



- [1] **EC-TYPE EXAMINATION CERTIFICATE**
- [2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**
- [3] EC-Type Examination Certificate Number: **SP 04ATEX3106X**
- [4] Equipment or Protective System: Fan type DKEX 225-4
- [5] Applicant (manufacturer): Systemair AB
- [6] Address: Industrivägen 3, SE-739 30 Skinnskatteberg, Sweden
- [7] This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- [8] SP, Notified Body No. 0402 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
- The examination and test results are recorded in a confidential report No. P301630:C.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN 1127-1:1997 (SS-EN 1127-1 ed 1)
 - EN 50014:1997 + A1...A2 (SS-EN 50014 ed 4 + A1...A2)
 - EN 50019:2000 (SS-EN 50019 ed 6)
 - EN 13463-1:2001 (SS-EN 13463-1 ed 1)
- [10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- [11] This EC Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. This certificate does not cover these requirements.
- [12] The marking of the equipment or protective system shall include the following

 **II 2 G EEx e II T3**

Borås 11 Mars 2004

**SP Swedish National Testing and Research Institute
Certification**


Lennart Månsson
Certification manager


Åke Månsson
Certification officer

CERTIFICATE
SP 04ATEX3106X, dated 11.03.2004

Signed on behalf of SP, 11.03.2004:

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE No. SP 04ATEX3106X**[15] **Description of equipment**

The fan consists of a housing, a fan wheel and a certified induction motor with a permanently connected cable. The material in the construction is made of galvanic sheet-iron except the motor enclosure. There are two variants of the fan, one for supply voltage 230 V ac and the other for supply voltage 400 V ac. The fan is designed for installation in a duct system and the duct system is intended to fulfil the degree of ingress protection.

The fan can be speed controlled by applying reduced supply voltages according to the table below. The fan motor is equipped with three PTC temperature sensors; these sensors are intended for connection to separate supervision equipment.

Data

Type of duty: S1 (continues duty)

Ambient temperature (T_{amb}): - 20 °C to + 40 °C

Table. Rated data.

Fan type	DKEX	
Motor type	MK 106-4DK.07.Y	
Voltage (V)	230/400 (D/Y)	
Number of phases/frequency	3 ~ 50 Hz	
Current (A)	1,53/0,88 (D/Y)	
Input power (W)	500 W	
Speed (rpm)	1305	
t_A (s) ¹⁾	81	
I_A/I_N	3,4	
Minimum backpressure (Pa)	D (V ac)	Y (V ac)
10	230	400
5	160	230
0	130	180
0	105	140
0	80	90

¹⁾ Based on rated voltage and cold state (+20 °C)

[16] **Report No.**

P301630:C

[17] **Special conditions for safe use**

1. The PTC thermal protection circuits of the motor shall be connected to a triggering device certified according to Directive 94/9/EC, which shall disconnect the motor from main supply at excessive temperature. The device shall disconnect the motor within the time $t_A = 81$ sec based on rated voltage



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and cold state (+20 °C).

2. When the fans are installed in a duct system the degree of protection IP 20 at the inlet side and IP 10 at the outlet side shall be fulfilled for the duct system. Parts that contribute to this protection shall have a suitable design with respect to strength and material.
3. The fan may be run at reduced supply voltages according to data above (Table) in the certificate. The current is allowed to exceed the rated current of the electrical motor with 12 % provided that the rated input power above is not exceeded.
4. The cable shall be permanently installed, mechanically protected and protected from other environmental stress in order to ensure explosion protection. The connection of the free end of the cable shall be explosion protected according to the valid installation regulations.
5. In order to limit the current of the motor, the fan shall be operated with a static backpressure of a minimum value according to data in the certificate.

[18] **Essential health and safety requirements**

Additional requirements according to draft standard "Design of fans working in potentially explosive atmospheres" (CEN/TC305/WG2 N 390, Date: 2003-12-22) have been applied.

[19] **Drawings and documents**

Slutmontering DKEX 225 - 355	4200-C	2004-01-19	1 sida
Matris (fläkt, motor och fläkthjul)	19000-28	2003-12-18	1 "
Stycklista (400 V, 3-fas)	3965	2004-01-26	1 "
Stycklista (230 V, 3-fas)	3959	2004-01-26	1 "
Svetsning svep DKEX 225	4225-CA	2003-12-18	1 "
Gavel insugssida DKEX 225	4225-5	2003-12-18	1 "
Gavel motorsida CT-225, DKEX 225	4225-1	2003-03-14	1 "
Spiral KE/KT 50-25, CE/CT 225	1006-2	1999-02-15	1 "
Motorplåt nr.5	1008-2	2003-03-04	1 "
Packning KE/KT 50-25, CE/CT 225	1010-2	1993-07-01	1 "
Insugningskona ATEX EX 225	1100-6	2004-01-26	1 "
Stagjärn låg CT/CE 225	4225-3	1996-11-05	1 "
Stagjärn hög CE/CT 225	4225-4	1996-11-05	1 "
Tolk konspel (3-6) KTEX, DKEX	19510-3	2003-12-09	1 "
Typskylt 400 V 3-fas DKEX 225-4	4225-6	2003-12-17	1 "
Typskylt 230 V 3-fas DKEX 225-4	4225-61	2003-12-17	1 "
Etikett Tillv.order.nr	13500-21	2003-06-16	1 "
RE**P-*.DK.*Y.**	L-AL-3163	2004-02-13	1 "
Drift och underhållsinstruktion	203399	2004-03-11	8 sidor