



- [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 03ATEX3101X**
- [4] Equipment or Protective System:
Fan type Ex 140-2, Ex 140-2C, Ex 140-4, Ex 140-4C, Ex 180-4 and Ex 180-4C
- [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 is 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. P204644.
- [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 50017:1998 (SS-EN 50017 ed 3)
 - 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** (Type Ex 140-2, Ex 140-4 and Ex 180-4)
 -  **II 2 G EEx eq II T3** (Type Ex 140-2C, Ex 140-4C and Ex 180-4C)

Borås 21 November 2003

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


Lennart Månsson
Certification manager


Åke Månsson
Certification officer



CERTIFICATE

SP 03ATEX3101X, dated 21.11.2003

Signed on behalf of SP, 21.11.2003:

[13]

Schedule

[14]

EC-TYPE EXAMINATION CERTIFICATE No. SP 03ATEX3101X

[15]

Description of equipment

The fans consist of motors as specified below and fan houses with fan wheels with diameter 146 mm or 180 mm. The fans have bars that provide degree of protection IP 20 at the inlet side and IP 10 at the outlet side. When the fans are installed in a duct system the degree of protection is intended to be provided elsewhere.


The motor enclosure fulfils degree of protection IP 54 and the fans are provided with certified cable entries ($\text{\textcircled{Ex}}$ II 2GD EEx e II IP 68). Fans, designed for single-phase connections (C letter at the end of type designation), are equipped with certified capacitors ($\text{\textcircled{Ex}}$ II 2G EEx q II T6) and when cable entries not used they shall be closed with certified blanking elements.

Data

Fan type	Ex 140-2	Ex 140-2C
Motor type	ONKF-771	ONKF-771
Voltage (V)	230/400 (D/Y)	230
Number of phases/frequency	3 ~ 50 Hz	1 ~ 50 Hz
Current (A)	2,25/1,28 (D/Y)	3,0
Input power (W)	696	674
Speed (rpm)	2890	2885
Insulation class	F	F
t_E (s)	15	23
I_A/I_N	6,9	5,4

Fan type	Ex 140-4		Ex 140-4C	
Motor type	ONKF-742	ONKF-742	ONKF-742	ONKF-742
Voltage (V)	230/400 (D/Y)	440	230	240
Number of phases/frequency	3 ~ 50 Hz	3 ~ 60 Hz	1 ~ 50 Hz	1 ~ 60Hz
Current (A)	0,66/0,38 (D/Y)	0,37	0,63	0,65
Input power (W)	131	151	113	147
Speed (rpm)	1465	1750	1465	1750
Insulation class	F	F	F	F
t_E (s)	154	130	310	420
I_A/I_N	5,1	5,3	4,4	3,8

Fan type	Ex 180-4		Ex 180-4C
Motor type	ONKF-742	ONKF-742	ONKF-742
Voltage (V)	230/400 (D/Y)	440	230
Number of phases/frequency	3 ~ 50 Hz	3 ~ 60 Hz	1 ~ 50 Hz
Current (A)	0,74/0,43 (D/Y)	0,50	0,91
Input power (W)	188	283	185
Speed (rpm)	1435	1725	1415
Insulation class	F	F	F
t_E (s)	131	67	240
I_A/I_N	4,4	3,7	2,9

**CERTIFICATE****SP 03ATEX3101X, dated 21.11.2003**Signed on behalf of SP, 21.11.2003: 

Manufacturer of the motors: OY KOLMEKS AB
Type of duty: S1 (continues duty)
Ambient temperature (T_{amb}): - 20 °C to + 40 °C.

[16] Report No.

P204644

[17] Special conditions for safe use

- 1 The fan shall be installed with an overload protective device, which protect the motor not only with respect to overload but also with respect to stalled rotor condition. At stalled rotor the device shall disconnect the motor within the time t_E .

To determine the delay time for the device a current-time characteristic curve shall be held which states the delay time as a function of the ratio of the starting-/rated current (I_A/I_N) for $2,9 < I_A/I_N < 6,9$, see data above for the fan type. The tripping time of the protective device shall be equal to these values by ± 20 %.

- 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 Flying rust or flakes are not permitted in the airflow.
- 4 The adhesive tape that covers the ventilation openings of the motor capacitor for the single-phase fans shall be examined on regularly bases. If the tape is damaged or lost the whole capacitor shall be exchange.
- 5 The cable, to be connected to the fan, shall be permanently installed with adequate clamping.

[18] Essential health and safety requirements

Additional requirements according to prEN 13463-5 (May 2003) and draft standard "Design of fans working in potentially explosive atmospheres" (CEN/TC305/WG2 N 369, Date: 2003-07-08) have been applied.

[19] Drawings and documents

According to specification No. P204644:C.



Supplement No. 1

to

EC-TYPE EXAMINATION CERTIFICATE

Equipment or Protective systems or Components intended for use in
Potentially Explosive Atmospheres
Directive 94/9/EC

Certificate Number:

SP03ATEX3101X

Certificate SP03ATEX3101X of 21.11.2003 has been extended to apply to a variant of the fans (all fan types), with an alternative terminal block type KB 5580Ex/d5.2. The terminal block is component certified with the code Ex II 2G Ex e II, according to the following standards:

- EN 60079-0:2004 (SS-EN 60079-0 ed 1)
- EN 60079-7:2003 (SS-EN 60079-7 ed 1)

Applicant (manufacturer): Systemair AB, Industrivägen 3, SE-739 30 Skinnskatteberg, Sweden

Report No.

P804506:A

Essential health and safety requirements

Additional requirements not applicable for the terminal block.

Drawings and documents

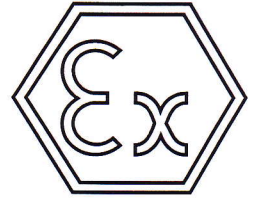
The following documents apply for fans with the alternative terminal block:

ONKF-74_EXE Assembly	35025	Rev. 7	2008-09-25	1 page
ONKF-771 EXE Assembly	35981	Rev. 5	2008-09-25	1 "
Terminal box	OLE_35972	Rev. 7	2008-09-25	1 "
Terminal box	35972	Rev. 7	2008-09-25	1 "

These documents replaces the following documents:

The following documents:


ONKF-74_EXE Assembly	35025	Rev. 6	2003-09-02	1 page
ONKF-771 EXE Assembly	35981	Rev. 4	2003-09-02	1 "
Terminal box	OLE_35972	Rev. 6	2003-11-11	1 "
Terminal box	35972	Rev. 6	2003-11-11	1 "



Borås 20th October 2008

**SP Technical Research Institute of Sweden
Certification**


Lennart Månsson
Certification Manager


Peter Bremer
Certification Officer

SP ref.: 126813

Supplement No. 1 to Certificate No. SP03ATEX3101X, issued by Notified Body No. 0402

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SP Technical Research Institute of Sweden

<i>Postal address</i>	<i>Phone / Fax</i>	<i>Reg. number</i>	<i>E-mail / Internet</i>
SP	+46 105 16 50 00	556464-6874	info@sp.se
Box 857	+46 33 13 55 02		www.sp.se
SE-501 15 Borås			
SWEDEN			

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Supplement No. 2

to

EC-TYPE EXAMINATION CERTIFICATE

**Equipment or Protective systems or Components intended for use in
Potentially Explosive Atmospheres
Directive 94/9/EC**

Certificate Number:

SP03ATEX3101X

Certificate SP03ATEX3101X of 21.11.2003 has been extended to apply to variants of the fans type of types Ex 140-2, Ex 140-2C, Ex 140-4, Ex 140-4C, Ex 180-4 and Ex 180-4C as specified below.

The specifications below apply for the variants and replaces corresponding specifications according to the certificate. In other respects the specifications stated in the certificate together with supplement No. 1 apply.

The variants concern additional alternatives for internal insulation materials in the stator.

This supplement is based on the following standards:

- EN 50014:1997 + A1...A2 (SS-EN 50014 ed 4 + A1...A2)
- EN 50019:2000 (SS-EN 50019 ed 6)

Applicant (manufacturer): Systemair AB

Report No.

P902597:A

Drawings and documents

Additional documents:

Title	Drawing no.	Date	Pages
Stator package	G35984/1	2009-04-30	1

Borås 25th May 2009

**SP Technical Research Institute of Sweden
Certification**

Lennart Månsson
Certification Manager

Peter Bremer
Certification Officer

SP ref.: 12 68 13

Supplement No. 2 to Certificate No. SP09ATEX3101X, issued by Notified Body No. 0402

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SP Technical Research Institute of Sweden

Postal address Phone / Fax Reg.number E-mail / Internet
SP +46 105 16 50 00 556464-6874 info@sp.se
Box 857 +46 33 13 55 02 www.sp.se
SE-501 15 Borås
SWEDEN

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CERTIFIKAT



Supplement No. 3

to

EC-TYPE EXAMINATION CERTIFICATE

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Potentially Explosive Atmospheres
Directive 94/9/EC**

Certificate Number:

SP03ATEX3101X

Certificate SP03ATEX3101X of 21.11.2003 has been extended to apply also to a variant of the fans types Ex 140-2C, Ex 140-4C and Ex 180-4C as specified below.

The specifications below apply for the equipment and replaces corresponding specifications according to the certificate. In other respects the specifications stated in the certificate together with supplement No. 1-2 apply.

The alternative design concerns the use of an alternative capacitor according to the table below.

Equipment, code	Certificate No.	Standards
Capacitor type 24*** *** manufactured by Süko Kondensatoren Bau GmbH & Co ⊕ II 2G Ex q IIC T6 Gb	SEV10ATEX0154X	EN 60079-0:2009 EN 60079-5:2007 EM 1127-1:2007
Note: The specification of equipment and standards are limited to those relevant for the equipment covered by this certificate.		

Applicant (manufacturer): Systemair AB

Report No.

PX10392:A

Drawings and documents

Additional documents:

Title	Drawing number	date	pages
Product specification	EX ATEX	11-01-17	1

Borås 20th January 2011

**SP Technical Research Institute of Sweden
Certification**


Lennart Månsson
Certification Manager



Peter Bremer
Certification Officer

SP ref.: 12 68 13

Supplement No. 3 to Certificate No. SP03ATEX3101X, issued by Notified Body No. 0402

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SP Technical Research Institute of Sweden

Postal address Phone / Fax Reg.number E-mail / Internet
SP +46 105 16 50 00 556464-6874 info@sp.se
Box 857 +46 33 13 55 02 www.sp.se
SE-501 15 Borås
SWEDEN

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Supplement No. 4



to

EC-TYPE EXAMINATION CERTIFICATE

Equipment or Protective Systems Intended for use in
Potentially Explosive Atmospheres
Directive 94/9/EC

Certificate Number:

SP03ATEX3101X

The certificate SP03ATEX3101X of 21.11.2003 with supplements no. 1-3, and the rights and duties associated with the certificate, is taken over by the following company as of 01.05.2015:

Applicant (manufacturer): Systemair Sverige AB
Address: Industrivägen 3, SE-739 30 Skinnskatteberg, Sweden

The change is due to a restructuring of the company Systemair AB (manufacturer and holder of the certificate). The new manufacturer and holder of the certificate (Systemair Sverige AB) has the same address as Systemair AB, but a name and organization registration no. which differs from the name and organization registration no. of Systemair AB.

The specifications according to the certificate (SP03ATEX3101X + Supplements 1-3) apply except that the name of the manufacturer is changed from "Systemair AB" to "Systemair Sverige AB" in the marking and in the accompanying instructions for the products.

Routine verifications and tests

Routine verifications and tests according to the standards specified in the certificate (clause 24 in EN 50014:1997+A1...A2 and electric strength test according to clause 7.1 in EN 50019:2000), shall be carried out by the manufacturer.

Report No.

File No.: SP03723

Drawings and documents

The change specified above of the manufacturer's name, applies for the marking and accompanying instructions according to the following documents:


Description	Number	Rev	Date	Pages
Typskyltar Systemair Ex 140/180	9004-12	Rev.	031023	1 page
Etikett, Tillv.order.nr	13500-21	Rev. A	030616	1 page
Manual D&S	203399	Rev.	031103	9 pages

Note: One set of the drawings and documents above, submitted to the holder of this certificate, contain comments by SP which shall be considered by the holder (according to this supplement, "Systemair AB" shall be changed to "Systemair Sverige AB" in the documents).



1st May 2015

SP Technical Research Institute of Sweden
Certification - Notified Body No. 0402



Lennart Aronsson
Product Certification Manager



Peter Bremer
Certification Officer