

Operating Instructions

Roof extract fans

(Translation of the original)

EN

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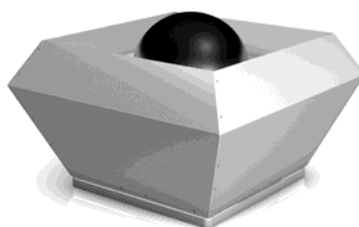
BA-REF 6.0 - 07/2016



RHM



FDM



RVM



RDA



RDM 3E / FE

NICOTRA||Gebhardt

fan|tastic solutions

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German

DE-2.... DE-24

Weitere Sprachen auf Anfrage / Further languages on request

1. Revision Index

Table 1-1: Revision index

Revision	Date
BA-DV 5.1 – 05/2006	05/2006
BA-DV 5.2 – 03/2009	03/2009
BA-DV 5.3 – 11/2009	11/2009
BA-DV 5.4 – 07/2010	07/2010
BA-DV 5.5 – 01/2011	01/2011
BA-REF 5.6 – 07/2013	07/2013
BA-REF 5.7 – 02/2014	02/2014
BA-REF 5.8 – 05/2014	05/2014
BA-REF 5.9 – 12/2015	12/2015
BA-REF 6.0 – 07/2015	12/2016

2. About This Operating Manual



These operating instructions are an integral part of the roof fan. Nicotra Gebhardt GmbH shall not accept any liability or provide any warranty cover for primary damage or secondary damage arising as a consequence of disregarding these operating instructions.

- ▶ Read operating manual carefully before use.
- ▶ Retain operating manual for entire service life of roof fan.
- ▶ Keep operating manual accessible to personnel at all times.
- ▶ Pass operating manual on to any subsequent owner or user of roof fan.
- ▶ Insert any supplementary instructions received from the manufacturer in the operating manual.

2.1. Validity

This operating manual only applies to the roof fans stated on the front page.

2.2. Target Group

This operating manual is intended for operators and qualified professionals trained in installation, commissioning, operation, maintenance and decommissioning.

2.3. Other Applicable Documents

- ▶ In addition to reading these instructions, due notice should also be taken of the following documents and specifications on the roof fan:
 - IEC 60364/
 - DIN VDE 0100
 - DIN EN 60204-1
 - DIN EN ISO 13857
 - DIN EN ISO 12100
 - DIN EN ISO 13732-1
 - Type plate
 - Technical catalogue
 - Additional notes on roof fan (Warning Signs, Arrow Indicating Direction of Rotation)

2.4. Symbols and Markings

2.4.1. Use of Warning Signs






Signal word

Nature, source and consequences of hazard!

- ▶ Steps required to avert danger

2.4.2. Levels of Danger in Warning Signs

Table 2-1: Levels of danger in warning signs

Symbol / Danger Level	Likelihood of Occurrence	Consequences of Neglect
 DANGER	Imminent danger	Death, serious physical injury
 WARNING	Potential danger	Death, serious physical injury
 CAUTION	Potential danger	Minor physical injury
CAUTION	Potential danger	Damage to property

2.4.3. Notes

Note

Note giving pointers for easier or safe work.
 ► Steps required for easier or safe work.

2.4.4. Other Symbols and Markings

Table 2-2: Other symbols and markings

Symbol	Meaning
☑	Requirement for an operation
►	Operation with one step
1. 2. 3.	Operation with several steps
•	Bullet point (primary list)
-	Bullet point (secondary list)
Accentuation (bold)	For emphasis

3. Designated Use

3.1. Operating Data / Maximum Ratings



Risk of injury!

- ▶ Adhere to technical specifications and permissible limits.

For technical specifications reference should be made to the type plate, technical data sheet and technical catalogue.

The roof fans are suitable for extracting dust-free air and other non-corrosive gases or vapours.

Permissible conveyed medium temperatures

Table 3-1: Maximum ratings

Range	Perm. temperature of conveyed medium	Max. ambient temp. on drive motor
RHM 31/F1	-20°C to +40°C	+ 40°C
RDA 21	-20°C to +40°C ¹⁾	
FDM F1	-20°C to +40°C	
RVM F1	-20°C to +40°C	
RDM 3E/FE - 4D/43/63	-20°C to +120°C	
RDM 3E/FE - BI/4P/6P	-20°C to +60°C	

¹⁾ = Data depend on model; see full list "Roof fans".



Examples of incorrect use include the following:

- Extraction of media with impermissibly high or low temperatures
- Extraction of corrosive media
- Extraction of very dusty media
- Extraction of potentially explosive media.



Unauthorised operation

- No operation above the indicated rpm (see type plate, data sheet)
- No operation at rpm ranges with increased vibration (resonance)
- No operation at rpm ranges out of permitted fan curve area (stability of flow pattern)
- No operation if fan becomes polluted



Avoid dynamic load of the impeller.

No frequent alteration of load (stop and go)!

4. Safety

4.1. Product Safety

The fans offer a high degree of operational safety and high quality standards guaranteed by a certified Quality Management System (EN ISO 9001).

Before leaving the factory all the fans are inspected and sealed with a mark of conformity.

Nevertheless, when operating roof fans supplied by Nicotra Gebhardt GmbH there can be a risk of death or injury for the user or third parties, and a risk of damage to the roof fan or other material assets.

- ▶ Only use roof fans in perfect working order and as intended, having due regard for safety, an awareness of hazards and in due compliance with the operating instructions.
- ▶ Arrange immediate repair of any faults which could compromise safety.



The roof extract fans are delivered without inlet guards. If there is a danger of contact with the impeller owing to the way the fan is installed, then it is necessary to fit an inlet guard conforming to DIN EN ISO 13857 (available as an accessory).
Only then the roof fan can be set in operation!

4.2. Safety Instructions

- ▶ The roof fan may only be commissioned, operated and serviced in compliance with the following instructions:
 - Operating instructions
 - Warning and information signs on roof fan
 - Any other operating and installation instructions pertaining to the machine
 - Terms and requirements relevant to the machine
 - Applicable national and regional regulations, especially regarding health & safety and accident prevention.

4.3. Safety Devices

- ▶ Use appropriate safeguards to prevent contact with rotating parts (shafts, impeller, etc.).
- ▶ After installation (and before electrical connection) immediately refit any guards which have been removed during installation.

CAUTION

The suitability of protection devices and their fixtures to the fan have to be evaluated within the complete security concept of the installation.

4.4. Professional Staff

- ▶ Installation of roof fan and any work on it to be carried out by skilled professionals only with due regard to these operating instructions and any applicable regulations.
- ▶ Electrical connection to be carried out by qualified electricians only.

4.5. Protective Gear



CAUTION!

Ensure that members of staff are wearing protective gear appropriate to their deployment and environment.
The protective clothing is specified below!

4.6. Specific Hazards

4.6.1. Noise Emission

The sound emission expected in normal use of the fan is documented in the technical lists and should be duly taken into account.



- ▶ Wear ear defenders when working near to or on the running fan!

4.6.2. Heavy Loads

The heavy weight of the roof fan and its components entail the following risks in transit and during installation:

- Risk of being trapped, crushed or cut by moving or toppling machinery
- Danger of falling components
- ▶ Do not stand or work under suspended loads
- ▶ Wear a hard hat, safety shoes and gloves



4.6.3. Rotating Shafts and Impellers

Objects falling onto rotating shafts and impellers can fly off at an angle and cause serious injury.

Articles of clothing and hair can get caught in rotating shafts and impellers.



- ▶ Do not remove guards during operation
- ▶ Do not wear loose-fitting clothing when working near rotating shafts and impellers
- ▶ Wear goggles

Caution electrical hazard!



Electrical potential at intermediate circuit of Driver and power connections if the permanentmagnet motor rotates!

- do not work at the fan if the impeller/motor is not locked
- lock fan impeller by proper means

4.6.4. Hot Surfaces



There is a risk of sustaining burns or scalds on hot surfaces during operation.

- ▶ Do not touch the motor during operation
- ▶ When the roof fan has stopped wait until the motor has cooled down
- ▶ Wear protective gloves

4.7. Structural Modifications, Spare Parts

Note Unauthorised structural modifications may not be made to the roof fan without the consent of Nicotra Gebhardt GmbH. Nicotra Gebhardt GmbH shall not accept liability for any damage arising as a result of said modifications. Use only genuine spare parts supplied by Nicotra Gebhardt GmbH.

4.8. Installation and Maintenance

- ▶ The following steps should be taken before working on the roof fan:
 - Switch off the machine and take measures to prevent it from being switched back on accidentally.
 - Display the following message on a sign:
Do not switch on! Work currently in progress on the machine

4.9. Signs on the Roof Fan

Depending on the model, the type plate and the arrow indicating the direction of rotation are fitted to the housing or handle for high visibility.

4.9.1. Type Plate

Fig 4-1:
Example type plate

NICOTRA Gebhardt D-74638 Waldenburg CE Tel.: +49 (0) 7942 101 384 Fax.: 385 email: service@nicotra-gebhardt.com RDM 3E-3545-43-11-J0		
GERÄTE-NR.	150-746714-0/1	HERSTELLJAHR 2015
VENTILATOR		MOTOR
V	= 3600 m ³ /h	U N = 230/400 V(D/S)
dPfa	= 386 Pa	f N = 50 Hz
n max	= 1350 1/min	f B max = 48 Hz
Dichte	= 1.2 kg/m ³	I N = 3,3/1,9 A
Tmax	= 120 °C	n N = 1430 1/min
ETA opt	= 42.9 %	n max = 1350 1/min
		P N = 0,75 kW
		P S max = 0,899 kW
		T M max = 40 °C
		Schutzart IP 55
		Wärmeklasse F
		Stromart 3~
EU 1253/2014: NRVU-UVU-VSD ps,int=46 Pa, SFPint=107 W/(m ³ /s) IMV: K=158 m ² /h, m=42 kg, c=5,6 m/s Within EU: Use with VSD only !		

4.9.2 Arrow Indicating Direction of Rotation

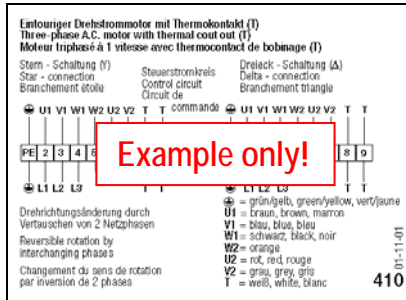
Fig 4-2:
Arrow indicating direction of rotation



4.9.3 Terminal Board Circuit Diagram

Fig 4-3:
Example circuit diagram

Stuck / inserted in terminal box or stuck on motor bracket.



5. Product Description

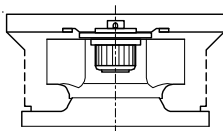
5.1. General Information on Roof Fans



All the roof fans are delivered ready for connection and are protected by an outlet guard conforming to DIN EN ISO 13857. Inlet guards are not fitted as standard. If there is a danger of contact with the impeller owing to the way the fan is installed, then it is necessary to fit an inlet guard conforming to DIN EN ISO 13857 (available as an accessory).

5.2. Roof Fans with Built-In Motor

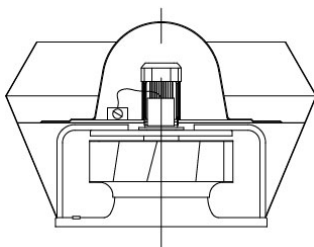
5.2.1. RDA 21 *genovent*



Centrifugal roof fan, with built-in motor, horizontal discharge, made of galvanised sheet steel. Outlet guard conforming to DIN EN ISO 13857.

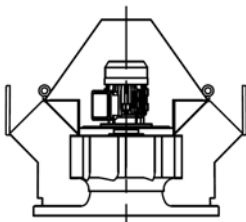
5.3. Roof Fans with Built-On Motor

5.3.1. RVM F1



Centrifugal roof fan, vertical discharge, with standard IEC motor, galvanised sheet steel V-casing and structure. Outlet guard conforming to DIN EN ISO 13857.

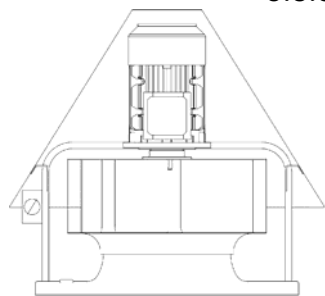
5.3.2. RDM 3E/FE *genovent*



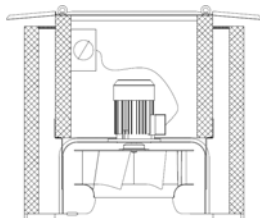
Centrifugal roof fan, vertical discharge, with standard IEC motor outside airstream with external air cooling. Aluminium casing and galvanised sheet steel structure. More information on fans with integrated frequency inverter see separate operation manual BA-ESR_NI-DV.

5.3.3. RHM 31/F1

Centrifugal roof fan, horizontal discharge, with standard IEC motor, galvanised sheet steel cowl and structure.
Outlet guard conforming to DIN EN ISO 13857.

**5.3.4. FDM F1**

Centrifugal roof fan, highly noise-attenuated design, vertical discharge, with standard IEC motor, galvanised sheet steel casing and structure.
Outlet guard conforming to DIN EN ISO 13857

**5.4. Motor Protection****5.4.1. Models RDA 21**

The motors used in RDA 21 models are fitted with thermal contacts. With single-phase motors drawing up to max. 2.5 A the thermal contacts are connected in sequence externally with the winding. They switch the motor off automatically when it has reached a set maximum temperature and switch it back on again automatically when it has cooled down. In all other motors the winding temperature is monitored by thermal contacts in combination with a motor protection unit or a contactor assembly.

5.4.2. Models RVM/ RDM3E/ RDMFE/ RHM/ FDM

The motors used in RVM/ RHM/ FDM/ RDM 3E/FE - 4D/43/63 models are fitted with thermal contacts.

They switch the motor off automatically when it has reached a set maximum temperature and switch it back on again automatically when it has cooled down.

The motors used in the variable-speed models RDM 3E/FE - BI/4P/6P are protected against overload by frequency inverter. The frequency inverter reacts with a speed reduction up to switch the motor off.

6. Transport and Storage




6.1. Packaging

Roof fans are packaged in sturdy cardboard boxes or wooden crates depending on their size and weight.

6.2. Symbols on Packaging

The following symbols are printed on the cardboard boxes:

Table 6-1: Symbols on packaging

Symbol			
Meaning	Handle with care	Keep dry	Top

6.3. Transportation of Roof Fan



Danger of injury from falling components!

- ▶ Use tested and appropriate load handling equipment only (see type plate or data sheet).
- ▶ Lift the roof fan by the base frame and/or by the eyelet rings only.
- ▶ Secure load.
- ▶ Do not stand under suspended loads.



The casing may be damaged by lifting!

The roof fans listed below should always be lifted by the eyelet rings using a lifting device and spacer crossbar.

Lifting device and spacer crossbar for roof fans:

- RVM F1-7180 and 7190
 - RDM FE-7180 and 7190
1. Select means of transport according to weight and dimensions of fan.
 2. Lift roof fan at the lifting points provided (see packaging).
 3. Secure load using e.g. straps or other aids designed to prevent slipping.
 4. Transport roof fan with care and avoid damage caused by e.g. knocks and hitting the ground hard at an angle.



Fig 6-1:
Lifting device

6.4. Storage of Roof Fan



Risk of corrosion!

- ▶ Store the fan in its packaging, adding any other protection dictated by its storage environment.
- ▶ Store roof fan in a well-ventilated room only at normal temperatures and in a non-corrosive atmosphere.
- ▶ Store roof fan in conditions registering less than 70 % atmospheric humidity.
- ▶ Adhere to max. permissible temperature of -20°C to +40°C.

7. Installation

7.1. Safety Instructions for Installation

- ▶ Observe the safety instructions and preventive measures in Chapter 4 and the relevant legal requirements.

7.2. Installation Preparation

- ☑ Place of installation suitable for the roof fan in terms of its category, condition, ambient temperature and environmental media.
- ☑ Base level and with sufficient load-bearing capacity.
- ☑ Place of installation horizontal (installation permissible on surfaces with angles of inclination of up to max. 20°).

Note In the case of the roof fans listed below the two discharge openings opposite each other should be placed at right angles to the pitch.

- RDA 21
- RDM 3E/FE

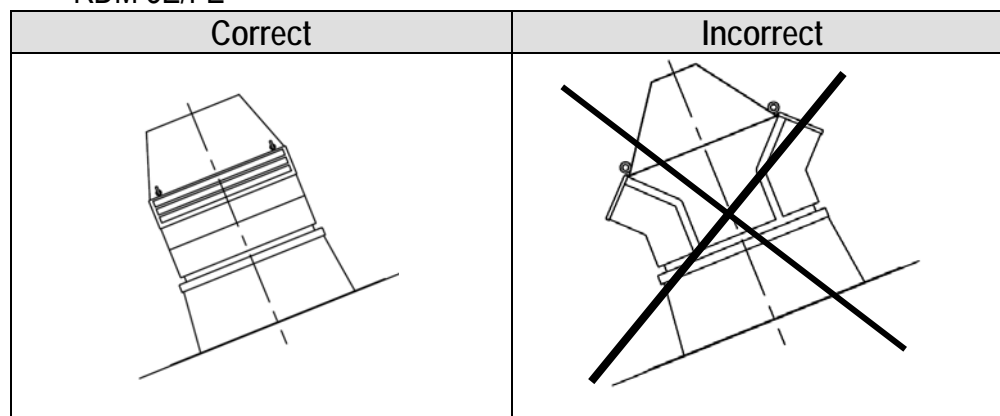


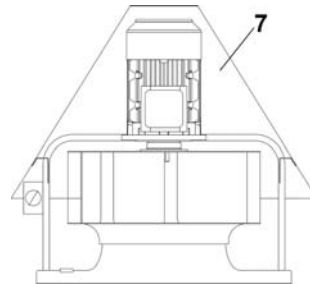
Fig 7-1:
Installation direction

- ☑ Unpack the roof fan carefully.
- ☑ Remove all the packaging and dispose of it correctly.

7.3. Carrying out Installation

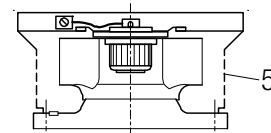
The roof fans are designed for mounting on a base.
There are four holes in the base frame for fixing to the roof base.
Access to the fixing holes:

RHM



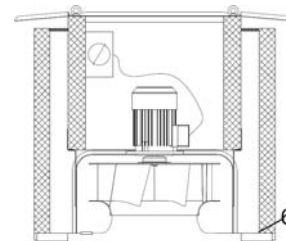
Remove cowl (7)

RDA 21



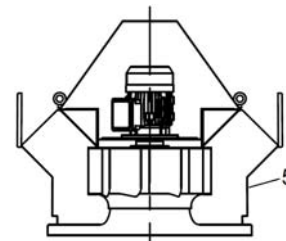
Remove side panel (5)

FDM



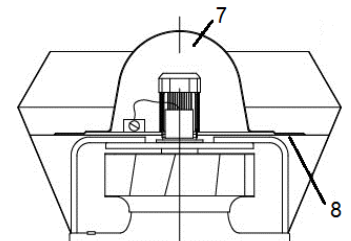
Undo fixing bolts on outer casing and remove or raise outer casing (6) and secure.

RDM 3E /FE



Remove side panel (5)

RVM F1



Remove cowl (7) und outlet guard (8)

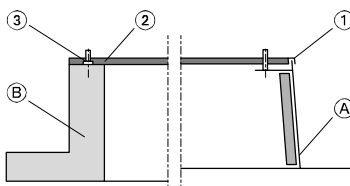


Fig7-2: Roof base

- A** Gebhardt ZBS roof base (accessories)
- 1** Sealing lip (supplied with ZBS roof base)
- B** Wall base (on site)
- 2** Sealant (on site)
- 3** Spacer disc (on site)

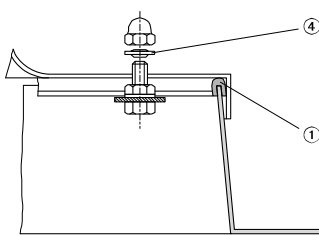


Fig 7-3: Sealing

1. Place sealing lip (1) and sealing tape (2) on the base (for airtight bed).
2. Place the roof fan complete with mounting plate on the base (A and B).
3. Insert connecting cable but do not connect.
4. Mount sealing washers (4) (plastic) under the base fixing bolts.
5. Tighten base screws evenly.
6. Rotate impeller by hand ensuring that it runs smoothly and freely.
7. If applicable, refit side panels on fan.

Note Use adjustable connecting sleeves to connect to ducting!

- No forces or vibrations transferred to the roof fan from plant parts!
- The stability against collapse of the fan has been checked!

CAUTION

Warping impedes smooth running of impeller and causes fatigue fractures!

- ▶ Avoid uneven tightening of base screws.
- ▶ Install roof fan so as to guarantee its stability at all times during operation.

7.4. Installing Safety Devices

Note

Conformity with DIN EN ISO 13857 only relates to the safety guard installed insofar as it is supplied with the fan.
The operator of the system is responsible for full compliance with DIN EN ISO 13857.

1. Fit guards to protect exposed inlet openings (DIN EN ISO 13857).
2. Design safety devices in such a way that they prevent objects from being sucked in or from falling in.
3. Ensure that all the mechanical safety devices are fitted.

8. Electrical Connection

8.1. Safety Instructions for Electrical Connection



Caution! Danger of electric shock!

- ▶ Observe the safety instructions and preventive measures in Chapter 4 and the relevant legal requirements.
- ▶ EN 60204

8.2. Connecting the Motor

Note

All the roof fans are delivered ready for connection. The terminal box and inspection switch are located under the cowl and housing cover respectively. The connection diagram is located in the terminal box.

Note

The system should always be evaluated in its entirety and specific application in terms of assessing whether it conforms to the applicable EMC standards and directives.
This is the responsibility of the customer.

CAUTION

Frequency inverter operation

RDA 21 type roof fans should only be operated using a compatible sinusoidal filter active on all poles between the converter and motor.

Standard dU/dt filters are not permitted for use on the converter.

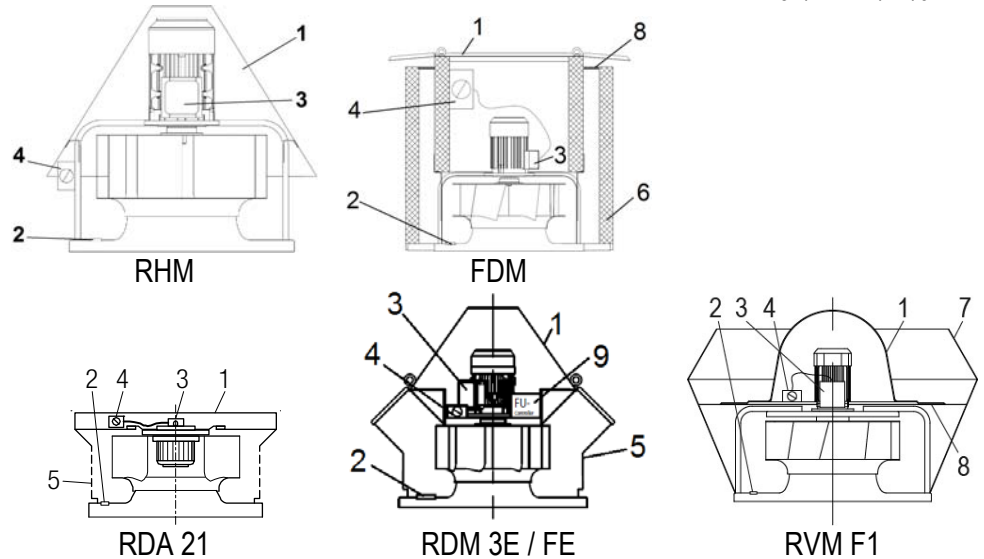
Separate EMC protective measures may be required with the combination of revision switches and frequency converters.

- Current, voltage and frequency of mains supply checked for conformity with fan type plate and motor rating plate.
- Star-delta or soft start provided for motors with a nominal output >4 kW.

- ☑ Inspection switch present if applicable.
- ☑ Note separate operating instructions BA-ESR_NI DV for devices with integrated frequency inverter

Table 8-1:
General diagram of roof fans

- | | | | |
|---|------------------------------|---|---|
| 1 | Cowl | 5 | Side panel |
| 2 | Cable duct | 6 | Outer member |
| 3 | Terminal box | 7 | Casing |
| 4 | Inspection switch (optional) | 8 | Outlet guard |
| | | 9 | Integrated frequency inverter for type RDM 3E/FE - BI/4P/6P |



1. Remove cowl (1).
 - 1.1 . Dismantle outlet guard (RVM) (8)
2. Lock the impeller for highly efficient permanent magnet motors
- ☑ **Measures taken to prevent roof fan from starting suddenly.**
3. Remove side panels on following models
 - 3.1. FDM model - undo outer member (6) and lift off or raise and prop up securely
 - 3.2. RDA 21/ RDM 3E/RDM FE models remove side panel (5)
 - 3.3. RVM: undo casing (7) and lift off or raise prop up securely (large sizes)
4. Run connection cable through cable duct in base frame (2) to terminal box (3) or inspection switch (4) or frequency inverter (9).
5. On RDM 3E/RDM FE models lay mains power cable loosely to allow the central section to be swung back easily.
6. In the vicinity of the impeller fix the cable to the support arm with cable clips (RDM 3E/RDM FE), and fix the cable to the guard and/or handle using cable ties.
7. Refit outer member (FDM) and side panels (RDA 21/ RDM 3E/RDM FE).
8. Connect motor as shown on connection diagram supplied resp. integrated frequency inverter (see separate operation manual BA-ESR_NI-DV)
9. Fit cowl (1) and outlet guard (RVM and FDM) (8).
10. Ensure that all the electrical safety devices have been fitted and connected.
11. Connect motors with a nominal output >4 kW to star-delta or soft start.

8.3. Carrying out a Test Run



Risk of injury from rotating impeller!

- ▶ Never reach into the impeller when the fan is open.

1. Disconnect motor / frequency inverter from the mains.
2. Take measures to prevent roof fan from being switched on accidentally.
3. Clear the ducting system and fan of all foreign bodies (tools, small parts, construction waste, etc.).
4. Close all the inspection openings.
5. Switch on fan and check direction of rotation of impeller by comparing it with the arrow on the fan indicating the direction of rotation.
6. If the direction of rotation is wrong, reverse the polarity of the motor / frequency inverter having due regard to the safety instructions or by used of OJ-DV Hterm (see page 33 in separate operating manual BA-ESR_NI-DV).
7. Once operating speed has been reached measure the current consumption and compare it with the nominal motor current on the roof fan type plate or motor rating plate.
8. If there is continuous overload switch the roof fan off immediately.
9. Check that the roof fan runs smoothly and quietly. Ensure that there are no unusual oscillations or vibrations.
10. Check the motor for any abnormal noises.

9. Commissioning / Operation

The motors are designed for continuous operation S1. If operations involve more than three starts per hour Nicotra Gebhardt GmbH shall be required to confirm the suitability of the motor.

9.1. Commissioning the Roof Fan



Risk of injury from rotating parts and hot surfaces!

- ▶ Ensure that all the safety devices are fitted!
- ▶ Ensure that the impeller has been secured acc. to DIN EN ISO 13857!

CAUTION

Incorrect sinusoidal filter may cause material damage!

- ▶ RDA 21 type roof fans with frequency converters should only be operated with a compatible sinusoidal filter active on all poles.

CAUTION

Material damage may be caused by overload from excessive starting currents!

- ▶ Adhere to the output limits imposed by the power supply company.

Course of action

1. Check working order of all control instruments connected.
2. Switch on roof fan.

10. Maintenance

10.1. Safety Instructions for Maintenance

- ▶ Observe the safety instructions and preventive measures in Chapter 4 and the relevant legal requirements.
- ▶ Follow the directions of the motor supplier and the instructions specified by the manufacturers of the switches and control units.

10.2. Maintenance Preparation

1. Disconnect motor from the mains.
2. Roof fans fitted with an inspection switch should be switched off by means of the inspection switch.
3. Take measures to prevent roof fan from being switched on accidentally.
4. Wait until the impeller has stopped.
5. Wait until all hot surfaces have cooled down.
6. Remove any residues from the fan.

10.3. Tilting the RDA/RDM 3E/RDM FE Roof Fan Up / Back



Risk of injury from roof fan falling back suddenly from tilted position!

- ▶ Take measures to prevent roof fan from swinging back.

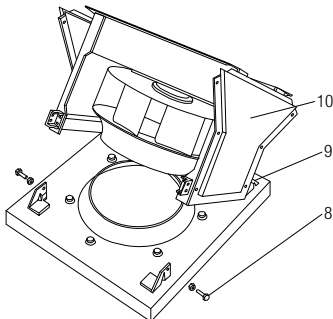


Fig 10-1: Tilting mechanism

Tilting up

- Side panels removed, cowl removed

 1. Remove screws (8).
 2. Tilt back central section (10).
 3. Secure central section on both sides using screws (8) and nuts in articulated joint (9).

Tilting back (after servicing)

1. Prop up tilted roof fan (release locking screws).
2. Remove locking screws from articulated joint (9) and lower roof fan carefully down out of tilted position.
3. Insert and tighten fixing bolts (8).

10.4. Observing Regular Inspection Intervals

In the interests of upkeep and safety we recommend having the operation and condition of the fans inspected at regular intervals by duly qualified service personnel or a professional maintenance firm and documenting these inspections.

The nature and extent of the maintenance work, the service intervals and any additional work required needs to be specified on a case-by-case basis depending on the use of the fans and the general conditions on site.

Our servicing and inspection recommendations based on VDMA 24186-1 can be found on our website -Downloads-.

- Maintenance preparation completed
- Roof fan tilted up and secured (RDA/RDM)

CAUTION

Pressure washers can cause damage to property!

- ▶ Do not use pressure washers (steam jet cleaners) to clean the equipment.

Maintenance recommendations for roof fans:

- ▶ Conduct test run if applicable (see Chapter 8.3).
- ▶ Document inspection intervals observed.

CAUTION

If the state of the fan does not allow adapted action for repair it has to be put out of order immediately and to be replaced if required.

11. Faults

If faults occur during operation which cannot be repaired by maintenance personnel please contact the service department of Nicotra Gebhardt GmbH.

CAUTION

Roof fan may be damaged by improper operating states!

- ▶ Switch the roof fan off immediately if permissible limits are exceeded and in the event of irregularities or faults.

12. Service, Spare Parts and Accessories

Nicotra Gebhardt GmbH
Gebhardtstraße 19–25
74638 Waldenburg
Germany

Tel.: +49 (0) 7942 101 384
Fax: +49 (0) 7942 101 385
Mail: service@nicotra-gebhardt.com
www.nicotra-gebhardt.com

12.1. Ordering Spare Parts

- ▶ Use only genuine spare parts supplied by Nicotra Gebhardt GmbH as featured in the list of spare parts.

The use of spare parts supplied by other manufacturers may compromise the safety of the equipment.

The requirements for CE conformity are no longer met if spare parts supplied by other manufacturers are fitted.

Nicotra Gebhardt GmbH shall not accept any liability or provide any warranty cover in respect of primary or secondary damage arising as a consequence of using spare parts supplied by other manufacturers.

Spare parts can be ordered online at www.gebhardt.de/partshop

12.2. Accessories

Nicotra Gebhardt GmbH has a wide range of accessories for economic and efficient use of the fans.

Accessories are optional and always need to be ordered separately.

Spare parts should be selected on the basis of the technical specifications or via our electronic selection program.

Accessories are supplied with separate operating or installation instructions unless their installation or use are self-explanatory.

13. Annex

13.1. Further Documentation Supplied by Nicotra Gebhardt GmbH

Table 14 1: Further documentation

Type of Documentation	File Location
Maintenance and inspection recommendations	Internet, see link in Chapter 10.4.
Electric wiring diagram	Connection diagrams:
EC Machinery Directive 2006/42/EC	Annex
EU Low Voltage Directive 2014/35/EU	Annex
EC-Directive for the setting of ecodesign requirements for energy-related products (2009/125/EC)	Annex
EU Electromagnetic Compatibility Directive (2014/30/EU)	Annex

EC DECLARATION OF CONFORMITY

to EC Machinery Directive (2006/42/EC)
EU Low Voltage Directive (2014/35/EU)

We hereby declare that, as designed, constructed and placed in the stream of commerce by ourselves, the machinery named below meets the relevant health and safety requirements specified in the EC Directives listed below. This declaration shall be null and void if modifications are made to the machine without consulting us and obtaining our approval.

Designation: Roof fan
Machine type: RHM / RDM 3E/FE / FDM / RDA 21 / RVM
Year of construction/type designation: See type plate

Relevant EC Directives:
EC Machinery Directive (2006/42/EC)
EU Low Voltage Directive (2014/35/EU)

Harmonised standards applied, in particular:
DIN EN ISO 12100 , DIN EN ISO 13857, DIN EN 60204-1

Waldenburg, 20.04.2016

Representative for the documentation: Jeanette von Berg

Head of Production



i.V. I. Stöbe

Research & Development Director



i.V. Dr. J. Anschütz

For the full list of applied standards and technical specifications see manufacturer's documentation.


EC DECLARATION OF CONFORMITY

We hereby declare that, the machinery named below complies with the eco-design requirements set by Commission Regulation (EU) No 1253/2014, according to Annex III, No 1.

Designation:	Roof fan
Machine type:	RHM / RDM 3E/FE / FDM / RDA 21-EC / RVM
Serial no:	See type plate
Year of manufacturing:	See type plate
Relevant EC Directives:	EC-Directive for the setting of ecodesign requirements for energy-related products (2009/125/EC)

Waldenburg, 18.12.2015

Head of Production



i.V. I. Stöbe

Research & Development Director



i.V. Dr. J. Anschütz

For the full list of applied standards and technical specifications see manufacturer's documentation.

EU DECLARATION OF CONFORMITY

to EU- Directive of Electromagnetic Compatibility (2014/30/EU)

Herewith we declare that the machinery designated below, on the basis of its design and construction in the form brought onto the market by us is in accordance with the relevant safety and health requirements of the EU Council Directive as mentioned below.

If alterations are made to the machinery without prior consultations with us, this declaration becomes invalid.

Designation:

Roof fan

Machine type:

RDM 3E/FE

Serial no:

See type plate

Year of manufacturing:

See type plate

Relevant EU Directives:

EU-Directive of Electromagnetic Compatibility (2014/30/EU)

Applied harmonized standards, in particular:

RDM 3E/FE - BI/4P/4F/6P: DIN EN 60204-1, DIN EN 61800-3
DIN EN 61000-3-12, DIN EN 61000-3-2

Waldenburg, 20.04.2016

Head of Production



i.V. I. Stöbe

Research & Development Director



i.V. Dr. J. Anschütz

For the full list of applied standards and technical specifications see manufacturer's documentation.