

**User's Manual in original  
Oil Mist Filter**

**A•mist<sup>6C</sup>, A•mist<sup>10</sup>, A•mist<sup>20</sup>, A•mist<sup>60</sup>,  
A•mist<sup>40T</sup>, A•mist<sup>40TF</sup>, A•mist<sup>80T</sup>, A•mist<sup>80TF</sup>**

**A•mist A•mist<sup>T</sup>**

# 1 BASIC INFORMATION

## 1.1 Introduction

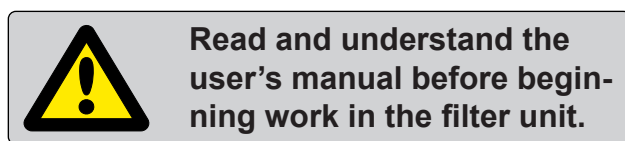
This manual contains all necessary information about safety, installation, commissioning and maintenance.

This product is produced and designed in accordance with applicable EC directives. To preserve this status, this unit must be installed, repaired and maintained by skilled personnel and genuine spare parts must be used. For advice when technical service or spare parts are needed, contact Absolent or your nearest authorized dealer. You will find details on who to contact under the heading: "Technical Support".

## 1.2 Range of Application

The A•mist filter unit is designed for cleaning air containing oil mist\* only. Use of the filter unit for other applications is not permissible, unless the manufacturer guarantees its proper function. If the A•mist filter unit is used in applications where there are traces of graphite, lead or chrome, you might need to clean or change filter cassettes more often.

\* From cutting fluids like emulsion, synthetical oil or/and mineral oil.



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## 2 APPROVED TO CE-DIRECTIVES, UL AND CSA STANDARDS






The A•mist product line is approved to European directives and standards. You can find the EC declaration of conformity in chapter 18. All electric components are UL-approved. The electrical motor is also CSA-approved.

## 3 LIST - WARNING SIGNS

	<p><b>Warning - Read the user's manual</b> Read and understand the user's manual before beginning any work in the filter unit. This sign is located on the right-hand side of the filter unit.</p>
	<p><b>Warning - Dangerous voltage</b> All electrical work must be carried out by qualified electricians. This sign is located next to the control cabinet.</p>
	<p><b>Warning - Tip risk</b> The filter unit has a high centre of gravity and with that a risk of tipping. In order to avoid personal injury, read the lifting instructions under the heading: "Transporting the Unit at site/Mounting/Installation". This sign is located on the packaging and on the right-hand side of the filter unit.</p>
	<p><b>Danger – Heavy products</b> The filter cassettes are heavy. Check the weight of the relevant filter cassette before handling. Particulars of their weight is located on the rating plate of the filter cassette and under the heading: "Handling the Filter Cassettes".</p>
	<p><b>Warning – Rotating parts</b> Consider that the filter unit/and pump can be started up by a timer, remote control or by a metal working machine connected to it. This sign is located on the right-hand side of the filter unit.</p>
	<p><b>Warning - Risk of injury</b> Caution the filter unit can contain fluids dangerous to health. Refer to the product sheet for the fluids in question before handling. This sign is located on the right-hand side of the filter unit.</p>

## 4 SAFETY PRECAUTIONS

Type of warning	Warning text
 Danger	<p><b>Warning - Hazardous voltage!</b> The filter unit works with a high electrical voltage. The electrical installation must be performed by qualified electricians. Disconnect the power supply to the filter unit before it is opened and/or before starting work on the filter unit.</p> <p><b>Warning - Do not connect the filter unit to explosive gases!</b> Do not connect the filter unit to processing machines that can bring about an explosion risk. Furthermore, the filter unit must not be connected to media that are highly inflammable without preventative measures being taken to stop the spread of the explosion or fire to the filter unit.</p>
 Skilled personnel	<p><b>Caution - Read and understand the user's manual!</b> Read and understand the user guide before working on the filter unit.</p> <p><b>Caution - Qualified personnel only!</b> All work concerning transport, installation and maintenance must be performed by qualified personnel.</p>
 Risk of personal injury	<p><b>Risk of trapping injury!</b> Do not insert your hand into the filter unit when the fan is running. Do not wear loosely hanging clothing near the fan when operational. These can be sucked into the fan or get caught.</p> <p><b>Risk of tipping over!</b> Always check the weight of the filter unit (technical data, heading 7) before lifting. When equipped with an integrated fan unit the centre of gravity of the filter unit is relatively high. When transporting the filter unit, secure well - an alternative can be to transport the filter unit horizontally.</p> <p><b>Heavy products!</b> Filter cassettes are heavy. Check the current weight of the filter cassette before handling. Weight details can be found on the filter cassette's rating plate and under heading 11 "Handling the filter cassettes". Lifting equipment or the like must be used during service and inspection work above the ground.</p> <p><b>Risk of slipping!</b> Keep the floor clean. Remove oil spill to prevent injury due to slipping.</p> <p><b>High noise levels!</b> If the sound level at the control panel/workplace exceeds 75 dB(A) ear protection must be worn.</p> <p><b>Dangerous fluids!</b> Use requisite personal safety equipment with all types of service work, as the filter unit can contain liquids dangerous to health. Refer to the product sheet for the liquids in question before handling.</p> <p><b>Caution when recirculating air back into the building!</b> Note that in its standard design the filter unit does not separate gas molecules.</p>

## 5 TRANSPORT AT SITE / MOUNTING / INSTALLATION

### 5.1 General

When unpackaging the filter unit please check that it has not been damaged during transport. If a claim is necessary, contact the shipper.

### 5.2 Transporting A•mist<sup>6C</sup>, A•mist<sup>10</sup>, A•mist<sup>20</sup>



The filter unit is delivered on a wooden pallet and is wrapped in plastic foil. A•mist<sup>10</sup> and A•mist<sup>20</sup> have a high centre of gravity, so there is risk for tipping over. Secure the filter unit properly or transport A•mist<sup>10</sup> and A•mist<sup>20</sup> lying down. To prevent damage, allow the packaging to remain on the sections until it is time to install them.

Because the construction of the filter units differ, there are different lifting instructions:

A•mist<sup>6C</sup>: Lift on truck forks or use lifting straps with spacers around the unit.

A•mist<sup>10</sup> and A•mist<sup>20</sup>: Screw lifting eyes (accessory) into the holes at the top of the filter unit. See fig. 3.

For lifting, use one of the following methods:

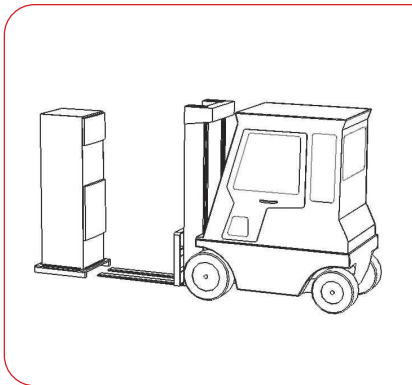


Fig. 1: Lifting the filter unit on a wooden pallet with a forklift truck.

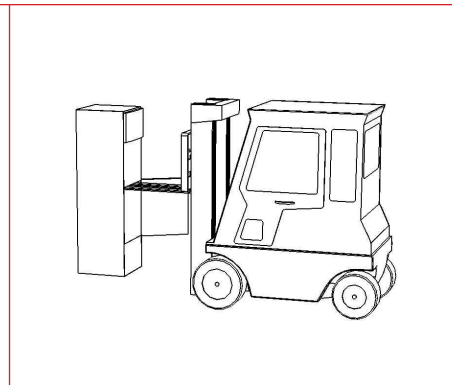


Fig. 2: Lifting a vertical filter unit without pallet. Take filter stage 2 out and lift with the forks under the crossbeam.

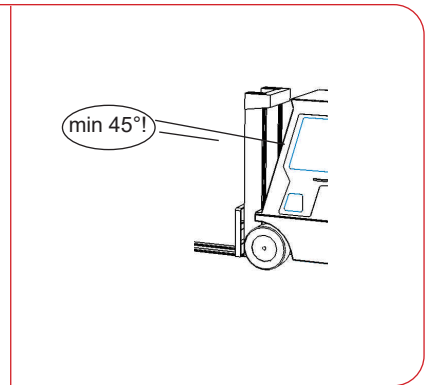


Fig. 3: Lifting a vertical filter unit by using the lifting eyes.

### 5.3 Transporting A•mist<sup>60</sup>



The filter unit is delivered in parts on a wooden pallet and wrapped in plastic foil. The upper part is placed on top of the bottom part, the filter towers stand one by one. To prevent damage, allow the packaging to remain on the sections until it is time to install them. Secure the filter unit thoroughly when moving it, or move it lying down. For lifting, use one of the following methods:

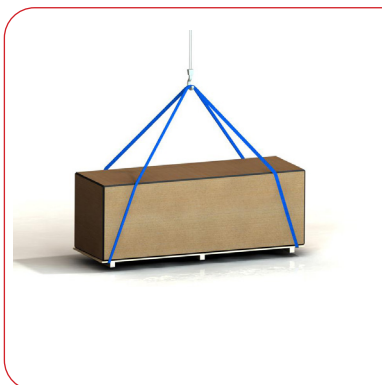


Fig. 4: Lifting the filter part and the wooden pallet with a crane.



Fig. 5: Lifting the filter part and the wooden pallet with a forklift.

## 5 TRANSPORT AT SITE / MOUNTING / INSTALLATION (cont.)

### 5.4 Transporting A•mist<sup>40T</sup>, A•mist<sup>40TF</sup>, A•mist<sup>80T</sup>, A•mist<sup>80TF</sup>

The filter unit is delivered on a wooden pallet and is wrapped in plastic foil. The A•mist<sup>40T</sup>, A•mist<sup>40TF</sup> and A•mist<sup>80T</sup> filter units are delivered fully assembled, the A•mist<sup>80TF</sup> is split between the filter section and the fan section and has to be assembled at the site. To prevent damage, allow the packaging to remain on the sections until it is time to install them. The filter units have a high centre of gravity. It is therefore important to secure the filter unit properly to the transporter before transporting them. If they need to be lifted, do so according to any of the following methods:



Fig.1 Use an overhead crane to lift the filter unit standing on a wooden pallet.



Fig. 2 Use a fork-lift to lift the filter unit standing on a wooden pallet.



Fig. 3 Use a fork-lift or an overhead crane to lift a filter unit that is standing.

### 5.5 Floor Mounting

The floor on which the filter unit is placed must be flat and firm. The floor or base must be designed so that it will support the weight of the filter unit. While mounting the filter unit and ductwork, tubes and electric cables, allow sufficient open space in front of the service doors so that they can be opened freely (see pictures below) and that the interior components such as the filter cassettes can be withdrawn and removed as needed.

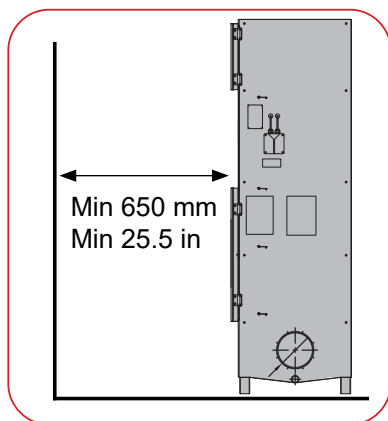


Fig. 4: A•mist<sup>6C</sup>, A•mist<sup>10</sup>, A•mist<sup>20</sup>, A•mist<sup>60</sup>

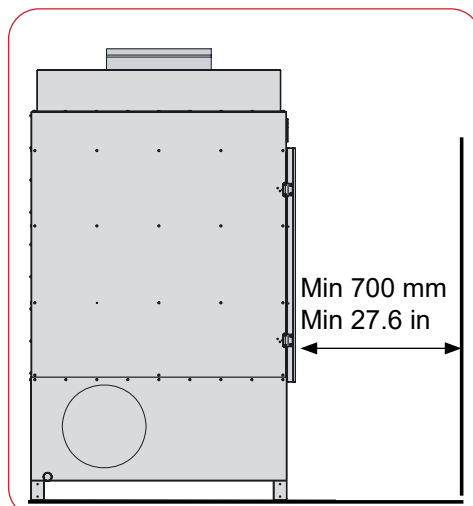


Fig. 5: A•mist<sup>40T</sup>, A•mist<sup>40TF</sup>, A•mist<sup>80T</sup>, A•mist<sup>80TF</sup>

## 5 TRANSPORT AT SITE / MOUNTING / INSTALLATION cont.

### 5.6 Installation

1. Place the filter unit at its point of destination and bold it to the floor.
2. Open the service door and check that the filter cassettes are secured. The filter cassettes are properly secured when the retainer arms point upwards. If a filter cassette has become loose during the transport, secure it and close the service door. (How to secure: see 12.3).
3. Connect the drainage. Connect a liquid trap to the drainage (see fig 1). It is important that air is not sucked backward through the drainage so it blocks the return oil. Instead of a liquid trap, it is possible to connect a hose that empties under the surface of liquid in an open bucket or to an airtight receptacle. For available liquid traps, see "13 - Accessories".
4. Connect the suction pipe with a control damper. When using a branch pipe the recommended connection is a 30° elbow, as this gives a low pressure drop for the entire installation.
5. The next step is to connect the filter unit to electricity. For more information on handling, see 8. "Electrical connection".

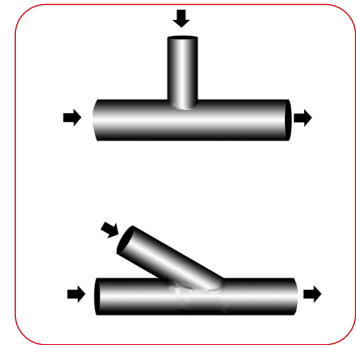
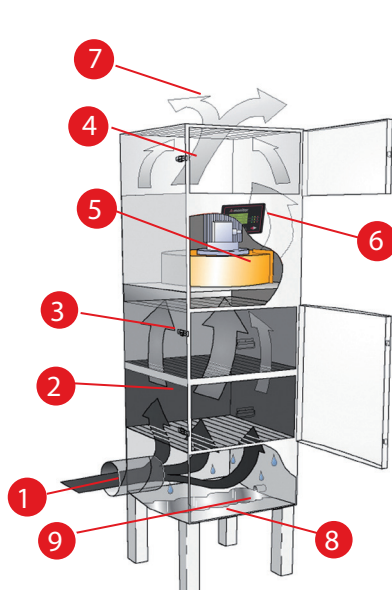


Fig. 1

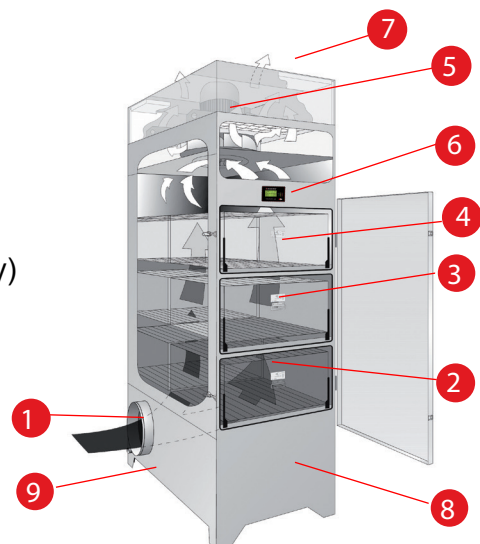
## 6 OPERATION / DESIGN

### A•mist

Contaminated air is sucked into the inlet in the bottom section of the assembled units and passes through an Absolent filter where most of the oil particles are arrested. Before the filter becomes saturated with oil, the oil is drained down to the bottom of the unit that serves as a collection vessel. The oil is then conveyed back to the machine, to a receptacle or to a central purification system. The air passes on through another Absolent filter, where any remaining larger particles are arrested (A•mist<sup>20</sup> and higher). The air is then sucked through a H13 HEPA, which makes it so clean that it usually can be returned directly to the premises.



1. Inlet, Pipe connection
2. Filter stage 1
3. Filter stage 2
4. Filter stage 3:  
Hepa filter (H13)
5. Fan
6. A•monitor
7. Outlet
8. Collection vessel  
& pump (accessory)
9. Return oil pipe



## 7 TECHNICAL DATA

### 7.1 Technical data A•mist<sup>6C</sup>, A•mist<sup>10</sup>, A•mist<sup>20</sup>, A•mist<sup>60</sup>



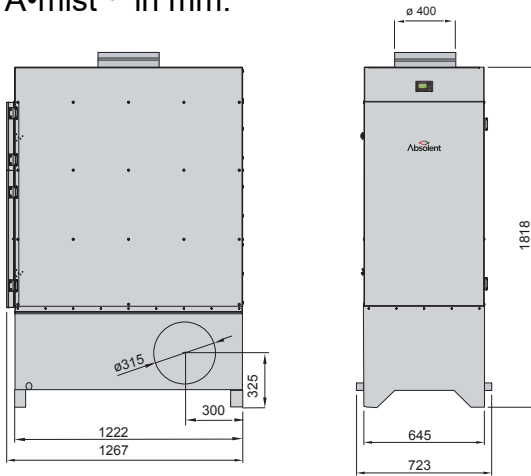
		A•mist <sup>6C</sup>	A•mist <sup>10</sup>	A•mist <sup>10S</sup>	A•mist <sup>20</sup>	A•mist <sup>20HP</sup>	A•mist <sup>20HPS</sup> = A•mist <sup>20S</sup>	A•mist <sup>60</sup>
Height, centred outlet	[mm] [inch]	-	1555 61.2	1555 61.2	2060 81.1	2060 81.1	2060 81.1	2275 89.6
Height, side outlet	[mm] [inch]	1000 39.4	-	-	-	-	-	-
Width	[mm] [inch]	620 24.4	620 24.4	620 24.4	620 24.4	620 24.4	620 24.4	2120 83.5
Depth	[mm] [inch]	350 11.8	620 24.4	620 24.4	620 24.4	620 24.4	620 24.4	620 24.4
Std. inlet connection	[mm] [inch]	ø125 ø5.9	ø160 ø6.3	ø160 ø6.3	ø200 ø7.8	ø200 ø7.8	ø200 ø7.8	ø400 ø15.7
Std. return oil connection	[inch]	R11/4"	R11/4"	R11/4"	R11/4"	R11/4"	R11/4"	R11/4"
Weight with dry filters	[kg] [lbs]	65 143	115 253	115 253	215 474	215 474	215 474	575 1268
<b>No of filter cassettes</b>								
Prefilters	[st]	1	1	1	2	2	2	6
Absolute filters	[st]	1	1	1	1	1	1	3
<b>Performance</b>								
Max.airflow	[m <sup>3</sup> /h] [cfm]	600 355	1000 590	500 295	2000 1180	2000 1180	1000 590	6000 3530
Noise level (1m in front of the filter unit)	[dB(A)]	65	64	64	70	72	72	75



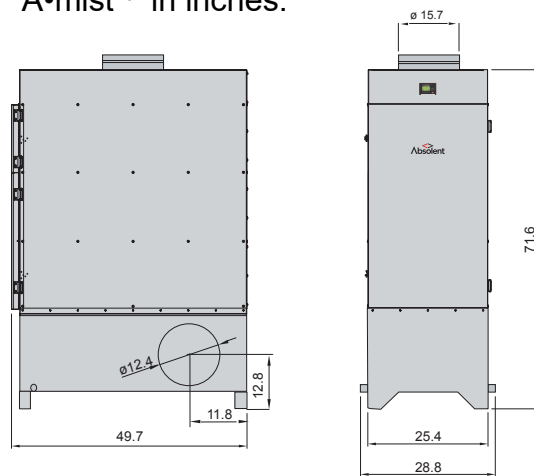
## 7 TECHNICAL DATA (cont.)

### 7.2 Technical data A•mist<sup>40T/TF</sup>

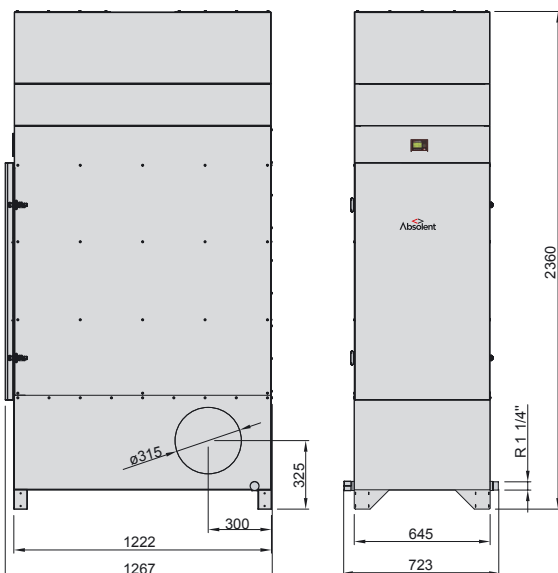
A•mist<sup>40T</sup> in mm:



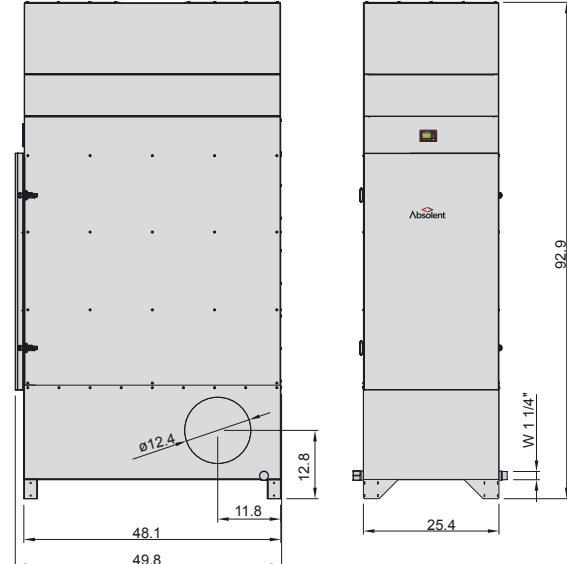
A•mist<sup>40T</sup> in inches:



A•mist<sup>40TF</sup> (with integrated fan) in mm:



A•mist<sup>40TF</sup> (with integrated fan) in inches:



		A•mist <sup>40T</sup>	A•mist <sup>40TF</sup>
Motor output, fan motor	[kW] / [hp]	-	4.0 5.4
Weight with dry filters	[kg] / [lbs]	325 / 716	385 / 849
<b>Filter cassettes</b>			
Main filter	[pc]	4	4
Absolute filter (HEPA)	[pc]	2	2
<b>Performance</b>			
Max. airflow	[m <sup>3</sup> /h] / [cfm]	4000 / 2350	4000 / 2350
Noise level	dB(A)	1)	70 <sup>2)</sup>

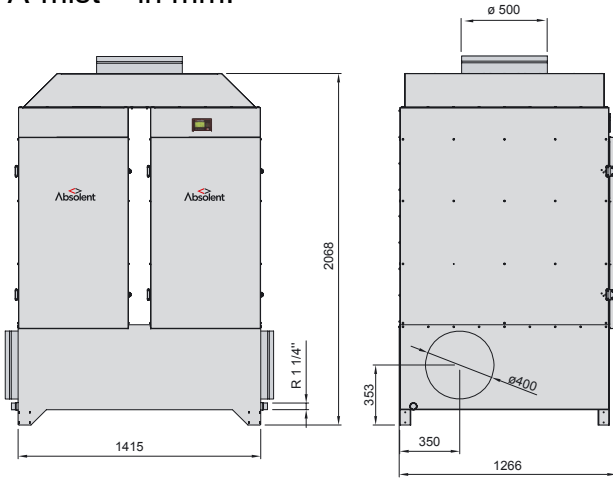
1) The noise level specified in the user's manual is applicable to filter units with external fan.

2) The noise level specified has been measured at a distance of 1 metre from the filter unit and for a room with an equivalent sound absorption area of 200 m<sup>2</sup>, hemispherical sound propagation.

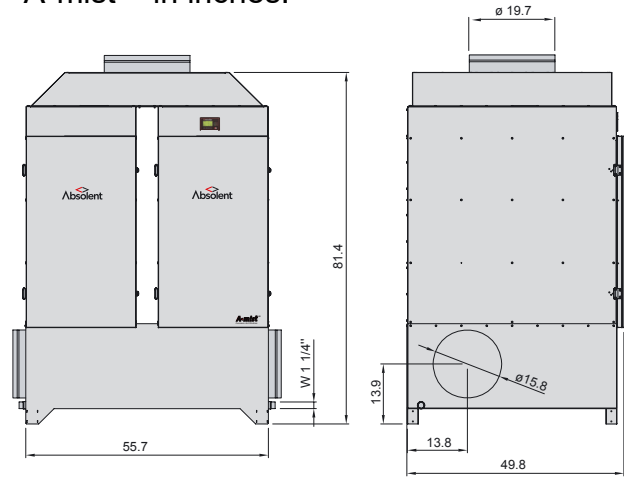
## 7 TECHNICAL DATA (cont.)

### 7.3 Technical data A•mist<sup>80T/TF</sup>

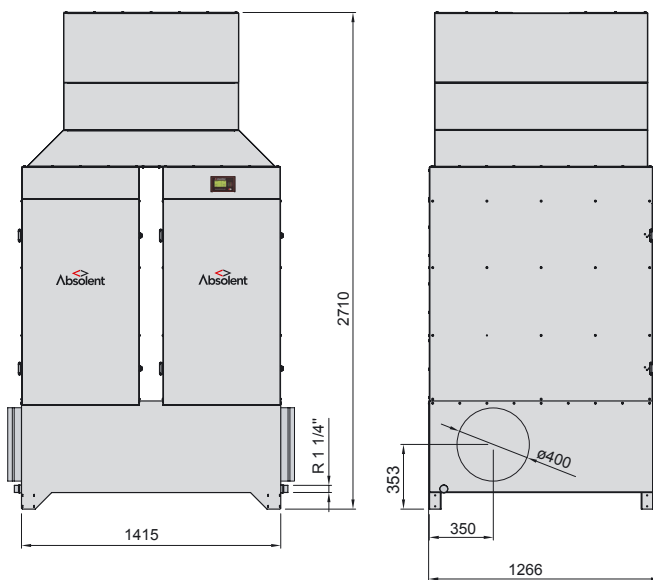
A•mist<sup>80T</sup> in mm:



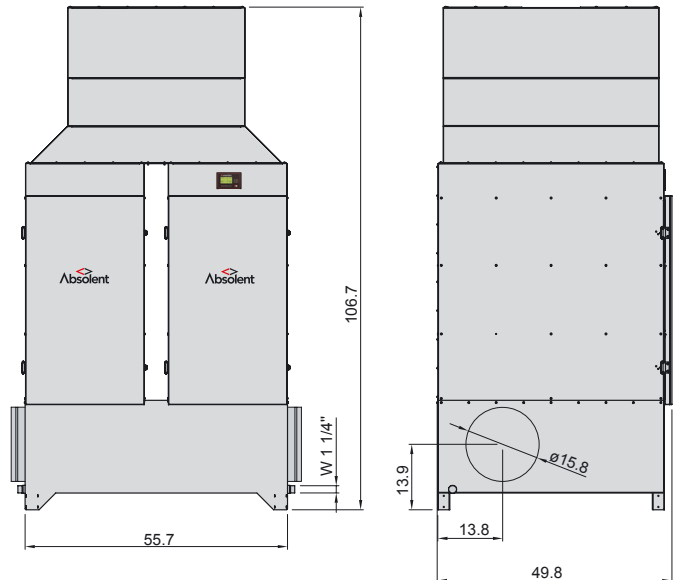
A•mist<sup>80T</sup> in inches:



A•mist<sup>80TF</sup> (with integrated fan) in mm:



A•mist<sup>80TF</sup> (with integrated fan) in inches:



		A•mist <sup>80T</sup>	A•mist <sup>80TF</sup>
Motor output, fan motor	[kW] / [hp]	-	7.5 / 10
Weight with dry filters	[kg] / [lbs]	640 / 1411	760 / 1675
<b>Filter cassettes</b>			
Main filter	[pc]	8	8
Absolute filter (HEPA)	[pc]	4	4
<b>Performance</b>			
Max. airflow	[m <sup>3</sup> /h] / [cfm]	8000 / 4700	8000 / 4700
Noise level	dB(A)	1)	73 <sup>2)</sup>

1) The noise level specified in the user's manual is applicable to filter units with external fan.

2) The noise level specified has been measured at a distance of 1 metre from the filter unit and for a room with an equivalent sound absorption area of 200 m<sup>2</sup>, hemispherical sound propagation.

## 8 ELECTRICAL CONNECTION



### Warning - Dangerous voltage

All electrical work must be carried out by qualified electricians.

### 8.1 General

For the warranty to apply, a qualified person must carry out all the electrical wiring in accordance with local regulations. If the filter unit is equipped with extra electrical equipment, this equipment shall be wired according to the wiring diagram supplied.

The Absolent oil mist filter unit can be customized to meet your needs. The range of accessories includes starting equipment and other electrical periphery equipment. The most common accessories are described under the heading "Accessories".

The models A•mist<sup>10S</sup>, A•mist<sup>20S</sup> and A•mist<sup>20HPS</sup> cover also oil smoke.

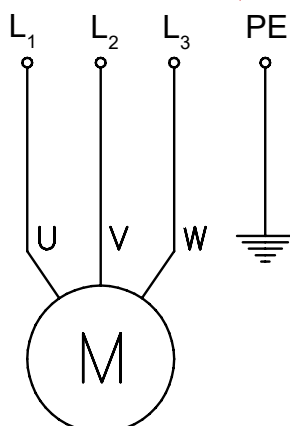
### 8.2 Electrical connection of the fan motor for direct start

All Absolent filter units with integrated fan are standardly equipped with wired cables from the fan to the terminal blocks on the side of the filter unit.

Filter unit 400V, 50Hz	Standard fan motor 400V, 50Hz	Type of fuse	Fuse settings	Comment
A•mist <sup>6C</sup> , A•mist <sup>10</sup>	0.55kW; 1.4A; 400V; 50Hz	10 A	1.4A	Direct start
A•mist <sup>20</sup>	2.2kW; 4.6A; 400V; 50Hz	10 A	4.6A	Direct start
A•mist <sup>60</sup>	3 motors à 2.2kW; 4.6A; 400V; 50Hz	35 A	13.8A	Direct start
A•mist <sup>40TF</sup>	4,0kW; 7,8A; 400V; 50Hz	20 A	7,8A	Direct start
A•mist <sup>80TF</sup>	7,5 kW; 13,8A; 400V; 50Hz	35 A	13,8A	Direct start

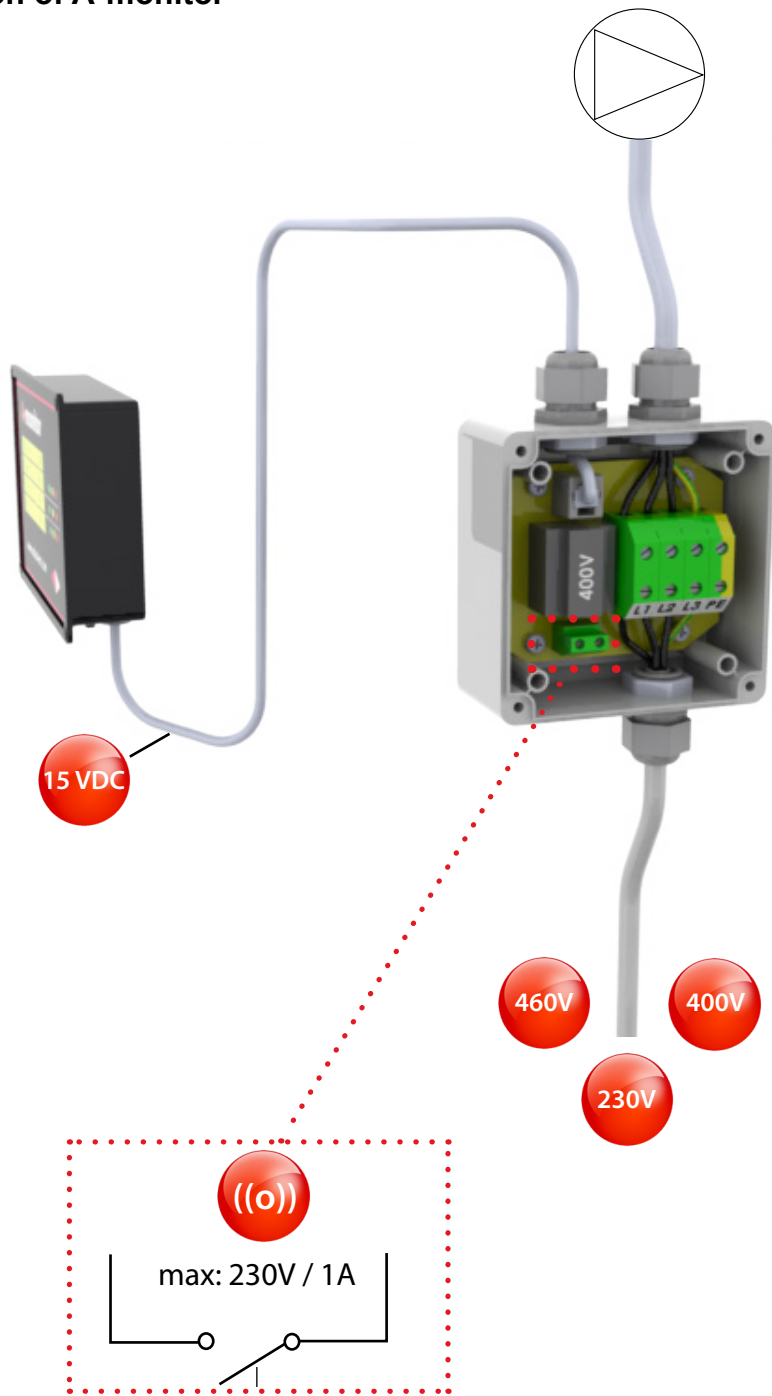
Filter unit 480V, 60Hz	Standard fan motor 480V, 60Hz	Type of fuse	Fuse settings	Comment
A•mist <sup>6C</sup> , A•mist <sup>10</sup>	0.85hp; 0.55kW; 1.4A; 480V; 60Hz	10 A	1.4A	Direct start
A•mist <sup>20</sup>	3.5 hp; 2.2kW; 4.6A; 480V; 60Hz	10 A	4.6A	Direct start
A•mist <sup>60</sup>	3 motors à 3.5 hp; 2.2kW; 4.6A; 480V; 60Hz	35 A	13.8A	Direct start
A•mist <sup>40TF</sup>	5.4hp; 4,0kW; 7,8A; 480V; 60Hz	20 A	7,8A	Direct start
A•mist <sup>80TF</sup>	10hp; 7,5 kW; 13,8A; 480V; 60Hz	35 A	13,8A	Direct start



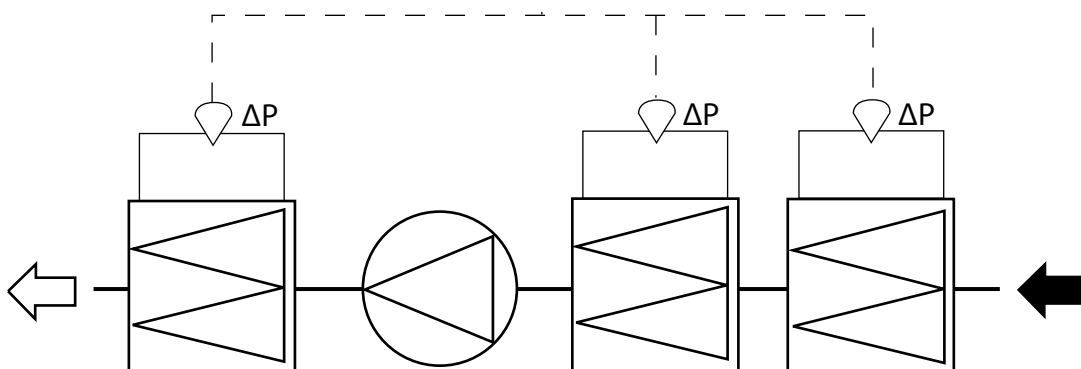
Electrical data can be read from the rating plate on the right-hand side of the filter unit.

## 8 ELECTRICAL CONNECTION cont.

### 8.3 Electrical connection of A•monitor



Flow diagram A•mist<sup>20</sup>



## 9 TO BE CHECKED BEFORE THE FIRST START OF THE FILTER UNIT



**Risk of trapping injury!**

**Do not insert your hand into the filter unit when the fan is running. Do not wear loosely hanging clothing near the fan when operational. These can be sucked into the fan or get caught.**

### 1. Check that the filter cassettes are properly secured.

Open the door and check that the filter cassettes are properly secured, i.e. that the sealing is compressed to approx. 3 mm. How to secure, see heading 12.3.

### 2. The fan's direction of rotation

Make sure that the fan impeller rotates in the proper direction (counter-clockwise viewed from the motor side). If you are unable to see the motor while the impeller is rotating, start the fan, read the pressure drop across the filters from the pressure gauge, stop the fan, transpose two phase leads, restart the fan and read the pressure drop again. The connection that gave the highest pressure drop is the correct one.

Note: For A•mist<sup>20HP</sup>, the fan impeller rotates clockwise viewed from the motor side.

### 3. Air flow

The air flow must be checked, so that the value does not exceed the design level for the installation (refer to the quote or unless otherwise stated the nominal flow under heading "Technical data"). The air flow can be adjusted with the damper or frequency converter, if fitted. If it is difficult to reach the required flow, check the direction of rotation of the fan motor according to section 2 above. If the unit is run with a too high flow, there is a large risk that the life span of the filter cassettes will be shortened.

### 4. Pressure drop over the filter cassettes

Read the A•monitor (A•mist<sup>60</sup>: read the analogue pressure gauges) and note down the pressure drop over the different filter stages (heading 11 resp 10). These values can then be used as a basic value to assess the pressure increase /life span of the different filter cassettes.

### 5. Spray system (if installed)

If the filter unit is equipped with a spray system its function must be checked as this has a large effect on the life span of the filter cassettes.

The function of the spray system and fault tracing are described in the separate user guide.

### 6. Frequency converter (if installed)

If the filter unit is equipped with a frequency converter, you find a protocol of the different settings and a description how to handle the frequency converter attached.

## 10 CARE / MAINTENANCE

### 10.1 General

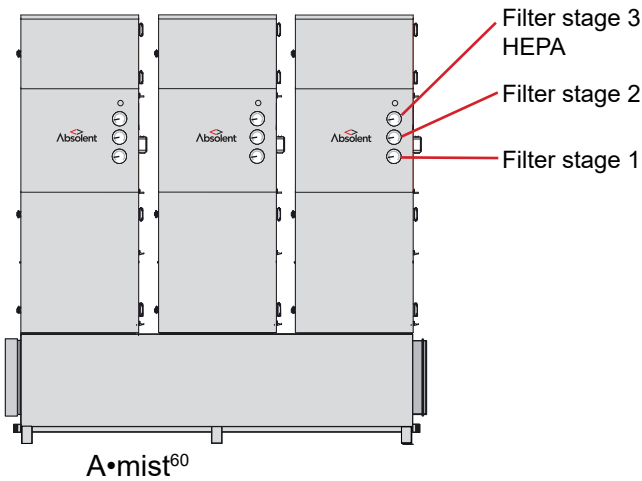
Preventive maintenance and regular service extend the life span and ensure that the filter unit maintains its performance. Besides, you maintain a high cleaning efficiency in the industrial environment.

To facilitate inspection of the filter cassette status, Absolent supplies most A•mist filter units with an electronic pressure gauge as a standard. A•mist<sup>60</sup> is supplied with 3 analogue pressure gauges for the different filter stages. The different pressure gauges are positioned on the front of the filter unit as shown below:

## 10 CARE / MAINTENANCE (cont.)



More information on the electronic manometer, see heading 11.



The pressure gauges are graduated in [Pa] and contain green, yellow and orange sectors. The filter cassette is to be replaced when its pressure gauge has reached the orange sector. The yellow sector is a warning that the filter cassette replacement is to be planned. For a service contact, see the heading “Technical Support”.

If the filter stage is used with the pressure drop within the orange sector, the filter unit gives a reduced air volume.

Note however, that the filter unit will not be damaged when operated with a clogged filter stage, but the required air flow will not be attained. Handling during service is described under “Changing the filter”.

### 10.2 Service scheme

Action	Monthly	Six monthly	Annually
<b>Filter cassettes</b> Establish filter cassette status by reading each pressure gauge	<b>X<sup>1)</sup></b>		
<b>Bottom section / Drainage</b> Check that the return oil pipe is not blocked	<b>X<sup>2)</sup></b>	<b>X<sup>2)</sup></b>	
<b>Fan</b> Check that there is no abnormal noise or vibration			<b>X</b>

<sup>1)</sup> In order to get to know your new installation, the filter cassettes should be checked once a month during the first six months the filter unit is in use. The service interval is then adapted according to the installation in question. However, no longer than six months between inspections. Note that when the yellow LED lights, the inspection interval must be increased as the pressure drop now increases quicker.

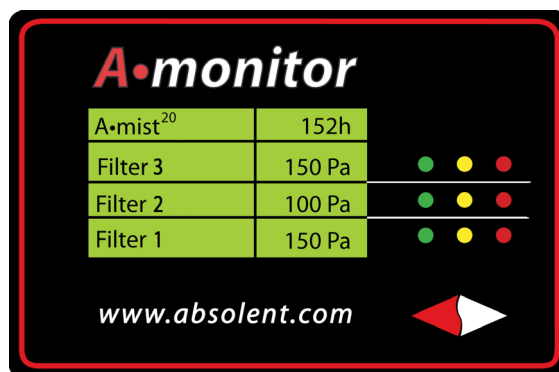
<sup>2)</sup> In order to get to know your new installation, the bottom section and drainage should be checked once a month during the first six months the filter unit is in use. The service interval is then adapted according to the installation in question.

# 11 ELECTRONIC MANOMETER (A•mist<sup>6C</sup>, A•mist<sup>10-20</sup>, A•mist<sup>40-80</sup>)

## 11.1 Functional description

An electronic pressure gauge A•monitor is supplied as standard along with most A•mist filter units. The pressure monitor is delivered factory preset and contains the following features:

- A** OPTICAL DISPLAY OVER EACH FILTER STAGE  
The present pressure drop over each filter stage is monitored (See 11.2.)  
LED INDICATION
- B** A green LED lamp is lit as long as the filter cassette is working within the preset pressure range. When the yellow lamp is lit, call your service contact to replace the filter stage. When the red LED lamp is lit, the pressure drop is too high for the filter unit and it gives a reduced air flow.
- C** HOUR COUNTER DEVICE  
An hour-counter device is also included in our standard equipment.  
It measures and monitors the operation time in hours for the filter unit.
- D** ALARM  
On the transformer card, there is an alarm output that can be used for external alarms (maximum 1A). If any of the filter stages reaches alarm level (red LED), the alarm output closes, see 8.3).



## 11.2 Pressure settings

Filter type		[Pa]			[in WC]		
		Green	Yellow	Red	Green	Yellow	Red
A•mist <sup>6C</sup>	Filter stage 2: HEPA TREA 340/300	0-600	600-800	> 800	0-2.4	2.4-3.2	> 3.2
	Filter stage 1: S3B1/300	0-500	500-600	> 600	0-2.0	2.0-2.4	> 2.4
A•mist <sup>10</sup>	Filter stage 2: HEPA TRSA-N 595x292	0-600	600-800	> 800	0-2.4	2.4-3.2	> 3.2
	Filter stage 1: S3B1/595	0-500	500-600	> 600	0-2.0	2.0-2.4	> 2.4
A•mist <sup>20</sup>	Filter stage 3: HEPA TRSA-N 595x292	0-600	600-800	> 800	0-2.4	2.4-3.2	> 3.2
A•mist <sup>20HP</sup>	Filter stage 2: S3B1/595	0-500	500-600	> 600	0-2.0	2.0-2.4	> 2.4
A•mist <sup>40-80</sup>	Filter stage 1: S3/595	0-500	500-600	> 600	0-2.0	2.0-2.4	> 2.4
A•mist <sup>10S</sup>	Filter stage 2: HEPA TRSA-N 595x292	0-600	600-800	> 800	0-2.4	2.4-3.2	> 3.2
	Filter stage 1: S10B3/595	0-1000	1000-1500	> 1500	0-4.0	4.0-6.0	> 6.0
A•mist <sup>20HPS</sup>	Filter stage 3: HEPA TRSA-N 595x292	0-600	600-800	> 800	0-2.4	2.4-3.2	> 3.2
A•mist <sup>20S</sup>	Filter stage 2: S10B3/595	0-1000	1000-1500	> 1500	0-4.0	4.0-6.0	> 6.0
	Filter stage 1: S1/595	0-1000	1000-1500	> 1500	0-4.0	4.0-6.0	> 6.0

PLEASE NOTE! If a filter stage is used even though the red LED-lamp is lit, the filter unit gives a reduced air volume. note however, that the filter unit will not be damaged when operated with a clogged filter stage. Handling during service is described under "Changing the filter".

## 12 HANDLING THE FILTER CASSETTES



**Warning!** Use requisite personal protection equipment when performing service work on the filter unit. Lifts or the like must be used when carrying out service work above the ground.

### 12.1 General

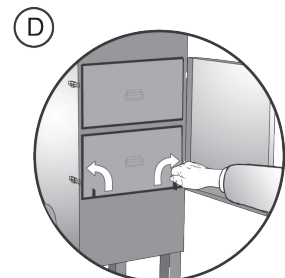
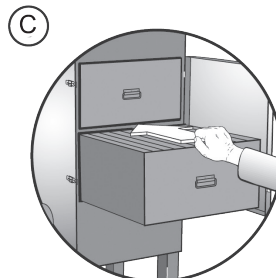
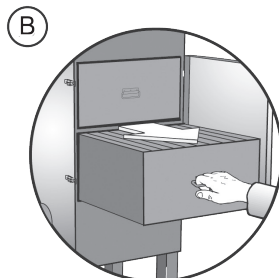
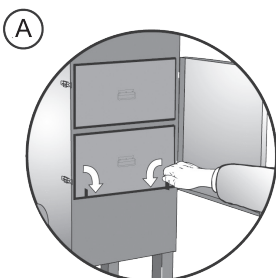
Filter cassettes are heavy, especially when filled with fluid after a period of use. Below is a table of weight for the different filter cassettes available. The type designation of the supplied filter cassette can be found on the rating plate located on the front of the filter cassette.

Filter type	Filter cassette type	Weight new cassette (dry)	Weight fluid-filled cassette	cleanable
A•mist <sup>6C</sup>	Filter stage 2: HEPA TREA 340/300	5 kg / 11lbs		no
	Filter stage 1: S3B1/300	14 kg / 30lbs	20 kg / 44lbs	yes
A•mist <sup>10</sup>	Filter stage 2: HEPA TRSA-N 595x292	12 kg / 26lbs		no
	Filter stage 1: S3B1/595	19 kg / 42lbs	34 kg / 75lbs	yes
A•mist <sup>20</sup> A•mist <sup>40-80</sup>	Filter stage 3: HEPA TRSA-N 595x292	12 kg / 26lbs		no
	Filter stage 2: S3B1/595	19 kg / 42lbs	34 kg / 75lbs	yes
	Filter stage 1: S3/595	19 kg / 42lbs	34 kg / 75lbs	yes
A•mist <sup>10S</sup>	Filter stage 2: HEPA TRSA-N 595x292	12 kg / 26lbs		no
	Filter stage 1: S10B3/595	19 kg / 42lbs	34 kg / 75lbs	no
A•mist <sup>20S</sup> A•mist <sup>20HPS</sup>	Filter stage 3: HEPA TRSA-N 595x292	12 kg / 26lbs		no
	Filter stage 2: S10B3/595	19 kg / 42lbs	34 kg / 75lbs	no
	Filter stage 1: S1/595	19 kg / 42lbs	34 kg / 75lbs	no

### 12.2 Instructions for Replacing Filter Cassettes

1. Read the electronic manometer A•monitor (or the analogue manometers) and note down the pressure drop over the different filter stages when the filter unit is in operation. The filter cassettes whose LEDs light in yellow or red (or whose analogue manometers have reached the yellow or orange zone) have to be replaced.
2. Turn off the fan and disconnect the filter unit from electricity.
3. Open the service door.
4. Loosen the cassettes by turning the retainer arms as shown on pict. A.
5. Remove the filter cassettes you want to replace according to pict. B. When replacing filter 1, check to see that there is no dirt on the bottom of the filter unit.
6. Check that the sealing strip on top of the filter cassette is not damaged before you push in the new filter cassette. (pict. C).
7. Secure the filter cassette (pict. D) and close the service door.
8. Start the fan and check the pressure drop.

**Note!** If the supply air has a high content of chips or shavings, inspect and clean the drain opening upstream of the return oil tank/pump more often to prevent it from becoming clogged.





## 12 HANDLING THE FILTER CASSETTES cont.

### 12.3 Worn out filter cassettes

When the filter cassette is worn out it has to be taken care of in an environmental-friendly way. The sheet metal casing and the aluminum separators can be recycled.

Clean filtermedia can be sent to disposal facilities, but when it contains oil and particles from the process, local regulations for disposal or incineration need to be followed.

If the oil is washed from the cassette, it can usually be sent for landfill.

### 12.4 To clean filter cassettes (does not apply to A•mist<sup>10S</sup>, A•mist<sup>20S</sup> and A•mist<sup>20HPS</sup>)

Filter cassette No. 1 (lowest) and No. 2 (centre) can be washed several times\*). Wash with water-based degreasing agent in a chamber washer (Figure C), max. permissible water temperature: 90°C / 194°F.

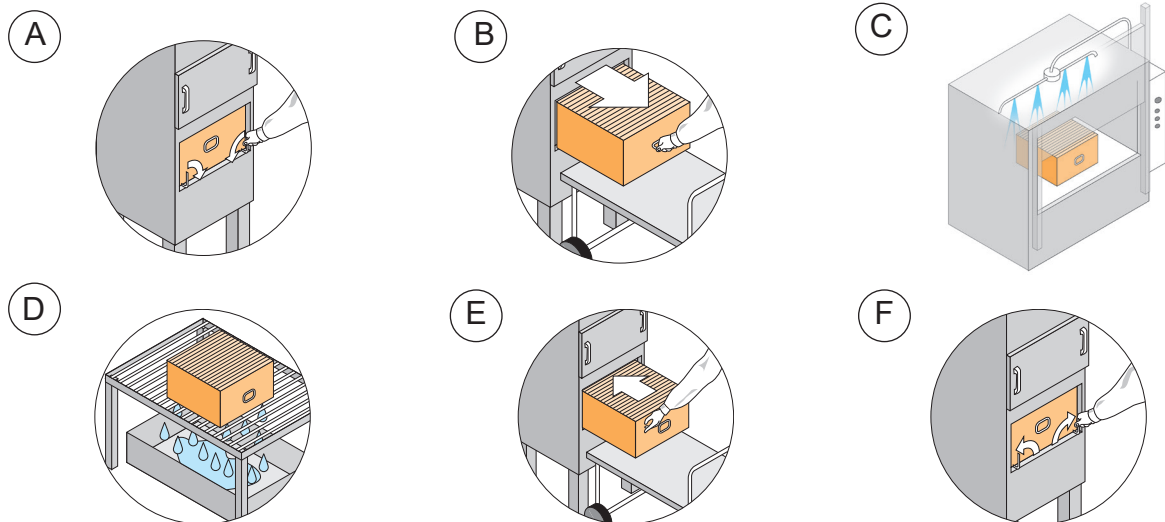
After washing, the filter must be left to dry until it no longer drips before it can be used again (Figure D). The filter continues to dry in the filter unit.

The Absolute filter is not washable and must be replaced when the pressure drop exceeds the "service required" level.

If you do not have a chamber washer, you can place the filter cassette in a tub filled with water mixed with a water-based degreasing agent for 4-8 hours. Then allow the filter cassette to finish dripping before you flush it clean with a high-pressure washer. However be careful not to damage the separators when you spray them under high pressure. The result of this cleaning method is doubtful and should therefore be tested from case to case.

Check that the sealing strip is undamaged before you refit the filter cassette. The sealing strip must face upward.

\*)The useful life of the filter may vary after washing from comparable to a new filter to reduced, depending on the type of impurities it is exposed to.



### 12.5 Not cleanable filter cassettes

Filter cassettes which include material for smoke filtration are not cleanable. This means that A•mist<sup>10S</sup>, A•mist<sup>20S</sup> and A•mist<sup>20HPS</sup> cassettes cannot be cleaned. Hepa filters cassettes are not cleanable either.

## 13 ACCESSORIES

A number of accessories are available for the type A•mist Absolent oil mist filter. Installation instructions for these are described on the following pages. However, note that the products must be ordered separately.

### 13.1 LIQUID TRAPS

#### Return Liquid Hose

The return liquid hose is designed for connection to the return oil pipe of the filter unit. The outlet of the liquid trap is not to discharge liquid in such a way that the liquid can damage adjacent building elements.

Correct installation of the liquid trap is very important due to the normal subatmospheric pressure inside the filter unit. It must fit tightly against the filter unit and the outlet must be lower than the liquid level.

#### Liquid trap

The liquid trap is designed for connection to the return oil pipe of the filter unit. The outlet of the liquid trap is not to discharge liquid in such a way that the liquid can damage adjacent building elements. Correct installation of the liquid trap is very important due to the normal subatmospheric pressure inside the filter unit. It must fit tightly against the filter unit and it must be filled with liquid.

To be able to use this liquid trap, the filter unit has to be placed on extension legs (13.2) or a mezzanine.

#### Steel bucket

The steel bucket liquid trap is designed for connection to the return oil pipe of the filter unit. It consists of a tight bucket with a fitted level indicator enabling the operator to see the level of liquid in the bucket.

Correct installation of the liquid trap is very important due to the normal subatmospheric pressure inside the filter unit. It must fit tightly against the filter unit.

To be able to use this liquid trap, the filter unit has to be placed on extension legs (13.2).

#### Receptacle

The liquid trap receptacle is designed for connection to the return oil pipe of the filter unit. It consists of a tight receptacle that is transparent enabling the operator to see the level of liquid in the receptacle.

Correct installation of the liquid trap is very important due to the normal subatmospheric pressure inside the filter unit. It must fit tightly against the filter unit.

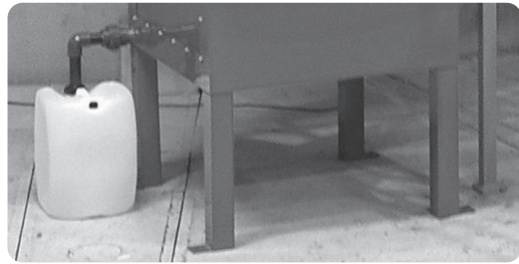
To be able to use this liquid trap, the filter unit has to be placed on extension legs (13.2).



## 13.2 EXTENSION LEGS

Used when it is desirable to raise the filter unit above floor level to enable the use of a liquid trap, for instance.

The standard legs raise the filter unit 300 mm above the floor.



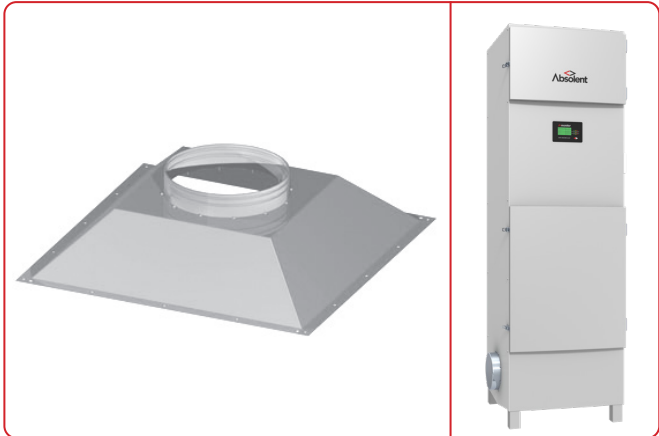
## 13.3 DIFFERENT HOODS

**Transition outlet - A•mist<sup>10</sup>, A•mist<sup>20</sup>, A•mist<sup>60</sup>**

The outlet cover is designed for channel interphase.

Glue on the sealing strip on top of the filter unit, place the cover and fasten it with the enclosed bolts.

Outlet diameter 250mm.



**Sound insulation hood - A•mist<sup>10</sup>, A•mist<sup>20</sup>, A•mist<sup>60</sup>**

The sound insulation hood is used when there is a need of additional sound insulation of the fan.

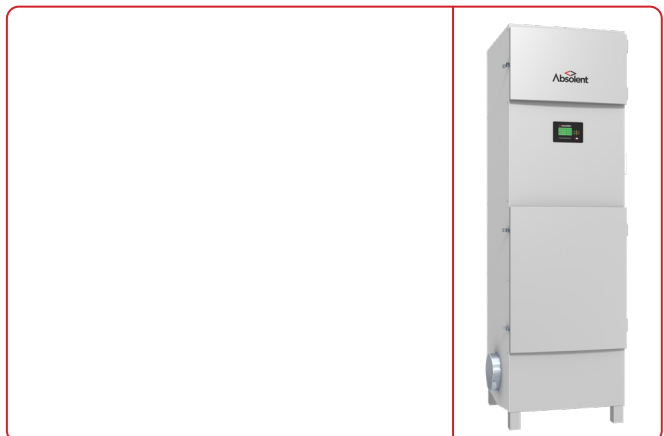
Place the sound-isolated hood on top of the filter unit and fasten it with the enclosed bolts.



**Carbon filter hood - A•mist<sup>10</sup>, A•mist<sup>20</sup>, A•mist<sup>60</sup>**

The carbon filter hood is used when there is a need for an extra filter module for the collection of gases.

Place the carbon filter cassette (13.5) on top of the filter unit, put the hood over it and fasten it with the enclosed excenter locks.



### 13.4 SPRAY SYSTEM

If the impurities are "too dry" or if they contain liquid particles with excessive viscosity (sluggish), this drastically reduces the self-cleaning capability and useful life of the filter unit.

To increase the liquid content in the impurities and/or reduce the viscosity, small liquid droplets are sprayed from a nozzle into the air.

The liquid added must be able to dissolve the impurities separated in the filter. Water is used for emulsions. The spray nozzle is mounted in the inlet duct of the filter unit.

The spray nozzle is controlled by a time relay with adjustable pause and spray period. For instructions on safety, installation and maintenance, see the separate instructions for use!



### 13.5 CARBON FILTER CASSETTE

If the process air contains gas or odour, the Hepa (H13) filter can be substituted by a carbon filter cassette. For A•mist<sup>10</sup>, A•mist<sup>20</sup>, A•mist<sup>60</sup> the carbon filter cassette can be placed on top of the filter unit as an additional filter stage. In this case you need to add a carbon filter hood (see 13.3).

The standard carbon filter cassette contains 21 kg of adsorbent (active carbon) and has the measurements 595x595x292mm.



### 13.6 MOTOR PROTECTION

A•mist filter units can be supplied with a mounted protective motor contactor.

### 13.7 FREQUENCY CONVERTER

The A•mist filters unit can be equipped with a frequency converter with integrated pressure sensor. The pressure sensor measures the negative pressure before the filter unit and compensates for clogged filter cassettes and other changes in the system in order to maintain the air volume stable. Please contact Absolent / your Absolent representative for more information.



## 13.8 PREFILTER FOR SEVERE DIRT

For severe dirt, we supply a flat prefilter which is to be mounted under the first filter stage of the A•mist filter unit.

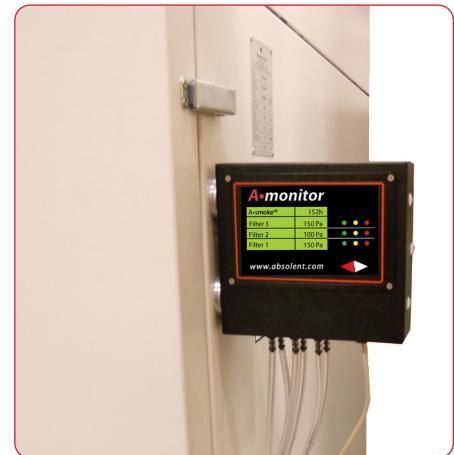
Please contact Absolent / your Absolent representative for more information.



## 13.9 STAND-ALONE A•MONITOR

A•monitor is integrated at the front of nearly all A•mist and A•smoke filter units as standard.\* With the stand-alone A•monitor, it is now possible to upgrade existing ODF and ODR units or to place a second A•monitor at a more convenient location, for example if the A•mist or A•smoke filter unit is placed high up and it is difficult to read the integrated monitor.

\* exceptions: A•mist<sup>60</sup> and A•smoke<sup>120</sup>.



# 14 FAULT TRACING

Mal-function	Possible cause / Action
Low capacity (air flow)	<p>The fan rotates in the wrong direction.  <u>Action:</u> Check that the fan rotates according to the arrow on the motor (only skilled personnel).</p>
	<p>With VFD (frequency converter): The fan speed is set too low.  <u>Action:</u> Check/adjust the fan speed (rpm/Hz) (only skilled personnel).</p>
	<p>High pressure drop in the duct system.  <u>Action:</u> Measure the negative pressure in the filter unit's inlet plenum (before filter stage 1) and compare with the "available external pressure drop" under "Technical data". Check the damper adjustment. Is the duct system sized for the actual airflow and filter unit?</p>
	<p>The filter cassettes are clogged.  <u>Action:</u> Check the pressure drop. If the yellow or red LED is lit for one of the filter stages, the cassette should be replaced.</p>
Abnormally short service interval for filter stage 1:	<p>Too much oil in the inlet plenum because of no or improper oil drainage from the filter unit.  <u>Action:</u> Make sure that drainage is provided for. Use one of the liquid traps described under "Accessories".</p>
	<p>Sticky and or solid particles form a face loading.  <u>Action:</u> Look at the position of the suction point in the machine. Is it possible to move or protect the inlet with a shield to decrease the amount of sticky and solid particles sucked into the filter unit? A pre-filter or spray system could also be a solution.</p>
	<p>Chips and swarf is sucked in to the filter unit.  <u>Action:</u> Look at the position of the suction point in the machine. Is it possible to move or protect the inlet with a shield to decrease the amount of solid particles sucked into the filter unit? A pre-filter could also be a solution.</p>
	<p>Poor drainage from the cassette because of high viscosity (sluggish liquid particles).  <u>Action:</u> If the fluid in the process has a high viscosity, it is necessary to add fluid with a spray system (see "Accessories").</p>
	<p>The pollution is too dry.  <u>Action:</u> Look at the position of the suction point in the machine. Is it possible to move it so that it sucks more liquid? A spray system could also be a solution.</p>
<p>If emulsion is used, the filter cassette may dry out as the water in it evaporates if the unit is running when production has stopped.  <u>Action:</u> Switch off the filter unit when it is not in use.</p>	
Abnormally short service interval for filter stage 2 or the HEPA filter:	<p>Too much oil in the inlet plenum because of no or improper oil drainage from the filter unit.  <u>Action:</u> Make sure that drainage is provided for. Use one of the liquid traps described under "Accessories".</p>
	<p>Air leakage past the preceding filter stage(s) because of incorrectly positioned filter cassettes or damaged sealing strips. This results in unfiltered air reaching filter stage 2 / the HEPA filter.  <u>Action:</u> Check that filter stages 1 and 2 are locked in position. Check that the sealing strips of filter stages 1 and 2 are undamaged and facing upward.</p>
	<p>Particle overload because of a too high particle load (mg/m<sup>3</sup>) or too high fraction of small particles.  <u>Action:</u> Measure the particle load before the filter unit, after filter stage 1 and after filter stage 2. Check with the guidelines if this filter unit is suitable for the application and if there are any options. Contact Absolent or your local distributor if you need advice.</p>



# 18 EC DECLARATION OF CONFORMITY



Part of Absolent  
Air Care Group

Annex 11 1A

## EC DECLARATION OF CONFORMITY

Machinery directive 2006/42/EG, 11 1A

### Manufacturer:

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We, Absolent AB, declare under our sole responsibility that the product:

**A•mist<sup>6C</sup>, A•mist<sup>10C</sup>, A•mist<sup>10</sup>, A•mist<sup>20</sup>, A•mist<sup>40</sup>, A•mist<sup>80</sup>, A•mist<sup>80C</sup>, A•mist<sup>T</sup>**

to which this declaration relates, is in conformity with the following standard(s) or other normative document(s):

Machinery directive	2006/42/EG
EMC-directive	2014/30/EU
LVD-directive	2014/35/EU

Lidköping, 01-07-2022

Bernt Svensson  
Head of Products











Part of Absolent  
Air Care Group