

[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: **IBExU14ATEX1123 X**

[4] Equipment: **Axial Fan**
type W3G***-****-9* and W3G***-****-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-14-3-095 of 23 April 2015.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012, 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
-55 °C resp. -40 °C ≤ T_a ≤ +60 °C

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(Dr. Wagner)



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Freiberg, 23 April 2015

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Annex

[13] **Annex**

[14] **to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1123 X**

[15] **Description of the component**

The Axial Fan type W3G***-****-9* and W3G***-****-X* is used for handling gaseous media and it is built in in a wall ring by means of support bracket or guard grille. It consists of the explosion proof motor type 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 medium to be handled.

Technical data:

- Nominal voltage range: 380 V up to 440 V
- Motor stack length: 85 mm and 120 mm
- Power input: max. 3.2 kW
- Air flow: max. 40 000 m³/h
- Back pressure: max. 400 Pa
- Nominal frequency: 50/60 Hz
- Nominal speed: max. 1700 min⁻¹
- Mode of operation: S1
- Ambient temperature range: -55 °C resp. -40 °C up to +60 °C
- Heating device (optional): PTC 24 V
- 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 ratings 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-14-3-095 of 23 April 2015.
The test and information documents are part of the test report and listed there.

Summary of the test results

The Axial Fan type W3G***-****-9* and W3G***-****-X* meets 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 have to be suitable for a continuous operating temperature from -55 °C to +80 °C.
- With ambient temperatures below -20 °C, the connection cables must be suitable for such operating temperature.
- The heating element may only be kept switched on with ambient temperatures below 30 °C.

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

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

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(Dr. Wagner)

Freiberg, 23 April 2015

Continuation Sheet 01

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1123 X
(Translation)

Axial Fan type W3G630-GU23-9* and W3G630-GU23-X*

Rated values and technical data

On the basis of the test report IB-14-3-095/1 of 23 April 2015 the following specifications result:

The details are valid under the prerequisite that the Axial 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: 1510 min⁻¹
- Power input: 3.13 kW
- Nominal current: 4.8 A
- Thermal class: F
- Operation mode: S1
- Ambient temperature range: -40 °C up to +60 °C without heating device
-55 °C up to +60 °C with heating device
- Temperature limiter: 3 x PTC 130 °C

- Impeller diameter: Ø 630 mm
- Stack length motor: 85 mm
- Air flow at maximum back pressure: 13 400 m³/h at 290 Pa
- Air flow, running at free air: 19 935 m³/h at 0 Pa
- Blade angle: 0°
- Heating device (optional): depending to the ambient temperature, see above

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Continuation Sheet 02

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1123 X
(Translation)

Axial Fan type W3G710-GU21-9* and W3G710-GU21-X*

Rated values and technical data

On the basis of the test report IB-14-3-095/1 of 23 April 2015 the following specifications result:

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

- Motor type: M3G150-IF21-9*
- Nominal voltage range: 380 V up to 440 V
- Nominal frequency: 50/60 Hz
- Speed: 1250 min⁻¹
- Power input: 2.81 kW
- Nominal current: 4.2 A
- Thermal class: F
- Operation mode: S1
- Ambient temperature range: -40 °C up to +60 °C without heating device
-55 °C up to +60 °C with heating device
- Temperature limiter: 3 x PTC 130 °C

- Impeller diameter: Ø 710 mm
- Stack length motor: 85 mm
- Air flow at maximum back pressure: 16 030 m³/h at 240 Pa
- Air flow, running at free air: 23 505 m³/h at 0 Pa
- Blade angle: 0°
- Heating device (optional): depending to the ambient temperature, see above

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Continuation Sheet 03

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1123 X
(Translation)

Axial Fan type W3G800-GV01-9* and W3G800-GV01-X*

Rated values and technical data

On the basis of the test report IB-14-3-095/1 of 23 April 2015 the following specifications result:

The details are valid under the prerequisite that the Axial 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 bis 440 V
- Nominal frequency: 50/60 Hz
- Speed: 1090 min⁻¹
- Power input: 2.75 kW
- Nominal current: 4.2 A
- Thermal class: F
- Operation mode: S1
- Ambient temperature range: -40 °C up to +60 °C without heating device
-55 °C up to +60 °C with heating device
- Temperature limiter: 3 x PTC 130 °C
- Impeller diameter: Ø 800 mm
- Stack length motor: 120 mm
- Air flow at maximum back pressure: 16 140 m³/h at 250 Pa
- Air flow, running at free air: 26 915 m³/h at 0 Pa
- Blade angle: 0°
- Heating device (optional): depending to the ambient temperature, see above

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Continuation Sheet 04

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1123 X
(Translation)

Axial Fan type W3G910-GV02-9* and W3G910-GV02-X*

Rated values and technical data

On the basis of the test report IB-14-3-095/1 of 23 April 2015 the following specifications result:

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

- Motor type: M3G150-NA02-9*
- Nominal voltage range: 380 V up to 440 V
- Nominal frequency: 50/60 Hz
- Speed: 1.000 min⁻¹
- Power input: 2.76 kW
- Nominal current: 4.2 A
- Thermal class: F
- Operation mode: S1
- Ambient temperature range: -40 °C up to +60 °C without heating device
-55 °C up to +60 °C with heating device
- Temperature limiter: 3 x PTC 130 °C
- Impeller diameter: Ø 910 mm
- Stack length motor: 120 mm
- Air flow at maximum back pressure: 23 295 m³/h at 190 Pa
- Air flow, running at free air: 33 605 m³/h at 0 Pa
- Blade angle: 0°
- Heating device (optional): depending to the ambient temperature, see above

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Continuation Sheet 05

to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEX1123 X
(Translation)

Axial Fan type W3G990-GZ02-9* and W3G990-GZ02-X*

Rated values and technical data

On the basis of the test report IB-14-3-095/1 of 23 April 2015 the following specifications result:

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

- Motor type: M3G150-NA02-9*
- Nominal voltage range: 380 V bis 440 V
- Nominal frequency: 50/60 Hz
- Speed: 960 min⁻¹
- Power input: 2.45 kW
- Nominal current: 3.7 A
- Thermal class: F
- Operation mode: S1
- Ambient temperature range: -40 °C up to +60 °C without heating device
-55 °C up to +60 °C with heating device
- Temperature limiter: 3 x PTC 130 °C

- Impeller diameter: Ø 990 mm
- Stack length motor: 120 mm
- Air flow at maximum back pressure: 23 470 m³/h at 180 Pa
- Air flow, running at free air: 34 220 m³/h at 0 Pa
- Blade angle: -5°
- Heating device (optional): depending to the ambient temperature, see above

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