# RotoClone<sup>™</sup> W

Wet Dust Collector

Leading the Way in Wet Dust Collection Technology









ENVIRONMENTAL SOLUTIONS





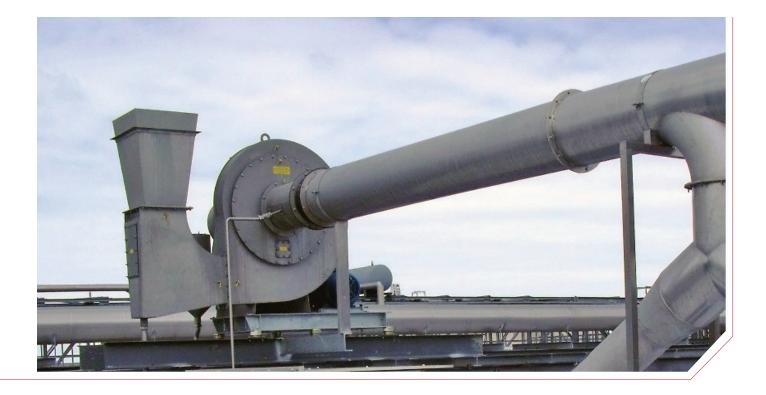
# The Evolution of Environmental Solutions

For more than 90 years, AAF International has been providing filtration solutions for industrial processes around the world.

Throughout our rich history, AAF International has pioneered many of the techniques used today to control airborne dust, fume and vapor in virtually every production process. Our constant passion for innovative solutions has led us to offer the most reliable, efficient and durable products available on the market today.

AAF International, a member of DAIKIN Group, also believes in valuing our people, communities and environment. Our ISO 9001 certified facilities utilize lean and green manufacturing to deliver products with short lead times and minimal environmental impact. Our people centered management philosophy enables us to deliver the best customer service and also give back to the communities in which we serve and live.





# The RotoClone<sup>™</sup> Advantage

The RotoClone<sup>™</sup> W is the most cost-effective, high-efficiency wet dust collector in its class. It combines a dust collector with a centrifugal fan, saving space and making it suitable for a wide variety of different applications. The distinguishing feature of the RotoClone<sup>™</sup> W is the addition of a fine water film on the impeller blades to capture even the smallest of dust particles.

## **Benefits**

- Low installation cost
- Provides continuous operation
- Constant exhaust volume
- Small space requirements
- Versatility
- No secondary dust problem
- Serves as fire barrier in restaurant range hood applications
- Factory Mutual & ULC approved

## Features

- Food quality features
- Expansion chamber
- Bearing pedestal
- Motor mount
- Inlet housing
- Centrifugal outlet





# Applications

The RotoClone<sup>™</sup>W is a cost-effective dust and grease collection solution that requires no compressed air or replacement cartridges or fabric bags. It is capable of handling hot, moist gas streams and sticky or explosive dusts, while ensuring performance is maintained without interruption or downtime as typically demanded in many of the following industrial processes.

# Industries

- Food, beverage and tobacco
- Minerals and ceramics
- Coal
- Chemical and plastics
- Pharmaceutical
- Fertilizer
- Pulp and paper
- Fiberglass

## Food Processing

- Cereal
- Flour
- Rice
- Salt
- Soya Bean
- Cocoa
- Confectionery
- Sugar
- Snack food
- Commercial catering
- Beverage concentrate

## Processes

- Dryers
- Cookers
- Crushing
- Grinding
- Spraying
- Coating
- Glazing
- Ventilation
- Transfer stations
- Mixing
- Dumping
- Packaging



# RotoClone<sup>™</sup> W

# Leading the Way in Wet Dust Collection Technology

The RotoClone<sup>™</sup>W can be used in many different industries that require a high degree of cleaning.

## **Food Quality Features**

In addition to stainless steel construction, the food quality design RotoClone<sup>™</sup> W includes handy access doors for easier cleaning and inspection, spray nozzles for improved flushing during operation, and elimination of surface areas where material can accumulate.

## 90 Degree Outlet

The food quality 90 degree outlet has the standard drain, plus three additional access openings, two quick opening doors and one bolted plate for complete accessibility to all internal surfaces. Also included are two spray nozzles positioned to flush surfaces that may be subject to material build-up.

## **Expansion Chamber**

The food quality expansion chamber on the RotoClone<sup>™</sup> W has a flanged inlet and outlet that can be easily removed for cleaning. A quick release access door and a spray nozzle positioned for additional flushing are also provided.

## **Bearing Pedestal**

To eliminate flat surfaces that attract material build-up, the food quality design is easy to clean and uses round pipe for reinforcement, rather than standard reinforced bearing plate with angle iron stiffeners.

## **Motor Mount**

The food quality design motor mount is specially constructed to allow for complete drainage after wash down.

## **Housing Wrapper**

The food quality design housing wrapper is fitted to the ends of the front and rear panels on the RotoClone<sup>™</sup> W and solid welded. This eliminates the corners that are normally formed by recessing the housing wrapper between the front and rear panels.

# **Housing Wrapper Panel**

The wrapper panel on the food quality design RotoClone<sup>™</sup> W has a smooth welded panel at the discharge to seal the pocket rather than the standard flat area.

## **Inlet Housing**

The inlet housing on the food quality design has a quick release tension clamp rather than the standard latch. This provides a positive seal and easy access.



The motor mount is designed to drain completely.



Access door on expansion chamber allows for thorough inspection and cleaning.



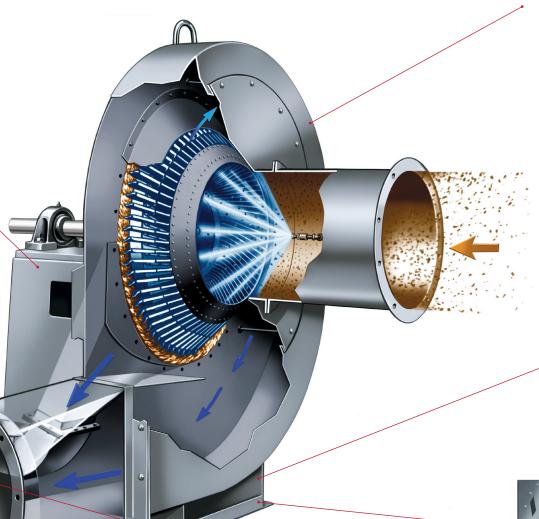
The 90 degree outlet elbow has two access doors.



Spray nozzles in the 90 degree outlet enhance cleaning.

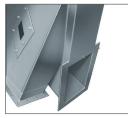


There are no corners on the housing wrapper.





The bearing pedestal is designed for easy wash down with round pipe for reinforcement.

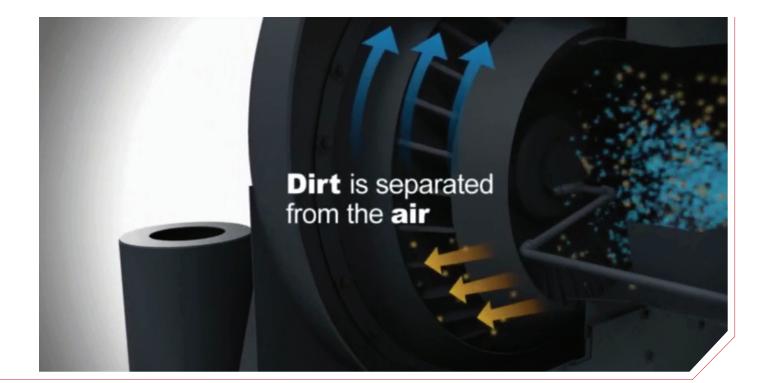


At the housing panel discharge, a welded panel is added to seal the pocket.

Food Quality unit and options shown.



A spray nozzle speeds cleaning of the expansion chamber.



# Constant Exhaust Air

The RotoClone<sup>™</sup> W is recommended for the collection of light loadings of granular dusts and mist. Dynamic forces developed by the rotating impeller cause even the finest particles to impinge on, and be trapped by, the flowing water film which covers all blade surfaces.

The impeller imparts energy to the clean air, which being lighter than the water and dust, continues on to the clean air outlet. The water and dust, being heavier than air, are directed into the water cone and the slurry formed drains from the unit from the bottom of the RotoClone<sup>™</sup> W expansion chamber.

Air velocity in ducts is maintained by constant exhaust air volume. Unlike barrier filters such as pulse-jet filters, which have to form a dust layer or cake to build resistance, the RotoClone<sup>™</sup> W requires no dust build up so efficiency is immediate. No waiting for dust cake build up. This means that building of residue and bypass of the dust is prevented. This is particularly important when the RotoClone<sup>™</sup> W functions as a fire barrier.

Please see your AAF representative for an operational animation.





# Specialist Applications

The RotoClone<sup>™</sup> W is suitable for many of the most difficult applications where more traditional dry filtration products are unable to deliver a cost-effective solution. Extracting and filtering of explosive dusts, oil, grease and stream are no problem for the RotoClone<sup>™</sup> W. Compliant with international regulations such as NFPA and ATEX, the RotoClone<sup>™</sup> W offers customers regulatory compliance at minimum capital investment, eliminating the need for costly items such as fire or explosion detection and suppression technology. Even operations with sparks, steam, oil or high grease content can be handled by the RotoClone<sup>™</sup> W, making it one of the most versatile products on the market today.

# Proven specialist applications where the RotoClone<sup>™</sup> W has been successfully employed include:

- Coal handling
- Light metal grinding and buffing
- Snack food production
- Industrial frying
- Paper trim
- Organic dusts requiring explosion protection
- Constant volume extraction





# Available Options and Accessories

## **Options**

- Corrosion protection package
- Alternate controls
- FM controls
- Food quality construction
- Stainless steel construction (304 and 316)
- Centrifugal outlet
- 90 degree outlet
- Straight outlet
- Motor mounting arrangements
- Explosion proof solenoids
- High temperature construction
- Vibration isolators
- Pedestal and baseframe mounted drive
- ATEX/NFPA certified for explosive applications
- AutoFlush facility on shut down

# Accessories

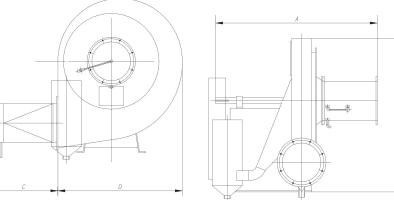
- AAF control center
- Custom paint systems
- HEPA/ASHRAE filters and housings



# **Dimensions and Specifications**

The RotoClone<sup>™</sup> W is available in 12 different sizes to suit a wide range of applications in various industries.

**Dimensions** 



NOTE Motor size and weights vary by manufacturer

## RotoClone<sup>™</sup> W

Size	Dimensions				Weight (lbs)/(Kg)		Impeller	Water Supply Rates		
	A (ft)/(mm)	B (ft)/(mm)	C (ft)/(mm)	D (ft)/(mm)	Shipping Weight	Operating Weight	Maximum Speed (RPM)	40 psi/ 2.75 barg (GPM/LPH)	50 psi/ 3.45 barg (GPM/LPH)	60 psi/ 4.14 barg (GPM/LPH)
8	3' 7-1/8" /1,099	2' 8-15/16" /837	14"/356	2' 1-7/8" /657	225/102	425/192	4,100	1.1/250	1.2/273	1.3/295
10	4' 3-9/16'' /1,314	3' 3-15/16" /1,014	17-1/2" /444	2' 7-7/8" /810	360/163	610/277	3,300	1.5/340	1.6/364	1.8/409
12	4' 3-15/16" /1,475	4'-1/4" /1,225	21"/533	3' 2-1/2" /978	630/285	880/399	2,800	1.8/409	2/454	2.2/500
14	5' 2-11/16" /1,599	4' 6-3/4" /1,390	24-1/4" /622	3' 8-1/2" /1,130	990/450	1,340/608	2,400	2.3/523	2.5/568	2.9/659
16	5' 6-5/16" /1,689	5' 3-1/8" /1,603	2'-4"/711	4' 3-1/4" /1,302	1,260/572	1,710/776	2,100	3.5/795	3.9/886	4.3/977
20	6' 8-7/16" /2,062	6' 5-9/16" /1,970	2'-11"/889	5' 3-1/8" /1,603	1,620/735	2,270/1,030	1,700	4.5/1,022	5/1,136	5.5/1,250
24	7' 10-3/16" /2,411	7' 10-1/16" /2,389	3'-6"/1,067	6' 3-3/8" /1,914	1,890/858	2,590/1,175	1,400	5.5-6.0/ 1,363	6.2-6.7/ 1,522	6.8-7.3/ 1,659
27	8' 8-1/4" /2,648	8' 8-1/14" /2,648	3'-11" /1,194	7'-1/2" /2,146	2,970/1,348	3,720/1,688	1,250	7.0-7.5/ 1,704	7.9-8.4/ 1,908	8.7-9.2/ 2,090
30	9' 3-3/16" /2,824	9' 5-3/4'' /2,889	4' 4-1/2" /1,334	7'-9"/2,362	3,870/1,756	5,020/2,278	1,100	8/1,818	8.9/2,022	9.8/2,227
33	10' 3-3/16" /3,085	10' 5-13/16" /3,196	4'-10" /1,613	8' 7-5/8" /2,832	4,860/2,205	6,360/2,886	1,000	12/2,727	13.4/3,045	14.7/3,340
36	10' 11-1/8'' /3,330	11'-1/4" /3,435	5' 3-1/2" /1,613	9' 3-1/2" /2,832	5,850/2,654	7,350/3,334	925	14.0-15.0/ 3,181	14.7-15.7/ 3,567	16.7-17.1/ 3,885
45	12' 1-9/16" /3,697	13' 9-3/16" /4,196	6'-7"/2,007	11' 4 -7/8" /3,477	13,500/6,125	16,000/7,620	730	21.0-22.0/ 5,000	23.6-24.6/ 5,589	25.9-26.9/ 6,112

NOTES

1. Decreased or increased water requirements can be provided by changing nozzle size.

For air temperatures in excess of 300°F/149°C, cooling spray nozzles should be provided in inlet duct to compensate for evaporation.
A safe approximation will be .2 GPM/45 LPH of additional water per 1,000 CFM/1,700 m<sup>3</sup>/hr for each 100°F/38°C temperature reduction.

4. Shipping weight does not include motor and drive, operating weight includes motor and drive.

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