

[1] **EC-TYPE EXAMINATION CERTIFICATE**

according to Directive 94/9/EC, Annex III

(Translation)



[2] Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres, **Directive 94/9/EC**

[3] EC-Type Examination Certificate Number: **IBExU14ATEX1122 X**

[4] Equipment: **Radial Fan**
type K3G***-****-9* and K3G***-****-X*

[5] Manufacturer: **ebm-papst Mulfingen GmbH & Co. KG**

[6] Address: **Bachmühle 2
74673 Mulfingen
GERMANY**

[7] The design of the equipment mentioned under [4] and any acceptable variations thereto are specified in the annex to this EC-Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH, Notified Body number 0637 in accordance with article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that the equipment mentioned under [4] has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The test results are recorded in the test report IB-14-3-094 of 26 May 2015.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012+A11:2013, EN 60079-1:2007, EN 60079-7:2007 and EN 60079-11:2012 as well as EN 50495:2010 and in dependence to EN 14986:2007.

[10] If the sign „X“ is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified under [17] in the annex to this EC-Type Examination Certificate.

[11] This EC-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

[12] The marking of the equipment mentioned under [4] shall include the following:

Ex II 2G Ex d e ib IIB T3 Gb
-40 °C or -25 °C ≤ T_a ≤ +50 °C or +55 °C

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By order

(Dr. Wagner)



- Siegel -
(Kenn-Nr. 0637)

Freiberg, 26 May 2015

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Annex

[13] **Annex**

[14] **to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1122 X**

[15] **Description of the component**

The Radial Fan type K3G***-****-9* and K3G***-****-X* serves for conveying of gaseous media and is preferential built in climatic box devices (AHU) because of its cube construction. It consists of the explosion proof motor type M3G150-FF**-9*, M3G150-IF**-9* or M3G150-NA**-9* and the impeller.

The motor as external-rotor motor is designed with direct temperature control and consists of the Ex-e motor compartment, the Ex-d electronic compartment and the Ex-e terminal compartment. The electronic compartment houses the control unit, the electronics for functional safety as well as the intrinsically safe supply for the sensors. The motor is cooled by the conveying medium.

Technical data:

- Nominal voltage range: 380 V up to 440 V
- Motor stack length: 55 mm up to 120 mm
- Power input: max. 3.2 kW
- Air flow: max. 20,000 m³/h
- Static back pressure: max. 1,500 Pa
- Nominal frequency: 50/60 Hz
- Nominal speed: max. 2,850 rpm
- Mode of operation: S1
- Ambient temperature range: -25 °C up to +50 °C (standard)
-40 °C up to +55 °C (special version)
- Property class Ex-d screws: 10.9
- Degree of protection: Motor compartment IP 44 according to EN 60034-5
Terminal compartment IP 66 according to EN 60529
Electronics compartment IP 54 according to EN 60529

The rated values of the individual motor and impeller designs are specified in the Continuation Sheets to this EC-Type Examination Certificate.

[16] **Test report**

The test results are recorded in the test report IB-14-3-094 of 26 May 2015.
The test and information documents are part of the test report and listed there.

Summary of the test results

The Radial Fan type K3G***-****-9* and K3G***-****-X* fulfils the requirements of explosion protection for Equipment Group II, Category 2G, type of protection flameproof enclosure „d“, increased safety „e“ and intrinsic safety „ib“ for explosive atmospheres up to temperature class T3.

[17] **Special conditions for safe use**

- Repairs of the flameproof joints must be made in compliance with the constructive specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in table 1 of EN 60079-1.
- The screwed cable glands may be used only for fixed installation. During installation, an appropriate strain relief has to be ensured.
- When replacing cable glands, please note that they must be suitable for a continuous operating temperature from -40 °C to +80 °C.
- With ambient temperatures below -20 °C, the connection cables must be suitable for such operating temperature.

[18] **Essential Health and Safety Requirements**

Confirmed by compliance with standards (see [9]).

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Freiberg, 26 May 2015



(Dr. Wagner)

Continuation Sheet 03

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1122 X
(Translation)

Radial Fan type K3G500-AP25-9* and K3G500-AP25-X*

Rated values and technical data

On the basis of the test report IB-14-3-094/1 of 26 May 2015 the following specifications result:

The details are valid under the prerequisite that the Radial Fans of this type differ only insignificantly from the tested sample concerning the electrical and thermal design.

- | | |
|------------------------------------|---|
| - Motor type: | M3G150-FF25-9* |
| - Nominal voltage range: | 380 V up to 440 V |
| - Nominal frequency: | 50/60 Hz |
| - Speed: | 1,780 rpm |
| - Power input: | 2.97 kW |
| - Nominal current: | 4.5 A |
| - Thermal class: | F |
| - Operation mode: | S1 |
| - Temperature limiter/s: | 3 x PTC 130 °C |
| - Ambient temperature range: | -25 °C up to +50 °C (standard)
-40 °C up to +55 °C (special version) |
| - Impeller size: | 500 |
| - Outlet width of impeller: | 150 mm |
| - Motor stack length: | 55 mm |
| - Air flow at maximum input power: | 8,155 m ³ /h at 800 Pa |
| - Air flow at free air: | 12,830 m ³ /h at 0 Pa |
| - Maximum static back pressure: | 1,170 Pa |

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Freiberg, 26 May 2015

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Continuation Sheet 04

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1122 X
(Translation)

Radial Fan type K3G560-AP23-9* and K3G560-AP23-X*

Rated values and technical data

On the basis of the test report IB-14-3-094/1 of 26 May 2015 the following specifications result:

The details are valid under the prerequisite that the Radial Fans of this type differ only insignificantly from the tested sample concerning the electrical and thermal design.

- | | |
|------------------------------------|---|
| - Motor type: | M3G150-IF23-9* |
| - Nominal voltage range: | 380 V up to 440 V |
| - Nominal frequency: | 50/60 Hz |
| - Speed: | 1,500 rpm |
| - Power input: | 2.94 kW |
| - Nominal current: | 4.5 A |
| - Thermal class: | F |
| - Operation mode: | S1 |
| - Temperature limiter/s: | 3 x PTC 130 °C |
| - Ambient temperature range: | -25 °C up to +50 °C (standard)
-40 °C up to +55 °C (special version) |
| - Impeller size: | 560 |
| - Outlet width of impeller: | 160 mm |
| - Motor stack length: | 85 mm |
| - Air flow at maximum input power: | 9,280 m ³ /h at 700 Pa |
| - Air flow at free air: | 14,545 m ³ /h at 0 Pa |
| - Maximum static back pressure: | 1,030 Pa |

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Continuation Sheet 01

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1122 X
(Translation)

Radial Fan type K3G400-AQ23-9* and K3G400-AQ23-X*

Rated values and technical data

On the basis of the test report IB-14-3-094/1 of 26 May 2015 the following specifications result:

The details are valid under the prerequisite that the Radial Fans of this type differ only insignificantly from the tested sample concerning the electrical and thermal design.

- Motor type: M3G150-FF23-9*
- Nominal voltage range: 380 V up to 440 V
- Nominal frequency: 50/60 Hz
- Speed: 2,550 rpm
- Power input: 3.10 kW
- Nominal current: 4.7 A
- Thermal class: F
- Operation mode: S1
- Temperature limiter: 3 x PTC 130 °C
- Ambient temperature range: -25 °C up to +50 °C (standard)
-40 °C up to +55 °C (special version)

- Impeller size: 400
- Outlet width of impeller: 125 mm
- Motor stack length: 55 mm
- Air flow at maximum input power: 6,085 m³/h at 1,100 Pa
- Air flow at free air: 9,390 m³/h at 0 Pa
- Maximum static back pressure: 1,500 Pa

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Continuation Sheet 02

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1122 X
(Translation)

Radial Fan type K3G450-AQ24-9* and K3G450-AQ24-X*

Rated values and technical data

On the basis of the test report IB-14-3-094/1 of 26 May 2015 the following specifications result:

The details are valid under the prerequisite that the Radial Fans of this type differ only insignificantly from the tested sample concerning the electrical and thermal design.

- | | |
|------------------------------------|---|
| - Motor type: | M3G150-FF24-9* |
| - Nominal voltage range: | 380 V up to 440 V |
| - Nominal frequency: | 50/60 Hz |
| - Speed: | 2,040 rpm |
| - Power input: | 2.95 kW |
| - Nominal current: | 4.5 A |
| - Thermal class: | F |
| - Operation mode: | S1 |
| - Temperature limiter/s: | 3 x PTC 130 °C |
| - Ambient temperature range: | -25 °C up to +50 °C (standard)
-40 °C up to +55 °C (special version) |
| - Impeller size: | 450 |
| - Outlet width of impeller: | 140 mm |
| - Motor stack length: | 55 mm |
| - Air flow at maximum input power: | 6,755 m ³ /h at 950 Pa |
| - Air flow at free air: | 10,955 m ³ /h at 0 Pa |
| - Maximum static back pressure: | 1,200 Pa |

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Continuation Sheet 05

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1122 X
(Translation)

Radial Fan type K3G630-AP01-9* and K3G630-AP01-X*

Rated values and technical data

On the basis of the test report IB-14-3-094/1 of 26 May 2015 the following specifications result:

The details are valid under the prerequisite that the Radial Fans of this type differ only insignificantly from the tested sample concerning the electrical and thermal design.

- | | |
|------------------------------------|---|
| - Motor type: | M3G150-NA01-9* |
| - Nominal voltage range: | 380 V up to 440 V |
| - Nominal frequency: | 50/60 Hz |
| - Speed: | 1,130 rpm |
| - Power input: | 2.97 kW |
| - Nominal current: | 4.6 A |
| - Thermal class: | F |
| - Operation mode: | S1 |
| - Temperature limiter/s: | 3 x PTC 130 °C |
| - Ambient temperature range: | -25 °C up to +50 °C (standard)
-40 °C up to +55 °C (special version) |
| - Impeller size: | 630 |
| - Outlet width of impeller: | 224 mm |
| - Motor stack length: | 120 mm |
| - Air flow at maximum input power: | 11,540 m ³ /h at 600 Pa |
| - Air flow at free air: | 18,240 m ³ /h at 0 Pa |
| - Maximum static back pressure: | 730 Pa |

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