



Product Service

CERTIFICATE

No. B 15 05 22021 591

**Holder of Certificate: Yaskawa Electric Corp.
Tokyo Plant**480 Kamifujisawa, Iruma
Saitama 358-8555
JAPAN**Production
Facility(ies):**

42605, 48675

Certification Mark:**Product:****Electric Motors
AC Servo Motor****Model(s):****SGMG, SGMS, SGMGH, SGM SH, SGMUH
Series
(See Attachment for nomenclature)****Parameters:**

| | |
|-----------------------|--------------------------------|
| Rated voltage: | AC 400 V, 3 phase |
| Rated output power: | 0.45KW - 15KW |
| Rated input current: | 1.9 - 37.2 A |
| Degree of protection: | IP55 (V type) IP67 (S type) |

Protection class: I

Remark:

When installing/inserting the equipment all requirements of the mentioned test standards must be fulfilled.

Tested according to:EN 60034-1:2010
EN 60034-5:2001/A1:2007
EN 60034-8:2007
EN 60034-9:2005/A1:2007

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.: 73552801**Valid until:** 2017-04-23**Date,** 2015-05-20

(Shigehisa Ishikawa)

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Product Service

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Product Covered:

Component - AC Servo Motors, Series SGMG, SGMS, followed by any number from 05 to 50, followed by V, W followed by 2, 3, 6, W, S, and so on, followed by 1, 2, may be followed by additional letters and / or numbers.

Electrical Ratings:

SGMG Series

| Model | Voltage (V) | Phases | Watts (kW) | Current (A) | Torque (N·m) | Speed (r/min) |
|---------------|----------------|--------|---------------|----------------|-----------------|------------------|
| SGMG-05xxxxxx | 400 | 3 | 0.45 | 1,9 | 2.84 | 1500 |
| SGMG-09xxxxxx | 400 | 3 | 0.85 | 3.5 | 5.39 | 1500 |
| SGMG-13xxxxxx | 400 | 3 | 1.3 | 5.4 | 8.34 | 1500 |
| SGMG-20xxxxxx | 400 | 3 | 1.8 | 8.4 | 11.5 | 1500 |
| SGMG-30xxxxxx | 400 | 3 | 2.9 | 11.9 | 18.6 | 1500 |
| SGMG-44xxxxxx | 400 | 3 | 4.4 | 16.5 | 28.4 | 1500 |

SGMS Series

| Model | Voltage (V) | Phases | Watts (kW) | Current (A) | Torque (N·m) | Speed (r/min) |
|---------------|----------------|--------|---------------|----------------|-----------------|------------------|
| SGMS-10xxxxxx | 400 | 3 | 1.0 | 2.8 | 3.18 | 3000 |
| SGMS-15xxxxxx | 400 | 3 | 1.5 | 4.7 | 4.9 | 3000 |
| SGMS-20xxxxxx | 400 | 3 | 2.0 | 6.2 | 6.36 | 3000 |
| SGMS-30xxxxxx | 400 | 3 | 3.0 | 8.9 | 9.8 | 3000 |
| SGMS-40xxxxxx | 400 | 3 | 4.0 | 12.2 | 12.6 | 3000 |
| SGMS-50xxxxxx | 400 | 3 | 5.0 | 13.8 | 15.8 | 3000 |

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Product Covered:

Component - AC Servo Motors, Series SGMGH, SGMSH, SGMUH, followed by any number from 05 to 1E, followed by D, Q, followed by 2, C, and so on, followed by A, may be followed by additional letters and / or numbers.

Electrical Ratings:

SGMGH Series

| <u>Model</u> | <u>Voltage</u> | <u>Phases</u> | <u>Watts (kW)</u> | <u>Current (A)</u> | <u>Torque (N·m)</u> | <u>Speed (r/min)</u> |
|----------------|----------------|---------------|-------------------|--------------------|---------------------|----------------------|
| SGMGH-05xxxxxx | 400 | 3 | 0.45 | 1.9 | 2.84 | 1500 |
| SGMGH-09xxxxxx | 400 | 3 | 0.85 | 3.5 | 5.39 | 1500 |
| SGMGH-13xxxxxx | 400 | 3 | 1.3 | 5.4 | 8.34 | 1500 |
| SGMGH-20xxxxxx | 400 | 3 | 1.8 | 8.4 | 11.5 | 1500 |
| SGMGH-30xxxxxx | 400 | 3 | 2.9 | 11.9 | 18.6 | 1500 |
| SGMGH-44xxxxxx | 400 | 3 | 4.4 | 16.5 | 28.4 | 1500 |
| SGMGH-55xxxxxx | 400 | 3 | 5.5 | 20.8 | 35.0 | 1500 |
| SGMGH-75xxxxxx | 400 | 3 | 7.5 | 25.4 | 48.0 | 1500 |
| SGMGH-1Axxxxxx | 400 | 3 | 11 | 28.1 | 70.0 | 1500 |
| SGMGH-1Exxxxxx | 400 | 3 | 15 | 37.2 | 95.4 | 1500 |

SGMSH Series

| <u>Model</u> | <u>Voltage</u> | <u>Phases</u> | <u>Watts (kW)</u> | <u>Current (A)</u> | <u>Torque (N·m)</u> | <u>Speed (r/min)</u> |
|----------------|----------------|---------------|-------------------|--------------------|---------------------|----------------------|
| SGMSH-10xxxxxx | 400 | 3 | 1.0 | 2.8 | 3.18 | 3000 |
| SGMSH-15xxxxxx | 400 | 3 | 1.5 | 4.7 | 4.9 | 3000 |
| SGMSH-20xxxxxx | 400 | 3 | 2.0 | 6.2 | 6.36 | 3000 |
| SGMSH-30xxxxxx | 400 | 3 | 3.0 | 8.9 | 9.8 | 3000 |
| SGMSH-40xxxxxx | 400 | 3 | 4.0 | 12.5 | 12.6 | 3000 |
| SGMSH-50xxxxxx | 400 | 3 | 5.0 | 13.8 | 15.8 | 3000 |

SGMUH Series

| <u>Model</u> | <u>Voltage</u> | <u>Phases</u> | <u>Watts (kW)</u> | <u>Current (A)</u> | <u>Torque (N·m)</u> | <u>Speed (r/min)</u> |
|----------------|----------------|---------------|-------------------|--------------------|---------------------|----------------------|
| SGMUH-10xxxxxx | 400 | 3 | 1.0 | 2.7 | 1.59 | 6000 |
| SGMUH-15xxxxxx | 400 | 3 | 1.5 | 4.1 | 2.45 | 6000 |
| SGMUH-30xxxxxx | 400 | 3 | 3.0 | 5.1 | 4.9 | 6000 |
| SGMUH-40xxxxxx | 400 | 3 | 4.0 | 9.6 | 6.3 | 6000 |

"X" represents Variations in model number as described in product covered and series nomenclature which do not affect electrical construction or rating. "Reference Product Covered" or "Series Nomenclature."

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Series Nomenclature

Standard for type: SGMG, SGMS

SGMG - 05 V W D A 1 A
 a b c d e f g h

a. Motor Series: SGMG, SGMS

b. Motor Output (kW)

| Series | SGMG | SGMS |
|-------------|--------------------|--------------------|
| Rated Speed | (r / min.) 1500 | (r / min.) 3000 |
| 05 | 0.45 | -- |
| 09 | 0.85 | -- |
| 10 | -- | 1.0 |
| 13 | 1.3 | -- |
| 15 | -- | 1.5 |
| 20 | 1.8 | 2.0 |
| 30 | 2.9 | 3.0 |
| 40 | -- | 4.0 |
| 44 | 4.4 | -- |
| 50 | -- | 5.0 |

c. Standards and Structure which of Encoder's shaft connect to Motor's shaft

| Symbol | Standards | Structure which of Encoder's shaft connect to Motor's shaft |
|--------|--------------------------|---|
| V | European Safety Standard | Encoder's shaft connect direct to Motor's shaft |
| W | European Safety Standard | Encoder's shaft connect to Motor's shaft by Flexible coupling |

d. Detector

| Symbol | Contents |
|--------|-------------------------|
| 1 | Incremental (30000P/R) |
| 2 | Incremental (8192P/R) |
| 3 | Incremental (2048P/R) |
| 4 | Incremental (2500P/R) |
| 5 | Incremental (2000P/R) |
| 6 | Incremental (4096P/R) |
| 7 | Incremental (10000P/R) |
| 8 | Incremental (12000P/R) |
| 9 | Incremental (20000P/R) |
| R | Absolute Value (17 bit) |
| S | Absolute Value (15 bit) |
| W | Absolute Value (12 bit) |

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e. Supply Voltage and Rated Speed: D

| Symbol | Supply Voltage | Rated Speed | |
|--------|----------------|---------------------------------|-------------|
| | | SGMG Series | SGMS Series |
| D | 400 V | 1500 r/min | 3000 r/min |
| E | | Special | |
| J | | 1500 r/min (Low Cogging Torque) | -- |
| K | | Special | |
| V | | Special | |

f. Shaft Type

| Symbol | Contents |
|--------|--|
| Blank | Straight (standard) |
| A | Straight, Without Key (standard) |
| B | Straight, With Key and Tap |
| C | 1/10 Conical shaft ends, With Sunk Key |
| D | 1/10 Conical shaft ends, With Woodruff Key |
| E | 1/10 Conical shaft ends, With Sunk Key |
| F | Straight, With Sunk Key and Tap |
| G | Straight, Without Key (special) |
| H to Z | Special |

g. Optional parts

| Symbol | Contents |
|------------|---|
| L or blank | With Oil Seal (V type) |
| B | With Oil Seal (V type) and With Holding Brake (DC90V) |
| C | With Oil Seal (V type) and With Holding Brake (DC24V) |
| F | With Oil Seal (S type) and With Holding Brake (DC90V) |
| G | With Oil Seal (S type) and With Holding Brake (DC24V) |
| S | With Oil Seal (S type) |

h. Design of connection

- Blank: Receptacle
- B: With right-angled Support
- C: With right-angled Support

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Exclusive Design for Customer

| | | | | | | | | | | |
|-------------|---|-----------|----------|----------|----------|---|---|---|---|---|
| <u>SGMG</u> | - | <u>05</u> | <u>V</u> | <u>W</u> | <u>D</u> | - | * | * | * | * |
| a | | b | c | d | e | | f | g | h | i |

a to e: same as standard

f,g: Customer Code
 Alphameric character(s) or none

h, i: Design Revision Order for Customer
 Alphameric character(s) or none

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Standard for type: SGMGH, SGMSH, SGMUH

SGMSH - **10** **D** **C** **A** * * * **-E**
 a b c d e f g h i

a. Motor Series: SGMGH, SGMSH, SGMUH

b. Motor Output (kW)

| Series | SGMGH | SGMSH | SGHUH |
|-------------|--------------------|--------------------|--------------------|
| Rated Speed | (r / min.) 1500 | (r / min.) 3000 | (r / min.) 6000 |
| 05 | 0.45 | -- | -- |
| 09 | 0.85 | -- | -- |
| 10 | -- | 1.0 | 1.0 |
| 13 | 1.3 | -- | -- |
| 15 | -- | 1.5 | 1.5 |
| 20 | 1.8 | 2.0 | -- |
| 30 | 2.9 | 3.0 | 3.0 |
| 40 | -- | 4.0 | 4.0 |
| 44 | 4.4 | -- | -- |
| 50 | -- | 5.0 | -- |
| 55 | 5.5 | -- | -- |
| 75 | 7.5 | -- | -- |
| 1A | 11.0 | -- | -- |
| 1E | 15.0 | -- | -- |

c. Supply Voltage and Structure which of Encoder's shaft connect to Motor's shaft

| Symbol | Supply Voltage | Structure which of Encoder's shaft connect to Motor's shaft |
|--------|----------------|---|
| D | 400 V | Encoder's shaft connect direct to Motor's shaft |
| Q | | Encoder's shaft connect to Motor's shaft by Flexible coupling |

d. Detector

| Symbol | Contents |
|--------|---|
| C | Incremental (17 bit) |
| 2 | Absolute Value (17 bit) |
| 3 | Absolute Value (20 bit) |
| 5 | Absolute Value (17 bit), with Super Capacitor |

e. Design Revision Order and Rated Speed

A: SGMGH Series (1500 r / min.)
 SGMSH Series (3000 r / min.)
 SGMUH Series (6000 r / min.)
 C: SGMGH Series (1500 r / min.)
 For high precision machine tool



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f. Shaft Type

| Symbol | Contents |
|--------|--|
| 2 | Straight |
| 4 | Straight, Without Key |
| 6 | Straight, With Key and Tap |
| 3 | 1/10 Conical shaft ends, With Sunk Key |
| 5 | 1/10 Conical shaft ends, With Woodruff Key |
| 8 | Straight, With Tap |

g. Optional parts

| Symbol | Contents |
|--------|---|
| F | With Oil Seal (V type) |
| G | With Oil Seal (V type) and With Holding Brake (DC90V) |
| H | With Oil Seal (V type) and With Holding Brake (DC24V) |
| D | With Oil Seal (S type) and With Holding Brake (DC90V) |
| E | With Oil Seal (S type) and With Holding Brake (DC24V) |
| S | With Oil Seal (S type) |
| 1 | Without Option |
| B | With Holding Brake (DC90V) |
| C | With Holding Brake (DC24V) |

h. Design of connection
Blank, B, or C

i. Design of RoHS responses model.
-E or blank.
If be indicated "-E", those models represent RoHS responses model.

Exclusive Design for Customer

| | | | | | | | | | | | |
|--------------|---|-----------|----------|----------|----------|---|---|---|---|---|-----------|
| <u>SGMSH</u> | - | <u>10</u> | <u>D</u> | <u>C</u> | <u>A</u> | - | * | * | * | * | <u>-E</u> |
| a | | b | c | d | e | | f | g | h | i | j |

a to e. same as standard

f, g. Customer Code
Alphameric character(s) or none

h, i. Design Revision Order for Customer
Alphameric character(s) or none

j: Design of RoHS responses model.
-E or blank.
If be indicated "-E", those models represent RoHS responses model.



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International Protection Class (IP Class)

| No. | Contents | Except for drive end side (*1) | Oil seal of drive end side | |
|-----|---|--------------------------------|----------------------------|--------|
| | | | V type | S type |
| 1 | Connection: Receptacle | IP67 | IP55 | IP67 |
| 2 | Connection: Receptacle (With right-angled support) | IP67 | IP55 | IP67 |
| 3 | Connection: Cable | IP55 | IP55 | IP55 |

*1. When drive end side needs IP55 or IP67, mount an oil seal.