



AOF

Operation and Maintenance

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CAUTIONS



Do not place this product near a powerful magnetic field or expose to static electricity.

Do not drop unit or damage the unit body.



Do not clean with corrosive products.



Pre filter system must be washed periodically. When cleaning pre filter, we recommend also cleaning the interior of the machine.



This unit is not ATEX rated.

It is your responsibility under ATEX regulations to ensure the AirBench is located in an area rated suitable for the specification of the AirBench.



We do not accept responsibility for any inconvenience or damage caused by unusual or unspecified applications. If the product is damaged or service is required, please contact us.

INTRODUCTION

Overview

Thank you for choosing AOF as your mist control system. Please read this document before installation and use.

This document details maintenance activities which are essential to the safe use of your AOF. We recommend that the Responsible Person reads this manual fully prior to installation and operation of the AOF.

This document refers to the AOF range. Models of this type are available with a range of filter configurations. The filter configuration in use is detailed on the system Commissioning Certificate and on order.

About AOF

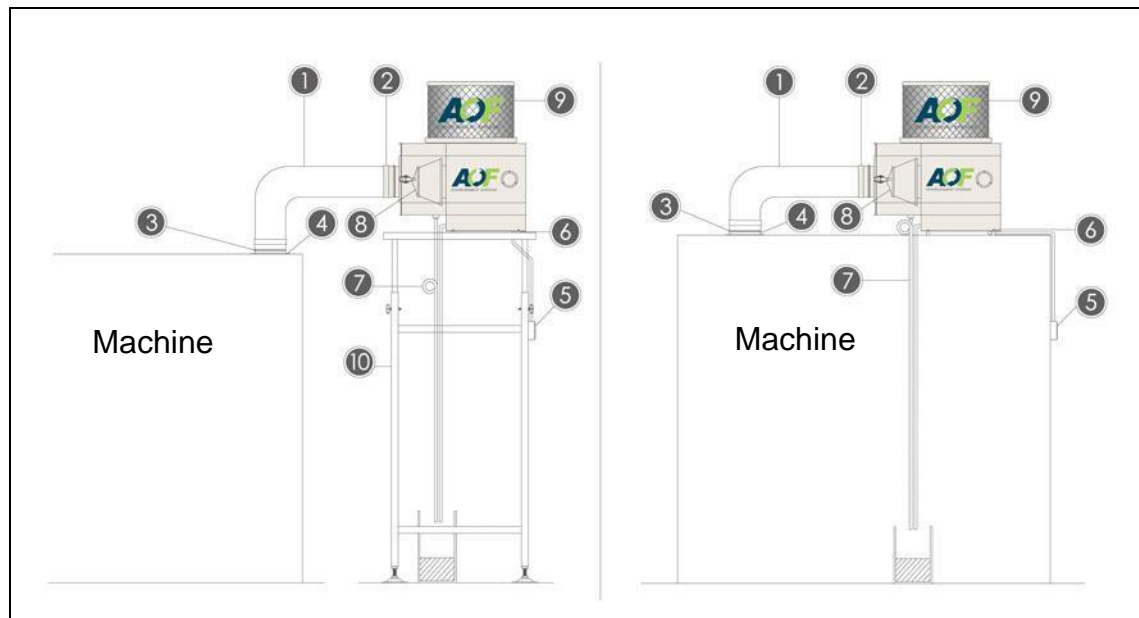
AirBench is a dedicate coolant mist / smoke filter system designed for installation to machine tools, for the removal of contaminants from most types of machining.

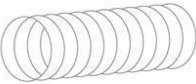
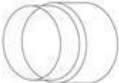



AOF is currently pending patent.




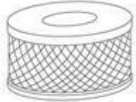

About this Document

This document provides general maintenance and operation instructions for the AOF range. It should be read in conjunction with the Commissioning Certificate supplied on installation. If you have any concerns or doubts about maintenance or operation of this unit, contact the supplier.

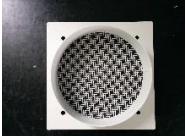

PARTS NAMING



NO.	Part			AF-10	AF-20	AF-30
1	Flexible hose (std.)		Type	H-150	H-150	H-150
			Outside dia.	Ø150	Ø150	Ø200
2	Sleeve for flexible hose (std.)		Type	HC-150	HC-150	HC-200
			Outside dia.	Ø150	Ø150	Ø200
3	Flexible hose clamp (std.)		Type	HB-165	HB-165	HB-215
			Outside dia.	Ø150	Ø150	Ø200
4	Air inlet adaptor (std.)		Type	A-150	A-150	A-200
			Outside dia.	Ø150	Ø150	Ø200
5	Power switch (opt)		Type	Varies		

6	Anti-vibration mount (std.)		Type	AV-832		
			Outside dia.	M8- Ø32x32L		
7	Oil drain hose (std.)		Type	DH-300		
			Outside dia.	Ø12		
8	Pre-filtering system (std.)		Type	PF-250	PF-250	PF-300
			Outside dia.	Ø250	Ø250	Ø300
9	After-filtering system (std.)		Type	S – Standard (Coolant) P – Practical (Oil smoke)		
10	Telescopic stand (opt.)		Type	SU-1800 1100-1800mm height		

SCOPE OF SUPPLY





Name		Quantity
	Air inlet adaptor	1
	Flexible hose clamp	2
	Anti-vibration screw 8mm	4
	Flexible hose 1.5M	1
	Sleeve for flexible hose	2
	1.25 four-core oil proof cable 3.3M	1
	Oil proof pipe 3M	2
	Power switch (optional)	1

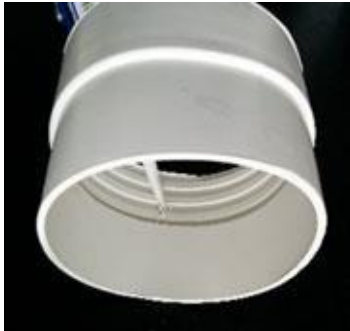
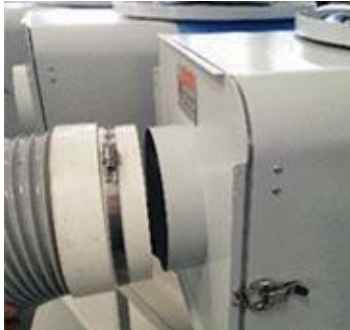


INSTALLATION

General

1. Installation must only be performed by an authorized technician who has carefully read the installation guide. This is to prevent electric shock or machine damage.
2. To ensure performance, the air cleaner should be properly installed on the machine tool. The installation area must be stable and vibration-resistant. If the machine is not capable of supporting the weight of the AOF, use a stand or mount to a wall.
3. To maintain efficiency, maintain high bend radius in hoses.
4. The electric wiring must comply with electrical standards and should be completed by a qualified electrician.
5. AOF is wired for 3 phase supply and may be configured for 415 or 230v, 3ph. For further electrical information, refer to the label attached to the air cleaner.
6. AOF should be electrically connected by a qualified electrician.
7. When installing the unit motor / overload protection must be provided. A suitably sized DOL starter or motor protection circuit breaker should be used.
8. Do not change the power wire length or use extension wire.
9. After installation, it is necessary to perform commissioning tests as detailed above.

Installation Guide

	<p>Locate a free area on the top of your machine which is suitable for installation; confirm suitability for both the extraction point, and the AOF unit.</p> <p>When determining an installation location, consider the optimum extraction point from the machine tool; airflow should pass through the whole machine to minimize escape of contaminated air through small openings. (If you already have a hole on the top of your machine provided by the manufacturer for an extraction pipe, use this and modify install location to suit).</p>
	<p>Place the air inlet adaptor on the hole, fix the four corners and fill the four sides with silicone.</p>
	<p>Choose a flat area nearby the hole to house the AOF. Drill the screw holes (depending on your model) and affix the AV mounts.</p>
	<p>Install the oil mist collector on the mounts and fix them with a tool such as a spanner.</p>

	<p>Take the sleeve and hose out, put some silicone in the PP sleeve and screw it into the PVC hose (according to the thread direction).</p>
	<p>Attach the sleeve on the air inlet adaptor and fasten it with the hose clamp. Measure the length you need and cut it from the other end. Repeat the above step when connecting sleeve and hose.</p>
	<p>Install the oil proof pipe under the AOF (front side), make a loop and fix it. Fill the coolant into the oil pipe to isolate the air from outside (failure to do this will reduce performance).</p>
	<p>Use a screwdriver to remove the back cover and install another pipe to the upper right bracket. Put back the cover after completion.</p>



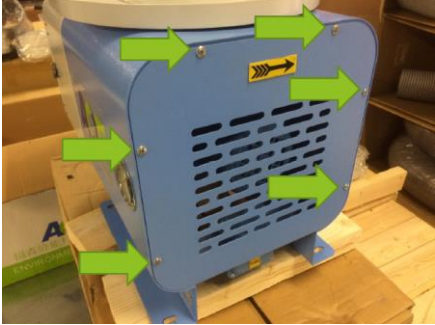
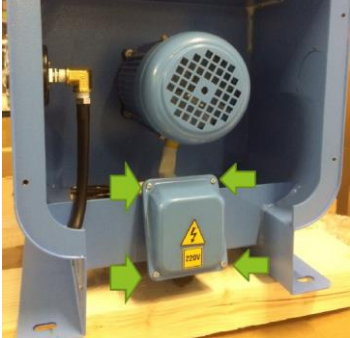


Connect the collector to power, taking care to reconfigure the motor connections if your power supply does not match the motor specification plate.

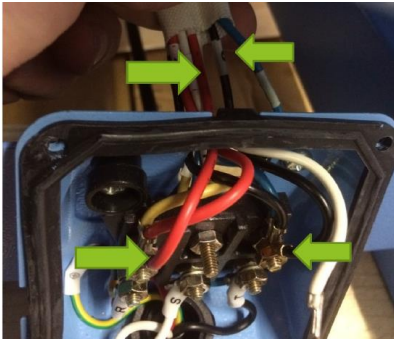
Check the fan rotation direction. It should be rotating clockwise.

Phase Change

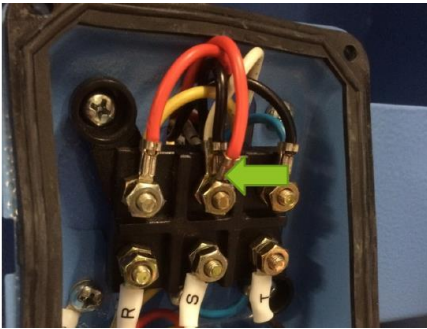
To change the unit from 230 > 415V, proceed as follows. To change from 415 > 230V, reverse this procedure.

Before beginning work, ensure the unit is disconnected from the power supply.

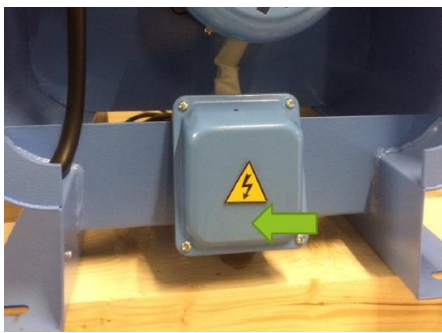
	<p>Remove 6 x screws from rear cover.</p>
	<p>Remove 4 x screws from electrical cover.</p>
	<p>Remove brass connector</p>
	<p>Replace wires marked 'S'</p>



Remove wires 5 and 6



Join 4,5,6 at arrow



Replace connection block and remove 220v label.

COMMISSIONING




Following installation, the installer should commission the unit.

Commissioning should follow procedures described in current HSE guidance.

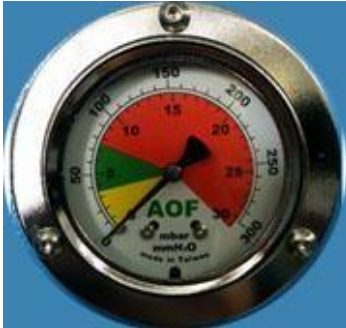
If in doubt please contact the manufacturer quoting the machine serial number.

MAINTENANCE

Cleaning prefilters

 A circular differential pressure gauge with a stainless steel casing. The dial has a scale from 0 to 300 with markings every 10 units. The gauge is divided into three color-coded zones: green (0-10), yellow (10-20), and red (20-300). The needle is currently pointing into the yellow zone. The text 'AOF' and 'mbar' are visible on the dial.	<p>If the needle of the dial is in the yellow part, the pre-filter has to be cleaned out. If the needle of the dial is on the zero (severe blockage), the pre-filter must be cleaned out immediately.</p>
 A cylindrical pre-filter assembly consisting of a metal top cap with a central screw and a white mesh filter element.	<p>The pre-filtering system should be checked and cleaned at least every 3 months with neutral cleaner. The cleaning time depends on the mist thickness, type, working time and flow rate; adjust cleaning intervals based on your own experience.</p>
 A close-up view of the pre-filter assembly being cleaned. A hand is using a red-handled screwdriver to pry open the metal cap, revealing the mesh filter inside.	<p>Use an air gun to blow out the remaining water inside and let it dry for 4 to 6 hours. Then, reinstall the filter.</p>

When to replace the after-filter



If the needle of the dial reaches the red zone (eg 10), the after-filter is slightly blocked.

If it goes to the top (30), the after-filter requires immediate replacement.

TROUBLESHOOTING

The following instructions are intended for qualified service personnel only. Disconnect power before servicing the unit.

The motor is operating, but no air is drawn into the unit.	
Reason	Solution
The fan is rotating in wrong direction. (The fan must be rotating clockwise)	Turn off the power. Swap each 2 of the R/S/T cables in the main power supply unit. Turn on the power again and make sure the fan is rotating clockwise.

The motor does not start after switching the power on.	
Reason	Solution
A. Incorrect power voltage is supplied. B. Power switch is faulty.	A. Check whether the supplied power voltage is correct. B. Please contact us to replace the power switch

Machine is making a loud noise.	
Reason	Solution
A. The air inlet is jammed B. The air hose is deformed or squashed	A. Check and clean the shielding net of the inlet. B. Check the position of the air hose to make sure the air is flowing smoothly.

Machine is vibrating during operation.

Reason	Solution
A. Improper installation area. B. The oil mist collector is positioned without anti-vibration screws	A. The oil mist collector must be installed on a proper area that is stable and vibration resistant. B. Anti-vibration screws are necessary for positioning the oil mist collector (It is a standard accessory in the package).

THOROUGH EXAMINATION AND TESTING

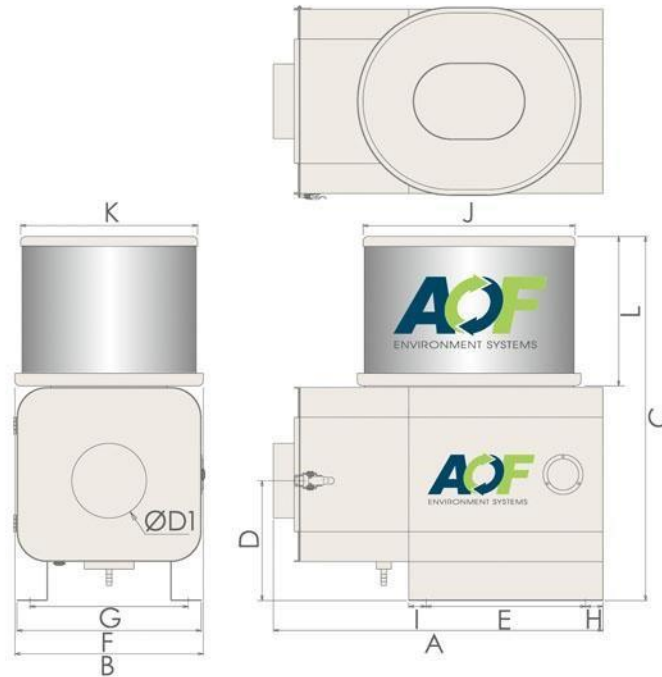
If AOF is used as an LEV system it must be tested at regular (normally 12 month) intervals and certificated under the COSHH regulations. This service is available from us, or our approved testers.

Thorough examination and test should include:

- Ensuring the prescribed maintenance routines are being completed and recorded within the system logbook.
- Condition check of fan, filters, electrics.
- Performance testing according to recommended duct velocities.
- Visual check that operators are working within effective area.
- Visual check of effectiveness using, for example, smoke tubes.

Completion of Thorough Examination and Testing should be recorded within the system logbook.

TECHNICAL



Model	Power Source	Motor	Air Flow Rate (m ³ /min) (50Hz/60Hz)	Static Pressure (kPa) (50Hz/60Hz)	Noise Value db(A) (50Hz/60Hz)	Filtering Effect	Weight (kg)	Air Inlet Port	Effective Filtration
AF-10P	3Ø AC220V or AC380V	0.2 KW	11/14	0.78/1.15	60/63	99.97% EU E12 Standard	39	Ø150	<4m ³
AF-20P		0.4 KW	19/22	1.71/2.06	66/71		42	Ø150	<12m ³
AF-30P		1.15 KW	37/42	1.92/2.35	68/73		66	Ø200	<24m ³

Above table is showing the testing results from the P series models.

Model	A	B	C	D	D1	E	F	G	H	I	J	K	L
AF-10P	613	379	726	231	148	300	335	283	25	25	426	355	313
AF-20P	653	379	736	231	148	320	350	298	25	25	426	355	313
AF-30P	765	432	808	290	200	388	420	368	25	25	492	408	313

WARRANTY TERMS

1. During the warranty period, we will provide free repair or part replacement for issues arising as a result of manufacturing defects.
2. The warranty period is one year following date of supply (or date of installation if installed by us or our approved installers)
3. During the warranty period, if any of the following conditions occur, we will charge for the maintenance cost:
 - 3.1 Improper operation or use in a special working environment (For example: high temperature or aggressive chemical environments)
 - 3.2 Problem caused by natural disaster.
 - 3.3 Self-repair or self-modification, breakage or trouble caused during transportation.
 - 3.4 Problem caused by abnormal power supply or incorrect voltage or frequency.
 - 3.5 Used in a location containing too much dust or oil dust without proper maintenance.
4. If any of the following conditions occur, we will charge the actual costs:
 - 4.1 The warranty period is over.
 - 4.2 The warranty is not shown.
 - 4.3 The contents of warranty are illegible (not caused by original writer) which cannot be read or modified.
 - 4.4 The contents of warranty (such as model and serial number) do not comply with the actual product.
 - 4.5 Problem is caused by natural disaster.
5. When installing the oil mist collector, if service space and personnel safety are not considered, it may result in service difficulty. The user shall be responsible for the cost of dismantling.
6. If the replacement part is not available after five years from the date of purchase, we will provide the equivalent for repair. However, in some cases, we are sorry for not being able to provide an equivalent for replacement.
7. The warranty is effective only for the original purchaser. If the product is resold other than by an authorized distributor, the warranty will be terminated.



AIR-O-FILTER ENVIRONMENT SYSTEMS, INC.

<http://www.air-o-filter.com>

No. 611-6, FengZhou Rd., ShenGang Dist. TAICHUNG CITY 42949, TAIWAN

TEL+ 886 4 25280316 FAX: +886 4 25280336

E- Mail: aof.filters@msa.hinet.net

CE DECLARATION OF CONFORMITY

Machine Manufacturer : AIR-O-FILTER ENVIRONMENT SYSTEMS, INC.
Manufacturer's Address : No. 611-6, FengZhou Rd., ShenGang Dist. TAICHUNG CITY 42949,
TAIWAN
Machine Type : Oil Mist Collector
Machine model : AF-10P
Machine's serial number : NLAf10P15011
Date of Issue : AUGUST .25, 2015
Place of Issue : No. 611-6, FengZhou Rd., ShenGang Dist. TAICHUNG CITY 42949,
TAIWAN

DECLARATION:

We, AIR-O-FILTER ENVIRONMENT SYSTEMS, INC. , hereby declare that the above mentioned machine fulfills all relevant provisions of following directive:

2006/42/EC Machinery Directive (Article 12, paragraph 2 and Annex VII)
2004/108/EC Electromagnetic compatibility
2006/95/EC Low voltage Directive

Signature of Authorized Representative: _____

Date : AUGUST .25, 2015

