

KLIMAWENT S.A. produces a large range of explosion proof fans, designed for operation in areas of explosion hazard, where explosion atmosphere can occur as a mixture of flammable substance

Our fans meet the requirements of 94/9/EC Directive of 23 March, 1994 (from 20 April, 2016 2014/34/EC Directive).

The offered explosion proof fans cannot be applied for conveying the air containing:

- viscous contamination, that could build up on the devices,
- aggressive contamination, that would have destructive effect on the devices.

Explosion proof fans, manufactured by KLIMAWENT S.A. are safe and shall not be a source of ignition of the explosive atmosphere, provided that they are applied in places for which they are designed and constructed.

Duties and the activity of User (Employer) are specified in the 1999/92/EC (ATEX 137) Directive, called also ATEX USERS, on minimum requirements of safety of labour in places where explosive atmosphere is likely to occur (Regulation of Minister of Economy of 8 July. 2010).

in a form of gas, vapour and fume with the air, where after the ignition the explosion expands within the whole non-burnt mixture.

Classification of areas of explosion risk has to be carried out by User, with reference to the technological process creating such risks, at the User's place.

Here are applicable subsequent standards:

- PN-EN 1127-1: Explosive atmospheres. Explosion prevention and protection. Basic concepts and methodology,
- PN-EN 60079-10-1: Explosive atmospheres. Classification of areas. Explosive gas atmospheres,
- PN-EN 60079-10-2: Explosive atmospheres. Classification of areas. Explosive dust atmospheres.

Workplaces, where explosive atmosphere is likely to occur, should be classified according to the division into hazard areas and in accordance with the above mentioned Directive.

Selection of fans for workplaces, where explosive atmosphere is likely to occur, has to be executed according to categories that are suitable for explosion risk areas.

Example of classification of the existing gases

Explosiveness group		Temperature class			
		T1	T2	T3	T4
I (methane)		methane			
II	IIA (propane)	acetone, methyl alcohol, ammonia, methyl chloride, vinyl chloride, chlorobenzene, ethane, o-xylene, acetic acid, ethyl acetate, methyl acetate, propane, toluene, carbon oxide	ethyl alcohol, propyl alcohol, petrol, n-butane, ethyl chloride, n-propyl acetate	petrol, diesel, aircraft fuel, n-pentane, n-hexane, n-heptane, n-octane, n-decane, furnace oil	acetic aldehyde, ethyl ether
	IIB (ethylene)	hydrogen cyanide, ethylene, technical propylene, city gas	butadiene, di-methyl ether, ethylbenzene, ethylene, ethylene oxide	acrolein, hydrogen sulphide	1,4-dioxan, ethyl ether, acetic aldehyde
	IIC (hydrogen)	hydrogen	acetylene	hydrazine	

KLIMAWENT S.A. produces fans designed for application in areas of hazard of gas atmosphere explosion, as well as fan chambers

designed for work in areas of hazard of gas- and dust atmosphere explosion.

Marking of fans*

Fans for work in gas atmosphere

Fans for work in gas- or dust atmosphere



II 2 G c Ex e II T3



II 3 G/D c Ex e II T4

1

2

3

4

5

6

7

8

9

1

2

3

4

5

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9

1. Means explosive proof feature of the device.

2. „II” – II Group of the device – The appliance is intended for use in zones of explosion risk, but in places other than underground mining industry plants, exposed to methane explosion (firedamp) or carbon dust explosion.

3. „2” – Category 2 – Includes devices designed and constructed in such way that the devices are operated according to operational parameters, established by manufacturer, and providing high level of protection. Devices of this Category are intended for use in places, where explosive atmosphere, caused by gas, vapour, mist or dust-air mixture, is sporadically possible to occur. The devices can work in the zone 1 or 2 (21 or 22). They are equipped with explosion protection measures, therefore providing the required level of protection, even in case of frequent interferences or damages that are taken into account.

3. „3” – Category 3 – Includes devices designed and constructed in such way that the devices are operated according to operational parameters, established by manufacturer, and providing moderate level of protection. Devices of this Category are intended for use in places, where explosive atmosphere, caused by gas, vapour, mist or dust-air mixture, is unlikely to occur, and when occurs – the atmosphere appears for sporadically and for a short period of time. The devices can work in the zone 2 (22). They are equipped with explosion protection measures, and provide the required level of protection, under normal operating conditions.

4. „G” – Designed for use in atmosphere of hazard of gas-, vapour-, mist explosion.

4. „G/D” – Designed for use in atmosphere of hazard of gas-, vapour-, mist or dust mixture explosion.

5. „c” – Marking for constructional safety of the device.

6. „Ex” – Marking for electrical appliance constructed and tested according to European Standards.

7. „e” – Type of construction (motor) – reinforced structure.

8. „II” – Subgroup of explosiveness – (IIA, IIB, IIC): recalling of the whole Group (without A, B, C) means that the fans can be used for all Subgroups of explosiveness.

9. „T3” – Temperature class of the device (T3 is +200°C) indicates the highest possible temperature of the device surface (the device can work in classes T2 and T1).

9. „T4” – Temperature class of the device (T4 is +135°C) indicates the highest possible temperature of the device surface (the device can work in classes T3, T2 and T1).

*NOTE: This marking takes into account the characteristics of the fan and the electrical motor.