Operating Instruction

CO_2 Filter

Version: 01.09.2025

Product information

Type designation

Serial number

Date of construction

Purchase information

Purchase date

First commissioned on

Warranty period

Dealer's stamp

Warranty

L&W will uphold warranty claims made during a period of 12 months from the invoice date.
If the product was purchased from an official L&W dealer, the date on the dealer's invoice is valid.
Warranty claims can only be made on presentation of the original invoice.
Should verifiably defective parts have been delivered, we will decide to either replace the parts or repair them. The resulting transport and assembly costs will be invoiced.
No reduction of the purchase price or changes to the contract can be made. The parts for which a claim is being made should be kept safe by the purchaser and, when requested, sent to us at their cost. Replaced parts become the property of L&W. If maintenance work is carried out without our knowledge or permission by the purchaser or a third party, we are absolved from any liability for warranty claims. As a matter of principle, warranty claims can only be made by the initial purchaser.

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Short Instruction - L&W CO_2 Filter

CO_2 Filter Cartridge Replacement

- Open the push-pull type toggle clamp.
- Remove CO_2 filter cartridge **(Part-No. 010381)**, dispose it in accordance to local regulations, see safety data sheet for waste cl.
- Check O-rings and replace if necessary **(Part-No. 010365)**.
- Open the package of the new filter cartridge and insert filter cartridge carefully into the adapter housing.
- Close the push-pull type toggle clamp of the CO_2 filter, make sure that the CO_2 filter cartridge is correctly positioned.

The CO_2 filter cartridge change is now completed.

Operating Medium: Ambient Air

Operating Temperature: + 5 °C - + 45 °C

Installation Guide CO_2 Filter

- **Install** the CO_2 filter **fail safe** and **vertically** as shown in the operating instructions. **Caution**: the function is not guaranteed if mounted horizontally.
- The minimum distances specified in the operating instructions must be ensured.
- Use suitable suction hose to connect CO_2 intake filter to compressor intake filter housing.
- Note: Outlet of the CO_2 intake filter is on the **lower side**: connect to compressor.

If a hose or pipeline is to be installed on the suction area, the inside diameter and length dimensions specified in the operating instructions must be ensured.

General Information

We strongly recommend to read this manual thoroughly prior to operation and to follow all the safety precautions precisely. Damage resulting from any deviation from these instructions is excluded from warranty and liability for this product. Carry out other commissioning steps only if you have fully understood the following contents.

Before commissioning and using the unit, carry out all the essential preliminary work and measures concerning legal regulations and safety.

These are described on the following pages of this operation instruction.

Description of Marks & Warning Signs

The following warning signs are used in this document to identify the corresponding warning notes which require particular attention by the user. The warning signs are defined as follows:

Caution
Indicates an imminently hazardous situation which, if not avoided, could result in serious injury, physical injury or death.

Warning
Indicates a potentially hazardous situation which, if not avoided, could result in physical injury or damage to the product or environment.

Note
Indicates additional information on how to use the unit.

Function / Application

In recent years, due to the relatively large increase of CO_2 greenhouse gases, in the ambient air, the proper filling of breathing air bottles according to EN 12021 is not always guaranteed.

The new L&W CO_2 filter is the professional solution to reduce the CO_2 value in the intake section below the maximum permissible limit.

Specifications

- CO_2 Filter Console
- Push-Pull Toggle Clamp to fix the CO_2 Filter Cartridge
- Hose Connector Ø 50mm or Hose Connector Ø 76mm (Air Inlet CO_2 Filter Adapter Housing)
- Hose Connector Ø 32mm (Air Outlet CO_2 Filter Adapter Housing)
- 2 Meters Connecting Hose InnerØ 32mm
- 2 Wire Hose Clamps Ø 35-31mm
- CO_2 Filter Cartridge

Options

- Mounting Kit for Wall mounting
- Hose Connector Ø 50mm
- Suction Hose InnerØ 50mm
- 2 Wire Hose Clamps Ø 50mm
- Hose Connector Ø 76mm
- Suction Hose InnerØ 76mm
- 2 Wire Hose Clamps Ø 76mm
- Stand for CO_2 Filter
- Mounting Kit for Stand

Technical Data

Technical Data	L&W CO_2 Filter
Medium:	Air
Intake Pressure:	atmosphaeric
Operating Temperature [°C]:	+5°C - +45°C
Flow Rate [l/min]	up to 750
Width [mm]:	370
Depth [mm]:	330
Height [mm]:	1075
Weight Console [kg]:	22
Weight c/w Filter Cartridge [kg]:	42,5

Technical Data

Technical Data	L&W CO_2 Filter Cartridge
Medium:	Air
Intake pressure:	atmosphärisch
Operating temperature [°C]:	+5°C - 45°C
Flow Rate [l/min]	up to 750
Width [mm]:	250
Depth [mm]:	250
Height [mm]:	500
Weight cartridge [kg]:	20,5
Life time [Operating hours]:	80 (@ 700 l/min air flow and 1000 ppmv CO_2 concentration in air inlet area.) Attention: The lifetime depends on the air ambient condition.

Overview

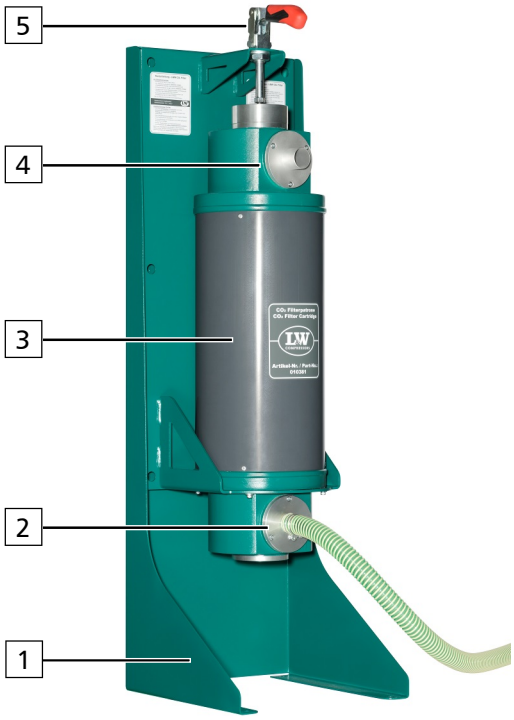

Fig. CO_2 Filter with Stand

No.	Description
1	Stand for CO_2 Filter Console (Option)
2	Air Outlet CO_2 Filter Adapter Housing
3	CO_2 Filter Cartridge
4	Air Inlet CO_2 Filter Adapter Housing
5	Push-Pull Toggle Clamp

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Flow Diagram

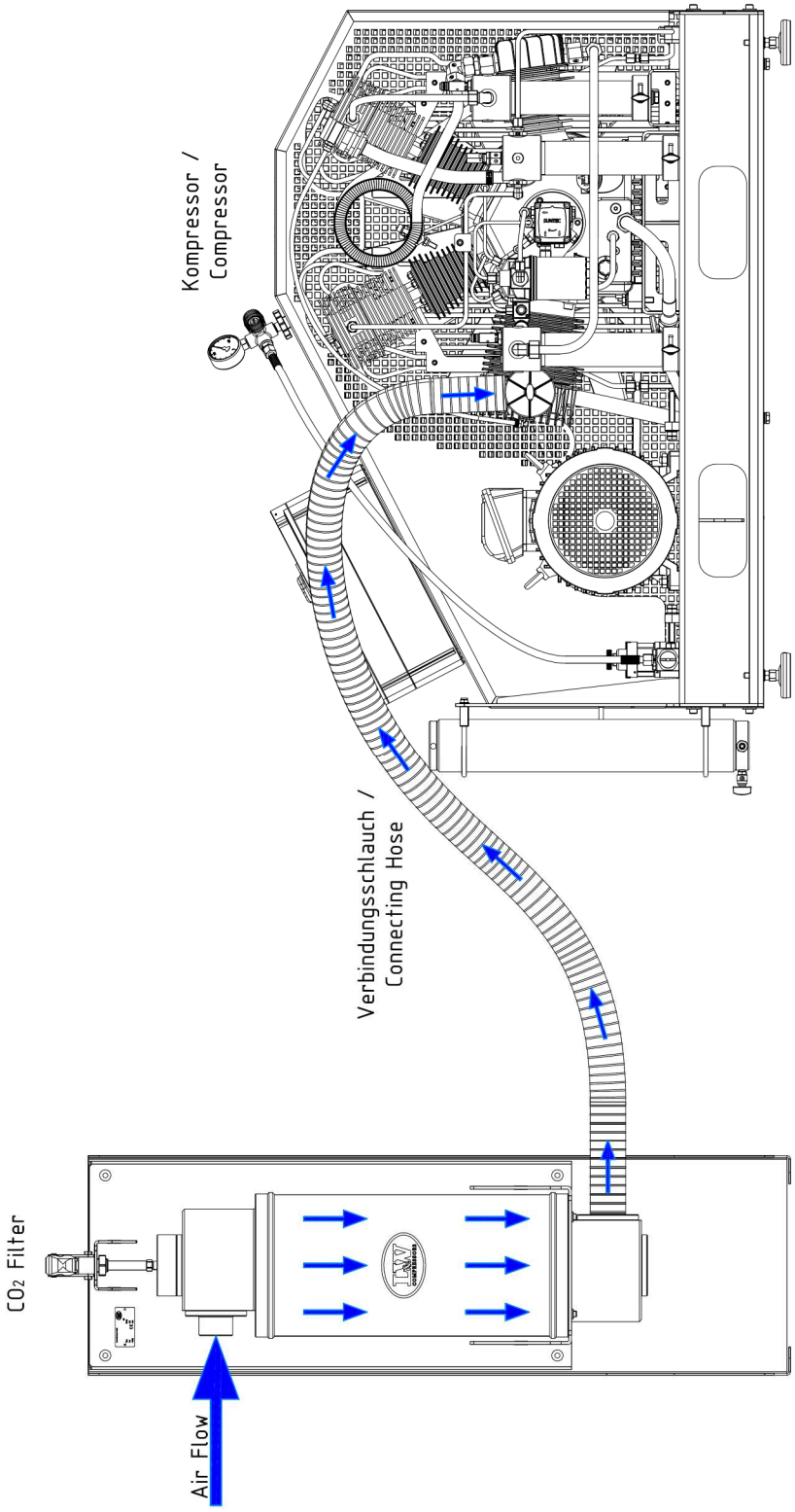

Fig. Flow diagram CO_2 filter with compressor

SAFETY PRECAUTIONS

Intended Use

Only use the unit in perfect condition for its intended purpose, safety and intended use and in accordance with the operating instructions! In particular disorders that may affect safety have to be eliminated immediately!

Use the unit exclusively for the determined medium (see "Technical Data"). Any other use that is not specified is not authorized. The manufacturer/supplier shall not be liable for any damages resulting from such use. Such risk lies entirely with the user. Authorization for use is also under the condition that the instruction manual is complied with and inspection and maintenance requirements are enforced.

No change and modification to the unit can be made without the written agreement of the manufacturer. The manufacturer is not liable for damage to persons or property resulting from unauthorised modifications.

Operators

Target groups in these instructions;

Operators

Operators are persons who are authorized and briefed for using the compressor.

Qualified personnel

Qualified personnel are persons who are entitled to repair, service, modify and maintain the system.

Warning
Only trained personnel are permitted to work on the unit!

General Safety Precautions

- Read the Operating Instruction of this product carefully prior to use.
- Strictly follow the instructions. The user must fully understand and strictly observe the instructions. Use the product only for the purposes specified in the intended use section of this document.
- Do not dispose the operating instruction. Ensure that they are retained and appropriately used by the product user.
- Only trained and competent personnel are permitted to use this product.
- Comply with all local and national rules and regulations associated with this product.
- Only trained and competent personnel are permitted to inspect, repair and service the product.
- Only authentic L&W parts and accessories may be used for maintenance work. Otherwise, the proper functioning of the product may be impaired.
- Do not use faulty or incomplete products. Do not modify the product.
- Inform L&W in the event of any product or component fault or failure.
- Do not use the product in areas prone to explosion or in the presence of flammable gases. The product is not designed for these applications.
  An explosion might be the result if certain conditions apply.

Unit Customised Safety Notices

Organisational Measures

- In addition to the operating instruction, observe and comply with universally valid legal and other obligatory regulations regarding accident prevention and environment protection.
- In addition to the operating instruction, provide supplementary instructions for supervision and monitoring duties taking into consideration exceptional factors e.g. with regard to organisation of work, production, personnel employed.
- Supervise personnel's work in accordance with the operating instruction, taking into account safety and danger factors.
- Observe all safety and danger notices on the compressor and check readability and completeness.

Safety Instructions Operation

- Take measures to ensure that the machine is only taken into operation under safe and functional conditions. Only operate the compressor if all protective and safety equipment, e.g. detachable protective equipment, are provided and in good working order.
- Check the compressor at least once per day for obvious damage and defects. Inform the responsible department / person immediately if anything is not as is should be (including operation performance). Shut down the machine immediately if necessary and lock it.
- In case of malfunction, stop the system immediately and lock it.
  Repair malfunctions immediately.
- Ensure safe and environmentally friendly disposal of consumables and old parts.
- The stipulated hearing protectors must be worn.
- When handling with fats, oils and other chemical agents, observe the note for the product-related safety.

Safety Information CO_2 Absorber Material

First Aid Measures

Description of first aid measures

General information

- Remove contaminated soaked clothing immediately.

In case of inhalation

- Remove the casualty into fresh air and keep him immobile.
  In the event of symptoms refer for medical treatment.

In case of skin contact

- In case of contact with skin wash off immediately with plenty of water.
  Consult a doctor if skin irritation persists.

In case of eye contact

- In case of contact with eyes rinsing with plenty of lukewarm water carefully and seek for medical treatment.

In case of ingestion

- Do not induce vomiting.
  Give plenty of water to drink in small sips.

Firefighting measures

Extinguishing media

Suitable extinguishing media

- Product does not burn, fire-extinguishing activities according to surrounding.

Unsuitable extinguishing media

- carbon dioxide

Special hazards arising from the substance or mixture

- not determined

Advice for firefighters

Special protective equipment for fire-fighters

- no

Additional information

- Collect contaminated firefighting water separately, must not be discharged into the drains.

Safety Information CO_2 Absorber Material

Disposal considerations

Waste treatment methods

Waste code No.	Name of waste
16 03 03*	inorganic wastes containing dangerous substances
16 05 07*	discarded inorganic chemicals consisting of or containing dangerous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste.

Recommendations for the product

- Remove in accordance with local official regulations.
  In accordance with respective regulations of refuse tip take to household waste disposal.
  There are no harmonised regulations on the disposal of chemicals in the member states of the EU. In Germany the Recycling and Waste Management Act (KrWG) stipulates recycling as a requirement.

Recommendations for packaging

- Totally emptied packaging may be taken for recycling.
  Barrel: return by DSD (Dualistic System Germany)

Recommended cleansing agent

- not determined

General information

- The packs are preferred with respect to, the local / national regulations for reuse or for recycling.
  HDPE canister or PE plastic bag, rinse with water and recycle as grade plastic.

Maintenance Instructions

- Hoses have to be checked by the operator (visual inspection) at predetermined intervals, even if no safety-related defects have been detected.
- Immediately repair any damage. Escaping compressed air can cause injury.
- Install all hose lines professionally. Do not confuse the hose connectors. Length, diameter and quality of the hoses must meet the requirements.
- Depressurise system and pressure lines before beginning repair work.
- Adjustment, maintenance and inspection activities and keep appointments, including information on replacement parts / equipment, prescribed in the operating instruction have to be respected.
- If the machine / equipment is completely off during maintenance and repair work, it must be protected against unexpected restart. Turn off main control device and remove the key and/or display a warning sign on the main switch.
- The machine and especially the connections and fittings should be cleaned from oil, fuel and maintenance products at the beginning of the maintenance / repair. Do not use aggressive cleaning agents. Use fibre-free cleaning cloths.
- After cleaning, examine all pipes for leaks, loose connections, chafing and damage. Immediately eliminate any faults.
- Always retighten any pipe connector looseed for maintenance or repair work.
- If it is necessary to remove safety devices for maintenance and/or repair work, these must be replaced and checked immediately after completion of the maintenance and/or repair work.
- Only personnel with particular knowledge and experience with pneumatics may carry out work on pneumatic equipment.
- Only personnel with particular knowledge and experience in gas equipment may carry out work on gas equipment.

Transportation Instructions

- Parts which need to be dismantled for transport purposes must be carefully replaced and secured before taking into operation.
- The transport may only be carried out by trained personnel.
- For transportation, only use lifting devices and equipment with sufficient lifting power.
- Do not stand or work under suspended loads.
- Also separate from minor relocation machinery / system of any external energy supply. Before recommissioning, reconnect the machine to the mains according to regulations.
- When recommissioning, proceed according to the operating instruction.

Safety Regulations

- Inspections according to legal and local obligatory regulations regarding accident prevention are carried out by the manufacturer or by authorised expert personnel. No guarantees whatsoever are valid for damage caused or favoured by the non-consideration of these directions for use.

Disposal

The system must be disposed of in accordance with national waste disposal regulations or by a suitable disposal company.

The waste code can be found in the safety information CO_2 absorber material.

INSTALLATION

Installation in Closed Rooms

For installation in closed rooms, observe the following:

- Mount the CO_2 filter console vertically to a wall or the stand for the CO_2 filter console, the wall or the floor must be vibration-free and capable of taking the load of the system weight.
- The CO_2 Filter must be secured against tipping.
- Observe the specified operating temperature (see "Technical Data")!

Danger
No operation in explosion-hazard areas.
The unit is not approved for operation in areas prone to explosion.

Warning
The CO_2 Filter must be secured against tipping!

Warning
The CO_2 filter console must be mounted vertically!
When mounted horizontally, the function of the CO_2 filter is not given.

Note
For transportation, only use lifting devices and equipment with sufficient lifting power.

Guide values

Diameter of the suction hose / connecting hose depending on the suction hose length

Length [m]	Diameter [mm]
≤ 03	Ø 32
≤ 06	Ø 50
≤ 10	Ø 76
≤ 15	Ø 100
≤ 20	Ø 120

Note
If a connecting hose with an inner diameter of 32 mm is used to connect the CO2 filter and the compressor, the suction hose of the CO2 filter must have an inner diameter of at least 50 mm.

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Dimensions: CO_2 Filter

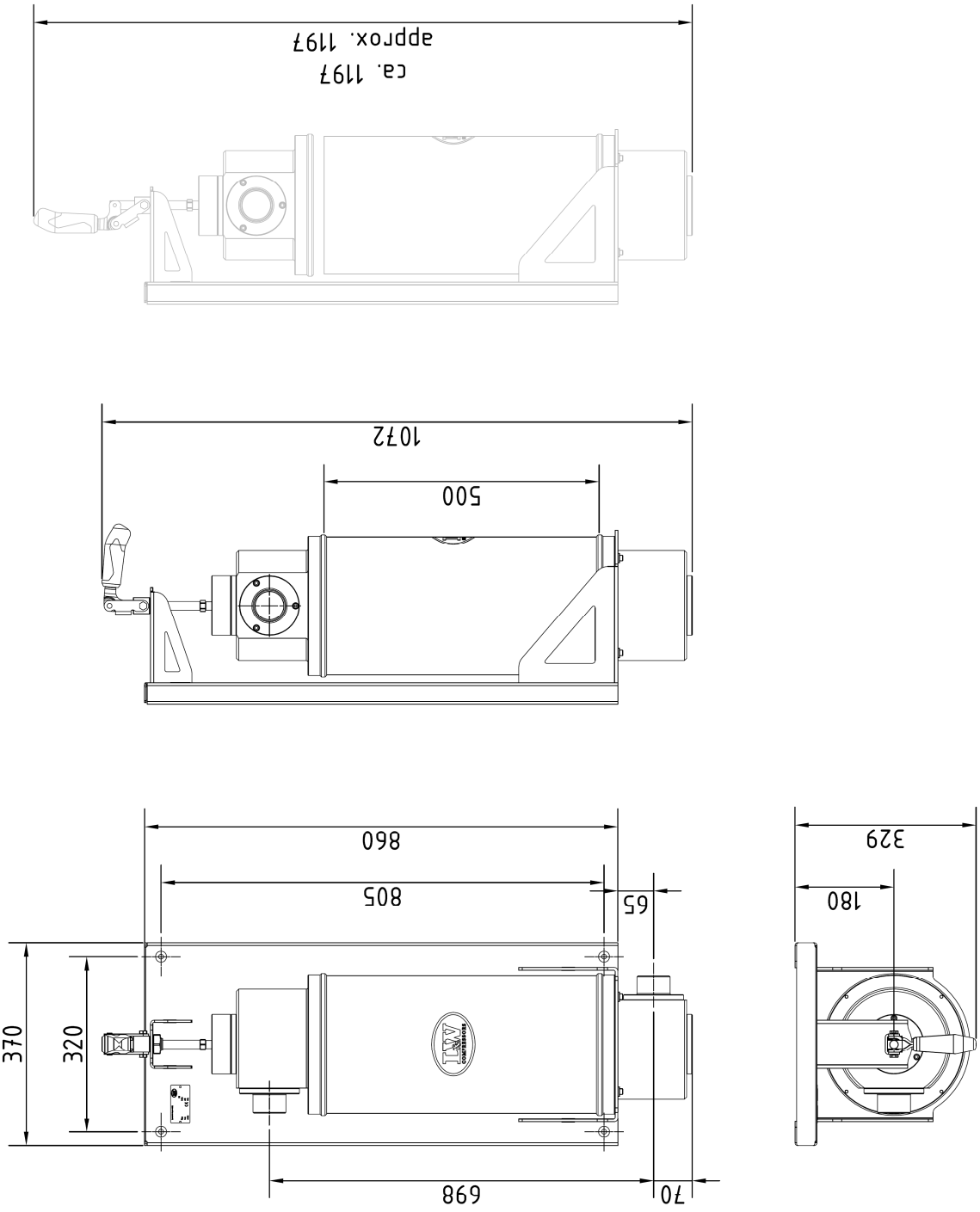

Fig. Dimensions CO_2 Filter

Minimum Distances

Note
Minimum distances must be adhered!

- The following minimum distances must be adhered:
  Front side: > 500 mm
  Sides and rear side: > 500 mm
  Distance to ceiling: > 500 mm
  Avoid anything in these areas which would restrict cooling air flow.

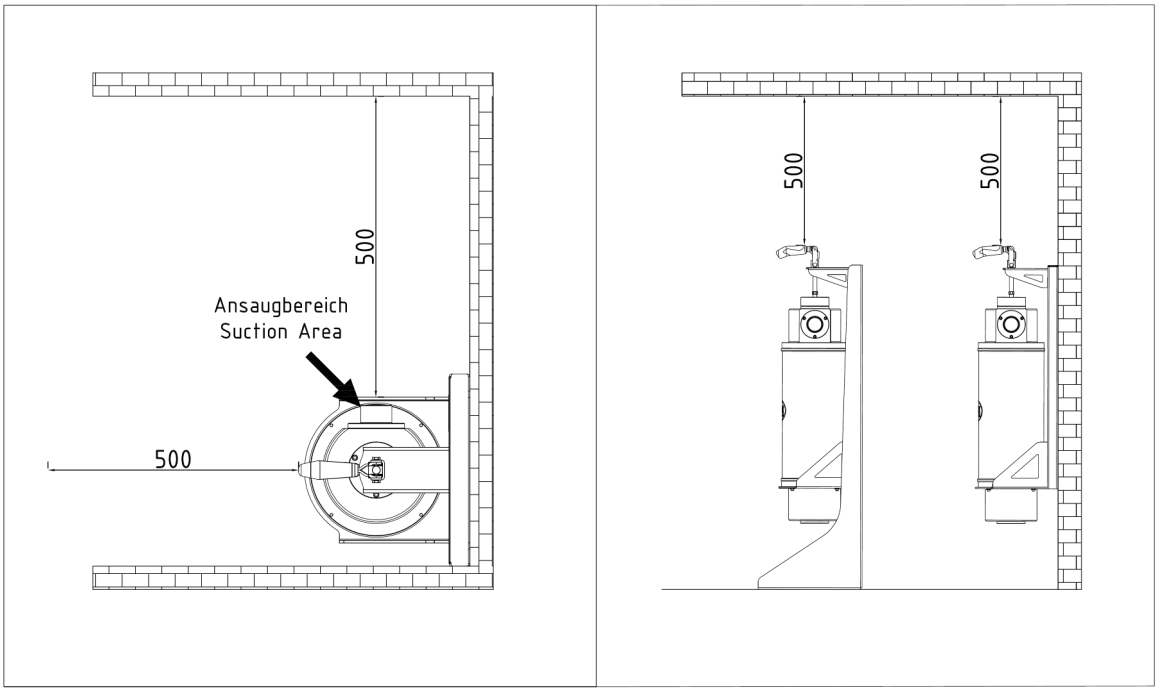

Fig. Minimum distances

OPERATION

Important Operation Instructions

Note
Ensure that all persons handling the CO_2 filter are familiar with function and operation of the unit.

Wear hearing protection
When working on a running machine, always wear hearing protection.

CO_2 Filter

The L&W CO2 filter is the professional solution to reduce the CO2 value in the intake section below the maximum permissible limit. Furthermore, it is mobile because of the optionally available stand.

For the L&W CO_2 filter you don´t need further components and only few steps are necessary to install the intake filter system, which makes the usage extremely easy. The L&W CO_2 filter can be used on any compressor with up to 750 l / min. For compressors with a higher delivery capacity you have to install two L&W CO_2 filters which involved parallel in the intake tract.

Fig.: CO_2 Filter with LW 700 ES II

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Prior to first commissioning, observe the following:

- The compressor must be switched off and protected against being switched on again.
- Check all components for damage.
- Position the CO_2 filter under observing the minimum distances.
- Make a hose connection between the hose connection of the lower adapter housing of the CO_2 filter and the suction filter of the compressor (Fig.1) and fix it with the wire hose clamps (Fig.2).
- If necessary, mount a suction hose to the hose connector of the upper adapter housing of the CO_2 Filter.
- Insert filter cartridge and clamp with Push-Pull Toggle Clamp.
  (see page 31 - CO_2 Filter Cartridge Replacement)
- Check system for correct pipework and make a leakage check.

Now the compressor can run with the L&W CO_2 filter.

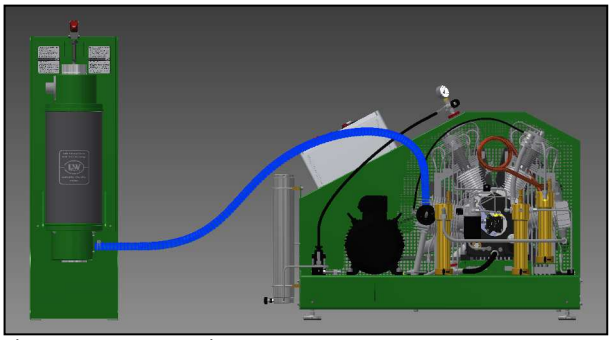


Fig.1: Hose Connection

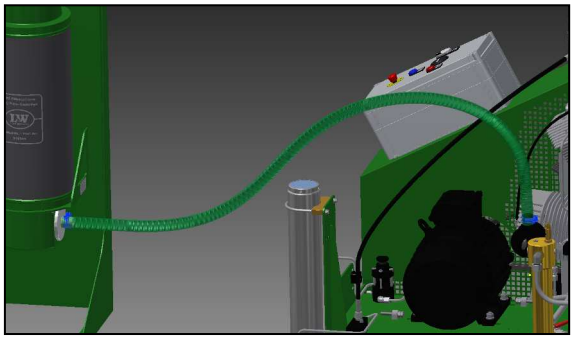


Fig.2: Wire Hose Clamps

Note
For the connecting hose and the suction hose,use a suitable suction hose.

Note
The connecting hose between the CO_2 filter and the compressor must be mounted on the lower adapter housing of the CO_2 filter.

Note
Care must be taken to ensure the correct inner diameter of the hose for the connecting hose and suction hose.

Prior to daily operation observe the following:

- Make sure that the minimum distance to the CO2 filter are maintained.
- Check suction intake filter of the compressor .
- Chek Hoses
- Check the filter cartridge position - Pay attention to the filter cartridge life time!

REMEDYING FAULTS

Flow Rate too Low (caused by the CO_2 filter)

Cause of fault	Remedy
Hose cross-section reduced or blocked	clean or replace the hose
Air intake filter of the compressor is polluted.	clean or replace the air intake filter
CO_2 filter cartridge polluted or blocked	replace
CO_2 filter adapter housing polluted or blocked	clean or replace the CO_2 filter adapter housing

CO_2 value is exceeded (caused by the CO_2 filter)

Cause of fault	Remedy
Compressor is getting false/unfiltered air	See operating instruction compressor
Connecting hose is getting false/unfiltered air	Seal or replace connection hose
CO_2 filter adapter housing is getting false/ unfiltered air	Check O-rings, replace if necessary Check CO_2 filter adapter housing if necessary clean or replace
CO_2 filter cartridge is getting false/unfiltered air	Check O-rings, replace if necessary Check CO_2 filter cartridge if necessary replace

MAINTENANCE AND SERVICE

Service, Repair and Maintenance

Carry out service and maintenance work exclusively when the compressor is stopped and depressurised. The unit should be leak-checked regularly.

We urgently recommend that all maintenance, repair and installation work must only be carried out by trained personnel. This is necessary because all maintenance work can not be explained exactly and detailed in this manual.

Only use authentic L&W spare parts for service work.

Warning
The use of accessories that have not been tested can lead to death or serious injury or damage to the unit. Only use authentic L&W spare parts for service work.

Warning
Carry out maintenance or service work when the unit is switched off and protected against unexpected restart.

A

CO_2 Filter Cartridge Replacement

CO_2 Filter cartridge change as follows:

- Switched off the unit and protected against unexpected restart.
- Open the push-pull type toggle clamp of the CO_2 filter (Fig. 1).
- Remove the CO_2 filter cartridge (Fig. 2) (Order No. 010381). Environmentally sound disposal, see safety instructions.
- Check O-rings of the CO_2 filter adapter housing and replace if necessary (Order No. 010365).
- Open the package of the new filter cartridge and insert filter cartridge carefully into the adapter housing.
- Make sure the CO_2 filter cartridge is in the correct position (Fig. 3).
- Close the push-pull type toggle clamp of the CO_2 filter (Fig. 4).
  It is important that the filter cartridge is properly tensioned.
  The tension bolt is markt with a marking groove, which must be immersed in the pressure plate when the CO_2 filter cartridge is tensioned (Fig. 5), but not over the shaft of the tension bolt. If the marking groove of the tension bolt does not dip into the pressure plate (Fig. 6), it must be readjusted.

The CO_2 filter cartridge change is now completed.

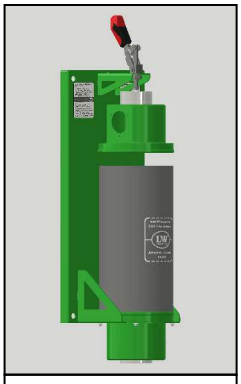


Fig. 1

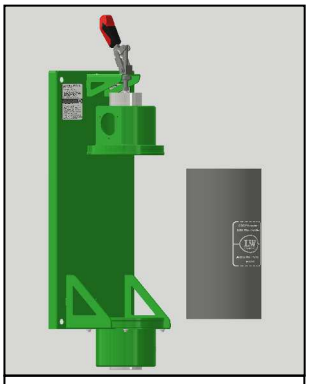


Fig. 2

Fig. 3

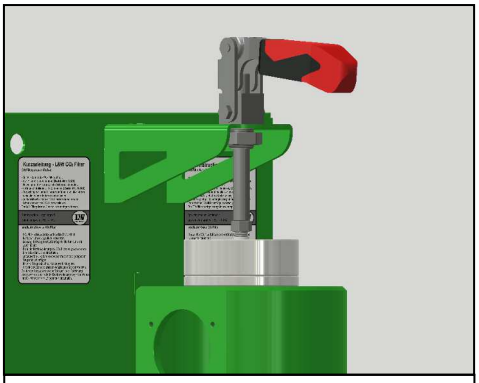


Fig. 4

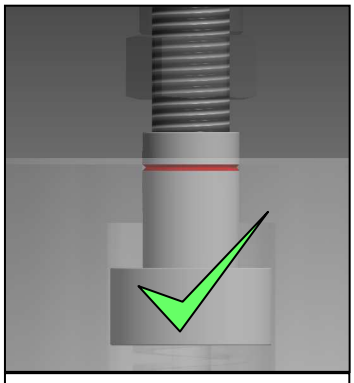


Fig. 5

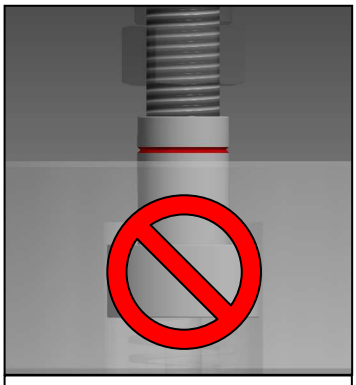


Fig. 6

Maintenance Overview

Maintenance work	Intervall	Quantity	Order No.
Check or replace the compressor air intake filter	Depending on the degree of pollution, but check after 10 operating hours..	-	-
Clean hoses from outside	Depending on the degree of pollution, but at least once a year.	-	-

Note
Observe the maintenance and service of the compressor.

MAINTENANCE RECORDS

Maintenance Work

Description	Date, signature

Replaced Parts

Designation	Part number	Date, signature

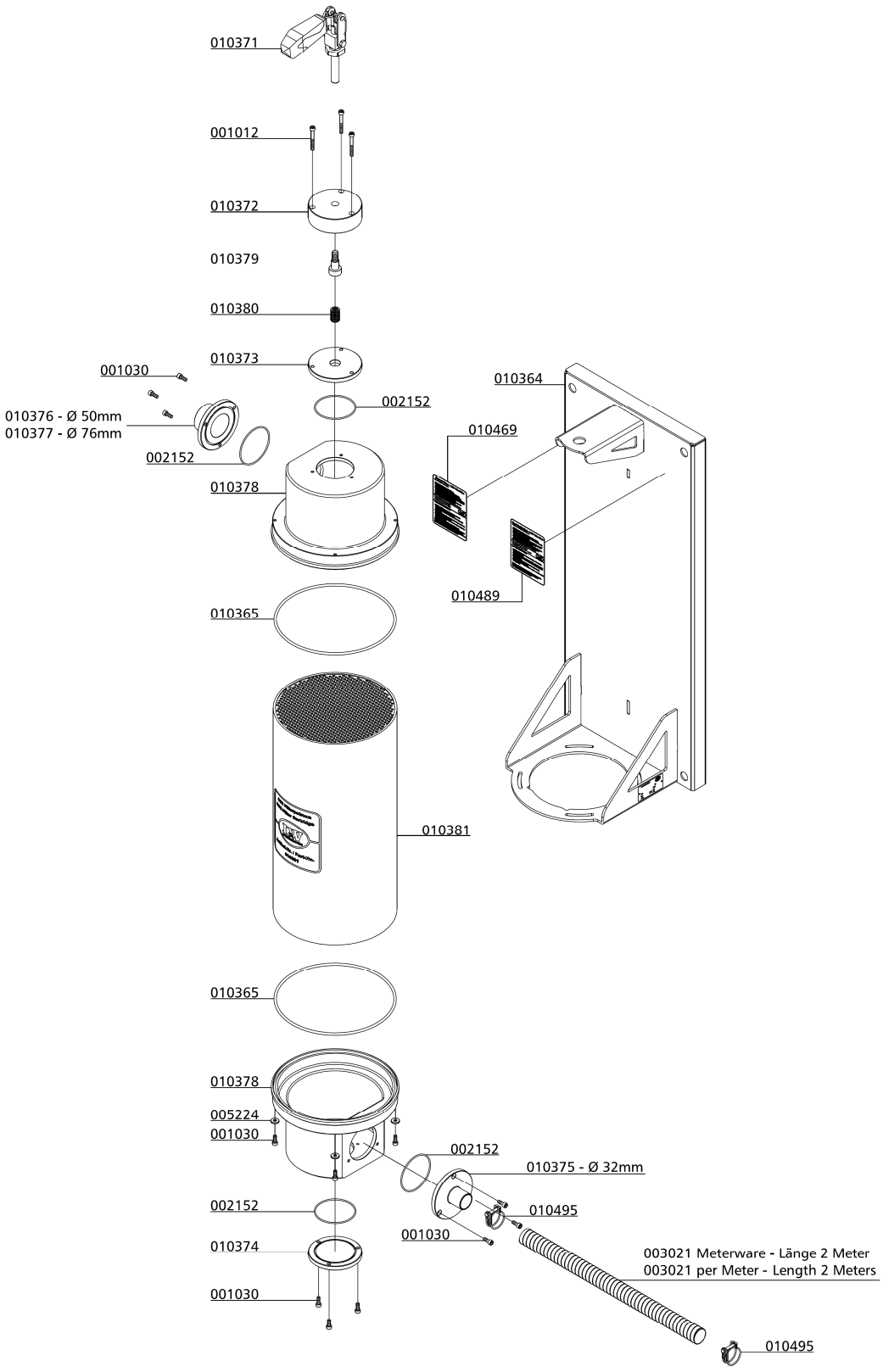
SPARE PARTS LIST / DETAILED VIEWS

C

CO_2 Filter / CO_2 Filter

Best.-Nr. / Order No.	Benennung	Description
001012	Zylinderschraube M6x50mm DIN912	Allen Bolt
001030	Zylinderschraube M6x16mm DIN912	Allen Bolt
002152	O-Ring 80 x 2,5 NBR70	O-Ring
003021	Ansaugschlauch InnenØ32 mm	Intake hose
005224	U-Scheibe 6,4mm x 18mm, t=3mm	Washer A6, 6.4x18x3mm DIN7349
010364	Konsole CO2 Filter	Console CO2 Filter
010365	O-Ring 238x5 NBR70	O-Ring 238x5 NBR70
010371	Schubstangenspanner	Push-Pull type toggle clamps
010372	Koppelplatte	Adapter Plate
010373	Druckplatte	Pressure Plate
010374	Verschlussplatte	Closure Plate
010375	Schlauchstutzen	Hose Connector, Ø32mm
010376	Schlauchstutzen	Hose Connector, Ø50mm
010377	Schlauchstutzen	Hose Connector, Ø76mm
010378	Adaptergehäuse	Adapter Housing CO2 Filter
010379	Druckschraube	Tension Bolt
010380	Druckfeder	Coil Spring
010381	Filterpatrone CO2	Filter Cartridge
010469	Aufkleber CO2 Filter	Sticker CO2 Filter
010489	Aufkleber CO2 Filter	Sticker CO2 Filter
010495	Drahtschlauchschelle	Wire Hose Clamp

CO_2 Filter / CO_2 Filter



OPTIONS

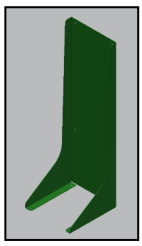
Option CO_2 Stand for Filter Console

With the stand for the CO_2 filter console, the wall mounting of the CO_2 filter console is no longer necessary.

Additional the stand for the CO_2 filter console can be fixed on the floor with the mounting kit.

This allows a freely selectable positioning. So the CO_2 filter can easily be used in mobile systems.

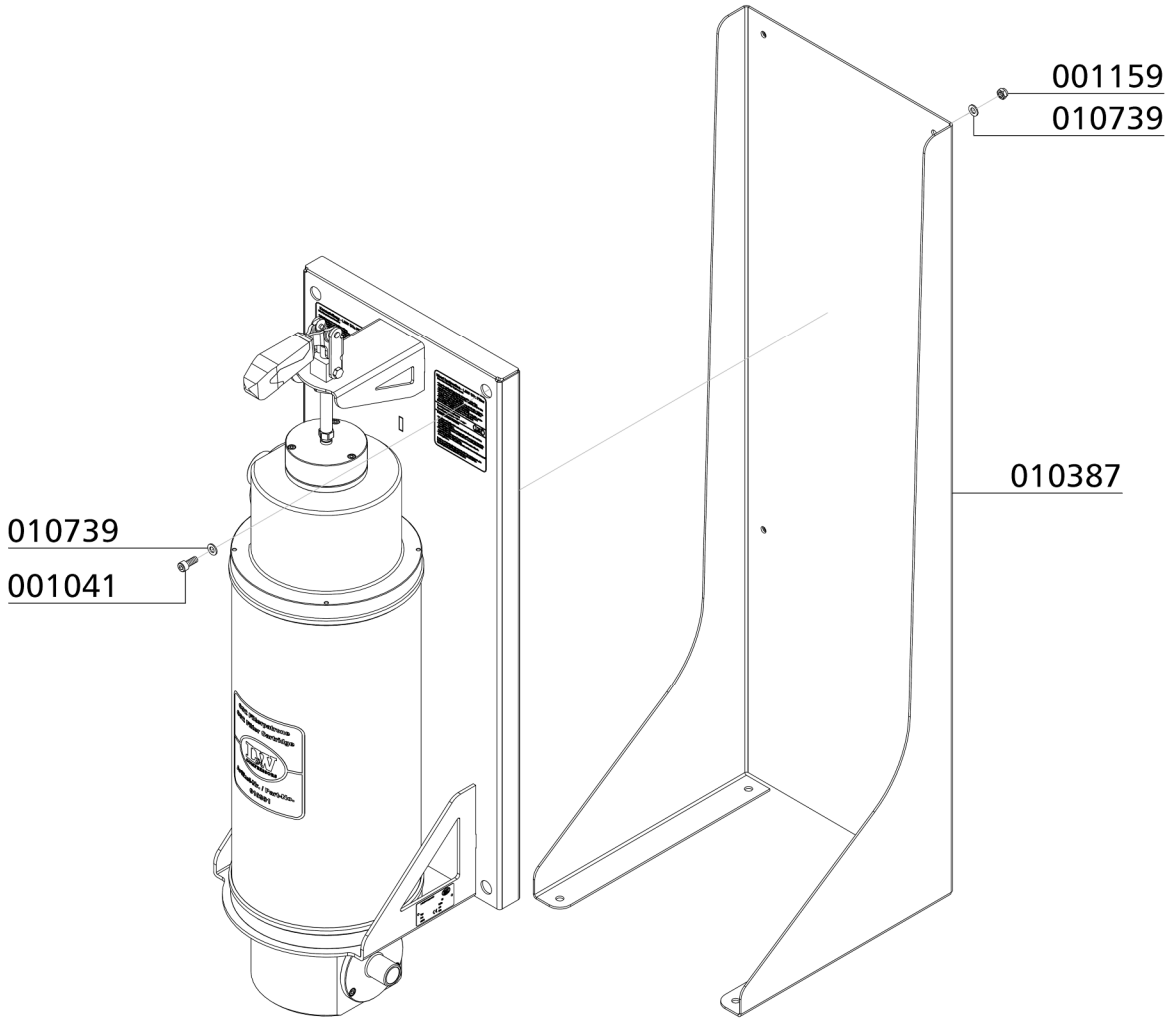
Technical Data



Technical Data	L&W CO_2 Filter Stand
Width [mm]:	390
Depth [mm]:	400
Height [mm]:	1250
Weight [kg]:	19

CO_2 Stand for Filter Console

Best.-Nr. / Order No.	Benennung	Description
001041	Zylinderschraube M8x25mm	Allen Screw
001159	Stoppmutter M8	Lock Nut M8
010387	Standkonsole CO_2 Filter	Stand CO_2 Filter
010739	U-Scheibe A8	Washer A8



Dimensions: CO_2 Filter with Stand

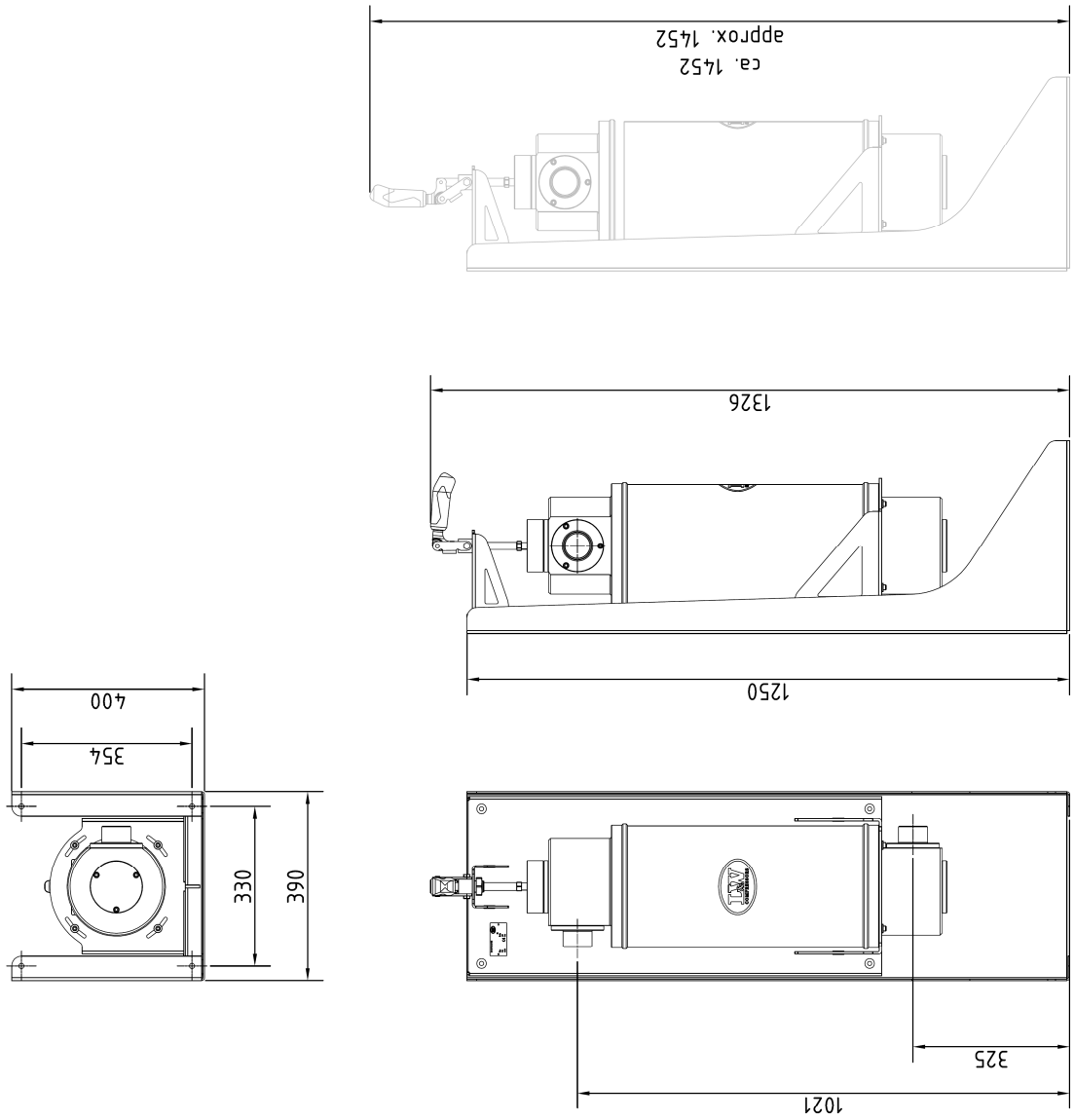


Fig. Dimensions CO_2 Filter with Stand

Minimum Distances

Note
Minimum distances must be adhered!

- The following minimum distances must be adhered:
  The distance in the intake area and to the ceiling must be min. 500 mm. In these areas, no objects may obstruct the air flow.

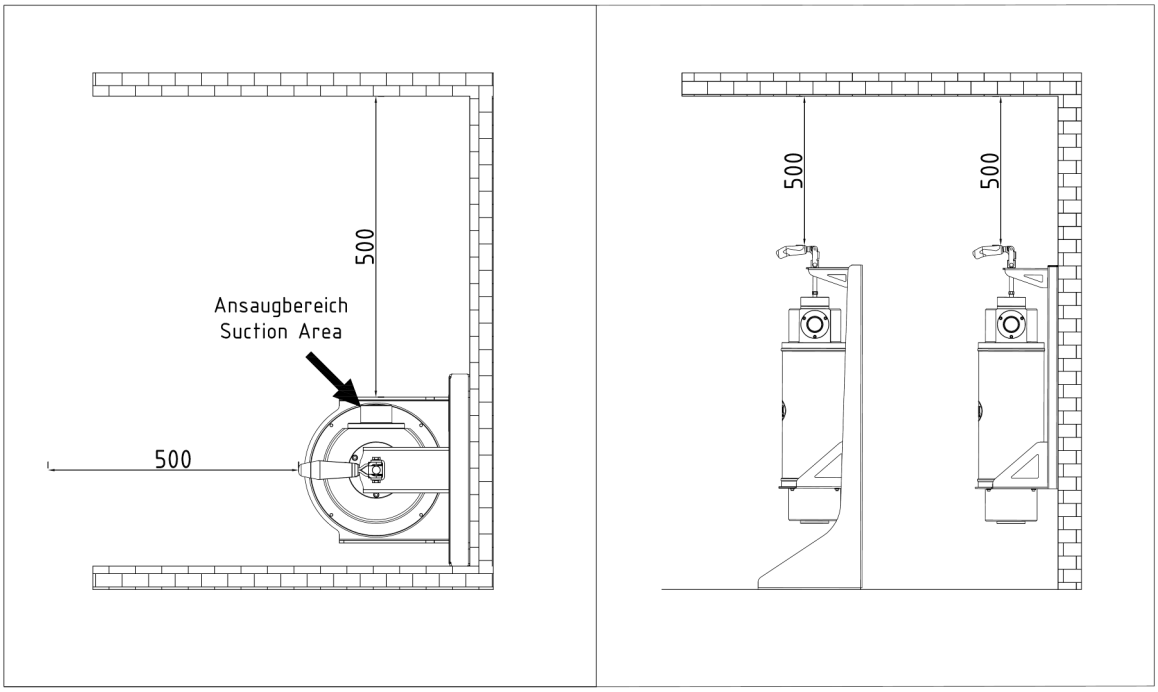
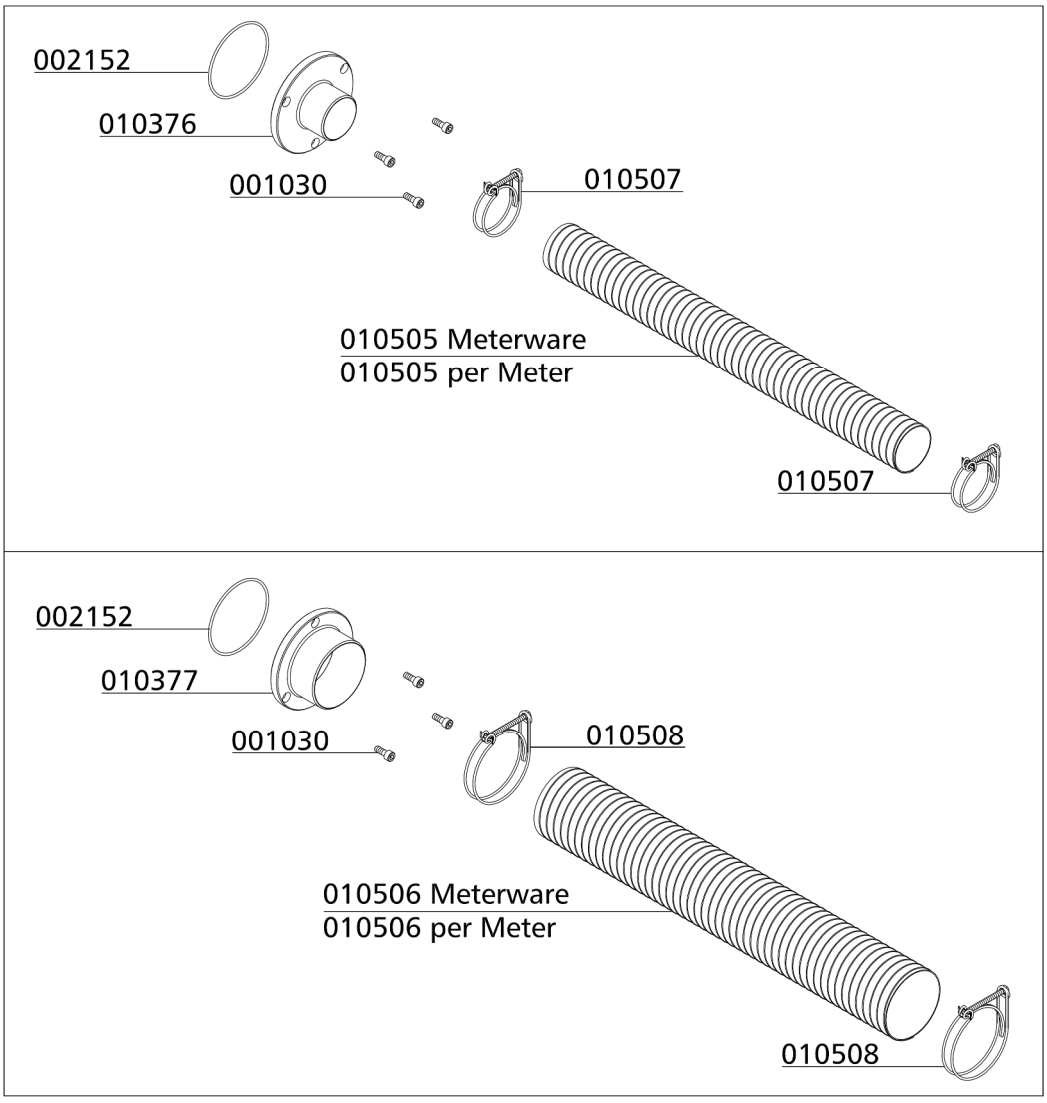


Fig. Minimum Distances

Hose and hose connector for CO_2 Filter

Best.-Nr. / Order No.	Benennung	Description
001030	Zylinderschraube M6x16mm DIN912	Allen Bolt
002152	O-Ring 80 x 2,5 NBR70	O-Ring
010376	Schlauchstutzen	Hose Connector, Ø50mm
010377	Schlauchstutzen	Hose Connector, Ø76mm
010505	Ansaugschlauch InnenØ 50mm	Intake hose
010506	Ansaugschlauch InnenØ 76mm	Intake hose
010507	Drahtschlauchschelle 50mm	Wire Hose Clamp
010508	Drahtschlauchschelle 67mm	Wire Hose Clamp