Physical-Technical Testing Institute
Ostrava - Radvanice

Type Examination Certificate

(1)

(2) **Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres (Directive 2014/34/EU)**

This Certificate has been extended.
Please download the extensions:
18_ATEX_0137_D1_en
18_ATEX_0137_D2_en
18_ATEX_0137_D3_en

(3) Type Examination Certificate number:

FTZÚ 18 ATEX 0137

(4) Product: **Three-phase asynchronous motors types: 1TE1521-..., 1TE1523-..., 1TE1621-..., 1TE1623-..., 1TE1531-..., 1TE1533-..., 1TE1631-..., 1TE1633-..., frame size: -1A..., -1B..., -1C..., -1D..., -1E..., -2A... (100 to 200)**

(5) Manufacturer: **Van Houcke NV**

(6) Address: **Vlamingveld 32, 8490 Jabbeke, Belgium**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014.

The examination and test results are recorded in confidential Report number:

18/0137 dated 27.11.2018

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

EN 60079-0:2012+A11:2013, EN 60079-15:2010; EN 60079-31:2014

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

(11) This type examination certificate relates only to the design of the specified product and not to specific items of equipment subsequently manufactured.

(12) The marking of the product shall include the following:

Ex II 3D	**Ex tc IIIB T120°C Dc** or **Ex tc IIIB T130°C Dc** or
Ex II 3G	**Ex nA IIC T3 Gc** or **Ex nA IIB T3 Gc** or
Ex II 3GD	**Ex nA IIC T3 Gc** **Ex tc IIIB T120°C Dc** or **Ex tc IIIB T130°C Dc**

This certificate is valid till: **11.03.2021**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

FYZIKÁLNĚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV, s.p. FTZÚ Ex OSTRAVA-RADVANICE

Date of issue: 30.11.2018

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Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
tel +420 595 223 111, fax +420 596 232 672, ftzu@ftzu.cz, www.ftzu.cz

(13) **Schedule**

(14) # Type Examination Certificate No. FTZÚ 18 ATEX 0137

(15) Description of Product:

The electric motors type 1TE1521-..., 1TE1523-..., 1TE1621-... and 1TE1623-... are designed for application in explosive dust atmosphere and have explosion protection by cover "tc".

The electric motors type 1TE1531-..., 1TE1533-..., 1TE1631-... and 1TE1633-... are designed for application in gas explosive atmosphere with "nA" type of protection. These motors are alternatively designed to match requirements of both types of protections "nA" and "tc".

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

Basic materials for mechanical parts of motor are cast iron (housing, terminal box, bearing end shields) and steel (shaft, fan cover). The shaft is fastened in roller bearings. The fans are made of plastic or steel plate or aluminium alloy. The axial fan with an aluminium hub and blues made from galvanised steel are used.

The connection design of particular parts and used sealing materials ensure degree of protection provided by cover minimally IP 55 for type of protection "nA" and minimally IP 65 for type of protection by cover "tc". 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. For sealing of shaft of electric motor are alternatively used radial shafts sealing rings or shaft V-rings (FPM, FKM, HNBR, NBR).

The squirrel cage rotor is made from die-cast aluminium, die-cast cooper or die-cast aluminium with coppers bar. Insulation system matches thermal class F. The electric connection is made in terminal box that is equipped with connection terminals. Alternatively permanently connected cable can be used. For both variants the entry of cable into the terminal box provide Ex cable glands.

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 electric motors type 1TE1521-..., 1TE1523-..., 1TE1621-..., 1TE1623-..., 1TE1531-..., 1TE1533-..., 1TE1631-..., 1TE1633-... 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.

Electrical parameters of basic versions of electric motors are given in annex No. 1 to this certificate.

General technical parameters:

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

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

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(13) **Schedule**

(14) # Type Examination Certificate No. FTZÚ 18 ATEX 0137

(15) Description of Product: - continuation

Motors supplied by voltage with frequency 50 Hz:

Voltage:	from 200 V to 690 V; voltage tolerances ±10 %
Outputs:	from 0,75 kW to 37 kW
Duty type:	S1
Number of poles:	2, 4, 6, 8

Motors supplied by voltage with frequency 60 Hz:

Voltage:	from 220 V to 690 V; voltage tolerances ±10 %
Outputs:	from 0,86 kW to 41,5 kW
Duty type:	S1
Number of poles:	2, 4, 6, 8

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. 41,5 kW
Duty type	S9
Frequency	from 2 Hz to 100 Hz
Ambient temperature	same as described in basic certificate
Maximum surface temperature:	T3; T120°C

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

(16) Report Number.: 18/0137

(17) Specific Conditions of Use:
None.

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (9) of this certificate.

(19) Drawings and Documents:

Number	Sheets	Issue	Date	Description
--	70	--	--	Installation, Operation & Maintenance Instructions
VH-0001-182211	1	--	22.11.2018	Rating plates – ATEX Motors

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

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Physical-Technical Testing Institute
Ostrava - Radvanice

ANNEX No. 1

to Type Examination Certificate No. FTZÚ 18 ATEX 0137

Manufacturer: **Van Houcke NV**
Address: **Vlamingveld 32, 8490 Jabbeke, Belgium**

Product: **Three-Phase Asynchronous Motor type:**
1TE1521-..., 1TE1523-..., 1TE1621-..., 1TE1623-...,,
1TE1531-..., 1TE1533-..., 1TE1631-..., 1TE1633-...,
frame size: -1A..., -1B..., -1C..., -1D..., -1E..., -2A..., (100 to 200)

Rated parameters of basic versions of electric motors **Ex nA IIC T3 Gc, Ex tc IIIB Tx°C Dc**:

Type	400 V 50 Hz				460 V 60 Hz			
	Output [kW]	Current [A]	Speed [min^{-1}]	"nA": T3 "tc": Tx	Output [kW]	Current [A]	Speed [min^{-1}]	"nA": T3 "tc": Tx
2-poles	(3000 min^{-1}) IE2				(3600 min^{-1})			
1TE15.1-1AA4	3	6,1	2905	120 °C	3,45	5,8	3505	120 °C
1TE15.1-1BA2	4	7,8	2950		4,55	7,5	3550	
1TE15.1-1CA0	5,5	10,5	2950		6,3	10,2	3550	
1TE15.1-1CA1	7,5	14,1	2950		8,6	13,7	3550	
1TE15.1-1DA2	11	20,5	2955		12,6	19,9	3555	
1TE15.1-1DA3	15	27	2955		17,3	27,0	3555	
1TE15.1-1DA4	18,5	33,5	2955		21,3	33,0	3555	
1TE15.1-1EA2	22	40	2940		24,5	39,0	3540	
1TE15.1-2AA4	30	54	2960		33,5	53,0	3560	
1TE15.1-2AA5	37	66	2960		41,5	64,0	3560	

4-poles	(1500 min^{-1}) IE2				(1800 min^{-1})			
1TE15.1-1AB4	2,2	4,65	1455	120 °C	2,55	4,45	1755	120 °C
1TE15.1-1AB5	3	6,2	1455		3,45	6	1755	
1TE15.1-1BB2	4	8,2	1460		4,55	8	1760	
1TE15.1-1CB0	5,5	11,3	1465		6,3	10,9	1765	
1TE15.1-1CB2	7,5	14,7	1465		8,6	14,5	1765	
1TE15.1-1DB2	11	21	1470		12,6	20,5	1770	
1TE15.1-1DB4	15	28	1475		17,3	27,5	1775	
1TE15.1-1EB2	18,5	35	1465		21,3	34	1765	
1TE15.1-1EB4	22	41,5	1465		25,3	40,5	1765	
1TE15.1-2AB5	30	56	1470		34,5	55	1770	

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

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Manufacturer: **Van Houcke NV, Vlamingveld 32, 8490 Jabbeke, Belgium**

Product: **Three-Phase Asynchronous Motor type:**
1TE1521-..., 1TE1523-..., 1TE1621-..., 1TE1623-...,
1TE1531-..., 1TE1533-..., 1TE1631-..., 1TE1633-...,
frame size: -1A..., -1B..., -1C..., -1D..., -1E..., -2A... (100 to 200)

Rated parameters of basic versions of electric motors **Ex nA IIC T3 Gc, Ex tc IIIB Tx°C Dc**: - continuation:

Type	400 V 50 Hz				460 V 60 Hz			
	Output [kW]	Current [A]	Speed [min^{-1}]	"nA": T3 "tc": Tx	Output [kW]	Current [A]	Speed [min^{-1}]	"nA": T3 "tc": Tx
6-poles	(1000 min^{-1}) IE2				(1200 min^{-1})			
1TE15.1-1AC4	1,5	3,7	970	120 °C	1,75	3,45	1170	120 °C
1TE15.1-1BC2	2,2	5,2	965		2,55	4,75	1165	
1TE15.1-1CC0	3	7	970		3,45	6,6	1170	
1TE15.1-1CC2	4	8,7	970		4,55	8,3	1170	
1TE15.1-1CC3	5,5	12	970		6,3	11,3	1170	
1TE15.1-1DC2	7,5	16,1	975		8,6	15,5	1175	
1TE15.1-1DC4	11	22,5	975		12,6	21,5	1175	
1TE15.1-1EC4	15	31	975		18	31	1170	
1TE15.1-2AC4	18,5	36	978		22	36,5	1175	
1TE15.1-2AC5	22	43	978		26,5	43,5	1175	

8-poles	(750 min^{-1})				(900 min^{-1})			
1TE15.1-1AD4	0,75	2,75	725	120 °C	0,86	2,65	875	120 °C
1TE15.1-1AD5	1,1	4	725	130 °C	1,27	3,7	865	
1TE15.1-1BD2	1,5	4,25	720	120 °C	1,75	4,15	870	
1TE15.1-1CD0	2,2	6,2	725		2,55	5,9	875	
1TE15.1-1CD2	3	8,1	730		3,45	7,7	875	
1TE15.1-1DD2	4	9,7	730		4,55	9,6	880	
1TE15.1-1DD3	5,5	13,3	730		6,3	13,2	880	
1TE15.1-1DD4	7,5	17,3	730		8,6	16,9	880	
1TE15.1-1ED4	11	26	720		13,2	26	865	
1TE15.1-2AD5	15	32	718		18	32,5	865	

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

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1TE1531-..., 1TE1533-..., 1TE1631-..., 1TE1633-...,
frame size: -1A..., -1B..., -1C..., -1D..., -1E..., -2A... (100 to 200)

Rated parameters of basic versions of electric motors **Ex nA IIC T3 Gc, Ex tc IIIB Tx°C Dc**: - continuation

Type	400 V 50 Hz				460 V 60 Hz			
	Output [kW]	Current [A]	Speed [min^{-1}]	"nA": T3 "tc": Tx	Output [kW]	Current [A]	Speed [min^{-1}]	"nA": T3 "tc": Tx
2-poles	(3000 min^{-1}) IE3				(3600 min^{-1})			
1TE15.3-1AA4	3	5,6	2920	120 °C	3,45	5,5	3520	120 °C
1TE15.3-1BA2	4	7,4	2955		4,55	7,2	3555	
1TE15.3-1CA0	5,5	9,9	2950		6,3	9,7	3545	
1TE15.3-1CA1	7,5	13,1	2950		8,6	13	3550	
1TE15.3-1DA2	11	20	2955		12,6	19,5	3555	
1TE15.3-1DA3	15	27	2960		17,3	27	3560	
1TE15.3-1DA4	18,5	32	2955		21,3	32	3550	
1TE15.3-1EA2	22	38,5	2950		24,5	37,5	3550	
1TE15.3-2AA4	30	53	2955		33,5	52	3555	
1TE15.3-2AA5	37	65	2955		41,5	63,0	3555	

4-poles	(1500 min^{-1}) IE3				(1800 min^{-1})			
1TE15.3-1AB4	2,2	4,4	1465	120 °C	2,55	4,25	1765	120 °C
1TE15.3-1AB5	3	5,9	1460		3,45	5,8	1755	
1TE15.3-1BB2	4	7,9	1460		4,55	7,7	1760	
1TE15.3-1CB0	5,5	10,8	1470		6,3	10,6	1770	
1TE15.3-1CB2	7,5	14,3	1465		8,6	13,8	1765	
1TE15.3-1DB2	11	20,5	1475		12,6	20	1770	
1TE15.3-1DB4	15	28,5	1475		17,3	28	1775	
1TE15.3-1EB2	18,5	35	1470		21,3	34,5	1770	
1TE15.3-1EB4	22	41	1470		25,3	41	1770	
1TE15.3-2AB5	30	55	1470		34,5	55,0	1770	

Responsible person:
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Product: **Three-Phase Asynchronous Motor type:**
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1TE1531-..., 1TE1533-..., 1TE1631-..., 1TE1633-...,
frame size: -1A..., -1B..., -1C..., -1D..., -1E..., -2A... (100 to 200)

Rated parameters of basic versions of electric motors **Ex nA IIC T3 Gc, Ex tc IIIB Tx°C Dc**: - continuation

Type	400 V 50 Hz				460 V 60 Hz			
	Output [kW]	Current [A]	Speed [min^{-1}]	"nA": T3 "tc": Tx	Output [kW]	Current [A]	Speed [min^{-1}]	"nA": T3 "tc": Tx
6-poles	(1000 min^{-1}) IE3				(1200 min^{-1})			
1TE15.3-1AA4	1,5	3,45	970	120 °C	1,75	3,45	1170	120 °C
1TE15.3-1BA2	2,2	4,7	970		2,55	4,75	1170	
1TE15.3-1CA0	3	6,5	970		3,45	6,1	1170	
1TE15.3-1CA1	4	8,4	970		4,55	8,1	1170	
1TE15.3-1DA2	5,5	11,6	970		6,3	11,1	1170	
1TE15.3-1DA3	7,5	15,2	975		8,6	14,6	1175	
1TE15.3-1DA4	11	22	975		12,6	21,5	1175	
1TE15.3-1EA2	15	29,5	975		18	30,5	1170	
1TE15.3-2AA4	18,5	37	978		22	37,5	1175	
1TE15.3-2AA5	22	43,5	978		26,5	44	1175	

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