Physical Technical Testing Institute
Ostrava – Radvanice

(1) # EC-Type Examination Certificate

(2) **Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres (Directive 94/9/EC)**

(3) EC-Type Examination Certificate Number:

FTZÚ 15 ATEX 0083

(4) Equipment: **Three-phase asynchronous motors types 1MB1511-..., 1MB1513-... frame size: -0C..., -0D..., -0E... (71 to 90)**

(5) Manufacturer: **Siemens AG, Process Industries and Drives, Large Drives, Products**

(6) Address: **Vogelweiherstraße 1-15, 90441 Nürnberg, Germany**

(7) This equipment or protective system and any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physical Technical Testing Institute, notified body number 1026 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 N°:

15/0083 dated 20.10.2015

(9) Compliance with Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012 EN 60079-31:2014

(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 testing 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 following:

II 2D Ex tb IIIC T120°C Db

This EC-Type Examination Certificate is valid till: **20.10.2020**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

Date of issue: 20.10.2015

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Annex: 1 (4 pages)

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(13) **Schedule**

(14) EC-Type Examination Certificate N° FTZÚ 15 ATEX 0083

(15) Description of Equipment:

The electric motors types 1MB1511-..., 1MB1513-... are designed for application in explosive dust atmosphere and have explosion protection by enclosure "t".

These electric motors are low voltage asynchronous squirrel cage motors. They have surface cooling with external fan fastened on shaft of electric motor.

The enclosures of electric motor and terminal box are made of cast iron. The external fans are made of aluminium alloy. The fan covers are made of steel plates. The shaft is fastened in roller bearings. The squirrel cage is made from die-cast of aluminium.

The connection design of separate parts and used sealing materials ensure degree of protection provided by cover IP 65 or IP 66. For sealing of contact surfaces of electric motor body and terminal box and detachable parts of terminal box are used gaskets or special profile silicone sealing. The shaft sealing of electric motor in enclosure provides: a DIN3760 shaft sealing ring. Material of these sealing rings is HNBR. The flange motors designed for assembly on gear boxes use a radial shaft sealing for oil sealing.

The electric connection is made in terminal box that is equipped with connection terminals. Entry of cable into the terminal box provide Ex cable glands separately certified for category II2D, according to Directive 94/9/EC and ensure degree of protection IP65 at least.

The electric motor windings could be optionally equipped with temperature sensors PTC, KTY, or resistance temperature sensors. Inside of electric motor can be also installed heating units for prevention of wet air condensation when the electric motor is switched off.

Electrical parameters of basic versions of electric motors are given in annex to this certificate.

General technical parameters:

Ambient temperature:	-20°C ≤ Ta ≤ +40°C, or
	-40°C ≤ Ta ≤ +40°C
	-20°C ≤ Ta ≤ +60°C with decreased output power of electrical motors,
	-40°C ≤ Ta ≤ +60°C with decreased output power of electrical motors.

Motors supplied by voltage with frequency 50Hz:

Voltage:	from 200V to 690 V, voltage tolerances: ± 10%
Outputs:	from 0,09 kW to 2,2 kW
Duty type:	S1
Number of poles:	2, 4, 6, 8.

Motors supplied by voltage with frequency 60Hz:

Voltage:	from 220V to 690 V, voltage tolerances: ± 10%
Outputs:	from 0,105 kW to 2,55 kW
Duty type:	S1
Number of poles:	2, 4, 6, 8.

(16) Report No.: 15/0083

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE
FYZIKÁLNĚ-TECHNICKÝ ZKUŠEBNÍ ÚSTAV
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(13) **Schedule**

(14) EC-Type Examination Certificate N° FTZÚ 15 ATEX 0083

(17) Special conditions for safe use: No conditions.

(18) Essential Health and Safety Requirements:
They are included in standards, which are mentioned in clause (9) of this certificate. The product was approved in accordance with above mentioned standards.

(19) List of Documentation:

Technical description electric motors series:		
1MB1511-..., 1MB1513-... frame size (71 to 90) (tb)		19.06.2015
Winding data printout, under the list		
No. TRNR_overview_1MB15_ExnA_tc_tb_AH71_90		28.08.2015
Catalogue electric motor data.		
No. katalog_data_1MB15_ExnA_tc_tb_AH71_90		27.08.2015
Drawings No.:	A5E35687387A-AA	10.02.2015
	A5E35765293A-AA	26.02.2015
	A5E36441264A-AA	30.07.2015
	A5E36503507A_AA	12.08.2015
	1_38330500_01_000_G	20.09.2006
	16354010399000_AB	10.10.2013
	2383.7200v1_00	24.02.2006
	5_383_00001_01_000_A	25.04.2013
	5_635_80000_20_001	20.10.2005
	5_635_80000_20_002	20.10.2015
	5_635_80000_20_003	15.11.2011
	5_635_80000_20_004	18.01.2012
	5_635_80000_40_000	20.10.2005
	5_901_81002_90_000	03.10.2013
	5_901_81002_90_001_A	26.05.2014
Description of the insulation system No. 5_650_13310_00_077		28.06.2010
Instruction for use No. 56100000002002		05/2013
Paint system PTN 143.1		05.04.2015

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Physical Technical Testing Institute
Ostrava – Radvanice

Annex No. 1
to EC-Type Examination Certificate N° FTZÚ 15 ATEX 0083

Manufacturer: **Siemens AG, Process Industries and Drives, Large Drives, Products**
Address: **Vogelweiherstraße 1-15, 90441 Nürnberg, Germany**

Equipment: **Three-phase asynchronous motors types 1MB1511-..., 1MB1513-...**
frame size: -0C..., -0D..., -0E... (71 to 90)

Rated parameters of basic versions of electric motors **Ex tb IIIC T120°C Db:**

Type	400 V 50Hz			460 V 60Hz		
	Output [kW]	Current [A]	Speed [min^{-1}]	Output [kW]	Current [A]	Speed [min^{-1}]
2-pole	(3000 min^{-1}) IE2			(3600 min^{-1})		
1MB1511-0CA2	0,37	0,95	2770	0,43	0,93	3370
1MB1511-0CA3	0,55	1,34	2780	0,63	1,34	3380
1MB1511-0DA2	0,75	1,67	2805	0,86	1,7	3410
1MB1511-0DA3	1,1	2,4	2835	1,27	2,3	3430
1MB1511-0EA0	1,5	3,15	2885	1,75	3,1	3480
1MB1511-0EA4	2,2	4,5	2890	2,55	4,35	3485

Type	400 V 50Hz			460 V 60Hz		
	Output [kW]	Current [A]	Speed [min^{-1}]	Output [kW]	Current [A]	Speed [min^{-1}]
4-pole	(1500 min^{-1}) IE2			(1800 min^{-1})		
1MB1511-0CB2	0,25	0,76	1395	0,29	0,75	1695
1MB1511-0CB3	0,37	1,02	1380	0,43	1,04	1680
1MB1511-0DB2	0,55	1,39	1440	0,63	1,42	1735
1MB1511-0DB3	0,75	1,79	1440	0,86	1,82	1740
1MB1511-0EB0	1,1	2,5	1425	1,27	2,45	1725
1MB1511-0EB4	1,5	3,3	1435	1,75	3,3	1730

Responsible person:
Dipl. Ing. Lukáš Martinák
Head of certification body

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Physical Technical Testing Institute
Ostrava – Radvanice

Annex No. 1
to EC-Type Examination Certificate N° FTZÚ 15 ATEX 0083

Manufacturer: **Siemens AG, Vogelweiherstraße 1-15, 90441 Nürnberg, Germany**

Equipment: **Three-phase asynchronous motors types 1MB1511-..., 1MB1513-...**
frame size: -0C..., -0D..., -0E... (71 to 90)

Rated parameters of basic versions of electric motors **Ex tb IIIC T120°C Db:** - continuous

Type	400 V 50Hz			460 V 60Hz		
	Output [kW]	Current [A]	Speed [min^{-1}]	Output [kW]	Current [A]	Speed [min^{-1}]
6-pole	(1000 min^{-1}) IE2			(1200 min^{-1})		
1MB1511-0CC2	0,18	0,68	875	0,21	0,72	1075
1MB1511-0CC3	0,25	0,84	870	0,29	0,87	1070
1MB1511-0DC2	0,37	1,14	925	0,43	1,22	1125
1MB1511-0DC3	0,55	1,65	935	0,63	1,76	1135
1MB1511-0EC0	0,75	2,05	935	0,86	2,1	1135
1MB1511-0EC0	0,75	1,95	935	0,86	2,05	1135
1MB1511-0EC4	1,1	2,9	935	1,27	3,05	1135

Type	400 V 50Hz			460 V 60Hz		
	Output [kW]	Current [A]	Speed [min^{-1}]	Output [kW]	Current [A]	Speed [min^{-1}]
8-pole	(750 min^{-1})			(900 min^{-1})		
1MB1511-0CD2	0,09	0,5	630	0,11	0,53	790
1MB1511-0CD3	0,12	0,65	640	0,14	0,69	795
1MB1511-0DD2	0,18	0,93	690	0,21	0,97	840
1MB1511-0DD3	0,25	1,3	705	0,29	1,27	855
1MB1511-0ED0	0,37	1,34	675	0,43	1,33	830
1MB1511-0ED4	0,55	1,74	665	0,63	1,77	820

Responsible person:

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Manufacturer: **Siemens AG, Vogelweiherstraße 1-15, 90441 Nürnberg, Germany**

Equipment: **Three-phase asynchronous motors types 1MB1511-..., 1MB1513-...**
frame size: -0C..., -0D..., -0E... (71 to 90)

Rated parameters of basic versions of electric motors **Ex tb IIIC T120°C Db:** - continuous

Type	400 V 50Hz			460 V 60Hz		
	Output [kW]	Current [A]	Speed [min^{-1}]	Output [kW]	Current [A]	Speed [min^{-1}]
2-pole	(3000 min^{-1}) IE3			(3600 min^{-1})		
1MB1513-0CA2	0,37	0,95	2850	0,43	0,97	3445
1MB1513-0CA3	0,55	1,34	2850	0,63	1,35	3450
1MB1513-0DA2	0,75	1,56	2850	0,86	1,63	3450
1MB1513-0DA3	1,1	2,25	2885	1,27	2,25	3480
1MB1513-0EA0	1,5	3	2910	1,75	2,95	3510
1MB1513-0EA4	2,2	4,2	2910	2,55	4,2	3510

Type	400 V 50Hz			460 V 60Hz		
	Output [kW]	Current [A]	Speed [min^{-1}]	Output [kW]	Current [A]	Speed [min^{-1}]
4-pole	(1500 min^{-1}) IE3			(1800 min^{-1})		
1MB1513-0CB2	0,25	0,68	1395	0,29	0,69	1695
1MB1513-0CB3	0,37	0,99	1410	0,43	0,99	1710
1MB1513-0DB2	0,55	1,26	1440	0,63	1,25	1740
1MB1513-0DB3	0,75	1,75	1450	0,86	1,72	1750
1MB1513-0EB0	1,1	2,4	1440	1,27	2,35	1740
1MB1513-0EB4	1,5	3,15	1445	1,75	3,15	1740

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Annex No. 1
to EC-Type Examination Certificate N° FTZÚ 15 ATEX 0083

Manufacturer: **Siemens AG, Vogelweiherstraße 1-15, 90441 Nürnberg, Germany**

Equipment: **Three-phase asynchronous motors types 1MB1511-..., 1MB1513-...**
frame size: -0C..., -0D..., -0E... (71 to 90)

Rated parameters of basic versions of electric motors **Ex tb IIIC T120°C Db:** - continuous

Type	400 V 50Hz			460 V 60Hz		
	Output [kW]	Current [A]	Speed [min^{-1}]	Output [kW]	Current [A]	Speed [min^{-1}]
6-pole	(1000 min^{-1}) IE3			(1200 min^{-1})		
1MB1513-0CC2	0,18	0,59	885	0,21	0,57	1085
1MB1513-0CC3	0,25	0,76	885	0,29	0,74	1085
1MB1513-0DC2	0,37	1,1	940	0,43	1,09	1140
1MB1513-0DC3	0,55	1,53	935	0,63	1,44	1135
1MB1513-0EC0	0,75	1,96	945	0,86	1,87	1140
1MB1513-0EC4	1,1	2,85	940	1,27	3,05	1140

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body

PHYSICAL-TECHNICAL TESTING INSTITUTE FYZIKÁLNĚ-TECHNICKÝ ZKUŠEBNÍ ÚSTAV FTZÚ Ex AO 210 NB 1026

Date of issue: 20.10.2015

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Physical Technical Testing Institute
Ostrava – Radvanice

(1)

Supplement No. 1 to EC-Type Examination Certificate

(2) **Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres (Directive 94/9/EC)**

(3) EC-Type Examination Certificate Number:

FTZÚ 15 ATEX 0083

(4) Equipment: **Three-Phase Asynchronous Motor type: 1MB1511-..., 1MB1513-...**
Frame size: -0C..., -0D..., -0E... (71 to 90)

(5) Manufacturer: **Siemens AG,**
Process Industries and Drives, Large Drives, Products

(6) Address: **Vogelweiherstraße 1-15, 90441 Nürnberg, Germany**

(7) This supplement of certificate is valid for:
- modification of certified apparatus
- prolongation of certificate validity

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, a list of which is mentioned in the schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on the market or introduce in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

EN 60079-0:2012; EN 60079-31:2014

(11) Marking of equipment shall contain symbols:

Ex II 2D Ex tb IIIC T120°C Db

(12) This type examination certificate is valid till: **11.03.2021**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE
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Date of issue: 11.03.2016

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(13) **Schedule**

(14) **Supplement No. 1 to**
EC-Type Examination Certificate N° FTZÚ 15 ATEX 0083

(15) Description of Equipment:

The object of this supplement is as follow:

- Prolongation of certificate validity.
- Verification of equipment modification as follows:

The electric motors type 1MB1511-..., 1MB1513-... can be alternatively operated with frequency converter type SINAMICS G120, S120, G180 or comparable converters described in the manufacturer documentation. The motor used in frequency converter supply windings is equipped with temperature sensors PTC. Nominal cut-off temperature of the PTC is +130 °C.

General technical parameters of motors operated with frequency converter.

The motors of the above mentioned models series cover the following max. rated data:

Rated voltage:	max. 690V ±10% (input of converter)
Outputs:	max. 2.55 kW
Duty type	S9
Frequency	from 2 Hz to 100 Hz
Ambient temperature	same as described in basic certificate

Motors for converter supply will be equipped with second name plate with converter and load dates.

Technical parameters and construction of motors described in basic certificate remain unchanged.

(16) Report No.: 15/0083-1 dated 11.03.2016

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ Ex AO 210 NB 1026

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(13) **Schedule**

(14) **Supplement No. 1 to**
EC-Type Examination Certificate N° FTZÚ 15 ATEX 0083

(17) Special conditions for safe use: None

(18) Essential Health and Safety Requirements:
They are included in standards, which are mentioned in clause (10) of this supplement to certificate.
The product was approved in accordance with above mentioned standards.

(19) List of Documentation:

Document No.:	*Date:*
Technical description electric motors series 1MB1511-..., 1MB1513-...; FS 71 to 90	23.02.2016
3_228_7_4_235_183_00 A	20.07.2009
A5E37583944A	16.02.2016
Table No.:	
2	17.02.2016
3.1 a 3.2	02.03.2016
4.1 a 4.2	02.03.2016
5.1 a 5.2	02.03.2016

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

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