"MINPROEKT" JSC

CERTIFICATE

[1] **EC-TYPE-EXAMINATION CERTIFICATE**
(Translation)

[2] Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres – Directive 94/9/EC

[3] **EC-type-examination Certificate Number: MP 13 ATEX 0102 X**

[4] **Product (Equipment or protective system): Indiuction motors, series, type АИМ ТУ 3341-146-05806720-2001**

[5] Applicant: **JSC Prompribor**

[6] Address: 40 Mira Street, Livny town, Orel Region, Russia, 303858

[5] Manufacturer: **JSC Prompribor**

[6] Address: 40 Mira Street, Livny town, Orel Region, Russia, 303858

[7] This product (equipment or protective system) and any acceptable variation thereto are specified in details in the schedule to this certificate and the documents therein referred to.

[8] Minproekt JSC, notified body No.1877 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 or protective system, intended for use in potentially explosive atmospheres, specified in Annex II of the Directive.
The examination and test results are recorded in:

Confidential test report No. 23/11.10.2013

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2009; 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 this equipment or protective system is subject to special conditions for save use, specified in the schedule to this certificate.

[11] This EC-type-examination Certificate relates only to the design and the construction of this specified equipment or protective system in accordance with Directive 94/9/EC.
This certificate does not cover the requirements of the Directive on the forthcoming procedures relating to the production process and the delivery of the product.

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

II 2 G Ex d IIB T4 Gb / II 2 G Ex d e IIB T4 Gb / II 3 G Ex d IIC T4 Gc

II 2 D Ex t_b IIIA T 135°C IP54 Db **$-45^0C \leq T_a \leq +50^0C$**

This certificate does not authorize the manufacturer or his authorized representative to affix the CE mark followed by the identification number of the Notified Body as well as the marketing and / or use.

Sofia, 2013-10-23

Executive Director:
/dipl. eng H. Hubenov/

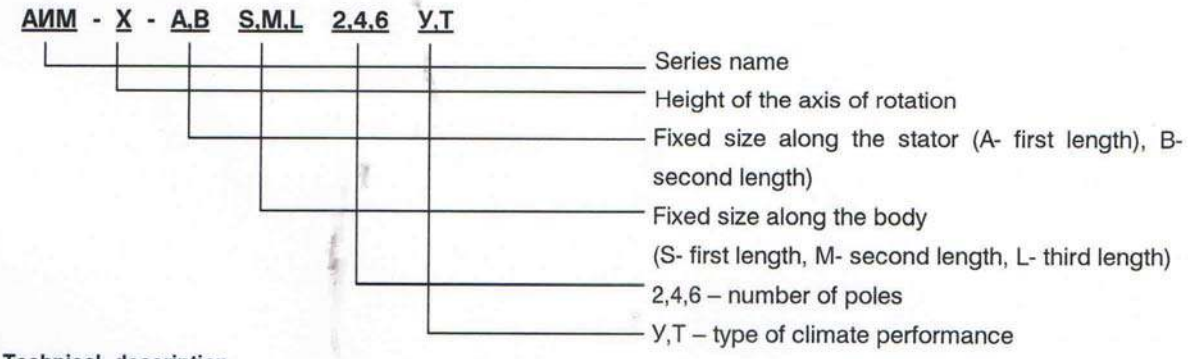
"Minproekt "JSC, Sofia 1756, Bulgaria, 14 "Kliment Ohridski" avenue
tel.:02/975-82-20,fax:02/975-33-48
e-mail: office@minproekt.com
www.minproekt.com

Division "Scientific and Research Activity"
tel. : 07718/2340, 07718/2240
e-mail: minproektvs@abv.bg

[13] Schedule

[14] EC-type-examination certificate No. MP 13 ATEX 0102 X (Translation)

[15] Characteristics of the type, subject to the examination



1. Technical description

The motors consist of the following main parts: body, rotor, fan, fan casing, bearing shields and input device. The body and the bearing shields are made of cast iron. The stator windings are made of copper enamelled wires with insulation having a heat resistance class F (155 ^{0}C). The rotor of the motor is short-circuited, and comprises a shaft and pressed on it core poured with aluminum. A fan is used, fixed to the rotor shaft, for cooling the motor. The fan is covered with a fan casing.
The motor has a thermoresistor temperature protection built in the stator windings, which is triggered upon reaching 130^{0}S. The entrance box of the motor has a standard cable entry with rubber seal without a device for relieving the cable.

2. Technical data

Overall dimension of the motor	Power kW	Synchro-nous rotation frequency rpm	Effi-ciency %	Cos φ	Nominal slippage %	$I_{start.}/I_{nom.}$	$M_{start.}/M_{nom.}$	$M_{min.}/M_{nom}$	$M_{max.}/M_{nom}$
63A2	0,37	3000	73,2	0,84	10,0	5,0	2,6	1,4	2,6
63B2	0,55	-//-	76,2	0,85	10,0	5,9	2,8	1,4	2,6
71A2	0,75	-//-	78,5	0,83	6,0	6,0	2,1	1,6	2,2
71B2	1,1	-//-	79,0	0,83	6,5	6,0	2,1	1,6	2,2
80A2	1,5	-//-	81,0	0,85	5,0	7,0	2,1	1,6	2,2
80B2	2,2	-//-	83,0	0,87	5,0	7,0	2,0	1,6	2,2
90L2	3,0	-//-	84,5	0,88	4,5	7,0	2,0	1,6	2,2
100S2	4,0	-//-	85,5	0,87	4,0	6,7	2,3	1,8	2,8
100L2	5,5	-//-	86,0	0,89	4,8	6,7	2,2	1,8	2,7
112M2	7,5	-//-	88,0	0,90	4,2	7,0	2,4	2,0	3,1
132M2	11,0	-//-	88,0	0,90	3,0	7,5	1,6	1,2	2,2
132MB2	15,0	-//-	89,5	0,88	2,6	6,5	2,1	1,4	2,4

Sofia, 2013-10-23

Executive Director:
/dipl. eng H. Hubenov/

"Minproekt "EAD, Sofia 1756, Bulgaria
14 "Kliment Ohridski" avenue
tel.: 02/975-82-20, fax: 02/ 975-33-48
e-mail: office@minproekt.com – Sofia
www.minproekt.com

Division "Scientific and Research Activity"
tel.: 07718/2340,07718/2240
e-mail: minproektvs@abv.bg - Dragichevo

[13] Schedule

[14] EC-type-examination certificate No. MP 13 ATEX 0102 X (Translation)

[15] Characteristics of the type, subject to the examination

2. Technical data (continued)

Overall dimension of the motor	Power kW	Synchro-nous rotation frequency rpm	Effi-ciency %	Cos φ	Nominal slippage %	$I_{start.}/I_{nom.}$	$M_{start.}/M_{nom.}$	$M_{min.}/M_{nom}$	$M_{max.}/M_{nom}$
63A4	0,25	1500	70,0	0,75	10,0	4,1	2,2	1,3	2,3
63B4	0,37	-//-	71,2	0,77	10,0	4,1	2,2	1,3	2,3
71A4	0,55	-//-	71,0	0,73	10,0	5,0	2,3	1,8	2,4
71B4	0,75	-//-	75,0	0,80	10,0	5,0	2,5	1,6	2,2
80A4	1,1	-//-	75,0	0,81	7,0	5,5	2,2	1,6	2,2
80B4	1,5	-//-	78,0	0,83	7,0	5,5	2,2	1,6	2,2
90L4	2,2	-//-	81,0	0,83	5,0	6,5	2,1	1,6	2,2
100S4	3,0	-//-	82,0	0,81	5,3	5,3	2,0	1,6	2,6
100L4	4,0	-//-	84,2	0,83	4,9	5,5	2,2	1,6	2,6
112M4	5,5	-//-	87,0	0,84	4,0	7,0	2,3	1,8	2,8
132MA4	7,5	-//-	87,5	0,86	4,0	7,5	2,2	1,6	2,5
132M4	11,0	-//-	88,5	0,85	3,3	7,5	2,2	1,6	3,1
132MB4	15,0	-//-	90,0	0,85	2,5	6,8	2,2	1,2	2,5
71A6	0,37	1000	65,0	0,66	8,5	4,5	2,0	1,6	2,2
71B6	0,55	-//-	68,5	0,70	8,5	4,5	2,0	1,6	2,2
80A6	0,75	-//-	70,0	0,72	8,0	4,5	2,0	1,6	2,2
80B6	1,1	-//-	74,0	0,74	8,0	4,5	2,0	1,6	2,2
90L6	1,5	-//-	76,0	0,72	6,5	6,0	2,0	1,6	2,2
100L6	2,2	-//-	81,5	0,74	4,5	5,2	2,0	1,4	2,5
112MB6	4,0	-//-	82,6	0,78	4,6	5,6	2,0	1,6	3,2
132MA6	5,5	-//-	85,0	0,80	4,0	7,0	2,0	1,6	2,2
132M6	7,5	-//-	85,5	0,81	4,0	7,0	2,0	1,6	2,2

2.1. Operating Temperature Range: from -45 °C to +50 °C

2.2. Rated voltage: AC - 220W (triangle), 380V (star)

2.3. Degree of protection (IP code):

- for the motor – IP54;
- for the fan casing on the side of the incoming stream IP20

2.4. Allowable vibration: no more than 1,8 mm / s.

3. Application field

Th induction motors of type series АИМ are designed to drive machines and mechanisms involved in chemical, gas, petrochemical and more. industries where there is a possibility of forming a potentially explosive atmosphere.

Sofia, 2013-10-23

Executive Director:
/dipl. eng H. Hubenov/

"Minproekt "EAD, Sofia 1756, Bulgaria
14 "Kliment Ohridski" avenue
tel.: 02/975-82-20, fax: 02/ 975-33-48
e-mail: office@minproekt.com – Sofia
www.minproekt.com

Division "Scientific and Research Activity"
tel.: 07718/2340,07718/2240
e-mail: minproektvs@abv.bg - Dragichevo

[13] Schedule

[14] EC-type-examination certificate No. MP 13 ATEX 0102 X (Translation)

[15] Characteristics of the type, subject to the examination

4. Marking

- A trademark of the producer;
- A conditional sign of the motor
- A sign of the Notified body
- Marking of explosion protection
- Serial number
- Year of manufacture.

[16] Test report No23/11.10.2013

[17] Special requirements for safety use – The operating temperature range is -45 ^{0}C to +50 ^{0}C, and it differs from the standard (-20 ^{0}C to +40 ^{0}C).

[18] Essential requirements

18.1. According to Directive 94/9/EC and the user instructions, the product is not allowed for zone 0

18.2. Other essential safety requirements are covered by the standards pointed in [9].

[19] List of the technical record parts

19.1 Operation manual operation of induction motors type АИМ, including:

19.1.1 Description and operation principle (purpose)

19.1.2 Description and operation principle (technical data)

19.1.3 Safety Precautions

19.1.4 Structure of the motor

19.1.5 Ensuring explosion protection

19.1.6 Preparation of the motor for working

19.1.7 Using the engine

19.1.8 Maintenance

19.1.9 Transport, storage and utilization

19.1.10 Certificate for the content of non-ferrous metals and alloys in the motors

19.2 Presented reports

Hang-over report (factory tests)of the induction motors, type АИМ 132, serial № 0256, № 0257 – without a date Permissions for acceptance is applied for the motors - Permission for acceptance from № РРС 00-36032 to 23.09.2014/15.02.2013 for a serial № 0256 and Permission for acceptance from № РРС 00-36032 to 23.09.2014/15.02.2013 for a serial. № 0257

19.3 Presented certificates

19.3.1 Induction motor, type АИМ - Certificate of Conformity № РОСС RU.ГБ 05.В03762 (valid to 01.12.2014)

19.3.2 Cast iron СЧ20 - Certificate for Quality № 15/03.12.2012; Certificate for Quality № 16/11.12.2012; Certificate for Quality № 17/19.12.2012

19.3.3 Press polyester (premix) DMC -20-PM - Passport for quality

19.4 List of harmonized standards (in the operatinon manual)

19.5 Constructional documentation containing: АИМ63 – 284.00.00.00; АИМ71 – 895.00.00.00; АИМ80 – 094.00.00.00; АИМ90 – 244.00.00.00; АИМ100 – 288.00.00.00; АИМ112 – 304.00.00.00; АИМ132 – 082.00.00.00; Entrance box I – 244.03.00.00; Entrance box II – 895.10.00.00.

Sofia, 2013-10-23
Executive Director:
/dipl. eng H. Hubenov/

"Minproekt "EAD, Sofia 1756, Bulgaria
14 "Kliment Ohridski" avenue
tel.: 02/975-82-20, fax: 02/ 975-33-48
e-mail: office@minproekt.com – Sofia
www.minproekt.com

Division "Scientific and Research Activity"
tel.: 07718/2340,07718/2240
e-mail: minproektvs@abv.bg - Dragichevo