



GEOVENT

INSTRUCTION MANUAL



MOBILE FAN

PM-180-1

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1.0 General safety precautions

IMPORTANT - Please study all the instructions before mounting and use.

Please keep these instructions in a safe place and instruct all users in the function and operation of the product.

Do not dismantle any factory-mounted parts, since it impedes the commissioning of the equipment.

1.1 Danger

Explosive media – The fan is not suitable for the extraction of aluminium dust, flour, textile dust nor for saw dust or other media, which are connected with danger of explosion, without specific approval from Geovent A/S.

Removing the protection net on the fan whilst in operation involves a risk of mutilation.

Always switch off the current when mounting something on the fan or when servicing it.

1.2 Field of application

The Geovent transportable fan PM-180 is typically used for comfort ventilation as well as for smaller process extraction jobs, where only a low pressure is required. The fan is used for process extraction within the industry for the extraction of welding smoke, vapours, and other jobs where a fixed installation is not possible.

GEOVENT PM 180 may NOT be started without the hose mounted, since this may result in motor overload.

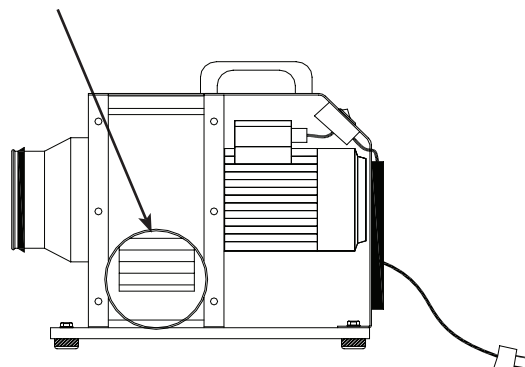
1.3 Technical data

Temperature extracted air	Max. 100°C
Temperature surroundings	Max. 40°C

Fans 2.800 min-1, noise emission to the surroundings

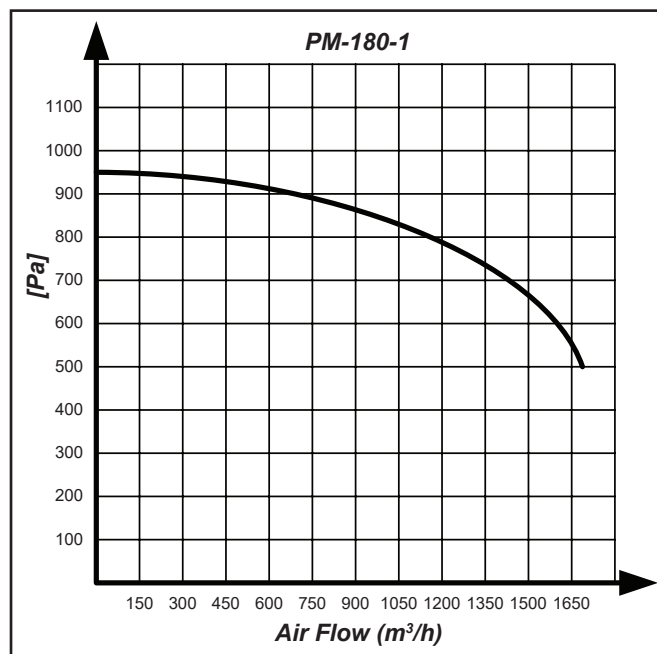
Type	Lp, dB(A)	Lp, 1m
PM-180	74	68

The noise level depends on various factors under various circumstances. For instance, where in the room the fan is installed, the size of the room, the temperature in the room, the sound of the room and also the connection (hose><pipe) of the fan.



The actual ampere consumption and the kW of the motor are shown on the metal sign on the fan.

Graphs showing the pressure drop of the fan



The air flow depends on the hose – whether it stretched out or not.

ø125mm hose	600-700m³/h.
ø160mm hose	800-1.100 m³/h.

1.4 Construction

Fan housing: 100% hot-galvanized steel for optimal corrosion resistance. Carrying feet have been mounted on the fan with fitted vibration dampers as well as an inlet nozzle with safety net.

Fan wheel: Forward curved sirocco-fan wheel (Fwheel) in hot-galvanized steel sheet.



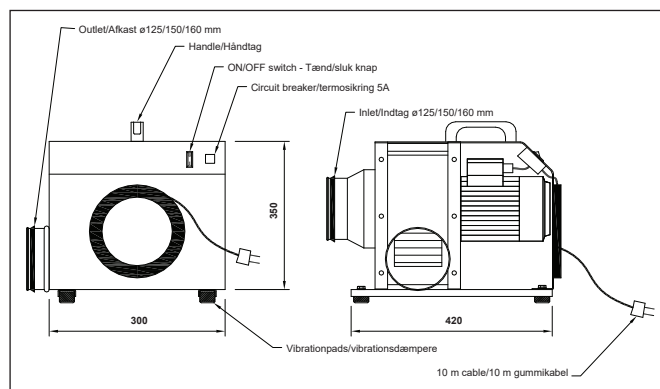
Motor: B5 flange motor, directly driven. Protection class IP 54.

The unit is polyester coated, RAL 1007

Hose/hood: 2x5m $\varnothing$ 125mm or $\varnothing$ 160mm flexible and light, hose with flexible connection for easy mounting and dismounting. Epoxy coated suction hood with magnet for fixation. RAL 1007.

Cable: 10m rubber cable.

Switch On/Off switch with build in thermal fuse 10A.



2.0 Installation

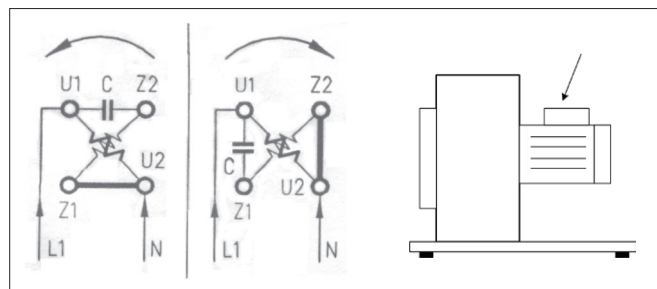
Avoid bending of the hose immediately before the inlet or the outlet, as this may reduce the efficiency of the fan.

The fan is supplied in complete/assembled condition, ready for connection to piping and to the mains.

If at all possible, please avoid bends just before the intake and after the outlet, since otherwise this would reduce the yield of the fan.

Connection of the fan to the mains:

1. The fan should be connected to 1x230V 50Hz, as standard.
2. Circuit diagram 1-phase motor (nonadjustable). Should only be changed by qualified electrician, in case the direction of the impeller is wrong.



3.0 User instruction – application

When extracting large quantities of air containing dust, the fan wheel may get out of balance due to dirt on the wheel.

In many cases, the fan is started by pushing the green button on the motor protection switch (if automatics are not used).

The fan does not work according to the purposes, if ...

- unauthorised parts have been mounted on the fan (e.g. unauthorised wheel).
- the wheel runs in the wrong direction. It will still work, but the capacity will be reduced to a third of the normal capacity.
- no motor protection switch is used.

4.0 Maintenance

Periodic maintenance

- In principle, the motor is free of maintenance because of the factory-mounted, completely closed special ball bearings. Exchange of worn bearings should only be handled by an electrician.
- The wheel and the fan housing should be cleaned once a year or according to requirement. The wheel and the housing may be cleaned by means of a washing-up brush and a dishwasher. Remember to disconnect the power before the washing. Afterwards wipe the parts with a dry cloth. This results in a longer life of the fan.

4.1 Trouble-shooting

In case of problems with the fan, the following items may be reviewed:

The volume of air or the pressure is below the stated level:

- Wrong direction of the wheel.
May be due to wrong electrical installation. Please double-check the direction of the rotation. Change two phases, if necessary.
- Leaky hose/flanges.
- Bending hose inlet/outlet possibilities near the fan may reduce the yield (e.g. 90° bend before the inlet).
- Damaged wheel.
- If the temperature deviates substantially from the lab measurements, where the temperature was 20°C with an atmospheric pressure of 101.4 kPa.
- The suction net has been blocked by cotton waste, a cloth, or the like.

Vibrations and noise

- The base is not even/stable.
- Elements coming from the outside are stuck in the fan.
- Damaged wheel or motor.
- The wheel is loose.
- The wheel may have become unstable, for instance as a result of dirt on the impellers.
- The wheel is rotating in the wrong direction.
- The fan supplies more air than for which the equipment has been dimensioned.
Use adjustment damper.
- Loose bolts or screws.

The motor is overtaxed

- The cabling of the motor is not correct.
- The shaft has been bent.
- The fan has over-capacity in relation to the resistance in the system.
- The speed of the motor is too high.
- Defective motor – please contact your dealer!

5.0 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

6.0 Declaration of conformity



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

Hereby declares that:

The product: Mobil fan
Models: PM-180-1

has been manufactured in compliance with the
following directives and standards:

European Parliament and Council Directive 2006/42/
EC of 17 May 2006 on machinery, and amendments to
Directive 95/16/EC.

The following harmonized standards have been applied:

EN ISO 14121-1:2007 Risk assessment – part 1

EN ISO 12100-1:2005 Basic concepts and general
principles for design.

EN ISO 12100-1:2009 construction and design
Part 1: Basic terminology and
methodology

EN ISO 12100-2:2005 Basic concepts and general
principles for design.

EN ISO 12100-2:2009 Construction and design
Part 2: Technical principles

Authorized to collect the technical file:

Lise Cramer

Date: 07.11.19

Position: Director
Name: Thomas Molsen

Signature:





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