



CNEX-GLOBAL

# [1] EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use  
in Potentially Explosive Atmospheres  
Directive 2014/34/EU**



[3] EU-Type Examination Certificate Number: **CNEX 21 ATEX 0005 X Issue 0**

[4] Equipment : **Explosion proof three-phase induction motor Models HMCX-400H**

[5] Manufacturer : **Svend Hoyer A/S**

[6] Address : **Over Hadstensevej 42, DK-8370 Hadsten, Denmark**

[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] CNEX-Global B.V., Notified Body number 2614, in accordance with Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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. **P21010IA-CS**

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

**EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-7:2015/A1:2018 EN 60079-31:2014**

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to specific conditions for use specified in the schedule to this certificate.

[11] This EU – Type examination certificate relates only to the design and construction of the specified equipment or protective system. 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 db eb IIB T4 Gb or II 2G Ex db IIB T4 Gb

II 2D Ex tb IIIB/IIIC T130°C Db or II 3D Ex tc IIIB/IIIC T130°C Dc

**Certification officer:** Hou Yandong

**Signature:**

**Date of issue** : 2021-03-26

**Certification Body:** CNEX-Global B.V., Utrechtseweg 310-B38, 6812 AR Arnhem, The Netherlands

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[15] Description of equipment:

Explosion proof three-phase induction motor models HMCX-400H, with self-ventilated, squirrel-cage rotor and seated with ball bearings or roller bearings. The enclosure of the motors is made of cast iron and terminal box is made of cast iron or stainless steel. The enclosure of the motor is constructed in type of protection 'db' for explosive gas atmospheres. The terminal box can be constructed in type of explosion protection 'db' or 'eb', for explosive gas atmospheres. The motor enclosure and terminal box can also be constructed in type of explosion protection 'tb/tc', for use in explosive dust environments. The motors shall be operated direct-on-line (DOL).

Nomenclature for motor model HMCX-400H1-4

HM	-	Hoyer Motor
C	-	Cast Iron
X	-	Explosion proof
400	-	shaft height 400
H	-	Frame number letter for B-dimension
1	-	Core length: non, 1, 2, 3, 4, 5 or 6
4	-	Number of poles: 2, 4, 6, 8, 10, 12, 14, 16

Motor models covered:

The motor models that are covered by this certificate are detailed in Annex A of this certificate and in the Test Report Cover document. (ref. P21010IA-CS).

Electrical Data:

Rated voltage for 2P/4P/6P motors ≤ 450 kW and for 8P/10P/12P/14P/16P motors ≤ 400 kW:

380V, 400V, 415V, 440V, 460V, 480V, 500V, 525V, 550V, 575V, 660V, 690V, 720V, 1000V, 1140V, 380/660V, 400/690V, 415/720V, 550/950V, 660/1140V.

Rated voltage for 2P/4P/6P motors ≥ 451 kW and for 8P/10P/12P/14P/16P motors ≥ 401 kW:

400V, 415V, 440V, 460V, 480V, 500V, 525V, 550V, 575V, 660V, 690V, 720V, 1000V, 1140V, 400/690V, 415/720V, 550/950V, 660/1140V.

Rated power ..... : 110 kW to 500 kW

Rated frequency ...: 50Hz/60Hz

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Note: The motors are originally designed for 400 VAC, 50 Hz. When used with 60Hz and voltages different from 400V, the rated power can be multiplied by the following factors:

- for 2P/4P/6P ≤450kW and for 8P/10P/12P/14P/16P ≤400kW:

Rated voltage (V)	380	400	415	440	460	480
Multiplication factor	1.0	1.0	1.05	1.1	1.15	1.2

- for 2P/4P/6P ≥451kW and for 8P/10P/12P/14P/16P ≥401kW:

Rated voltage (V)	415	440
Multiplication factor	1.0	1.0

See the Test Report Cover Sheet (ref. P21010IA-CS), for the electrical data per motor model.

Mounting Instructions:

See manufacturer's instructions.

Installation Instructions:

All cable entry devices and blanking elements shall be certified for use in explosive gas or dust atmospheres (as applicable), with the same IP rating as the motor, suitable for the conditions of use and correctly installed. Unused apertures shall be closed with suitable certified blanking elements. See manufacturer's instructions.

All parts installed in the Ex e terminal box shall be certified to valid standards for use in explosive gas atmospheres, suitable for the conditions of use and correctly installed.

Routine tests:

Detailed in the Test Report Cover document. (P21010IA-CS).

[16] Descriptive Documents:

Detailed in the Test Report Cover document. (P21010IA-CS).

[17] Specific Conditions for Use:

The ambient temperature range is limited to -40 °C ... +50 °C:

- for 2P/4P/6P motors ≤ 450 kW and for 8P/10P/12P/14P/16P motors ≤ 400 kW.

The ambient temperature range is limited to -40 °C ... +45 °C:

- for 2P/4P/6P motors ≥ 451 kW and for 8P/10P/12P/14P/16P motors ≥ 401 kW.

For repair of the flameproof joints due regard must be given to the structural specifications provided by the manufacturer. Repair in compliance with the values in Tables 1 and 2 of EN 60079-1 is not allowed.

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[17] Specific Conditions for Use (continued):

All electrical connections shall be tightened with the tightening torques specified in the manufacturer's instructions.

Suitable heat-resisting cables must be applied for mains supply and for auxiliary connections.

The working duty can be S1 or S2~S10. For S2~S10, the motor temperature shall be monitored by PTC- thermistors in the stator windings. These devices have to be connected to suitable tripping units that have been functionally tested for this purpose.

All fasteners used for connecting parts of the flameproof motor enclosure together shall have a minimum yield stress of 640 N/mm<sup>2</sup>.

(this includes; end-shields to frame, cover plate to frame, main terminal box adapter to frame, auxiliary terminal box base to frame, inner/external bearing cover to end-shields, main terminal box adapter to terminal box base).

All other fasteners shall have a minimum yield stress of 320 N/mm<sup>2</sup>.

[18] Essential Health and Safety Requirements:

The Essential Health and Safety Requirements are covered by the standards listed at item [9].

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.

Additional Information:

The enclosure of the Explosion proof three-phase induction motor models HMCX-400H successfully passed the tests for the Ingress Protection Levels IP55, IP56, IP65, IP66 (depending on the type of shaft seal applied) to EN 60529.

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### Annex A – Motor models covered by this certificate:

Frame+A46: E63 core size:	No. of poles	Power [kW]	Frequency [Hz]	Model numbers
400	2	355	50/60	HMCX-400H-2
	4	355	50/60	HMCX-400H-4
	6	280	50/60	HMCX-400H-6
	8	250(220)	50/60	HMCX-400H-8
	10	200	50/60	HMCX-400H10
	12	185(160)	50/60	HMCX-400H-12
	14	160(132)	50/60	HMCX-400H-14
	16	132(110)	50/60	HMCX-400H-16
400 1	2	400	50/60	HMCX-400H1-2
	4	400	50/60	HMCX-400H1-4
	6	315	50/60	HMCX-400H1-6
	8	280	50/60	HMCX-400H1-8
	10	220	50/60	HMCX-400H1-10
	12	200	50/60	HMCX-400H1-12
	14	185	50/60	HMCX-400H1-14
	16	160	50/60	HMCX-400H1-16
400 2	2	450	50/60	HMCX-400H2-2
	4	450	50/60	HMCX-400H2-4
	6	355	50/60	HMCX-400H2-6
	8	315	50/60	HMCX-400H2-8



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	10	250	50/60	HMCX-400H2-10
	12	220	50/60	HMCX-400H2-12
	14	200	50/60	HMCX-400H2-14
	16	185	50/60	HMCX-400H2-16
400 3	2	500	50/60	HMCX-400H3-2
	4	500	50/60	HMCX-400H3-4
	6	400	50/60	HMCX-400H3-6
	8	355	50/60	HMCX-400H3-8
	10	280	50/60	HMCX-400H3-10
	12	250	50/60	HMCX-400H3-12
	14	220	50/60	HMCX-400H3-14
	16	200	50/60	HMCX-400H3-16
400 4	6	450	50/60	HMCX-400H4-6
	8	400	50/60	HMCX-400H4-8
	10	315	50/60	HMCX-400H4-10
	12	280	50/60	HMCX-400H4-12
	14	250	50/60	HMCX-400H4-14
	16	220	50/60	HMCX-400H4-16
400 5	6	500	50/60	HMCX-400H5-6
	8	450	50/60	HMCX-400H5-8
	10	355	50/60	HMCX-400H5-10
400 6	10	400	50/60	HMCX-400H6-10

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