



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx EPS 19.0019X

Issue No: 0

Certificate history:

Issue No. 0 (2019-09-13)

Status: **Current**

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Date of Issue: **2019-09-13**

Applicant: **Maico Elektroapparate-Fabrik GmbH**
Steinbeisstraße 20
78056 Villingen-Schwenningen
Germany

Equipment: **Fans with asynchronous motors DZR series**

Optional accessory:

Type of Protection: **increased safety "e"; protection by enclosure "t", non-electrical equipment "h"**

Marking:

Ex eb IIB+H₂ T4/T3 Gb

Ex h IIB+H₂ T4/T3 Gb

Ex tb IIIB T135°C/T200°C Db IP64

Ex h IIIB T135°C/T200°C Db

Approved for issue on behalf of the IECEx
Certification Body:

Holger Schaffer

Position:

Manager certification

Signature:
(for printed version)

Date:

2019-09-13



1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany





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Date of Issue: **2019-09-13** Page 2 of 4
Manufacturer: **Malco Elektroapparate-Fabrik GmbH**
Steinbeisstraße 20
78056 Villingen-Schwenningen
Germany

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2017 Edition:5.1	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
ISO 80079-36 : 2016 Edition:1.0	Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
ISO 80079-37 : 2016 Edition:1.0	Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[DE/EPS/ExTR19.0018/00](#)

Quality Assessment Report:

[DE/PTZ/QAR18.0003/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The fan is used for ventilation of commercially used rooms (dyeing room, battery room, commercial space, production facility, etc.) with a potentially explosive atmosphere.

The motor is a three-strand asynchronous motor with squirrel cage rotor with star connection.

Electrical Data:

See user manual.

Model code:

See annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The fan shall be operated with the rated voltage as indicated on the name plate.

The fan shall only be operated during free intake or blow-out, if the impeller is protected against contact in accordance with ISO 13857. Use the safety guard SGM...Ex.

Speed control is not allowed.

Use ELM-Ex, ELA-Ex, REM-Ex elastic sleeves to avoid vibration transmission to the pipe system.

Use fan only with additional and suitable motor circuit breaker.

Never run several fans in parallel on a single thermistor triggering system.

Make sure there is sufficient air gap between impeller and housing.

Operate the fan only within the permissible ambient and operating conditions and operating temperature.

Provide a free air inlet or outlet with a protection device according to IEC 60529. A Double-sided protection is mandatory. The device and pipelines must be secured against the ingress of foreign objects.

Ensure a sufficient air flow supply. Operate the fan in the permitted air flow range.

Operation with frequency converter is not permitted.

Do not put any objects in the device.

Ensure degree of protection by proper insertion of the cables into the terminal box.

The assembly and installation must meet the requirements of IEC 60079-14.

The no-load operation don't have practical meaning, because of the engine shall be operated only in the fan as intended.



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The allowed voltages are according to the manual.

Only motor circuit breaker with a type examination certificate in accordance with IECEx and a marking in accordance with IECEx (Gb/Db) are permitted or compatible requirements acc. the IECEx-Scheme. The motor circuit breacer must be set to the rated motor current (not I_{max}).

Annex

[Attachment to IECEx certificate IECEx EPS 19.0019X.pdf](#)

Applicant: Maico Elektroapparate-Fabrik GmbH
 Steinbeisstraße 20
 78056 Villingen-Schwenningen
 Germany

Electrical Apparatus: AC Rotating Machinery DZR Series

Type code for EZ-/DZ-Fans

Designation e.g.: DZQ 35/4 Ex e

D/E	Z	Q/R/S/D	35	/	4	Ex e
1	2	3	4		5	6

No	Designation	Meaning
1	D	Three-phase AC
	E	Single-phase AC
2	Z	„Zephir“ impeller
3	D	Roof fan
	R	Duct sleeve
	S	Steel wall ring
	Q	Square wall plate
4	35	Nominal Diameter of the nozzle in cm (20, 25, 30, 35, 40, 45, 50, 60)
5	4	Number of poles of the motor (2-6)
6	Ex e	Explosion proof