



GEOVENT

INSTRUCTION MANUAL



HVU SOLO

HVU Solo 300, 350, 450, 550, 700, 1000, 1450 og 1500

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1.0 Introduction

This manual is made and designed in order to facilitate the best and most secure interaction with the product. The manual is relevant for people involved in transportation, stocking, installation, using, maintaining and all other thinkable interaction with the product.

The manual must be read in full and understood before interacting with the product.

When the manual has been read and understood in full, the table of contents can be used to find the relevant information in each case.

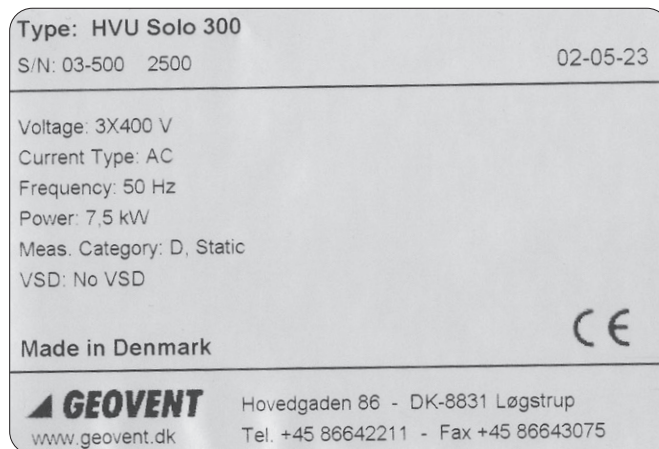
The product is manufactured by:

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www.geovent.com

This manual is to be used for all interactions with the product including: Transportation, stocking, installation, operation and maintenance.

This product is marked with: (example)



2.0 Safety

2.1 General safety

Carefully read this manual before use and observe the safety instructions in order to avoid injuries! Keep this manual in a safe place!

Secure that all users of the product have read this manual and that they follow the instructions as described. Observe all instructions marked on the product! Observe the indications of the manufacturer. Never use the product if you are in doubt about how it works or what you should do.

When doing maintenance follow the instructions in chapter 7.0.

Do not modify the product or use spare parts from other suppliers than Geovent, as this may hamper the product and the function.

2.2 Danger

You must wear safety gloves when handling or using the product to protect your hands from scratches etc.

Be aware that the product may tilt when you move it. You must handle the product with care and tie it safely to the truck or the fork lift when it is in transport.

Follow the instructions in chapter 7.0 when the product is maintained.

When handling the product be sure that there is no risk for the installer, and secure that there are no people around the product, secure that the product cannot fall down risking to injure persons or subjects.

In case of an accident or a fire: Call for help.

The product is not to be used in areas categorised as ATEX zones, e.g. with dust from aluminium, flour, wood, and other mediums that present an explosion hazard.

If a repair is not possible you should dispose of the product. Please follow the instruction for disposal in chapter 10.0.

3.0 Machine overview

3.1. Description

The Geovent HVU Solo is a compact high vacuum unit for use with a filter cyclone to collect dust or other particles. The Geovent HVU Solo can be positioned separately from the filter cyclone for maximum flexibility.

3.2 Intended use

Geovent HVU Solo is used together with a filter cyclone for e.g. vacuuming during car preparation, for grinding dust extraction, e.g. when sanding car bodies or in connection with energy arms.

The unit can e.g. be used for extraction of sanding dust from hand-held rotary sanders, fixed belt sanders and bench grinders, brake dust from cars and trucks and general workplace cleaning etc.

Must always be used in conjunction with a filter cyclone.

The product is not to be used in areas categorised as ATEX zones, e.g. with dust from aluminium, flour, wood, and other mediums that present an explosion hazard.

3.3 Machine specifications

3.3.1 Design

Shield: Coated steel plate.

Motor/vacuum pump: IP 55 standard motor with side channel blower in cast aluminum.

Life expectancy in normal use: 20.000 hours

Automation: Control panel in steel IP 54



3.3.2 Technical data

Dimensions

Model	Max. Vakuum [kPa]	[m³/h] v/ 0 Pa
HVU Solo 300	25	562
HVU Solo 350	30	562
HVU Solo 450	21	663
HVU Solo 550	30	782
HVU Solo 700	30	939
HVU Solo 1000	25	1539
HVU Solo 1450	30	1855
HVU Solo 1500	25	2104

Model	[Volt]	[kW]*
HVU Solo 300	3x400	7,5/9
HVU Solo 350	3x400	7,5/9
HVU Solo 450	3x400	5,5/6,5
HVU Solo 550	3x400	9,2/13
HVU Solo 700	3x400	11/13
HVU Solo 1000	3x400	18,5/22
HVU Solo 1450	3x400	22/26
HVU Solo 1500	3x400	22/26

Temperature of extracted air	Max. 40°C
Ambient temperature	-15°C - +40°C

Temperature control panel	5 - 40°C
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Relative humidity must be	<90%
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The sound level depends on several factors. For example, the location of the high vacuum unit (indoor/outdoor), the size of the room, the ambient temperature, shutdown delay and the connection (hose>>pipe) of the unit also have an impact on the sound level.

4.0 Transport, handling and storage

During transport in a truck or in another means of transportation the product must be securely packed in a box or a pallet and covered with a water proff material. The product must be securely stowed in the truck so that it will neither tilt nor shift during transport.

During transport over a short distance e.g. in a stock or a factory, the product can be moved by means of a forklift or a stabeler.

When moved it must be secured that the product does not tilt or shift. And it must be secured that the limitations of the means of transportation is not exceeded.

Secure that there are no people around the product, when the product is moved.

The product must be placed in a dry place and covered securely, in order to secure that moist, metal parts or other substances do not damage the product. It is not allowed to place anything on top of the product.

5.0 Assembly, installation and start of operation

5.1 Location

To ensure a flawless function, the product must be installed indoors in e.g. an engineering room with sound ventilation.

Outdoor installation is not recommended, and a canopy must always be used as a minimum if indoor installation is not possible.

We do not recommend outdoor installation, as the risk of water and condensation in the product increases, and the electronic components do not function at temperatures below 5°C.

Before installing the product, ensure that an optimal location is chosen. Is there enough space for the product? Is there space for maintenance and filter changes?

Place the product on a level and stable base (e.g. a concrete floor) and secure it.

Avoid as far as possible bends immediately before the inlet and after the outlet, as this could reduce the performance of the product.

5.2 Installation

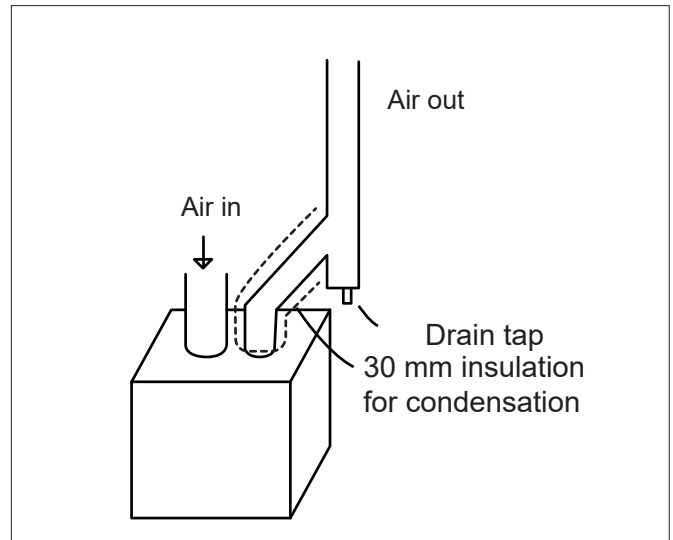
The following installation should only be carried out by a trained installer.

5.2.1 Installation

Procedure:

1. Place the HVU Solo on a solid foundation (e.g. a concrete floor) where there is no possibility for vibrations to be transmitted.
2. The piping is connected to the HVU Solo. On the inlet side, the pipe can be fixed e.g. by means of a snap lock system.
Remember to seal the joint with sealant and/or tape!
Note that a filter cyclone must always be used with the HVU Solo.
3. To ensure free mixing, the discharge should be directed two meters above the roof ridge towards the atmosphere with a discharge velocity of at least 8 m/s.
4. The entire system/piping should always be thoroughly inspected for leaks. Leaks must be sealed. The system must not be used for the following 24 hours.

5. It is important to install the product so that it is not possible for rainwater to penetrate. An example of a well-functioning installation is shown in this drawing.



Penetrating rainwater can cause the side channel blower to jam and be destroyed.

6. The connection of the electrical components of the HVU Solo should only be carried out by an authorized electrician.
7. For connection options, see separate panel documentation (located in the panel).

Connection of compressed air:

8. Connect clean and dry compressed air. A pressure regulator must be installed. We recommend to install a water separator just before the HVU Solo.

5.2.2 Mounting of accessories

The repair switch must be connected to comply with the EN 60 204-1 standard, which requires the connection of a manual switch. The switch will typically be located 2 - 3 meters from the unit and must be clearly visible.

Mounting of frequency inverter

We have the possibility to deliver with frequency inverter and/or pressure control. See manual for pressure control.

For setting options for external frequency inverter - refer to the manual of the frequency inverter.

Automatic start/stop

External start/stop can be fitted (e.g. micro-switch at quick coupling/outlet or on/off button on energy arm). In case of manual operation there is a timer which makes the HVU switch off automatically after 15-30 minutes.

5.3 Checking and testing the system

After installation, check if there is any vibration or sound disturbance.

Check that the whole system is completely tight. In case of squeaking, the leakage should be localized and sealed with sealant.

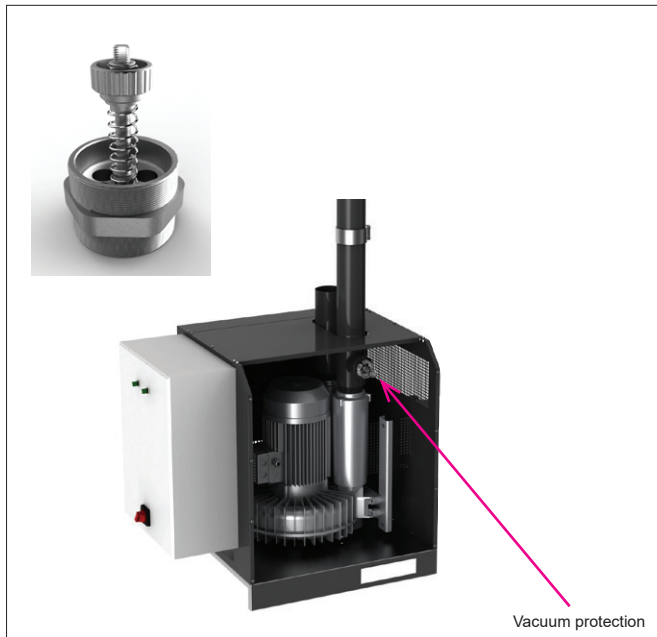
It is recommended to check whether the HVU Solo delivers the air volume for which the system is dimensioned.

Therefore, measure the air flow and make sure that it does not exceed the motor's ampere rating.

Vacuum protection

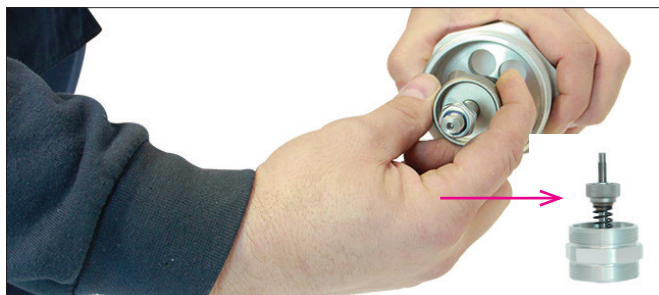
The valve is roughly adjusted at the factory.

The valve must be readjusted at the installation.

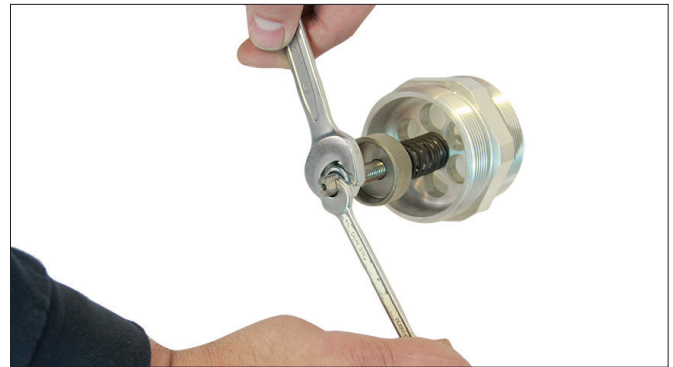


Adjustment of the vacuum safety device

Adjust so that the valve does not open during normal operation, but opens when blocked.



1. Adjust to loosen or tighten the spring.



2. Then tighten the lock nut to secure the spring position.

6.0 Commissioning

The HVU must not run for longer periods (max. 15-30 min) without open outlets in the duct system, otherwise the side channel blower will overheat and break down. If necessary, use the built-in start/stop function.

After use, it is recommended to keep a flap open for 1-5 seconds, so that particles are sucked away from the vertical piece, and thus do not fall down the next time the system is used.

6.1 After installation

Check the installation according to chapter 5.3.

7.0 Control, test and maintenance

7.1 Control

Check the installation according to chapter 5.3.

7.2 Maintenance

The entire system should be inspected at least once a year by a qualified service technician.

Periodic maintenance:

- All electrical parts should be checked annually.
- The annular chamber blower/motor is in principle maintenance free due to the factory sealed special ball bearings. Replacement of worn bearings should only be carried out by a qualified service technician.

8.0 Cleaning

The outside of the product is cleaned with a vacuum cleaner or a cloth.

9.0 Troubleshooting

In the event that problems occur, the following items should be reviewed:

Air volume or pressure is less than stated

- Incorrect running direction of the fan wheel.
May be due to incorrect electrical installation.
Double check the direction of rotation. Switch the 2 phases if necessary.
- Leaky duct system.
- Poor inlet/outlet options close to the side channel blower can reduce performance (e.g. 90° bend before inlet)
- Damaged wheel.
- The rotation speed is set too low.
- If the temperature differs significantly from the laboratory measurements where the temperature was 20°C with an atmospheric pressure of 101.4 kPa.
- The dampers are not adjusted correctly.
- The duct or the unit is blocked by e.g. a screwdriver.

Vibrations and noise

- The foundation is not level/stable.
- External elements have entered the unit/duct system.
- Damaged wheel or motor.
- The wheel is loose.
- The wheel is running in the wrong direction.
- Loose bolts or screws.

The motor is overloaded

- Motor is wired incorrectly.
- Defective motor - contact dealer!

10.0 Dismantling, disabling and scrapping

Deactivate the product by disconnection the electrical mains. Dismantle compressed air pipes and other pipes or wires etc. and dispose of it according to local regulations.

Before dismantling the product it is important that the service technician wears the necessary personal safety measures, such as respiratory protection and gloves that comply with the relevant regulations for working with contaminated dust.

The inside of the product must be cleaned by means of a vacuum cleaner with a filter which suits the purpose.

Dismantle the metallic parts by unscrewing screws and bolts. Afterwards cut the larger pieces into smaller pieces and dispose of it according to local regulation.

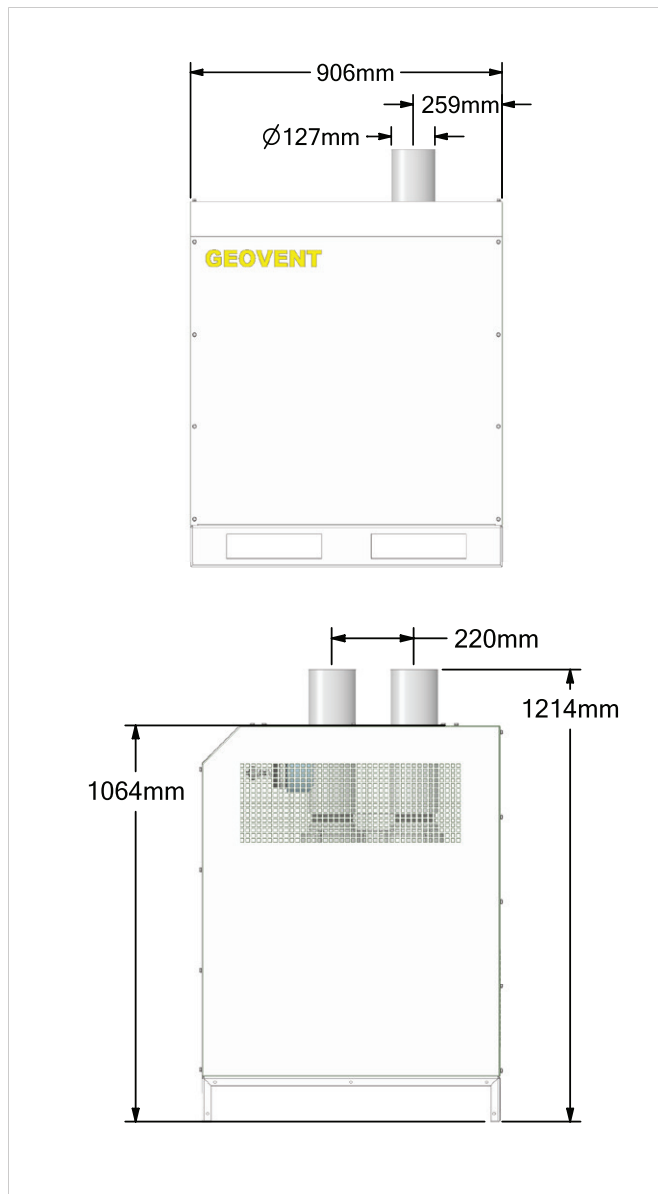
Dismantle plastic parts and dispose of it according to local regulations.

Dismantle the electronics, wires and cables and put these into a suitable bag. Afterwards dispose of it according to local regulations.

The packing material must be sorted according to local regulations in order to be able to reuse the material.

11.0 Dimensions

HVU Solo



12.0 Liability

Warranty

Geovent A/S grants a warranty for products, which are defective, when it can be proved that the defects are due to poor manufacture or materials on the part of Geovent. The warranty comprises remedial action (reparation or exchange) until one year after the date of shipment.

No claims can be made against Geovent A/S in relation to loss of earnings or consequential loss as a result of defects on products from Geovent.

Wear on parts such as filter cartridges and hose is not included in the warranty.

User liability

In order for Geovent to be capable of granting the declared warranty, the user/fitter must follow this instruction manual in all respects.

Under no circumstances may the products be changed in any way, without prior written agreement with Geovent A/S.

Please refer to the current sales and delivery conditions at www.geovent.com

13.0 Declaration of conformity

The manufacturer: GEOVENT A/S
HOVEDGADEN 86
DK-8831 LØGSTRUP

Hereby declares that:

The product: HVU
Model: HVU Solo

Complies with the relevant parts of the following directives and standards:

Directive 2006/42 / EC of the European Parliament and of the Council of 17 May 2006 on machines and amending directives 95/16 / EC.

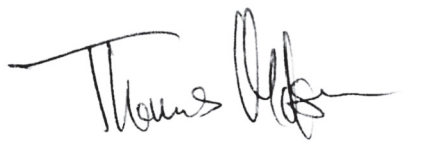
This declaration is no more valid if changes are made to the product by others than the manufacturer.

Authorized to collect the technical file:

Lise Cramer

Date: 03.05.2023

Position: Director
Name: Thomas Molsen



Signature:





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