

Centrifugal impeller without scroll / Plenum Fans

direct-driven, with IEC standard motor of protection type pressure-proof housing Ex de IIC T4 Gb or pressure-proof housing with terminal box for increased safety Ex de IIC T4 Gb for conveyance of zone 1 category 2G and zone 2 category 3G explosive atmospheres.



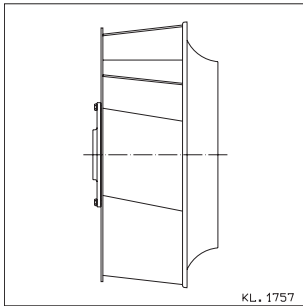
Contents

Chapter	Page
Application	1
Safety instructions.	2
Transport, storage.	3
Installing the impeller.	3
Electrical connection	4
Setting up the unit.	4
Operating conditions	5
Start-up	5
Repairs and maintenance	5
Cleaning	6
Manufacturer	6
Service address	6

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i Application

RH..C



- ZIEHL-ABEGG - Series **RH..C** free running centrifugal impeller, available in frame sizes **250 to 1000**, and the device series **ER..C** (Type designation see rating plate) in explosion-proof version **Ex II 2G c IIB T4 with IEC standard motor protection type Ex de IIC T4 Gb or Ex d IIC T4 Gb** are not ready-for-use products, but are designed as components for air-conditioning and ventilation plants. They may only then be operated when they are installed in accordance with their intended use and safety has been ensured through protective devices in accordance with DIN EN ISO 13857 / EN 60529 and the required structural explosion-protective measures in accordance with the EN 14986.
- The system constructor is responsible for the sealing of the system.
- Regarding the choice of materials, the fans fulfill the requirements of the EN14986 standard through special protective measures in the area of possible accidental contact between the rotating and stationary component parts (impeller). „Coated steel“ is used as the material for the rotating part (impeller shroud). The system constructor is responsible for the selection of the material for the

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直接驱动，带 IEC 标准电机，防护等级：隔爆型外壳 Ex de IIC T4 Gb，或带增安型接线盒 Ex de IIC T4 Gb 的隔爆型外壳，用于在 2G 类别 1 区和 3G 类别 2 区的可爆炸的气体环境中输送。

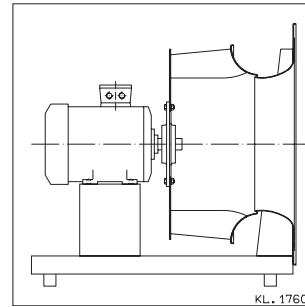


九赤 艇

章节	页
传瓊孔嚕	1
安全提示	1
储运	2
叶轮安装	2
电气连接	3
风机安装	3
操作条件	4
启用	4
维修和维护	4
清洁	5
制造商:	5
售后服务地址	5

i 俞用范围

ER..C



- 施乐百公司生产的结构尺寸从**250到1000**的**RH..C**系列无蜗壳离心风机叶轮以及**配备Ex de IIC T4 Gb或Ex d IIC T4 Gb的IEC标准电机的采用Ex II 2G c IIB T4防爆设计的ER..C系列风机 (型号见机器铭牌)**不仅是待用产品，也是专为空调、通风和排风设备设计的组件。只有在遵照相关规程进行安装、配备符合DIN EN ISO13857 / EN 60529的防护装置并且采取EN 14986规定的防爆措施以确保安全时，才能启动本公司制造的上述产品。
- 将由设备安装人员负责设备密封。
- 由于在转动与静止部件之间的接触界面采取了特殊防护措施（叶轮护罩/进风喷嘴），风机在材料选择方面满足EN14986标准所列要求。针对旋转部件（叶轮护罩）采用的是“涂层钢板”。对于固定的外围部件，如果并未配备施乐百公司的进风喷嘴，应由设备安装人员负责材料选择。仅将允许按照EN 14986进行材料组合。

stationary periphery parts when the impeller is purchased without ZIEHL-ABEGG inlet rings. Only mating materials in accordance with the EN14986 may be utilized.



Safety instructions

- The impellers are only intended for the conveyance of air or zone 1 category 2G and zone 2 category 3G explosive atmospheres. The conveyance of solid matter or solids content in the conveyance medium handled is not permitted.
- Only operate the fan according to the intended application, and only up to the **maximum permissible speed** given in the information on the fan/impeller rating plate. Exceeding the maximum permissible speed leads, as a result of the high kinetic energy (mass x rotation rate), to a hazardous situation. **The impeller can burst - lethal hazard!** The maximum permissible operating data given on the rating plate is valid at an air density $\rho = 1.2 \text{ kg/m}^3$.
- Impellers without housing/plug fans as well as the ER... device series may only then be operated with a frequency converter if a drive motor of the "**Ex de IIC or Ex d IIC pressure-proof housing**" ignition protection type is utilized.
- The data concerning the temperature class on the EX-rating plate (motor) must coincide with the temperature class of any possibly occurring combustible gasses.
- Mounting and electrical installation may only be carried out by trained specialized personnel who observe the **relevant regulations!**
- A protective motor switch must be connected before each motor. Please comply with the motor manufacturer's instructions.
- Winding monitoring through PTC thermistors for disconnection at the converter. A triggering device with the II (2) G mark is needed as a safeguard.
- In case of speed control through a frequency converter, it must be ensured that the max. permissible speed cannot be exceeded due to any frequency converter malfunction.
- When in operation with a frequency converter, no over-modulation is allowed. The fan wheel may burst – **danger to life!**
- With regard to speed regulation with frequency converters, the safety instructions and recommendations are to be maintained in accordance with the motor manufacturer's operating instructions. This also applies to motor installation, electrical connections, and servicing.
- Observe the installation and safety instructions applicable to the various fan designs. Non-observance or misuse can lead to bodily harm or damage to the fan and to the explosion of ignitable gas-air mixtures - **Danger of death**.
- Observe the notes in the motor manufacturer's operating instructions, which form part of the supply.
- If a fan is utilized as a free inlet or free discharge type, verify that the required clearance based on **DIN EN ISO 13857 / EN 60529** is maintained.
- The maintenance of the standard DIN EN ISO 13857 / EN 60529 relates only to the installed accidental contact protection, provided that it is part of the scope of delivery.
- Pay special attention that there is sufficiently dimensioned safety clearance on the inlet side, as clothes, limbs, or, in the case of large fans, even people can be sucked in due to the fan's suction power.
- If, due to the device or the system design, it cannot be excluded that large parts could be sucked into or fall into the impeller area - **danger of explosion of an ignitable gas-air atmosphere** - a suction-side guard grille is absolutely required.
- Blocking or braking the fan by, say, pushing objects into it is forbidden. This leads to heated surfaces and damage to the impeller.
- Residual risk due to inappropriate behavior, malfunction, or influence through acts of God during operation of the impeller cannot be completely excluded. The system planner or constructor must prevent the emergence of a hazardous situation through suitable safety measures in accordance with DIN EN ISO 13857 / EN 60529, e.g., through protective devices.
- These assembly instructions are part of the product and, as such, are to be kept accessible at all times.



安全提示

- 叶轮仅适用于输送空气或者2G类区域1和3G类区域2的存在爆炸危险的大气。不得输送固体物质或在输送介质中不得含有固体成分。
- 请务必根据其正确用途进行操作，且不得超过风机/叶轮铭牌上的**最大允许工作转速**，超过最大允许工作转速会产生很高的动能（质量乘以转速），从而造成危险。**吸尘器可能破裂—生命危险！**铭牌上所标注的允许最大运行数据适于 $\rho = 1.2 \text{ kg/m}^3$ 的空气密度环境。
- 只要配备有“**外壳防护等级为Ex de IIC或 Ex d IIC**”驱动电机，无蜗壳离心叶轮以及ER...系列的风机允许使用变频器。
- 在防爆试验标牌（电机）上的温度等级数据必须与可能出现可燃气体温度等级相符。
- 装配、电连接只能由经过培训专业人员完成，此外，这些人员还必须遵守**相关规范！**
- 每台电机必须串接一个电机保护开关。请遵守电机制造商的相关规定。
- 通过在变频器断路下的正温度系数半导体元件控制线圈。采用带有II(2)G标的触发器作为保护装置。
- 当采用变频器控制速度时，必须注意确保即使在变频器发生故障时也不超过最大允许转速。
- 在采用变频器进行工作时，不得进行过调制。否则可能发生叶轮爆裂，从而导致人员**面临生命危险！**
- 在采用变频器控制转速时，应该遵守电机制造商操作说明书列出的安全注意事项和相关建议。在进行电机安装、电气连接和维护时均遵照此项要求。
- 遵照不同结构型式风机的安装和安全注意事项。倘若不遵守这些规定或存在不当使用，可能导致人身伤害或风机损坏，甚至导致可燃气体发生爆炸 - **导致人员面临生命危险**。
- 请注意供货范围内马达生产商使用说明书中的注意事项。
- 如将风机用于室外抽气或排风，则应检查安全距离是否符合**DIN EN ISO 13857 / EN 60529**的相关规定。
- 遵守标准**DIN EN ISO 13857 / EN 60529**不单涉及安装的接触保护部件，而且包括作为交付项目的其它接触保护部件。
- 确保衣物，手臂等离吸风口有足够的安全距离，如果是较大尺寸的风机，整个人都有可能被吸入的危险。
- 倘若因设备或装置结构而不能排除较大物件被吸入或坠落到叶轮的作用范围内，- **可能导致可燃气体-大气爆炸** - 蜗壳蜗面强制加装防护栅栏。
- 禁止向风扇插入异物，阻止其旋转。这会导致叶轮表面发热或 损。
- 由于不正确使用，功能故障或不可预知力造成的风险是无法避免的。设备的规划人员或搭建人员必须根据**DIN60529**，**EN 13857**采取合适的措施（例如安装防护装置）确保防止危险情况的发生。
- 装配说明书是产品的组成部分，放到触手可及的地方妥善保存。



Transport, storage

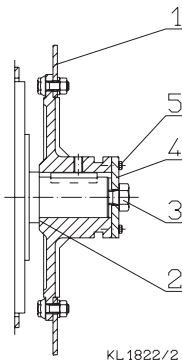
Wear safety shoes and gloves for handling!

- Centrifugal impellers and ER..C plug fans are generally delivered on Euro pallets and can be transported using lift trucks.
- When transporting using hoists/cranes:
 - RH..C design without motor:** Wrap an impeller blade using a sling band with a sufficient amount of ultimate load. Observe the weight data on the identification plate (back of the impeller base plate). Use only sling bands that are suitable for carrying sharp-edged loads.
 - ER..C design:** Fan unit may only be lifted and transported using a suitable hoisting device (load spreader). Ensure there is sufficient cable or chain length.
 - Caution: Arrange the lifting beam transverse to the motor axis. Ensure that the lifting beam is sufficiently wide. Chain or cable must not touch the fan impeller during lifting! Never stand under the swinging fan, since life can be at risk in the event of a defect in the transporter. Make sure that the weight information on the fan rating plate and the permissible loads of the transporter are always observed.**
- Avoid impacts and collisions, especially on fans set-up on devices.
- In the event of damage inform the carrying agent immediately.
- Store the fan in a dry, dust- and vibration-free environment.
- Avoid excessive storage times. Please refer to the manufacturer's motor information on this.



Installing the impeller

- Impellers with fixed hub**
 - The impeller is connected to the shaft end of the drive motor using a fixed hub.
 - Installation: Lightly lubricate all bare surfaces (shaft ends, hub holes). Pull the impeller with the hub (1) up to the shaft shoulder (5) (transitional fit). Secure with the hoisting device with corresponding weight. Secure the axial shaft-locking device using the screw (3) and washer (4). Maintain the torque in accordance with the table. The screw (3) is to be secured using a locking washer (e.g. square taper washer or contact washer). For motors starting from BG132 (shaft Ø 38), a special washer with screws (5) is to be attached as an additional safeguard in accordance with EN 14986 standard. Maintain the torque in accordance with the table.
 - Disassembly: Release the axial screw connection and pull off the impeller with the hub using a suitable pulling unit (secure with hoisting device at the corresponding weight). For motors starting from BG132, the additional axial shaft-locking device (5) must be released also.



SC 8.8	M4	M5	M6	M8	M10	M12
MA	2,8 Nm	5,5 Nm	9.5 Nm	23 Nm	46 Nm	79 Nm

- The following minimum gap must be maintained during compliance of materials mating: between the rotating and stationary parts (impeller shroud / inlet ring or pressure release nipple), the minimum gap (s) must not be smaller than 1 % of the relevant contact diameter, but must not be less than 2 mm.



搬运

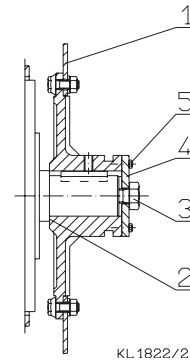
在搬运时请穿戴安全鞋和安全手套！

- ER..C 型离心叶轮或风机单元通常安装在欧标托盘上供货并可以通过台车运输。
- 在使用起重装置进行运输时：
 - 不带电机的RH..C结构型式：**吊装带应该具备足够的承载能力，可将转子叶片运输到需要的位置。注意在铭牌（叶轮底盘背面）上标明的重量。使用适合承载锐利边缘负载的吊装带。
 - ER..C：型风机单元**只能通过合适的举升工具（支撑横梁）举升并运输。请注意保持绳索和链条的足够长度。
 - 注意：**将支撑横梁相对电机轴横向安装。请注意保持支撑横梁的足够宽度。在举升时请勿让绳索或链条与风机叶轮触碰。切勿站立在摆动的风机下方，否则如运输工具失灵将产生生命危险。请务必注意风机铭牌上的重量标注信息以及运输工具的允许支撑负载。
- 避免击打和碰撞，特别风机安装到设备后。
- 如损坏请立即通知运输商。
- 请将风机置于干燥，无尘和无振动的环境下存放。
- 防止长时间的存放。请注意电机生产商的注意事项。



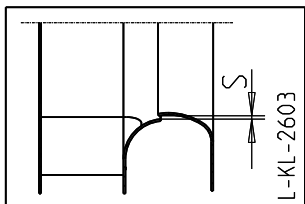
啮轮安装

- 带固定轮毂的叶轮**
 - 叶轮通过固定轮毂与驱动电机的轴端连接。
 - 安装: 为所有光亮表面 (轴端、轮毂孔) 轻轻涂上一层油脂。装带轮毂的叶轮 (1) 并使其贴紧轴肩 (2) (过渡配合)。根据标示重量对起重装置进行相应保护。通过螺栓 (3) 和垫片 (4) 实现转轴的轴向保护。遵守表中所示的转矩规定。螺栓 (3) 通过止动垫片 (例如: 齿式锁紧垫圈) 进行固定。对于截止 BG 132 (转轴直径 38) 的电机, 应按 EN 14986 安装一个特殊垫片与螺栓 (5) 以进行附加固定。遵守表中所示的转矩规定。
 - 拆卸: 松开轴向固定螺栓, 用适用的拉拔装置将带轮毂的叶轮拔下 (根据重量用起重装置进行保护。对于截止 BG 132 的电机必须拆下附加的轴向保护装置 (5))。



FK 8.8	M4	M5	M6	M8	M10	M12
MA	2.8 Nm	5.5 Nm	9.5 Nm	23 Nm	46 Nm	79 Nm

- 遵守材料组合规定的同时, 必须遵守保证以下最小间隙的相关规定: 转动部件与静止部件 (叶轮护罩/进风风嘴或测压螺纹管) 之间的最小间隙 (s) 不得小于决定性接触直径的 1%, 不得小于 2 mm。



- Up and downstream components or those that lie directly in the airflow must not have any unprotected aluminum or steel surfaces. A paint finish or plastic coating that at least fulfills the crosscut test parameter 2 in accordance with DIN EN ISO 2409 is required. The surface protection is to prevent the formation of rust or sedimentary deposition of red oxide or small rust particles, which in connection with aluminum and the emergence of particles with high airflow velocity lead to a chemical reaction (aluminothermal reaction) and thus to ignition of an explosive gas-air atmosphere.



Electrical connection

- May only be undertaken by technically trained personnel (DIN EN 50 110, IEC 364).
- Only use lines which can guarantee a permanent seal around the cable glands (pressure-resistant, dimensionally-stable, round-centred jacket; e.g. by means of gusset filling)!
- Connect fan only to electrical circuits that can be disconnected with an all-pole isolating switch.
- Ensure that attention is paid to the motor manufacturer's safety and commissioning information and the circuit diagrams in the motor terminal box.
- Before making the electrical motor connections, compare the connection specifications with the specifications on the motor identification plate.



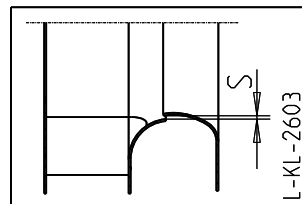
Setting up the unit

Wear safety shoes and gloves for handling!

- Observe the safety information!
- In order to avoid transmitting disturbing vibrations, it is recommended that a means of decoupling the structure borne noise of the complete built-in fan should be used. (Spring or attenuation components are not part of the standard supply). The allocation of the distance between the spring suspensions, depending on whether the fan is fitted with accessories or not, can be found on our homepage at www.ziehl-abegg.de in the Download section - Ventilation and Control Technology.
- Caution: All contact points must be fixed securely to the base. If the fixing is inadequate there is a risk of the fan overturning.**
- Ensure adequate clearance on suction and pressure sides.
- Erect in the open air only if this is expressly mentioned and confirmed in the ordering information. There is a risk of damage to the bearings if the fan remains stopped in a moist environment. Avoid corrosion by suitable protective measures. Roofing is required.
- Modifications/conversions to the fan undertaken by the operator are not permissible - safety hazard.
- If hazards from lightning strikes have been ascertained, the system must be protected through the use of suitable lightning protection measures.
- Systems must be sufficiently separated from transmitting installations or be protected through suitable shielding.
- ER fans may only be operated in installation position H (fan upright, motor shaft horizontal)!
- Dismantling and attaching components to the fan or impeller results in expiration of the warranty! Exception: the terminal-box cover may be opened so that technically trained qualified-persons (DIN EN 50110, IEC 364) can attach the connection cable. Suitable threaded cable-connections may be attached to the terminal box.

Accessories:

- Guard grills, spring suspensions, and fabric expansion joints can be ordered as accessories. During the installation or addition of these elements, the system constructor is responsible for grounding the accessory components.



- 前置或后置或者直接处于气流之中的部件，不得采用无保护层的铝制或钢制表面。表面应该施加满足DIN EN ISO 2409最低网格切割值2的涂料或塑料涂层。表面保护层应能防止生锈以及氧化铁或铁锈微粒发生沉积。沉积的微粒与铝和微粒在高速运行气流中接触将会产生化学反应（铝热反应），这会点燃具有爆炸危险的气体-大气。



气连接

- 只能由经过技术培训的专业人员 (DIN EN 50 110, IEC 364) 完成。
- 必须确保所使用的电缆在电缆接头中具有长久的密封性（压力下形状稳定、中心为圆形的护；例如通过电缆填料来实现）！
- 设备只能连接到通过全极分离开关可切断的电路。
- 请务必注意电机生产商的安全和调试注意事项，以及电机端子盒内的接线图。
- 在对马达进行接电前请核对接线信息与马达铭牌上的数据信息。



风机安装

在搬运时请穿戴安全鞋和安全手套！

- 请注意安全注意事项
- 为了避免运行振动的传递，推荐使用能隔断振动的减震装置（弹簧或振动衰减元件并不是标准配件）。弹簧减震垫间的放置距离，和有无其他附件有关，具体信息能在我们网页 www.ziehl-abegg.de 的通风和控制技术的下载部分能找到。
- 注意:所有支撑点必须与地基连接。如果固定措施不足将导致风机倾覆危险。**
- 确保吸风侧和压力侧有足够的空间。
- 只有在订购单内明确注明和确定的情况下才可露天搭建。在潮湿环境下，较长时间的停机可导致轴承损坏的危险。采取相应的防护措施以避免腐蚀。必需搭建遮篷。
- 不得对风机自行进行改装—安全风险。
- 如果发现雷击损坏，则必须采取合适的防雷击措施保护设备。
- 设备必须被置于与发射装置合适的安全距离处或通过合适的屏蔽措施保护。
- ER风机仅允许在H安装状态（风机竖立，电机轴水平）下进行工作！
- 私自拆除或增加风机或叶轮的部件后公司不負責任何保修，例外：由技术培训过的合格人员 (DIN EN 50110, IEC 364) 打开接线盒，并进行接线。采用相应螺纹的过线密封塞与接线盒连接。
- 警告:**
- 配件是指保护栅栏、弹簧减震器和纤维胀缩件。在进行安装或架装时，应由设备安装人员负责对配件进行接地保护。



Operating conditions

- Observe the motor manufacturer's instructions.
- Exceeding the max. permissible operating speed (fan / impeller rating plate) is not permissible; see safety instructions. The max. permissible operating speed applies to continuous operation S1. High switching frequencies are to be avoided. Start-up via Y/D connection. Do not operate the fan in the resonance range of the impeller - danger through fatigue fracture.
- When in operation with a frequency converter, no over-modulation is allowed. The fan wheel may burst – **danger to life!**
- A-rated sound power levels of over 80 dB(A) are possible, see product catalogue.



Start-up

- Before first-time start-up, check the following:
 - Account has been taken of the motor manufacturer's information?
 - Ensure that the motor protection is correctly set? Pole-changing motors need a separate switch for each number of poles. An excess-current switch with phase monitor must be provided for delta connections.
 - Installation and electrical connection have been properly completed?
 - All leftover installation materials and other foreign materials have been removed from the fan cavity.
- After installation, check the fan for mechanical oscillations. If the amount of fan oscillation is larger than 2.8 mm/s, (measured on the end plate of the impeller side of the motor bearing), the impeller must be examined by specialists and, if necessary, rebalanced.
- Commissioning may only take place if all safety instructions have been checked and danger can be excluded.
 - Check the current consumption! **If the current consumption is higher than that stated on the motor rating plate, the fan must be disconnected immediately.**
 - Check the direction of rotation (the rotation direction arrow is on the impeller base plate or on the fan housing)
 - Watch out for smooth, vibration free motion.



Repairs and maintenance

- The system constructor must enable easy access for cleaning and inspection work.
- **Wear safety shoes and gloves for handling!**
- Check the fan for mechanical oscillations in accordance with ISO 14694. Recommendation: every six months. The max. permissible vibration severity is 2.8 mm/s (measured on the end shield of the impeller side of the motor bearing or according to the special service agreement with the customer).
- Depending on the use and the medium in which it operates, the impeller and housing are subject to normal wear. Deposits on the impeller can lead to imbalance and hence to damage (risk of fatigue fracture)
 - The impeller can disintegrate - lethal hazard!
 - Observe the motor manufacturer's instructions concerning maintenance and service.
- Allow maintenance work to be carried out by trained specialists only.
- **For all repair and maintenance work:**
 - Observe the safety and labour regulations (DIN EN 50 110, IEC 364).
 - The fan impeller stopped!
 - Open the electrical circuit and secure against being switched back on.
 - When operating by means of frequency converter, ensure that the waiting time is maintained after safety disconnection - see manufacturer's operating instructions regarding capacitor discharge time.
 - Verify the absence of voltage.
 - No maintenance work at running fan!
 - Keep the airways of the fan free- danger because of objects dropping out!
 - Do not deform the blades - out-of balance!
 - Take note of abnormal operating noise!



攪作条件

- 请注意电机生产商的使用说明。
- 不允许超出最大许可工作转速（风机铭牌/叶轮铭牌），详见安全注意事项。最大许可工作转速适用于连续作业 S1。避免频繁关停。通过 Y/D 电路进行启动。风机不得在叶轮共振范围内运行 - 可能导致疲劳断裂。
- 在采用变频器进行工作时，不得进行过调制。否则可能发生叶轮爆裂，从而导致人员 **面临生命危险!**
- A 计权声功率级可大至 80dB(A)，详见产品目录。



啓用

- 首次启用前应确保：
 - 是否遵守了电机生产商调试注意事项？
 - 电机保护设置是够正确？需为可转换极性的电机的每个极点提供一个适用的开关。在采用三角形接法时，应该安装断相过载保护器。
 - 机械和电气安装是否按照专业方式正确完成？
 - 清除风机段中的安装剩余材料和其他异物。
- 在安装完毕后，应对风机进行机械振动检查。如果风机的振动强度大于 2.8 mm/s (在叶轮端的电机轴承盖上进行测量)，必须请专业人员检查叶轮，如有必要，进行校调。
- 检查完所有的安全注意事项，并在排除所有危险后方可进行调试。
 - 检查运行电流！**如果运行电流大于电机性能标牌上的值，则必须立即切断电源。**
 - 检查旋转方向（旋转方向箭头在叶轮背面或机架上）
 - 留意机组的振动情况。



网修和维护

- 设备制造商必须确保清洁和检验工作的便利。
- **在搬运时请穿戴安全鞋和安全手套!**
- 根据 ISO 14694 每 12 个月检查风机的机械振动情况一次。最大允许振动值为 2.8 mm/s (在叶轮侧电机轴承的轴承盖处测量，或根据客户约定的特殊要求测量)。
- 根据使用范围和传送介质的不同，叶轮和外壳将产生自然磨损。叶轮上的沉积物将造成叶轮不平衡并引起损坏（疲劳断裂危险）。
 - 叶轮可能破裂 — 生命危险!
 - 请注意电机生产商有关维修和维护的数据信息。
- 维修作业只能由经过专业培训的专业人员进行。
- **对于所有维修和维护作业而言：**
 - 遵守安全及工作规范 (DIN EN 50 110, IEC 364)。
 - 风机叶轮必须静止!
 - 在断开电路后的防重启保护。
 - 采用变频器运行时请注意维护时间 — 见生产商有关电容器放电时间的操作说明。
 - 确定无电操作。
 - 切勿在风机转动的情况下进行维护作业!
 - 请保持风机风路畅通 — 避免由于飞出物体造成的危险!
 - 防止叶片变形 — 不平衡!
 - 留意异常运行噪声!
- 不得打开或维修防爆结构的生产设备。同样不允许由客户或一般的维修专业人员更换轴承。
- 在叶轮拆卸和重新安装后，必须根据 DIN ISO 1940, T1 标准的规定对旋转单元重新进行平衡校准。
- 出现其它损坏（例如线圈损坏）时请与我们的维修部门联系。
- 请检查叶轮（特别是焊缝处）是否存在裂纹。
- ZIEHL-ABEGG Atex 风扇/电动机将会采用整体或部分的防静电导电涂料或涂层。重新对产品进行喷涂可能导致危险的静电，因而绝对不被允许。

- The equipment in explosion-proof version must neither be opened nor repaired. Bearing changes are also not permitted by the customer or normal service technician.
- After dismantling and reinstalling an impeller, the entire rotating unit must be rebalanced in accordance with DIN ISO 1940-1.
- Please contact our service department about any other damage (e.g. winding damage).
- Check the impeller, in particular the weld-seams, for possible cracks.
- ZIEHL-ABEGG Atex-fans / motors are completely or partly covered by antistatic painting or coating, which is able to derivate electric charges. A repaint may lead to dangerous static charges and is therefore not allowed.

i Cleaning

- Regular inspection, if necessary with cleaning, is necessary to prevent imbalance due to ingress of dirt.
 - Clean the fans's flow area.
- Watch out for vibration free motion.
- Maintenance interval in accordance with the degree of contamination of the impeller!
- You can clean the entire fan with a moist cloth.
- Do not use any aggressive, paint solvent cleaning agents when cleaning.
- **Never use a high-pressure cleaner or water-spray for cleaning - particularly when the ventilator is running.**
- If water enters the motor:
 - Dry off the motor winding before using it again.
 - Explosion-proof motors must neither be opened nor repaired. If an explosion-proof motor has defects, it is absolutely essential to send it back to the manufacturer / supplier requesting a new replacement motor.
- **Wet cleaning under voltage may lead to an electric shock - danger to life!**

CE Manufacturer

Our products are manufactured in compliance with applicable international standards and regulations (listing and relevant version see EC Declaration of Incorporation and EC Declaration of Conformity).

If you have any questions about how to use our products or if you are planning special applications, please contact:

ZIEHL-ABEGG SE
 Heinz-Ziehl-Straße
 D-74653 Künzelsau
 Phone 07940/16-0
 Fax 07940/16-300
 info@ziehl-abegg.de

Service address

Please refer to the homepage at www.ziehl-abegg.com for a list of our subsidiaries worldwide.

i 施洁

- 定期检查，并在必要时进行清洁，以免因污物造成不平衡。
- 清洁风机的风流通过区域。
- 注意运转振动是否正常。
- 根据叶轮的污染程度不同选择维护周期！
- 可以用湿抹布清洁整个风机。
- 禁止使用侵蚀性、腐蚀油漆的清洁剂。
- **切勿使用高压清洁器或喷射水进行清洁 — 切勿在风机转动的情况下清洁。**
- 如果水进入电机：
 - 在使用之前请对电机的线圈进行干燥处理。
 - 不得打开或维修防爆电机。如果防爆电机出现故障，必须将其送回至制造商 / 供应商处并索取一个新的备用电机。
- **带电情况下进行湿式清洁时可能造成电击 — 生命危险！**

CE 製造商:

惠于瘥产品根据相关的国际标准加工而成（相关文献请参阅欧盟制造商声明和欧盟一致性声明）。如果您对任何与产品使用相关的问题或计划特殊的应用，请联系：

ZIEHL-ABEGG SE
 Heinz-Ziehl-Strasse
 D-74653 Kuenzelsau
 Tel. 07940/16-0
 Fax 07940/16-300
 info@ziehl-abegg.de

售后服务地址

曠儻厥国家和地区售后服务网点地址的信息请参见公司主页 www.ziehl-abegg.com

EU declaration of conformity

- Translation -
(english)

ZA75ex-GB 1612 Index 015
00285645

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..**
 - with EC type approval certificates PTB 08 ATEX 3060, PTB 08 ATEX 3061, PTB 08 ATEX 3062 as electrical equipment for explosion-hazardous areas, type of protection "e"
 - as electrical equipment for explosion-hazardous areas, type of protection "nA"
- **Internal rotor motor**
 - with EU utility model test certificate or EU declaration of conformity PTB 07 ATEX 1034 X, PTB 07 ATEX 1057 X, PTB 99 ATEX 1155, BG080_U58_BVS_13_ATEX_E_128_X, BG090_U58_BVS_13_ATEX_E_098_X, BG100_U58_BVS_13_ATEX_E_127_X, BG112_U58_BVS_13_ATEX_E_126_X, BG132_U58_BVS_13_ATEX_E_099_X, BG160_U58_BVS_13_ATEX_E_019_X, BG180_U58_BVS_13_ATEX_E_017_X, BG200_U58_BVS_13_ATEX_E_012_X, BG225_U58_BVS_12_ATEX_E_103_X and BG250_U58_BVS_11_ATEX_E_045_X as electrical equipment for areas with an explosion hazard, ignition protection type "d", "de" and "tb"
 - with EU utility model test certificate or declaration of conformity PTB 05 ATEX 3006 and PTB 12 ATEX 3014 as electrical equipment for areas with an explosion hazard, ignition protection type "nA", "nA de", "nA d", "nA e"
- **Axial fan FB.. of Group II, Device Category 2G** with EC model test certificate ZELM 04 ATEX 0236 X, with protection type "c" for conveying explosive gas atmospheres of Group IIB for zone 1 and zone 2, with external rotor motor MK.. for explosive areas, protection type "e".
- **Group II, 3G appliance category FB.. axial fan**
type of protection "c" for the conveyance of potentially explosive, group IIB for zone 2 gas atmospheres; type of protection "nA" or "e" with an external rotor motor MK.. for explosion-hazardous areas
- **Group II, 2G appliance category RE.., RH.. centrifugal fans**
type of protection "c" for the conveyance of potentially explosive, group IIB gas atmospheres for zones 1 and 2, with an external rotor motor MK.. with EC type approval certificates PTB 08 ATEX 3060, PTB 08 ATEX 3061, PTB 08 ATEX 3062 for explosion-hazardous areas, type of protection "e"
- **Group II, 3G appliance category RE.., RH.. centrifugal fans**
type of protection "c" for the conveyance of potentially explosive, group IIB gas atmospheres for zone 2, with an external rotor motor MK.. for explosion-hazardous areas, type of protection "nA"
- **Group II, 3D appliance category RE.., RH.., GR.. centrifugal fans**
type of protection "c" for the conveyance of potentially explosive, group IIIB dust atmospheres for zone 22, with an EC-internal rotor motor MK.. for explosion-hazardous areas, type of protection "tc"
- **Group II, 2G appliance category ER.. centrifugal fans**
type of protection "c" for the conveyance of potentially explosive, group IIB gas atmospheres for zone 1 and zone 2, with an internal rotor motor for explosion-hazardous areas, type of protection "d"
- **Group II, 3G appliance category GR.., RG.. centrifugal fans**
type of protection "c" for the conveyance of potentially explosive, group IIB gas atmospheres for zone 2, with an internal rotor motor for explosion-hazardous areas, type of protection "nA"
- **Group II, 3D appliance category GR.., RG.. centrifugal fans**
type of protection "c" for the conveyance of potentially explosive, group IIIB dust atmospheres for zone 22, with an internal rotor motor for explosion-hazardous areas, type of protection "tc"

These products are developed, designed and manufactured according to the following directives:

- EMC Directive 2014/30/EU
- ATEX Directive 2014/34/EU

The following harmonised standards have been used:

EN 61000-6-3:2007	EN 60079-31:2014
EN 61000-6-2:2005	EN 1127-1:2007
EN 60079-0:2012	EN 13463-1:2009
EN 60079-7:2014	EN 13463-5:2011
EN 60079-15:2010	

• **The following standard is in use for FB axial fans**

EN14986:2007 Design of fans working in potentially explosive atmospheres
Note: The manufacturer of the plant is responsible for the complete compliance with the standard EN14986:2007 as well as for the compliance with the combinations of material and the minimum gap.
The compliance with standard EN14986:2007 refers only to the installed wire screen and the inlet nozzle, if these belong to the scope of delivery.

• **The following standard is in use for RE.., RH.., ER.., GR.. and RG.. centrifugal fans:**

EN14986:2007 Design of fans working in potentially explosive atmospheres
Note: The manufacturer of the plant is responsible for the complete compliance with the standard EN14986:2007 as well as for the compliance with the combinations of material and the minimum gap.
Also applicable to ER:
The compliance with standard EN14986:2007 refers only to the installed wire screen and the inlet nozzle, if these belong to the scope of delivery.

Name , address and identification number of the notified location:

- **For external rotor motors MK :**
Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100 , D - 38116 Braunschweig , identification number 0102
- **For axial fans FB :**
ZELM Ex E.K. - Testing and Certification Body
Siekgraben 56 , D - 38124 Braunschweig , identification number 0820
- **For centrifugal fans RE .. , RH .. , ER .. :**
Federal Institute for Materials Research and Testing (BAM)
Unter den Eichen 87 , D - 12205 Berlin , identification number 0589

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 (eg. sensing controls) and operated , the manufacturer or operator is responsible of the overall system for compliance with the EMC Directive 2014/30 / EU .

Künzelsau, 20.04.2016
(Location, date of issue)

ZIEHL-ABEGG SE
Dr. W. Angelis
Technical Director Air Movement Division
(Name, Function)



(signature)

睡吨吨:
ZIEHL-ABEGG SE
Heinz-Ziehl-Straße
74653 Künzelsau
德国

睡吨吨承担签发本一致性声明的唯一责任。

吨吨

- 奴转子电机 MK..
 - 带有欧盟样机认证证明, PTB 08 ATEX 3060、PTB 08 ATEX 3061、PTB 08 ATEX 3062 作为电气生产设备用于有爆炸危险的区域, 防爆类型“e”
 - 作为电气生产设备用于有爆炸危险的区域, 防爆类型“nA”
- 几转子电机
 - 带有欧盟样机认证证明与欧盟一致性声明, PTB 07 ATEX 1034 X、PTB 07 ATEX 1057 X、PTB 99 ATEX 1155、BG080_U58_BVS_13_ATEX_E_128_X、BG090_U58_BVS_13_ATEX_E_098_X、BG100_U58_BVS_13_ATEX_E_127_X、BG112_U58_BVS_13_ATEX_E_126_X、BG132_U58_BVS_13_ATEX_E_099_X、BG160_U58_BVS_13_ATEX_E_019_X、BG180_U58_BVS_13_ATEX_E_017_X、BG200_U58_BVS_13_ATEX_E_012_X、BG225_U58_BVS_12_ATEX_E_103_X 和 BG250_U58_BVS_11_ATEX_E_045_X 作为电气生产设备用于有爆炸危险的区域, 防爆类型“d”、“de”和“tb”
 - 带有欧盟样机认证证明与欧盟一致性声明, PTB 05 ATEX 3006 和 PTB 12 ATEX 3014 作为电气生产设备用于有爆炸危险的区域, 防爆类型“nA”、“nA de”、“nA d”、“nA e”
- 远流风机 FB.. 组 II, 设备类别 2G
 - 带有欧盟样机认证证明 ZELM 04 ATEX 0236 X, 带有用于输送区域 1 和 2 的组 IIB 的可爆炸的气体环境的防爆类型“c”, 带有外转子电机 MK..用于有爆炸危险的区域, 防爆类型“e”
- 远流风机 FB.. 组 II, 设备类别 3G
 - 用于输送区域 2 的组 IIB 的可爆炸的气体环境的防爆类型“c”, 带有外转子电机 MK.. 用于有爆炸危险的区域, 防爆类型“nA”或“e”
- 植心风机 RE..、RH.. 组 II, 设备类别 2G
 - 带有用于输送区域 1 和 2 的组 IIB 的可爆炸的气体环境的防爆类型“c”, 带有外转子电机 MK.. 带有欧盟样机认证证明, PTB 08 ATEX 3060、PTB 08 ATEX 3061、PTB 08 ATEX 3062, 用于有爆炸危险的区域, 防爆类型“e”
- 植心风机 RE..、RH.. 组 II, 设备类别 3G
 - 用于输送区域 2 的组 IIB 的可爆炸的气体环境防爆类型“c”, 带有外转子电机 MK..用于有爆炸危险的区域, 防爆类型“nA”
- 植心风机 RE..、RH..、GR.. 组 II, 设备类别 3D
 - 用于输送区域 22 的组 IIIB 的可爆炸的粉尘环境防爆类型“c”, 带有 EC 内转子电机 MK.. 用于有爆炸危险的区域, 防爆类型“tc”
- 植心风机 ER.. 组 II, 设备类别 2G
 - 用于输送区域 1 和 2 的组 IIB 的可爆炸的气体环境的防爆类型“c”, 带有内转子电机, 用于有爆炸危险的区域, 防爆类型“d”
- 植心风机 GR..、RG.. 组 II, 设备类别 3G
 - 用于输送区域 2 的组 IIB 的可爆炸的气体环境的防爆类型“c”, 带有内转子电机, 用于有爆炸危险的区域, 防爆类型“nA”
- 植心风机 GR..、RG.. 组 II, 设备类别 3D
 - 用于输送区域 22 的组 IIIB 的可爆炸的气体环境的防爆类型“c”, 带有内转子电机, 用于有爆炸危险的区域, 防爆类型“tc”

邊伴侖品的开发、设计和 造符合以下的欧盟指令：

- EMC 指令 2014/30/EU
- ATEX 指令 2014/34/EU

佃乱亘适用标准：

EN 61000-6-3:2007	EN 60079-31:2014
EN 61000-6-2:2005	EN 1127-1:2007
EN 60079-0:2012	EN 13463-1:2009
EN 60079-7:2014	EN 13463-5:2011
EN 60079-15:2010	

• 铔对轴流风机 FB, 以下标准适用：

EN14986:2007 在有爆炸危险的区域使用的风机的设计
注意 设备制造商对于完全符合标准 EN14986:2007 以及遵守材料组合和最小间隙负责。
遵守标准 EN14986:2007 只对已安装的线材支撑格栅和吸入喷嘴有效，只要这些包括在供货范围内。

• 铔对离心风机 RE...、RH...、ER...、GR...、RG...，以下标准适用：

EN14986:2007 在有爆炸危险的区域使用的风机的设计
注意 设备制造商对于完全符合标准 EN14986:2007 以及遵守材料组合和最小间隙负责。
另外，针对 ER：
遵守标准 EN14986:2007 只对已安装的线材支撑格栅和吸入喷嘴有效，只要这些包括在供货范围内。

挽寸柄构的名称、地址和识别号：

- 铔对外转子电机 MK：
德国联邦物理技术研究院 (PTB)
Bundesallee 100, D-38116 Braunschweig, 识别号 0102
- 铔对轴流风机 FB：
ZELM Ex e.K.— 测试和认证机构
Siekgraben 56, D-38124 Braunschweig, 识别号 0820
- 铔对离心风机 RE...、RH...、ER...：
德国联邦材料研究和测试院 (BAM)
Unter den Eichen 87, D-12205 Berlin, 识别号 0589

逗嬪 EMC 指令 2014/30/EU 只对按照安装/操作说明连接的这些产品有效。如果这些产品内置在设备中或者与其它组件（例如调节器和控制器）装配和运行，那么整个设备的生产商或操作方对遵守 EMC 指令 2014/30/EU 负有责任。

金策尔绍，二零一六年四月二十零日
(地点，签发日期)，

ZIEHL-ABEGG SE
"博士W.安吉利斯
技术总监航科技
(名称，功能)

i.v. W. Angelis

(签名)