



**Safe & efficient
machining mist
collectors
for every
application**

ELIMINATING WORKPLACE HAZARDS FROM METALWORKING FLUID MISTS

We help to improve indoor air quality, eliminate safety risk and protect workers occupational health to ensure orderly & safe production in your factory.

Processes like cutting and grinding constantly release metalworking fluid mist into the air that can be inhaled by machine operators. These tiny oily particles eventually settle on floors and surfaces, causing a housekeeping mess and a slipping hazard. It's important to understand the regulations that limit exposure to metalworking fluids. Workshops must also be familiar with the various technologies available to comply with safety & health regulations and other indoor air quality standards. The metalworking fluids (MWFs) commonly used during machining processes generate airborne particles that must be carefully

controlled. There are many different types of particles in the air that are not visible to the human eye. Airborne particles can be solid or liquid or gas form, made of any mineral, and they can be many different sizes. Mist is defined as a liquid droplet that is 20 microns or smaller. In metalworking shops, mist is most commonly produced through machining processes that use fluids to cool and lubricate parts as they are machined. Machining processes produce mist through impaction, centrifugal force, or evaporation/condensation. Metalworking fluids (MWFs) made of oil produce smaller particles than water-soluble fluids. There's a common misconception that if you can't see a mist, it is not a problem. But actually the opposite is true. The smaller the mist particle, the more deeply embedded it can become in the human body, causing severe health risks.



SOLUTIONS FROM CAMFIL APC ADDED VALUE FOR YOUR PRODUCTION

Camfil APC's product portfolio offers solutions for almost all areas of aerosol and oil mist collection and separation required in industrial processes, primarily in metalworking and processing. Thanks to our partnership with renowned machine tool manufacturers, in particular with our OEM customers, and our own research and development department, you can be sure that the innovative collection and separation systems from Camfil APC are state-of-the-art and therefore already meet future requirements today. Through our own production, we achieve the highest quality standards in the manufacturing of our equipment and systems, as well as for the filter elements, which represent the core competence of every collection and separation system. Choose the reliable aerosol and oil mist collectors from Camfil APC and benefit from our expertise of many years.

Benefits:

- ✓ **High collection efficiency:** Optimized, flow-engineered multistage designs provide high separation performance. Different filter materials handle specific droplet spectrums.
- ✓ **Modular design:** Collectors can be quickly installed in dozens of capacities and configurations. Standard models with different air capacities can be combined in a large central system.
- ✓ **Innovative filter media:** Our standard filter material self-cleans by optimizing drainage of the separated coolant.
- ✓ **Easy filter changeout:** Mist collectors operate practically maintenance-free, and filter changes don't require tools.
- ✓ **Unparalleled cost-effectiveness:** All collectors operate safely and are durable enough to provide long maintenance intervals.



HANDTE OIL EXPERT

COLLECTOR FOR EXTREMELY EFFICIENT SEPARATION OF ULTRA-FINE OIL MISTS AND FUMES



- ✓ 99,95% collection efficiency
- ✓ Clean air recirculation
- ✓ Modular design
- ✓ Easy maintenance
- ✓ Plug & play

THE PREMIUM SEPARATOR FOR COLLECTION USING OIL

Attributable to the increasing productivity in modern manufacturing, the energy input is growing constantly, in particular with machining processes where neat oil is used. As a logical consequence, much higher requirements are made in the separation of ultra-fine mists and fumes. To meet these, the Handte Oil Expert series provides optimum results even under the most challenging conditions.

THE HANDTE OIL EXPERT IS SUITABLE FOR USE WITH

Turning, drilling, milling, roughing, grinding, broaching, honing, rolling, deep-drawing, pressing, etc. in connection with cooling lubricants (CLs) or separation agents.

CUSTOMISED SYSTEM DESIGN & INNOVATIVE FILTER MEDIA

Cascade design of the collector with ascending filter classes for individual combination matching the machining process.

FAN

Integrated or on-top fans designed pursuant to the latest efficiency standards provide for a reliable, constant extraction power in accordance with the customer's individual requirements.

OPTIONAL HEPA FINAL FILTER

Collection efficiencies at 99,95% on 0,3 micron and higher particle size.



COAPACK FILTER ELEMENTS

The CoaPack pre- and fine filter stages are the heart of the Handte Oil Expert. Configured to meet the individual requirements, the multi-layer filter elements achieve highest collection efficiency at a very small differential pressure thanks to the maximum filter area possible in compact design. Developed for optimised drainage, the CoaPack filter elements are self-regenerating. This construction ensures a homogeneous flow and optimum utilisation of diffusion and coalescence, which is a relevant separation mechanism for ultra-fine mists. The small load acting on the filter surface reduces the energy consumption and significantly increases the service life of the filter element. The cascade design of the filter stages provides for an additional self-cleaning effect.

COARSE FILTER STAGE

The coarse filter stage is intended for high dirty air loads and contamination and ensures a long service life of the downstream filter stages.

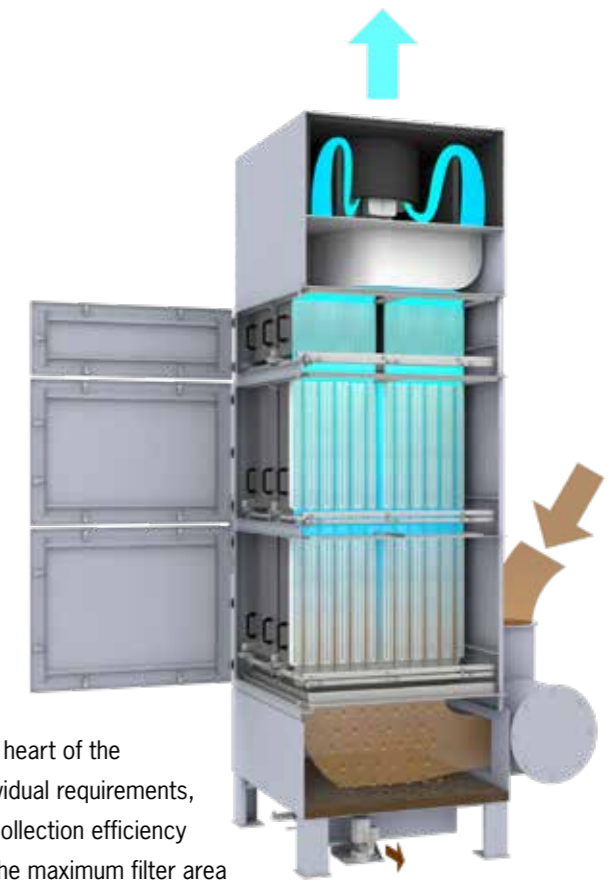
FLUID COLLECTOR

Due to the self-regeneration of the filter elements, the separated cooling lubricant is discharged from the filter media downwards into the integrated fluid collector. Via circulation pump station or a siphon and discharged by gravity, the cooling lubricant can be fed to a facility for treatment, re-use or disposal.

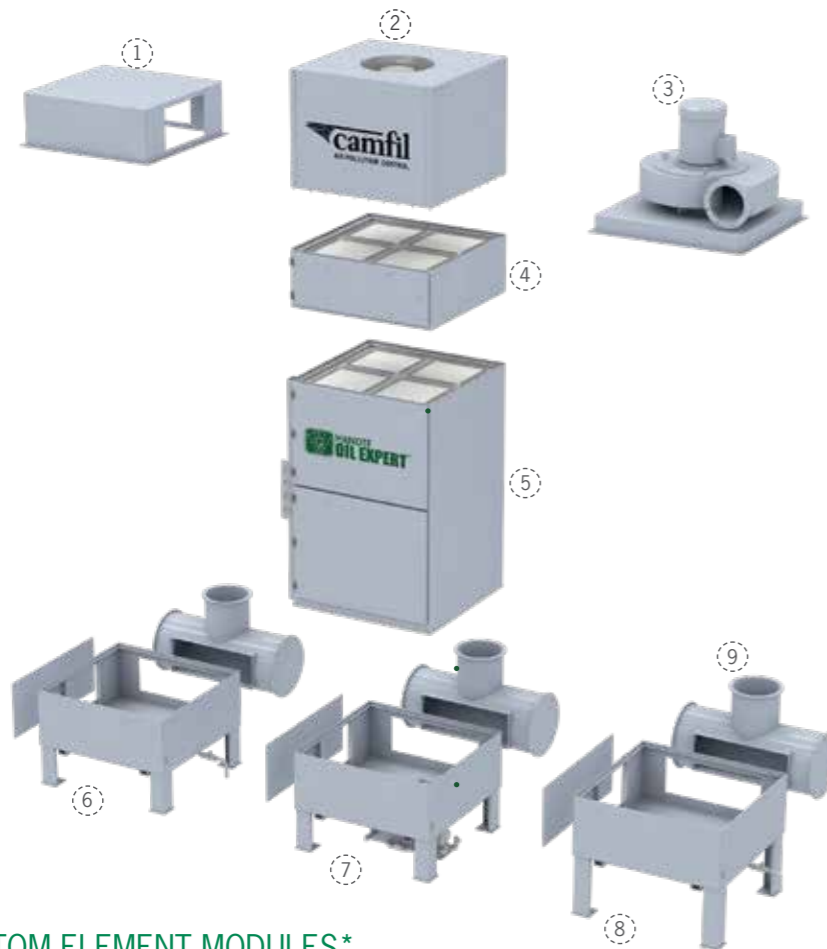


CLEAN MAINTENANCE, EASY FILTER CHANGE

Thanks to its functional design, the Handte Oil Expert is practically maintenance-free. Quick-acting clamps ensure that all scheduled changes of the filter cartridges are easy and require no tools, thus ensuring minimum down time. For easy, simple changing, the filter cartridges are accessed from the outside. The Camfil APC transport carriage, available as an accessory, provides for drip-free removal of the filter cartridges – a perfect complement for the well-thought-out service concept.



BASIC MODULES IN FLEXIBLE COMBINATIONS



TOP ELEMENT MODULES

1 Connecting box
For use with external fan. For optimum flexibility, duct work to external fan can be connected to either side.

2 Integrated fan
High-grade fan of compact design, with integrated noise insulation.

3 Top mount fan
For use in connection with a downstream silencer.

HEPA FINAL FILTER

4 Final filter stage
Available as an option for particulates less than 1 micron, such as smoke, and to recirculate the air.

MAIN FILTER STAGE MODULE

5 Main filter stage
For Camfil APC CoaPack diffusion filter cartridges and optional use of the coarse filter stage for high contamination or clean air recirculation.

BOTTOM ELEMENT MODULES*

6 Fluid collector for installation on platforms
Vertical cooling lubricant discharge via siphon or by gravity.

7 Fluid collector with recirculation pump station
If discharge by gravity is impossible, or for feeding into the cooling lubricant recirculation supply of the machine tools. Integrated pumps available in two sizes.

8 Fluid collector for floor installation
Discharge of the cooling lubricant via siphon and by gravity.

9 Compact dirty air transition for connection to circular duct.

*With all bottom elements, the intake line can be connected from both sides for optimum flexibility and short connection paths.

HANDTE OIL EXPERT IS AVAILABLE IN BASIC MODULES WITH DIFFERENT AIR FLOWS



Handte Oil Expert 3.0 Handte Oil Expert 4.5 Handte Oil Expert 6.0 Handte Oil Expert 9.0 Handte Oil Expert 13.5

EFFICIENT APPLICATIONS IN LINE WITH INDIVIDUAL REQUIREMENTS

FOR FLEXIBLE CONFIGURATION:

By combining different basic modules, it is possible to design central extraction systems to suit individual requirements, for air volumes of 70,000m³/h or more. Furthermore, the modular concept of the Handte Oil Expert series facilitates the addition of modules to provide additional capacity at a future point.

MAJOR BENEFITS OF THE MODULAR DESIGN:

- Standardised design for quick delivery times
- Optimised basic modules for highest utilisation of capacity
- Easy transport and installation
- Capacity increases to upgrade systems easily achieved



OPTIONAL EXPANSIONS TO MEET EVERY AIR FLOW HANDTE OIL EXPERT AVAILABLE MODULES:

Model:	Footprint:	Air volume:	Min./Max. height:
Handte Oil Expert 3.0	770 mm x 1,240 mm	3,000 m ³ /h	2,830 / 3,860 mm
Handte Oil Expert 4.5	770 mm x 1,730 mm	4,500 m ³ /h	2,850 / 3,900 mm
Handte Oil Expert 6.0	1,230 mm x 1,180 mm	6,000 m ³ /h	2,930 / 3,960 mm
Handte Oil Expert 9.0	1,230 mm x 1,730 mm	9,000 m ³ /h	3,050 / 4,100 mm
Handte Oil Expert 13.5	1,740 mm x 1,730 mm	13,500 m ³ /h	3,220 / 4,360 mm

Min. height: with recirculation pump stations, without post-filter, connection box. Max. height: with siphon recirculation, with post-filter, integrated fan. Subject to technical changes.

HANDTE EM EXPERT

COOLANT MIST COLLECTOR FOR EXTREMELY EFFICIENT SEPARATION OF ULTRA-FINE COOLING LUBRICANT & FUMES



- ✓ Efficient multi-stage filtration
- ✓ Self-cleaning filtration media
- ✓ Long filter life
- ✓ Flexible & modular design
- ✓ Suitable for 3-shift operation

THE PREMIUM SEPARATOR FOR COLLECTION USING COOLANT

Attributable to the increasing productivity in modern manufacturing, the energy input is growing constantly, in particular with machining processes where cooling lubricants are used. As a logical consequence, much higher requirements are made in the separation of ultra-fine mists and fumes. To meet these, the Handte EM Expert series provides optimum results even under the most challenging conditions.

THE HANDTE EM EXPERT IS SUITABLE FOR USE WITH

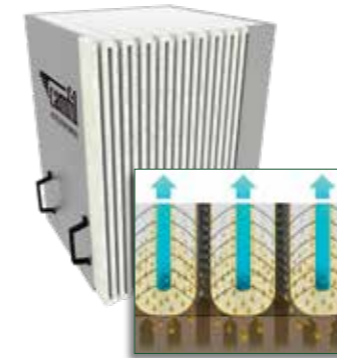
Turning, drilling, milling, roughing and grinding in connection with cooling lubricants (CLs) or separation agents.

CUSTOMISED SYSTEM DESIGN & INNOVATIVE FILTER MEDIA

Cascade design of the collector with ascending filter classes for individual combination matching the machining process.

OPTIONAL HEPA FINAL FILTER

Collection efficiencies at 95,0% on 0,3 micron and higher particle size.



COAPACK FILTER ELEMENTS

The CoaPack pre- and fine filter stages are the heart of the Handte EM Expert. Configured to meet the individual requirements, the multi-layer filter elements achieve highest collection efficiency at a very small differential pressure thanks to the maximum filter area possible in compact design. Developed for optimised drainage, the CoaPack filter elements are self-regenerating. This construction ensures a homogeneous flow and optimum utilisation of diffusion and coalescence, which is a relevant separation mechanism for ultra-fine mists. The small load acting on the filter surface reduces the energy consumption and significantly increases the service life of the filter element. The cascade design of the filter stages provides for an additional self-cleaning effect.

COARSE FILTER STAGE

The coarse filter stage is intended for high dirty air loads and contamination and ensures a long service life of the downstream filter stages.

FLUID COLLECTOR

Due to the self-regeneration of the filter elements, the separated cooling lubricant is discharged from the filter media downwards into the integrated fluid collector. Via circulation pump station or a siphon and discharged by gravity, the cooling lubricant can be fed to a facility for treatment, re-use or disposal.

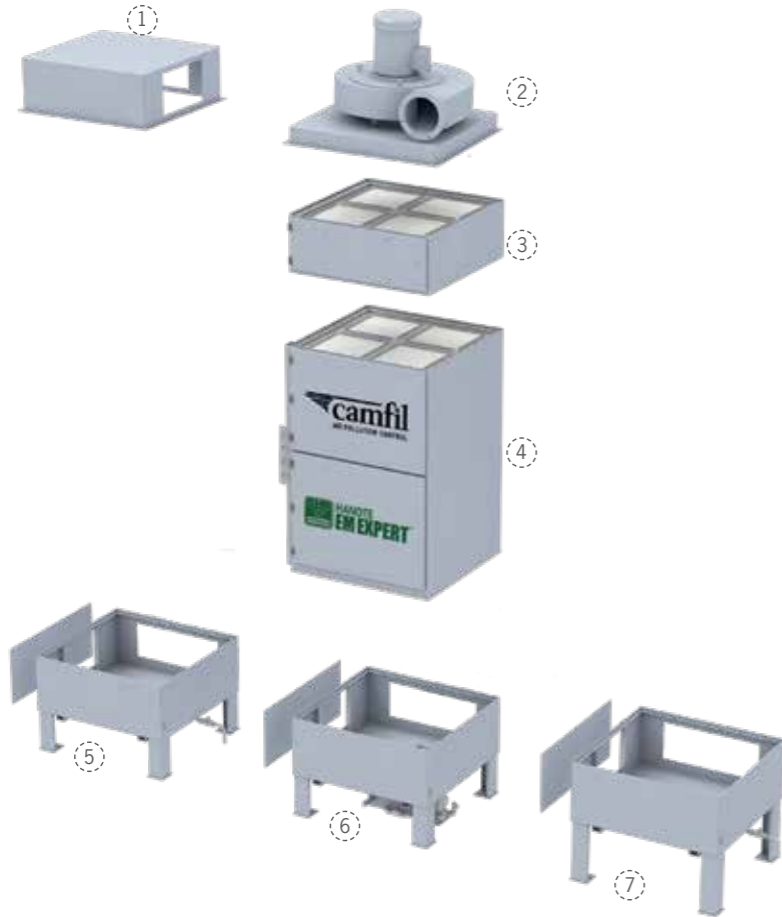


CLEAN MAINTENANCE, EASY FILTER CHANGE

Thanks to its functional design, the Handte EM Expert is practically maintenance-free. Quick-acting clamps ensure that all scheduled changes of the filter cartridges are easy and require no tools, thus ensuring minimum down time. For easy, simple changing, the filter cartridges are accessed from the outside. The Camfil APC transport carriage, available as an accessory, provides for drip-free removal of the filter cartridges – a perfect complement for the well-thought-out service concept.



BASIC MODULES IN FLEXIBLE COMBINATIONS



TOP ELEMENT MODULES

1 Connecting box
For use with external fan. For optimum flexibility, duct work to external fan can be connected to either side to minimize duct.

2 Top mount fan
For use in connection with a downstream silencer.

HEPA FINAL FILTER

3 Final filter stage
Available as an option for particulates less than 1 micron, such as smoke, and to recirculate the air.

MAIN FILTER STAGE MODULE

4 Main filter stage
For Camfil APC CoaPack diffusion filter cartridges and optional use of the coarse filter stage for high contamination or clean air recirculation.

BOTTOM ELEMENT MODULES*

5 Fluid collector for installation on platforms
Downward cooling lubricant discharge via siphon or by gravity.

6 Fluid collector with recirculation pump station
If discharge by gravity is impossible, or for feeding into the cooling lubricant recirculation supply of the machine tools. Integrated pumps available in two sizes.

7 Fluid collector for floor installation
Discharge of the cooling lubricant via siphon and by gravity.

*With all bottom elements, the intake line can be connected from both sides for optimum flexibility and short connection paths.

HANDTE EM EXPERT IS AVAILABLE IN BASIC MODULES WITH DIFFERENT AIR FLOWS



EM Expert One 1.5 EM Expert One 3.0 EM Expert 4.5 EM Expert 6.0 EM Expert 9.0 EM Expert 13.5 EM Expert 20.0

EFFICIENT APPLICATIONS IN LINE WITH INDIVIDUAL REQUIREMENTS

FOR FLEXIBLE CONFIGURATION:

By freely combining different basic modules, it is possible to design economically efficient central extraction systems for each individual requirement, catering for air volumes of 70,000 m³/h or more. The modular concept of the Handte EM Expert series furthermore provides for smooth, cost-efficient production conversions or extensions during ongoing operation.

MAJOR BENEFITS OF THE MODULAR DESIGN:

- Standardised design for quick delivery times
- Optimised basic modules for highest utilisation of capacity
- Easy transport and installation
- Easy to increase capacity for increased changes in production



OPTIONAL EXPANSIONS TO MEET EVERY AIR FLOW HANDTE EM EXPERT AVAILABLE MODULES:

Model:	Footprint:	Air volume:	Min./Max. height:
Handte EM Expert One 1.5	790 x 750 mm	1,500 m ³ /h	2,480 mm
Handte EM Expert One 3.0	790 x 1,405 mm	3,000 m ³ /h	2,640 mm
Handte EM Expert 4.5	770 x 1,190 mm	4,500 m ³ /h	2,530 / 3,800 mm
Handte EM Expert 6.0	770 x 1,735 mm	6,000 m ³ /h	2,600 / 4,075 mm
Handte EM Expert 9.0	1,240 x 1,190 mm	9,000 m ³ /h	2,560 / 4,230 mm
Handte EM Expert 13.5	1,240 x 1,735 mm	13,500 m ³ /h	2,925 / 4,420 mm
Handte EM Expert 20.0	1,785 x 1,735 mm	20,000 m ³ /h	3,280 / 4,615 mm

Min. height: With recirculation pump stations, without post-filter, connection box. Max. height: With siphon recirculation, with post-filter, integrated fan. Subject to technical changes.

*Standard models 4.5 and larger exclude a fan.

HANDTE EM PROFI

COLLECTS COOLANT MIST FROM LOW SPEED/HIGH PRESSURE MACHINING PROCESSES



- ✓ Collection efficiency up to 99,95%
- ✓ Self-regenerating filter stages
- ✓ Automatic sprayer system
- ✓ Easy maintenance
- ✓ Modular assembly

A USER-FRIENDLY, MODULAR, HIGHLY-EFFICIENT MIST COLLECTOR

The EM Profi mist collector offers the highest available collection efficiencies plus the ability to run 24/7 for reduced maintenance, service ease, and lower operating costs. This is achieved by using an automatic sprayer system which reduces filter buildup and a corrosion-proof and a washable two-stage filtration system.

THE HANDTE EM PROFI IS SUITABLE FOR USE WITH

Heaviest loads encountered in the industry to clean up contaminants generated during turning, milling, honing and other low speed/low pressure machining processes that use synthetic coolants.

THE HANDTE EM PROFI SERIES FOR EMULSION MIST SEPARATION

TOP COLLECTION EFFICIENCIES UP TO 99,95%

We consistently achieve high separation performance by designing our filter materials to meet specific needs or to handle a given droplet spectrum and through the optimised flow-engineered multistage design of our units:

FINAL FILTER

For the highest requirements with proven separation efficiency of F9 to H13 from own production.

SELF-REGENERATING SEPARATION STAGES

Demister filter design, construction and configuration provides a self-regenerating filtration system.

SIMPLE SETUP

Handte EM Profi units are flexibly designed for plug and play operation with a range of optional accessories.

UNPARALLELED COST-EFFECTIVENESS

Our standard-equipped self-cleaning system yields safe operation, long-term durability and long maintenance intervals.

FULLY AUTOMATIC SPRAYER

This patented system automatically cleans the filters in-situ. That means that our separators can be operated almost maintenance-free.

BEST PERFORMING MIST SEPARATOR

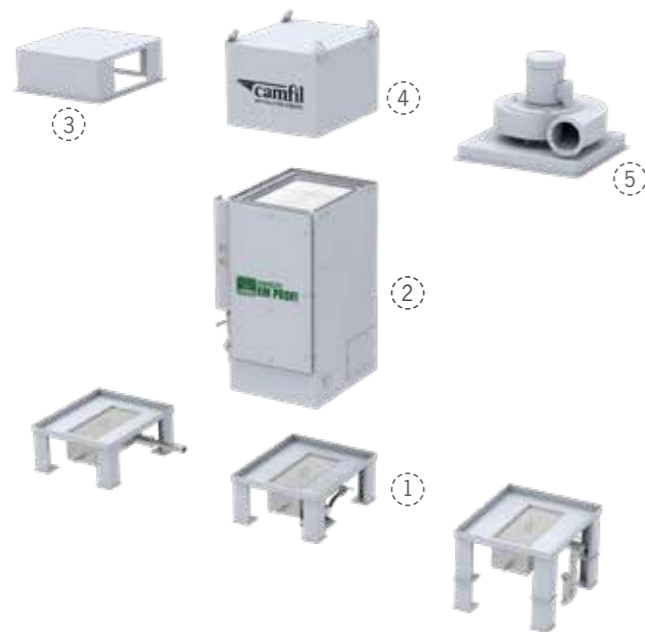
Our two stage filtration offers efficiencies of 99,95% on 1 micron and larger particles. Our compact corrosion proof filter elements can be washed and reused up to five years.



THE ULTIMATE IN USER FRIENDLINESS

Our units are extremely easy to maintain. Large service doors and quick-lock latches make it possible for a single person to easily perform installation and removal from the floor.

QUICKLY AND PERFECTLY ADAPTED TO YOUR NEEDS



BASIC MODULES IN FLEXIBLE COMBINATIONS

- 1) Ground-/Platform-Versions with optional return pump station (recirculating separated fluids by pump)
- 2) Filter module (Main & Final filter)
- 3) Connection box for use with an external fan, connection either left, right or rear
- 4) Built-in fan, in compact design with integrated sound insulation
- 5) Top mount fan

SIZING AND AIR VOLUME

- Size/Air Volume:**
- 3,000 m³/h
 - 4,500 m³/h
 - 6,000 m³/h
 - 9,000 m³/h
 - 13,500 m³/h

MODULAR ASSEMBLY

- Highest planning reliability and short delivery time
- Easy transport and installation
- Simple extension/adaptation
- Minimum space requirement, maximum performance by optimising basic modules



STAND ALONE OR TOP MOUNT UNITS

HANDTE EM PROFI ONE

- Version for smaller air volumes
- Locate next to the application
- Floor mounted for ease of access

Size/Air Volume: 1,000 m³/h
1,800 m³/h



HANDTE EM PROFI TOP MOUNT

- Compact unit
- Space saving
- For applications where floor space is at a premium

Size/Air Volume: 800 m³/h
1,200 m³/h
2,400 m³/h



ACCESSORIES OFFER OPTIMISATION POSSIBILITIES

DIFFERENTIAL PRESSURE METER

for monitoring differential pressures by electronic output signal

VOLUMETRIC FLOW METER

for continuously monitoring and regulating exhaust air

COLLECTION ELEMENTS

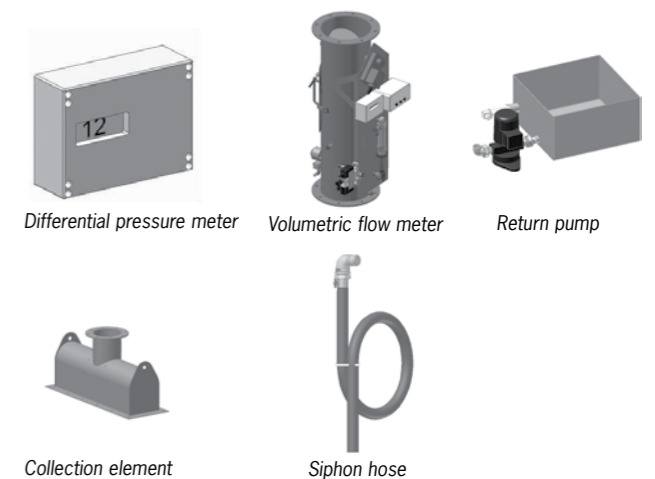
for efficient collection of foreign airborne substances in the workspace

RETURN PUMP

for returning collected fluid back to the process or other location

SIPHON HOSE

for draining separated liquid



HANDTE EM-O COMPACT

FLEXIBLE. POWERFUL. THE BEST COMBINED EMULSION AND OIL MIST SEPARATOR OF ITS CLASS!



- ✓ Combined emulsion and oil mist separator
- ✓ Compact construction
- ✓ Maximum filter area
- ✓ Plug & play

HIGHEST FLEXIBILITY IN APPLICATION AS WELL AS DURING INSTALLATION

The EM-O Compact can be used for emulsion and oil applications without major conversions. The biggest advantage is that the same filter elements are used. An optional HEPA afterfilter is mounted on top of the unit for usage with oil (<30 bar). This compact device can be integrated flexibly into your machines: as topmount or stand-alone device, with connection options left/right. The separator is delivered ready for operation and can also be adapted to your requirements with various accessories on request.

THE HANDTE EM-O COMPACT IS SUITABLE FOR USE WITH

Full lubrication applications with emulsion or oil and for selected minimum lubrication applications with air volume from 800 - 1,200 m³/h.

POWER PACKAGE EM-O COMPACT - MANY ADVANTAGES IN THE SMALLEST SPACE:

MORE COMPACT DEVICE DESIGN WITH MAXIMUM FILTERING SURFACE

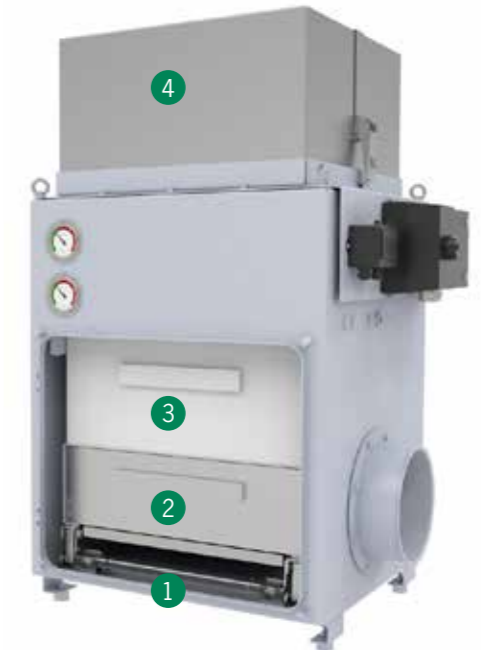
- Best clean gas values: Separation efficiency >F9
- Long service life: up to one year
- Low energy consumption due to low pressure loss

LOW SPACE REQUIREMENT & NOISE LEVEL

Due to the low footprint and due to the very quiet operating noises, the EM-O Compact can be easily integrated into your production.

OPTIMIZED FILTER ELEMENTS WITH MINIMUM WEIGHT FOR EASY MAINTENANCE

The lightweight filter elements can be replaced easily and without tools, the metal prefilter can be easily washed out and reused. Optimized filter media for better drainage in operation.



- 1 Pre-separation
- 2 Prefilter
- 3 Primary filter
- 4 HEPA filter (optional)

Detail	Data
Air performance	800 - 1,200 m ³ /h
Connected load	1.1 kW
Filter class	>F9 with low clean gas values
Coolant lubricant handling	Prepared for feedback
Noise level	<65-70 dB(A)
Weight	from 97 kg (depending on configuration)
Dimensions	553 x 412 x 1,094 mm (w x d x h)

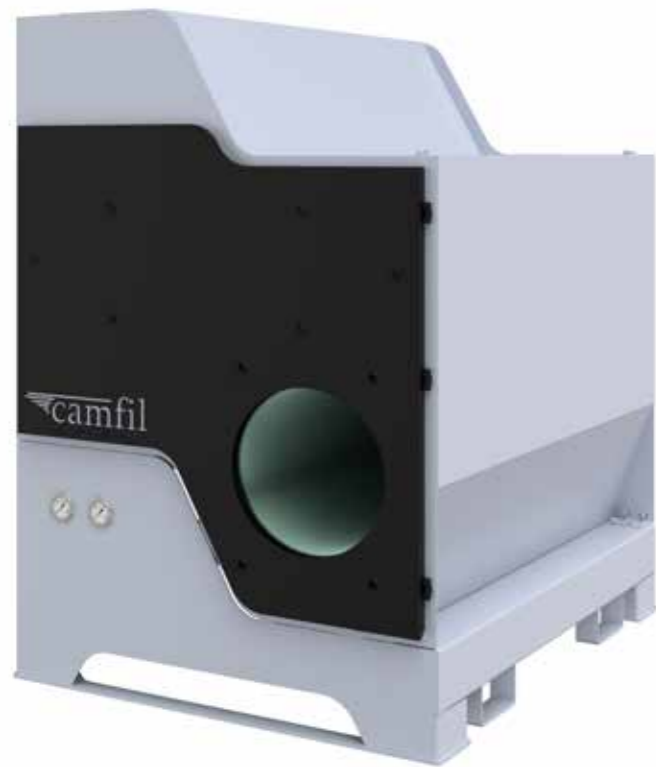
Optionally available
EC motor with flow rate control
HEPA afterfilter
Electrical monitoring with pre-alarm
Feedback via siphon with hose



Integration into machine tools

HANDTE EM-O FLEX

POWERFUL EMULSION AND OIL MIST SEPARATOR
WITH A MODULAR DESIGN



- ✓ Flexible configuration for emulsion, oil and MQL applications
- ✓ Easy adjustment to changed process conditions
- ✓ Modular system with an air capacity from 4,000 – 48,000 m³/h

FLEXIBLE INTEGRATION

The Handte EM-O Flex separator has been designed as a flexible modular system for medium to high air capacities, serving as a central separation system. Its areas of application include series production as well as individual applications on large machine tools with full lubrication (emulsion or oil) and for selected minimum quantity lubrication (MQL). An individual module can be used with an air capacity of 4,000 m³/h to 8,000 m³/h and, in a combination of up to six modules, with up to 48,000 m³/h.

THE HANDTE EM-O FLEX IS SUITABLE FOR USE WITH

Different applications in metal cutting, e.g. grinding, turning, milling, etc., especially in aerosol separation.

OPTIMAL DRAINAGE EFFECT
LOW OPERATING COSTS

NEWLY DEVELOPED FILTER ELEMENTS EM-O PACK AND EM-O BAG: LIGHTWEIGHT AND EASY TO MAINTAIN

The newly developed filter elements EM-O Pack for the main filter stage unite coarse and fine filter stage in one housing. The media can be combined depending on load, particle properties and air volume. The EM-O Pack filter cassettes impress with their low weight, compact design and special installation situation. Large maintenance doors simplify tool-free filter change. The additional coarse pre-separator, e.g. for chips and coarse particles, is easy to clean and can additionally be equipped with the filter element EM-O Bag for optimised pre-separation, e.g. of solid or larger dirt loads. Thanks to its design, the EM-O Bag can be changed very easily and quickly and allows space-saving disposal with the separated dirt (100% incinerable). Recirculation of separated liquids is a standard feature for each module.

MAXIMUM SEPARATION EFFICIENCY

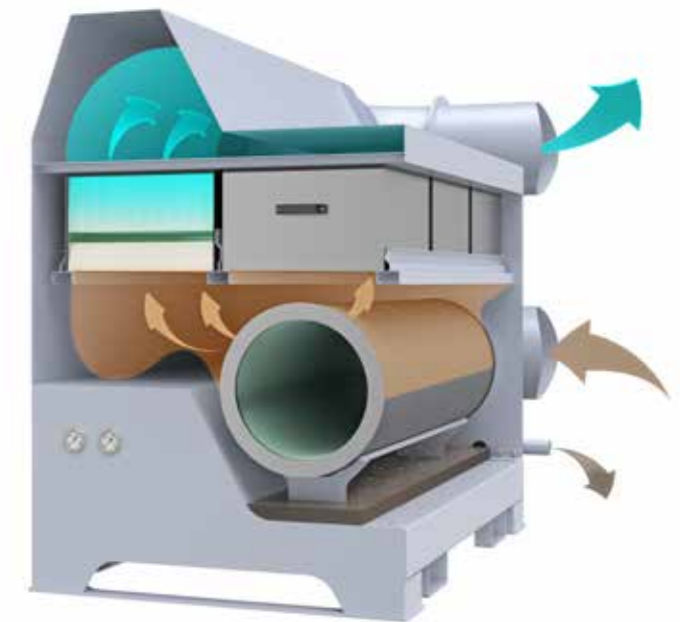
With its progressive filter structure and the maximised filter area, the separator achieves maximum separation efficiency and low emission values corresponding to ePM1 80% and better. Optimised filter media ensure the best possible drainage of separated aerosols during continuous operation, long service lives of the filter elements and high plant availability.

LOWEST ENERGY CONSUMPTION

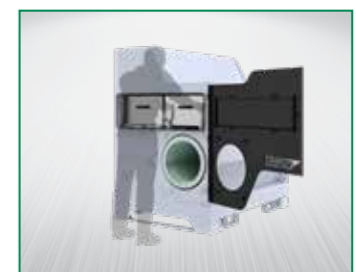
The maximised filter area in particular ensures that minimum differential pressures are maintained, guaranteeing considerable long-term energy savings in operation.

EASE OF USE & MAINTENANCE

The devices of the EM-O Flex range impress with their high ease of use and maintenance. Large service doors and quick locks, the user-friendly installation size of the separator and the optimised weight of the filter elements facilitate one-man operation from the ground.



Main filter stage EM-O Pack



Tool-free filter change

YOUR PARTNER FOR GLOBAL SOURCING

Camfil APC is a leading supplier of industrial exhaust air purification and part of the Camfil Group, the world market leader in air filters and air purification systems, with over 4,500 employees worldwide and more than 50 years of experience. With our comprehensive product portfolio and global service and delivery options, we offer absolute customer proximity and individual solution proposals for use in almost all production areas.



TRUST THE EXPERT!



Our engineers and employees are absolute professionals with many years of experience in the development, production and technical support of air pollution control systems of all sizes. From a simple filter system to complex turnkey solutions, from the initial design of the plant to the final completion - we are looking forward to your inquiry!



camfilapc.com/eu