

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20161123-20160630 – E233211  
**Report Reference** E233211 - 20131021  
**Issue Date** 2016-NOVEMBER-23

**Issued to:** CANTONI MOTOR SA  
ul 3 Maja 28  
43-400 Cieszyn, POLAND


**This is to certify that representative samples of** Motors - Component  
See addendum page for models.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** ANSI/UL 1004-1, "Rotating Electrical Machines - General Requirements"  
CSA-C22.2 No. 100, "Motors and Generators."

**Additional Information:** See the UL Online Certifications Directory at [www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: , may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20161123-20160630 – E233211  
**Report Reference** E233211 - 20131021  
**Issue Date** 2016-NOVEMBER-23

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Three phase induction motors (Class F and Class H), "3SIE", Models:

3SIE90S2, 3SIE90L2, 3SIE90L2A, 3SIE100L2, 3SIE100L2A, 3SIE112M2, 3SIE112M2A, 3SIE112M2B, 3SIE132S2A, 3SIE132S2B, 3SIE132M2, 3SIE132M2A, 3SIE160M2A, 3SIE160M2B, 3SIE160L2, 3SIE160L2A, 3SIE180M2, 3SIE200L2A, 3SIE200L2B, 3SIE200L2C, 3SIE200L2D, 3SIE225M2, 3SIE225M2C, 3SIE250M2, 3SIE250M2C, 3SIE280S2, 3SIE280M2, 3SIE280M2C, 3SIE280M2D, 3SIE315S2, 3SIE315L2, 3SIE315M2A, 3SIE315M2B, 3SIE315M2C, 3SIE90S4, 3SIE90L4, 3SIE90L4A, 3SIE100L4A, 3SIE100L4B, 3SIE100L4C, 3SIE112M4, 3SIE112M4A, 3SIE132S4, 3SIE132M4, 3SIE132M4A, 3SIE132M4B, 3SIE160M4, 3SIE160L4, 3SIE160L4A, 3SIE180M4, 3SIE180L4, 3SIE200L4, 3SIE200L4C, 3SIE200L4D, 3SIE225S4, 3SIE225M4, 3SIE225M4C, 3SIE250M4, 3SIE250M4C, 3SIE280S4, 3SIE280M4, 3SIE280M4C, 3SIE315S4, 3SIE315L4, 3SIE315M4A, 3SIE315M4B, 3SIE315M4C, 3SIE90S6, 3SIE90L6, 3SIE90L6A, 3SIE100L6, 3SIE100L6A, 3SIE112M6, 3SIE112M6A, 3SIE132S6, 3SIE132M6A, 3SIE132M6B, 3SIE132M6C, 3SIE160M6, 3SIE160L6, 3SIE160L6A, 3SIE180L6, 3SIE180L6A, 3SIE200L6A, 3SIE200L6B, 3SIE225M6, 3SIE225M6C, 3SIE250M6, 3SIE250M6C, 3SIE280S6, 3SIE280M6, 3SIE280M6C, 3SIE315S6, 3SIE315L6, 3SIE315M6A, 3SIE315M6B, 3SIE315M6C, 3SIE315M6D



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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Andrzej Sala  
CANTONI MOTOR SA  
ul 3 Maja 28  
43-400 Cieszyn POLAND

Date: 2016/11/28  
Subscriber: 629069001  
PartySite: 574179  
File No: E233211  
Project No: 4787559890  
PD No: 16M50808  
Type: R  
PO Number: 1101213272

Subject: **Procedure And/Or Report Material**

The following material resulting from the investigation under the above numbers is enclosed.

**Issue**

| <u>Date</u> | <u>Vol</u> | <u>Sec</u> | <u>Pages</u>                            | <u>Revised Date</u> |
|-------------|------------|------------|---|---------------------|
|             | 6          |            | Revised Index Page(s) 1                 | 2016/11/18          |
|             | 6          |            | Revised Section General Page(s) 1,10,12 | 2016/11/18          |
| 2013/10/21  | 6          | 1          | Cert of Compliance                      |                     |
| 2013/10/21  | 6          | 1          | Description Page(s)                     |                     |
| 2013/10/21  | 6          | 1          | New Figure(s) 10 New Drawing DNA        | 2016/11/18          |
| 2013/10/21  | 6          | 1          | Revised Figure(s) 3 Revised Drawing DNA | 2016/11/18          |
| 2013/10/21  | 6          | 1          | New Test Record 2                       | 2016/11/18          |

Please retrieve the documents via MyHome@CDA.

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

Please review this material and report any inaccuracies to UL's Customer Service Professionals. Contact information for all of UL's global offices can be found at <http://ul.com/aboutul/locations>.

If you'd like to receive updated materials FASTER, UL offers electronic access and/or delivery of this material. For more details, contact UL's Customer Service Professionals as shown above.

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FRK File

## INDEX

| <u>Motor Types</u>  | <u>Sec.</u> | <u>Report Date</u> | <u>Approvals</u> |
|---|-------------|--------------------|------------------|
| Series 3SIE <b>f/b 90,-100,-112,-132,-160,-180</b> , f/b 200, 225, 250, 280, 315, f/b S, M or L, f/b 2, 4 or 6, f/b one letter, may be f/b one or two letters | 1           | 2013-10-21         | B                |

## Approval Abbreviation:

- A - Evaluated to United States Standards Only - Recognized
- B - Evaluated to United States and Canadian National Standards - Recognized
- C - Evaluated to Canadian National Standards Only - Recognized

## GENERAL

## PRODUCT COVERED:

Recognized Component - Motors.

## ABBREVIATIONS:

|           |  |
|-----------|--|
| R/C       | Recognized Component   |
| Sec. Gen. | Section General  |
| USR       | United State Standard - Recognized   |
| CNR       | Canadian Standard - Recognized   |
| AWM       | Appliance Wiring Material  |
| AWG       | American Wire Gauge  |
| CN        | The component has been evaluated to Canadian requirements. The Field Representative shall confirm that the component has a CSA Certification Mark or an equivalent identifier or a Canadian UL Listing or Recognized Mark. |

## GENERAL:

\* These products shall comply with the Standards for Rotating Electrical Machines - General Requirements, UL 1004], and with the applicable description, if any, given elsewhere in this procedure.

\* These products shall comply with the Canadian Standard for Motors and Generators, C22.2 No. 100 , and with the applicable description, if any, given elsewhere in this procedure.

## CONSTRUCTION DETAILS:

Mechanical Assembly - All electrical components are rigidly secured by screws, bolts, rivets, lockwashers or similar means so as to prevent rotation. All exposed metal are free from burrs and sharp edges.

Grounding - All exposed metal parts likely to become energized and all dead metal parts that are exposed to contact during servicing are grounded.

Internal Wiring - Unless otherwise noted, all internal wiring is AVLV2, ratings as described in each report. All wiring is reliably routed away from sharp edges, moving parts and potential sources of heat.

## CORROSION PROTECTION:

All ferrous metal parts are suitably protected from corrosion by painting, plating or galvanizing. This requirement does not apply to bearings, laminations, or minor parts of iron or steel, such as washers, screws and the like.

Components used for motor models below in Vol. 6, Sec.1 are part of U/C (OBJY3), Mfr. by Cantoni Motor SP, designated Indukta-3F, rated 600 V, Class F(155°C), see File E233211, Vol. 2, Sec. 1, Table I.

|        |     |  |  |  |  |
|--------|-----|--|--|--|--|
| Model: | all |  |  |  |  |
|        |     |  |  |  |  |

| NO. | Component name  | Manufacturer | Model name  | Ratings/Comments  | UL file/UL CCN |
|-----|-----------------|--------------|---|---|----------------|
| 1.  | Stator Windings | -            | copper, "MW-30", "MW-35", "MW-73" or "MW-76"  | -   | R/C (OBMW2)    |
| 2.  | Slot Liners     | -            | Aramid paper layer Nomex 410, 414, 416 or 418   | Insulation extends min. 3 mm. at stator.                |                |
|     | Alternate       | -            | Type Voltaflex 6644 (DM)  | Same as above   | -              |
|     | Alternate       | -            | Isonom NM 0880 (NM) 0.25 mm thick or, Isonom NMN 0881 (NMN) 0.24 mm thick or, Isonom NMN 2035, 0.24 mm thick. | Same as above   | -              |
|     | Alternate       | -            | Voltaflex F 6642 (DMD), 0.25 mm thick   | Same as above   | -              |
|     | Alternate       |              | WILEDON H3130 or Type Ergofol WG 1, 0.24 mm thick.  | "Mylar" Mfr. by DuPont, 0.19 mm minimum total thickness | -              |
| 3.  | Slot Wedges     | -            | As item 2   | -   | -              |

Components used for motor models in Vol. 1 **and 6**, Sec.2 are part of: U/C (OBJY3), Mfr. by Cantoni Motor SP, designated Indukta-2H, rated 600 V, Class H (180°C), see File E233211, Vol. 2, Sec. 2, Table I.

|        |     |  |  |  |  |
|--------|-----|--|--|--|--|
| Model: | all |  |  |  |  |
|        |     |  |  |  |  |

| NO. | Component name   | Manufacturer                         | Model name   | Ratings/Comments                         | UL file/UL CCN     |
|-----|------------------|--------------------------------------|--|--|--------------------|
| 1.  | Stator Windings  | -                                    | copper, "MW-30", "MW-35", "MW-73"  | -  | R/C (OBMW2)        |
| 2.  | Slot Liners      | -                                    | Aramid paper layer<br>Nomex 410, 414, 416<br>or 418  | Insulation extends min. 3 mm. at stator. | -                  |
|     | Alternate        | -                                    | Isonom NKN 8 0886 (NKN)  | Same as above                            | -                  |
|     | Alternate        | -                                    | Isonom NKN 13 0887   | Same as above                            | -                  |
|     | Alternate        | Mfr. by 'IZOERG' Gliwice             | Nomex 410, 416, minimum 0.127 mm total thickness.<br>Polyimid layer is made of Kapton, minimum 0.025 mm total thickness.<br>May be the following:<br>Type Ergofol NK.<br>Type Ergofol NKN. | Same as above                            | -                  |
| 3.  | Slot Wedges      | -                                    | As item 2  | -  | -                  |
| 4.  | Phase Insulation | -                                    | Any, as specified in the Insulation System   |  |                    |
| 5.  | Leads            | -                                    | silicon rubber, rated min. 200°C, 600 V, size AWG 26-10 (stranded)   |  | R/C (AVLV2) and CN |
| 6.  | Sleeving         | Instytut Elektrotechniki Międzylesie | OsKs   | rated 155°C, 600 V                       |                    |
| 7.  | Varnish          | Mfr. by John C Dolph Co              | "CC-1105 OPT"  |  | R/C (OBOR2)        |

TEST RECORD NO. 2

## SAMPLES:

Samples of the motor series 3SIE f/b 90,-100,-112,-132,-160,-180,-200,-225,-250,-280,-315 f/b S, M or L, f/b 2, 4 or 6, f/b one letter, may be f/b one or two letters rated max 600 V, 50/60 Hz, max 300 kW, poles =2, 4, 6, Efficiency Level IE3 as indicated below and constructed as described herein, were submitted by the manufacturer for examination and test.

The models 3SIE 90S2, 1.5 kW, 2 poles, 50/60 Hz, 3SIE 180L4, 22 kW, 4 poles, 50/60 Hz, 3SIE 132M6B, 5.5 kW, 6 poles, 50/60 Hz and 3SIE 225M4 66 kW, 4 poles, were considered a representative models for the complete 3SIE series.

## GENERAL:

Test results relate only to the items tested.

The following tests were conducted.

| TEST  | STANDARD                                 | CODE<br>(See Below) | CLAUSE      |
|---|--|---------------------|-------------|
| Rating Test - Motor   | UL 1004-1<br>CAN/CSA C22.2 No.<br>100-14 | C                   | 31.2<br>7.3 |
| Temperature Test  | UL 1004-1<br>CAN/CSA C22.2 No.<br>100-14 | C                   | 32<br>7.2   |
| Windings Resistance   | UL 1004-1                                | For reference only  |             |
| Dielectric Voltage-Withstand Test<br>Dielectric Strength Test (Csa<br>C22.2 No. 100-14) | UL 1004-1                                | OS                  | 37          |
| Lifting Lugs Test   | UL 1004-1                                | OS                  | 33.7        |

S = Same test.

C = Combined test (identified by the test names of two or more similar tests in multiple standards) to represent the worst-case parameters of the similar tests.

OS = Testing requirements come from one standard only.

MS = One of the two or more standards identified is more severe and the more severe one is indicated by underlining.



The test methods and results of the above tests have been reviewed and found in accordance with the requirements in the standards noted below:

| Standard             | Title  | Edition | Revision Date |
|----------------------|--|---------|---------------|
| UL 1004-1            | Rotating Electrical Machines -<br>General Requirements | 2       | 2016-06-22    |
| CSA C22.2 No.<br>100 | Motors and Generators                                  | 7       | 2014-07-01    |

The following tests were waived:

| Test              | Rationale for Waived Test<br>(See Below) | File<br>Reference          | Report<br>Date | Test<br>Record<br>No. |
|-------------------|--|----------------------------|----------------|-----------------------|
| Grounding<br>Test | 1  | E233211, Vol. 1,<br>Sec. 1 | 2013-10-21     | 1                     |

1. Similarity to currently Recognized products, Motor Series 3SIE f/b letters and numbers for the same Applicant. Differences between the products are: size and electrical ratings.

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the Standard for noted below:

| Standard             | Title  | Edition | Revision Date |
|----------------------|--|---------|---------------|
| UL 1004-1            | Rotating Electrical Machines -<br>General Requirements | 2       | 2016-06-22    |
| CSA C22.2 No.<br>100 | Motors and Generators                                  | 7       | 2014-07-01    |

Report by:

Reviewed by:

Mauro V. Cerioli  
Senior Project Engineer

Maurizio Migliavacca  
Engineering Associate Lead

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20131022-E233211  
**Report Reference** E233211-20111214  
**Issue Date** 2013-OCTOBER-22

**Issued to:** CANTONI MOTOR SA  
UL. GRAZYNSKIEGO 22  
43-300 BIELSKO BIALA, POLAND



**This is to certify that  
representative samples of** COMPONENT - MOTORS  
See Addendum Page

Have been investigated by UL in accordance with the  
Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** UL 1004-1, Rotating Electrical Machines – General  
Requirements  
CSA C22.2 No. 100, Motors and Generators

**Additional Information:** See the UL Online Certifications Directory at  
[www.ul.com/database](http://www.ul.com/database) for additional information

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William R. Carney, Director, North American Certification Programs  
UL LLC

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20131022-E233211  
**Report Reference** E233211-20111214  
**Issue Date** 2013-OCTOBER-22

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

"Class F" or "Class H" Insulated Motors model tabulated below.

Series SIE followed by 143, 145, 182, 184, 213, 215, 254, 256, 284, 286, 324, 326, 364, 365, 404, 405, 444, 445, 447 followed by additional letters and suffixes, may be prefixed by DC.

Series ELP followed by 143, 145, 182, 184, 213, 215, 254, 256, 284 or 286, followed by additional letters and suffixes, may be prefixed by DC.

Alternate nomenclature for ELP Series:

Series ELP followed by two numbers, followed by one letter, followed by 1, 2 or 3, followed by two letters.



William R. Carney, Director, North American Certification Programs  
UL LLC

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# Certificate of Verification

Certificate: 2394434

Master Contract: 151041

Project: 2394434

Date Issued: 2011-03-03

Issued to: CANTONI MOTOR S.A.  
Ul. M. Grazynskiego 22  
43-300 Bielsko Biala  
POLAND

Attention: Mr. Andrzej Sala

*The Motor listed below are eligible to bear the CSA EEV Mark shown*




Issued by: Ioan Goga, Eng.

## PRODUCTS

Class 8811-01 - ENERGY EFFICIENCY - MOTORS - Three Phase Induction

Class 8811 81 - ENERGY EFFICIENCY - MOTORS - Three Phase Induction - Evaluated to U.S. Requirements

Energy Efficiency Verification of Three-phase, squirrel-cage, induction motors, Series **SIE**, foot or flange mounted; 2, 4 or 6 poles, 600V ac or less (230/460V, 460V, 575V or 600V), 60 Hz, 1 to 250 hp, TEFC, NEMA frame sizes 143 to 447, Insulation System Class F, with Quoted Efficiency Values at full load as tabulated below:

### QUOTED EFFICIENCY VALUE (%)

| Power<br>(hp) | 2 poles  |  | 4 poles  |  | 6 poles  |  |
|---------------|--|--|--|--|--|--|
|               | Minimum<br>Nominal<br>Efficiency<br>(Premium)<br>(%) | Quoted<br>Efficiency<br>(if higher than<br>minimum)<br>(%) | Minimum<br>Nominal<br>Efficiency<br>(Premium)<br>(%) | Quoted<br>Efficiency<br>(if higher than<br>minimum)<br>(%) | Minimum<br>Nominal<br>Efficiency<br>(Premium)<br>(%) | Quoted<br>Efficiency<br>(if higher than<br>minimum)<br>(%) |
| 1             | -  | -  | 85.5   | -  | 82.5   | -  |
| 1.5           | 84.0   | -  | 86.5   | -  | 87.5   | -  |
| 2             | 85.5   | -  | 86.5   | -  | 88.5   | -  |
| 3             | 86.5   | -  | 89.5   | -  | 89.5   | -  |
| 5             | 88.5   | -  | 89.5   | -  | 89.5   | -  |
| 7.5           | 89.5   | -  | 91.7   | -  | 91.0   | -  |

# Certificate of Compliance

**Certificate:** 2387961

**Master Contract:** 151041

**Project:** 2387961

**Date Issued:** February 18, 2011

**Issued to:** **Cantoni Motor S.A.**

**Ul. M. Grazynskiego 22**

**Bielsko Biala, 43-300**

**Poland**

**Attention: Andrzej SALA**

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*



*Ioan Goga*

**Issued by:** Ioan Goga, Eng.

## **PRODUCTS**

**CLASS 4211 81** - MOTORS AND GENERATORS - Certified to US Standards

**CLASS 4211 01** - MOTORS AND GENERATORS

Three-phase, asynchronous, squirrel-cage, induction motors, Series **SIE xxxTyz**, foot or flange mounted; 2, 4 or 6 poles, 600V ac or less (230/460V, 460V, 575V or 600V), 60 Hz, 1 to 250 hp, Service Factor 1 to 1.4, TEFC, NEMA frame sizes 143 to 447, Insulation System Class F, Types:

a) 2 poles:

- SIE 143T2, 1.5hp, frame size 143,
- SIE 145T2, 2hp, frame size 145,
- SIE 182T2, 3hp, frame size 182,
- SIE 184T2, 5hp, frame size 184,
- SIE 213T2, 7.5hp, frame size 213,
- SIE 215T2, 10hp, frame size 215,
- SIE 254T2, 15hp, frame size 254,
- SIE 256T2, 20hp, frame size 256,



**Certificate:** 2387961

**Master Contract:** 151041

**Project:** 2387961

**Date Issued:** February 18, 2011

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- SIE 284TS2, 25hp, frame size 284,
- SIE 286TS2, 30hp, frame size 286,
- SIE 324TS2, 40hp, frame size 324,
- SIE 326TS2, 50hp, frame size 326,
- SIE 364TS2, 60hp, frame size 364,
- SIE 365TS2, 75hp, frame size 365,
- SIE 405TS2, 100hp, frame size 405,
- SIE 444TS2, 125hp, frame size 444,
- SIE 445TS2, 150hp, frame size 445,
- SIE 447TS2A, 200hp, frame size 447,
- SIE 447TS2B, 250hp, frame size 447,

b) 4 poles:

- SIE 143T4, 1hp, frame size 143,
- SIE 145T4A, 1.5hp, frame size 145,
- SIE 145T4B, 2hp, frame size 145,
- SIE 182T4, 3hp, frame size 182,
- SIE 184T4, 5hp, frame size 184,
- SIE 213T4, 7.5hp, frame size 213,
- SIE 215T4, 10hp, frame size 215,
- SIE 254T4, 15hp, frame size 254,
- SIE 256T4, 20hp, frame size 256,
- SIE 284T4, 25hp, frame size 284,
- SIE 286T4, 30hp, frame size 286,
- SIE 324T4, 40hp, frame size 324,



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- SIE 326T4, 50hp, frame size 326,
- SIE 364T4, 60hp, frame size 364,
- SIE 365T4, 75hp, frame size 365,
- SIE 405T4, 100hp, frame size 405,
- SIE 444T4, 125hp, frame size 444,
- SIE 445T4, 150hp, frame size 445,
- SIE 447T4A, 200hp, frame size 447,
- SIE 447T4B, 250hp, frame size 447,

c) 6 poles:

- SIE 145T6, 1hp, frame size 145,
- SIE 182T6, 1.5hp, frame size 182,
- SIE 184T6, 2hp, frame size 184,
- SIE 213T6, 3hp, frame size 213,
- SIE 215T6, 5hp, frame size 215,
- SIE 254T6, 7.5hp, frame size 254,
- SIE 256T6, 10hp, frame size 256,
- SIE 284T6, 15hp, frame size 284,
- SIE 286T6, 20hp, frame size 286,
- SIE 324T6, 25hp, frame size 324,
- SIE 326T6, 30hp, frame size 326,
- SIE 364T6, 40hp, frame size 364,
- SIE 365T6, 50hp, frame size 365,
- SIE 404T6, 60hp, frame size 404,
- SIE 405T6, 75hp, frame size 405,



**Certificate:** 2387961

**Master Contract:** 151041

**Project:** 2387961

**Date Issued:** February 18, 2011

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- SIE 444T6, 100hp, frame size 444,
- SIE 445T6, 125hp, frame size 445,

Notes:

- Motors may be provided with temperature detectors responsive to motor temperature only, for connection to separate auxiliary circuits, not replacing normal overload protection as required by the .Canadian Electrical Code, Part 1.
- The supply connection is subject to further investigation by the local inspection authorities.
- “xxx” in the type designation represents the frame size;
- “y” in the type designation represents the number of poles;
- “x” in the type designation may be A or B or null.

**APPLICABLE REQUIREMENTS**

CSA-C22.2 No. 100-04 - Motors and Generators

UL 1004-1, 1st Ed. - Rotating Electrical Machines – General Requirements





## *Supplement to Certificate of Compliance*

**Certificate:** 2387961

**Master Contract:** 151041

*The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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| <b>Project</b> | <b>Date</b>       | <b>Description</b>   |
|----------------|-------------------|--|
| 2387961        | February 18, 2011 | Three-phase, squirrel-cage, induction motors, Series SIE xxxTyz, foot or flange mounted; 2, 4 or 6 poles; 600V ac or less, 60 Hz, 1 to 250 hp, S. F. 1 to 1.4, TEFC, NEMA frame sizes 143 to 447, Ins. System Class F; To CSA C22.2 No. 100-04 and UL1004-1. |

Certificate: 2394434

Master Contract: 151041

**QUOTED EFFICIENCY VALUE (%) (concluded)**

| <b>Motor<br/>Horsepower</b> | Minimum<br>Nominal<br>Efficiency<br>(Premium)<br>(%) | Quoted<br>Efficiency<br>(if higher than<br>minimum)<br>(%) | Minimum<br>Nominal<br>Efficiency<br>(Premium)<br>(%) | Quoted<br>Efficiency<br>(if higher than<br>minimum)<br>(%) | Minimum<br>Nominal<br>Efficiency<br>(Premium)<br>(%) | Quoted<br>Efficiency<br>(if higher than<br>minimum)<br>(%) |
|-----------------------------|--|--|--|--|--|--|
| 10                          | 90.2   | -  | 91.7   | -  | 91.0   | -  |
| 15                          | 91.0   | 91.7   | 92.4   | -  | 91.7   | -  |
| 20                          | 91.0   | 91.7   | 93.0   | -  | 91.7   | -  |
| 25                          | 91.7   | 92.4   | 93.6   | -  | 93.0   | -  |
| 30                          | 91.7   | -  | 93.6   | -  | 93.0   | -  |
| 40                          | 92.4   | -  | 94.1   | -  | 94.1   | -  |
| 50                          | 93.0   | -  | 94.5   | -  | 94.1   | -  |
| 60                          | 93.6   | -  | 95.0   | -  | 94.5   | -  |
| 75                          | 93.6   | -  | 95.4   | -  | 94.5   | -  |
| 100                         | 94.1   | 95.4   | 95.4   | -  | 95.0   | -  |
| 125                         | 95.0   | -  | 95.4   | -  | 95.0   | 95.4   |
| 150                         | 95.0   | -  | 95.8   | -  | -  | -  |
| 200                         | 95.4   | -  | 96.2   | 96.5   | -  | -  |
| 250                         | 95.8   | -  | 96.2   | -  | -  | -  |

**Notes:**

1. The above models have been CSA Certified for safety (in submittor's report 151041 – 2387961). See Certification Record 151041 for listing of CSA safety certified models.
2. Equipment verified by CSA for Energy Performance shall also be subject to the safety requirements for the local inspection authorities having jurisdiction.
3. The energy efficiency levels set out in table 3 of CSA C390-10, tested at 100% of rated full load, applies to motors Series **SIE** described in this report.
4. The following suffixes may be added to the **SIE** Series designation to form the motor type designation, in the following order (e.g.: SIE 447TS2A):
  - a. Frame size (3 digits): 143 to 447;
  - b. Housing and shaft construction (1 to 4 digits): T, TS, TCL, TDL, TSCL or TSDL;
  - c. Number of poles (1 digit): 2, 4 or 6;
  - d. Version (0 to 1 digit): A, B or null.

**APPLICABLE REQUIREMENTS**

CSA Standard CAN/CSA C390-10 - Test methods, marking requirements, and energy efficiency levels for three-phase induction motors  
 CSA Standard CAN/CSA C390-93- Energy Efficiency Test Methods for Three-Phase Induction Motors

Certificate: 2394434

Master Contract: 151041

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*Supplement to Certificate of Verification*

Certificate: 2394434

Master Contract: 151041

*The motors listed, including the latest revision described below,  
are eligible to be marked in accordance with the referenced Certificate.*

**Product Certification History**

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| <b>Project</b> | <b>Date</b> | <b>Description</b>  |
|----------------|-------------|---|
| 2394434        | 2011-03-03  | Original Energy Efficiency Verification of Three-phase, squirrel-cage, induction motors, Series <b>SIE</b> , foot or flange mounted; 2, 4 or 6 poles, 600V ac or less (230/460V, 460V, 575V or 600V), 60 Hz, 1 to 250 hp, TEFC, NEMA frame sizes 143 to 447, Insulation System Class F. |



## Certificate of Qualification

This is to certify that  
CELMA INDUKTA SA  
ul. 3 Maja 19, 43-400 Cieszyn  
POLAND

has been qualified by CSA Group, Certification and Testing, as a Testing Facility for  
**SUPERVISED MANUFACTURER'S TESTING FOR  
CERTIFICATION PROGRAM**  
Based on ISO/IEC 17025:2005

Certificate No. SMTC-103  
Issued Date: December 17, 2015  
Expiry Date: December 16, 2018

  
\_\_\_\_\_  
John Jakob  
Technical Manager, Service Quality



## Certificate of Qualification

This is to certify that  
**CELMA INDUKTA SA**  
ul. 3 Maja 19, 43-400 Cieszyn  
POLAND

has been qualified by CSA Group, Certification and Testing, as a Testing Facility for

**CSA ENERGY EFFICIENCY VERIFICATION PROGRAM**

**Based on ISO/IEC 17025:2005 operating as a SMTC**

and to test products to the following performance standards:  
CAN/CSA C390-10 and CAN/CSA C390-93

Certificate No. EEV-0157  
Issued Date: December 17, 2015  
Expiry Date: December 16, 2018

Rick Morrison, P.Eng.  
*Technical Manager, Service Quality*