# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION
### IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx IMQ 25.0002X**



Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2025-05-14

Applicant: **Bonani S.p.A**
Via Manara 21/A
I – 43126 Parma (PR)
**Italy**

Equipment: **Electrical motors, series: D, E, F, G**

Optional accessory:

Type of Protection: **Flameproof enclosures Ex d, Increased safety Ex e, Dust tight Ex t**

Marking:

Series D
Ex db IIB/IIC T5 Gb; or
Ex db IIB/IIC T4 Gb;

Series E
Ex db eb IIB/IIC T5 Gb; or
Ex db eb IIB/IIC T4 Gb;

Series F
Ex db IIB/IIC T5 Gb; or
Ex db IIB/IIC T4 Gb; and
Ex tb IIIC T125°C Db

Series G
Ex db eb IIB/IIC T5 Gb; or
Ex db eb IIB/IIC T4 Gb; and
Ex tb IIIC T125°C Db

Approved for issue on behalf of the IECEx Certification Body: **Mr. Mauro CASARI**

Position: **IMQ ExCB Manager**

Signature:
(for printed version)

Date:
(for printed version)

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Certificate issued by:

**Istituto Italiano del Marchio di Qualità S.p.A**
**Via Quintiliano 43**
**20138 Milano**
**Italy**

# IECEx Certificate of Conformity

Certificate No.: **IECEx IMQ 25.0002X** 

Date of issue: 2025-05-14 Issue No: 0

Manufacturer: **Bonani S.p.A**
Via Manara 21/A
I – 43126 Parma (PR)
**Italy**

Manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

**STANDARDS** :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

**TEST & ASSESSMENT REPORTS:**
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

IT/IMQ/ExTR25.0002/00

Quality Assessment Report:

IT/CES/QAR20.0006/04

# IECEx Certificate of Conformity



**EQUIPMENT:**
Equipment and systems covered by this Certificate are as follows:

The three-phase and single-phase asynchronous squirrel cage motors (Series D, E, F and G) are a range of motor size 63 up to 112 according to IEC 60034 code. They are made of aluminum and have separate parts: motor enclosure, terminal box (optional) and capacitor enclosure (optional).
The motor enclosure has types of protection “flameproof” and “dust tight”;
The terminal box has types of protection “Increased safety” and/or “flameproof” or “Dust tight”;
The capacitor enclosure has types of protection “Ex db” and “Ex tb”;
The motors can be equipped with auxiliary devices (starting capacitors, running capacitor, PTC, PTO, terminals and anti-condensation resistance).
PTCs and PTOs are used for motors supplied by inverter. They are drowned in the head of stator winding (one on each phase).
Capacitor can be present in the capacitor enclosure (if supplied), in the flameproof terminal box or in safe area (where external).
The equipment can have four typical constructive solution:
Two with terminal box (Flameproof ‘A’ or Increased safety ‘C’)
Two without terminal box (with Flameproof ‘B’ or Increased safety ‘D’ terminal compartment included in the body of the motor)
Constructive solutions A and B can be also considered as increased safety (for Series E and G).
Constructive solutions C and D use the terminal box enclosure (or cover for terminal compartment) and their internal arrangements of constructive solution A and B already evaluated in ExTR no. IT/IMQ/ExTR21.0006/00.

Full details in Annex.

**SPECIFIC CONDITIONS OF USE: YES as shown below:**

- Flameproof joints are not intended to be repaired.
- The user has to periodically clean the enclosure in order to avoid the creation of a dust layer ≥ 5 mm.
- For ambient temperature of more than 40°C, use cable suitable for an operation temperature of at least 80°C.
- Supply through inverter: thermal protectors shall be connected to a safety device that, in case of activation, shut down the power supply. It is forbidden the self-restart of the equipment after the intervention of the relay. Maximum temperature safety systems integrity level shall be at least 2, according to IEC 61508 or IEC 61511 standard.
- For Series G, all cable entry devices shall be include an additional gasket on the mating part with the enclosure

# IECEx Certificate of Conformity



**Additional information:**
Complete details in Annex.

**Annex:**

IECEx IMQ 25.0002 X issue No. 0 Annex.pdf

**General description**

The three-phase and single-phase asynchronous squirrel cage motors (Series D, E, F and G) are a range of motor size 63 up to 112 according to IEC 60034 code. They are made of aluminum and have separate parts: motor enclosure, terminal box (optional) and capacitor enclosure (optional).
The motor enclosure has types of protection “flameproof” and “dust tight”;
The terminal box has types of protection “Increased safety” and/or “flameproof” or “Dust tight”;
The capacitor enclosure has types of protection “Ex db” and “Ex tb”;
The motors can be equipped with auxiliary devices (starting capacitors, running capacitor, PTC, PTO, terminals and anti-condensation resistance).
PTCs and PTOs are used for motors supplied by inverter. They are drowned in the head of stator winding (one on each phase).

Capacitor can be present in the capacitor enclosure (if supplied), in the flameproof terminal box or in safe area (where external).

The equipment can have four typical constructive solution:

- Two with terminal box (Flameproof ‘A’ or Increased safety ‘C’)
- Two without terminal box (with Flameproof ‘B’ or Increased safety ‘D’ terminal compartment included in the body of the motor)

Constructive solutions A and B can be also considered as increased safety (for Series E and G).
Constructive solutions C and D use the terminal box enclosure (or cover for terminal compartment) and their internal arrangements of constructive solution A and B already evaluated in ExTR no. IT/IMQ/ExTR21.0006/00.

**Series “D” and “F”**

Constructive solutions (A) with terminal box

Motor can be provided with/without control/power cable.

Power cable connected to power terminal, while control cable (for PTC and PTO) are connected to already IECEx certified type “221-682” terminal and adapter type “221-511” (manufactured by WAGO).

Double insulating sheet is used when both power and control cables (for PTC) are used.

Constructive solutions (B) without terminal box

Power cable and control cables (where present) are intended to be permanently connected (crimped).

Double insulating sheet is used when both power and control cables (for PTC) are used.

**Series “E” and “G”**

Constructive solutions (A and C) with terminal box

Motor can be provided with/without control/power cable.

Power cable connected to power terminal, while control cable (for PTC and PTO) are connected to already IECEx certified type “221-682” terminal and adapter type “221-511” (manufactured by WAGO).

Double insulating sheet is used when both power and control cables (for PTC) are used.

Constructive solutions (B and D) without terminal box

Power cable and control cables (where present) are permanently connected by manufacturer (crimped) and covered by a thermal shrink tube.

Double insulating sheet is used when both power and control cables (for PTC) are used.

Ventilation

Self-ventilation made by fan, who is fitted directly on the shaft; or
With forced ventilation through a motor size 63

Impellors for Group II motors, which have a peripheral speed below 50 m/s, are made of plastic nylon material.

Impellors for Group III motors are made of plastic material (with surface resistance value lower than 1 GΩ) or aluminium EN AB46100.

The degree of protection (IP) of ventilation openings are:

- IP 20 on the air inlet side
- IP 10 on the air outlet side

For the connection of the PTCs and PTOs, the equipment with terminal box enclosure is provided with the following components IECEx/ATEX certified:

| # | Manufacturer | Description | Ex mode of protection | IEC Ex Certificate n. ATEX Certificate n. | Temp. range | Suitable for T class |
|---|---|---|---|---|---|---|
| 1 | WAGO Kontakttechnik GmbH | COMPACT splicing wire connector type 221-682 Adapter 221-511 | Ex eb IIC Gb | IECEx PTB 19.0011U Is.3 PTB 19 ATEX 1001U Is. 3 | Service temperature -55°C ÷105°C | N/A |

**Electrical characteristics:**

Mains supply

| | |
|---|---|
| Supply voltage: | up to 850 Vac ±10% |
| Rated frequency: | 50 Hz or 60 Hz |
| Rated power: | 0.06 kW to 6.6 kW |
| Poles: | 2, 4, 6, 8<br>2/4, 4/8 double speed (mixed windings - Dahlander)<br>2/6, 2/8, 4/6, 6/8 double speed (with separate windings) |
| Insulation class: | F (155°C), H (180°C) |
| Duty: | S1; or<br>S2, S3 and S9 (Operation under inverter) |

Degree of protection:

| *Part* | *Degree of protection* |
|---|---|
| Main motor | IP 6X (according to IEC 60079-0 and IEC 60529)<br>IP X6 (according to IEC 60529) |
| Terminal compartment<br>(which is included in motor's body)<br>Terminal box<br>(Series D and F) | IP 66 (according to IEC 60079-0 and IEC 60529)<br><br>IP 66 (according to IEC 60079-0 and IEC 60529) |
| Terminal box (Series E and G) | IP 65 (according to IEC 60079-0 and IEC 60529) |
| Capacitor box | IP 65 (according to IEC 60079-0 and IEC 60529) |

| | |
|---|---|
| Minimum Ambient temperature: | -40°C (or -20°C) |
| Maximum Ambient temperature: | 60°C, (55 or 50°C or 45°C) or 40°C |
| Painting: | Not painted (standard version); or<br>Conductive type for Series F and G<br>Insulating with up to 2 mm for Series D or E (Gas Group IIB)<br>Insulating with up to 0.2 mm for Series D or E (Gas Group IIC) |

Maximum surface temperature: T 125°C

Temperature class: T4 (with an ambient temperature up to 60°C)
T5 (with an ambient temperature up to 40°C)

Motors with different values of ambient temperature (i.e. 45°C, 50 and 55°C) are assigned the temperature class reserved for those with ambient temperature of +60°C.

In case of motor powered by means of an inverter, thermal protectors are applied on winding head. In this case the maximum surface temperature does not exceed the limit for:

- T5 when PTC 90 °C is installed;
- T5 when PTO 100 °C is installed;
- T4 when PTO 130 °C is installed;
- T4 when PTC 130 °C is installed;

Inverter supply (for duty S2, S3,and S9)

Possibility to supply through inverter exclusively with the use of thermal protectors applied in the windings. Such protectors shall be connected to appropriate protective devices.

**Installation conditions:**

The equipment is foreseen to be installed in locations where there are environmental conditions as clearly specified at clause 1, par. 2 of IEC 60079-0.

Installation and use in atmospheric and environmental conditions that are out of above mentioned intervals require special considerations and additional measures.

It is not a requirement of the applicable standards listed in first page that the certification body confirm suitability for these special considerations and additional measures.

Installation of equipment shall be done according to IEC 60079-14 Standard requirements.

Capacitors have to be placed in the capacitor enclosure (if supplied), in the flameproof terminal box or in safe zone.

Cable entry devices shall be selected by the user according to IEC 60079-14. They shall have at an operating temperature range between 80°C and the minimum ambient temperature reported on the motor label.
Unused cable entries shall be closed through a blanking element with the same characteristics as reported for cable entry devices.

**Specific conditions of use (X)**

- Flameproof joints are not intended to be repaired.
- The user has to periodically clean the enclosure in order to avoid the creation of a dust layer ≥ 5 mm.
- For ambient temperature of more than 40°C, use cable suitable for an operation temperature of at least 80°C.
- Supply through inverter: thermal protectors shall be connected to a safety device that, in case of activation, shut down the power supply. It is forbidden the self-restart of the equipment after the intervention of the relay.
  Maximum temperature safety systems integrity level shall be at least 2, according to IEC 61508 or IEC 61511 standard.
- For Series G, all cable entry devices shall be include an additional gasket on the mating part with the enclosure

**Warning**

“After de-energizing delay, 30 min before opening”

“See installation instruction document”

“Use fasteners with property class ≥ 8.8 ”

**Routine tests**

The manufacturer shall carry out the routine test prescribed at clauses 27 of the IEC 60079-0.

In addition, if the equipment marking is “Ex db eb … Gb”, the manufacturer shall carry out the dielectric routine test prescribed at clause 7.1 of the IEC 60079-7 standard. The applied voltage shall be at least at (1 000 + 2U) Vac or 1 500 Vac, whichever is greater, where “U” is the r.m.s. working voltage.

Alternatively, the test shall be carried out at 1.2 times the test voltage, but maintained for at least 100 ms.

Overpressure routine test not required because each enclosure passed the type test performed at 4 times the value of reference pressure. In particular, capacitor box enclosure has been tested for a pressure of 46 bar.

## Model identification:

The three-phase and single-phase electric motors are identified by a code as follows:

**Key code**

| | ■ | ■ | ■ | ■ | ■ | * | ■ | ■ | * | * | ■ | ■ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Series** | | | | | | | | | | | | |
| Motor 2G (Ex d) | **D** | | | | | | | | | | | |
| Motor 2G (Ex de) | **E** | | | | | | | | | | | |
| Motor 2GD (Ex d) | **F** | | | | | | | | | | | |
| Motor 2GD (Ex de) | **G** | | | | | | | | | | | |
| **Type** | | | | | | | | | | | | |
| Three-phase | | **T** | | | | | | | | | | |
| Single phase | | **S** | | | | | | | | | | |
| **Number of poles** | | | | | | | | | | | | |
| Two | | | **2** | | | | | | | | | |
| Four | | | **4** | | | | | | | | | |
| Six | | | **6** | | | | | | | | | |
| Eight | | | **8** | | | | | | | | | |
| Double speed 2-4 poles | | | **A** | | | | | | | | | |
| Double speed 2-6 poles | | | **B** | | | | | | | | | |
| Double speed 2-8 poles | | | **C** | | | | | | | | | |
| Double speed 4-6 poles | | | **D** | | | | | | | | | |
| Double speed 4-8 poles | | | **E** | | | | | | | | | |
| Double speed 6-8 poles | | | **F** | | | | | | | | | |
| **Constructive Size** | | | | | | | | | | | | |
| 56 | | | | **A** | | | | | | | | |
| 63 | | | | **B** | | | | | | | | |
| 71 | | | | **C** | | | | | | | | |
| 80 | | | | **D** | | | | | | | | |
| 90L | | | | **H** | | | | | | | | |
| 100 | | | | **M** | | | | | | | | |
| 112 | | | | **P** | | | | | | | | |
| **Power** | | | | | | | | | | | | |
| 1st | | | | | **A** | | | | | | | |
| 2nd | | | | | **B** | | | | | | | |
| 3rd | | | | | **C** | | | | | | | |
| 4th | | | | | **D** | | | | | | | |
| 5th | | | | | **E** | | | | | | | |
| 6th | | | | | **F** | | | | | | | |
| 7th | | | | | **G** | | | | | | | |
| 8th | | | | | **H** | | | | | | | |
| 9th | | | | | **L** | | | | | | | |
| 10th | | | | | **M** | | | | | | | |
| **Mounting** | | | | | | | | | | | | |
| **Class / Protection** | | | | | | | | | | | | |
| T4 | | | | | | | **0** | | | | | |
| T5 | | | | | | | **1** | | | | | |
| PTO 130°C | | | | | | | **2** | | | | | |
| PTO 100°C | | | | | | | **3** | | | | | |
| PTC 130°C | | | | | | | **4** | | | | | |
| PTC 90°C | | | | | | | **5** | | | | | |
| **Configuration** | | | | | | | | | | | | |
| Standard box IP 66 (Configuration A) | | | | | | | | **0** | | | | |
| Reduced box IP 66 (Configuration B) | | | | | | | | **1** | | | | |
| Standard box IP 65 (Configuration C) – Series E and G | | | | | | | | **2** | | | | |
| Reduced box IP 65 (Configuration D) – Series E and G | | | | | | | | **3** | | | | |
| **Progressive number** | | | | | | | | | | | | |
| **Efficiency** | | | | | | | | | | | | |
| IE2 | | | | | | | | | | | **2** | |
| IE3 | | | | | | | | | | | **3** | |
| **Ventilation** | | | | | | | | | | | | |
| Standard (Self-ventilated) | | | | | | | | | | | | **E** |
| 1ph forced ventilation | | | | | | | | | | | | **S** |
| 3ph forced ventilation | | | | | | | | | | | | **T** |

Notes:

* = Part of motor coding not pertaining EX safety

**List of motors:**

*Three phase motors 1 speed*

| Motor | Power [kW] | |
|---|---|---|
| | 50Hz | 60Hz |
| **56A2** | 0.09 | 0.11 |
| **56B2** | 0.12 | 0.14 |
| **63A2** | 0.18 | 0.22 |
| **63B2** | 0.25 | 0.30 |
| **71A2** | 0.37 | 0.44 |
| **71B2** | 0.55 | 0.66 |
| **71C2** | 0.75 | 0.90 |
| **80A2** | 0.75 | 0.90 |
| **80B2** | 1.1 | 1.32 |
| **90S2** | 1.5 | 1.80 |
| **90L2** | 2.2 | 2.64 |
| **100LA2** | 3 | 3.60 |
| **100LB2** | 4 | 4.80 |
| **112M2** | 4 | 4.80 |
| **112MB2** | 5.5 | 6.60 |

| Motor | Power [kW] | |
|---|---|---|
| | 50Hz | 60Hz |
| **56A4** | 0.06 | 0.07 |
| **56B4** | 0.09 | 0.11 |
| **63A4** | 0.12 | 0.14 |
| **63B4** | 0.18 | 0.22 |
| **71A4** | 0.25 | 0.30 |
| **71B4** | 0.37 | 0.44 |
| **71C4** | 0.55 | 0.44 |
| **80A4** | 0.55 | 0.66 |
| **80B4** | 0.75 | 0.90 |
| **90S4** | 1.1 | 1.30 |
| **90L4** | 1.5 | 1.80 |
| **100LA4** | 2.2 | 2.64 |
| **100LB4** | 3 | 3.60 |
| **112M4** | 4 | 4.80 |
| | | |

| Motor | Power [kW] | |
|---|---|---|
| | 50Hz | 60Hz |
| **63B6** | 0.12 | 0.14 |
| **71A6** | 0.18 | 0.22 |
| **71B6** | 0.25 | 0.30 |
| **71C6** | 0.37 | 0.44 |
| **80A6** | 0.37 | 0.44 |
| **80B6** | 0.55 | 0.66 |
| **90S6** | 0.75 | 0.90 |
| **90L6** | 0.90 | 1.10 |
| **100LA6** | 1.10 | 1.32 |
| **100L6** | 1.50 | 1.80 |
| **112M6** | 2.20 | 2.64 |

| Motor | Power [kW] | |
|---|---|---|
| | 50Hz | 60Hz |
| **71A8** | 0.09 | 0.11 |
| **71B8** | 0.12 | 0.14 |
| **80A8** | 0.18 | 0.22 |
| **80B8** | 0.25 | 0.30 |
| **90S8** | 0.37 | 0.44 |
| **90L8** | 0.55 | 0.66 |
| **100LA8** | 0.75 | 0.90 |
| **100LB8** | 1.1 | 1.32 |
| **112M8** | 1.5 | 1.80 |
| | | |
| | | |

*Single phase motors 1 speed*

| Motor | Power [kW] |
|---|---|
| **56A2** | 0.09 |
| **56B2** | 0.12 |
| **63A2** | 0.18 |
| **63B2** | 0.25 |
| **71A2** | 0.37 |
| **71B2** | 0.55 |
| **80A2** | 0.75 |
| **80B2** | 1.1 |
| **90S2** | 1.5 |
| **90L2** | 2.2 |
| **100L2** | 3.0 |
| | |

| Motor | Power [kW] |
|---|---|
| **56A4** | 0.06 |
| **56B4** | 0.09 |
| **63A4** | 0.12 |
| **63B4** | 0.18 |
| **71A4** | 0.25 |
| **71B4** | 0.37 |
| **80A4** | 0.55 |
| **80B4** | 0.75 |
| **90S4** | 1.1 |
| **90L4** | 1.5 |
| **100LA4** | 1.85 |
| **100LB4** | 2.2 |

| Motor | Power [kW] |
|---|---|
| **71A6** | 0.12 |
| **71A6** | 0.18 |
| **71B6** | 0.25 |
| **80A6** | 0.25 |
| **80B6** | 0.37 |
| **90S6** | 0.55 |
| **90L6** | 0.75 |
| **100LA6** | 1.1 |
| **100LB6** | 1.5 |
| | |
| | |
| | |

*Three phase motors double speed constant torque*

| 2/4 poles | | |
|---|---|---|
| **Type** | **50Hz** | **60Hz** |
| | **[kW]** | **[kW]** |
| **63B24** | 0.21 | 0.25 |
| | 0.13 | 0.16 |
| **71A24** | 0.33 | 0.40 |
| | 0.22 | 0.26 |
| **71B24** | 0.45 | 0.54 |
| | 0.3 | 0.36 |
| **80A24** | 0.6 | 0.72 |
| | 0.45 | 0.54 |
| **80B24** | 0.85 | 1.02 |
| | 0.65 | 0.78 |
| **90S24** | 1.3 | 1.56 |
| | 1 | 1.20 |
| **90L24** | 1.6 | 1.92 |
| | 1.3 | 1.56 |
| **90LB24** | 2.2 | 2.6 |
| | 1.5 | 2.0 |
| **100LA24** | 2.5 | 3.00 |
| | 1.8 | 2.16 |
| **100LB24** | 3.3 | 3.96 |
| | 2.6 | 3.12 |
| **112M24** | 4.5 | 5.40 |
| | 3.3 | 3.96 |

| 4/8 poles | | |
|---|---|---|
| **Type** | **Power** | **60Hz** |
| | **[kW]** | **[kW]** |
| **63B48** | 0.09 | 0.11 |
| | 0.04 | 0.05 |
| **71A48** | 0.15 | 0.18 |
| | 0.09 | 0.11 |
| **71B48** | 0.22 | 0.26 |
| | 0.12 | 0.14 |
| **80A48** | 0.37 | 0.44 |
| | 0.18 | 0.22 |
| **80B48** | 0.6 | 0.72 |
| | 0.28 | 0.34 |
| **90S48** | 0.75 | 0.90 |
| | 0.37 | 0.44 |
| **90L48** | 1.1 | 1.32 |
| | 0.55 | 0.66 |
| **100LA48** | 1.5 | 1.80 |
| | 0.75 | 0.90 |
| **100LB48** | 1.85 | 2.22 |
| | 0.95 | 1.14 |
| **112M48** | 2.4 | 2.88 |
| | 1.4 | 1.68 |
| | | |
| | | |

| 4/6 poles | | |
|---|---|---|
| **Type** | **Power** | **60Hz** |
| | **[kW]** | **[kW]** |
| **71A46** | 0.22 | 0.26 |
| | 0.15 | 0.18 |
| **71B46** | 0.28 | 0.336 |
| | 0.18 | 0.216 |
| **80A46** | 0.37 | 0.444 |
| | 0.3 | 0.36 |
| **80B46** | 0.5 | 0.6 |
| | 0.37 | 0.444 |
| **90S46** | 0.75 | 0.9 |
| | 0.45 | 0.54 |
| **90L46** | 1.1 | 1.32 |
| | 0.75 | 0.9 |
| **100LA46** | 1.5 | 1.8 |
| | 0.9 | 1.08 |
| **100LB46** | 1.8 | 2.16 |
| | 1.1 | 1.32 |
| **112M46** | 2.2 | 2.64 |
| | 1.5 | 1.8 |
| | | |
| | | |

| 6/8 poles | | |
|---|---|---|
| Type | Power | 60Hz |
| | [kW] | [kW] |
| 71A68 | 0.08 | 0.10 |
| | 0.04 | 0.05 |
| 71B68 | 0.12 | 0.14 |
| | 0.08 | 0.10 |
| 80B68 | 0.19 | 0.23 |
| | 0.11 | 0.13 |
| 80B68 | 0.25 | 0.30 |
| | 0.19 | 0.23 |
| 90S68 | 0.37 | 0.44 |
| | 0.26 | 0.31 |
| 90L68 | 0.55 | 0.66 |
| | 0.37 | 0.44 |
| 100LA68 | 0.75 | 0.90 |
| | 0.55 | 0.66 |
| 100LB68 | 1.1 | 1.32 |
| | 0.75 | 0.90 |
| 112M68 | 1.5 | 1.80 |
| | 1.1 | 1.32 |

| 2/6 poles | | |
|---|---|---|
| Type | 50Hz | 60Hz |
| | [kW] | [kW] |
| 71A26 | 0.25 | 0.30 |
| | 0.1 | 0.12 |
| 71B26 | 0.37 | 0.44 |
| | 0.15 | 0.18 |
| 80A26 | 0.55 | 0.66 |
| | 0.22 | 0.26 |
| 80B26 | 0.75 | 0.90 |
| | 0.3 | 0.36 |
| 90S26 | 0.95 | 1.14 |
| | 0.4 | 0.48 |
| 90L26 | 1.25 | 1.50 |
| | 0.55 | 0.66 |
| 100LA26 | 1.8 | 2.16 |
| | 0.75 | 0.90 |
| 100LB26 | 2.2 | 2.64 |
| | 0.95 | 1.14 |
| 112M26 | 3 | 3.60 |
| | 1.25 | 1.50 |

| 2/8 poles | | |
|---|---|---|
| Type | Power | 60Hz |
| | [kW] | [kW] |
| 71A28 | 0.18 | 0.22 |
| | 0.05 | 0.06 |
| 71B28 | 0.37 | 0.44 |
| | 0.09 | 0.11 |
| 80A28 | 0.55 | 0.66 |
| | 0.13 | 0.16 |
| 80B28 | 0.75 | 0.90 |
| | 0.18 | 0.22 |
| 90S28 | 0.95 | 1.14 |
| | 0.23 | 0.28 |
| 90L28 | 1.25 | 1.50 |
| | 0.31 | 0.37 |
| 100LA28 | 1.8 | 2.16 |
| | 0.45 | 0.54 |
| 100LB28 | 2.2 | 2.64 |
| | 0.55 | 0.66 |
| 112M28 | 3 | 3.60 |
| | 0.75 | 0.90 |

*Three phase motors double speed quadratic torque*

| 2/4 poles | | |
|---|---|---|
| Type | 50Hz | 60Hz |
| | [kW] | [kW] |
| 63B24 | 0.24 | 0.29 |
| | 0.07 | 0.08 |
| 71A24 | 0.37 | 0.44 |
| | 0.09 | 0.11 |
| 71B24 | 0.5 | 0.60 |
| | 0.14 | 0.17 |
| 80A24 | 0.75 | 0.90 |
| | 0.18 | 0.22 |
| 80B24 | 1 | 1.20 |
| | 0.25 | 0.30 |
| 90S24 | 1.5 | 1.80 |
| | 0.37 | 0.44 |
| 90L24 | 2 | 2.40 |
| | 0.51 | 0.61 |
| 90LB24 | 2.2 | 2.64 |
| | 0.55 | 0.66 |
| 100LA24 | 2.6 | 3.12 |
| | 0.62 | 0.74 |
| 100LB24 | 3.3 | 3.96 |
| | 0.75 | 0.90 |
| 112M24 | 4.4 | 5.28 |
| | 1.1 | 1.32 |

| 4/8 poles | | |
|---|---|---|
| Type | Power | 60Hz |
| | [kW] | [kW] |
| 71A48 | 0.2 | 0.24 |
| | 0.05 | 0.06 |
| 71B48 | 0.3 | 0.36 |
| | 0.07 | 0.08 |
| 80A48 | 0.45 | 0.54 |
| | 0.1 | 0.12 |
| 80B48 | 0.65 | 0.78 |
| | 0.14 | 0.17 |
| 90S48 | 0.9 | 1.08 |
| | 0.22 | 0.26 |
| 90L48 | 1.2 | 1.44 |
| | 0.3 | 0.36 |
| 100LA48 | 1.9 | 2.28 |
| | 0.44 | 0.53 |
| 100LB48 | 2.2 | 2.64 |
| | 0.55 | 0.66 |
| 112M48 | 3 | 3.60 |
| | 0.75 | 0.90 |
| | | |
| | | |
| | | |
| | | |

| 4/6 poles | | |
|---|---|---|
| Type | Power | 60Hz |
| | [kW] | [kW] |
| 71B46 | 0.3 | 0.36 |
| | 0.1 | 0.12 |
| 80A46 | 0.44 | 0.528 |
| | 0.13 | 0.156 |
| 80B46 | 0.59 | 0.708 |
| | 0.18 | 0.216 |
| 90S46 | 0.9 | 1.08 |
| | 0.3 | 0.36 |
| 90L46 | 1.15 | 1.38 |
| | 0.4 | 0.48 |
| 100LA46 | 1.8 | 2.16 |
| | 0.6 | 0.72 |
| 100LB46 | 2.2 | 2.64 |
| | 0.7 | 0.84 |
| 112M46 | 3 | 3.6 |
| | 0.9 | 1.08 |

| 6/8 poles | | |
|---|---|---|
| Type | Power | 60Hz |
| | [kW] | [kW] |
| 80B68 | 0.33 | 0.40 |
| | 0.09 | 0.11 |
| 80B68 | 0.4 | 0.48 |
| | 0.12 | 0.14 |
| 90S68 | 0.48 | 0.58 |
| | 0.19 | 0.23 |
| 90L68 | 0.66 | 0.79 |
| | 0.25 | 0.30 |
| 100LA68 | 0.88 | 1.06 |
| | 0.37 | 0.44 |
| 100LB68 | 1.1 | 1.32 |
| | 0.44 | 0.53 |
| 112M68 | 1.5 | 1.80 |
| | 0.75 | 0.90 |
| | | |
| | | |