



## TECHNICAL DATA ARNO SERIES

Mist collectors of oil mist, fume and micro-dust for machine tools 24/7



### THE ULTIMATE SOLUTION

For the filtration of oil mist in metalworking workshops

VISIT OUR WEB SITE  
[www.arfiltrazioni.com](http://www.arfiltrazioni.com)

## STRONG POINTS

## ARNO SERIES

More than 25,000  
units installed!

Strong!  
Up to 4,000 m<sup>3</sup>/h  
Up to 2360 CFM



100%

Tested units  
EN: 1822  
D.d.u.o.n 12772

100%

With relevant test  
certificate  
for each unit

80%

Re-Condensed  
coolant  
drained back for  
re-use or collection

60%

Self-cleaning  
or regenerable  
filters

AR Filtrazioni is producer of a new generation of mist collectors for the re-condensation and purification of every type of atmospheric pollutant generated during machining processing of machine tools (machining centers, lathes, grinders, laser and washing machines, etc.) working till three shifts.

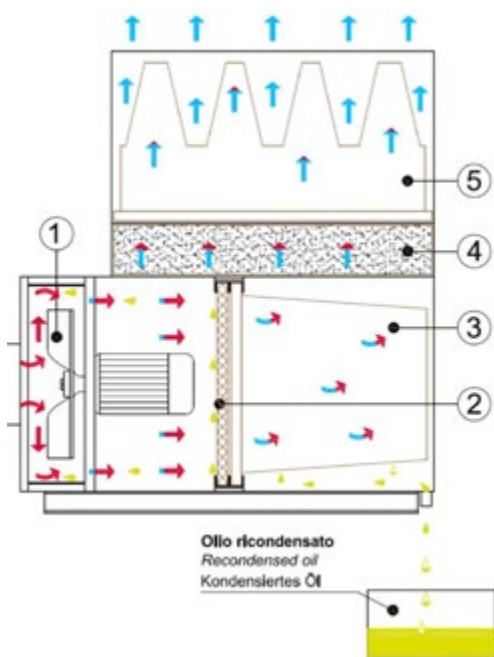
## ADVANTAGES

- Easy and simple maintenance, once a year
- Robustness of mechanical parts
- Recovery of 80% of the recondensed oil
- Total compliance with the strictest Italian and European regulations
- Energy saving of 415,00 € for each plant
- Reduction of CO<sub>2</sub> emissions of 9,000 kg/year, for each plant
- Protection of sensitive machine tool parts
- Respect for people and environment



# WORKING PRINCIPLE

Air cleaners of the ARNO series are suitable for the extraction, re-condensation and purification of oil mist, fume, micro-mist and micro-dust generated during high-duty production processing, up to 3 work shifts.



## ARNO VF

### 1° STAGE CENTRIFUGE

#### SELF-CLEANING CENTRIFUGAL CONDENSER

- Self-cleaning
- Balanced (no vibration)
- It thickens 80% of the oil mist, by centrifugal effect

### 2° STAGE METAL FILTER

#### PREFILTRATION CELL IN GALVANIZED STEEL

European standards ISO EN 16890

Filtration efficiency > 95% - Particles with volume 3  $\mu$

- Washable (12/18 months)
- Hold any chips, thanks to a robust metal frame with safety net
- Sieve effect, exploits gravity to convey the re-condensed oil into the drainage tube

### 3° STAGE POCKET FILTER

#### COALESCENCE FILTER

European standards ISO EN 16890

Filtration efficiency up to 95% - particles with volume 0.4  $\mu$

- Replacement every 6/18 months
- Glass-fibre fabric with a wide filtering surface

### 4° STAGE COALESCENCE FILTER

#### BLACK PANEL FILTER BY COALESCENCE EFFECT

- Washable
- Diffuser
- Noise attenuator

### 5° STAGE HEPA FILTER

#### FINAL FILTRATION WITH HIGH (EPA) or VERY HIGH (HEPA) FILTRATION EFFICIENCY

European standards EN1822

Filtration efficiency up to 99.995%.

Particles with volume  $\geq 0.15\mu$

- Replacement every 24/36 months

Thanks to its **modularity**, every air cleaner can be equipped with interchangeable filters of different filtration efficiency, suitable to capture particles of different sizes.

In case of particularly heavy work situations, in presence of solid dust and cast iron metalworking, the equipment is predisposed for the application of a specific pre-filtration system.

In presence of oil mist, fume and odours, VOC and formaldehyde, the air cleaners can be equipped with **active carbon cell**.

OPTIONAL

## PRE-FILTER

3 WORK SHIFTS

HORIZONTAL MACHINING CENTER

HIGH PRESSURE PUMPS

## WORKING PRINCIPLE ARNO VF + PRF K

### X STAGE PRE-FILTRATION SYSTEM

Pre-filtration chamber

- Washable

### 1° STAGE CENTRIFUGE

SELF-CLEANING CENTRIFUGAL CONDENSER

- Self-cleaning
- Balanced (no vibration)
- It thickens 80% of the oil mist, by centrifugal effect

### 2° STAGE METAL FILTER

PREFILTRATION CELL IN GALVANIZED STEEL

European standards ISO EN 16890

Filtration efficiency &gt; 95% - Particles with volume 3 µ

- Washable (12/18 months)
- Hold any chips, thanks to a robust metal frame with safety net
- Sieve effect, exploits gravity to convey the re-condensed oil into the drainage tube

### 3° STAGE POCKET FILTER

COALESCENCE FILTER

European standards ISO EN 16890

Filtration efficiency up to 95% - particles with volume 0.4 µ

- Replacement every 6/18 months
- Glass-fibre fabric with a wide filtering surface

### 4° STAGE COALESCENCE FILTER

BLACK PANEL FILTER BY COALESCENCE EFFECT

- Washable
- Diffuser
- Noise attenuator

### 5° STAGE HEPA FILTER

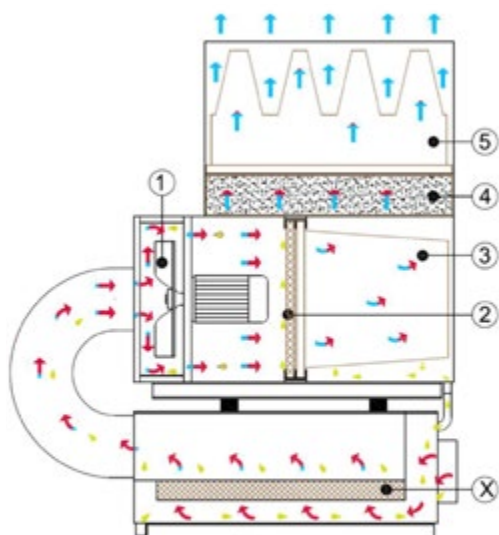
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# TECHNICAL DATA AIR FLOW AND POWER

## EACH UNIT IS EQUIPPED WITH

- Low consumption motor **IE2 / IE3** class (ULCSA on request)
- **ABB / SIEMENS** (ULCSA on request) motor protection switch
- Filter clogging detector; analogue/digital pressure gauge 4.0
- Drainage tube which allows the recovery of (about 80% if neat oil) re-condensed coolant
- Up to **HEPA H13** final filter with very high filtration efficiency



### ARNO 0

850 / 1250 m<sup>3</sup>/h  
500 / 735 CFM

### ARNO 1

1500 / 1700 m<sup>3</sup>/h  
880 / 1000CFM

### ARNO 2

2600 / 3300 m<sup>3</sup>/h  
1530 / 1940 CFM

### ARNO 3

3100 / 4000 m<sup>3</sup>/h  
1825 / 2360 CFM

TECHNICAL DATA

MODEL	SUCTION INLET Ømm	MAX. AIRFLOW m <sup>3</sup> /h - CFM	POWER kW	TENSION FREQUENCY V Hz	NOISE dBa	WEIGHT Kg
0VA - 0VFA	100/120/150	850/1000/1250	0,55	230/400 50	67	45 - 50
1V - 1VA - 1VF - 1VFA	150	1700	0,75	230/400 50	68	65 - 70
1C - 1CF	150	1500	0,75	230/400 50	67	65 - 70
2V - 2VA - 2VF - 2VFA	150/200	2700/3300	1,5	230/400 50	72	90 - 95
2C - 2CF	150	2600	1,5	230/400 50	70	90 - 95
3V - 3VA - 3VF - 3VFA	200	4000	2,2	230/400 50	72	95 - 105
3C - 3CF	200	3100	2,2	230/400 50	72	95 - 105
PRF K0	100/120/150					35
PRF K1	150					45
PRF K23	150/200					50

Air flow capacity may vary based on filters type and combination.

## TECHNICAL DATA



BASIC SERIES

Neat oil	<b>ARNO C</b>
Neat oil / Emulsified oil	<b>ARNO VA</b>
Emulsified oil	<b>ARNO V</b>



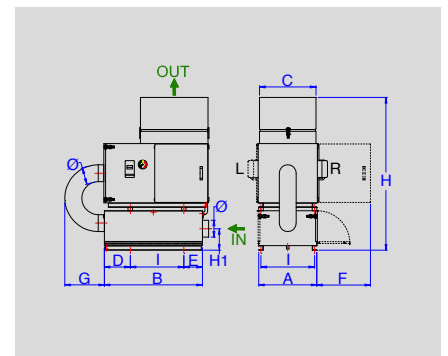
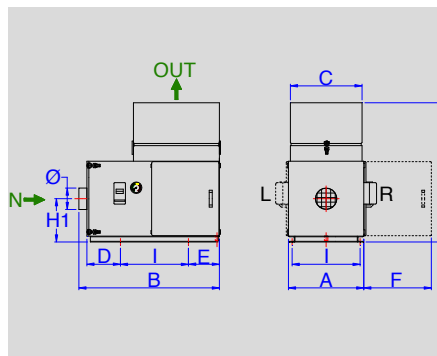
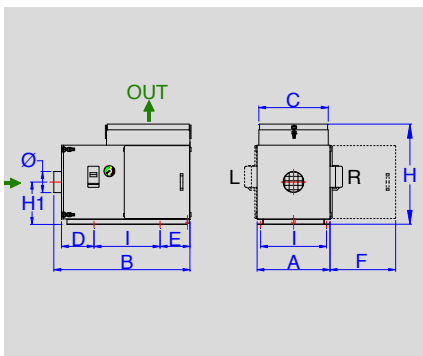
PLUS SERIES

Neat oil	<b>ARNO CF</b>
Neat oil / Emulsified oil	<b>ARNO VF A</b>
Emulsified oil	<b>ARNO VF</b>



PLUS SERIES with prefilter

Neat oil	<b>ARNO CF + PRF K</b>
Neat oil / Emulsified oil	<b>ARNO VF A + PRF K</b>
Emulsified oil	<b>ARNO VF + PRF K</b>



MODEL ARNO	A	B	C	D	E	F	G	H	H1	I
	0VA	360	750	360	185	205	380	-	507	230
0VFA	360	750	360	185	205	380	-	780	230	310-Ø9
1V - 1VA - 1C	400	860	400	230	220	420	-	570	245	360-Ø9
1VF - 1VFA - 1CF	400	860	400	230	220	420	-	860	245	360-Ø9
1VF - 1VFA - 1CF + PRF K1	450	840	400	240	240	400	320	1240	260	360-Ø9
2V - 2VA - 2C	525	990	500	245	220	500	-	690	305	475-Ø9
2VF - 2VFA - 2CF	525	990	500	245	220	500	-	980	305	475-Ø9
2VF - 2VFA - 2CF + PRF K23	570	955	500	235	245	480	320	1400	274	475-Ø9
3V - 3VA - 3C	525	990	600	245	220	500	-	690	305	475-Ø9
3VF - 3VFA - 3CF	525	990	600	245	220	500	-	980	305	475-Ø9
3VF - 3VFA - 3CF + PRF K23	570	955	600	235	245	480	320	1400	274	475-Ø9

AR Filtrazioni reserves the right to make, at any moment and without notice, any change necessary to improve its products.  
The technical data of this data sheet are not binding.

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# OPTIONAL



## DOUBLE STAGE OF ABSOLUTE FILTRATION

For an absolute long lasting filtration with sieve effect.



## HARTING PLUG

Connects the filter unit directly to the PLC of your machine tool.



## PDMF 4.0

In addition to the analogue filter clogging detector, our digital pressure gauge sends a signal to the machine tool, warning you to do maintenance.



## ACTIVATED CARBON CELL

Odours, fume, VOCs and formaldehyde, eliminate them with active carbon.

## LED + INVERTER

Innovative and technological, for an even more efficient filtration of the system.



## ARTICULATED SUCTION ARM AND TROLLEY

The flexible and portable extraction unit for all manual deburring and welding and occasional operations.



## STAINLESS STEEL

Even more robust! Designed for applications on industrial washing machines.

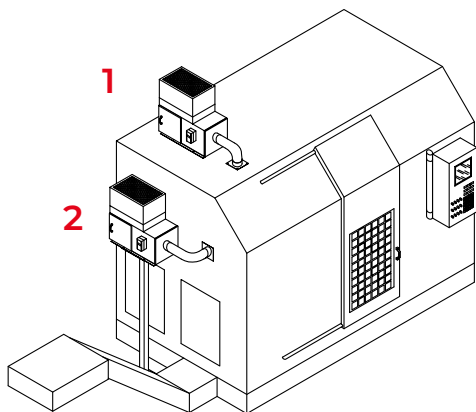
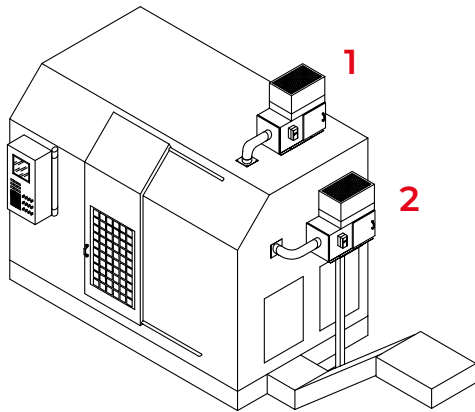
## R&D OFFICE

AR Filtrazioni also stands for constant research. The R&D office is daily engaged in the research and development of innovative technical solutions for the purification of oil mists, fumes and micro-dusts generated during machining processing of machine tools.

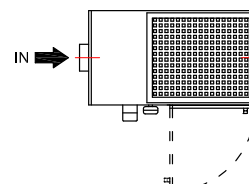
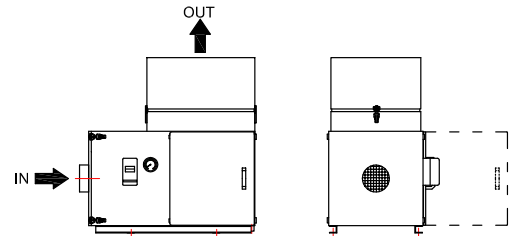
All series of air cleaners and accessories are certified "Made in Italy".

# INSTALLATION

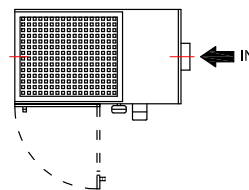
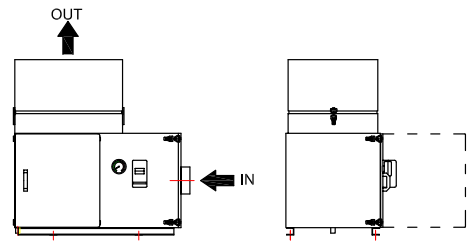
AR Filtrazioni offers always the turnkey solution, installing the filters at the customer's premises thanks to its specialized technical personnel. Otherwise we leave complete autonomy to the customer since each system is equipped with an installation kit and instruction manual, to allowing the installation of the filter units for oil mist, fume and micro-dust in all over the world.



RIGHT VERSION



LEFT VERSION



ON TOP OF MACHINE  
WITH DRAWING SUPPORT

ON SUPPORT PLANT  
TO FIX ON THE FLOOR

ON TROLLEY



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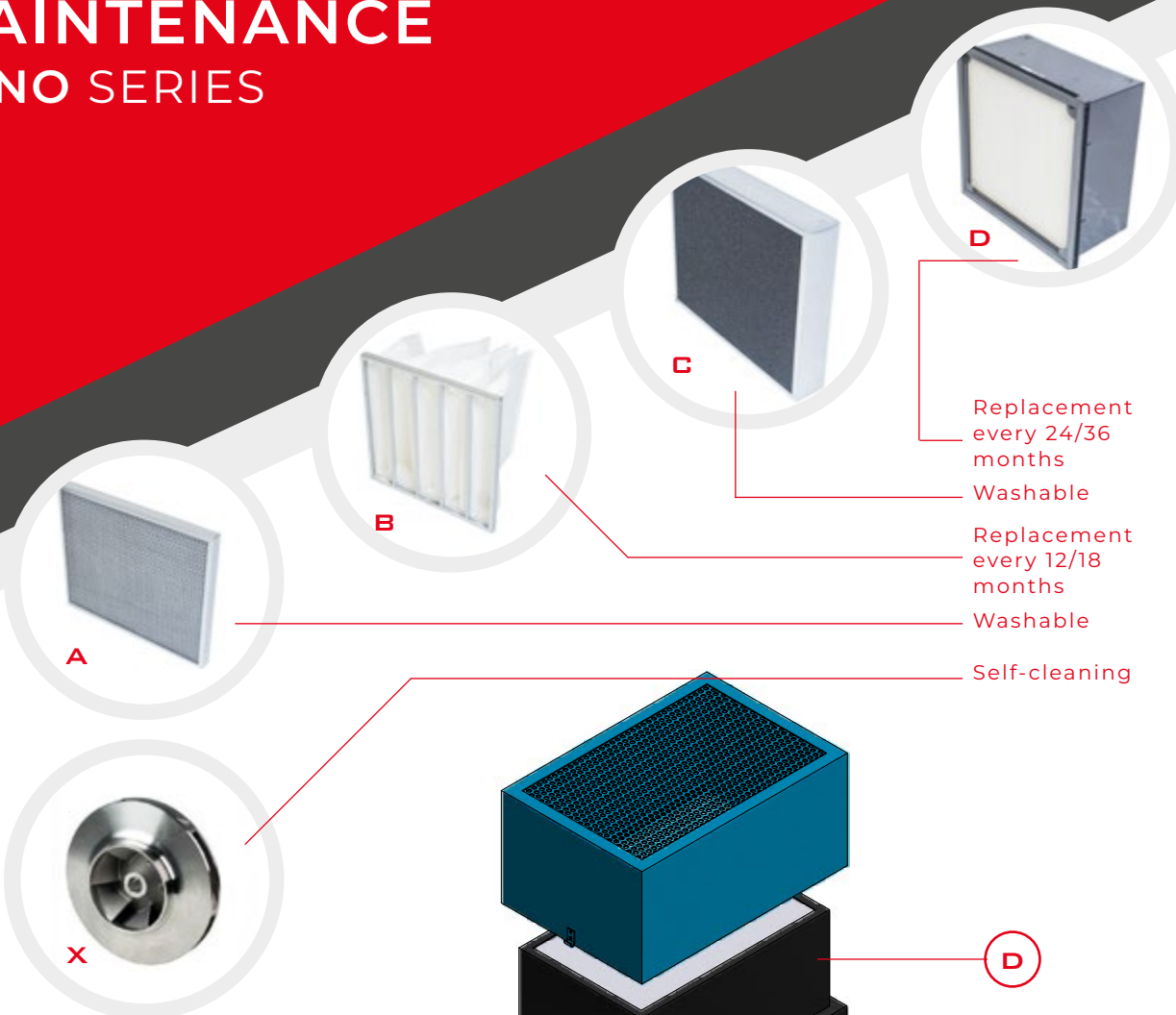
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# MAINTENANCE

## ARNO SERIES



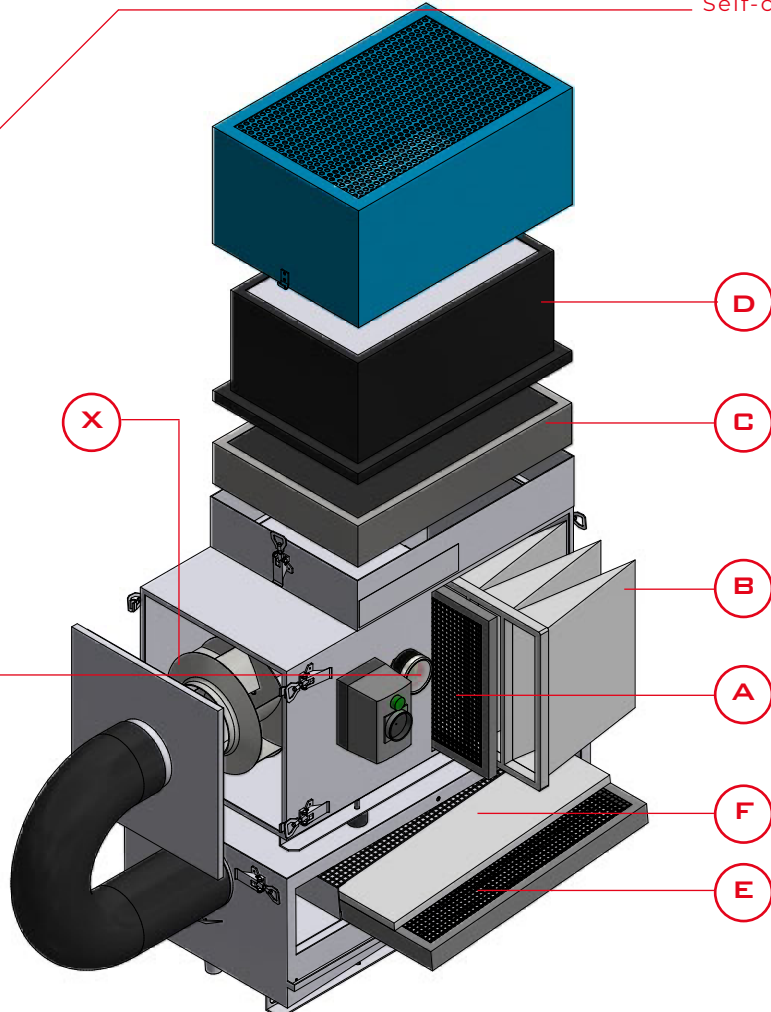
Replacement every 24/36 months  
Washable

Replacement every 12/18 months  
Washable

Self-cleaning

9

**DEVICE TO MONITOR FILTER CONDITIONS**  
Red zone C  
Clogged air cleaner



This **maintenance programme** shows average times result of statistics elaborated on the basis of the thousands of plants that **AR Filtrazioni** maintains annually at its customers.

# REGULATIONS



EN 1822

D.d.u.o. n.12772

- At European Standards ISO EN 16890 (ex EN779) with a filtration efficiency of  $\geq 95\%$  - particles with volume  $\geq 0.4 \mu$
- Final filtration stage according to EN1822 and Italian standards with High (EPA) or Very High (HEPA) filtration efficiency up to 99.995% of particles with volume  $0,15 \mu$  (micro-mists, micro-dusts, fume)
- Device to monitor filter conditions
- Motor protection switch (in accordance with CE standards)
- We issue a test certificate for each unit

## HEPA Filter up to H13 EN 1822

Very high efficiency filter

Filtration efficiency up to 99.995% of particles with volume  $\geq 0.15\mu$  (micro-particles)



## REFERRING TO THE ITALIAN EFFECTIVE RULES:

ARNO "Plus" series complies with the **Technical Annex n.32** of 10 January 2012 - **D.d.u.o. n.12772 of 23/12/11** referring to extracted and filtered emissions by on-board filter with clean air returned to the workshop, through the top of the unit.

### FILTER UNIT TEST BY STUDIO AMBIENTE S.N.C

#### MIST COLLECTOR'S OUTPUT ON AUTOMATIC LATHE 6/32

Parameter	Determined values (mg/m <sup>3</sup> )	Reference levels (TLV/TWA) (mg/m <sup>3</sup> )
Mineral oil / oil mist	0,04	5

Environment temperature (C°) 18.5 C° (65,3 F°)

Specific sampling to evaluate the efficiency of the suction and filter system after periodical maintenance with filter replacement (ARNO 2CF filter unit no. 13 serial no. 04607/2007 with new ABSOLUTE filter HEPA) placed to control an automatic lathe for machining the bar in AVP with neat oil coolant.

## VALUE

Forty years lasting  
know-how

Free consultancy

Free of charge technical  
inspection and analysis

Sales and Assistance with  
non-binding quotation

60 days testing

After-sales

Installation

24 months warranty

Maintenance contract

## PLUS

- **Filters and spare parts supply time:** always in stock and ready for delivery
- **Environmental and technical consultancy:** free of charge both during the order phase and throughout the life of the plant
- **Delivery date of filtration units:** 2 to 4 weeks
- **Warranty:** 2 years
- **Test:** Do you have to make an important investment?  
Test one! We guarantee you the way "satisfied or refunded"

- **Design, study and realization of ad hoc industrial filtration systems with an on-the-spot investigation and data collection of the various machine tools and the study of the suitable system for your needs.**
- **Outsourcing maintenance. We carry out and we are responsible of it! Releasing a maintenance certificate with legal value.**
- **Do you use spare parts of oil mist and smoke not original? Do not lose the guarantee on the system and the certainty of the filtering efficiency. Contact us and learn how save money.**



## REFERENCES

Some customers who have chosen AR Filtrazioni air cleaners



DMG MORI



ERBA S.P.A.



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CONTACT US

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