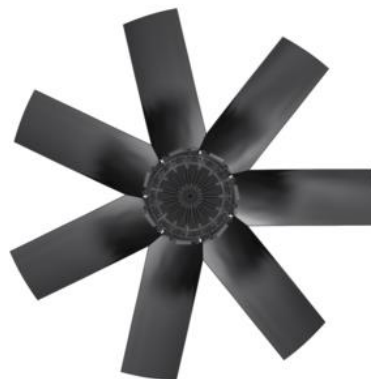


Movement by Perfection



The Royal League in ventilation, control and drive technology



[Product documentation](#)

Type
[FC091-SDS.7Q.V7](#)

Article number
[209589](#)

Product documentation

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FC091-SDS.7Q.V7

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209589

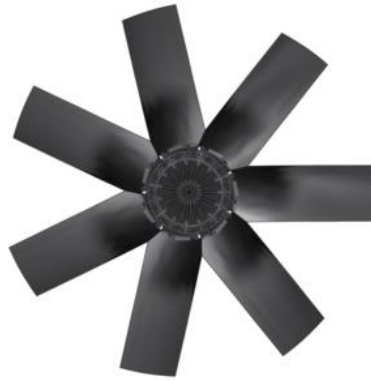


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1. Recitals

The Product Specifications contained in this document are final, unless otherwise stated by a separate provision in the "ZIEHL-ABEGG deviation list document" with respect to information provided by the customer (cp. separate Chapter: Attachment).

Other regulations between the parties, regardless of time, form or content, are not part of the subject matter of the contract and the agreement on characteristics/of features (Product Specifications) between the parties.

Compliance with the following specifications is mandatory to ensure the functionality and safety of the product. If the following specifications given especially but not limited for operating conditions, transport, storage, mounting, start-up, maintenance and repair are not observed, the product may not operate safely and may cause a hazard to the life and limb of users and third parties.

Deviations from the following requirements may therefore lead both to the loss of the statutory material defect liability rights and to the liability of the buyer for the product that has become unsafe due to the deviation from the specifications.

2. Product Specification - Technical Data

Article number	209589
Type	FC091-SDS.7Q.V7
Rated values	3~400V D/Y 50Hz P(1) 3.60/2.50kW 7.2/4.3A $\Delta I=5\%$ 890/700/min COSY 0,72 60°C
Electrical connection	Terminal box K07
ErP Data	Measurement category ErP: A Air flow q(v) on Eta opt: 25531 m3/h Pressure increase p(fs) on Eta opt: 193 Pa Input power P(1) on Eta opt: 3600 W Efficiency $\eta(\text{statA})$: 38.3 % Efficiency grade: N(actual) = 41.2 / N(target) = 40* *ErP 2015
Type Of Protection	IP54
Heat Class	THCL155
Mounting Type Terminal Box	Mounted on Stator
Connection Diagram	1360-108XA
Rating Plate	1x fixed
Fitting Position	H/Vu/Vo
Motor Protection	thermal contact
Impregnation	Moisture and hot climate protection
Condensation Drain Holes	Condensation drain holes stator/rotor open
Bearing Quality	ball bearing with long-time lubrication
Material Rotor	Aluminium
Painting Rotor	Rotor 1 coat paint resistance class 1 (L-TI-0596)
Colour Rotor	RAL 9005 (jet black)
Painting Stator	Stator 1 coat paint resistance class 1 (L-TI-0596)
Colour Stator	RAL 9005 (jet black)
Material Blades	Aluminium
Painting Impeller	Blades 1 coat paint resistance class 1 (L-TI-0596)
Colour Impeller	RAL 9005 (jet black)
Engine Suspension Paint	Motor suspension 1 coat paint resistance class 1 (L-TI-0596)
Colour Suspension	RAL 9005 (jet black)
Operating Manual	L-BAL-001
Weight	53.05 kg
Min. Operating Temperature °C	-40__UNICODE__00B0C***
Disclaimer Ct20/Doe	This product is currently not tested for compliance with U.S. DOE and CT20 regulations. The Purchase constitutes

<div class="CB_AF_Fu__UNICODE__00DFnote">*** Operation mode:</div><div class="CB_AF_Fu__UNICODE__00DFnote-eingerueckt">Continuous operation with occasional starts (S1) according to DIN EN 60034-1:2011-02.
Occasional starting between __UNICODE__00A0-40 __UNICODE__00B0C __UNICODE__00A0and -25 __UNICODE__00B0C is permissible. Continuous operation below -25 __UNICODE__00B0C only with special bearings for refrigeration applications on request.</div>

3. Product Specification – Applicable Technical Standards

Environmental Conditions:

EN 60721-3-4: 1995 „Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 4: Stationary use at non-weatherprotected locations” (IEC 104/799/CDV:2018)

Climatic environmental conditions: class 4K2

Biological environmental conditions: 4B1

Chemical active substances: 4C1

Mechanical active substances: 4S1

Mechanical environmental conditions: 4M1

Corrosion protection:

Powder coating thickness

The total thickness of the standard powder coating as an average value of 10 measurements, distributed evenly over the whole part must be between at least 80 and 160 µm (or 260 µm with double powder coating) and may not drop below 60 µm at any measuring point. A total coating thickness of 160 µm (or 260 µm with double powder coating) must not be exceeded.

The total thickness of a coating may not, however, be used as a measure of corrosion protection. The corrosion protection of a coated part is composed of the pretreatment (e.g. zinc phosphatising), the type of powder (e.g. mixed powder), the coating (single or dual layer), the material (bright / galvanised steel) and the correct execution of the powder coating (cleaning/degreasing of the part)..

Properties of the powder coating

The ZIEHL-ABEGG standard powder coating uses a polyester-epoxy mixed powder.

Due to the polyester component in the mixed powder a medium UV resistance is given.

Generally the functional surfaces of all parts with threads, nuts and bolts or predefined functional surfaces are uncoated to ensure the smooth running of the thread or the function (for example the grounding of the part).

Classification powder-coated components according to L-TI-0585

Resistance class	Exposure time of the salt spray test acc. to ISO 9227	Evaluation	Maximum premissible degree of damage
RC 1	336 h	Degree of blistering DIN EN ISO 4628-2 Degree of rusting DIN EN ISO 4628-3 Release of bonding DIN EN ISO 4628-8 Mesh cut DIN EN ISO 2409 Edge rust	m0 / g0 Ri0 0 Gt0 none
RC 2	504 h	Degree of blistering DIN EN ISO 4628-2 Degree of rusting DIN EN ISO 4628-3 Release of bonding DIN EN ISO 4628-8 Mesh cut DIN EN ISO 2409 Edge rust	m0 / g0 Ri1 1 Gt0 none
RC 3	750 h	Degree of blistering DIN EN ISO 4628-2 Degree of rusting DIN EN ISO 4628-3 Release of bonding DIN EN ISO 4628-8 Mesh cut DIN EN ISO 2409 Edge rust	m1 / g1 Ri1 2 Gt1 slight
RC 4	1000 h	Degree of blistering DIN EN ISO 4628-2 Degree of rusting DIN EN ISO 4628-3 Release of bonding DIN EN ISO 4628-8 Mesh cut DIN EN ISO 2409 Edge rust	m2 / g2 Ri2 3 Gt2 slight
RC 5	2000 h	Degree of blistering DIN EN ISO 4628-2 Degree of rusting DIN EN ISO 4628-3 Release of bonding DIN EN ISO 4628-8 Mesh cut DIN EN ISO 2409 Edge rust	m2 / g2 Ri2 3 Gt2 slight

ZA uses various powder coating systems from different manufacturers qualified by ZA to meet the above-mentioned resistance classes with their corrosion protection requirements.

Painting thickness

Depending on the component or the design of the components, there may be deviations in the minimum coating thickness or flaws. As a general rule, however, the total coating thickness should not fall below 20 µm at any point.

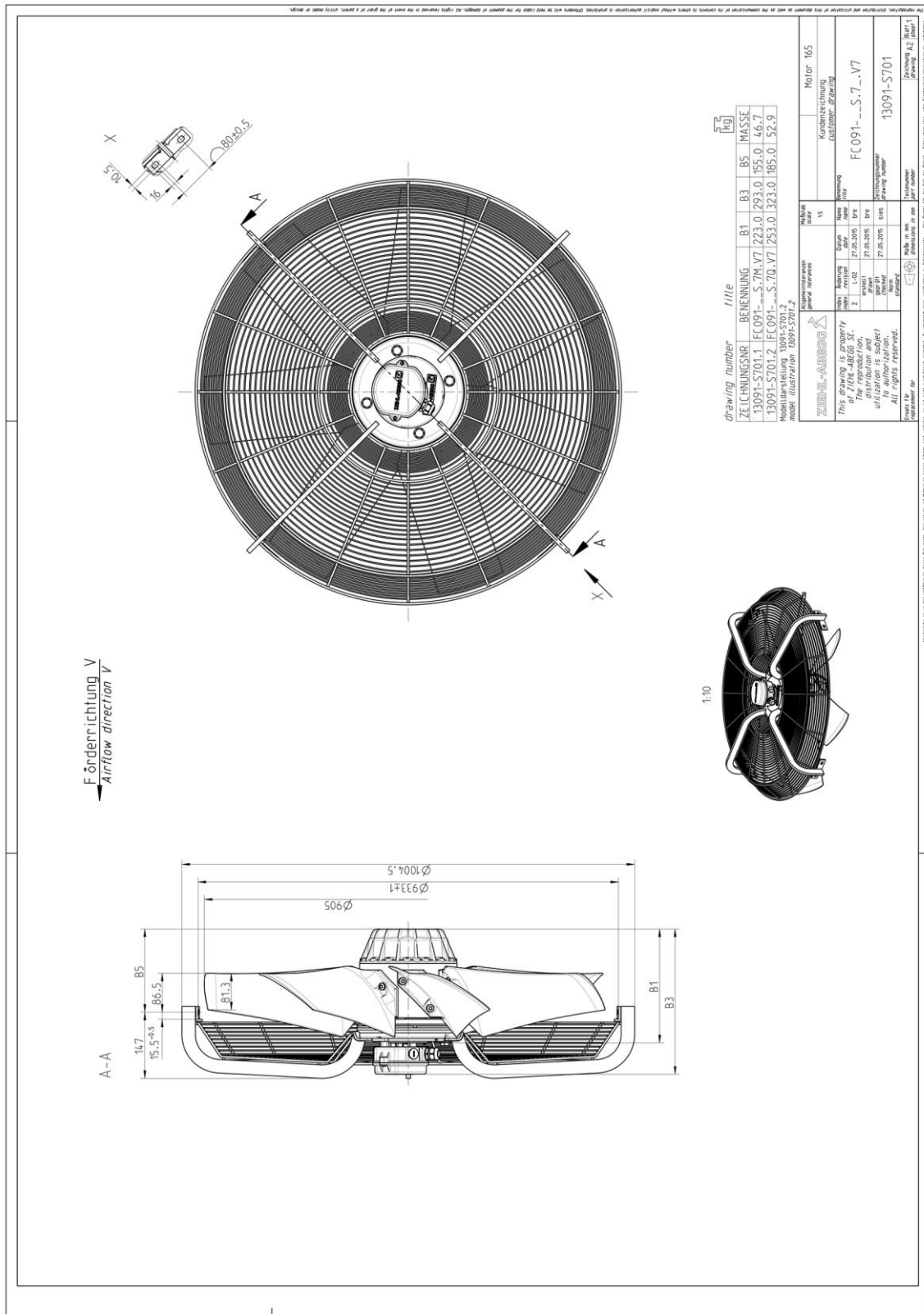
The total coating thickness of the standard wet painting as an average value of 10 measurements distributed evenly over the whole component must be between the values specified in the following table.

However, the total coating thickness of wet painting may not be used as a measure of corrosion protection.

The corrosion protection of a coated component is made up of the pretreatment (e.g. FEph) of the paint type/paint quality, the coating (one or two coat), the material (bright/galvanized steel) and the correct application of the wet painting (cleaning/degreasing of the component).

Classification wet painted components according to L-TI-0596e

Resistance class	Exposure time of the salt spray test acc. to ISO 9227	Evaluation	Maximum premissible degree of damage
RC 1	336 h	Degree of blistering DIN EN ISO 4628-2 Degree of rusting DIN EN ISO 4628-3 Release of bonding DIN EN ISO 4628-8 Mesh cut DIN EN ISO 2409 Edge rust	0 (S0) Ri0-1 0 Gt0-1 none
RC 2	504 h	Degree of blistering DIN EN ISO 4628-2 Degree of rusting DIN EN ISO 4628-3 Release of bonding DIN EN ISO 4628-8 Mesh cut DIN EN ISO 2409 Edge rust	0 (S0) Ri0-1 1-2 Gt0-1 none
RC 3	750 h	Degree of blistering DIN EN ISO 4628-2 Degree of rusting DIN EN ISO 4628-3 Release of bonding DIN EN ISO 4628-8 Mesh cut DIN EN ISO 2409 Edge rust	1 (S1) Ri1 1-2 Gt0-1 slight
RC 4	1000 h	Degree of blistering DIN EN ISO 4628-2 Degree of rusting DIN EN ISO 4628-3 Release of bonding DIN EN ISO 4628-8 Mesh cut DIN EN ISO 2409 Edge rust	2 (S2) Ri1 2 Gt2 slight



The illustrations shown make no claim to completeness and are for orientation purposes only.

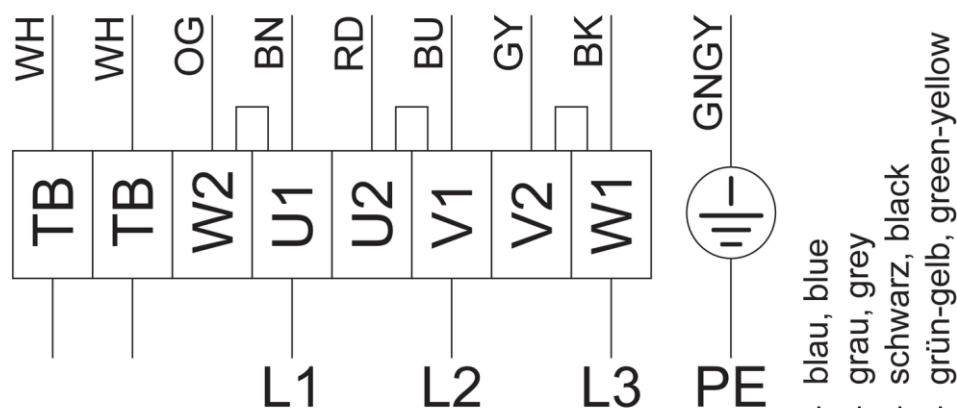
5. Connection Diagram

3~ Motor mit 2 Drehzahlen (Δ /Y-Umschaltung) und Thermostatschalter (falls eingebaut). Ohne Brücke bei Verwendung von Drehzahlumschalter.

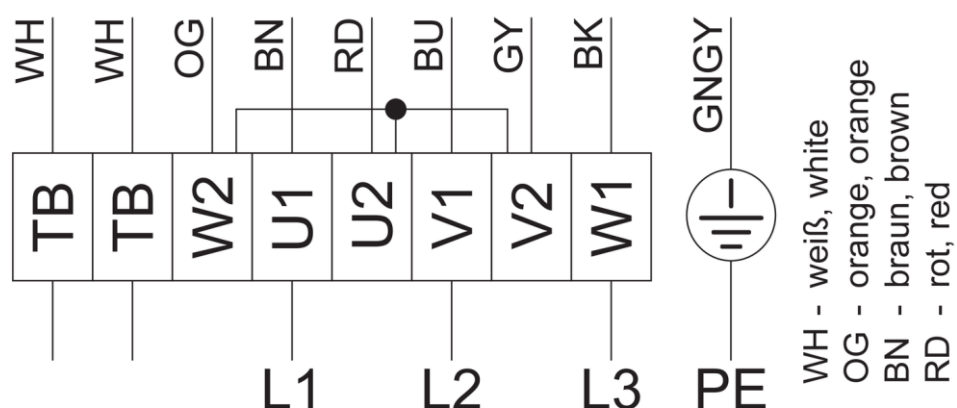
3~ motor, 2 speeds (Δ /Y switch over) with thermostatic switch (if built in). Without bridge when using speed change-over switch.

Hohe Drehzahl / Δ -Schaltung
High speed / Δ -connection

108XA-05



Niedere Drehzahl / Y-Schaltung
Low speed / Y-connection



6. EU-Declaration of Conformity

EU declaration of conformity

- Translation -
(english)

ZA75-GB 2022/47 Index 019

Manufacturer: ZIEHL-ABEGG SE
Heinz-Ziehl-Straße
74653 Künzelsau
Germany

The manufacturer is solely responsible for issuance of the declaration of conformity.

The products:

- External rotor motor MK..., MW...
- Axial fan DN..., FA..., FB..., FC..., FE..., FF..., FG..., FH..., FL..., FN..., FP..., FS..., FT..., FV..., VN..., VR..., ZC..., ZF..., ZG..., ZN...
- Centrifugal fan ER..., GR..., HR..., RA..., RD..., RE..., RF..., RG..., RH..., RK..., RM..., RR..., RZ..., WR...
- Cross-flow fan QG..., QK..., QR..., QT...

Motor type:

- Asynchronous internal or external rotor motor
- Asynchronous internal or external rotor motor with integrated frequency inverter
- Electronically commutated internal or external rotor motor
- Electronically commutated internal or external rotor motor (also with integrated EC controller)

The above mentioned products of this declaration fulfil all relevant provisions of the following Directives of the Union:

- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- ErP Directive 2009/125/EC, in conjunction with Regulation (EU) no. 327/2011

The following harmonized standards have been applied:

- EN 60034-1:2010 + AC:2010
- EN 60204-1:2018
- EN 60529:1991 + A1:2000 + A2:2013 + AC:1993 + AC:2016 + AC:2019
- EN IEC 61000-6-2:2019
- EN IEC 61000-6-3:2021

Compliance with the ErP Directive 2009/125/EC does not refer to external rotor motors MK..., MW...

All ErP-relevant information comprises measurements which are determined using a standardised measurement set-up. More details can be obtained from the manufacturer.

Compliance with the EMC Directive 2014/30/EU refers only to those products when they are connected by mounting / operating instructions. If these products are integrated into a system or supplemented with other components (e.g. sensing controls) and operated, the manufacturer or operator is responsible of the overall system for compliance with the EMC Directive 2014/30/EU.

Künzelsau, 24.11.2022
(Location, date of issue)

ZIEHL-ABEGG SE
Moritz Krämer
Director Product Development
Ventilation Technology
(name, function)



(signature)

ZIEHL-ABEGG SE
Ralf Oesselke
Director Projects & Series Development
Ventilation Technology
(name, function)



(signature)

ZIEHL-ABEGG 

EC Declaration of Incorporation

- Translation -
(english)

as defined by the EC Machinery Directive 2006/42/EC, Annex II B

ZA87-GB 2023/47 Index 013

The design of the partly completed machine:

- Axial fan DN..., FA..., FB..., FC..., FE..., FF..., FG..., FH..., FL..., FN..., FP..., FS..., FT..., FV..., SG..., VN..., VR..., ZC..., ZF..., ZG..., ZN...
- Centrifugal fan ER..., GR..., HR..., RA..., RD..., RE..., RF..., RG..., RH..., RK..., RM..., RR..., RZ..., WR...
- Cross-flow fan QD..., QG..., QK..., QR..., QT...

Motor type:

- Induction internal or external rotor motor (also with integrated frequency inverter)
- Electronically commutated internal or external rotor motor (also with integrated EC controller)

Complies with the requirements in Appendix I, Articles 1.1.2, 1.1.5, 1.4.1, 1.5.1 in EC Machinery Directive 2006/42/EC.

Manufacturer: ZIEHL-ABEGG SE
Heinz-Ziehl-Straße
D-74653 Künzelsau

The following harmonized standards have been applied:

EN 60204-1:2018	Safety of machinery – Electrical equipment of machines – Part 1: General requirements
EN ISO 12100:2010	Safety of machinery – General principles for design – Risk assessment and risk reduction
EN ISO 13857:2019	Safety of machinery – Safety distances to prevent hazard zones being reached by upper and lower limbs
Note:	Compliance with EN ISO 13857:2019 relates only to the installed contact protection if it is part of the scope of delivery.

The special technical documents in accordance with Appendix VII B have been created and are available in full.

The following persons are authorized to compile the technical documents, address see above.

Upon reasonable request, the special documents shall be transmitted to the public authority. The transfer can be made electronically, on data carriers or on paper. All property rights remain with the aforementioned manufacturer.

Start-up of this incomplete machine is prohibited until it is ensured that the machine in which it has been installed complies with the provisions of the EC Machinery Directive.

Künzelsau, 22.11.2023
(Location, date of issue)

ZIEHL-ABEGG SE
Moritz Krämer
Director Product Development
Ventilation Technology
(name, function)



(signature)

ZIEHL-ABEGG SE
Ralf Oesselke
Director Projects & Series Development
Ventilation Technology
(name, function)



(signature)

ZIEHL-ABEGG 

7. UKCA Declaration of Incorporation

UKCA Declaration of Conformity

- Original -
(english)

ZA75_UK-GB
2022/15 Index 002

Manufacturer: ZIEHL-ABEGG SE
Heinz-Ziehl-Straße
74653 Künzelsau
Germany

The manufacturer is solely responsible for issuance of the declaration of conformity.

The products:

- External rotor motor MK..., MW..
- Axial fan DN..., FA..., FB..., FC..., FE..., FF..., FG..., FH..., FL..., FN..., FP..., FS..., FT..., FV..., VN..., VR..., ZC..., ZF..., ZG..., ZN..
- Centrifugal fan ER..., GR..., HR..., RA..., RD..., RE..., RF..., RG..., RH..., RK..., RM..., RR..., RZ..., WR..
- Cross-flow fan QG..., QK..., QR..., QT..

The motor type:

- Asynchronous internal or external rotor motor
- Asynchronous internal or external rotor motor with integrated frequency inverter
- Electronically commutated internal or external rotor motor
- Electronically commutated internal or external rotor motor with integrated EC controller

These products comply with the following UK directives:

- Electromagnetic Compatibility Regulations 2016 No. 1091
- Electrical Equipment (Safety) Regulations 2016 No. 1101
- The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019 No. 539

The following harmonised standards have been used:

- EN 60034-1:2010 + AC:2010
- EN 60204-1:2018
- EN 60529:1991 + A1:2000 + A2:2013 + AC:1993 + AC:2016 + AC:2019
- EN IEC 61000-6-2:2019
- EN 61000-6-3:2007 + A1:2011 + AC:2012

Compliance with the Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019 does not refer to external rotor motors MK..., MW..

All ErP-relevant information comprises measurements which are determined using a standardised measurement set-up. More details can be obtained from the authorised representative.

Compliance with the Electromagnetic Compatibility Regulations 2016 refers only to those products when they are connected by mounting / operating instructions. If these products are integrated into a system or supplemented with other components (e.g. sensing controls) and operated, the manufacturer or operator is responsible of the overall system for compliance with the Electromagnetic Compatibility Regulations 2016.

Künzelsau, 14.04.2022
(location, date of issue)

ZIEHL-ABEGG SE
Tobias Gauss
Deputy Head of Technics Ventilation Technology
(name, function)



(signature)

ZIEHL-ABEGG SE
Moritz Krämer
Head of Electrical Systems
(name, function)



(signature)

ZIEHL-ABEGG 

UKCA Declaration of Incorporation

as defined by the Supply of Machinery (Safety) Regulations 2008
No. 1597, PART 2 / Annex II B

- Original -
(english)
ZA87_UK-GB
2022/17 Index 002

The design of the incomplete machine:

- Axial fan DN..., FA..., FB..., FC..., FE..., FF..., FG..., FH..., FL..., FN..., FP..., FS..., FT..., FV..., VN..., VR..., ZC..., ZF..., ZG..., ZN...
- Centrifugal fan ER..., GR..., HR..., RA..., RD..., RE..., RF..., RG..., RH..., RK..., RM..., RR..., RZ..., WR...
- Cross-flow fan QD..., QG..., QK..., QR..., QT...

The motor type:

- Asynchronous internal or external rotor motor (also with integrated frequency inverter)
- Electronically commutated internal or external rotor motor (also with integrated EC controller)

complies with the requirements in Annex I, Articles 1.1.2, 1.1.5, 1.4.1, 1.5.1 in Supply of Machinery (Safety) Regulations 2008 No. 1597.

The manufacturer is **ZIEHL-ABEGG SE**
Heinz-Ziehl-Straße
D-74653 Künzelsau

The following harmonised standards have been used:

EN 60204-1:2018	Safety of machinery; electrical equipment of machines; Part 1: General requirements
EN ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN ISO 13857:2019	Safety of machinery; safety distances to prevent danger zones being reached by the upper limbs
Note:	The maintenance of the EN ISO 13857:2019 relates only to the installed accidental contact protection, provided that it is part of the scope of delivery.

The specific technical documentation in accordance with Annex VII B has been written and is available in its entirety.

The following persons are authorized to compile the technical documents, address see above.

The specific documentation will be transmitted to the official authorities on justified request. The transmission can be electronic, on data carriers or on paper. All industrial property rights remain with the above-mentioned manufacturer.

It is prohibited to commission this incomplete machine until it has been secured that the machine into which it was incorporated complies with the stipulations of the Machinery (Safety) Regulations.

Künzelsau, 27.04.2022
(location, date of issue)

ZIEHL-ABEGG SE
Tobias Gauss
Deputy Head of Technics Ventilation Technology
(name, function)



(signature)

ZIEHL-ABEGG SE
Moritz Krämer
Head of Electrical Systems
(name, function)



(signature)

ZIEHL-ABEGG 



The Royal League in ventilation, **control** and drive technology

Intelligent control technology for any application

ZIEHL-ABEGG system capabilities:

Everything from a single source – perfectly matched for optimal performance

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[ZIEHL-ABEGG EVENTS](#)