

A●erity Main Tandem

Oil mist filter



- World-class air filtration for industrial processes
- Long service intervals through EcoDrive® and Catch&Release®
- Connected for optimized performance and planned maintenance
- Upgradeable for changing process needs
- 8760 hours of maintenance-free operation

New powerful filter unit from Absolent

A●erity Main Tandem is a new, powerful filter unit for industrial operations that guarantees clean air for at least 8.760 operating hours. Thanks to our advanced filter technology, unplanned downtime is minimised, so you can focus on your business. A●erity is based on tried and tested technology, developed with extensive expertise and ready for seamless integration into your production. The A●erity Main Tandem controls all connected filter units and has a double filter set-up.

Function

A•erity Main Tandem is a multi-stage filter unit that filters and cleans polluted air from industrial processes. The contaminated air is sucked in through the inlet at the bottom and flows vertically through the filter cassettes. This captures most of the particles. Once the filter cassette is saturated, the liquid drains through the Absolent Catch & Release® system into the collection tank. A HEPA H13 filter cassette catches the remaining particles. Due to this, the cleaned air can be led back into the production hall.

Applications



Machining

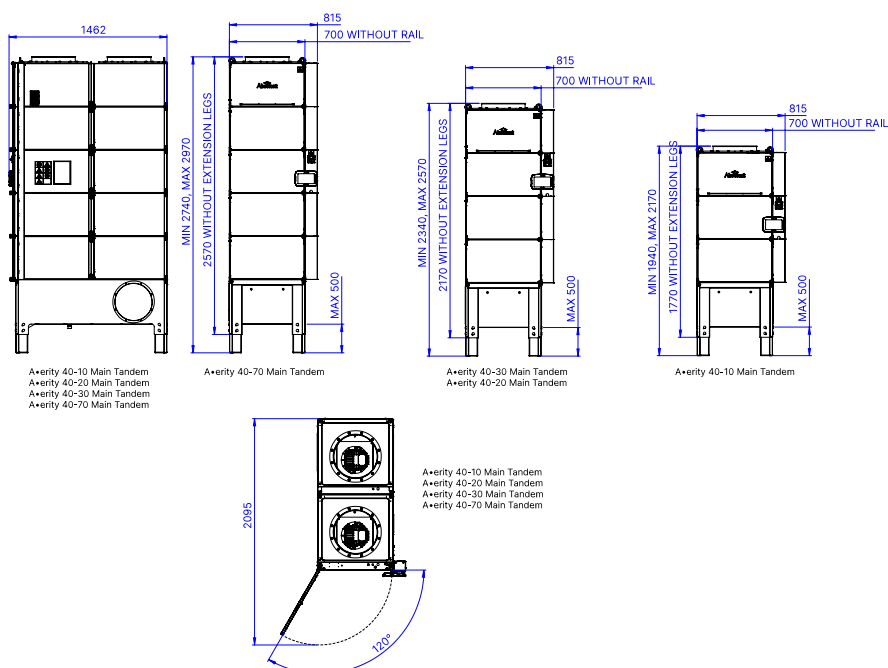


Grinding



MQL

Dimensions



Technical specifications

	Aerity 40-10 Main Tandem	Aerity 40-20 Main Tandem	Aerity 40-30 Main Tandem	Aerity 40-70 Main Tandem
General				
Application	Machining, grinding	Machining, grinding	Machining, grinding, MQL	Machining, grinding, MQL
Nominal airflow	4000 m ³ /h (2360 cfm)	4000 m ³ /h (2360 cfm)	4000 m ³ /h (2360 cfm)	4000 m ³ /h (2360 cfm)
Particle load	10 mg/m ³	20 mg/m ³	30 mg/m ³	70 mg/m ³
External pressure drop (Standard fan)	1150 Pa (4.62 iwg)	950 Pa (3.81 iwg)	950 Pa (3.81 iwg)	600 Pa (2.41 iwg)
External pressure drop (HP fan)	1650 Pa (6.62 iwg)	1450 Pa (5.82 iwg)	1450 Pa (5.82 iwg)	1100 Pa (4.42 iwg)
Energy class	IE5	IE5	IE5	IE5
Colour	RAL 7035 SK-3	RAL 7035 SK-3	RAL 7035 SK-3	RAL 7035 SK-3
Connections				
Inlet type	S&W flanged pipe joint	S&W flanged pipe joint	S&W flanged pipe joint	S&W flanged pipe joint
Inlet diameter	315 mm (12.40 in)	315 mm (12.40 in)	315 mm (12.40 in)	315 mm (12.40 in)
Inlet placement				
Outlet type	Essential: Free flow. Professional, Advanced: S&W flanged pipe joint	Essential: Free flow. Professional, Advanced: S&W flanged pipe joint	Essential: Free flow. Professional, Advanced: S&W flanged pipe joint	Essential: Free flow. Professional, Advanced: S&W flanged pipe joint
Outlet diameter	400 mm (15.75 in)	400 mm (15.75 in)	400 mm (15.75 in)	400 mm (15.75 in)
Outlet placement	Top	Essential: Free flow. Professional, Advanced: S&W flanged pipe joint	Essential: Free flow. Professional, Advanced: S&W flanged pipe joint	Essential: Free flow. Professional, Advanced: S&W flanged pipe joint
Drainage connection type	Threaded male (DN25)	Threaded male (DN25)	Threaded male (DN25)	Threaded male (DN25)
Drainage connection dimension	1 "	1 "	1 "	1 "
Number of drainage connections	1 pcs	1 pcs	1 pcs	1 pcs
Drainage connection placement	Back right	Back right	Back right	Back right
Connections				
Number of filter stages per filter unit	2 pcs	3 pcs	3 pcs	4 pcs
Number of filter cassettes per filter unit	4 pcs	6 pcs	6 pcs	8 pcs
Filterkassett Stage 4	-	-	92120600 (HEPA H13)	92120600 (HEPA H13)
Filter cassette Stage 3	-	92120600 (HEPA H13)	92120600 (HEPA H13)	92110626
Filter cassette Stage 2	92120600 (HEPA H13)	92110603	92110604	92110625
Filter cassette Stage 1	92110603	92110600	92110639	92110639
Prefilter	Yes, as option	Yes, as option	Yes, as option	Yes, as option
Fan				
Fan motor type	EC	EC	EC	EC
Number of fans	2 pcs	2 pcs	2 pcs	2 pcs
Voltage	3x380-480 + N & PE V	3x380-480 + N & PE V	3x380-480 + N & PE V	3x380-480 + N & PE V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Fan motor power	4,4 kW (7.0 hp)	4,4 kW (7.0 hp)	4,4 kW (7.0 hp)	4,4 kW (7.0 hp)
Rated current	7,6 A	7,6 A	7,6 A	7,6 A
Maximum cable cross-section	6 mm ²	6 mm ²	6 mm ²	6 mm ²
Rotational speed fan motor maximum	3000 rpm	3000 rpm	3000 rpm	3000 rpm
Physical properties				
Width without accessories/options	700 mm (27.56 in)	700 mm (27.56 in)	700 mm (27.56 in)	700 mm (27.56 in)
Width with accessories/options	815 mm (32.09 in)	815 mm (32.09 in)	815 mm (32.09 in)	815 mm (32.09 in)
Height with extension legs	1770 mm (101.18 in)	2170 mm (85.43 in)	2170 mm (85.43 in)	2570 mm (101.18 in)
Height with extension legs	1940-2170 mm (76.38-85.43 in)	2370-2570 mm (93.31-101.18 in)	2370-2570 mm (93.31-101.18 in)	2740-2970 mm (107.87-116.93 in)
Depth	1462 mm (57.56 in)	1462 mm (57.56 in)	1462 mm (57.56 in)	1462 mm (57.56 in)
Weight with empty filter cassettes	400 kg (882 lbs)	500 kg (1102 lbs)	500 kg (1102 lbs)	600 kg (1323 lbs)
Weight with full filter cassettes	430 kg (948 lbs)	560 kg (1235 lbs)	560 kg (1235 lbs)	690 kg (1521 lbs)
Weight without filter cassettes	378 kg (833 lbs)	400 kg (882 lbs)	400 kg (882 lbs)	462 kg (1019 lbs)
Sound level				
Sound level Advanced 75% (normal operation)*	67 db(A)	67 db(A)	67 db(A)	67 db(A)
Sound level Professional 75% (normal operation)*	67 db(A)	67 db(A)	67 db(A)	67 db(A)
Sound level Essential 75% (normal operation)*	74 db(A)	74 db(A)	74 db(A)	74 db(A)
Sound level Advanced 100%	73 db(A)	73 db(A)	73 db(A)	73 db(A)
Sound level Professional 100%	73 db(A)	73 db(A)	73 db(A)	73 db(A)
Sound level Essential 100%	83 db(A)	83 db(A)	83 db(A)	83 db(A)

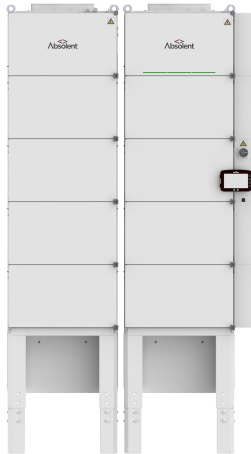
* The sound level is measured 1 m from the filter unit free field, hemispherical propagation. For sound calculation on specific room; contact Absolent or reseller/distributor.

Description of the concept

The A•erity concept consists of units made up of several modules stacked on top of each other. A standard set consists of a bottom module, two to four filter modules and a fan module. The filter cassettes are placed in the filter modules and the set is customised to the nature of the application. Each filter unit creates an airflow and, if necessary, several filter units are connected together to create a system.

Main- and Sub units

There are two types of filter units in the A•erity concept: Main and Sub units. The main unit controls all fans in the system.



Sub & Main

Single and Tandem

A•erity Single consists of one unit and A•erity Tandem consists of two units with a common bottom module. The same airflow can be achieved with a Tandem as with two interconnected Single units. Single and Tandem can be both Main and Sub units.



Tandem & Single

Combinations

A●erity Single and Tandem can be combined in many different ways. The examples show three different A●erity systems to achieve a nominal airflow of 8 000 m³/h by combining Main and Sub units in Single and Tandem design.



Fan with EC motor

The A●erity series filter units are equipped with EC (Electronically Commutated Motor) driven fans. The EC motor is IE5 classified and offers high energy efficiency, precise speed control and reduced noise compared to traditional AC (Alternating Current) motors.

A●erity is delivered with a standard fan. In applications where an increased external pressure drop is required, the fans are also available in a HP (High Pressure) version as an option.

Filter cassette set

Industrial processes generate particles of various sizes and concentrations. Absolent's filter cassettes are available in several different designs, specially developed to cope with the variance of particles. Depending on the application, several types of filter cassettes with unique properties are combined in different numbers of stages to effectively filter the resulting contaminants. Tougher contaminants require more number of filter stages.



A●erity 40-10 Main Tandem

Particle load: 10 mg/m³

Nominal airflow: 4000 m³/h (2360 cfm)

Number of filter stages per filter unit: 2 pcs

Number of filter cassettes per filter unit: 4 pcs



A●erity 40-20 Main Tandem

Particle load: 20 mg/m³

Nominal airflow: 4000 m³/h (2360 cfm)

Number of filter stages per filter unit: 3 pcs

Number of filter cassettes per filter unit: 6 pcs



A●erity 40-30 Main Tandem

Particle load: 30 mg/m³

Nominal airflow: 4000 m³/h (2360 cfm)

Number of filter stages per filter unit: 3 pcs

Number of filter cassettes per filter unit: 6 pcs



A●erity 40-70 Main Tandem

Particle load: 70 mg/m³

Nominal airflow: 4000 m³/h (2360 cfm)

Number of filter stages per filter unit: 4 pcs

Number of filter cassettes per filter unit: 8 pcs

Equipment levels

A comparison for the different equipment levels Essential, Professional and Advanced. The different versions offer different degrees of configurability.



Comparison Equipment levels

A comparison for the different equipment levels Essential, Professional and Advanced. The different versions offer different degrees of configurability.

	Essential	Professional	Advanced
Design			
Visual alarm indicator	On UI	On UI	On UI
Integrated cable/hose rail		●	●
Ease of exterior cleaning		●	●
Hose protection		●	●
Door opening	Left	Left	Left
Control unit			
On/off handling fan	●	●	●
Visual filter alarms	●	●	●
Running indicator	●	●	●
Local/remote handling	●	●	●
Visual pressure drop		●	
Visual thresholds		●	●
Visual alarm details		●	●
Visual target pressure		●	●
Visual current pressure		●	●
Total running hours		●	●
Calibration pressure		●	●
Adjustment of target 1		●	●
Adjustment of target 2/3		●	●
Configuration running parameter P, I, min, max			●
Configuration digital in			●
Configuration relay out			●
Thresholds adjustments			●
Individual filter hours			●
Configure number of filter stages			●
Factory reset			●
Parameter backup			●
Features			
Dashboard	No	Prepared	Yes
Modbus TCP/IP	●	●	●
0-10V output	●	●	●
Visual pressure drop, once every hour			●
Visual thresholds			●
Thresholds adjustments			●
Visual filter alarms			●
Visual alarm details			●
Running indicator			●
Visual target pressure			●
Adjustment of target 1			●
Adjustment of target 2/3			●
Visual current pressure, once every hour			●
Configuration running parameter P, I, min, max			●
Configuration digital in			●
Configuration relay out			●
Total running hours			●
Individual filter hours			●
Calibration pressure			●
Configure number of filter stages			●