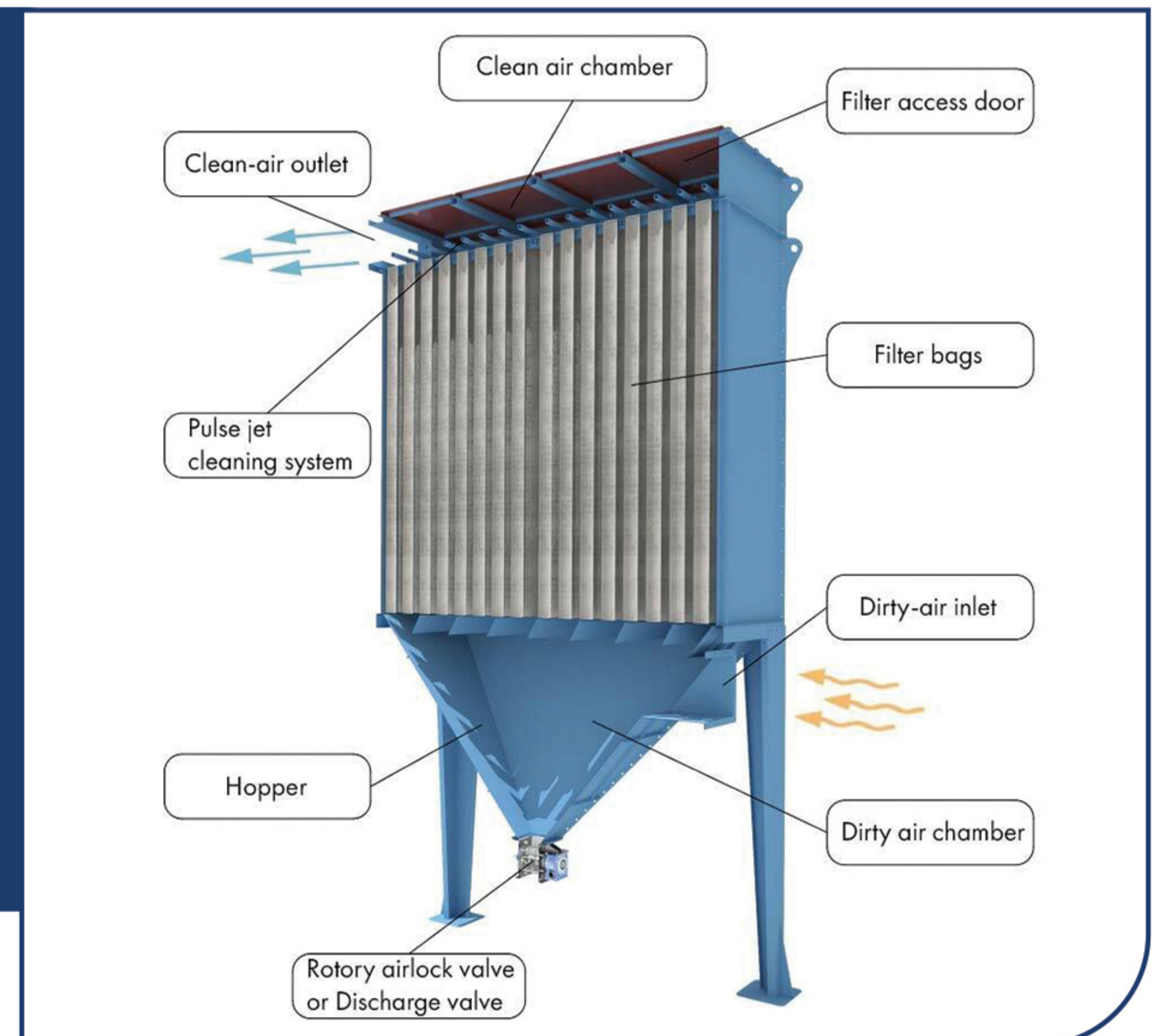
- **High-Efficiency Dust Removal:** Achieves very high filtration efficiency, capable of capturing fine particles larger than 0.3 microns and reducing outlet dust concentration to approximately 15 mg/m³ or lower.
- **Continuous Online Cleaning Performance:** Pulse jet cleaning system allows automatic removal of dust from filter bags without interrupting operation, ensuring stable airflow and consistent filtration efficiency.
- **Cost-Effective System Design:** Requires fewer auxiliary systems compared to electrostatic precipitators, resulting in lower capital investment and simplified operation.
- **Effective for Fine and Complex Dust:** Capable of capturing fine, dry particles as well as compounds such as nitrates and sulfides that are difficult to remove using conventional systems.
- **Adaptable to Variable Operating Conditions:** Maintains reliable performance under fluctuating load conditions, making it suitable for a wide range of industrial processes.
- **Safe and Reliable Operation:** Provides stable dust collection in environments containing explosive dust or spark-laden gases.
- **Easy Dust Handling and Recovery:** Collected dry dust is easy to discharge, transport, and recycle, supporting efficient material recovery.



Working Principle

The Baghouse Dust Collector (Pulse Jet Type) operates as a dry filtration system designed for the removal of fine, non-fibrous dust from industrial gas streams.

Dust-laden gas enters the lower section of the unit and flows into the filter chamber. Larger and heavier particles settle directly into the ash hopper under gravity, while finer particles remain suspended in the gas stream. As the gas passes through the fabric filter bags, dust particles are captured on the outer surface of the filter media, forming a dust layer that enhances filtration efficiency. Clean air passes through the bags and is discharged from the system. As dust accumulates, the resistance across the filter increases. When a preset pressure drop is reached, the pulse cleaning system is activated. Compressed air is released through electromagnetic pulse valves in a controlled sequence, causing the filter bags to rapidly expand and contract. This action dislodges the accumulated dust layer, which falls into the hopper and is discharged through the ash handling system. The cleaning process is carried out sequentially without interrupting airflow, ensuring continuous and stable operation.



Features

Standard Features

- Fabric filter bag system for high-efficiency dust filtration
- Pulse jet cleaning system with electromagnetic valve control
- Multi-chamber structure with integrated ash hopper
- Uniform airflow distribution for stable filtration performance
- Sequential cleaning system for continuous operation
- Sealed housing design to minimise air leakage
- Compact modular structure for easy installation and maintenance

Options & Accessories

- Various filter bag materials for different temperatures and dust types
- Explosion-proof configuration for hazardous environments
- PLC-based automatic control system
- Differential pressure monitoring system
- Rotary valve or screw conveyor for dust discharge

Specifications and Parameters

Model	Air volume (m ³ /h)	Equipment dimensions (mm)	Number of bags	Bag specifications	Pulse Configuration (pcs/1inch)	Fan power (kw)
AQT-16	1000	760×760×3800	16	Ø133×2000	4	2.2
AQT-24	2000	1060×750×4000	24	Ø133×2000	6	2.2
AQT-36	3000	1070×1070×4100	36	Ø133×2000	6	3
AQT-48	4000	1440×1070×4200	48	Ø133×2000	8	4
AQT-64	5000	1440×1440×4300	64	Ø133×2000	8	5.5
AQT-72	6000	1550×1440×4400	72	Ø133×2000	9	5.5
AQT-80	6000	1770×1440×4400	80	Ø133×2000	10	7.5
AQT-96	7000	2100×1440×4400	96	Ø133×2000	12	11
AQT-100	8000	1770×1770×4400	100	Ø133×2000	10	11
AQT-120	10000	2100×1770×4400	120	Ø133×2000	12	15
AQT-160	14000	2780×1770×4400	160	Ø133×2000	16	18.5
AQT-200	16000	3400×1770×4600	200	Ø133×2000	20	22

2- CARTRIDGE DUST COLLECTOR

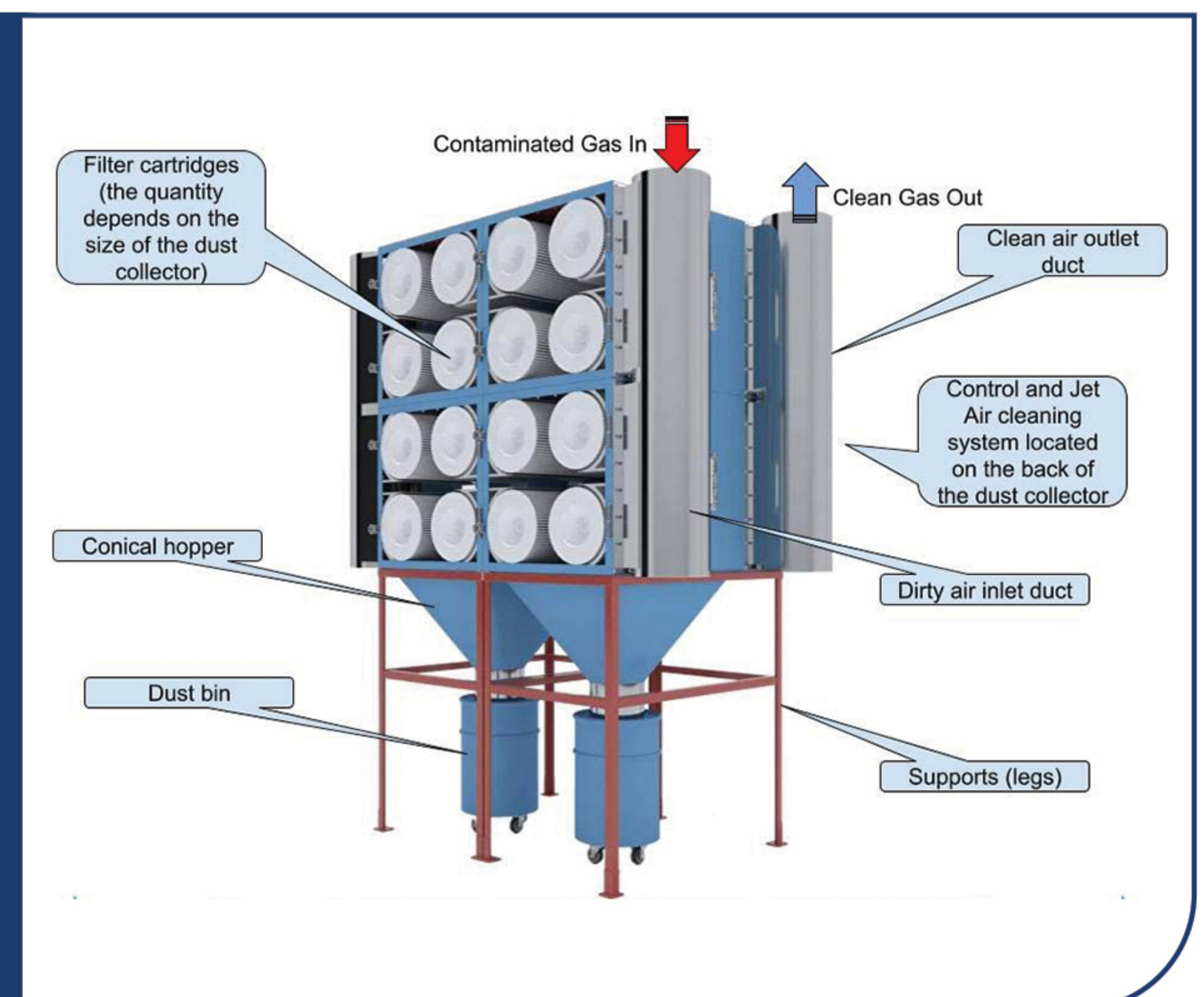
- **High-Efficiency Fine Dust Filtration:** Uses pleated filter cartridges to capture fine and sub-micron particles with filtration efficiency up to 99.9%, making it highly effective for light and fine dust applications.
- **Compact and Space-Saving Design:** Pleated cartridge structure provides a large filtration area within a compact footprint, reducing installation space compared to traditional baghouse systems.
- **Energy-Efficient Operation:** Optimised airflow and low pressure drop design reduce energy consumption while maintaining high filtration performance.
- **Easy Maintenance and Replacement:** Cartridge filters are simple to access and replace, reducing downtime and simplifying maintenance compared to fabric bag systems.
- **Versatile Dust Handling Capability:** Suitable for a wide range of dust types including fine, fibrous, and light industrial dust, with flexible filter media options. (RoboVent)



Working Principle

The Cartridge Dust Collector operates using a filtration and pulse cleaning process based on pleated filter cartridges.

Dust-laden gas enters the unit through the inlet and is evenly distributed around the filter cartridges using a flow guide, ensuring uniform airflow across the filtration area. As the gas passes through the cartridge filters, dust particles are captured on the surface of the filter media through mechanisms such as inertial collision, diffusion, and screening. Clean air passes through the cartridges into the clean air chamber and is discharged from the system. As dust accumulates on the cartridge surface, system resistance gradually increases. When the pressure drop reaches a preset level, the cleaning system is activated. Pulse jets or mechanical vibration remove the accumulated dust from the cartridge surface, restoring filtration efficiency. The dislodged dust falls into the hopper and is discharged through the dust removal system, such as a screw conveyor or rotary valve, ensuring continuous and stable operation.



Features

Standard Features

- Pleated filter cartridge system for high-efficiency surface filtration
- Compact structure with high filtration area per unit volume
- Pulse jet or vibration cleaning system for dust removal
- Flow distribution device for uniform air intake
- Integrated dust hopper and discharge mechanism
- Continuous operation with automatic cleaning

Options & Accessories


- Different cartridge filter media (polyester, PTFE, nano-fibre)
- Explosion-proof configuration for hazardous environments
- PLC control system with pressure monitoring
- Rotary valve or screw conveyor for dust discharge
- Customised configurations for specific applications

Specifications and Parameters

Model	Airflow capacity (m³/h)	Filter area (m²)	External dimensions (mm)	Power (kW)	Weight (kg)	Efficiency
AQT-15/18	1500	18	800×750×2200	1.1	230	99.90%
AQT-25/22	2500	22	820×920×2500	3	380	99.90%
AQT-35/30	3500	30	850×920×2600	4	380	99.90%
AQT-45/40	4500	40	890×940×2700	5.5	380	99.90%
AQT-60/48	6000	48	990×960×2800	7.5	380	99.90%
AQT-75/60	7500	60	1200×1200×3000	11	380	99.90%

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