Filtration Group®
Industrial

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Oil Mist Separator Unit
LGA 1201 FU/FUW

Nominal volume flow 1200 m³/h

1. Features

Powerful device for the separation of Cooling lubricants from machine tool exhaust air

Characteristics

- Excellent separation performance 99.9 % with 0.5 µm aerosols
- Suitable for high raw gas loading concentrations up to 3000 mg/m³
- Equipped with highly efficient coalescer elements
- Pre-separation system to optimize service life
- Can be retrofitted with a HEPA filter stage to increase efficiency
- Minimal maintenance and energy saving system
- Service-friendly handling
- Minimal need for space
- Extensive accessories
- Worldwide distribution and service

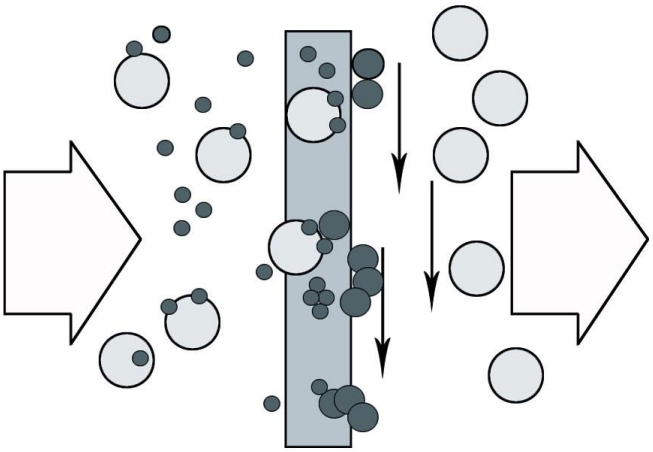
2. Fractional collection efficiency

x = Particle size in µm
y = Fraction separation efficiency in %

Aerosol: Wiolan SH 10
Raw gas concentration: 50 mg/m³
Volume flow: 1200 m³/h

1 = Filter cartridge as delivered
2 = Filter cartridge after 100 operating hours

3. Operating principle



Oil aerosols are sucked away from the machining space of machine tools. The oil-laden air flows outward through the coales- cer element from the inside. The oil attaches itself to the fibre me- dia as it passes through the filter. Minute oil droplets "coalesce" to form larger drops. These larger droplets migrate downwards on the coalescer element due to gravity. The oil accumulates at the bottom of the housing and is returned to the cooling lubricant storage reservoir via the oil drain hose and the membrane valve. The vacuum in the filter housing causes external air to be sealed off by the membrane valve. The valve opens automatically when the oil in the drain hose reaches a height of at least 500 mm. The cleaned airflow is sucked away by means of a high-pressure fan and blown out at the top through a silencer.

4. Application

Suitable for non-water-miscible cooling lubricants (cutting, grinding, drilling oil), oil aerosol from machine tools, as well as for water-miscible cooling lubricants.

Operating use

When machining with oil as the cooling lubricant, air must usually be extracted from the work part to prevent the atomized oil from spreading. Concentrations can occur in the cooling lubricant jet itself or in the machine room, which can, for example, ignite if the tool breaks. When working with flammable coolants or flammable materials, suitable fire and explosion protection devices must therefore be used to ensure safe operation in compliance with the legal regulations.

5. Product information

LGA 1201 FU and FUW

The LGA 1201 is a filtering separator with an oil separating element and optional pre-separation (with the FUW variant). It is driven by a frequency controlled motor. A flow sensor supplies the actual value to achieve a constant volume flow of 1200 m³/h. If the value falls below the set point, approx. 900 m³/h an electrical signal. With appropriate evaluation, maintenance measures can be initiated.

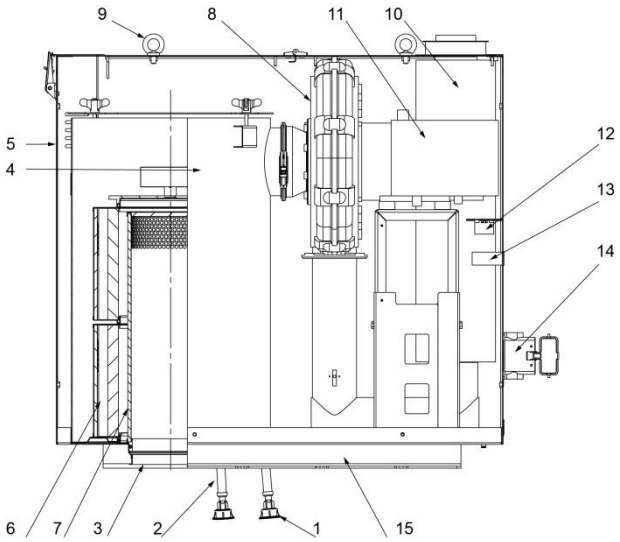
Installation in an explosive atmosphere (zone 0, 1 and 2) is not permitted!

6. Order numbers

Type	Order number
LGA 1201 FU RAL 7035*	on request
LGA 1201 FUW RAL 7035*	70591732

* other colors on request

7. Modules/main components

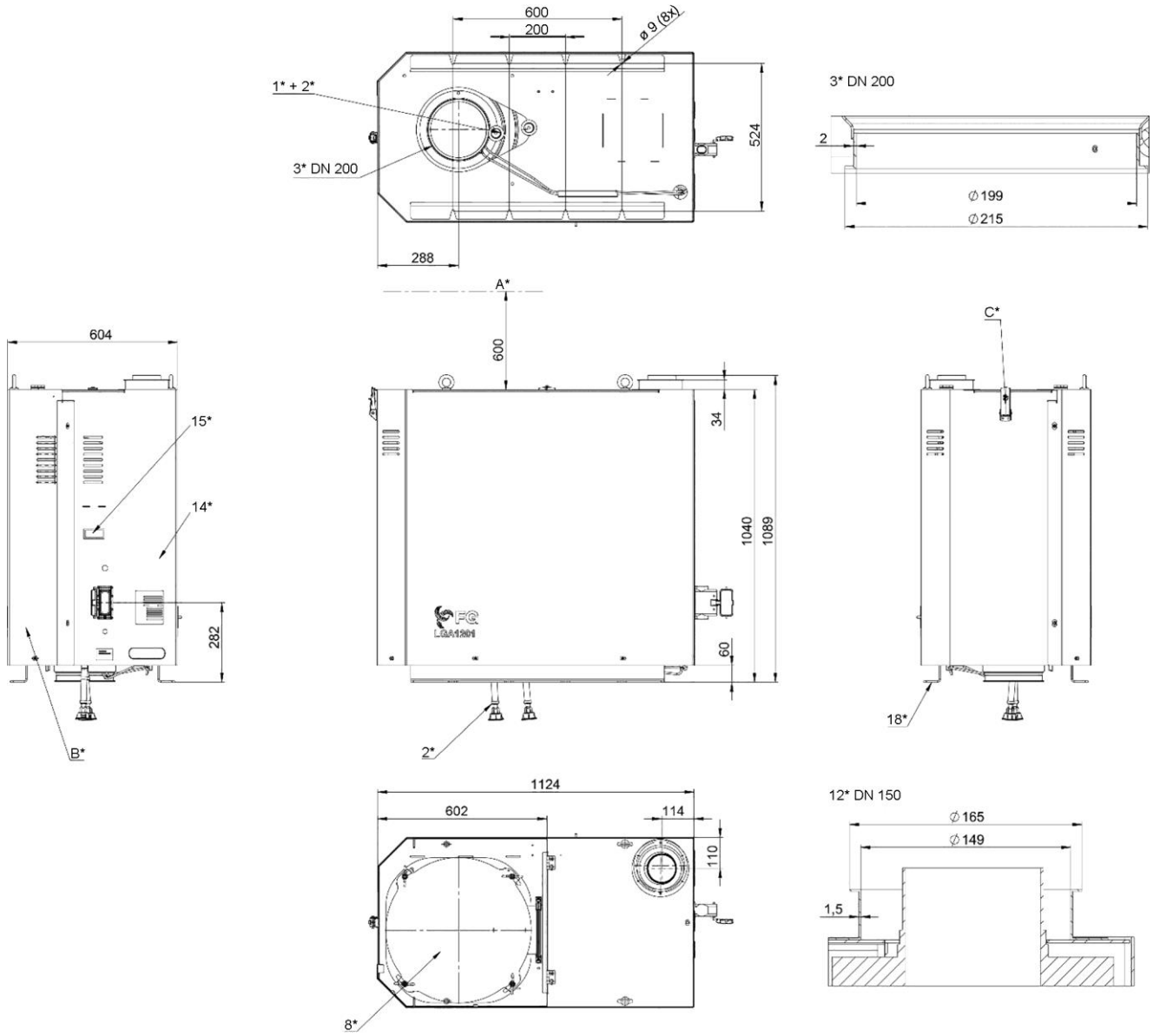


1 Diaphragm valve (FU 1x/FUW 2x)
2 Oil return hose (FU 1x/FUW 2x)
3 Raw gas connection piece
4 Filter housing
5 Housing
6 Oil separator
7 Pre-separation element (only FUW)
8 Fan
9 Eye bolt for transportation
10 Silencer
11 Frequency converter
12 Differential pressure transmitter
13 Volume flow display
14 Electrical feed
15 Mounting bar

8. Technical specifications

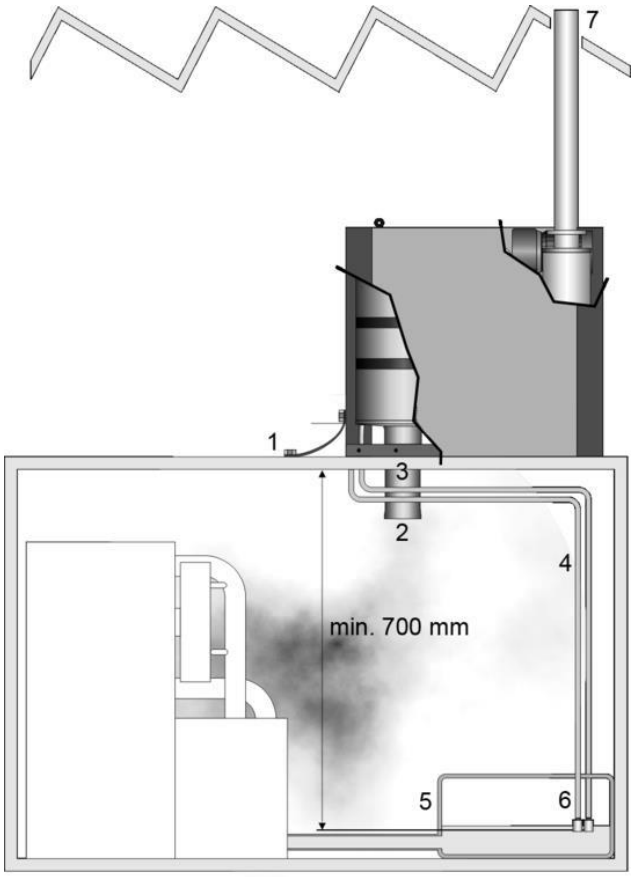
Volume flow	1200 m³/h
Temperature range	+10 °C to +60 °C
Air connection piece (2x Jacob)	150 mm clean gas/200 mm raw gas
Oil return hose	PVC transparent 15x2 mm (5.5 m) - (FUW 2x)
filter	2 oil separator and 1 pre-separator (only FUW)
Filter part	7.5 m²
Dimensions (LxWxH)	1124x604x1089 mm
Weight	240
Supply voltage	3 400 VAC / PE, 50-60 Hz
Power consumption	9.7 A.
Degree of protection of electrical components	IP54
Back-up insurance	16 A
feed	Harting 16B
Engine power	4 kW
Engine speed	5920 rpm
Sound level	72 dB (A)

9. Dimensions



A* Minimum clearance for filter element change
B* Side cover removable
C* Snap lock lid
1* Membrane valve
2* Oil hose
3* DN 200 raw gas connection
8* Element housing
12* Clean gas connection nozzle DN 150
14* Electrical supply Harting HAN 16B
15* Volume flow display
18* Mounting bar

10. Installation



1 Equipotential bonding
2 Exhaust pipe
3 Raw gas connection piece
4 Oil hose (FUW 2x)
5 Oil storage reservoir
6 Membrane valve (FUW 2x)
7 Exhaust air pipe

Note the minimum clearance of 600 mm is required for element removal!

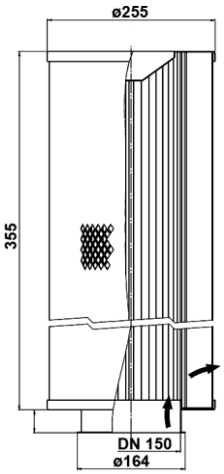
11. Spare parts

Order numbers for spare parts	
Designation	**Order number**
Pre-separator element (LGA 1201 FUW only)	70518319
Oil separator	70373631
Oil separator element HE	70551837
Silencer	70386730
Hold-down	72465751
Valve housing/plate	70521660
Oil return hose 10 m	72440443
Differential pressure transmitter	72404747
Process display PAD-73S	72444129
Fan with frequency controlled motor	72357099

12. Accessories and options

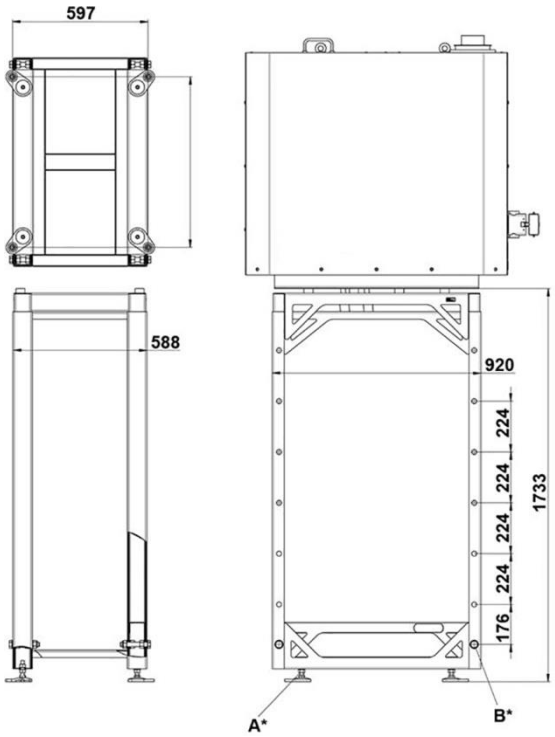
12.1 HEPA filter

A HEPA post-filter can also be used to meet the highest air purity requirements. Due to the excellent separation performance of the LGA device, the HEPA secondary filters can achieve very long service lives. HEPA post-filters (class H13) with a filter part of 7 m² are available as standard. Order number 72381953



12.2 Frame

For the installation/assembly of the LGA device next to a manufacturing machine. Order number 70539323



A* Height-adjustable plate foot
B* Grid height adjustment

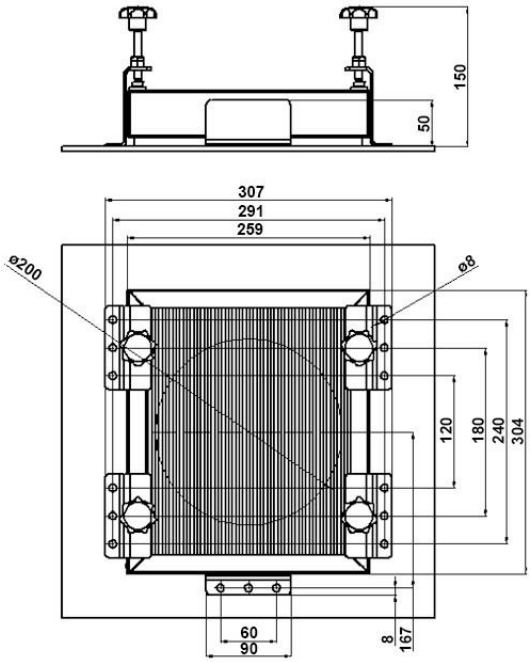
12.3 Pre-separation using an impact separator (MIO filter plates)

To protect the pre-filter and main filter installed in the device from contamination such as entrained metal particles, dust particles and macro emulsions.

MIO filter plates are cleanable coarse filters that can reach filter class G4 (EN 779) depending on the inflow speed

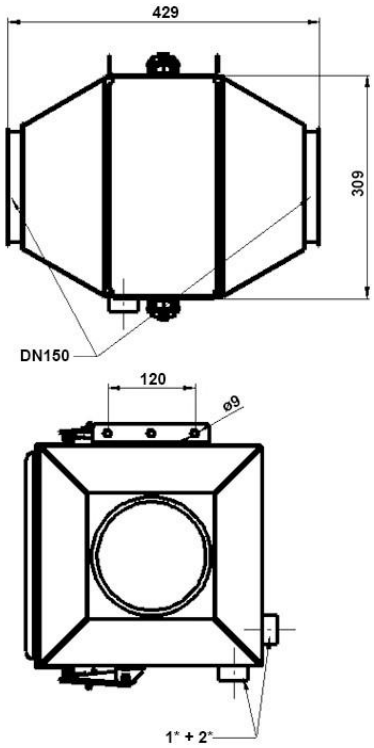
12.3.1 Internal pre-separation

The MIO filter plate (order number 70569965) can be installed inside the manufacturing machine with the mounting kit (order number 70571759) directly in front of the suction opening of the LGA 1201.



12.3.2 External pre-separation

The MIO filter plate (order number 70569965) can be installed outside the manufacturing machine in a sheet metal housing (order number 70579167) directly in front of the LGA 1201.



1* Membrane valve
2* Oil hose

12.4 Manual control device for frequency inverters

For optimal adjustment of the volume flow (1000 to 1300 m³ / h) to the operating conditions (installation only by a qualified electrician or service employee). This can significantly increase energy efficiency.
Order number 72415282

13. Check list for aerosol separators

Checklist for ASL/LGA series
Aerosol separation

1. Customer data

Company: _____ Contact person: _____
Post code: _____ Customer-no.: _____
Town: _____ Street: _____
Phone number: _____ E-Mail:
Project-no.: _____

2. Information on the tooling machine

General Information: Manufact.: _____ Model: _____ Year: _____
Type of processing: ☐ Turning ☐ Milling ☐ Grinding ☐ Others: _____
Machine housing: ☐ Complete housing ☐ Partial housing
Workspace (room to be collected): width x height x depth _____ m
Machine utilization: ☐ Single-shift ☐ Double-shift ☐ Three-shift
Material of the workpiece: _____
Machine setting: Cutting speed: _____ m/min Feed speed: _____ mm/min
☐ fully automatic workpiece loading ☐ manual workpiece loading
Dwell time before manual workpiece loading _____ s

3. Information on the cooling lubricant

Type: ☐ water-miscible ☐ non water-miscible
Name according to safety data sheet: _____
Minimal quantity lubrication: ☐ yes ☐ no
pressure. _____ bar volume flow _____ l/min
Nebulization: ☐ strong ☐ medium ☐ weak
(Workpiece not visible) (Workpiece still visible) (Workpiece clearly visible)

4. Evacuation system and aerosol separation

Aerosol separator is already in use? ☐ yes ☐ no
If yes: Manufact.: _____ Model: _____
Number of the evacuation points: _____
Position of the evacuation points: _____
Size of the evacuation ports: ☐ DN100 ☐ DN150 ☐ DN200 ☐ Others: _____
Position of the separator: ☐ on top of the machine ☐ next to the machine
Max. Distance from the suction point: _____ m
Exhaust air: ☐ recirculation in the hall ☐ extraction to the outside
Limit value for oil mist concentration: _____ mg/m³

Piping planning and assembly desired? ☐ yes ☐ no

Required fields!

4. Additions/Miscellaneous

_____

Place/Date: _____ Signature: _____

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