

Centrifugal-motorized impellers

Centrifugal motorized-impeller RE..P / RH..M from group II, device class 2G with ignition-protection class „c“ for conveying explosive gaseous atmospheres from group IIB for zone 1 and zone 2, with MK.. external impeller motors for potentially explosive, ignition-protection class „e“.

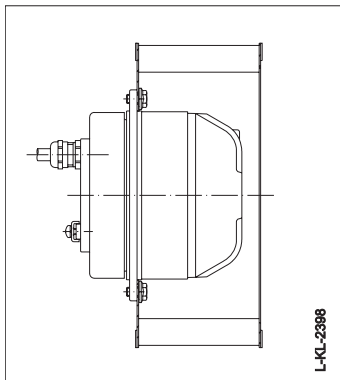
Contents

Chapter	Page
Application	1
Safety instructions	2
Transport, storage	3
Mounting	3
Operating conditions	4
Start-up	5
Repairs and maintenance	5
Cleaning	6
Manufacturer	6
Service address	6

MOTOR-Typenschild
einkleben!

Application

RE..P



- ZIEHL-ABEGG series RE..P/RH..M centrifugal motorized (type designation see rating plate) explosion-proofed impellers **c Ex eb II** with integrated external rotor motor of the design MK in ignition-protection class increased safety "e" II 2G Ex eb II according to IEC 60079-0; 60079-7 are not ready-to-use products, but designed as components for ventilation devices, machines, and systems.
- They may only be operated when they are installed as intended, and when safety is ensured by safety equipment according to DIN EN ISO 13857 (DIN EN ISO 12100) and the required structural explosion-protective measures according to EN14986.
- Regarding the materials selection, ZIEHL-ABEGG centrifugal motorized-impellers 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 retainer plate, shroud / inlet ring). Galvanized sheet-steel is used as the material for the rotating parts (impeller retainer plate, shroud) of the motorized impeller. The system constructor is responsible for the selection of the material

径流马达叶轮

RE..P / RH..M 型径流马达叶轮，符合设备类别 2G 第 2 组、点火防护等级为 „c“，用于为区域 1 和区域 2 输送 IIB 组的爆炸性气体，采用 MK.. 型外转 马达，用于爆炸危险区域，点火防护等级为 „e“。

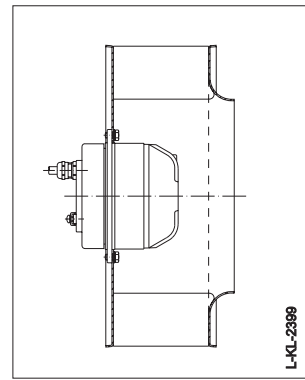
内容摘要

章节	页
使用	1
安全事项	2
储	3
安装	4
行条件	4
调试	5
维修和维护	6
清洁	6
制造商	6
售后服务地址	6

VENTILATOR-Typenschild
einkleben!

应用

RH..M



- 施 百的 RE..P/RH..M 系列防爆型径流马达叶轮 **c Ex eb II** (型号名称见铭牌) 采用内置 MK 型外转 马达，点火防护等级为更高的安全级别 „e“，符合 IEC 2-0; 60079-7 标准的 II 2G Ex eb II 类别，该产品不是最终产品，而是专为空调等通风排风设备设计的部件。
- 风机只能在所要求的安装状态下，并符合 DIN EN13857 (DIN EN ISO 12100) 标准规定的防护装置或符合 EN14986 规定的防爆措施下才能开始 转。
- 施 百径流马达叶轮在旋转和固定零部件 (叶轮端面盘、盖片/入流喷嘴) 之间可能的触摸表面通过特殊的防护措施进行 料选择，符合 EN14986 标准的要求。对于马达叶轮的转动部件 (叶轮端面盘、盖片) 采用镀锌钢板。对于固定外围部件 料的选择，如涉及未安装施 百入流喷嘴的马达叶轮，由设备制造商负责。只能使用符合 EN14986 标准的 料对。
- 施 百径流马达叶轮附带标有 Y 在型号名称中 (R_ _ _ _ _ Y_ _ _ _ _)，采用内置外转 马达 (MK_ _ _ _ _ Y_ _ _ _ _)，规格为 II 2G Ex eb II, T1, T2, T3 或 T4，符合 EN 60079-0; EN 60079-7, 的要求，只能在低电压范围内 行。除了变频器以外，可以使用电 或变压控制器。建议使用施 百控 制器。其它厂商的控制器必须拥有相同或更好的品质!

for the stationary periphery parts when the motorized impellers are purchased without ZIEHL-ABEGG inlet rings. Only mating materials in accordance with the EN14986 may be utilized.

ZIEHL-ABEGG centrifugal motorized-impellers, identified through the supplemental Y in the type designation code (R_ _ _ _ _ Y_ _ _) with integrated external rotor motors (MK_ _ _ _ _ Y) in the II 2G Ex eb II, T1, T2, T3 or T4 version based on EN 60079-0; EN 60079-7 may be operated in a partial voltage range. The utilization of electronic or transformer-induced control units, with the exception of frequency converters, is allowed. The use of ZIEHL-ABEGG control units is recommended. Control devices from other manufacturers must have the same or higher quality!

- All motors and fan-motor-units are balanced in two levels in accordance with DIN ISO 1940- 1.



Safety instructions

- The EN 60079-0 Electrical apparatus standard for potentially explosive atmospheres (General Requirements), EN 60079-7 (Increased safety "e") and all standards relevant to fans in explosion protected design must be maintained. With that, the operation of motors in the presence of gasses, vapors, or mist-containing atmospheres and their mixtures in category 2G (Zone 1) and category 3G (Zone 2) potentially explosive atmospheres is permissible.
- The fans are only intended for the conveyance of air or zone 1 and zone 2 explosive atmospheres. The conveyance of solid matter, solids content, and dust/air mixtures is not permitted.
- Carrier mediums that affect the centrifugal motorized impellers are not permitted. Used materials:
 - **RE..P:** Paint base polyacrylate, polyisocyanate; DIN EN 1706 AC-AISi12(Fe)DF; DIN EN 1706 AC-AISi12Cu1(-Fe)DF; Steel DIN EN 10042-DX51D+Z150/275-N-A
 - **RH..M:** Paint bases polyacrylate, polyisocyanate; Powder coating base polyester epoxy resin; DIN EN 1706 AC-AISi12(Fe)DF; DIN EN 1706 AC-AISi12Cu1(-Fe)DF; DIN EN 485-2-alloy EN AW-5754(AlMg3)H22; Steel DIN EN 10042-DX53D+Z275-N-A
 - **Inlet ring (accessory)** Sheet DIN EN 1652-Cu-DHP-R220
- Speed control using a frequency converter is not allowed.
- The temperature class specifications on the motor-rating-plate must correspond to any possibly arising combustible gasses or the motor must have an even higher temperature class.
- The motor impeller is to be operated within the ranges specified on the motor impeller (fan)-rating-plate, → see operating conditions!
- The max. allowed operating specifications on the motorized-impeller rating plate (fan) apply to an atmospheric density of $\rho=1.2 \text{ kg/m}^3$.
- Mounting and electrical installation may only be carried out by trained specialized personnel who observe the **relevant regulations!**
 - In order to prevent malfunctions and in order to protect the motor the motor must be disconnected from the mains by the integrated PTC in connection with a triggering device (identification Ⓜ II (2)G; see directive 2014/34/EU) and an external contactor during an operations failure (e.g., inadmissibly high medium temperature).
 - max. test voltage of the PTC: 2.5V
 - A current dependent protection is not admissible and also not possible as secondary protection.
 - The motors have triplet PTC's. More than two PTC's may not be connected in series, as this can lead to undefined shut-downs.
- All fan-motor units are supplied with lead-out cables. If the connection of cable ends is made to the external electrical circuits within a potentially explosive area, a terminal box selected for this area with its own EU-Type examination certificate for the components must be utilized. Corresponding Ex-terminal boxes with verified cables and cable entries can be seen in our ZIEHL-ABEGG lists. The permissible medium temperature is $-20^{\circ}\text{C} \dots +40^{\circ}\text{C}$. Deviating medium temperatures are to be taken from the rating plate, the data sheet and the EU type examination certificate.
- Ex-Motors have additional a marked outer earthing conductor connection.
- A suction-side guard grill according to DIN EN 60529 - IP20 is prescribed for integrated inaccessible installations.

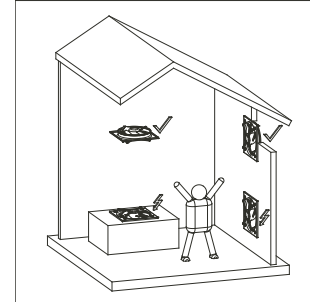
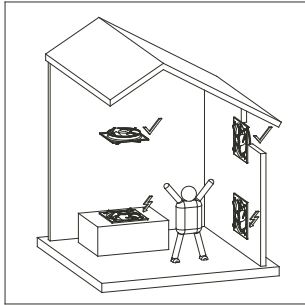


安全 示

- 用于爆炸危险区域的操作 料标准 EN 60079-0 (一般规定), EN 60079-7 (加强安全 „e”) 和所有对于爆炸防护规格相关的标准必须被遵守。只有这样才可在 2 G (区域1) 类和 3G (区域2) 类爆炸危险区域内的气体、蒸汽、雾或相互混合物的环境下使用马达。
- 风机只能用于传送区域1和2的空气或爆炸性气体。不得传输固体、固体成分或粉尘/空气混合物。
- 不得使用对径流马达叶轮 料有侵蚀性的传送媒质。所采用的 料:
 - **RE..P:** 漆基 Polyacrylat, Polyisocyanat; DIN EN 1706 AC-AISi12(Fe)DF; DIN EN 1706 AC-AISi12Cu1(Fe)DF; 钢 DIN EN 10042-DX51D+Z150/275-N-A
 - **RH..M:** 漆基 Polyacrylat, Polyisocyanat; 基于涂层粉末的聚酯环氧树脂; DIN EN 1706 AC-AISi12(Fe)DF; DIN EN 1706 AC-AISi12Cu1(Fe)DF; DIN EN 485-2 合金 EN AW-5754(AlMg3)H22; Stahl DIN EN 10042-DX53D+Z275-N-A
 - 入流喷嘴 (附件): 金属板 DIN EN 1652-Cu-DHP-R220
- 不允许通过变频器控制转速
- 马达性能铭牌上的温度等级必须与可能出现的可燃气体得温度等级一致, 或者马达必须居友更高的温度等级。
- 请在电动机风扇叶轮区域铭牌所列范围之内 行电动机风扇叶轮 → 参见操作条件。
- 马达叶轮性能铭牌 (风机) 上的最大许可 行数据是基于空气密度为 $\rho=1.2 \text{ kg/m}^3$ 。
- 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!
 - 为了防止故障并保护马达, 必须通过内置PTC热敏电阻确保在故障 (例如介质温度过高) 发生时在一台触发设备 (标示 Ⓜ II (2) G 见条例2014/34/EU) 和一台外接接触器的情况下与电网断开。
 - PTC热敏电阻的最大检验电压: 2.5伏
 - 不允许采用电流相关的防护措施以及二级防护措施。
 - 马达带有三管式 PTC 热敏电阻。不得串联两个以上的PTC热敏电阻, 否则将导致非受控断电现象。
- 所有风机马达供货时均必须确保电缆处于引出状态。如果在爆炸危险区域内连接导线端至外电路, 则必须使用带有合适欧盟实用新型专利检验证书的专用接线盒。相应的带有经检验电缆和导线引入装置的防爆接线盒请参见施 百的清单。所允许的介质温度为 $-20^{\circ}\text{C} \dots +40^{\circ}\text{C}$ 。不同的介质温度请参阅铭牌、数据清单、欧盟实用新型检验证书。
- 防爆马达附带外部地线接口。
- 对于内置无法触及的安装方式, 须根据 DIN EN 60529 - IP20 配备进气侧防护格栅。对于可触及的安装方式则须根据 DIN EN60529 - IP20 配备进气侧和压力侧防护格栅。
- 禁止拆卸、避开或关闭安全零部件, 如防护格栅!
- 如果通过设备或系统的结构设计不能完全避免吸入或掉入异物, 则有可能在空气中含有易燃性气体时存在发生爆炸的风险, 操作者必须采取额外的防护措施以避免此类风险的发生, 例如, 通过加装一组具有较高网格密度的附加保护格栅。对于标有图示燃点的装配示例, 必须考虑由于异物造成更高风险的可能性。

For freely accessible installations, a suction-side and pressure side guard grill according to DIN EN60529 - IP20 is prescribed.

- Safety features, e.g. guard grilles, are not to be dismantled, circumvented or made inoperative!
- If sucking or falling in of foreign objects cannot be prevented due to the device design or plant construction, there is a **hazard of explosion of an ignitable gas-air mixture**; the operator must take additional measures to prevent this from occurring, for instance by attaching an additional narrow meshed guard grill. In the installation examples marked with a lightning symbol in the picture opposite, one must reckon with an increased hazard regarding foreign objects being able to fall in.



- Pay special attention to the permitted mating materials based on the EN14986. You must observe the corresponding notices in the „Application and Installation“ chapter!
- Blocking or braking the fan by, say, pushing objects into it is forbidden. This leads to heated surfaces and damage to the impeller.
- A residual risk through inappropriate behavior, malfunction, or affects through acts of God or force majeure during operation of the motorized impeller cannot be completely excluded. The planner, operator, or constructor of the system, machine, or plant must prevent a hazardous situation from arising by taking appropriate safety precautions in accordance with **DIN EN ISO 12100** and especially in accordance with the EN14986
- The system constructor is responsible for the maintenance of the package sealing.
- **Compliance with EMC guideline 2014/30/EU is only guaranteed if the product is connected to the standard electricity supply grid. If this product is integrated into a system or complemented and operated with other components (e.g. controller units and control devices), the manufacturer or operator of the entire system is responsible for the compliance with the EMC directive 2014/30/EU.**
- Pay attention to the notes which concerning maintenance and service.
- These assembly instructions are part of the product and, as such, are to be kept accessible at all times.

- 请特别注意 EN14986. 所规定允许的 料对。请参阅章节“使用和安装”中相应的注意事项!
- 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受损。
- 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完全避免的。设备的设计方、操作方或搭建方必须根据 DIN EN ISO 12100, 特别是 EN14986 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。
- 设备制造商须负责确保壳罩密封。
- 如将产品直接接入到常规电网中, 仅需遵循电磁兼容性指令 2014/30/EU。如将此产品集成到一系统中或与其它组件(例如调节和控制装置) 进行组合并且投入运行, 应由制造商或系统操作者对是否遵循电磁兼容性指令 2014/30/EU 负起责任。
- 注意与维护和服务相关的说明。
- 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!**
- Observe the weight data on the type code
- Do not transport the fan by the connecting cable!
- Avoid impacts and collisions, especially on fans set-up on devices.
- Watch out for possible damage to the packaging or fan.
- Store the fan in the original packaging in a dry area protected from the weather or protect it from dirt and weather until final installation.
- Avoid exposure to extreme heat and cold.
- Avoid excessive storage periods (we recommend a one year max.) and inspect the motor bearings for proper operation prior to installation.



储

- 在搬 时请穿戴安全鞋和安全手套!
- 请注意铭牌上的重量说明。
- 禁止利用连接的电缆搬 风机。
- 避免击打和碰撞, 特别风机安装到设备后。
- 注意避免任何破坏包装或风机的行为。
- 将原包装的风机存储在干燥、耐候的环境中, 或在最终安装前注意防尘、防锈。
- 避免过热或过冷环境。
- 避免过期存放(建议最多一年), 安装前检验风机的轴承状况。



Mounting

- **Wear safety shoes and gloves for handling!**
- The system manufacturer or the machine builder is responsible that the inherent installation and security informations are harmonised with the valid standard and guide-

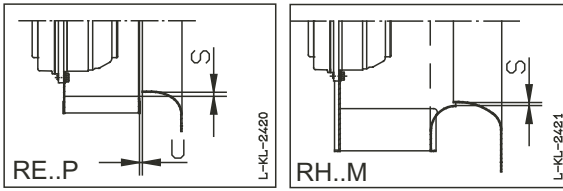


安装

- 在搬 时请穿戴安全鞋和安全手套!
- 系统或设备制造商负责设备相关的安装和安全注意事项与现有标准相一致(DIN EN ISO 12100, 13857, DIN EN 60529, EN14986)。

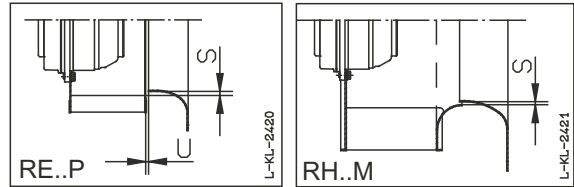
lines (DIN EN ISO 12100, 13857, DIN EN 60529, EN 14986).

- The following applies to all motorized impeller designs:
 - Do not install distorted. The installation area must be level. Deformations and misalignments must not result in rotating parts striking or grinding.



- Ensure uniformity of gaps „U“ or „S“ in accordance with the illustration below. The following minimum gap must be maintained for compliance of materials mating: between rotating and stationary parts, the minimum gap cannot be smaller than 1 % of the relevant contact diameter, but not less than 2 mm in the axial or radial directions, and must not amount to more than 20 mm. RE..P: In order to achieve optimal performance, the axial gap „U“ should amount to a max. of 1-2% of the „impeller“ nominal diameter. Larger axial gap widths have a negative effect on the performance of the motorized impeller. The system constructor must ensure that the smallest and largest gap dimension „u“ is maintained.
- To fasten the motor impeller to the fixed motor flange, use tensile strength class 8.8 screws and provide with suitable screw locking. Permissible tightening torque: M6 = 9.5 Nm; M10 = 46 Nm;
- Certain operating points/speeds may not be run during self-resonance of the attached components. The verification of self-resonance is to be carried out by the system constructor during start-up operation.
- In the case of a vertical motor axis, the respective lower condensation drain hole must be open.
- Connect fan only to electrical circuits that can be disconnected with an all-pole isolating switch.
- Electrical connection in accordance with the circuit diagram attached to the motorized impeller! The connection diagrams must be available at the operating location.
- Fasten the motor connection with cable ties or cable clamps. Attachment is to be carried out in such a way that the cable can still be moved after attachment and so that the cable insulation will not be damaged.
- Up and downstream components or those that lie directly in the airflow must not have any unprotected aluminum or steel surfaces. A surface protection that at least fulfills the crosscut test parameter of 2 / DIN EN ISO 2409 is necessary to prevent an aluminothermic reaction.
- 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.

- 以下要求适用于所有马达叶轮:
 - 请勿在张紧状态下安装马达, 马达法兰必须平坦放置。变形或移动位置不得止挡或摩擦转动的部件。



- 请根据图示注意确保 „U“ 和 „S“ 的间隙均匀。在确保料对的同时必须确保以下最小间隙: 在转动和固定部件之间的最小间隙不得小于标准接触直径的 1 %, 但是在轴向或径向上不得小于 2 毫米, 不得大于 20 毫米。RE..P: 为了达到最佳性能, 轴向间隙 „U“ 最大应为标称直径的 1-2%。如改尺寸过大, 将对马达叶轮的性能造成负面影响。设备制造商必须确保最小和最大间隙尺寸 „U“。
- 为了固定马达叶轮在静置的马达法兰上, 请采用强度等级为 8.8 的螺栓和合适的螺栓防护装置。允许的拧紧扭矩: M6 = 9, 5 Nm; M10 = 46 Nm;
- 如因加装部件而出现自然谐振, 则不得使用特定的工作点/转速。设备制造商在调试时须检查自然谐振。
- 如果是垂直的电机轴, 必须打开相应下面的冷凝水孔 (如果有的话)。
- 设备只能连接到通过全极分离开关可切断的电路。
- 电连接须符合马达叶轮上的电路图! 接线电路图必须妥善保存在操作地点以便查阅。
- 将马达连接电缆用电缆束或电缆卡箍固定好。固定时须确保电缆固定后可以移动, 以免损坏电缆绝缘层。
- 前端连接或后端连接的零部件或直接处于气流中的零部件不得包含未受保护的铝质或钢质表面。必须采用至少符合横切特征值 2 / DIN EN ISO 2409 的表面防护措施, 以防铝热反应。
- 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。



Operating conditions

The fan motor-unit requires 2 rating plates.

- The **fan rating-plate** includes the **rated voltage** and connection and up to which specifications the **fan** can be loaded. Values higher than the stamped absorbed power / stamped absorbed wattage mean the fan is operating in a range that is not permitted. If the motor is operated with **partial voltage** (this is certified in the EU type-examination certificate data-sheet), the current may rise by the amount ΔI (in %) indicated on the fan rating plate.
- The **motor rating-plate** includes the maximum permitted specification that has been certified by the Notified Office (German Federal Institute for Science and Technology, Braunschweig). **The partial-voltage currents are also stated on this plate, which, from the point of view of compliance with the EN 60079-7 standard, must not be exceeded.** The voltage stamped on the motor rating-plate can be considerably higher than the one stamped on the fan rating-plate using the same connection. The advantage of this arrangement is explained here using an example: If the motor is loaded by the fan with considerably less



操作条件

风机马达单元需要两个性能图。

- 风机性能图包含 **测量电压** 和电路以及风机可以承受的负载数据。高于标注消耗功率的值代表风机不得在不允许的状态下运行。如果马达在 **低压范围内** 工作 (标注在欧盟实用新型检验证书的数据清单中), 电流可以升高风机性能铭牌注明的值 I (in %)。
- 马达性能铭牌包含所允许的最大数据, 是所述机构 (德国布伦瑞克联邦物理技术所) 出具的。该铭牌上注明了低电压时的电流, 该电流须满足 EN 60079-7 标准规定不得超出。标注在马达性能铭牌上的电压在相同电路中不得高于风机性能铭牌上的值。该设计的优点应通过示例说明: 如马达由于风机而消耗的功率明显小于标注的马达消耗功率, 则将采用电压降低方式。电机设计电压为 500 伏, 高于 500 伏电源电压。这样将改善 400 伏时的电气性能并得到最佳风机调控性能。风机和马达性能铭牌数据的所有电气数据因此而有区别是不可避免的。
- 马达防护: 注意安全事项
- 开关频率: 马达根据持续行模式 S1 测量。控制装置不允许极开关行状态!
- 不得使用变频器。
- A 计权声功率级可大至 80dB(A), 详见产品目录。

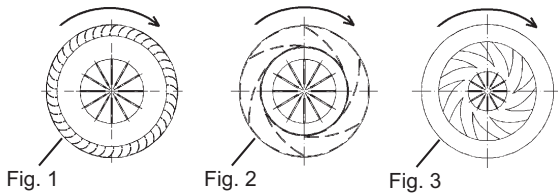
power than the stamped motor output, we use voltage reduction. The motor is designed for a voltage higher than the 400V mains voltage, e.g. for 500V. This improves the electrical characteristics at 400 V and results in optimum fan-regulation properties. Through this, it is inevitable that the fan and motor rating-plate electrical data differentiate.

- Motor protection: see safety notifications
- Switching frequency: The motor is dimensioned for continuous operation S1. The control must not allow any extreme switching modes!
- **Use of a frequency inverter is not allowed.**
- 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:
 - Einbau und elektrische Installation fachgerecht abgeschlossen?
 - Have the safety devices been installed?
 - All leftover installation materials and other foreign materials have been removed from the fan cavity.
 - **The impeller must not rub against any stationary housing parts (→ sparks!).**
 - Protective conductor and external earthing conductor have been connected.
 - Thermistor and triggering device have been properly installed and are operational?
 - Cable gland is sealed?
 - Installation position and the arrangement of condensation water drains correspond to each other?
 - Do the connection specifications correspond with the data on the motorized impeller rating plate (adhesive plate)?
- Commissioning may only take place if all safety instructions have been checked and danger can be excluded.
 - Check rotational direction/air feed direction. Definition of the rotational direction according to pictures:



type	Figure	
RE..P	1	looking at rotor
RH..M	2	looking at rotor

- Watch out for smooth operation.
- See to smooth running Intensive vibrations due to uneven running (out-of-balance) e.g. because of damage in transit or improper handling may lead to outage, if applicable, have the imbalance checked.
- All conductive attachment and accessory parts must be grounded e.g., with contact disks: By doing so, removal of the paint coat/coating can be omitted.
- During erection / start-up operation, the ambient temperature, air humidity, environmental contamination, and corrosion through the surrounding atmosphere must be taken into consideration.
- The motor winding insulation-resistance must be measured if fan-motor units have been stored or are put into operation after long downtimes or if they are exposed to dew for long periods before being put (back) into operation. In case of values smaller/equal to 1.5 Mohm, the motor winding must be dried out.



Repairs and maintenance

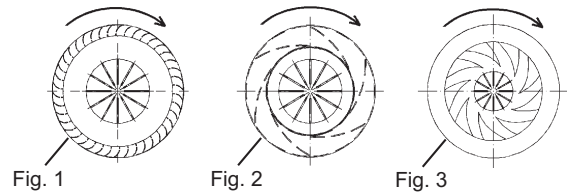
Wear safety shoes and gloves for handling!

- Due to the selection of bearings with "lifetime lubrication" (special grease), the external rotor motor is maintenance-free.
- Upon signs of wear or latest after 40,000 h, a bearing exchange is required. As the opening on the motor is partially covered by the rating plate, and as custom bearings with special ZIEHL-ABEGG lubrication are employed, only ZIEHL-ABEGG SE is allowed to carry out the bearing exchange.
- Take note of abnormal operating noise!



启用

- 首次启用前应确保:
 - 机械和电气安装是否按照专业方式正确完成?
 - 是否安装了安全装置?
 - 清除风机段中的安装剩余 料和其他异物。
 - 叶轮不得摩擦固定壳罩部件 (→ 点火火花! !)
 - 是否连接了地线和外接地线?
 - PTC 热敏电阻和触发器是否正确连接且 行正常。
 - 电缆引入是否密封
 - 安装位置和冷凝水排水口位置是否相吻合?
 - 接线数据与马达叶轮铭牌上的说明是否相符。
- 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。
 - 检查旋转方向/空气流通方向. 根据图示定义旋转方向



设计	图	
RE..P	1	转 视图
RH..M	2	转 视图

- 注意确保 转平稳。
- 因 输入损坏或不正确操作造成不稳定 (不平衡) 从而引起摆动剧烈, 可能造成失灵, 须检查不平衡情况。
- 所有导电加附件盒附件必须接地, 例如通过接触垫圈。这样可以去除漆层/涂层。
- 在搭建/调试时, 必须注意环境温度、空气湿度、环境污染和周围环境造成的 蚀。
- 如果风机马达已装入获在较长停置时间后重新投入使用, 或长时间置于露点温度环境下, 则必须在 (重新) 调试之前测量马达线圈的绝缘电压。如小于/等于1.5Mohm, 则必须干燥马达线圈。



维修和维护

在搬 时请穿戴安全鞋和安全手套!

- 外转 马达使用带 长效润滑" (特殊润滑脂) 的滚珠轴承而免维护。
- 如发现磨损现象, 或最晚在40,000小时后, 需要更换滚珠。因为马达上的开口会因性能铭牌而磨损, 则必须采用带有施 百特殊润滑脂的专用轴承, 则只能由施 百更换轴承。
- 留意异常 行噪声!
- 室外放置: 如果风机在潮湿的环境中长期不工作, 应保证每周至少 行2小时以便使马达内的水挥发掉。
- 对于所有维修和维护作业而言:

- **Outdoor fans: If a fan is stationary for long periods in a humid atmosphere, it should be switched ON for minimum of two hours every week to remove any moisture that may have condensed within the motor.**
- **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.
 - Verify the absence of voltage.
 - No maintenance work at running fan!
- After dismantling and reinstalling an impeller, the entire rotating unit must be rebalanced in accordance with DIN ISO 1940-1.
- **Keep the airways of the fan free- danger because of objects dropping out!**
- The system constructor must enable easy access for cleaning and inspection work.
- Before switching off the fan, make sure that no Ex atmosphere is present.
- For all other defects (e.g. cable and wire lead-ins, windings and cables), please contact our repair department.
- 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.
- The cleaning interval depends on the degree to which the impeller is soiled.
- 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 spray jet to clean.**
- **Wet cleaning under voltage may lead to an electric shock - danger to life!**
- After cleaning, the motor must be operated for 30 minutes at 80-100% of the max. rpm to let it dry out. This will allow any possibly penetrated water to evaporate.

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.

- 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。
- 确定无电操作。
- 切勿在风机转动的情况下进行维护作业!
- 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。
- 请保持风机风路畅通 — 避免由于飞出物体造成的危险!
- 设备制造商必须确保清洁和检验工作的便利。
- 在风机断电前请确保无爆炸性气体存在。
- 如出现其它损坏 (例如电缆和导线引入装置、绕组和电缆损坏), 请联系我们的维修部门。
- 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。

i 清洁

- 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 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、 蚀油漆的清洁剂。
- 切勿使用高压清洗装置或喷射进行清洁。
- 带电情况下进行湿式清洁时可能造成电击 — 生命危险!
- 清洁后必须操纵马达以80-100%的最大转速 行30分钟进行干燥, 以便使进入到内部的水挥发。

CE 制造商

我们的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 Künzelsau
Tel. 07940/16-0
Fax 07940/16-300
info@ziehl-abegg.de

售后服务地址

有关各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)

i.v. W. Angelis

(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)