

### Lina™

Lina is one of the smallest oil mist separators on the market but can still handle cabin sizes up to at least 5m<sup>3</sup>. The size makes it easy to install - even on small machine tools.



### Technical Data

	<b>EU-standard</b>
Suitable for cabin size .....	Small (<5m <sup>3</sup> )
Operating condition .....	5-50° C
Electric power supply .....	16 A/400 V/3/50 Hz
Motor rating .....	0,55 kW
Rated current .....	1,35 A
Weight .....	54 kg
Height .....	840 mm
Diameter .....	Ø 480 mm
Inlet pipe dimension .....	Ø 125,5 mm
Sound level .....	< 65 db (A)

### Clara™

Clara is the oil mist separator that suits most users. Clara is light and compact enabling it to fit almost every make and type of machine tool on the market. The proven Clara technology provides the platform for 3nine's family of separators.



### Technical Data

	<b>EU-standard</b>
Suitable for cabin size .....	Midsize (<10m <sup>3</sup> )
Operating condition .....	5-50 °C
Electric power supply .....	16 A/400 V/3/50 Hz
Motor rating .....	1,5 kW
Rated current .....	3,2 A
Weight .....	89 kg
Height .....	1 145 mm
Diameter .....	Ø 640 mm
Inlet pipe dimension .....	Ø 161 mm
Sound level .....	< 65 db (A)

### Emma™

Emma is the big sister in the 3nine product family. Emma is designed especially for large machines and can, thanks to the high airflow, also handle partly open machines. Multiple Emmas can be interconnected using the 3nine modular systems to create a solution for higher capacities.



### Technical Data

	<b>EU-standard</b>
Suitable for cabin size .....	Large (<20m <sup>3</sup> )
Operating condition .....	5-50 °C
Electric power supply .....	16 A/400 V/3/50 Hz
Motor rating .....	5,5 kW
Rated current .....	11,3 A
Weight .....	131 kg
Height .....	1 145 mm
Diameter .....	Ø 670 mm
Inlet pipe dimension .....	Ø 316 mm
Sound level .....	< 70 db (A)

### Petra™

Petra is ideal for harsh environments such as grinding and polishing, machining of cast iron and heat treatment. It is designed to cope with production processes where there are high levels of solid particles needing removal.

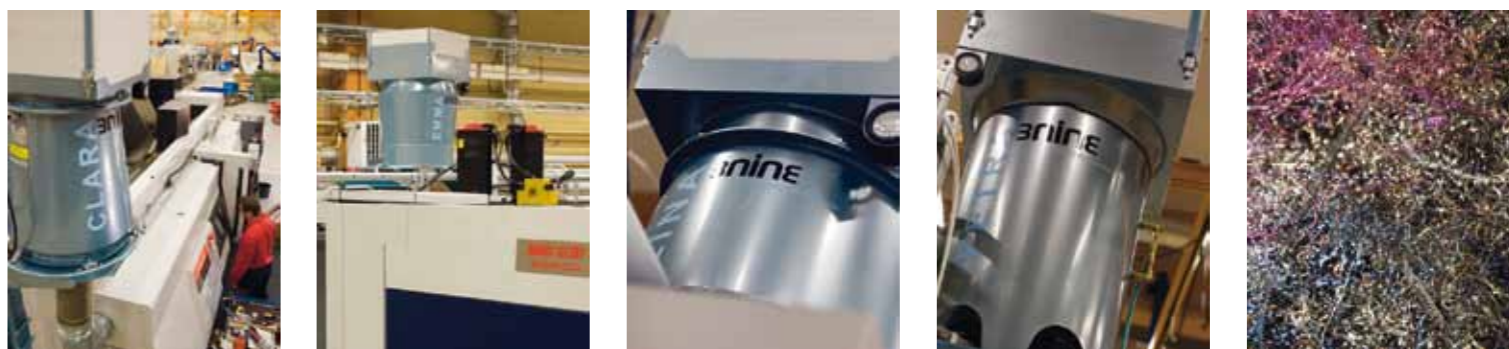


### Technical Data

	<b>EU-standard</b>
Suitable for cabin size .....	Midsize (<10m <sup>3</sup> )
Operating condition .....	5-50° C
Electric power supply .....	16 A/400 V/3/50 Hz
Motor rating .....	1,5 kW
Rated current .....	3,2 A
Weight .....	96 kg
Height .....	1 145 mm
Diameter .....	Ø 500 mm
Inlet pipe dimension .....	Ø 160 mm
Sound level .....	< 70 db (A)



# Oil smoke and Oil mist separators with high performance



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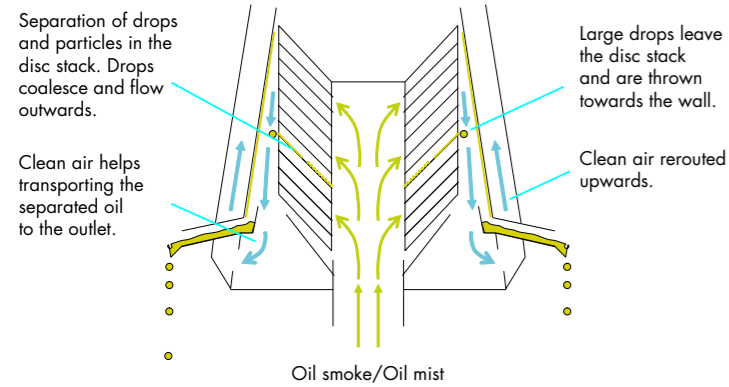
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ENG2010/03 Photo: Jørgen Svendsen, Illustrations: Robert Gustafson



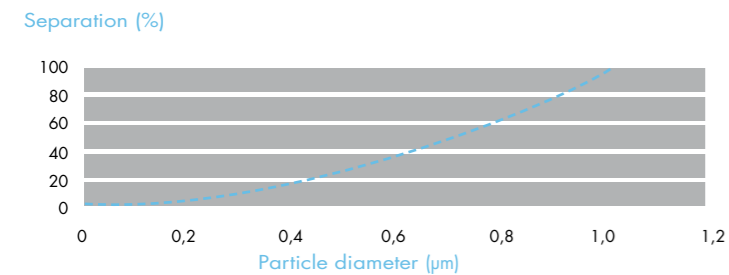
# An oil smoke and oil mist separator

with high rate of purification, excellent flexibility and outstanding operating economy



## Intelligent and revolutionary technology

The unique patented technology separates the oil mist and other coolants up to 99.9%\* with a particle size down to 1µm by using centrifugal forces. This process requires a minimum of maintenance. A rotating disc stack separates the oil mist more effectively than traditional centrifugal separation technologies like cyclones and rotating filters. The rotor also functions as a fan evacuating the mist making external fans unnecessary.



The graph shows the separation efficiency, meaning the amount of particles of a certain size to be separated out in the rotor.

\*According to independent tests by VTT (an official testing body in Finland)

## Technology for tough applications

3nine machines handle difficult applications where other technologies develop problems or have high maintenance costs. A patented solution to handle tough applications is the Cleaning-in-Place (CIP), a process that automatically and effectively cleans the machine of sticky and solid particles.



## Keeping operating cost low

The oil mist is separated and oil droplets from the cutting fluid are brought back to the machine tool. Recycling saves on cutting fluid, maintenance and cleaning costs as filter change and disposal are kept to a minimum.

All 3nine machines are designed for continuous operation as it is critical to keep production running.

## Flexible solutions without duct work

3nine machines can be installed on top of the machine tool as close as possible to the source. On top of that the air that comes out is so clean there is no need for expensive duct work. This minimizes duct maintenance, decreases the risk of fire and eliminates the risk of bacteria in the air caused by sediment in the ducts.

Compact and direct installation saves on valuable floor space and creates a flexible production environment. Installing the machines is quick and easy.

## Secure working environment

Oil mist exposure can cause severe health issues. The air coming out of the machines is so clean that it can be recycled back into the workshop. This guarantees the operator an optimal working environment.

The high efficiency of the rotor makes it possible to equip 3nine machines with the highest available HEPA filter class, H13, for a 99.995% particle free air. Pure air means you don't have any oily surfaces in the workshop which allows you to reduce cleaning.

If the application creates smoke, the 3nine machine equipped with a HEPA takes care of this.

A continuous flow of particles and oil eliminates the risk of pressure drop and diminished air flow.

*"Before installing the Emma we had to change filters every two weeks."*

Jim Leach, Okuma Large Body Cell Machine Manager at MOOG Inc. Aircraft Group, New York, USA



## Why 3nine?

- 99.995%\* Purification
- Minimal Maintenance
- Recycling of Cutting Fluid
- No Fixed Duct Work
- Compact and Flexible Installation
- Excellent Reliability
- Minimal Hazardous Waste

\* with HEPA-filter (H13)

3nine's leading cost saving technology provides a healthier and safer working environment, allowing you to focus on your production.

