ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Italia

CERTIFICATE

[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:

TÜV IT 14 ATEX 021 X Rev.2

[4] Equipment or Protective System: Asynchronous electric motors three-phase and single phase, three phase brake motors
F/L serie size 56 ÷ 80

[5] Manufacturer: ATAV SASU

[6] Address: 6 et 8 avenue Victor Hugo
27320 NONANCOURT - France

[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] TÜV Italia, notified body no. 0948 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 confidential report no. R 14 EX 018 Rev.2

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2012 **EN 60079-1 : 2007** **EN 60079-7 : 2007** **EN 60079-31 : 2009**

[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. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

II	**2G**	**Ex**	**d or de**	**IIB**	**T3/T4/T5/T6**	**Gb**	**-50<T_{amb}<+80°C**
II	**2G**	**Ex**	**d or de**	**IIC**	**T3/T4/T5/T6**	**Gb**	**-50<T_{amb}<+60°C**
II	**2D**	**Ex**	**tb**	**IIIB**	**T85/100/125/135/150°C**	**Db**	**-50<T_{amb}<+80°C**
II	**2D**	**Ex**	**tb**	**IIIC**	**T85/100/125/135/150°C**	**Db**	**-50<T_{amb}<+80°C**

This certificate may only be reproduced in its entirety and without any change, schedule included.
Emission date: 27th April 2015

TÜV Italia Srl Industrie Service 09 48 Notified Body

Approved
Gennaro Oliva
Industrie Service Director

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres.
This document is not valid without official signature and logo. The internal reference code is 255733.

[13] **SCHEDULE**

[14] **EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 14 ATEX 021 X Rev.2**

[15] **Description of equipment**

The three phases and single phase asynchronous electric motor series F/L are made of aluminium alloy with separate compartments: motor enclosure and terminal box for supply. Motor enclosure is designed in Ex d type of protection, while terminal box can be Ex d or Ex e type of protection. The motor enclosure satisfy also Ex tb type of protection , mechanical protection IP6X.

The motors can be equipped with auxiliary devices: heaters, thermal detectors and thermal protection. The anti condensate heaters installed inside the motor enclosure have maximum power of 100 W and are allowed to be in operation only when motor is not powered.

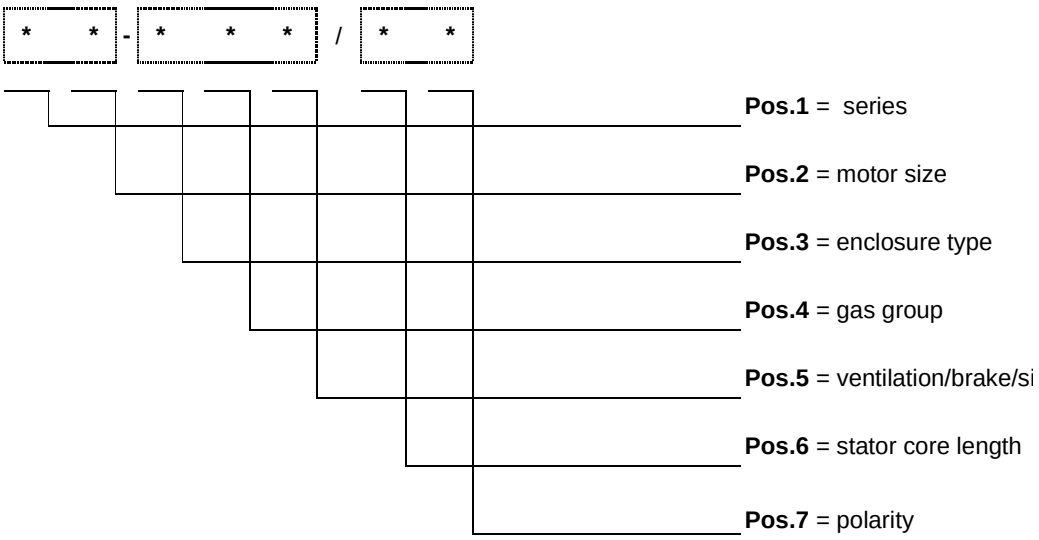
The motor supplied by inverters is equipped inside of stator winding and on bearings with PTO, PTC, PT100 or PT1000 thermal detectors for temperature control. Rating data are specified on supplementary plate. The presence of the thermal detectors inside the motor is shown by appropriate warning label. The PTC thermal detectors are calibrated for an operation of

- 80°C for temperature class T6/T85°C
- 90°C fot temperature class T5/T100°C
- 130°C for temperature class T4/135°C

According to IEC60034-6 standard, the cooling us archived by one of the following methods:

- Self cooled motor by metal fan fitted on shaft IC 411 (frame size F63-F71, F80)
- Fan directly coupled IC 418 (frame F56, F63-F71, F80, L80)
- Totally enclosed not ventilated IC 410 frame size F56, F63-F71, F80, L80)

The three phase and single phase asynchronous motors are identified by the following code:



Note :
*Nameplate data always includes "**IC**" code to clarify type of cooling (IC410 - IC411 - IC418)*

Italia

Pos.1 *: Motor series*

F / L	Motor series

Pos.2 *: Size*

056	Motor size 56	071	Motor size 71
063	Motor size 63	080	Motor size 80

Pos.3 *: Enclosure type*

2D	Combustible dust category 2	2DG	Combustible dust + gas category 2
2G	Gas category 2		

Pos.4 *: Gas group*

B	Gas group IIB		
C	Gas group IIC		

Pos.5 *: Ventilation type / brake / single phase motor*

TV	Self-ventilation IC411	TVF	Self-ventilation IC411 + brake
ST	Without ventilation IC410-IC418	STF	Without ventilation + brake
MV	Single phase motor ventilated	M	Single phase motor not ventilated

Pos.6 *: Stator core length*

A	short (motors size 56/63/71/80)	C	long (motors size 56/63/71/80)
B	medium (motors size 56/63/71/80)	D	Extra-long (motor size 80 single phase)

Pos.7 *: Polarity number*

2	2 pole	24	Double polarity : 2/4 pole
4	4 pole	48	Double polarity : 4/8 pole
6	6 pole	46	Double polarity : 4/6 pole
8	8 pole	61	Double polarity : 6/12 pole

Rated characteristics

Maximum rated power:	0,03 – 1.1 kW*
Maximum rating voltage:	400 V*
Speed:	3600 – 250 rpm*
Insulation class:	F / H
Ingress protection:	IP6X (motor) ; IP64 (terminal box Ex e version)

* Refer to the technical note referenced in this certificate for the specific data of each motor size.

The motors can be used for continuous or intermittent duty, as defined by IEC 60034.1 for :

- S1, S2, S3, S4, S6 and S9

Motors for frequency converter electrical supply:
the electrical characteristics are indicated in a suitable label on the motor and in the safety instructions. For the other electrical characteristics and the de-rating criteria see the technical note referenced in this certificate (see point 17 for limitations).

Motors for dust:
The protection degree is IP65 according to EN 60529. The sealing ring material is:

- SIL70

Refer to safety instruction for detailed information.

[13] **SCHEDULE**

[14] **EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 14 ATEX 021 X Rev.2**

Temperature class / shaft power frame size F56 (power in Watt)

		Three phase range			Single phase range		
		Duty S1			Duty S1		
		Motor IC410		Motor with ventilation or within the air flow (*)	Motor IC410		Motor with ventilation or within the air flow (*)
Pole	Temperature Class	Short version	Long version	Long version	Short version	Long version	Long version
2	T3-T4 (T150°C-T135°C)	90	120	250	60	75	100
	(T125°C)	90	120	250	---	---	---
	T5 (T100°C)	80	90	---	50	60	---
	T6 (T80°C)	60	90	---	40	50	---
4	T3-T4 (T150°C-T135°C)	110	120	200	60	75	100
	(T125°C)	100	120	200	---	---	---
	T5 (T100°C)	100	120	---	50	60	---
	T6 (T80°C)	80	120	---	40	50	---
6	T3-T4 (T150°C-T135°C)	70	90	---	30	35	45
	(T125°C)	70	90	---	---	---	---
	T5 (T100°C)	70	90	---	---	---	---
	T6 (T80°C)	---	---	---	---	---	---
8	T3-T4 (T150°C-T135°C)	50	70	---	---	---	---
	(T125°C)	50	70	---	---	---	---
	T5 (T100°C)	50	70	---	---	---	---
	T6 (T80°C)	---	---	---	---	---	---

For IC418 version :
The air flow must cover at least all sections between fins and have a minimum speed (V) given in the table below:

	2P	4P	6P	8P
V (m/s)	4	3	2	/

(*) Working Time = Rest time = 30 minutes.

[13] **SCHEDULE**

[14] **EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 14 ATEX 021 X Rev.2**

Temperature class / shaft power frame size F63-F71 (power in kilowatt) - 1st part

		Three phases range(IC411/IC418)		Three phases range with brake		Single phase range (IC411/IC418)	
Pole	Temperature class	F63	F71	F63	F71	F63	F71
2	T3-T4 (T150°C-T135°C)	---	---	---	0.55	---	0.55
	(T125°C)	---	---	---	0.55	---	0.55
	T5 (T100°C)	0.25	0.55	0.25	0.37	0.25	0.37
	T6 (T80°C)	0.18	0.37	0.18	0.25	0.18	0.25
4	T3-T4 (T150°C-T135°C)	---	---	---	---	---	---
	(T125°C)	---	---	---	---	---	---
	T5 (T100°C)	---	---	0.18	0.37	---	0.25
	T6 (T80°C)	0.18	0.37	0.12	0.25	0.18	---
6	T3-T4 (T150°C-T135°C)	---	---	---	0.25	---	---
	(T125°C)	---	0.25	---	0.25	0.10	0.15
	T5 (T100°C)	---	0.18	---	0.18	---	---
	T6 (T80°C)	0.12	---	0.12	---	---	---
8	T3-T4 (T150°C-T135°C)	---	---	---	---	---	---
	(T125°C)	---	0.18	---	0.18	---	---
	T5 (T100°C)	---	---	---	---	---	---
	T6 (T80°C)	0.08	0.12	0.08	0.12	---	---

For IC418 version :
The air flow must cover at least all sections between fins and have a minimum speed (V) given in the table below:

	2P	4P	6P	8P
V (m/s)	5	3.5	2	1.5

[13] **SCHEDULE**

[14] **EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 14 ATEX 021 X Rev.2**

Temperature class / shaft power frame size F63-F71 (power in kilowatt) – 2nd part

		Three phases range(IC410)		Single phase range (IC410)		Three phases range with fan at the front	
Pole	Temperature class	F63	F71	F63	F71	F63	F71
2	T3-T4 (T150°C-T135°C)	0.25	0.37	---	---	---	0.75
	(T125°C)	---	0.25	0.18	0.25	---	---
	T5 (T100°C)	0.18(#)	---(#)	---(#)	---	0.25	0.55
	T6 (T80°C)	---	---	---	---	0.18	0.37
4	T3-T4 (T150°C-T135°C)	---	---	---	---	---	0.75
	(T125°C)	---	0.37	0.12	0.18	---	0.55
	T5 (T100°C)	0.18	0.25	---	---	---	---
	T6 (T80°C)	0.12(#)	0.18(#)	---	---	0.12	0.37
6	T3-T4 (T150°C-T135°C)	0.12	0.18	---	---	---	---
	(T125°C)	---	---	0.12	0.18	---	---
	T5 (T100°C)	---	---	---	---	---	0.18
	T6 (T80°C)	---(#)	---(#)	---	---	0.12	---
8	T3-T4 (T150°C-T135°C)	---	---	---	---	---	---
	(T125°C)	0.08	0.12	---	---	---	---
	T5 (T100°C)	---	---	---	---	---	0.18
	T6 (T80°C)	---(#)	---(#)	---	---	0.08	0.12

(#) Using S3, working time = rest time = 30 minutes with the following powers regime:

	2P	4P	6P	8P
Watt	490	370	250	200

[13] **SCHEDULE**

[14] **EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 14 ATEX 021 X Rev.2**

Temperature class / shaft power frame size F80 (power in kilowatt)

		Three – phases range (IC411-IC418)	Three – phases range with brake (IC411-IC418)	Single phase range (IC411-IC418)	Three-phases range (IC410)	Three-phases range (IC410)	Single phase range with terminal box at the rear
Pole	Temperature class	Duty S1	Duty S1(**)	Duty S1	Duty S1	Duty S3(*)	Duty S1
2	T3-T4 (T150°C-T135°C)	---	---	---	---	1.5	0.25
	(T125°C)	---	1.1	---	---	---	---
	T5 (T100°C)	---	0.75	---	0.55	---	---
	T6 (T80°C)	1.5	0.37	1.1	0.37	---	---
4	T3-T4 (T150°C-T135°C)	---	---	---	0.75	1.0	0.25
	(T125°C)	1.1	0.75	0.75	0.55	---	---
	T5 (T100°C)	---	0.55	0.55	0.37	---	---
	T6 (T80°C)	0.75	0.37	0.37	0.25	---	---
6	T3-T4 (T150°C-T135°C)	0.75	---	---	---	0.75	0.18
	(T125°C)	---	0.55	0.37	0.37	---	---
	T5 (T100°C)	0.55	0.37	0.25	0.25	---	---
	T6 (T80°C)	0.25	---	---	0.18	---	---
8	T3-T4 (T150°C-T135°C)	---	---	---	---	0.55	---
	(T125°C)	0.37	0.37	---	0.25	---	---
	T5 (T100°C)	---	0.18	---	0.18	---	---
	T6 (T80°C)	0.25	---	---	---	---	---

For IC418 version :
The air flow must cover at least all sections between fins and have a minimum speed (V) given in the table below:

	2P	4P	6P	8P
V (m/s)	8	5	2.5	1.5

(*) Working Time = Rest time = 30 minutes.

(**) Usable S3 duty - Marche <= 1 minute; Off> = 15 seconds

[13] **SCHEDULE**

[14] **EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 14 ATEX 021 X Rev.2**

Temperature class / shaft power frame size L80 (power in kilowatt)

Products range		Three phase range			Single phase range		
		Motor IC410		Motor IC411/IC418	Motor IC410		Motor IC411/IC418
Temperature Class		S1	S2, 30 mn	S1	S1	S2, 30 mn	S1
Pole	Temperature Class	S1	S2, 30 mn	S1	S1	S2, 30 mn	S1
2	T3-T4 (T150°C-T135°C)	---	1.1	1.85	---	0.75	---
	(T125°C)	0.55	---	1.5	0.37	---	---
	T5 (T100°C)	0.37	0.75	1.1	---	0.55	1.1
	T6 (T80°C)	0.25	---	0.75	0.25	---	0.75
4	T3-T4 (T150°C-T135°C)	0.75	1.5	1.1	---	1.1(*)	---
	(T125°C)	---	---	---	0.55	---	0.75
	T5 (T100°C)	0.55	1.1	---	0.37	0.75	0.55
	T6 (T80°C)	0.25	---	0.75	0.25	---	0.37
6	T3-T4 (T150°C-T135°C)	---	0.75	0.75	---	---	---
	(T125°C)	0.37	---	---	---	---	---
	T5 (T100°C)	0.25	0.55	0.55	---	---	---
	T6 (T80°C)	0.18	---	0.25	---	---	---
8	T3-T4 (T150°C-T135°C)	---	0.37	---	---	---	---
	(T125°C)	0.25	---	0.37	---	---	---
	T5 (T100°C)	0.18	0.25	---	---	---	---
	T6 (T80°C)	---	---	0.25	---	---	---

For IC418 version :
The air flow must cover at least all sections between fins and have a minimum speed (V) given in the table below:

	2P	4P	6P	8P
V (m/s)	8	5	2.5	1.5

(*) 0.75 kW is possible with duty service S2, 1 hour

[13] **SCHEDULE**

[14] **EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 14 ATEX 021 X Rev.2**

Warning label

"WARNING – POTENTIAL ELECTROSTATIC CHARGES HAZARD – SEE SAFETY INSTRUCTIONS" (only for special painted motors).

[16] **Report no.** R 14 EX 018 Rev.2

This EC type examination certificate is issued on the basis of a positive assessment of compliance with Directive 94/9/EC, the harmonized standards EN 60079-0:2012, EN 60079-1:2007, EN 60079-7:2007, EN 60079-31:2009 performed by the notified body TÜV Italy srl, quoted in the above-mentioned audit report.

Routine tests

Manufacturer shall carry out the following routine test:

- Motor enclosure F63-F71 for gas group IIC (according to drawing no. 99 01 00002) / IIB (according to drawing no. 99 01 00001) / IIC (according to drawing no. 99 01 00002): overpressure test according to EN 60079-1:2007 with pressure not less than 18.2 / 23.6 / 33.8 bar in a period of at least 10 s.
  The other sized (F56 and F80) were tested with 4x Pref so routine tests can be avoided.
- Motor with Ex e terminal box: dielectric strength test according to EN60079-7 with voltage (2Un+1000)V in period of at least 60 sec. or 1.2* (2Un+1000)V for at least 100 ms.

Listed documents (prot. 240087)

Description	Drawing n°	Pages	Revision	Dated
Warning plate drawing	C140580_A	1	N.a.	05/03/2014
Main nameplate drawing 1	C140580_B	1	N.a.	05/03/2014
Main nameplate drawing 2	C140580_C	1	N.a.	05/03/2014
Inverter nameplate drawing	C140580_I	1	N.a.	05/03/2014
Terminal box cable entries data plates	C283139	1	N.a.	12/12/2012
Auxiliaries data plates	C280715_1	1	N.a.	05/10/2012
Motor type frame 56 Aluminium Three phase - Single phase - Bell Frame	990000001_B	1	B	09/01/2014
Motor type frame 63-71 Aluminium Three phase - Annular Frame	990100001_B	1	B	09/01/2014
Motor type frames 63-71 Aluminium Three phase - Single phase - Annular Frame	990100002_B	1	B	09/01/2014
Motor type frame 63-71 Aluminium Three phase with brake - Annular Frame	990100004_B	1	B	09/01/2014
Motor type frames 63-71 Aluminium Three phase - Single phase - Bell Frame	990100005_B	1	B	09/01/2014

Motor type frame 80 Aluminium Three phase - Single phase - Annular Frame	990300003_B	1	B	09/01/2014
Motor type frame 80 Aluminium Three phase with brake - Annular Frame	990300006_B	1	B	10/01/2014
Motor type frame 80 Aluminium Three phase - Single phase - Bell Frame	990400001_B	1	B	10/01/2014
63-71-80 Increased safety terminal box “Ex e” cable entries without terminal box – IP65	990300001_C	1	C	16/07/2014
Technical note	NT/MG/F0580L80/14	N.a.	18	21/02/2014
EC Declaration of conformity	Dich.CE_2G_2D_F-L	N.a.	1	N.a.
Safety instructions	SD-7.1	N.a.	1	03-14

One copy of all documents is kept in TÜV Italia files.

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

The flame paths are specified in the manufacturers drawings. For information regarding the dimensions of the flameproof joints, the manufacturer shall be contacted.

In special cases the suitable paint system is not in compliance to thickness limit indicated for gas group IIC. In order to minimize the risk of hazards caused by electrostatic charges, clean the motor only with a wet rag or by non frictional means.

The surface temperature determination was based on operation within “zone A” (IEC 60034-1), ± 5% of rated voltage.

For use with non sinusoidal or variable frequency supplies the motor is fitted with thermal protection in the form of one PTO, PTC, PT100 or PT1000 thermal probe per phase in the drive end stator winding overhang. These are to be connected to a protection circuit so as to limit the stator temperature to:

- 80°C for temperature class T6/T85°C
- 90°C fot temperature class T5/T100°C
- 130°C for temperature class T4/135°C

The cable temperature in motors with terminal boxes intended for ambient temperature > 50°C at the entry point is greater than 70°C, and at the branching point is greater than 80°C, respectively, therefore motor connection shall be provided with cable of temperature stability:

- > 90°C for Ta = 50°C
- > 100°C for 50°C < Ta < 60°C
- > 120°C for 60°C < Ta < 80°C

[18] **Essential Health and Safety Requirements**

Assured by compliance with the standards set out in the [9].