

Darwin

Mist Collector



Darwin

Darwin series is a range of centrifugal filters for cleaning air containing oil mists, micro-mists and smokes produced when using coolants (emulsion or neat oil).

It can be used with a majority of machine tools for all machining processes.

It is available in 4 sizes with three different, interchangeable filtration technologies.

Throughputs available are from 600 to 3.000 m³/h, with different combination for increasing filtration efficiency, up to 99,97%.

Patented in USA and in Europe

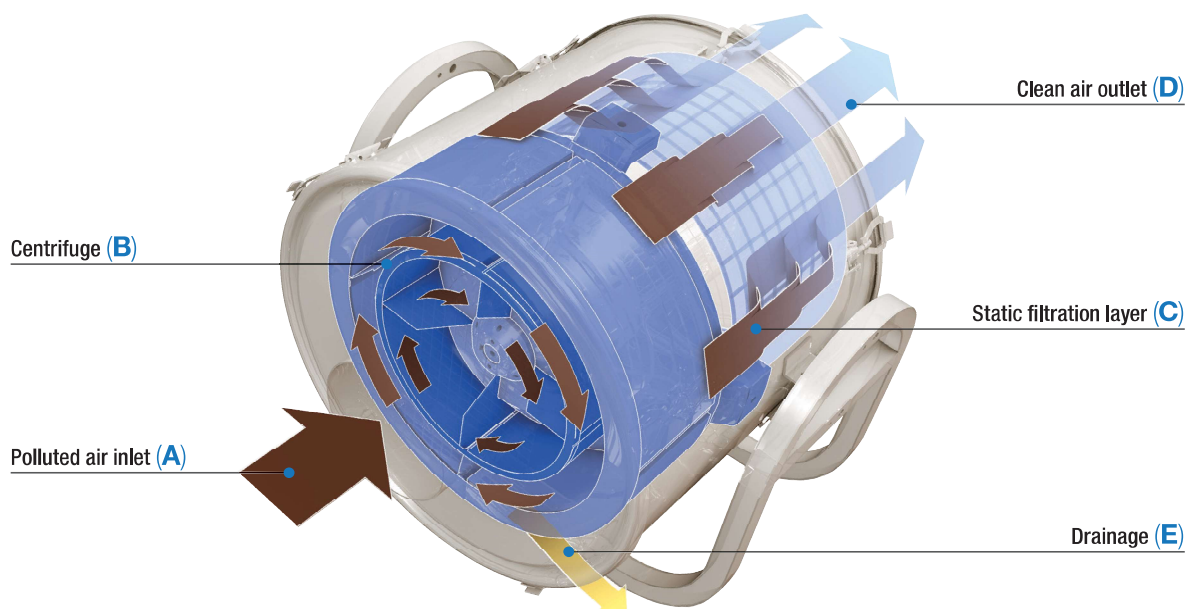
(Italy, France, Germany, UK, Luxemburg, Switzerland, Sweden, Spain).



LOSMA grants that every single system is tested through strict control procedures. Every unit is provided with a qualitative and functional test certificate.



Working principles



- 1 Polluted air is drawn into the system (A) thanks to the depression generated from the rotation of the centrifuge (B), which gives the air a swirling movement.
- 2 Air passes through the special expanded polyurethane foam inserts positioned in the centrifuge (only in mono and double version) and then into a net. The combination of all these elements facilitates the re-coalescing of oil particles - including the finer ones.
- 3 Air crosses a further static filtration layer (C) before being re-introduced into the working environment (D). The re-condensed liquid is eliminated through the drainage tube in constant positive pressure (E).
- 4 Darwin series grants a filtration efficiency of over 95%, also for pollutant particles below one micron; this efficiency rate can be increased to 99,97% with the use of an absolute post-filter (HEPA FILTER) according to EN 1822 norms.



Turbine

Suitable for surface machining (sharpeners, grinders, honing, lapping and similar finishing processes) also in the presence of heavy particulates.



Mono centrifuge

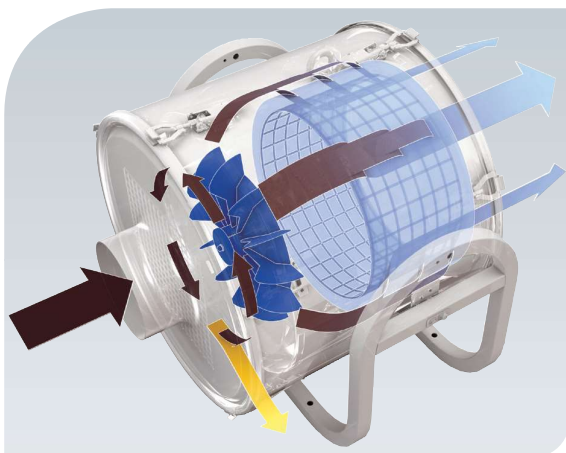
Suitable for all machining processes (emulsion or neat oil).



Double centrifuge

Suitable for all machining processes (emulsion or neat oil) in particular for heavy machining conditions such as use of high pressure which generates micro-mists and vapours.

Plus



TWO-STAGE FILTRATION

Darwin series uses a double filtration combination: dynamic (given from centrifuge rotation) and static (with integrated post-filtration system) to grant high performances.



CONDENSATION AND DRAINAGE

Compared to the most common static air filtration systems, Darwin series grants incomparable capacity of re-condensation and drainage; overpressure inside the filter is used to continuously discharge coolant which may then be collected and recycled.



VERSATILITY AND MODULARITY

Darwin series, unique in its category, offers 12 different combinations of filtration technologies and corresponding aspiration power, facilitating the choice of a suitable solution for all requirements,

so avoiding energy waste caused by over-sized systems or, on the other hand, inefficiency caused by under-sized systems.



EASY INSTALLATION

All Darwin systems can be mounted either horizontally or vertically thanks to an exclusive cradle, which allows the filter to rotate on its axis and also allows installation in very small spaces.



QUICK AND EASY MAINTENANCE

Access to the filtering section is very easy and immediate and does not require unscrewing or disassembly of any parts. Simply open the cover which is shut with pressure hooks to access the filters. They can be extracted and changed very easily and quickly.



STAINLESS STEEL VERSION

All Darwin series models can be supplied in stainless steel, in order to be used in applications where painted steel is not ideal.

Optional

Clipper

Available with F9 filtration level (95%) or H13 efficiency, up to 99,97% following EN 1822 norms. Useful in case of micro-mists and smoke.

Guard

Pre-Filtration module for swarf, chips and dust, working through metallic and synthetic filtration stages.

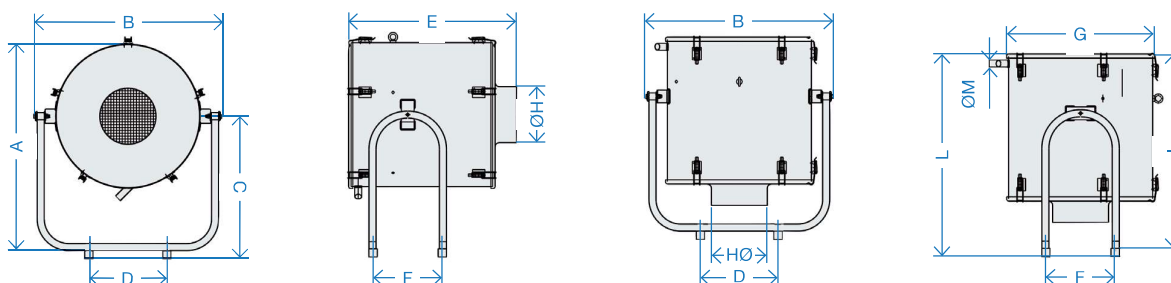
Useful to optimize the air suction efficiency in case of high production of oil mists containing dusts and metallic swarf chips.



Installations



Technical data



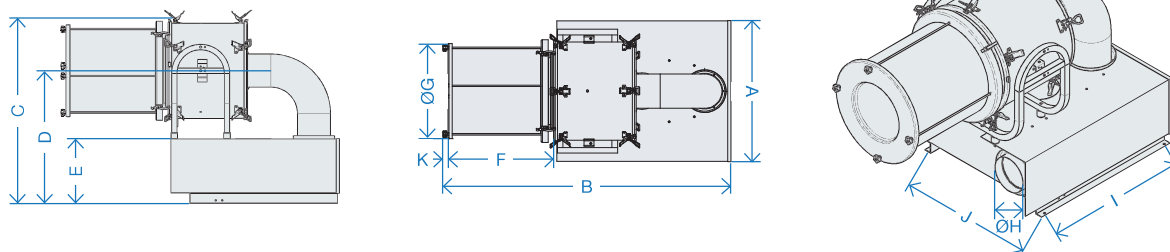
| MODELS | Dimensions (mm) | | | | | | | | | | |
|--------------------|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | A | B | C | D | E | F | G | Ø H | I | L | Ø M |
| Darwin 600 | 487 | 457 | 300 | 180 | 324 | 170 | 365 | 100 | 382 | 412 | 25 |
| Darwin 1200 | 563 | 574 | 428 | 275 | 460 | 245 | 457 | 150 | 589 | 619 | 25 |
| Darwin 2000 | 563 | 574 | 428 | 275 | 510 | 245 | 457 | 150 | 614 | 644 | 25 |
| Darwin 3000 | 576 | 665 | 505 | 275 | 594 | 245 | 523 | 200 | 684 | 714 | 25 |

| MODELS | Flow Rate* | | Noise level | Inlet | RPM (rpm) | | Net Weight | Power (kW) | |
|----------------------|------------|---------|-------------|-------|-----------|---------|------------|------------|---------|
| | 50 (Hz) | 60 (Hz) | | | 50 (Hz) | 60 (Hz) | | 50 (Hz) | 60 (Hz) |
| Darwin 600 T | 600 | | 72 | 100 | 2800 | 3400 | 21 | 0,37 | 0,43 |
| Darwin 600 M | 600 | | 67 | 100 | 2800 | 3400 | 21 | 0,37 | 0,43 |
| Darwin 600 D | 600 | | 67 | 100 | 2800 | 3400 | 21 | 0,37 | 0,43 |
| Darwin 1200 T | 1350 | 1650 | 76 | 150 | 2800 | 3400 | 35 | 1,50 | 1,75 |
| Darwin 1200 M | 1270 | 1500 | 76 | 150 | 2800 | 3400 | 35 | 1,50 | 1,75 |
| Darwin 1200 D | 1270 | 1500 | 76 | 150 | 2800 | 3400 | 35 | 1,50 | 1,75 |
| Darwin 2000 T | 1920 | 2370 | 78 | 150 | 2800 | 3400 | 39 | 2,20 | 2,55 |
| Darwin 2000 M | 1950 | 2430 | 78 | 150 | 2800 | 3400 | 39 | 2,20 | 2,55 |
| Darwin 2000 D | 1800 | 2180 | 78 | 150 | 2800 | 3400 | 39 | 2,20 | 2,55 |
| Darwin 3000 T | 3000 | 3300 | 79 | 200 | 2800 | 3400 | 62 | 3,00 | 3,45 |
| Darwin 3000 M | 2900 | 3200 | 77 | 200 | 2800 | 3400 | 62 | 3,00 | 3,45 |
| Darwin 3000 D | 2900 | 3200 | 76 | 200 | 2800 | 3400 | 65 | 3,00 | 3,45 |

* Free inlet

Standard voltage: 50 HZ 230V/400V - 60 HZ 265V/400V

Guard + Darwin + Clipper



| ASSEMBLY | Dimensions (mm) | | | | | | | | | | |
|-------------------------------------|-----------------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | A | B | C | D | E | F | Ø G | Ø H | I | J | K |
| Guard 10+Darwin 600+Clipper | 560 | 1074 | 860 | 612 | 300 | 363 | 365 | 98 | 542 | 513 | 19,5 |
| Guard20a+Darwin 1200+Clipper | 655 | 1338 | 860 | 618 | 300 | 483 | 407 | 148 | 642 | 608 | 19,5 |
| Guard20a+Darwin 2000+Clipper | 655 | 1364 | 860 | 618 | 300 | 483 | 407 | 148 | 642 | 608 | 19,5 |
| Guard30a+Darwin 3000+Clipper | 655 | 1382 | 905 | 631 | 300 | 388 | 523 | 198 | 765 | 608 | 19,5 |