



TECHNICAL DATA ARNO SERIES

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



THE ULTIMATE SOLUTION

For the filtration of oil mist in metalworking workshops

VISIT OUR WEB SITE
www.arfiltrazioni.com

STRONG POINTS

ARNO SERIES

Over 26,000 units
installed!

Powerful!
Up to 4,000 m³/h
Up to 2360 CFM



100%

Units tested
according to
EN: 1822
D.d.u.o.n 12772

100%

With relevant test
certificate
for each unit

80%

Recovery of re-
condensed coolant,
which can be
led back into the
machine tool

60%

Self-cleaning
and/or
regenerable filters

At **AR Filtrazioni** we are producers of a new generation of mist collectors for the re-condensation and purification of every type of atmospheric pollutant generated during the machining processes of machine tools (machining centers, lathes, grinders, laser and washing machines, etc.), working up to three shifts.

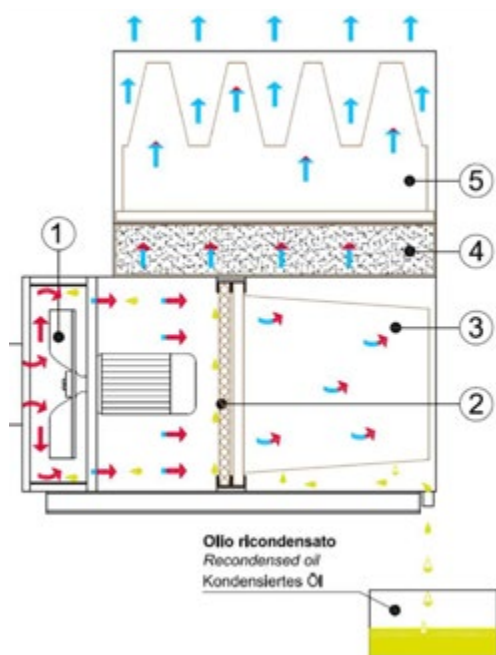
ADVANTAGES



- Easy and simple maintenance, once a year; high operational reliability
- Robust mechanical parts, low space requirement
- Recovery of 80% of the re-condensed oil
- Total compliance with Italian and European regulations
- Energy saving of 415,00€/year for each air cleaner
- Reduction of CO₂ emissions up to 9,000 kg/year, for each air cleaner
- Protection of sensitive machine tool parts
- Health-conscious and environment-friendly

WORKING PRINCIPLE

The 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 heavy-duty production processes, up to 3 shifts.



ARNO VF

1° STAGE CENTRIFUGE

SELF-CLEANING CENTRIFUGAL CONDENSER

- Self-cleaning
- Balanced (no vibration)
- It re-condenses 80% of the oil mist, thanks to the centrifugal effect

2° STAGE METALLIC FILTER

PREFILTRATION CELL IN GALVANIZED STEEL

European standards ISO EN 16890

Filtration efficiency > 95% - Particles with volume 3 μ

- Washable (12/18 months)
- Thanks to the robust metal frame with a safety net, it can stop any potential chip
- Its 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
- Diffusor
- Silencer

5° STAGE HEPA FILTER

FINAL FILTRATION WITH HIGH (EPA) or VERY HIGH (HEPA) 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 the presence of solid dust and cast iron metalworking, the unit is predisposed for the application of a specific pre-filtration system.

In case of oil mist, fume and odours, VOC or formadehyde, the air cleaners can be equipped with an **active carbon cell**.

OPTIONAL

PRE-FILTER

3 SHIFTS

HORIZONTAL MACHINING CENTERS

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 re-condenses 80% of the oil mist, thanks to the centrifugal effect

2° STAGE METAL FILTER

PREFILTRATION CELL IN GALVANIZED STEEL

European standards ISO EN 16890
Filtration efficiency > 95% - Particles with volume 3 µ

- Washable (12/18 months)
- Thanks to the robust metal frame with a safety net, it can stop any potential chip
- Its 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

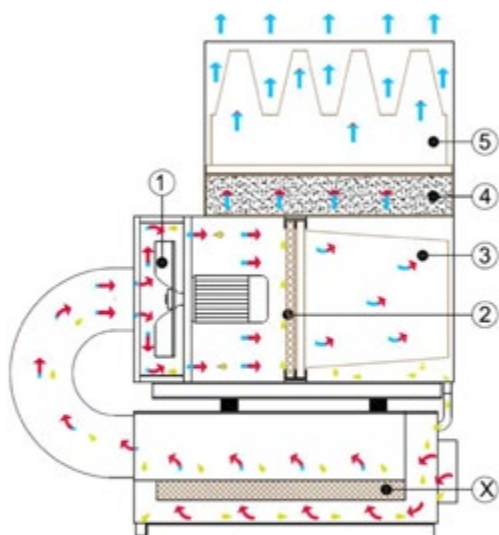
- Washable
- Diffusor
- Silencer

5° STAGE HEPA FILTER

FINAL FILTRATION WITH HIGH (EPA) OR VERY HIGH (HEPA) EFFICIENCY

European standards EN1822
Filtration efficiency up to 99.995%.
Particles with volume ≥ 0.15µ

- Replacement every 24/36 months



TECHNICAL DATA AIR FLOW AND POWER

EACH UNIT IS EQUIPPED WITH:

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

ARNO 0

850 / 1250 m³/h
500 / 735 CFM

ARNO 1

1500 / 1700 m³/h
880 / 1000 CFM

ARNO 2

2600 / 3300 m³/h
1530 / 1940 CFM

ARNO 3

3100 / 4000 m³/h
1825 / 2360 CFM



TECHNICAL DATA

| MODEL | SUCTION INLET Ømm | MAX. AIRFLOW m ³ /h - CFM | | POWER kW | TENSION FREQUENCY V Hz | NOISE dBa | WEIGHT Kg |
|-------------------------|----------------------|---|-------------|-------------|------------------------------|--------------|--------------|
| 0VA - 0VFA | 100/120/150 | 850/1000/1250 | 500/590/735 | 0,55 | 230/400 50 | 67 | 45 - 50 |
| 1V - 1VA - 1 VF - 1 VFA | 150 | 1700 | 1000 | 0,75 | 230/400 50 | 68 | 65 - 70 |
| 1C - 1CF | 150 | 1500 | 880 | 0,75 | 230/400 50 | 67 | 65 - 70 |
| 2V - 2VA - 2VF - 2VFA | 150/200 | 2700/3300 | 1600/1940 | 1,5 | 230/400 50 | 72 | 90 - 95 |
| 2C - 2CF | 150 | 2600 | 1530 | 1,5 | 230/400 50 | 70 | 90 - 95 |
| 3V - 3VA - 3VF - 3VFA | 200 | 4000 | 2360 | 2,2 | 230/400 50 | 72 | 95 - 105 |
| 3C - 3CF | 200 | 3100 | 1825 | 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.

AIR CLEANERS OF OIL MIST, FUME AND DUST FOR MACHINE TOOLS

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web@arfiltrazioni.it

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TECHNICAL DATA



BASIC SERIES

| | |
|------------------------------|----------------|
| Neat oil | ARNO C |
| Neat oil / Emulsified oil | ARNO VA |
| Emulsified oil | ARNO V |



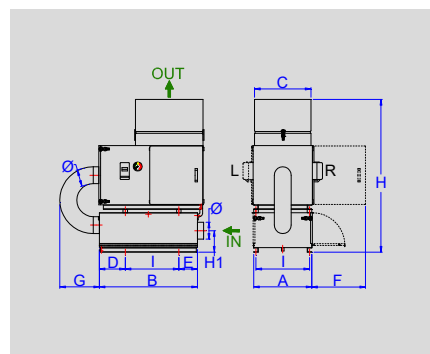
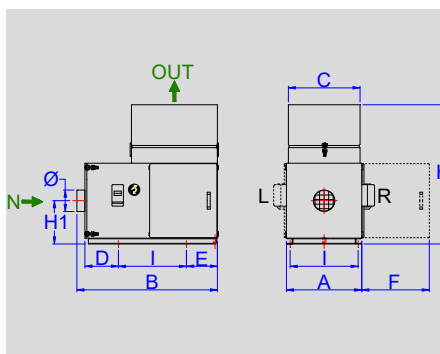
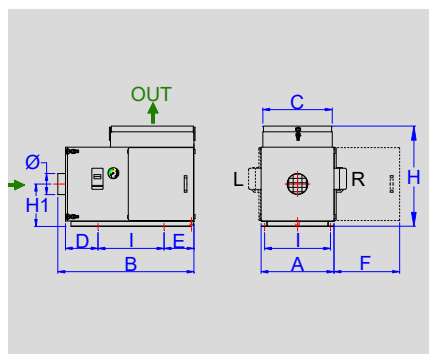
PLUS SERIES

| | |
|------------------------------|------------------|
| Neat oil | ARNO CF |
| Neat oil / Emulsified oil | ARNO VF A |
| Emulsified oil | ARNO VF |



PLUS SERIES with prefilter

| | |
|------------------------------|------------------------------|
| Neat oil | ARNO CF + PRF K |
| Neat oil / Emulsified oil | ARNO VF A + PRF K |
| Emulsified oil | ARNO VF + PRF K |



| DIMENSIONS mm | MODEL ARNO | A | B | C | D | E | F | G | H | H1 | I |
|---------------|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|--------|
| | 0VA | 360 | 750 | 360 | 185 | 205 | 380 | - | 507 | 230 | 310-Ø9 |
| | 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 any change necessary to improve its products, at any moment and without notice.
The technical data of this data sheet are not binding.

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OPTIONAL



DOUBLE STAGE OF ABSOLUTE FILTRATION

For a long-lasting absolute filtration with sieve effect.



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.



HARTING PLUG

It connects the mist collector directly to the PLC of your machine tool.

LED + INVERTER

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



ARTICULATED SUCTION ARM AND TROLLEY

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



ACTIVATED CARBON CELL

It eliminates odours, fume, VOCs and formaldehyde.



STAINLESS STEEL

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

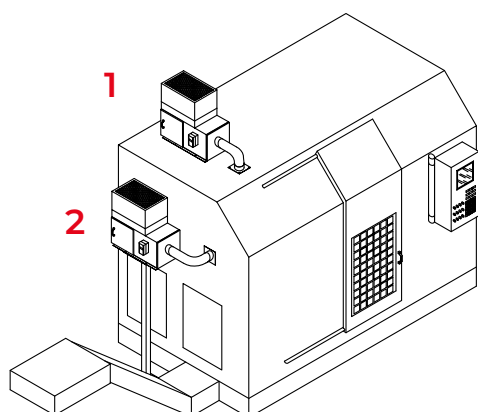
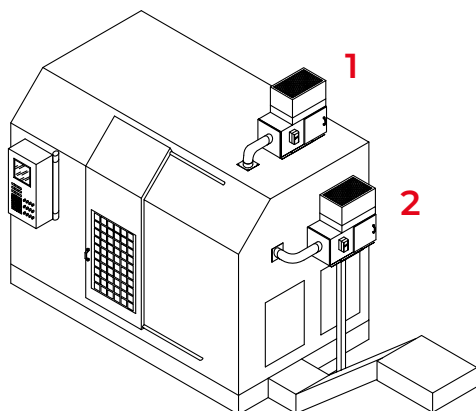
R&D OFFICE

In addition, AR Filtrazioni 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 the machining processes of machine tools.

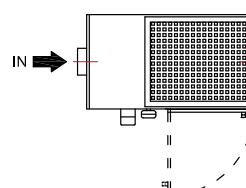
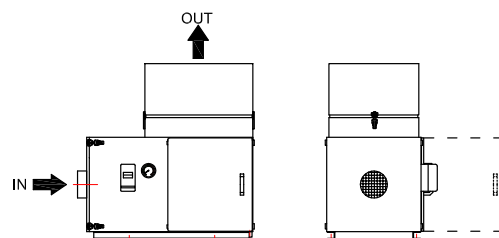
All series of air cleaners and accessories have a "Made in Italy" certificate.

INSTALLATION

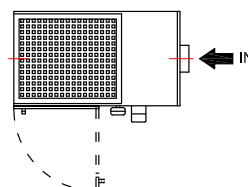
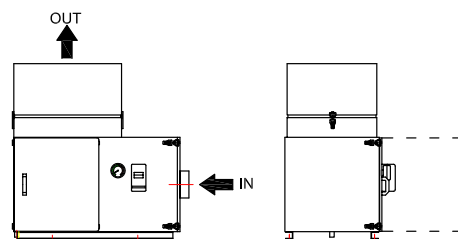
At **AR Filtrazioni** we always offer turn-key solutions, installing the filters at the customer's premises thanks to our specialized personnel. Otherwise, we leave complete autonomy to the customer, since each system comes complete with an installation kit and an instruction manual, which make the installation of our filter units all over the world incredibly intuitive.



RIGHT VERSION



LEFT VERSION

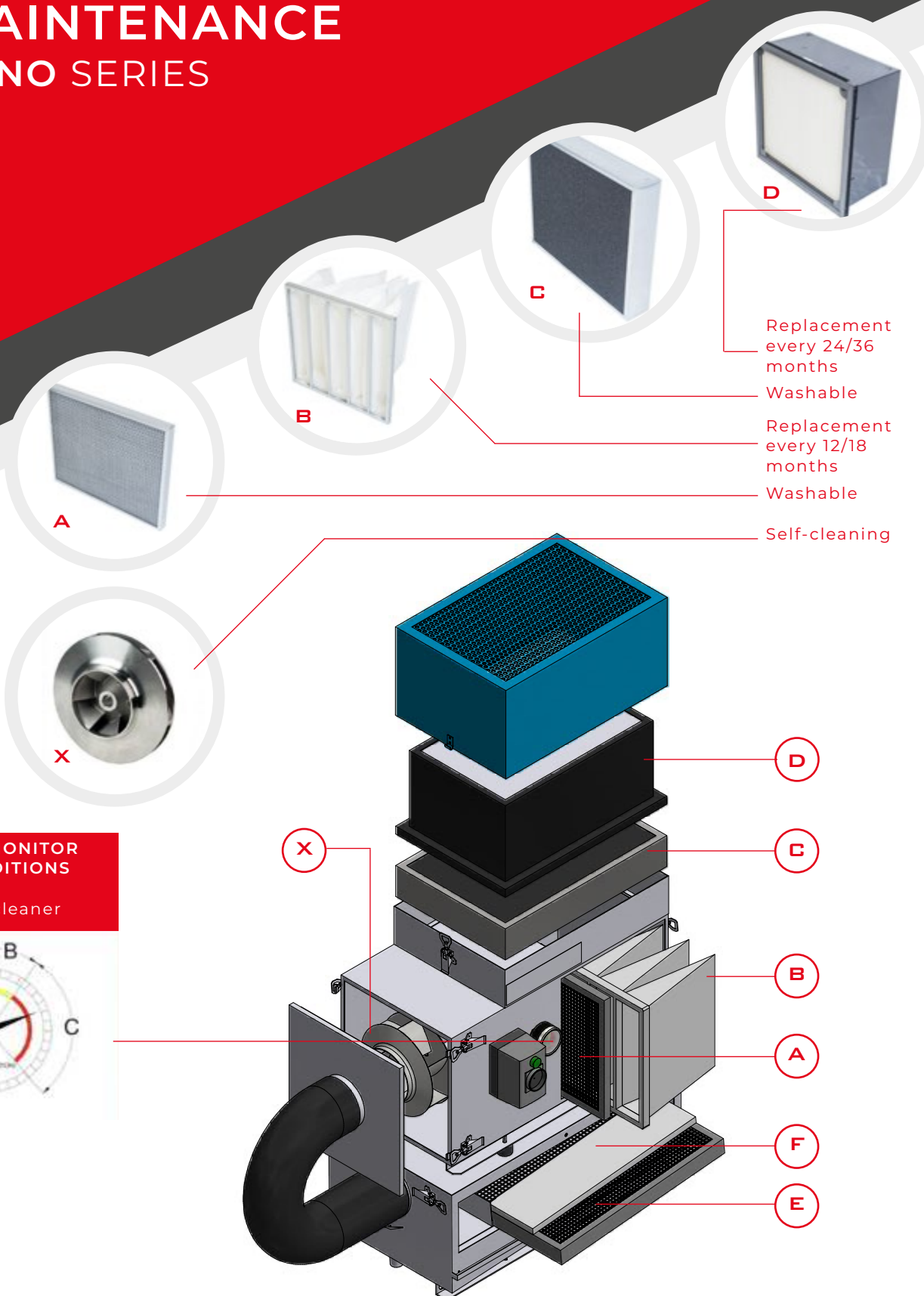
ON TOP OF THE MACHINE
WITH AD HOC SUPPORTON PLANT
FASTENED TO THE FLOOR

ON TROLLEY



MAINTENANCE

ARNO SERIES



DEVICE TO MONITOR
FILTER CONDITIONS
Red zone C
Clogged air cleaner



This **maintenance programme** shows average times, resulting from statistics elaborated on the basis of the thousands of systems that **AR Filtrazioni** maintains annually.

REGULATIONS



EN 1822

D.d.u.o. n.12772

- 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 $0,15 \mu$ volume (micro-mists, micro-dusts, fume)
- Device to monitor filter conditions
- Overload cutout switch (in accordance with CE standards)
- 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:

The **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 ³) | Reference levels (TLV/TWA) (mg/m ³) |
|--|------------------------|---|--|
| | Mineral oil / oil mist | 0,04 | 5 |

Room 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 HEPA filter) placed to control an automatic lathe for machining the bar in AVP with neat oil coolant.

VALUE

Forty-year-long
know-how

Free consultancy

Free of charge, technical
inspection and analysis

Sales and Assistance with
non-binding quotation

60-day test

After-sales
Assistance

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 time:** 2 to 4 weeks
- **State-of-the-art technology** is not enough for AR FILTRAZIONI: the service capability and the proximity to our customers guarantee an optimal and technically sophisticated solution, even for special customer needs.
- **Test:** Do you have an important investment to make? Put one of our systems to the test! We offer a money back guarantee

- **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 study of the most suitable system for your needs.**
- **Outsourcing maintenance.** We carry it out and we are responsible!
We release a maintenance certificate with legal value for each one of our units.
- **Do you use non-original spare parts for your mist collectors? Do not lose the guarantee on the air cleaner and the filtering efficiency. Contact us and find out how to save money.**



REFERENCES

Some customers who chose AR Filtrazioni air cleaners

TESLA



brembo

DMG MORI



ERBA S.p.A.



LIEBHERR



SIEMENS



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