



## EC-Type Examination Certificate

(1)

(2)

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

(3) EC-Type Examination Certificate Number:

**FTZÚ 13 ATEX 0039**

(4) Equipment:

Three-phase asynchronous motors types  
1MB1511-..., 1MB1513-..., 1MB1611-..., 1MB1613-...,  
frame size: -2B..., -2C..., -2D..., -3A..., (225 to 315)

(5) Manufacturer:

Siemens AG,  
Industry Sector, Drive Technologies Division, Large Drives

(6) Address:

Vogelweiherstraße 1-15, 90441 Nürnberg, Germany

(7) This equipment or protective system and any of acceptable variation thereto are 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°

**13/0039 dated 31.10.2013**

(9) Compliance with Essential Health and safety requirements has been assured by compliance with:

**EN 60079-0:2012      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 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:

**Ex II 2D    Ex tb IIIC T120°C Db or Ex tb IIIC T130°C Db**

This EC-Type Examination Certificate is valid till: 04.11.2018

Responsible person:

Dipl. Ing. Lukáš Martinák  
Head of certification body



Date of issue: 04.11.2013

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Annex: 1

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# Physical Technical Testing Institute

Ostrava-Radvanice

(13)

## Schedule

### (14) EC-Type Examination Certificate N° FTZÚ 13 ATEX 0039

#### (15) Description of Equipment:

The electric motors type 1MB1511-..., 1MB1513-..., 1MB1611-... and 1MB1613-... are designed for application in explosive dust atmosphere and have explosion protection by cover "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 fans and fan covers are made of steel plate. The axial fans are made from aluminium alloy. 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 IP66. 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 alternatively provides: a DIN3760 shaft sealing ring or V-ring shaft sealing. Material of these sealing rings is normally FPM. For service temperature and ambient temperature below -20°C are used sealing rings from HNBR or NBR. The shaft sealing V-ring is protected with additional stainless steel cover. 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. Alternatively permanently connected cable can be used. For both variant the entry of cable into the terminal box provide Ex cable glands separately certified for category II2D, according to Directive 94/9/ES 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. The application of heaters type RSV that are certified Ex components II2G with type of protection – increased safety "e", certificate Sira 02 ATEX 3410U (IECEX SIR 10.0151U) was verified.

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

#### **General technical parameters:**

Ambient temperature:  $-20^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$ , or

$-40^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$  for electrical motors with alternative materials,

$-20^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$  with decreased output power of electrical motors,

$-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$  for electrical motors with alternative materials and with decreased output power.

Insulation class: F

Degree of protection: IP65, IP66

#### *Motors supplied by voltage with frequency 50Hz:*

Voltage: from 200V to 690 V, voltage tolerances:  $\pm 10\%$

Outputs: from 18,5 kW to 200 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:  $\pm 10\%$

Outputs: from 22 kW to 230 kW

Duty type: S1

Number of poles: 2, 4, 6, 8

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Head of certification body



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Physical Technical Testing Institute  
Ostrava-Radvanice

(13)

Schedule

(14) **EC-Type Examination Certificate N° FTZÚ 13 ATEX 0039**

(16) Report No.: 13/0039

(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..., 1MB1611..., 1MB1613..., FS 225 to 315 (tb)	18.10.2013
Winding data printout, under the list in annex of technical description No. 1.1 and 1.2	
Catalogue electric motor data 1MB15x1...,	26.09.2013
Catalogue electric motor data 1MB15x3...,	18.07.2013
Drawings No.:	
59018225200001_AA	04.07.2013
59018280200001_AA	19.07.2013
59018225212000_AA	07.03.2013
59018280212000_AA	20.05.2013
59018315212000_AA	07.05.2013
59018225216000_AA	29.04.2013
59018280216000_AA	07.06.2013
59018315216000_AA	03.06.2013
59018315216001_AA	02.09.2013
59018000212000_AA	29.05.2013
59018225212002_AA	01.10.2013
59018180290000_AA	04.10.2013
5_901_82252_90_005_-	03.10.2013
5_901_82252_90_006_-	03.10.2013
5_901_82252_30_000	31.10.2013
Description of the insulation system No. 56501331000040	28.06.2010
Instruction for use No. 56100000002002	05/2013
Table No.: 1 TB_overview	19.09.2013
Production process No.: N7-07.007	01.09.2011
WB0027	14.02.2013

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# Physical Technical Testing Institute

## Ostrava-Radvanice

### Annex No.1 to

## EC-Type Examination Certificate N° FTZÚ 13 ATEX 0039

Manufacturer: **Siemens AG,**  
Industry Sector, Drive Technologies Division, Large Drives

Address: **Vogelweiherstraße 1-15, 90441 Nürnberg, Germany**

Equipment: **Three-phase asynchronous motors types**  
**1MB1511-..., 1MB1513-..., 1MB1611-..., 1MB1613-...,**  
frame size: **-2B... to -3A... ( 225 to 315 )**

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

Type	400 V 50Hz				460 V 60Hz			
	Output [kW]	Current [A]	Speed [min <sup>-1</sup> ]	Tx	Output [kW]	Current [A]	Speed [min <sup>-1</sup> ]	Tx
2-pole	(3000 min <sup>-1</sup> ) IE2				(3600 min <sup>-1</sup> )			
1MB1511-2BA	45	79	2965	120°C	51	78	3565	120°C
1MB1511-2CA	55	96	2970		62	94	3570	
1MB1511-2DA	75	133	2978		84	128	3578	
1MB1511-2DA	90	157	2975		101	151	3575	
1MB1511-3AA	110	187	2982		123	182	3582	
1MB1511-3AA	132	220	2982		148	215	3582	
1MB1511-3AA	160	265	2982		180	255	3580	
1MB1511-3AA	200	330	2982		224	320	3580	

4-pole	(1500 min <sup>-1</sup> ) IE2				(1800 min <sup>-1</sup> )			
	Output [kW]	Current [A]	Speed [min <sup>-1</sup> ]	Tx	Output [kW]	Current [A]	Speed [min <sup>-1</sup> ]	Tx
1MB1511-2BB	37	65	1470	120°C	42,5	65	1770	120°C
1MB1511-2BB	45	80	1475		52	80	1775	
1MB1511-2CB	55	100	1480		63	99	1780	
1MB1511-2DB	75	132	1485		86	130	1785	
1MB1511-2DB	90	159	1486		104	158	1785	
1MB1511-3AB	110	195	1490		127	195	1788	
1MB1511-3AB	132	230	1490		152	230	1788	
1MB1511-3AB	160	280	1490		184	275	1788	
1MB1511-3AB	200	350	1490		230	350	1790	

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# Physical Technical Testing Institute

Ostrava-Radvanice

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**frame size: -2B... to -3A... ( 225 to 315 )**

Rated parameters of basic versions of electric motors **Ex tb IIIC Tx°C Db**, continue:

Type	400 V 50Hz				460 V 60Hz			
	Output [kW]	Current [A]	Speed [min <sup>-1</sup> ]	Tx	Output [kW]	Current [A]	Speed [min <sup>-1</sup> ]	Tx
6-pole	(1000 min <sup>-1</sup> ) IE2				(1200 min <sup>-1</sup> )			
1MB1511-2BC	30	57	980	120°C	36	59	1175	120°C
1MB1511-2CC	37	70	982		44,5	73	1180	
1MB1511-2DC	45	83	985		54	87	1185	
1MB1511-2DC	55	99	985		66	104	1185	
1MB1511-3AC	75	138	988		90	143	1186	
1MB1511-3AC	90	165	988		108	171	1186	
1MB1511-3AC	110	196	988		132	200	1186	
1MB1511-3AC	132	235	988		158	240	1188	
1MB1511-3AC	160	285	988		192	290	1188	

8-pole	(750 min <sup>-1</sup> )			(900 min <sup>-1</sup> )				
1MB1511-2BD	18,5	38,5	730	120°C	22	38,5	880	120°C
1MB1511-2BD	22	44	730		26,5	45	880	
1MB1511-2CD	30	59	732		36	60	880	
1MB1511-2DD	37	75	736		44,5	76	885	
1MB1511-2DD	45	89	738		54	91	885	
1MB1511-3AD	55	107	740		66	110	890	
1MB1511-3AD	75	143	738		90	147	888	
1MB1511-3AD	90	167	740		108	174	890	
1MB1511-3AD	110	205	740		132	215	888	
1MB1511-3AD	132	250	740		158	255	888	

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1MB1513-2CA	55	95	2975		62	92	3575	
1MB1513-2DA	75	128	2975		84	125	3575	
1MB1513-2DA	90	152	2975		101	149	3575	
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4-pole	(1500 min <sup>-1</sup> ) IE3			(1800 min <sup>-1</sup> )				
1MB1513-2BB	37	66	1478	120°C	42,5	66	1778	120°C
1MB1513-2BB	45	80	1478		52	81	1778	
1MB1513-2CB	55	96	1482		63	97	1782	
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1MB1513-2CC	37	67	985		44,5	69	1182	
1MB1513-2DC	45	82	988		54	84	1186	
1MB1513-2DC	55	99	988		66	104	1186	
1MB1513-3AC	75	136	990		90	142	1190	
1MB1513-3AC	90	161	990		108	170	1189	
1MB1513-3AC	110	199	991		132	205	1190	
1MB1513-3AC	132	240	991		158	245	1190	
1MB1513-3AC	160	290	991		192	300	1190	

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