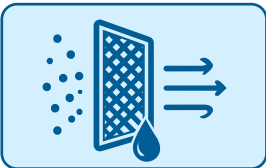


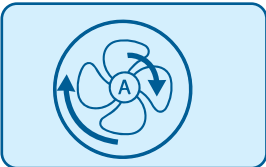


AIR SHIELD



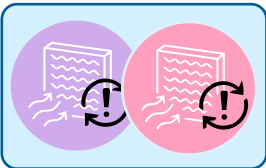
PROCESS AIR FILTRATION

Fully Configurable to Every Application



AUTOMATIC AIR FLOW CONTROL

for Consistent Extraction Performance



2 - STAGE FILTER ALERT

for Predictive Maintenance Indication



INTEGRATED COOLANT RECOVERY

for Cost-Saving Operation



SMART MACHINE INTEGRATION

for Demand-Based Operation

Introduction

The new “AIR SHIELD” product family from FILT AIR was specifically developed for the treatment and filtration of process air.

In addition to environmental considerations, the focus is on the health of the operator, who is exposed to increasing risks from cleaning and lubricant aerosols.

The devices are designed for versatility and offer the ideal configuration for every application (machine), ensuring absolute safety with maximum cost-effectiveness. The system’s many sophisticated details make a decisive difference compared to existing products on the market.

Performance and Functionality

- Compact design for maximum space-saving integration
- HEPA filter technology ensures the highest safety standards and air purity
- Droplet separation in the first stage ensures excellent HEPA filter service life
- Integrated sensors guarantee outstanding process reliability
- Ready-to-connect to the machine control system enables maximum efficiency

Construction

The AIR SHIELD is a compact device housed in a robust aluminum casing.

The intake air first passes through a droplet separator made of a extruded aluminum profile. This is followed by a variable number of pre-filter

stages before the air passes the fan and finally exits the device through a high-efficiency HEPA filter.

The device is powered by an efficient brushless DC (BLDC) fan motor.



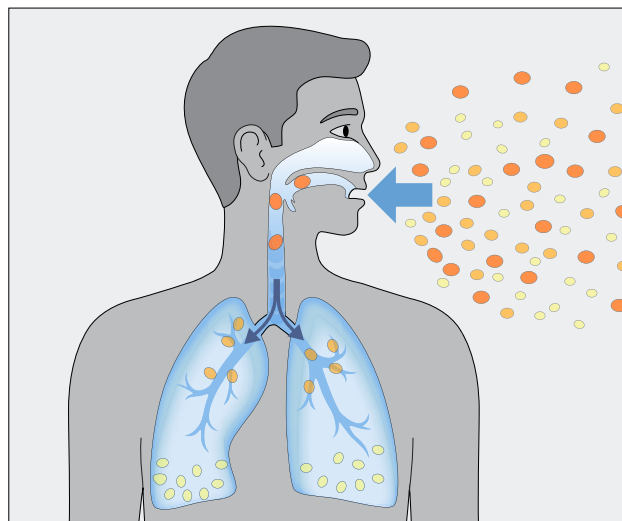
Process Air in Machining

Metal cutting processes uses large amounts of cutting fluids. These lubricants are complex mixtures that often contain sulfonates, fatty amines, nitrates, dyes, biocides, and other chemicals that are harmful to both humans and the environment due to hydrocarbon oxidation, microbial growth, or contamination by external contaminants.

Therefore, controlling oil mist concentrations is an important measure to ensure health and safety in the workplace.

Oil Mist Formation

During CNC machining, the coolant is sprayed, lands on rapidly rotating tools or workpieces, or evaporates at high temperatures. These mechanical, physical, and chemical factors interact and lead to the formation of significant amounts of oil mist.



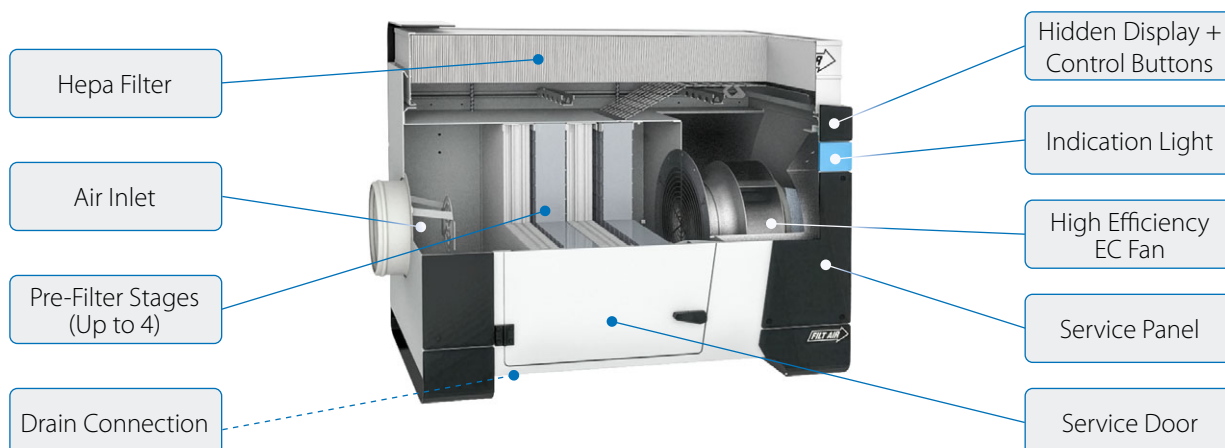
- 0.1µm - Particles of this size are deposited in the alveolar region
- 2.5µm - Particles of this size are deposited in the lung
- 10µm - Particles of this size are deposited in the mouth

Risks and Solutions

Fine cooling lubricant mists are dangerous because they are lung-penetrating. Unlike larger drops, these tiny particles reach the alveoli and can enter the bloodstream. These mists are not only harmful and often carcinogenic, but they also carry bacteria and fungi that cause severe

lung inflammation (EAA). Effective exhaust air purification is the most reliable way to stop these hazardous substances from escaping the machine, safeguarding your team and the environment from toxic contact.

General Structure of Device



Key Highlights

Active Air Flow Control

By utilizing continuous flow measurement instead of traditional ΔP (differential pressure) filter monitoring, the system ensures a consistent airflow. This eliminates a drop in air flow caused by filter loading,

A **2-Stage Filter Clogging Alert** - violet/red - for early warning and immediate filter replacement. This prevents downtime.



Seamless Integration via Dry Contact

Via an outer Terminal Block the unit connects to your machine's potential-free (dry) contact. Triggered by standard M-functions (for example), the Air Shield synchronizes perfectly with your production cycle. **This extends filter lifespan, lowers operating costs, and minimizes noise levels.**

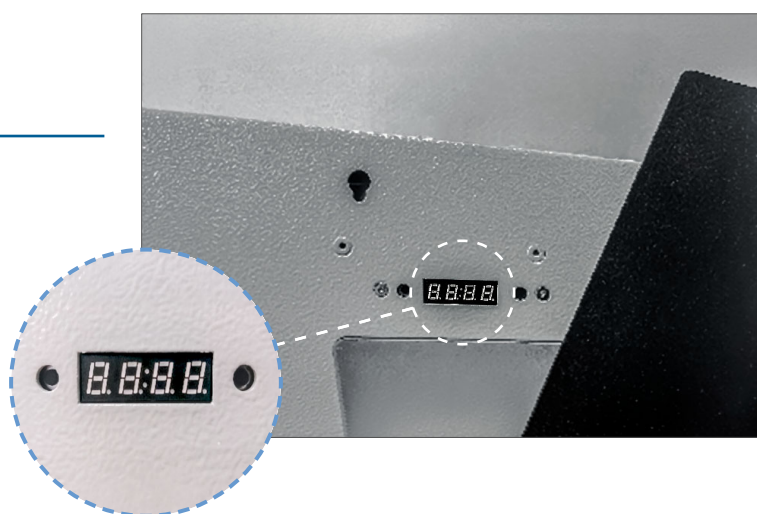


Integrated Service Interface

Designed for technicians, the unit features a discrete user **interface located under a protective cover** to prevent accidental adjustments and environmental damage.

The Key Service Functions are:

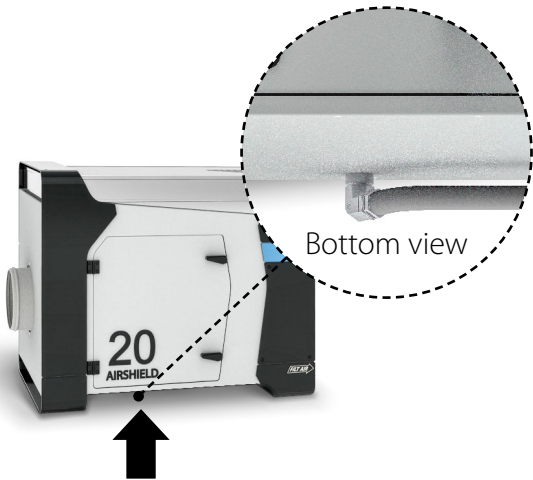
- **Real-Time Flow Visualization**
- **Precision Sensor Calibration**
- **Operating Hours Counter**



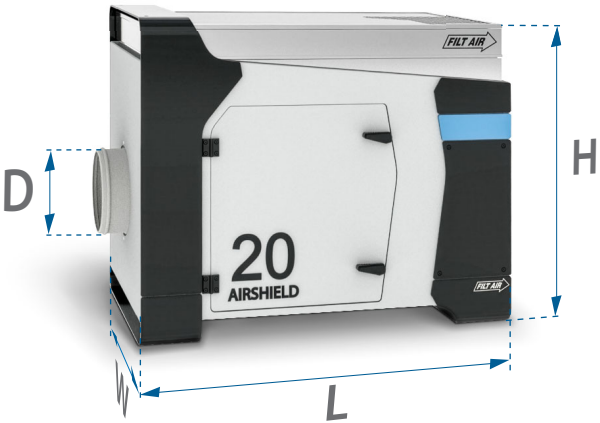
Key Highlights

Coolant Recovery

The droplet separator captures emulsion mist; the collected fluid can be routed via a dedicated fitting for connecting a hose back to the machine’s coolant tank. This significantly reduces waste and lowers fluid expenses.



System	0700	1200	2000	Custom
Height (mm)	480	630	630	RFQ
Inlet Diameter (mm)	150	200	250	RFQ
Width (mm)	380	520	520	RFQ
Length (mm)	750	900	900	RFQ
Weight (kg)	35	45	45	RFQ
Supply voltage	230 VAC / 1 PH	380 VAC / 3 PH	380 VAC / 3 PH	Central System
Rated airflow (m³/h)	700	1200	2000	> 3000
Rated CNC work zone volume (m³)	up to 4	up to 6	up to 10	
Pre-filter	Cleanable - Configuration optimized acc. application			
HEPA filter efficiency	> 99.97% @ 0.3 um (or any other requirement)			



Part Number Configuration

Order no. FP **A** - **B** **C** **D** **E**

Sample P/N: **FP0-121E**

A	Generation	B	Rated Airflow	C	QTY of Final Filter Places	E	Features
0	Initial	07	700 m³/h	1	1	C	CUSTOM Adjustable Airflow
		12	1200 m³/h	2	2	E	ECO Dry Contact (Energy Saving)
		20	2000 m³/h	3	3	S	SPARK Electrostatic Pre-Filter Option
				4	4	T	Timer Filter Run Time (Visualization via main light)

Accessories

Main Filter

Filter	Description	System	Part Number
HEPA Filter	HEPA Filter; H13 acc. EN1822; oil resistant; Efficiency: >99.95%@MPPS >99.97%@0.3µm	Air Shield 700	GPG-13W6-QECA-P
		Air Shield 1200	GPG-13P9-QECA-P
		Air Shield 2000	GPG-13P9-QECA-P
Activated Carbon Filter *	Acc. customer requirements	Air Shield	TBD
Electrostatic Filter *	Acc. customer requirements	Air Shield	TBD
Fine-dust Filter *	Acc. customer requirements	Air Shield	TBD

* Consult our experts

Pre-filter

Filter	Description	System	Part Number
Wave Separator	Droplet Separator 08; Extruded aluminum Profiles, Metal frame; cleanable	Air Shield 700	GPG-13W6-QECA-P
		Air Shield 1200	GPG-13P9-QECA-P
		Air Shield 2000	GPG-13P9-QECA-P
Demister	Wire Demister; Stainless Steel; droplet accumulation and separation; cleanable	Air Shield 700	GS0-S125
		Air Shield 1200	GS0-S124
		Air Shield 2000	GS0-S124
Amerglass **	Panel Filter; Amerglass ; metal frame; Average Efficiency 12%; Filtration media replaceable	Air Shield 700	GS1-02W5-X461
		Air Shield 1200	GS1-02W4-X461
		Air Shield 2000	GS1-02W4-X461
Coarse Filter Cardboard	Cardboard Coarse-dust Filter; Average Efficiency 35%	Air Shield 700	G90-04W5-4000
		Air Shield 1200	G90-04W4-4000
		Air Shield 2000	G90-04W4-4000
Medium Filter Cardboard***	Cardboard dust Minipleat Filter; Average Efficiency 65%	Air Shield 700	G91-06W5-4000
		Air Shield 1200	G91-06W4-4000
		Air Shield 2000	G91-06W4-4000
Fine dust Filter ***	Panel Filter; fine dust ; Extruded Aluminum Frame; Average Efficiency 95%	Air Shield 700	GPB-08W5-QECO
		Air Shield 1200	GPB-08W4-QECO
		Air Shield 2000	GPB-08W4-QECO
Activated Carbon Filter *	Acc. customer requirements	Air Shield	TBD
Electrostatic Filter *	Acc. customer requirements	Air Shield	TBD

* Consult our experts

** Other materials (duralast, polylast, fleeces) are available on request

*** Additional efficiencies, sizes and filtration medias are available on request

Accessories

Item	Comment	System	Part Number
Air Intake Mesh	Optimized for rated airflow Pre-filtration Reduced air velocity at Inlet	Air Shield 700	AB5-0046
		Air Shield 1200	AB5-0047
		Air Shield 2000	AB5-0048
Air intake ducting	Flexible Hose; 1m Clamps	Air Shield 700	AB5-0050-1000*
		Air Shield 1200	AB5-0051-1000*
		Air Shield 2000	AB5-0052-1000*
Drain system	Flexible Hose; 3m Fittings + Clamps	Air Shield	AB5-0049-3000*
		all models	

* last digits of PN is lengths in [mm]

Nice to meet you

FILT AIR Ltd. is a global leader in air filtration solutions, specializing in advanced technologies to ensure clean air for industries such as high-tech clean rooms, microelectronics, and pharmaceuticals.

Established in 1998 as a subsidiary of Beth-El Zikhron Yaaqov Industries Ltd., FILT AIR has expanded its product range to serve a wide array of clients, including hospitals, industrial plants, commercial buildings, and power plants equipped with gas turbines.

Our products are designed to meet the highest standards of quality, safety, and reliability, while offering competitive pricing. Certified under ISO 9001 since 2001 (IQNet: IL-24203), FILT AIR upholds a rigorous quality management system that guarantees excellence from raw materials to finished products.

We take pride in our collaborative approach, working closely with customers and suppliers to deliver clean air solutions tailored to specific needs. Our research and development team ensures we stay at the forefront of innovation,



focusing on environmentally friendly processes and solutions that meet the latest technological standards.

At FILT AIR, customer satisfaction is our top priority.

Whether you need HEPA/ULPA filtration, pre-filtration, or custom-designed systems, our experts are here to help you find the right solution. We are committed to providing high-quality products without compromise, ensuring optimal performance for every application.

Fan Filter Unit | Filtration System

Process Air Treatment | AIR SHIELD



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