FILTERMIST

Part of Absolent Air Care Group

FX SERIES

S SERIES

User Manual

S200 | S400 | S800 | FX4002 | FX5002 | FX6002 | FX7002

S Series / FX Series (International) / 20-218-10-033 | Rev 14 (Last Updated January 13, 2025)

Company Registration Number: 04220347

VAT Number: 776332020

Should you have any questions, do not hesitate to contact our customer service team on **(+44) (0) 1952 290500** or email **sales@filtermist.com**.

Table of Contents

Introduction 4
Theoretical Basis, Design and Operation 4
Warnings 5
Installation 6
Direct Mount to Machine Tool 6
Floor Stand Mounting Procedures 7
Electrical Requirements 10
Electrical Information 11
Recommended Overload Settings 12
Isolator 12
Maintenance 14
Interim Service 14
Full Service 15
Additional Maintenance Checks 17
Troubleshooting 19
Airflow Indicator 19
Spares (S Series) 20
Spares (FX Series) 21
EU Declaration of Conformity (Machinery) 22
EU Declaration of Conformity (Other Directives) 23

Introduction

Welcome to the user manual for your new Filtermist product! Please read the following information carefully and keep this manual on file. It covers the following models: **S200**; **S400**; **S800**; **FX4002**; **FX5002**; **FX6002**; **FX7002**.

If you require further assistance, please contact our team on **(+44)01952 290500** or **sales@filtermist.com**. Thank you for choosing Filtermist!

Theoretical Basis, Design and Operation

Theoretical Background: Filtermist units are designed to capture and remove aerosol particles before they can contaminate the workspace and endanger your staff. Within an aerosol particle size range of 0.2 – 5.0 microns are particles which represent a potential hazard to health. Particles below 0.3 microns and above 3.5 microns are naturally removed, but those within this range may be retained within the body and should be removed from the air before they are inhaled.

Design and Use: Filtermist units are designed for the control of aerosol mists, in particular those generated by machining operations that use either soluble or neat oil coolants. Other applications include component washing machines and Electrical Discharge Machining (EDM) machines. **Please note that due to the aggressive nature of the fluid, it is recommended that only stainless-steel versions are used on component washing machine applications**. Filtermist units are NOT designed to work on welding fume or dry dust applications. Please contact our Technical Support Department (01952 290500) if further advice is required regarding the suitability of any application.

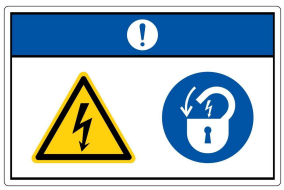
Filtermist units are designed for use with the majority of machine tools, both enclosed and open, and offer high levels of filtration with minimal service requirements. Enclosed machines are covered by changing the air within the enclosure between 6 and 10 times per minute, depending on application, whilst ensuring gaps within the enclosure are kept under a negative pressure. Open machines are usually covered by hoods positioned to capture and extract mists generated by the machining process. Generally a capture velocity between 30 – 45 m/min is needed at the source of the contaminant.

Operation: A perforated steel drum, open at one end, is directly driven by a three-phase electric motor. Four vanes within the drum generate suction which draws aerosols into the drum, where they are impacted by the vanes at velocities in excess of 50 m/s. The aerosol particles are forced to collide and coalesce before being driven by centrifugal force against the inner surface of the unit casing; a drainage point ensures that the liquid is drained away under pressure. Clean air is returned to the workshop.

Four pads are fitted between the drum vanes to minimise noise levels and prevent the possibility of liquid fragmentation. As the drum speed is constant, the separation phase of the process remains constant ensuring high levels of filtration are maintained.

Filtration Efficiencies: Filtermist units have demonstrated filtration efficiencies of 98% in independent tests carried out on typical oil mist applications. Greater efficiencies can be achieved using a high-efficiency secondary filter (afterfilter) on the exhaust side of the unit. UK customers have an afterfilter supplied as additional standard equipment along with each unit (excluding those units to be used on parts washing machines).

Warnings



WARNING! At least 120 seconds must be allowed for the inner drum to stop rotating before the case is removed.

WARNING! The unit is intended for indoor use only.

WARNING! The unit is to be used on wet applications only, e.g., oil, emulsion, coolant or steam. It is not to be used on flammable, explosive, corrosive or dry applications, e.g., dust, smoke, acid.

WARNING! Isolation from any power supply shall either be visible (i.e., a visible break in the power supply circuits) or the isolation device is actuated to the off position and physically locked off.

WARNING! Oil leaks can be a hazard. The complete system should be checked regularly for possible oil leaks - daily visual checks of both unit and extraction duct are recommended.

WARNING! Contact with oils, coolants, etc., can cause skin disorders. Avoid contact with skin and eyes and wear PVC, neoprene or nitrile gloves, safety glasses and overalls when cleaning or working on the filter.

WARNING! The unit must not be operated without the case fitted.

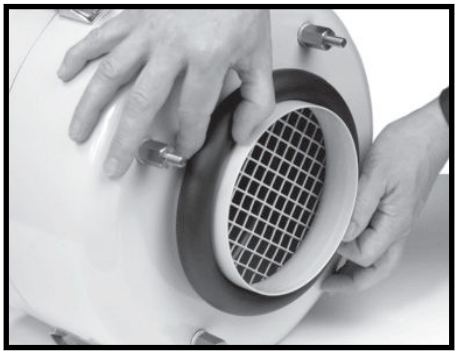
Installation

Follow these procedures to mount your Filtermist unit in the correct manner.

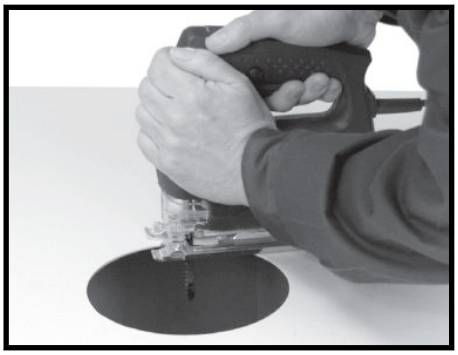
Direct Mount to Machine Tool

Step 1. Remove the four insert screws in the base of unit.

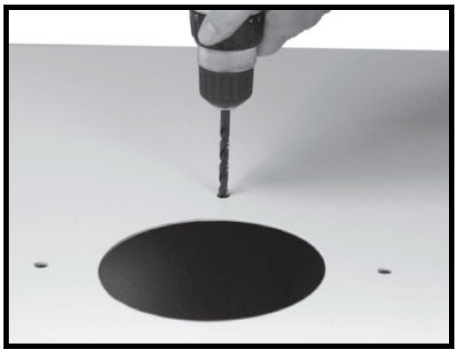
Step 2. Fit four case studs with the notched edge facing towards the Filtermist unit (supplied with unit).



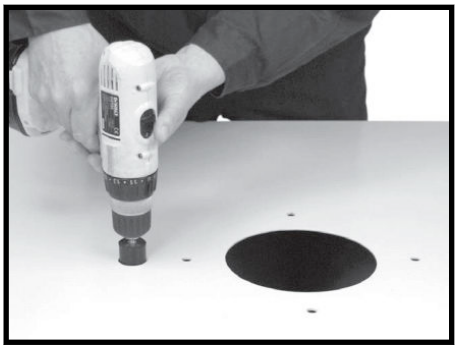
Step 3. Fit foam collar seal around inlet *spigot* (supplied with unit).



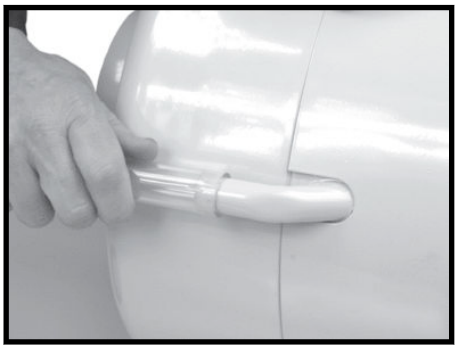
Step 4. Cut extraction hole in machine enclosure.



Step 5. Drill four case stud fixing holes (see product specifications table for hole size and case stud hole PCD).



Step 6. Cut hole for oil return tube (if required).



Step 7. Fit oil return tube and position tube to drain oil back to machine enclosure, sump or collection vessel.

Step 8. Position unit and secure.

WARNING! Always ensure that the machine can support the weight of the unit.

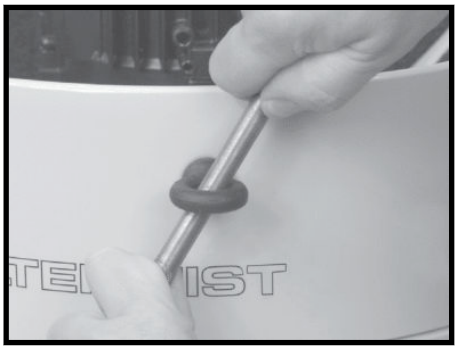
IMPORTANT! There must be no kinks or "U" bends in the return tube. The end of the tube must not be submerged.

Floor Stand Mounting Procedures

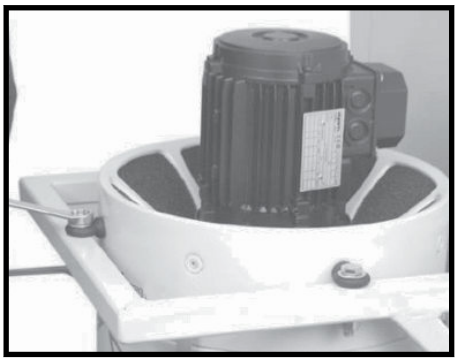
If you have an **FX Series** product, follow this procedure to mount your unit to a floor stand.

Step 1. Remove the four insert screws in top of unit at 90° intervals.

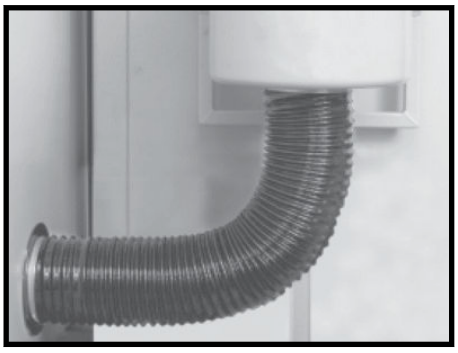
Step 2. Screw in four eyebolts with nylon washers.



Step 3. Tighten eyebolts until horizontal.

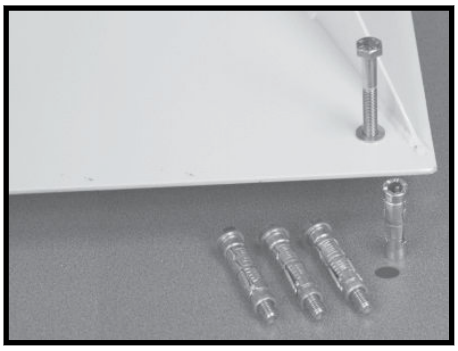


Step 4. Position unit in stand and secure unit with bolts (supplied with unit).



Step 5. Connect inlet of unit to extraction hole using suitable duct and adaptor (supplied separately).

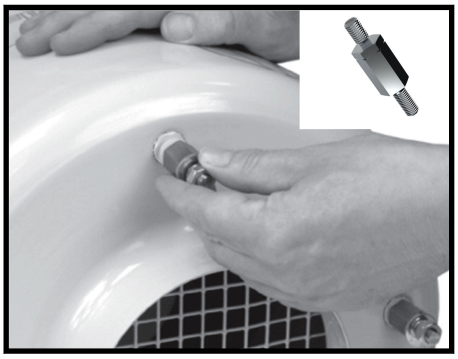
Step 6. Fit oil return tube and position tube to drain oil back to machine enclosure, sump or collection vessel.



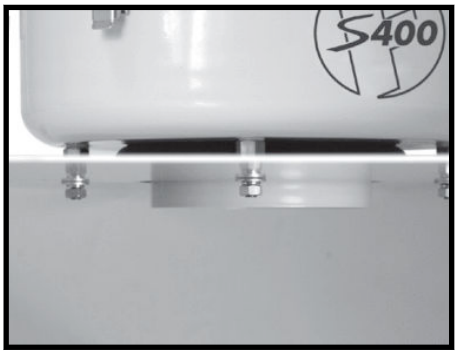
Step 7. Secure stand to floor with floor bolts.

IMPORTANT! There must be no kinks or "U" bends in the return tube. The end of the tube must not be submerged.

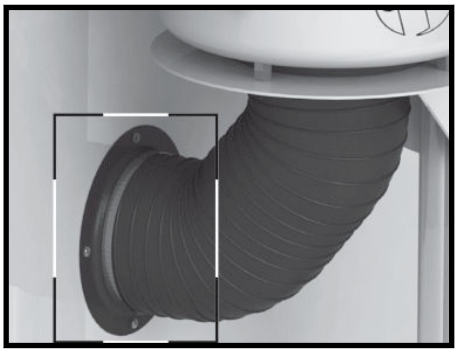
If you have an **S Series** product, follow this procedure to mount your unit to a floor stand.



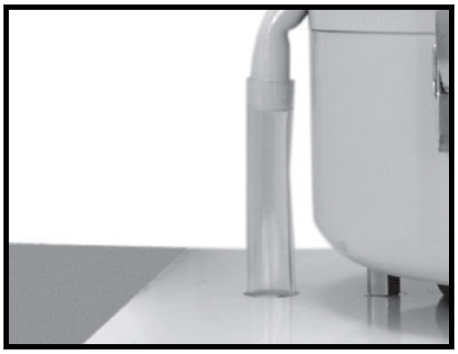
Step 1. Fit four case studs with the notched edge facing towards the Filtermist unit (supplied with unit).



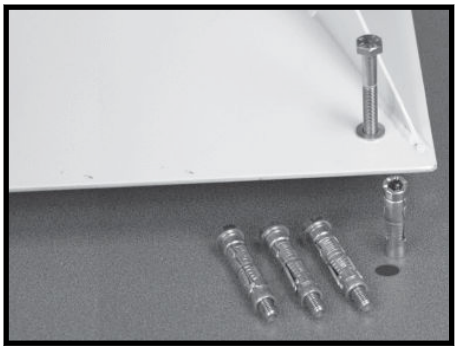
Step 2. Fit unit to stand (supplied separately) and secure.



Step 3. Connect inlet of unit to extraction hole using suitable duct and adaptor (supplied separately).



Step 4. Fit oil return tube and position tube to drain oil back to machine enclosure, sump or collection vessel.



Step 5. Secure stand to floor with floor bolts.

IMPORTANT! There must be no kinks or "U" bends in the return tube. The end of the tube must not be submerged.

Table 1. Product Specifications for S and FX Series Products

	S200	S400	S800	FX4002	FX5002	FX6002	FX7002
Airflow	180m/Hr@50Hz; 215m/Hr@60Hz	425m/Hr@50Hz; 500m/Hr@60Hz	800m/Hr@50Hz; 950m/Hr@60Hz	1250m/Hr@50Hz; 1500m/Hr@60Hz	1675m/Hr@50Hz; 2000m/Hr@60Hz	2000m/Hr@50Hz; 2400m/Hr@60Hz	2750m/Hr@50Hz
Motor (IE3)	0.18Kw	0.55Kw	0.55Kw	1.1Kw	1.5Kw	2.2Kw	2.2Kw
Weight	8Kg	14Kg	15Kg	23Kg	27.5Kg	37Kg	37Kg
Noise	62dBa	65dBa	67dBa	70dBa	71dBa	73dBa	73dBa
Construction	Mild steel, powder coated grey RAL7035						
Extraction Hole Diameter	80mm	155mm	155mm	155mm	205mm	205mm	205mm
Case Stud Hole PCD	190mm	250mm	250mm	275mm	275mm	275mm	275mm
Case Stud Hole Diameter	10mm	10mm	10mm	10mm	10mm	10mm	10mm

	S200	S400	S800	FX4002	FX5002	FX6002	FX7002
Drain Tube Diameter	19mm	19mm	19mm	19mm	19mm	19mm	19mm
Inlet Spigot Diameter	73	148	148	148	198	198	198
Direct Mounting?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stand Mounting?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mounting Centres	N/A	As for case studs	As for case studs	4 eye-bolts - 398mm PCD	4 eye-bolts - 398mm PCD	4 eye-bolts - 485mm PCD	4 eye-bolts - 485mm PCD
Inlet Velocity	10 m/sec	6.5 m/sec	12 m/sec	19 m/sec	14(m/sec)	17(m/sec)	24(m/sec)

Electrical Requirements

Table 2. Electrical Requirements for Filtermist S Series and FX Series Products

Unit	Motor	Voltage	FLC [a.]	Starter/Overload	
				Part Number	Description
S200	0.18 kW	415 v	0.59 A	20-209-10-027	Motor starter 0.40 - 0.63 A
				20-209-10-012	Motor starter enclosure
		200 v	0.96 A	20-209-10-028	Motor starter 0.63 - 1.0 A
				20-209-10-012	Motor starter enclosure
S400 / S800	0.55 kW	415 v	1.35/1.3 A	20-209-10-005	Motor starter 1.0 - 1.6 A
				20-209-10-012	Motor starter enclosure
		200 v	2.7/2.6 A	20-209-10-008	Motor starter 2.5 - 4.0 A
				20-209-10-012	Motor starter enclosure
FX4002	1.1 kW	415 v	2.2/2.3 A	20-209-10-006	Motor starter 1.6 - 2.5 A
				20-209-10-012	Motor starter enclosure
		200 v	4.4/4.6 A	20-209-10-009	Motor starter 4.0 - 6.3 A
				20-209-10-012	Motor starter enclosure
FX5002	1.5 kW	415 v	3.15 A	20-209-10-008	Motor starter 2.5 - 4.0 A
				20-209-10-012	Motor starter enclosure
		200 v	6.3 A	20-209-10-010	Motor starter 6.3 - 10.0 A
				20-209-10-012	Motor starter enclosure
FX6002 / FX7002	2.2 kW	415 v	4.4/4.7 A	20-209-10-009	Motor starter 4.0 - 6.3 A
				20-209-10-012	Motor starter enclosure
		200 v	8.8/9.4 A	20-209-10-011	Motor starter 8.0 - 12.0 A
				20-209-10-012	Motor starter enclosure

[a.] Full Load Current

Electrical Information

Please ensure that all electrical work is carried out by a competent, qualified electrician.

Standard Filtermist motors are wound for low and high voltage and operate on 50 Hz and 60 Hz frequencies, as shown in the table below (Recommended Overload Settings). A connection diagram can be found inside the motor terminal box. The motor(s) must be connected via a three-phase, direct-on-line starter and isolator with suitable thermal overloads or via an independent supply in the machine control panel. On start-up the motor will draw current in excess of that shown on the motor plate: ensure that appropriate fuses are used.

NOTE Motor terminal connections will be configured for the motor to run at high voltage unless low voltage connections are specified at the time of ordering.

IMPORTANT! Overloads are to be set no higher than 125% of the motors full load current.

IMPORTANT! FX7002 models must only be used with a 50Hz supply. Do not use on 60Hz applications.

IMPORTANT! The internal drum of the unit must run in the direction indicated by the arrow on the upper section and/or warning label and must run continuously. To correct the rotation, swap any two supply wires. The unit can only be started by using the control device provided for that purpose - this also applies when restarting the machinery after a stoppage.

Recommended Overload Settings

Table 3. Recommended Overload Settings in Relation to Motor Size (kW), Voltage (v) and Hertz (Hz)

		Low Voltage					High Voltage				
		200 v		220 v		230 v	380 v	400 v	440 v	460 v	480 v
		50 Hz	60 Hz	50 Hz	60 Hz	60 Hz	50 Hz	50 Hz	60 Hz	60 Hz	60 Hz
0.18 kW	**FLC**[a.]	1.02	1.02	1.02	1.02	1.02	0.59	0.59	0.59	0.59	0.59
0.55 kW	**FLC**	2.7	2.6	2.7	2.6	2.6	1.35	1.35	1.3	1.3	1.3
1.1 kW	**FLC**	4.4	4.6	4.4	4.6	4.6	2.2	2.2	2.3	2.3	2.3
1.5 kW	**FLC**	6.3	6.3	6.3	6.3	6.3	3.15	3.15	3.15	3.15	3.15
2.2 kW	**FLC**	8.8	N/A	8.8	9.4	9.4	4.4	4.4	4.7	4.7	4.7

[a.] Full Load Current

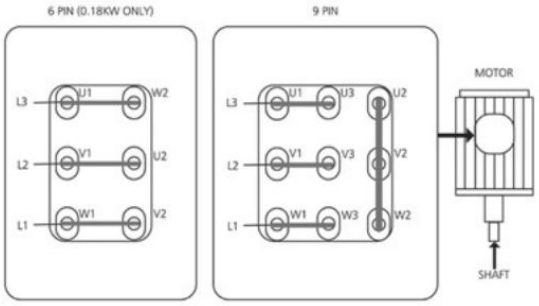


Figure 2. Schematic for a low voltage configuration.

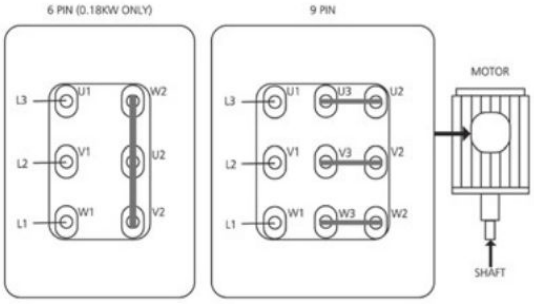


Figure 3. Schematic for a high voltage configuration.

IMPORTANT! Please note that for 230/240v, 50Hz applications, special motors are required. For more information, contact your supplier.

Isolator

If requested, the unit may be supplied with an isolator and switch complete with motor overload protection (figure 4). The overload starter must be selected to suit different sized units or voltages and current ratings (see Overload Settings table); contact your local Filtermist distributor for more information. If not requested, the motors must be connected via a direct – on – line starter and isolator with suitable thermal overloads or via an independent supply from control panel with relevant protection. The Filtermist unit must be provided with a clearly identified, readily accessible electrical isolation point providing all-pole disconnection which has the facility for lock-off, and is positioned between 0.6 and 1.7m above the working surface[1]

Please note that if an isolator is used, it will act as an on/off switch for the Filtermist unit. The unit should be turned on whenever the machine tool is operational.

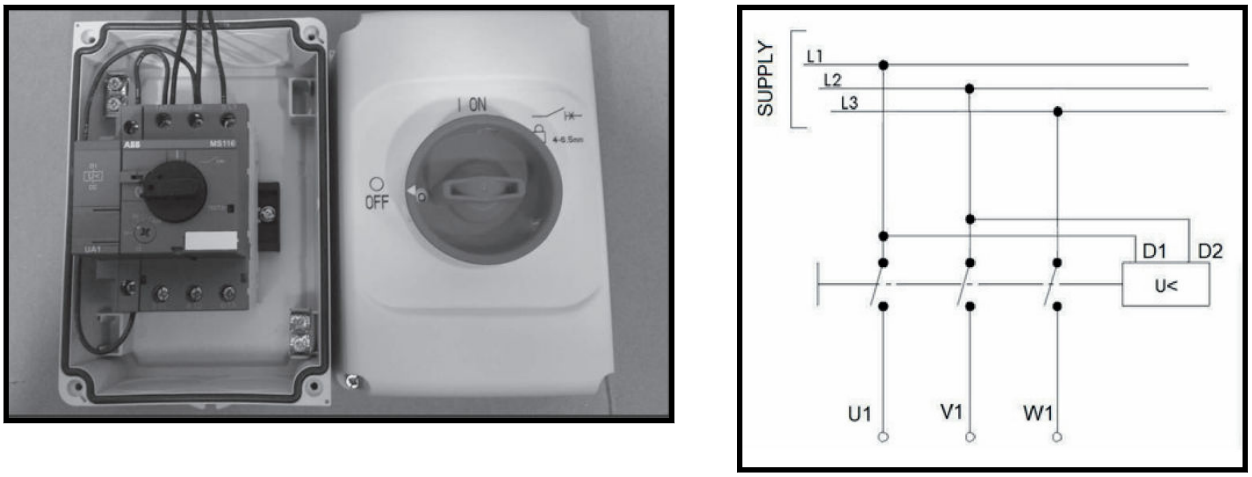
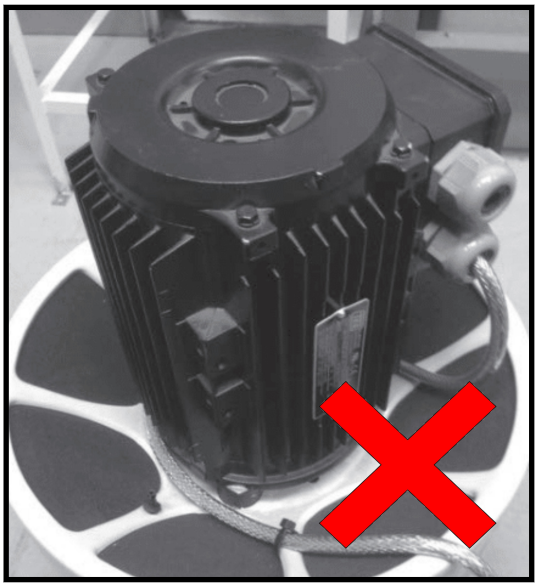


Figure 4. Left: The internal (left) and external (right) appearance of the isolator. Right: A schematic diagram depicting the terminal connections for the isolator.



IMPORTANT! Ensure when connecting power to the unit that excess electrical cable is NOT wrapped around the motor.

[1]This requirement satisfies **Regulation (EU) 2023/1230** of the European Parliament and of the Council of 14 June 2023 on machinery, section 1.6.3, Isolation of Energy Sources.

Maintenance

It is important that you take good care of your unit by ensuring that a regular sequence of maintenance checks are carried out at specific intervals - failure to carry out maintenance could result in insufficient extraction from the machine and a deterioration of efficiency. We provide a full service and maintenance package to ensure that your unit is working to its optimum efficiency - please contact us to learn more.

Ensure that you:

- Check condition of any ductwork ensuring that all connections are tight.
- Check cleanliness of any grilles in the system and ensure that fishtail hoods (if fitted) are clean.
- Check airflow indicators (if fitted) are operating correctly and connections to the ductwork are clean and clear.

Please note that maintenance should always be carried out in accordance with the following guidelines.

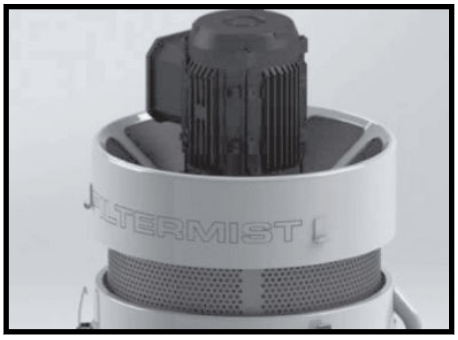
IMPORTANT! In more arduous conditions, e.g., grinding or cast iron machining, the units should be checked and cleaned on a more frequent basis, according to duty. Contact your supplier for details of maintenance plans and spares kits.

IMPORTANT! Use only genuine spares – use of unauthorised parts may affect performance adversely and invalidate the warranty.

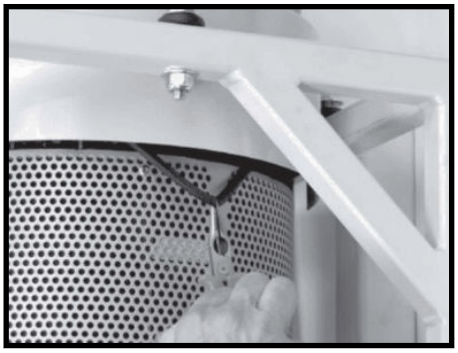
Interim Service

For **AX Series**, **FX Series** and **S Series** products, use **Filter Kit 4** (see **Spares** in this manual). 

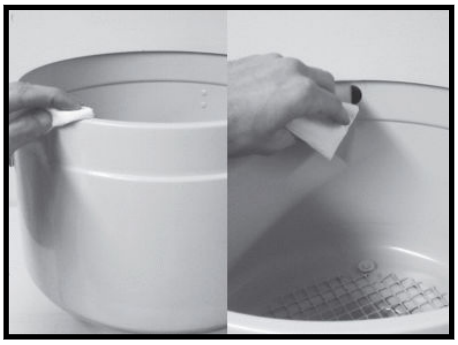
Step 1. Undo safety latch and clips.



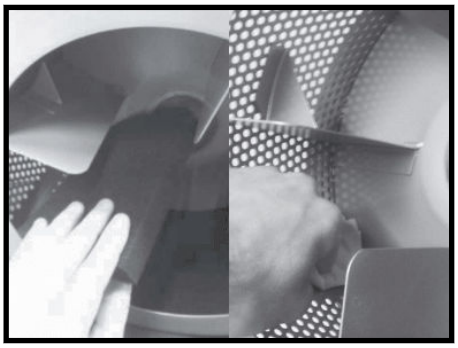
Step 2. Separate top and bottom of case.



Step 3. Remove old seal.

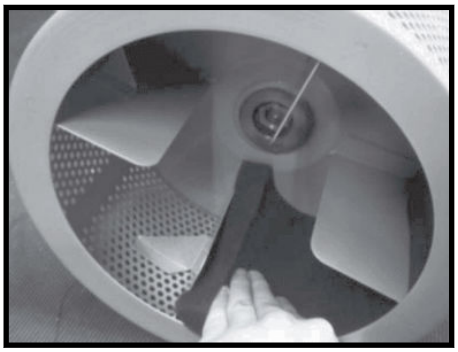


Step 4. Clean area where top and bottom of case join and clean drain hole.



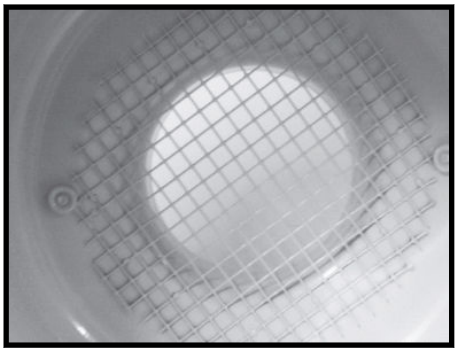
Step 5. Remove old drum pads, clean inside of drum and inspect drum for signs of damage.

IMPORTANT! Damaged drums should be replaced.

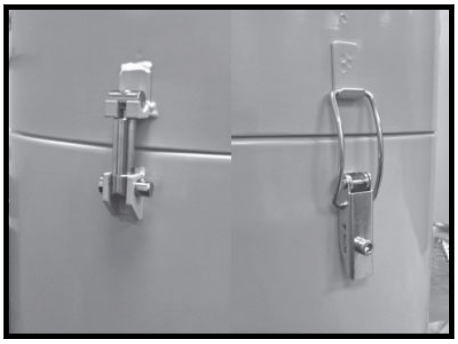


Step 6. Fit new drum pads.

Step 7. Fit new seal.



Step 8. Check inlet grille is clear.



Step 9. Re-assemble unit.

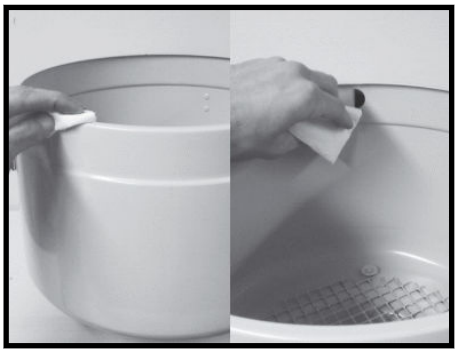
IMPORTANT! Ensure safety latch and clip are securely fastened.

Full Service

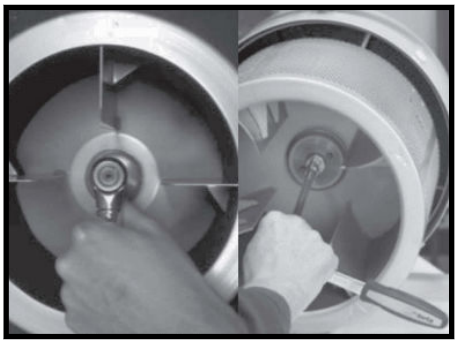
Step 1. Undo safety latch and clips.

Step 2. Separate top and bottom of case.

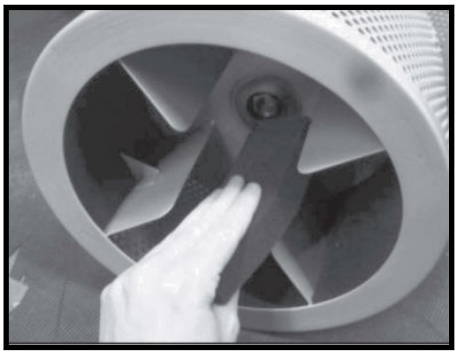
Step 3. Remove old seal.



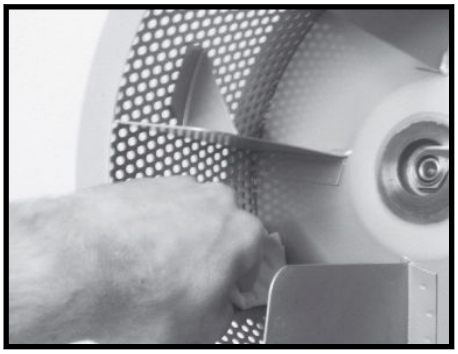
Step 4. Clean areas where top and bottom of case join and clean drain hole.



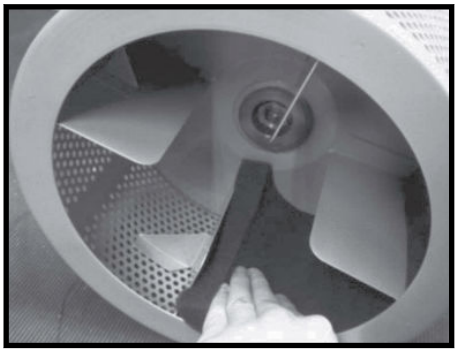
Step 5. Remove drum.



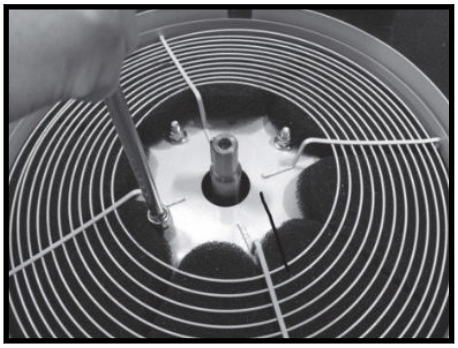
Step 6. Remove old drum pads.



Step 7. Clean inside and outside of drum.

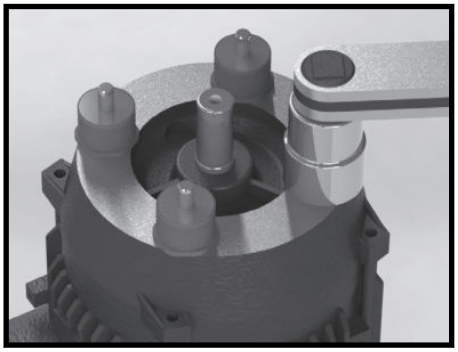


Step 8. Fit new drum pads.



Step 9. Remove motor mounting nuts.

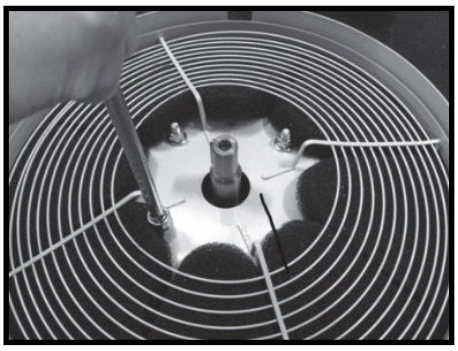
Step 10. Withdraw motor from housing.



Step 11. Remove old motor mounts and replace with new mounts. Tighten mounts to 8Nm.

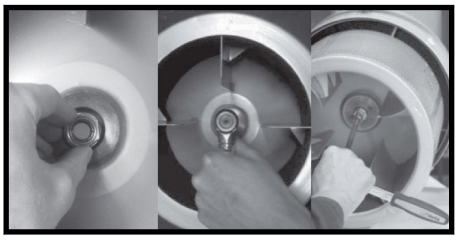
Step 12. Remove old silencer and fit new silencer.

Step 13. Re-fit motor to top of case.



Step 14. See right.

IMPORTANT! Fit new motor mounting nuts and tighten (5 Nm for S-Series products or 8Nm for FX-Series products; 8Nm for Royal Filtermist FX Series products; 5Nm for AX5 and AX10 models, 8Nm for AX20 and AX30 models).



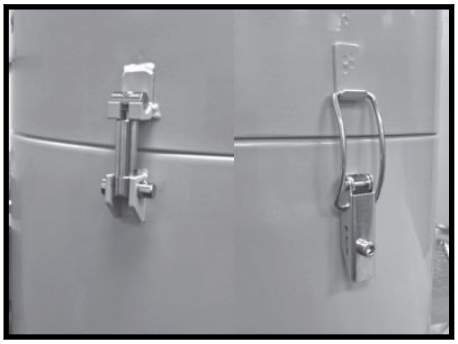
Step 15. See right.

IMPORTANT! Ensure bush (if your unit has one), shaft and drum hub are clean and free from debris before re-fitting the drum. If your unit includes a drum bush, tighten to 20Nm. If it includes taper collar(s), tighten bolt to 8Nm. For Royal Filtermist FX300 and FX575 models tighten to 20Nm, for FX900 and FX1200 models tighten to 8Nm.

IMPORTANT!
Check that taper collars are fitted correctly before tightening the bolts.

Step 16. Fit new seal.

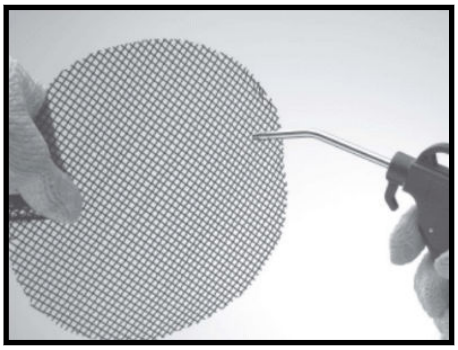
Step 17. Check inlet grille is clear.



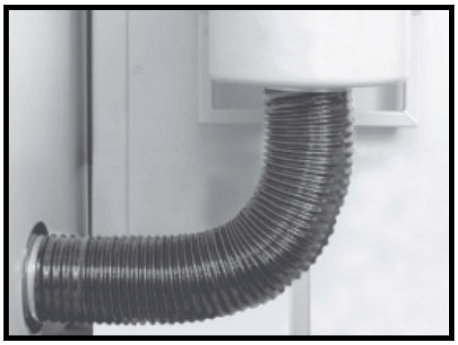
Step 18. Re-assemble unit. **Ensure safety latch and clip are securely fastened**.

Additional Maintenance Checks

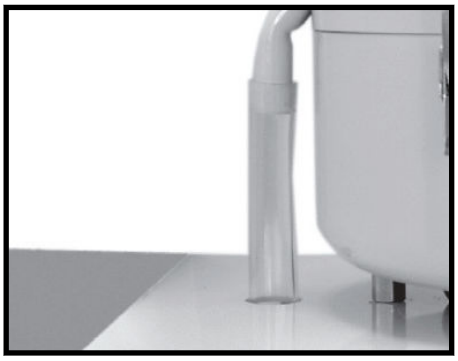
Ensure that you also conduct the following additional maintenance checks on your unit on a periodical basis.



Step 1. Clean the swarf arrestor (where fitted).



Step 2. Check any ducting for damage or blockage.



Step 3. Check the oil return hose for damage and blockage.

Step 4. Check the afterfilter (if fitted) and replace if necessary.

Troubleshooting

Occasionally, you may encounter issues with your filter unit in the normal course of service. Should this occur, consider the following troubleshooting procedures before consulting for an external service.

Table 4. Troubleshooting procedures

Problem	Possible Cause	Action
Unit vibrates or makes excessive noise	Drum has solids build-up	Clean the drum, ensuring all solids are removed from the sides and base of vanes and change filter pads
	Damaged motor bearing	Check motor bearing and replace motor if required
Unit continues to vibrate	Drum is out of balance	Return to us for re-balancing
Mist comes out of top of unit	Drum is rotating in wrong direction	Check rotation of drum (anti-clockwise when viewed from inlet)
	Drain hose is blocked, kinked or submerged	Re-position and clean the drain hose
	Excessive extraction	Re-position extraction point or fit flashguard
	Mist is oil smoke	Fit an afterfilter (contact us for further details, if required)
Unit is not extracting	Blocked inlet	Clean inlet swarf arrestor
	Afterfilter is blocked	Change afterfilter (recommended every 3-6 months)
	Unit needs servicing	See **Maintenance** section for details
Unit cuts out on start-up	Overload setting incorrect	Reset or replace overload (see **Overload Settings** in **Electrical Information**)

Airflow Indicator

An airflow indicator should be fitted to your unit to provide the machine operator with a visual indication that the extraction system is operating effectively. We offer several devices under the F Monitor brand that assist with providing this visual indication, including the F Monitor 2 and F Monitor 2+.

An F Monitor is a monitoring device that measures airflow and time to indicate when the Filtermist unit needs servicing; the F Monitor 2+ is supplied with an additional sensor can also be fitted to monitor temperature and vibration. It uses a traffic light system of coloured LED lights to show the operating status of the unit and can be set to suit particular applications. The monitor is supplied with additional output source should an extra indicator be required.

Spares (S Series)

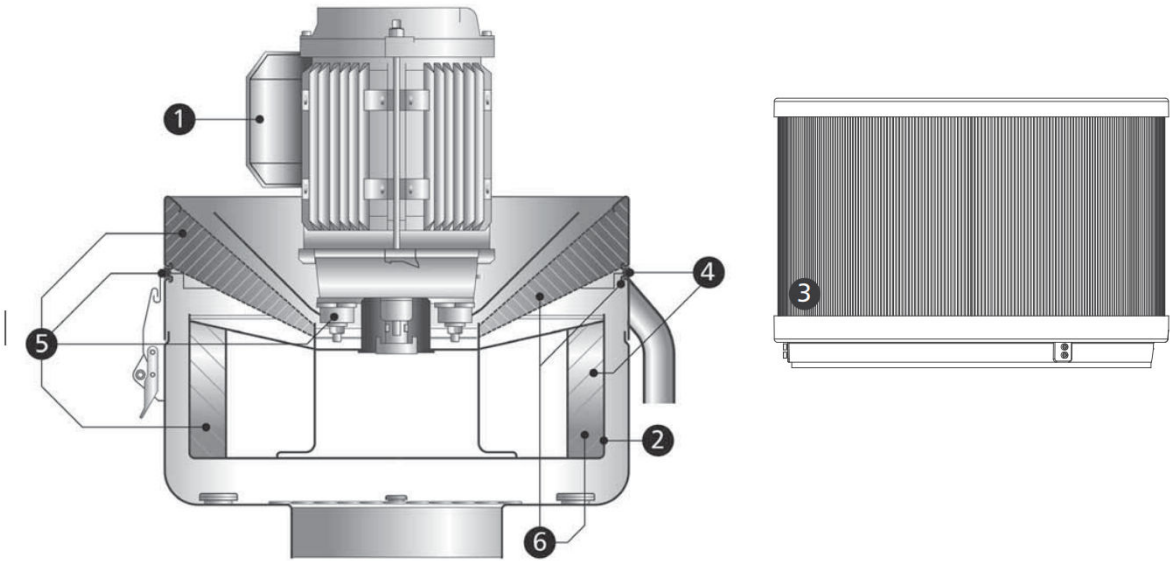
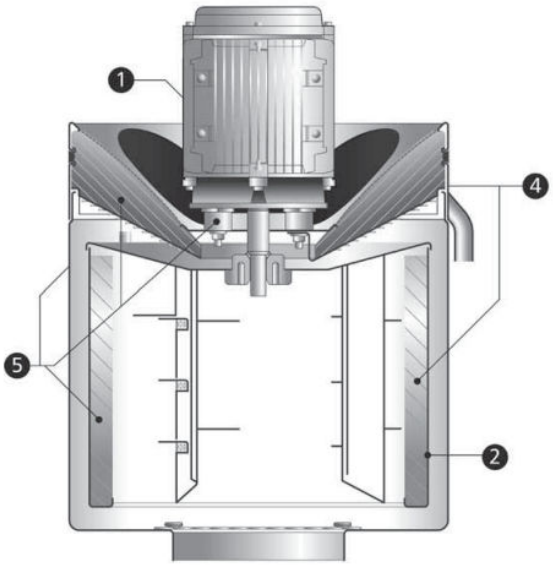


Table 5. Spares Table for S Series Products

Number	Item	Model	Part Number
1	Motor	S200 S400, S800	20-213-30-052 20-213-30-161
2	Drum	S200 S400 S800	20-213-30-020 20-213-30-021 20-213-30-022
3	Afterfilter (92% efficiency)	S200 S400, S800	20-206-10-000 20-206-10-003
	High Efficiency Afterfilter (99.95% efficiency)	S200 S400, S800	N/A 20-206-10-006
4	Filter Kit - for 1000 Hours Service	S200 S400 S800	20-213-30-050 20-213-30-046 20-213-30-051
5	Spares Kit - for 2000 Hours Service	S400 S800	20-213-30-094 20-213-30-095
6	Spares Kit - for 2000 Hours Service	S200	20-213-30-093

Spares (FX Series)



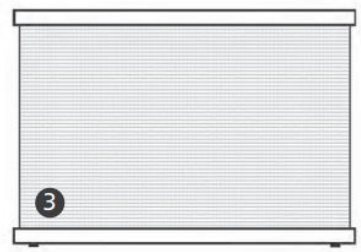


Table 6. Spares for FX Series Products

Number	Item	Model	Part Number
1	Motor	FX4002 FX5002 FX6002, FX7002	20-213-30-162 20-213-30-163 20-213-30-164
2	Drum	FX4002 FX5002 FX6002 FX7002	20-213-30-015 20-213-30-017 20-213-30-013 20-213-30-019
3	Afterfilter (92% Efficiency)	FX4002, FX5002 FX6002, FX7002	20-206-10-002 20-206-10-001
	High-Efficiency Afterfilter (99.95% Efficiency)	FX4002, FX5002 FX6002, FX7002	20-206-10-005 20-206-10-004
4	Filter Kit - for 1000 Hours Service	FX4002 FX5002 FX6002/FX7002	20-213-30-47 20-213-30-48 20-213-30-49
5	Spares Kit - for 2000 Hours Service	FX4002 FX5002 FX6002, FX7002	20-213-30-090 20-213-30-092 20-213-30-087

EU Declaration of Conformity (Machinery)

<table>
<tr><th colspan="4">EU Declaration of Conformity</th></tr>
<tr><td>Manufacturer's Name:</td><td colspan="2">Filtermist Limited</td><td>Machinery Covered by this Declaration:</td></tr>
<tr><td>Full Address:</td><td colspan="2">Telford 54 Business Park, Nedge Hill, Telford, Shropshire, TF3 3AL</td><td>Description: Oil Mist Collector Filter Unit</td></tr>
<tr><td></td><td colspan="2"></td><td>Function: To be integrated in a HVAC system to remove potentially hazardous dust from the air</td></tr>
<tr><td></td><td colspan="2"></td><td>Type: S/FX Series</td></tr>
<tr><td colspan="2" rowspan="2">CE</td><td>Model:</td><td>S200, S400, S800, FX4002, FX5002, FX6002, FX7002</td></tr>
<tr><td>Serial Number:</td><td>See unit</td></tr>
<tr><td colspan="4">The machinery conforms to all the requirements of the Machinery Directive 2006/42/EC</td></tr>
<tr><td colspan="2">The following standards have been used</td><td colspan="2">EN12100:2010, EN60204-1:2018, EN ISO 14120:2015, EN ISO 13857:2019</td></tr>
<tr><td colspan="4">The technical file is compiled in accordance with part A of Annex VII of the Machinery Directive 2006/42/EC</td></tr>
<tr><td rowspan="2">Person authorised to compile the technical file (based in the European Community):</td><td>Name:</td><td colspan="2">Absolent AB</td></tr>
<tr><td>Address:</td><td colspan="2">Absolent AB Sweden, Staplaregatan 1, SE-531 40, Lidköping, Sweden</td></tr>
<tr><td colspan="4">The relevant authorised person undertakes to transmit, in response to a reasoned request by the national authorities, relevant information on the machinery. This information will be transmitted by: (email, post)</td></tr>
<tr><td rowspan="4">Person authorised to make this declaration:</td><td>Name:</td><td colspan="2">Craig Haynes</td></tr>
<tr><td>Position in company:</td><td colspan="2">Head of Engineering</td></tr>
<tr><td>Signature:</td><td colspan="2">  </td></tr>
<tr><td>Place of declaration:</td><td colspan="2">Filtermist Limited, Telford 54 Business Park, Nedge Hill, Telford, Shropshire, TF3 3AL, England</td></tr>
<tr><td></td><td>Date of declaration:</td><td colspan="2">1st January, 2025</td></tr>
</table>

EU Declaration of Conformity (Other Directives)

EU Declaration of Conformity (Other Directives)		
We Company Name: Filtermist Limited Postal address: Telford 54 Business Park, Nedge Hill City: Telford Postcode: TF3 3AL Telephone Number: 01952 290500 E-mail address: sales@filtermist.com		
Declare that this DOC is issued under the sold responsibility of the manufacturer. Product: Oil Mist Collector Filter Unit Type: S200, S400, S800, FX4002, FX5002, FX6002, FX7002 Batch: N/A Serial Number: See Unit Brand: Filtermist		
Object of the declaration To fit to machinery to extract oil mist and coolant mist and filter to air		
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation: EMC Directive 2014/30/EC RoHS Directive 2015/863/EU		
The following harmonised standards and technical specifications have been applied (title, date of standard/specification): EN 12100:2020, EN 60204-1:2018, EN ISO 14120:2015, EN ISO 13857:2020		
Additional Information: The relevant authorised person undertakes to transmit, in response to a reasoned request by the national authorities, relevant information on the machinery. This information will be transmitted by: (email, post). **Person authorised to compile the technical file, based in the European community is:** Absolent AB **Address:** Staplaregatan 1, SE-531 40 Lidköping, Sweden **Signed for an on behalf of:**		
Place of Issue: Filtermist Limited, Telford 54 Business Park, Nedge Hill, Telford, Shropshire, TF3 3AL, England	**yyyy-mm-dd:** 2025-01-01	**Name, Function and Signature:** Craig Haynes, Head of Engineering 

Supplied by:

Certificate Number 1122
ISO 9001
ISO 14001