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Cc : Herrn Anschütz

ATEX
3G-/2G-Fans

The European standard **EN 14986** (issued in 3 languages) has been published on Februar, 28th 2007. Until August 2007 latest it has to be introduced by all CEN member countries as a national standard. Existing national standards have to be withdrawn.

In Germany the DIN EN 14986 has been published May 2007 – **it is applicable from 01.05.07.**

There is no contradictory DIN standard which eventually would have been withdrawn.

The EN 14986 is supporting the basic requirements of the **EEC-directive 94/9/EG** (ATEX-guide lines). For this reason it can be expected that shortly (before the end of 2007) it will be published in the official journal of the EEC in the frame of harmonised standards to this directive. This is made under the responsibility of the EU commission, no influence on this is coming from the standardisation side (DIN, CEN). Incoming new standards are accumulated over a period for then being published as a package in the official journal.

Standards must not be respected. Their application is voluntary.

The subject to be respected is the law; in this case the ATEX directive or its national version respectively. Harmonised standards are being used as an aid for more easily reply to the basic requirements of an EEC directive. This means the basic requirements have to be fulfilled after entering into force of a law, even if there is no standard (yet). The basic requirements may be fulfilled by another regulation than a standard. On the other side a harmonised standard may ease the procedure by releasing an assumption effect that the EEC directive will be applied – and this is exactly the purpose of a standard, respectively the “fulfilment” of an EEC directive according to the concept of a harmonised standard.

In every harmonised standard there is an annex ZA with the following wording
"Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA)* regulations."

(Source : **ISO** Basic text for annex ZA to a Vienna Agreement document)

)* EFTA = European Free Trade Association

Gebhardt Ventilatoren GmbH



i.V. Bernd Weinert

All Centrifugal Fans replying to ATEX requirements

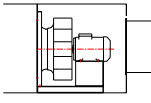
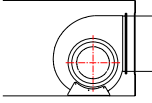
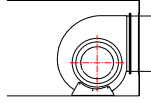
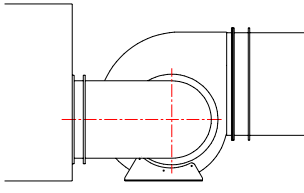
RER	11	12	13	14	15	16	17	18	19
	0200-0710	0200-0710	0400-1000		0400-1000		0200-1000		
	< 11 kW	< 11 kW	13G						
			1120-1600						
RZR	11	12	13	14	15	16	17	18	19
	0200-1000	0200-0710	0400-1000		0400-1000	0200-0710	0400-0710	0400-1000	0200-0355
	< 11 kW	< 11 kW	13G					< 11 kW	
			1120-1600						
TZR	B1	B2		04	B5				
	0160-0710	0160-0710		0215	0400-1000				
		B2Z		Standard					
		0160-0450							
VZR	71	72							
	0200-0710	0200-0710							
RZM			13		15			18	
			0400-1000		0400-1000			0400-1000	
			13G					< 11 kW	
			1120-1600						
REM	11		13					18	19
	0200-0630		0200-0630					0200-0630	0200-0630
TEM	01							08	
	0160-0355							0160-0355	
RLM			13			16			
			0200-0250			0200-0250			
			53		55	56			
			0280-0710		1250-1400	0280-1120			
RZA	11								
	0225-0560								
RZP	11								
	0200-0500								
TEA	E1	01	F1						
	0060-0170	0200-0315	0225-0355						
TZA	E1	01	61	94					
	0080-0170	0200-0355	0225-0280	0215					

	II 3G c T3 IIB		II 2G c T3 IIB		II 2G c T4 IIB		locked casings < 11 kW
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II	Group II. Non electrical devices outside mining / underground industry
2	Category 2 inside and outside (can be operating at zone 1+2)
3	Category 3 inside and outside (can be operating at zone 2)
G	Gas medium
c	Explosion protection by constructive safety
T3	Temperature class T3 for conveying medium with ignition temperatures > / = 200°C
T4	Temperature class T4 for conveying medium with ignition temperatures > / = 135°C
IIB	Explosion group (s. TAB)

Fan is conveying from	Fan installed at	Inside placed construction elements	outside placed construction elements	Inside & outside placed construction elements	FAN Range
Zone-1	Zone-1	Category-2	Category-2	Category-2	RLM, RZR
	Zone-2	Category-2	Category-3	Category-2	RER
	n.e.-Bereich	Category-2	keine Category	Category-2	RER
Zone-2	Zone-1	Category-3	Category-2	Category-2	RER
	Zone-2	Category-3	Category-3	Category-3	RLM, RZR
	n.e.-Bereich	Category-3	no Category	Category-3	RER
n.e.-area	Zone-1	no Category	Category-2	Category-2	RER
	Zone-2	no Category	Category-3	Category-3	RER
	n.e.-Bereich	no Category	no Category	no Category	RLM, RZR

n.e.-area = no explosion hazard - area

Fan is conveying from	Fan installed at	Inside & outside placed construction elements	FAN		
Zone-1	Zone-1	Category-2			
Zone-2	Zone-2	Category-3			
n.e.- area	n.e.- area	no Category			
			RLM	RER, TER, REM, TEM	RZR, TZR, VZR
Zone-1	Zone-2	Category-2			
	n.e.- area	Category-2			
Zone-2	Zone-1	Category-2			
	n.e.- area	Category-3			
n.e.- area	Zone-2	Category-3			
	Zone-1	Category-2			
			RER, TER, REM, TEM		

94/9 EG	3 G	2 G
DIN EN 14986 : 2007-05 DIN EN 13463-1 : 2002-04 DIN EN 13463-5 : 2004-03	ZONE-2 CATEGORY-3G II 3G c T3 IIB	ZONE-1 CATEGORY-2G II 2G c T3 IIB
Fan must not be an effective ignition source	for normal operation	for a foreseeable disturbance
<= 5 kW	No restriction, rotating parts with risk of contact can be made of brass and/or steel	
> 5,5 kW	-----	positive S-H-connection)* by key and axial lock recommended
> 11 kW	Casing continuously welded (inside)	
> 15 kW	positive S-H-connection)* by key and axial lock recommended	-----
FRICITION PROTECTION		
<= 11 kW	Thickness of friction protection 1 mm	Thickness of friction protection 2 mm
> 11 – 90 kW	Thickness of friction protection 2 mm	Thickness of friction protection 3 mm
MATERIALS (rotating parts with risk of contact)	> 5 kW : copper / steel	
COATING (rotating parts with risk of contact)	Paints and coatings to be free of aluminium and iron oxide	
COMPONENTS	All rotating constituents must be secured in their position	
Gaps	>= 1% of contact diameter and/or >= 10% of the shaft diameter – but at least 2 mm	
Impeller	60 s with 1,5-times, maximum rpm or 85%-rule. Step wise or continuously welded.	
Impeller components	Stress <= 2/3 of yield point	
Bearing	13463-5	
Shaft seals	13463-5	
Couplings	13463-5	
Plastic parts	13463-1	
Flexible connections	Flexible strip, elektrically conductive	
Guard	Protection against particle ingress for intake/discharge guards : IP20 free suction/discharge – otherwise instructions to user	
ELEKTROSTATICAL CHARGING	EN 13463-1	
EARTHING	All parts have to be electrically conductive connected to each other.	
TEMPERATURES	Conveying medium - 20 °C - +60 °C	
VIBRATIONS	ISO 14694:2002(E)	
DOCUMENTS	To be filed at manufacturer	To be filed at a notified body

)* S-H-connection = Shaft-Hub-connection

ANNEX

Directive 94/9/EG

II, 2G	II, 3G
<p>Devices of this category are made for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours, mists or air/dust mixtures are likely to occur. The explosion protection relating to this Category must function in such a way as to provide a sufficient level of safety even in the event of equipment with operating faults or in dangerous operating conditions which normally have to be taken into account</p>	<p>Devices of this category are made for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours, mists or air/dust mixtures are unlikely to occur and if they do occur, do so infrequently and for a short period of time only The design of the products of this category must provide a sufficient level of safety during normal operation</p>
Further requirements	Further requirements
<p>The devices are to be designed and manufactured in a way that in case of frequently occurring operating faults or faulty operation conditions – which normally can be expected - ignition sources are avoided.</p>	<p>The devices are to be designed and manufactured in a way that unexpected ignition sources which can occur during normal operation are avoided.</p>
<p>Concerning surface temperatures devices are to be designed and manufactured in a way that they will not be exceeded during un-normal operational situations which are expected by the manufacturer.</p>	<p>The occurring surface temperatures must exceed the indicated highest values. An excess for exceptional cases is admitted only if the manufacturer has provided special measures for this case.</p>
<p>The devices are to be designed in a way that the opening of parts of the device, which could be an ignition source, only can be executed if the state of the device is energy free or if locking systems can enable it. If a device cannot be deactivated a warning has to be fixed to the parts which may be opened.</p>	
<p>(b) Equipment-group I and II, equipment-category M 2 and 2 (i) In the case of internal combustion engines and electrical equipment in these groups and categories, the manufacturer or his authorized representative established in the Community shall, in order to affix the CE mark, follow the EC-type examination procedure (referred to in Annex III), in conjunction with: - the procedure relating to conformity to type referred to in Annex VI, or - the procedure relating to product quality assurance referred to in Annex VII; (ii) in the case of other equipment in these groups and categories, the manufacturer or his authorized representative established in the Community must, in order to affix the CE mark, follow the procedure relating to internal control of production (referred to in Annex VIII) and communicate the dossier provided for in Annex VIII, paragraph 3, to a notified body, which shall acknowledge receipt of it as soon as possible and shall retain it.</p>	<p>(c) equipment-group II, equipment-category 3 The manufacturer or his authorized representative established in the Community must, in order to affix the CE marking, follow the procedure relating to internal control of production referred to in Annex VIII; (d) equipment-groups I and II In addition to the procedures referred to in paragraph 1(a), (b) and (c), the manufacturer or his authorized representative established in the Community may also, in order to affix the CE marking, follow the procedure relating to CE unit verification (referred to in Annex IX).</p>

Statement of deposition

Hinterlegungsbescheinigung

Statement of deposition

Hinterlegungsbescheinigung



EG – Hinterlegungsbescheinigung

Nr.: EX1 06 02 64170 003

Empfangsbescheinigung gemäß Artikel 8(1) b) ii) der Richtlinie des Rates Nr. 94/9/EG für Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen für:

GebhardtVentilatoren GmbH & Co. KG
Gebhardtstrasse 19 - 25

D - 74638 Waldenburg

Produkt(e): Radialventilator

Modell(e): Baureihe RLM 56
Baureihe RLM 55

1 DIN A4 Ordner
Der/die Ordner wurde(n) versiegelt.

Der Empfang und die Aufbewahrung der Unterlagen für die oben bezeichneten Unterlagen werden hiermit bestätigt.

Die Unterlagen werden aufbewahrt unter Nummer 70050263.

Diese Bescheinigung bezieht sich ausschließlich auf die TÜV SÜD überlassenen Unterlagen. Eine zeitliche Begrenzung ist deshalb irrelevant.

Freigegeben mit der obigen EG-Bescheinigungs-Nr. durch den TÜV SÜD.

Abteilung: TA-ES / MUC - st
Datum: 13.02.2006

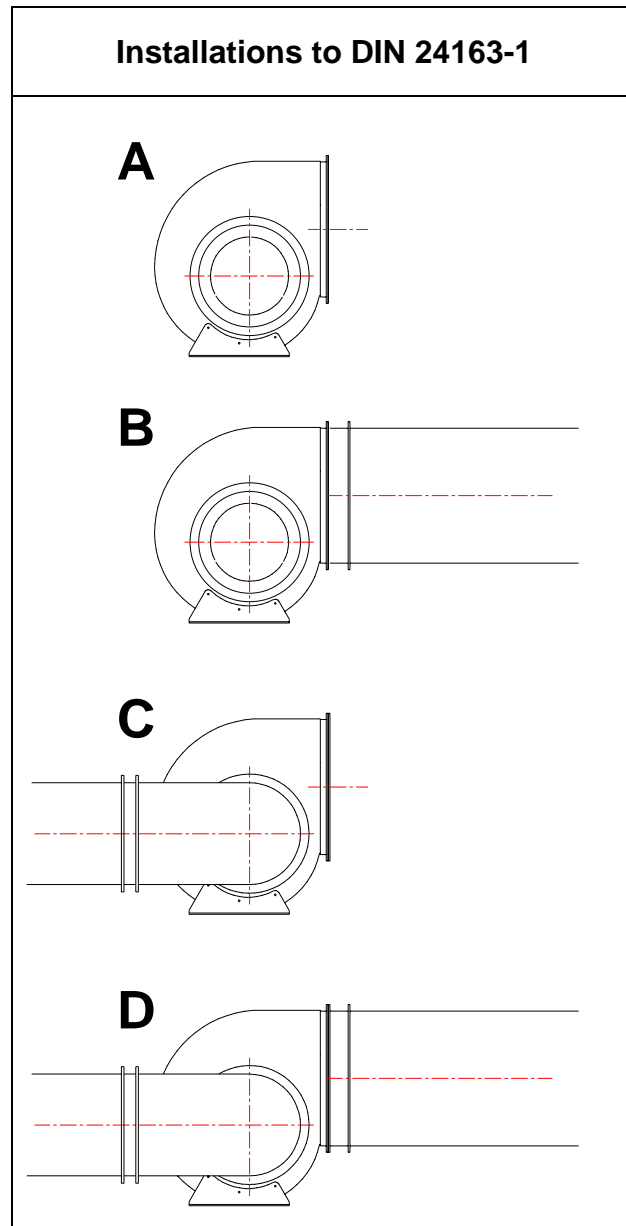
TÜV Product Service GmbH, TÜV SÜD Gruppe, ist benannte Stelle gemäß der Richtlinie des Rates Nr. 94/9/EG für explosionsgeschützte Geräte, notifiziert durch Veröffentlichung im Amtsblatt der EG mit der Kennnummer 0123.

ATEX 95 01.07.03	GROUP OF DEVICE			
CATEGORY	I		II	
	GASES, VAPOURS, MIST	DUST/AIR- MIXTURES	GASES, VAPOURS, MIST	DUST/AIR- MIXTURES
1	M1		1G	1D
2	M2		2G	2D
3			3G	3D

CLASSIFICATION OF CATEGORIES AND ZONES				
ZONE Gas/Dust	EXPLODABLE ATMOSPHERE	DEVICE- IGNITION SOURCES	CERTIFICATION	CATEGORY
0 / 20	continuously or long-term or frequently present	w/o effective ignition sources at rare operational disruptions and if 2 faults occur independently	EEC- type examination.	1
1 / 21	incidentally present	w/o effective ignition sources at normal operation and frequently occurring disruptions	Declaration of conformity . Technical documents at a notified body	2
2 / 22	rarely or shortly occurring	w/o effective ignition sources at normal operation	Declaration of conformity . Technical documents at a notified body	3

TEMPERATURE CLASS	T1	T2	T3	T4	T5	T6
Ignition temperature of the gas in °C	> 450	300 – 450	200 - 300	135 - 200	100 - 135	85 - 100
Maximum surface temperature admitted	450	300	200	135	100	85
EXPLOSION GROUP						
I	Methane					
II A	Aceton Ammoniak Benzol Acetic acid Ethane Ethylacetate Carbon oxide Methanol Propane Toluol	Ethylalkohol n-Butane n-Butyl-alkohol	Fuels Fuel oil	Acetaldehyd		
II B	Town gas	Ethylene	Hydrogen disulfide	Ethyl ether		
II C	Hydrogen	Acetylen				Carbon disulfide

Protection class to DIN IEC 34-5, VDE 0530-5				
IP = International Protection				
Motor	Protection class	1st Number		2nd Number
		Protection against contact and intrusion of solid particles		Protection against intrusion of water
Internal cooling	IP 00			
	IP 10			
	IP 21	IP 20 Contact with fingers	IP 20 solid particles with $\varnothing > 12$ mm	Vertical drip water
	IP 22			against water drips (up to a 15° angle)
IP 23	against diagonal water drips (up to a 60° angle)			
Surface cooling	IP 44	Contact with tool or similar	small solid particles larger than 1 mm \varnothing	splashed water from all directions
	IP 45			
	IP 54	Full protection against contact	Harmful dust deposit	splashed water from all directions
	IP 55			Water jet from all directions
	IP 56			Temporary flooding
	IP 65		protection against penetration of dust	Water jet from all directions
	IP 67			Motor under defined pressure and period under water
	IP 68			



MOTORS

ATEX-MOTOR	E Ex de Pressure proof enclosed	E Ex e Increased safety	E Ex nA Non-sparking
Dimensioning power	100 %	reduced	100 %
Zone	1 + 2	1 + 2	2
Device category	2 + 3	2 + 3	3
Temperature class	T1-T4	T1-T3	T1-T3
Explosion group	IIC	IIB	IIB
Inverter operation)*	YES	NO	ONLY as a unit with type examination certificate
Multi speed (pole changes)	NO	NO	YES
Remark			When installing in vertical shaft position down – protection above air intake opening
SIEMENS-Motors	1 MJ	1 MA	1 L_ with option M72 (Mains) or M73 (inverter)
Inverter operation)*	YES w/o restriction	NO	ONLY if with MICROMASTER and as a unit with type examination certificate
PTC thermistors for mains operation as full motor protection	YES Up to size 200	Partially, see type examination certificate	YES Up to size 160
PTC thermistors mandatory for inverter operation	YES Option A15	---	JA Included in option M73
Multi speed (pole changes)	NO	NO	YES

)* Recommendation :from size 280 use isolated bearings resisting to voltage ≥ 500 V (see SIEMENS-List)

CHAPTER II - Conformity assessment procedures**Article 8**

1. The procedures for assessing the conformity of equipment, including where necessary the devices referred to in Article 1 (2), shall be as follows:

(a) equipment-group I and II, equipment-category M 1 and 1 The manufacturer or his authorized representative established in the Community must, in order to affix the CE marking, follow the CE type-examination procedure (referred to in Annex III), in conjunction with:

- the procedure relating to production quality assurance (referred to in Annex IV), or
- the procedure relating to product verification (referred to in Annex V);

(b) Equipment-group I and II, equipment-category M 2 and 2 (i) In the case of internal combustion engines and electrical equipment in these groups and categories, the manufacturer or his authorized representative established in the Community shall, in order to affix the CE mark, follow the EC-type examination procedure (referred to in Annex III), in conjunction with:

- the procedure relating to conformity to type referred to in Annex VI, or - the procedure relating to product quality assurance referred to in Annex VII;

(ii) in the case of other equipment in these groups and categories, the manufacturer or his authorized representative established in the Community must, in order to affix the CE mark, follow the procedure relating to internal control of production (referred to in Annex VIII) and communicate the dossier provided for in Annex VIII, paragraph 3, to a notified body, which shall acknowledge receipt of it as soon as possible and shall retain it.

(c) equipment-group II, equipment-category 3 The manufacturer or his authorized representative established in the Community must, in order to affix the CE marking, follow the procedure relating to internal control of production referred to in Annex VIII;

(d) equipment-groups I and II In addition to the procedures referred to in paragraph 1(a), (b) and (c), the manufacturer or his authorized representative established in the Community may also, in order to affix the CE marking, follow the procedure relating to CE unit verification (referred to in Annex IX).

2. The provisions of 1(a) or 1(d) above shall be used for conformity assessment of autonomous protective systems.

3. The procedures referred to in paragraph 1 shall be applied in respect of components as referred to in Article 4 (2), with the exception of the affixing of the CE marking. A certificate shall be issued by the manufacturer or his authorized representative established in the Community, declaring the conformity of the components with the provisions of this Directive which apply to them and stating their characteristics and how they must be incorporated into equipment or protective systems to assist compliance with the essential requirements applicable to finished equipment or protective systems.

4. In addition, the manufacturer or his authorized representative established in the Community may, in order to affix the CE marking, follow the procedure relating to internal control of production (referred to in Annex VIII) with regard to the safety aspects referred to in point 1.2.7 of Annex II.

5. Notwithstanding the previous paragraphs, the competent authorities may, on a duly justified request, authorize the placing on the market and putting into service on the territory of the Member State concerned of the equipment, protective systems and individual devices referred to in Article 1 (2) in respect of which the procedures referred to in the previous paragraphs have not been applied and the use of which is in the interests of protection.

6. Documents and correspondence relating to the procedures referred to in the abovementioned paragraphs shall be drawn up in one of the official languages of the Member States in which those procedures are being applied or in a language accepted by the notified body.

7. (a) Where the equipment and protective systems are subject to other Community Directives covering other aspects which also provide for the affixing of the CE marking referred to in Article 10, that marking shall indicate that the equipment and protective systems are also presumed to conform with the provisions of those other Directives.

(b) However, where one or more of those Directives allow the manufacturer, during a transitional period, to choose which arrangements to apply, the CE marking shall indicate conformity only with the Directives applied by the manufacturer. In this case, particulars of the said Directives, as published in the Official Journal of the European Communities, must be given in the documents, notices or instructions required by the Directives and accompanying the equipment and protective systems.
