

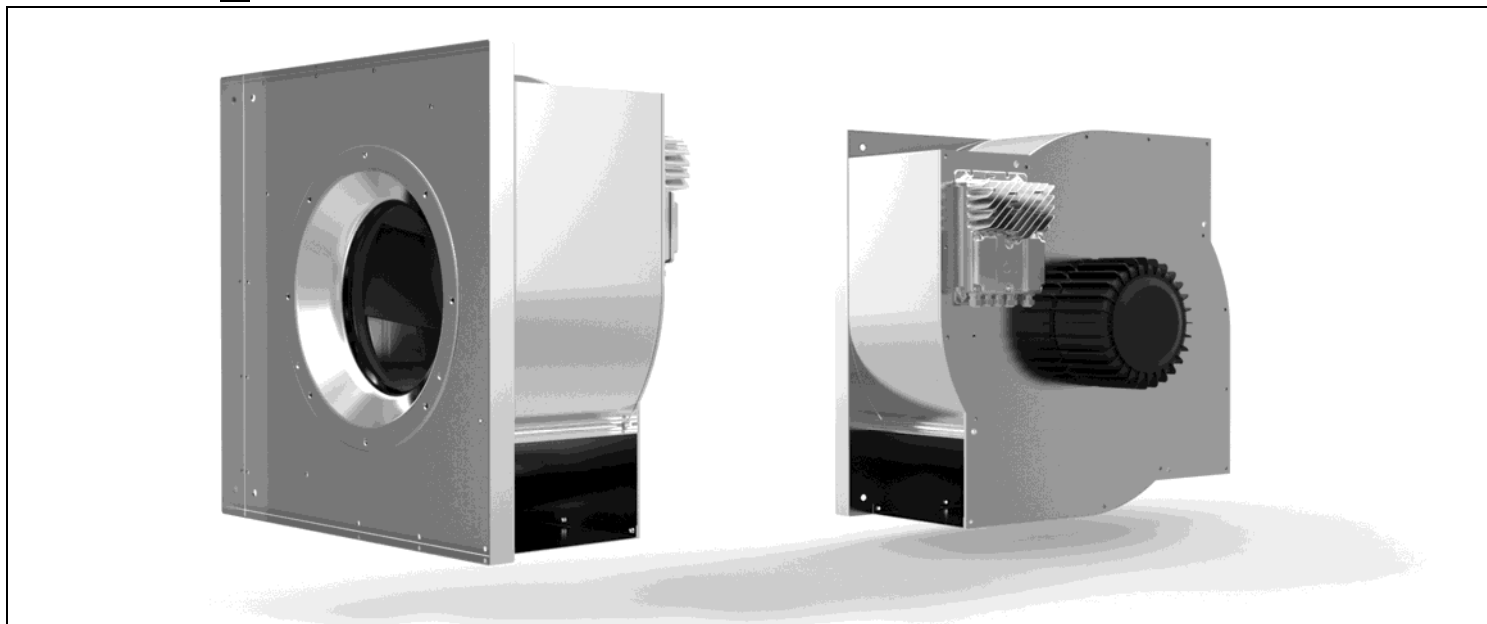
Operating instructions

Hybrid radial fan with spiral-shaped guide vanes (multi guiding device)

Direct driven with asynchronous or PM synchronous motor

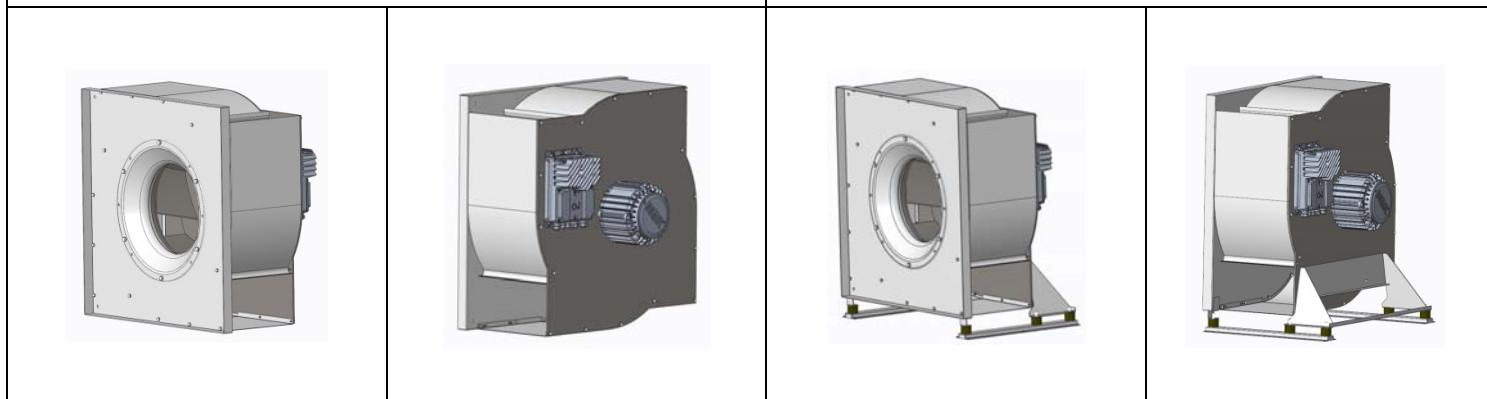
(Translation of the Original)

BA-CFD_RQM 1.0 – 06/2017



RQM F3

RQM F6



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- EC-Declaration of Incorporation to Machinery Directive 2006/42/EC
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English – EN-2 / ...EN-14
Other languages on request

Revision index

Revision	Date
BA-CFD-RQM 1.0	06/2017

1. Important information

These fans are of state-of-the-art design and comply with the health and safety requirements of the EU Machinery Directive. Nicotra Gebhardt fans offer a high level of operational safety and a high standard of quality which is guaranteed through a certified Quality Assurance System (EN ISO 9001). All fans leave the factory after being subjected to testing and are provided with a test seal. All fans however can be dangerous,

- if they are not installed, operated and maintained by trained personnel
- if they are not used for their intended use.

This can endanger the life and limb of personnel, cause material damage to buildings and equipment and negatively influence the benefits of the product.



Attention!

These Operating Instructions must be read and observed by all personnel engaged on work involving these fans!

The Operating Instructions

- describe the intended use of the fans and protect against misuse.
- contain safety notes which must be closely observed.
- warn of dangers which can arise even if used in accordance with the intended use.
- provide important information on safety and the economic use of the fan while ensuring the full benefits of the product.
- are to be complemented with trade-specific and national standards, regulations and directives.

Nicotra Gebhardt accepts no liability for damage or breakdowns which can be traced back to non-observance of the Operating Instructions.

The manufacturer's guarantee does not apply if unauthorized and unacceptable conversions and alterations are carried out to the fan. No liability is accepted for resultant damages!

2. Safety notes



CAUTION

This danger symbol identifies all safety and danger information concerning danger to life and limbs of personnel.

This draws attention to all the information at all points in the Operating Instructions which must be particularly well observed in order to ensure the correct procedures for the work and prevent damage to and destruction of the fan.

3. Technical descriptions

3.1. Product description: RQM



The fans are intended for incorporation into equipment and do not have their own contact protection fitted as standard. Appropriate protective measures in accordance with DIN EN ISO 13857 are to be taken

The RQM fans with direct drive are equipped with guide vanes. They are driven by an asynchronous three-phase motor (standard motor) or a permanent magnet-excited synchronous motor (PM motor). The optimized centrifugal impeller with backward-curved, dust-deflecting, hollow profile blades is attached directly to the motor shaft. It is statically and dynamically balanced in accordance with DIN ISO 21940-11. Certain fans in the RQM model series have an integrated frequency inverter. The various drive systems can be started with either an external or integrated frequency inverter. Surfaces are corrosion-protected with galvanized steel and powder-coated steel in RAL7039.

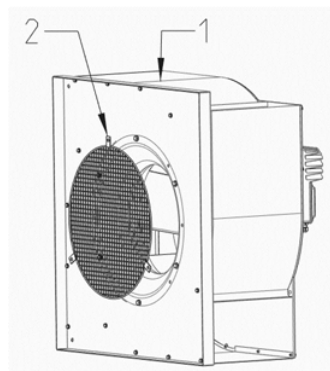
RQM F3

Fan module with carrier and inlet cone, installed and adjusted at the factory
Installation: horizontal and vertical

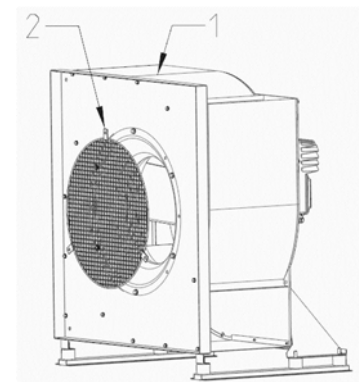
RQM F6

Fan module with supporting structure, carrier and inlet cone, installed and adjusted at the factory Installation: horizontal and vertical.

RQM F3



RQM F6



1 - Fan

Important accessories

2 - Inlet guard

3.2. Technical data

Technical data and the permissible limits are to be taken from the type plate, the technical data sheets, the tender or the appropriate technical catalog and must be adhered to.

3.3. Authorized use

The fans are intended for the transport of dust-free air and other non-aggressive gases or vapors. They are intended as components for installation in equipment.

Permissible media temperature with a density of max. 1.2 kg/m³.

Range	RQM
Temperature	-20°C to +40°C

CAUTION



Maximum ambient temperature at the drive motor: +40°C.

Any installation deviating from the above shall be considered unauthorized. Gebhardt will not be liable for any injury to persons and/or material damage resulting from any deviations from the above!

Working at the frequency inverter:

Should any control equipment utilizing electronic components be employed (e.g. frequency inverter), the recommendations of the manufacturer are to be observed concerning the avoidance of electromagnetic radiation (EMC) (through suitable earthing, cable lengths, cable screening, etc).

According to the frequency inverter manufacturer, equipment with an external and integrated, approved inverter represent a low risk for emitted electromagnetic interference.

3.4. Improper use

An improper installation would be e.g. the transporting of :

- media with unacceptable high or low temperatures
- very damp media.
- aggressive media.
- very dusty media.
- abrasive media
- explosive media

Unauthorized 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 (instability of flow pattern)
- No operation if fan becomes polluted or increased imbalances
- No operation if the fan was not installed to be free of force or tension
- No operation in explosive areas

The consequences are: Motor damage, corrosion damage, loss of balance, vibration, deformation, abrasion damage.

CAUTION

Prevent dynamic stress on the impeller, avoid frequent load changes



Danger points:

There can be injury to persons and material damage through impeller breakage, shaft breakage, fatigue failure, fire and explosion from spark creation.

4. Transport

4.1. Transport damage

Deliveries are to be immediately checked as being intact and complete in the presence of the carrier.

CAUTION

Fans must be carefully transported!

Improper transport as e.g. unyielding, tilted positioning can lead to:

- Impeller becoming jammed.
- Shaft and guide vanes becoming deformed.
- Bearing damage
- Frequency inverter becoming damaged.

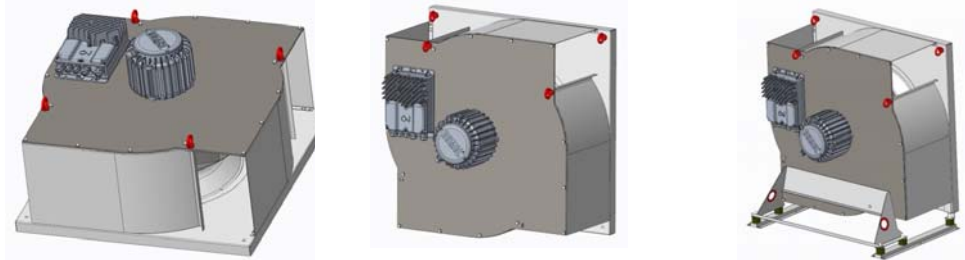
The units are packaged and secured in a box or on a pallet ex factory.

4.2 Transport safety

- The means of transport is to be selected according to the weight and packaging of the fan (type plate, data sheet).
- Ensure that loading is done in accordance with regulations.
- Use appropriate lifting points depending on the installation conditions and center of gravity position.
- Do not stand under suspended loads - there is a risk of injury from falling components.

The attachment points on the fan are:

- Base, supporting structure, lifting eyelets on the motor and nozzle support plate



The following are not attachment points:

- Inlet cone
- Impeller
- Guide vanes
- Motor
- Frequency inverter

4.3 Intermediate storage

For intermediate storage of the fans the following points must be observed:

- The fan is to be stored in its transport packaging or this can be added to in accordance with external influences.
- The place of storage must be dry and dust-free. The humidity must be < 70 %, non-condensing
- Max. permissible storage temperature: -20°C to +40°C.
- For longer storage periods, the motor-impeller unit must be moved more frequently.

5. Mounting / installation

5.1 Safety notes



- Mounting may only be carried out by trained personnel in accordance with these Operating Instructions and with regard to the legal regulations in force.
- Safety devices that have been removed for mounting work must be replaced immediately afterwards before the electrical connection is made.
- The fans must be mounted such that stability and installation safety are guaranteed at all times during operation.
- Affix the fans to the base (RQM F6) or the motor and nozzle mounting plate (RQM F3).

CAUTION

Shoring up the weight at other points leads to fan damage and is dangerous.

5.2 Installation site

- The installation site must be suitable for the respective fan with regard to type, quality, ambient temperature and ambient medium (points 3.3, 3.4 are to be observed).
- The supporting structure must be level and have sufficient load-bearing strength.
- Provide monitoring devices if operational controls are not evident.
- If condensate forms, the fan is only permitted to be in the installation position “Shaft horizontal” or “Rotor down”. Ensure that the condensate escapes in a controlled manner.

5.3 Installing / affixing

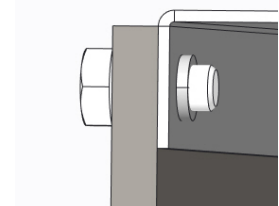
The fan or base frame must be affixed to the supporting structure without stresses.

CAUTION

Stresses can lead to bearing damage and fatigue failures They also affect the functioning of the fan.

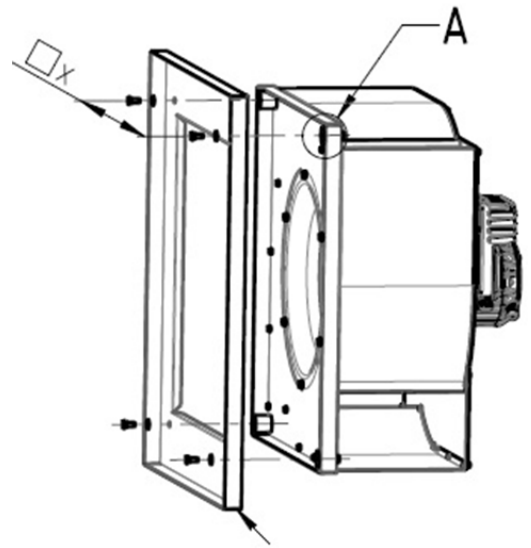
- Distribute, align and mount vibration dampers evenly around the fan’s center of gravity.
- No forces should be transferred from other parts of the installation.
- Use flexible connecting supports for duct connection where necessary.
- Ensure even spring of the vibration dampers.
- The clearances from the fan to the customer's parts of the installation must correspond to the installation instructions.
- Make sure that the self-tapping screws have the admissible tightening torque.

M6 = 4Nm
M8 = 10Nm
M10 = 12Nm



5.4 Installation information

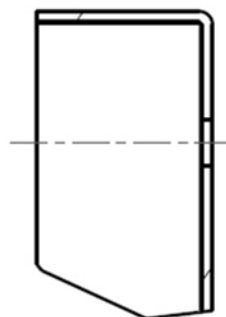
The RQM F3 series is designed for installation with a horizontal or vertical axis to a partition. The partition must be large enough to be able to bear the weight of the unit without vibration. No mounting material is included as standard. Nicotra Gebhardt recommends that the fan be mounted to the optionally available spacer pins and sealed up to the partition. This can be done on the customer's side or also by means of an optionally available sealing tape. When using sealing tape, we recommend that the spacer pins be raised with an appropriate washer.



Customer-side mounting panel

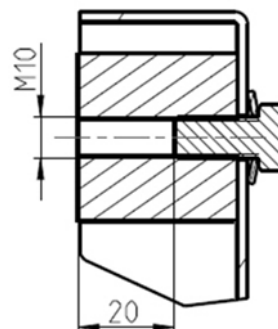
Type	Impeller ø	□X
RQM F3-2831	315	455
RQM F3-3135	355	520
RQM F3-3540	400	588
RQM F3-4045	450	665
RQM F3-4550	500	752
RQM F3-5056	560	848
RQM F3-5663	630	959
RQM F3-6371	710	1084

Detail A
Standard design
Excl. mounting material



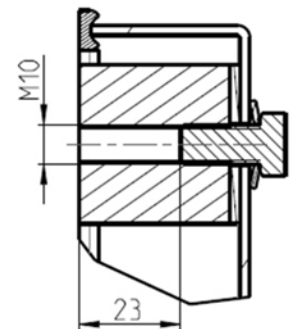
Detail A
Incl. optionally available
spacer pins

Mounting kit 1



Detail A
Incl. optionally available
spacer pins, washer and
sealing tape

Mounting kit 2



5.5 Electrical connections

5.5.1 Safety notes



- The electrical installation of the fans and components may only be carried out by trained personnel in observance of these Operating Instructions and the regulations in force.
- The following standards and guidelines are to be observed:
 - IEC 60364-1 / DIN VDE 0100; DIN EN 60204-1
 - Local regulations of the Electricity Supply Companies
- Equipment in accordance with EN 60204-1 is to be installed as protection during unexpected events (e.g. an isolation switch for inspections).
- Earth the fan properly. Electronic equipment such as frequency inverters must meet the requirements in accordance with EN 61000-6-4.
- No dangerous operating conditions may arise due to disturbances to the protection systems and their equipment.
- Protection systems must be provided by the customer and do not form part of Nicotra Gebhardt's scope of delivery.



Caution electric shock!

Electrical voltage at the intermediate circuit between the control electronics and the power connections when the permanent magnet motor rotates!

- Do not work at the fan if the impeller/motor is not locked
- Lock fan impeller by proper means

5.5.2 Connection to the grid

Connect the fan to the grid according to the enclosed connection diagram or the enclosed operating instructions (of the drive). For the updated circuit diagrams, please see online at www.nicotra-gebhardt.com.

Please observe the separate Operating Instructions BA-ESR_NI-DV for devices with integrated frequency inverters.

CAUTION

- PM motors without integrated electronics may only be connected to a frequency inverter suitable for that purpose. (See also Chap. 6.6)
- It is not possible to operate several permanent magnet motors with one frequency inverter
- Only use screened motor cables.
- The motor cable screen must be attached to both sides.

5.5.3 Motor protection

- Please check the motor manufacturer's operating instructions.
- Motors are to be protected against overload in accordance with EN 60204-1.
- Standard motor protection switches are to be provided and set to the nominal motor current (see type plate). A higher setting is not permitted!
- Motors with built-in thermistors or similar must be protected through a thermistor or similar operated release device.
- Devices with integrated speed control are protected from overload by the frequency inverter. In the event of overload, the frequency inverter reacts with a reduction in speed until switch-off.

CAUTION

Fuses or circuit breakers do not provide sufficient motor protection. Damage due to insufficient motor protection invalidates the manufacturer's guarantee.

5.5.4 Motor starting

Motors with a nominal rating of up to 4kW can generally be direct started. Motors with a nominal rating >4kW are usually star-delta or soft started. For frequency inverter operation the start-up ramp must be selected so that the rated current of the motor is not exceeded.

In all cases, observe the power threshold limits prescribed by the responsible energy supply company.

In the event that plant conditions necessitate a direct start the suitability of the fan design is to be confirmed with Nicotra Gebhardt. Fans with high inertia impellers can take over 6 seconds to reach top running speed. In these cases heavy duty motor protection relays or bimetal relays must be provided.

The asynchronous motors are designed for S1 continual operation. With more than three starts per hour the suitability of the motor is to be confirmed by Nicotra Gebhardt.

CAUTION

PM motors without integrated electronics must only be operated at inverters suitable for that purpose! (e.g. Danfoss VLT HVAC Drive FC-100, see Chapter 6.6).

6. Commissioning

6.1 Before commissioning the following checks must be carried out:



- All the mechanical and electrical safety devices must have been fitted and connected.
- Protection against contact devices must meet the installation requirements in accordance with DIN EN ISO 13857!
- Design the protective devices so that items cannot be suctioned or fall into the plant (DIN EN 60529).
- The ducts and the fan must be checked for foreign bodies (tools, small components, building debris, etc.)
- The free running of the impeller must be checked by hand.
- The power setting, voltage and frequency for the mains connections must be checked against the fan or motor type plate.
- Connected control devices must be checked for functioning.
- Check the parameter settings at the frequency inverters for the PM motors (see 6.6).
- Inspection openings (if they exist) must be closed.
- Please observe the separate Operating Instructions BA-ESR_NI-DV for devices with integrated frequency inverters.



The fan may only be commissioned if all the protection devices have been fitted and if it is ensured that the impeller has been safeguarded according to DIN EN ISO 13857!



The suitability of protection devices and their fastenings to the fan must be evaluated within the overall safety concept of the plant.



When operating with a frequency inverter the fan module system can generate higher vibrations within certain frequencies or fan rpm-areas. Operation in such an area must absolutely be avoided! When putting the fan into operation this type of eventually occurring resonance rpm have to be determined and to be blinded out. Do not operate with over-modulation at the frequency inverter! Matching frequency inverters have to be set and operated according to the instructions given by their manufacturer.

Non observance of these instructions may cause a destruction of the fan!

Compliance with the EMC standards and directives must be assessed for the overall plant with regard to the specific application.

This is the customer's responsibility!

6.2 Test run

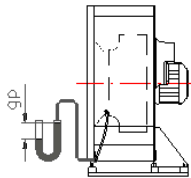
6.3 Checking the power consumption

On reaching the operating speed of the fan measure the power consumption immediately and compare it with the nominal current of the motor on the motor or fan type plate. In the event of continuous overcurrent switch off the device immediately.

6.4 Check for quiet running

Check that the fan runs quietly. If unusual fluctuations, vibrations, temperatures and bearing noises are heard, the device must be switched off immediately. Any rubbing of the impeller against the inlet cone (hearing test) under operating conditions is not permitted. In the event of continuous rubbing switch off the fan immediately.

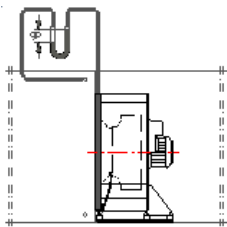
6.5 Flow measuring device



The fans are equipped with a flow measuring device as standard. With the flow measuring device it is possible to measure/monitor the flow easily after the fan is installed.

$$q_V = K \times \sqrt{\frac{2}{\rho} \times \Delta p_{Dü}}$$

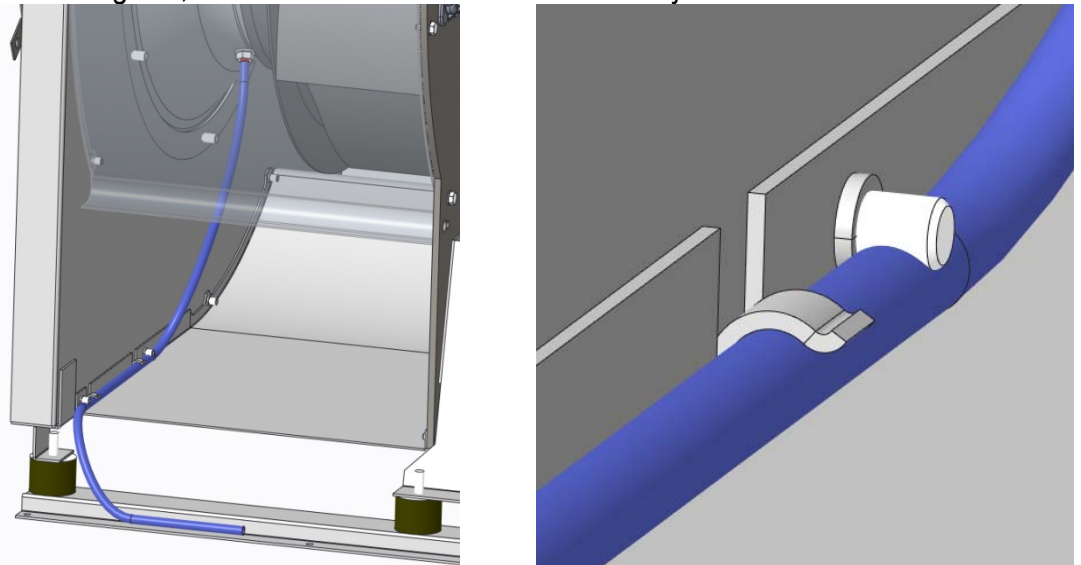
- q_V Volume flow m^3/h
- K Calibration factor m^2s/h
- ρ Gas density kg/m^3
- $\Delta p_{Dü}$ Differential pressure at nozzle Pa



When fans are integrated in a chamber, the differential pressure between the static pressure in the chamber on the suction side and the pressure at the inlet cone must be measured. Care must be taken to ensure that the static pressure to be measured at the inlet cone is not distorted by dynamic velocities. When using a differential pressure sensor, the signal can also be used for control purposes. When calculating the volume flow, a calibration K-factor is required for the respective fan, which is determined by means of a comparative measurement on a standard test ring with non disturbed air flow at suction.

RQM F3/F6	Calibration factor K10	RQM F6	Calibration factor K10
2528	--	7180	481 m ² s/h
2831	88 m ² s/h	8090	--
3135	99 m ² s/h		
3540	119 m ² s/h		
4045	148 m ² s/h		
4550	178 m ² s/h		
5056	233 m ² s/h		
5663	289 m ² s/h		
6371	372 m ² s/h		
K-factor deviation: Standard calibration factor K10 < 10%			

When laying out the measuring line, care must be taken to ensure that the hose is well secured and cannot make contact with the impeller. When laying out the measuring line, the hose can be clamped between the thread bolt and the exterior wall and additionally affixed with the pre-cut metal butt straps. When laying out the measuring line, ensure that the hose is not excessively crushed or bent.



6.6 Commissioning fans with frequency inverters

6.6.1 Instructions for fans with PM motors on external frequency inverters

We recommend inverters from the FC-100 series by Danfoss GmbH for operating fans with PM motors without integrated electronics.

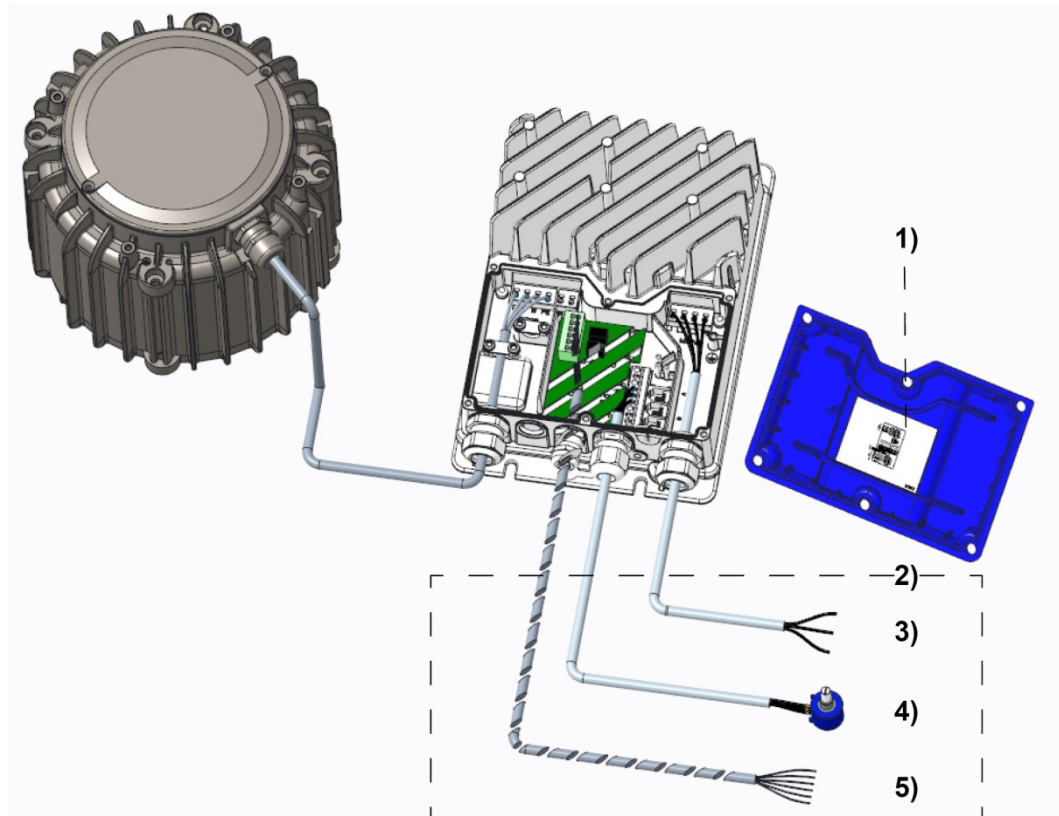
In order to operate PM motors without position encoders, the rotors are brought into a defined starting position when starting up. Only then will the motor actually power up.

Note Certain parameters are required for commissioning. Incorrect parameters can lead to problems in particular when starting the devices. It is not possible to operate several permanent magnet motors with one frequency inverter.

Updated parameter lists can be found at www.nicotra-gebhardt.com

6.7 Commissioning fans with integrated NI-DV inverters

6.7.1 Connection



1) Circuit diagram

2) Connection options provided by the customer

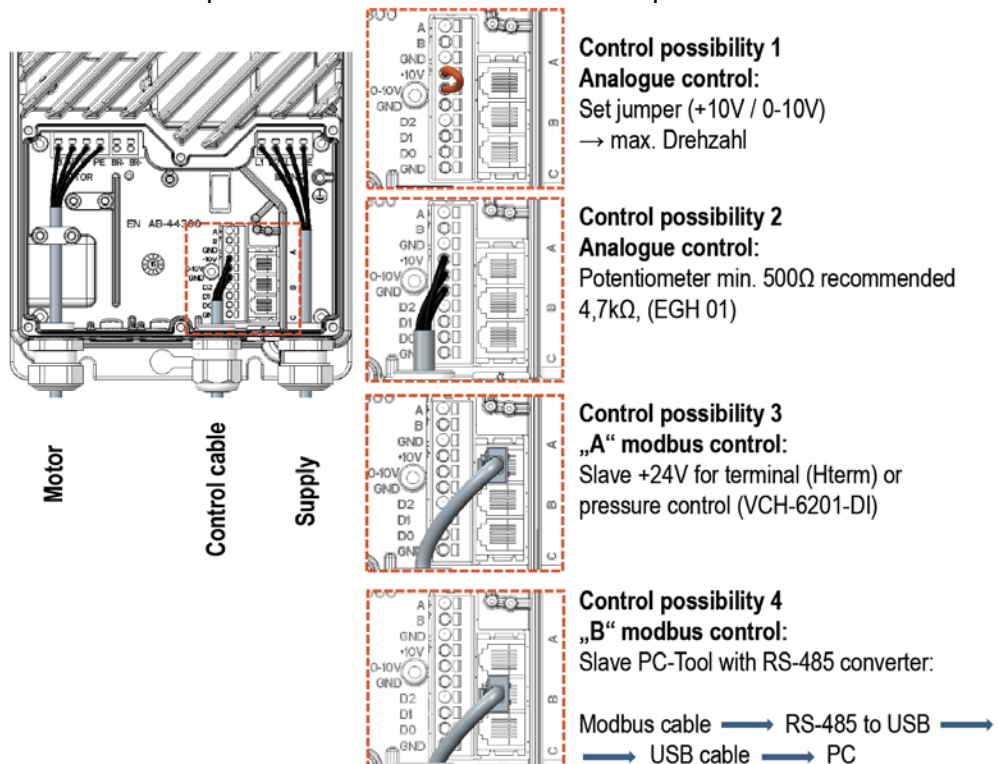
3) Mains connection 230V/400V

4) Control option 2

5) Status output of optional accessories

6.7.2 Frequency inverter activation options

The control components shown are not available in part as accessories.



More information „Ni DV controller“ or Download at www.nicotra-gebhardt.com

7. Upkeep / maintenance

7.1 Safety notes



Before working on the fan it is imperative to ensure that:

- All poles of the drives and motors are disconnected from the grid!
- The impeller has come to rest!
- The surface temperature has been checked to prevent burning!
- There is no possibility of uncontrolled starting of the fan during maintenance work (e.g. through a lockable inspection switch)!
- Observe the motor manufacturer's regulations and any information provided by the inverter manufacturer.



Caution electric shock!

Electrical voltage at the intermediate circuit between the control electronics and the power connections when the permanent magnet motor rotates!

- Do not do any work on the fan while the impeller/motor unit is rotating freely
- Lock fan impeller by proper means
- Any debris or dangerous materials which have arrived in the fan with the transported medium must be removed before maintenance work using a suitable method.

Fan operation may resume after the safety checks of Chapter 6 "Commissioning / safety checks" have been carried out.

This excludes work that may only be carried out while in operating mode under observance of the safety and accident prevention regulations:

e.g. measurement of vibrations, impact momentum.



Non-observance of these points endangers life and limb for the maintenance personnel.

CAUTION

If the condition of the fan does not allow repair it has to be decommissioned immediately and replaced if required.

7.2 Maintenance intervals

After having passed the period during which the grease keeps its lubrication capacity (30,000 hours for standard applications) the bearings may need to be replaced.

During periods of longer lasting standstills the fan may be operated briefly at regular intervals. This is to prevent the bearings from mechanical load and avoid ingress of humidity. If fans have been held in stock for a longer period the fan and motor bearings must be checked prior to installation.

Motors are equipped with permanently lubricated or regreasable bearings, depending on the manufacturer, size and type of motor. Grease leakage cannot be excluded for motors with regreasable bearings, even after the initial filling at the factory. However, this does not have a negative effect on the life of the bearings; regreasing intervals must be adhered to.



Ensure that the motor manufacturer's maintenance specifications as well as information provided by the manufacturer for the switches and control units as well as the frequency inverter are observed.

In order to maintain operation and safety we recommend that the fans be checked at regular intervals by specialized service personnel or by a specialized company and to document the result of these checks.

The type, scope and maintenance intervals as well as all further activities which may be necessary depend on the use and the on-site conditions of the fan and have to be determined on a case-by-case basis.

The recommendations for checks and maintenance according to VDMA 24186-1 may be found on the Internet at: www.nicotra-gebhardt.com.

CAUTION No high pressure cleaners (steam jet cleaners) are to be used!

7.2.1 Vibrations

The fan must be checked regularly for mechanical vibrations. The maximum vibration speed in radial direction must not exceed 4.5 mm/s to monitored at the bearing or bearing housing of the fan or motor. For fans having an impeller diameter up to 315 mm a vibration speed of up to 7.1 mm/s when installed is acceptable. If the permitted vibration values are exceeded, it is mandatory to rebalance the entire rotating unit in accordance with DIN ISO 21940-11.

7.2.2 Impeller assembly

After dismantling and reinstalling an impeller, the fan must be checked for mechanical vibrations. It may be necessary to rebalance.

7.3 Inlet and discharge connections

Flexible sleeving (compensators) between the fan and plant parts are to be checked at regular intervals.

CAUTION Unsealed sleeving leads to breakdowns and danger from escaping transported medium and must be replaced.

7.4 Spare parts

Only original spare parts in accordance with the spare parts list are to be used.

CAUTION Nicotra Gebhardt accepts no responsibility for damages resulting from the use of other parts!

8. Faults

Deviations from normal operating conditions always lead to functional breakdowns and should be looked for immediately by maintenance personnel.



Longer lasting faults can result in the destruction of the fan and give rise to damage in plant parts and injuries to personnel!

In the event that the maintenance personnel cannot eliminate the fault, please make contact with our mobile customer service.

9. Disposal / recycling

The protection of the environment and the conservation of resources are top priorities for Nicotra Gebhardt GmbH. For this reason, we ensure sustainable, environmentally-friendly design, technical safety and health protection already in the developmental stages of our fans. When disposing of the components or waste, observe the requirements and regulations applicable in your country.

9.1 Disassembly

Disassembly of the product must be performed or supervised by qualified personnel with the appropriate technical knowledge. The dismantling must be prepared as follows:

- Disconnect the machine from the mains and remove all cables.
- If necessary, remove all liquids, such as oil and dispose of them according to the local requirements of your region.
- Transport the machine to a suitable location for disassembly.



The machine is made up of heavy parts. These can fall during dismantling. Serious injury, death and property damage may result. Secure machine parts that may become loose against falling before dismantling them.

9.2 Disposal / recycling of components

The machine consists mainly of metals. These are generally considered fully recyclable. Separate the components for recycling into the following categories:

- Steel and iron, aluminum, non-ferrous metal, insulating materials, cables and wires,
electronic scrap, plastics

Dispose of electronic components employing the proper procedures for electronic scrap.

10. Service

We offer all our partners the following services:

- | | |
|---------------------------|---|
| • Mobile Customer Service | Telephone +49 (0)7942 101 384 |
| • Spare Parts Service | Fax +49 (0)7942 101 385 |
| | E-mail service@nicotra-gebhardt.com |
| | www.nicotra-gebhardt.com |

Translation of the original

EC Declaration of Conformity

For EC Directive 2009/125/EC “Ecodesign”

We hereby declare that the product named below, based on the efficiency grade of the respective fan type and the measurement and efficiency category specified in the technical documentation, complies with the ecodesign requirements set by Commission Regulation (EU) No 327/2011, according to Annex I, Section 2.

Designation:	Centrifugal fan with backward curved blades and multi-spiral guide vanes
Fan type:	RQM F3-..., RQM F6-...
Serial no:	See type plate
Year of manufacture:	See type plate
Relevant EC Directives:	EC Directive for the setting of ecodesign requirements for energy-related products (2009/125/EC)

Waldenburg, June 01, 2017



Head of Production
p.p. T. Ehrhardt



Research & Development Director
p.p. Dr. J. Anschütz

NICOTRA||Gebhardt
fan|tastic solutions

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Waldenburg, Germany
www.nicotra-gebhardt.com

Translation of the original

EC Declaration of Incorporation

For EC Directive 2006/42/EC “Machinery”

The manufacturer: Nicotra Gebhardt GmbH
Gebhardtstraße 19-25, 74638 Waldenburg, Germany

herewith declares that the following product:

Product designation: Centrifugal fan with backward curved blades and multi-spiral guide vanes

Type designation: RQM F3-..., RQM F6-...

Serial n°: See type plate

Year of manufacture: See type plate

qualifies as a partly-completed machine, according to Article 2, clause “g” and complies with the following basic requirements of the Machinery Directive (2006/42/EC): Annex I, Article 1.1.2, 1.3.7

The partly-completed machine may be put into operation only if it has been stated that the machine into which the partly-completed machine has to be incorporated complies with the requirements of the machinery directive (2006/42/EC).

The following harmonized standards ¹⁾ have been applied:

DIN EN ISO 12100: Safety of machinery – General design principles

DIN EN ISO 13857: Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs

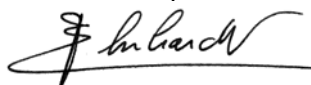
Applied, national standards and technical specifications ²⁾ particularly:

VDMA 24167: Fans – Safety requirements

The manufacturer undertakes to make the special documents of partly-completed machinery in accordance with Annex VII Part B available by e-mail/mail to any state authority if required.

Waldenburg, June 01, 2017

Authorized representative for the technical documentation: Klaus Gundel



p.p. T. Ehrhardt
Head of Production



p.p. Dr. J. Anschutz
Research & Development Director

1) For the complete list of applied standards and technical specifications see the manufacturer's documentation

2) If there are no harmonized standards as yet

Translation of the original

EU Declaration of Conformity

For EU Directive 2014/30/EU “ Electromagnetic compatibility”

We herewith declare that, based on the machine design, type of construction and version brought onto the market by us, the machine designated below meets the relevant, fundamental safety and health requirements of the EU Directive mentioned below. Should any alterations be made to the machine without our prior agreement this declaration loses its validity.

Designation:	Centrifugal fan with backward curved blades and multi-spiral guide vanes
Fan type:	RQM F3-..., RQM F6-...
Serial no:	See type plate
Year of manufacture:	See type plate
Relevant EU Directive:	EU Directive “Electromagnetic Compatibility” (2014/30/EU)
Applied, harmonized Standards, in particular	DIN EN 60204-1, DIN EN 61000-3-2 DIN EN 61000-3-12, EN 61000-6-4, DIN EN 61800-3

Waldenburg, June 01, 2017



Head of Production
p.p. T. Ehrhardt



Research & Development Director
p.p. Dr. J. Anschütz

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

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