Separated cutting fluid is fed to each unit to work with all machining applications using either oil or coolant. Our goal was to bring oil mist elimination to a new level, develop products that were well adapted for all applications using either oil or coolant and to simplify the monitoring of the products through visual and digital communication. The new series, called the GREEN LINE, is based on Multi-Rotor and Counter Current Technologies. Multi-Rotor technology facilitates scalability which allows for the many airflow requirements and Counter Current Technology allows each unit to work with all machining applications using either oil or coolant.

THE TECHNOLOGY

Liquid to gas separation technology was invented over 100 years ago. Based on that technology, 3nine has been developing oil mist separators since 2001. In 2009, 3nine started developing a totally new concept and technologies that would further change the way oil mist would be eliminated in the shop.

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SEPARATION EFFICIENCY

The GREEN LINE series of units separate 100% of all fluid particles down to 1 µm, 99% down to 0.9 µm and 82% down to 0.75 µm. In order to capture the finer particles that are <1 µm, 3nine uses a HEPA filter (H13) to ultimately clean the air to 99.97%. With most of the particles separated in the disc stack, only 1% of the particles are collected in the HEPA filter.

COUNTER FLOW TECHNOLOGY

The GREEN LINE units are based on Counter Current Technology. Each rotor has a fan at its top, which along with the spinning disc stack, creates the suction and pulls the processed air in from the machine tools’ cabin. This combination creates the pre-separation of the larger particles down to 10µm. This makes it extremely efficient for all applications, including oil free applications such as grinding or die casting with emulsions.

AFTER SEPARATION

The particles smaller than 1 µm, will be collected by the final stage HEPA filter (H13) and produces 99.97% particle free air.

LED-COMMUNICATION

All GREEN LINE oil mist separators have a built in system control box. The control box monitors and reports on the HEPA filter status and the status of the airflow. The status of the machine is then communicated through a LED RGB-strip on the front and back of the machine.

MULTI ROTOR TECHNOLOGY

The GREEN LINE Series utilizes one rotor and disc stack size for all the units. One rotor develops 176CFM/300m³/h. When a higher flow rate is required we add another rotor to the separator. This facilitates scalability for different airflow requirements. The rotors are driven by a motor and oil belt.

THE GREEN LINE SERIES - OIL MIST SEPARATORS WITH HIGH PURIFICATION, LOW MAINTENANCE AND OUTSTANDING OPERATION ECONOMY

OPERATING PRINCIPLE

CENTRIFUGAL SEPARATION

Fluid particles smaller than 10 µm, will enter the disc stack to be further separated to 100% down to 1µm. On the rotor a centrifugal force is created. The bigger the particle, the faster they move towards the edge of the spinning disc to be thrown off and onto the inner wall of the rotor chamber to be re- turned to the machine tools for reuse.

3NINE’S LEADING COST SAVING TECHNOLOGY PROVIDES A HEALTHY AND SECURE WORKING ENVIRONMENT, ALLOWING YOU TO FOCUS ON YOUR PRODUCTION.

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ADVANTAGES

• One machine for all applications
• Low Life Cycle Cost
• 99.97% Particle free Air!
• Minimal Maintenance
• Minimal Filter Changes
• Suitable for applications with a high degree of solid particles
• Minimal Duct Work
• Recycling of cutting fluids
• No Oil Surfaces in the Workshop
• Compact and Direct Installation
• Low energy use

SECURE WORKING ENVIRONMENT

Oil mist exposure can cause severe health issues for the operator. If not handled properly, the oil mist will coat practically everything in the shop causing potential health problems for the operator, risk of injury from slips and falls, damage to electrical components and an increased need for housekeeping. With an oil mist separator from 3nine, this will not be a problem. The air coming out of a GREEN LINE oil mist separator is so clean that it can be recycled right back into the workshop and guarantees an optimal working environment for the operator.
3nine is a Swedish company that develops solutions for the purification of processed air for the Metal Working Industry. Our revolutionary technology is based on centrifugal separation, using a disc stack which produces an extremely high degree of purification in a very compact format and requires a minimum of maintenance.

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**SPECIFICATIONS**

**NOVA 300**
EU-standard: 3-phase 280-400V 50Hz 6A
NA-standard: 3-phase 230/460V 60Hz 6A
Motor rating: 0.37 kW
Rated current: 1 A
Weight: 35 kg
Height: 550 mm
Lenght: 694 mm
Depth: 475 mm
Inlet pipe: Ø 100 mm
Sound level: < 65 db (A)

**ANNA 600**
EU-standard: 3-phase 380-480V 50/60Hz 6A
NA-standard: 3-phase 208-240V 50/60 Hz 6A
Motor rating: 0.75 kW
Rated current: 1.9 A
Weight: 80 kg
Height: 936 mm
Lenght: 748 mm
Depth: 546 mm
Inlet pipe: Ø 200 mm
Sound level: <70 db (A)

**LOVA 900**
EU-standard: 3-phase 380-480V 50/60Hz 6A
NA-standard: 3-phase 208-240V 50/60 Hz 6A
Motor rating: 1.5 kW
Rated current: 3.3 A
Weight: 119 kg
Height: 936 mm
Lenght: 777 mm
Depth: 833 mm
Inlet pipe: Ø 200 mm
Sound level: <70 db (A)

**NINA 1200**
EU-standard: 3-phase 380-480V 50/60Hz 6A
NA-standard: 3-phase 208-240V 50/60 Hz 6A
Motor rating: 1.5 kW
Rated current: 3.3 A
Weight: 119 kg
Height: 936 mm
Lenght: 777 mm
Depth: 833 mm
Inlet pipe: Ø 200 mm
Sound level: <70 db (A)