

# MAHLE

*Industrial Filtration*

## Oil Mist Collector Unit

**LGA 600**

Nominal volume flow 600m<sup>3</sup>/h

### 1. Features

**High performance oil mist collector unit for separation of coolant from tooling machine exhaust air**

- Compact design principle
- High oil mist load capacity
- Excellent retention rates

#### Characteristics

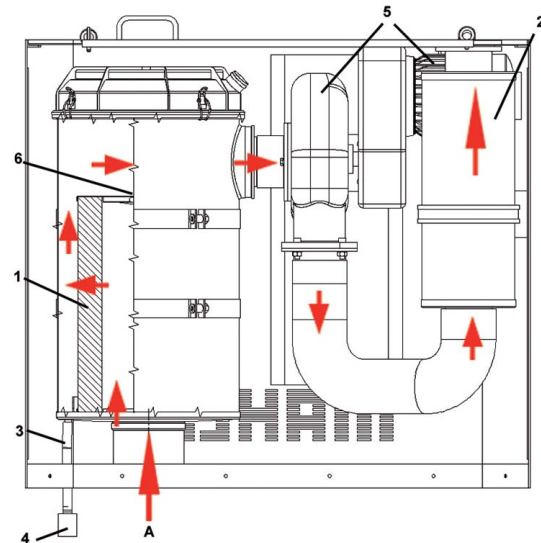
- Maintenance-friendly design
- Equipped with high-efficient coalescer elements
- Optimized service life
- Alternatively available with frequency controlled motor
- Modular design for direct installation of main components into tooling machines
- Worldwide distribution



## 2. Principle of operation

The oil mist is sucked away from the tooling area (**A**) of the machine tool. The oil mist passes the coalescer element (**1**) from the inside to the outside. The oil precipitates at the fibre fleece when the volume flow passes the element. Smallest oil droplets coagulate to bigger drops. Because of gravitation these bigger drops will flow downwards to the bottom of the filter. Here, the collected oil will be lead back to the tank through the oil drain hose (**3**) and the membran valve (**4**). The membran valve opens automatically when the oil column inside the drain hose has reached a height of 500 mm. The cleaned air is sucked in by the blower (**5**) and blown out through the silencer (**2**) towards the top of the unit.

To be mounted directly onto a machine center.  
Exhaust air can be recirculated to the manufacturing floor.



## 3. Range of applications

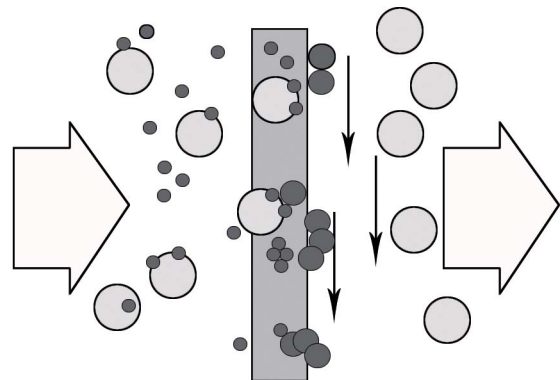
Suitable for all aerosols of oil-based cooling fluids (cutting, grinding, drilling oils, etc.), oil aerosols from tools:  
Please request for using with water-based cooling fluids.

### Safety instruction:

#### Attention:

**Unit must not be installed in explosive environment (ex zone 0, 1 or 2)!**

At machining tooling with oil from coolant it is normally necessary to evacuate the air from the working room in order to prevent propagation of the oil mist from the encased working room. At the coolant flow itself, it might be possible that concentrations occur, which can cause ignition (tool breakage). Therefore, by using flammable coolant, it is mandatory to ensure proper preventive fire- and explosion protection.



Passing and coagulation of the mist droplets through the filter element.

## 4. Order numbers

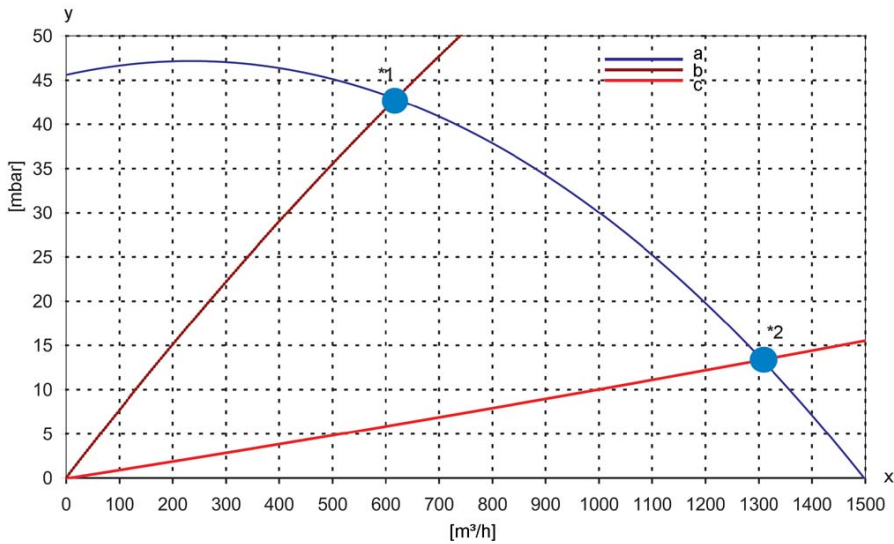
Designation	Position (refers to principle of operation)	Order number
Filter element	1	79354390
Silencer	2	76326227
Oil hose	3	76326268
Membran valve	4	78769697
Blower with motor	5	76326177
Screw nut	6	76302996

Option: Frequence control for regulation of the fan available on request.

Subject to technical alteration without prior notice.

## 5. Technical specification

Volume flow:	600 m <sup>3</sup> /h	Motor voltage:	230/400 V AC
Temperature range:	+10 °C to + 60 °C	Current input:	9.0/5.2 A
Filter:	1 coalescer element	Motor output:	2.2 kW
Filter surface:	4,6 m <sup>2</sup>	Type of protection:	IP 54
Air inlet:	(Jacob-connection) 150 mm	Motor speed:	2900 min <sup>-1</sup>
Oil drain hose:	15 x 2 mm PVC transparent	Sound level (as delivered):	74 dB (A)
Dimensions L x W x H:	(3m)	Sound level (duty point):	71 dB (A)
Weight:	1070 x 600 x 950 140 kg		



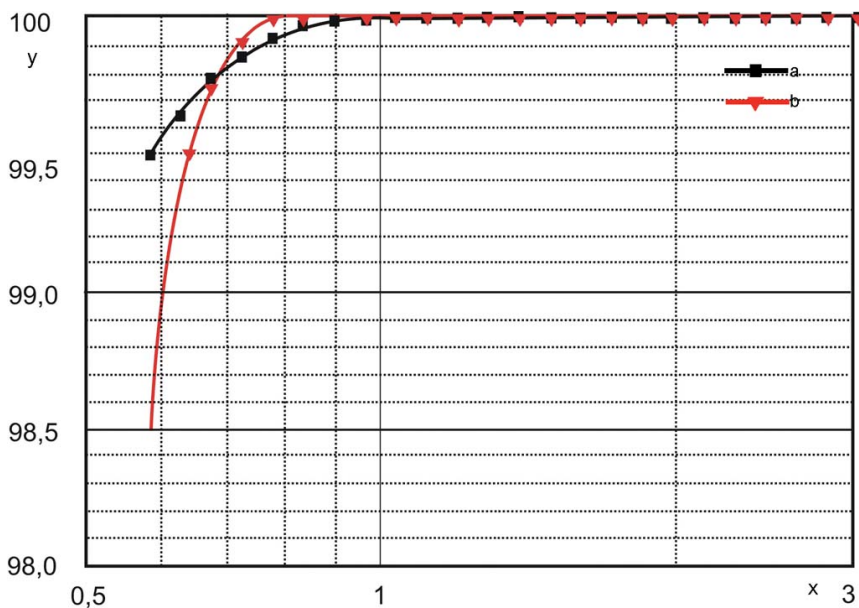
### Blower performance curve

x = Volume flow [m<sup>3</sup>/h], y = Pressure increase [mbar]

a = Blower performance curve, b = LGA 600 (saturated coalescer)

c = LGA 600 /new coalescer

\*1 duty point, \*2 as delivered



### Separation efficiency

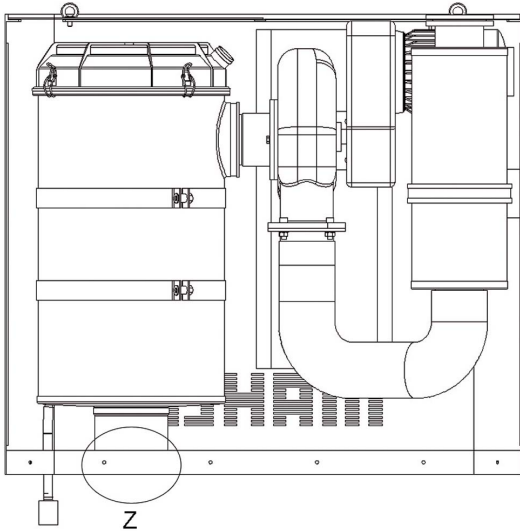
Filter unit: LGA 600, Test oil: Wiolan SH 10

Inlet oil mist concentration: 50 mg m<sup>-3</sup>, Volume flow: 600m<sup>3</sup>h<sup>-1</sup>

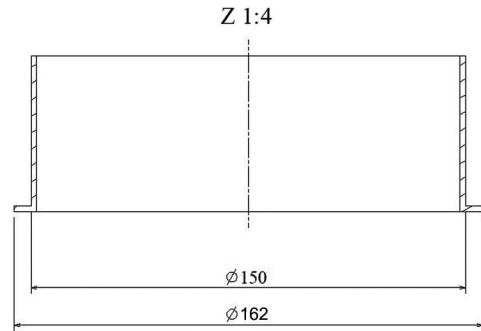
x = Droplet diameter in µm, y = Fractional collection efficiency in %

a = new, b = after 100 hours of operation

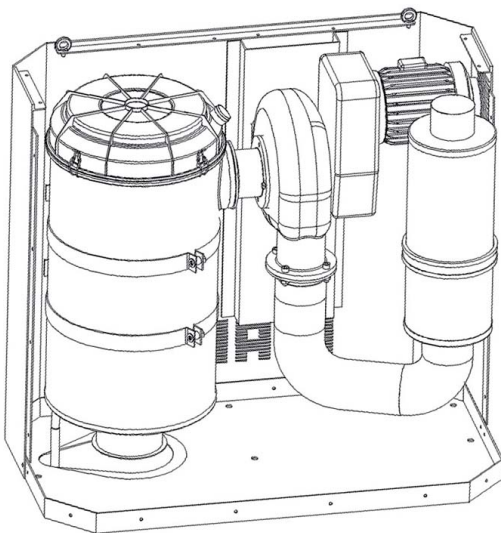
## 6. Assembly dimensions



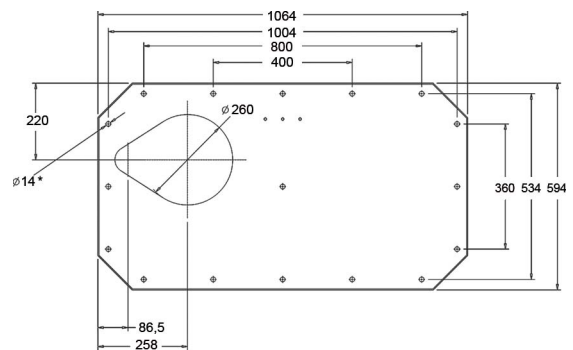
Front side



Air inlet



Perspective



Base plate

\* for M12

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