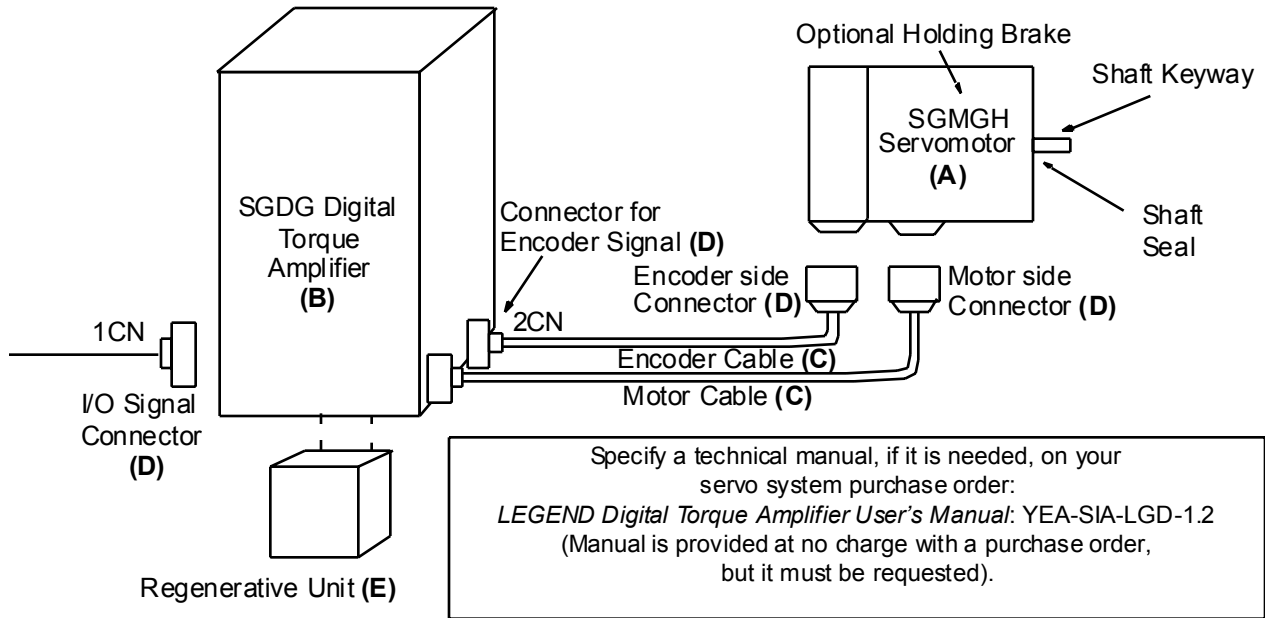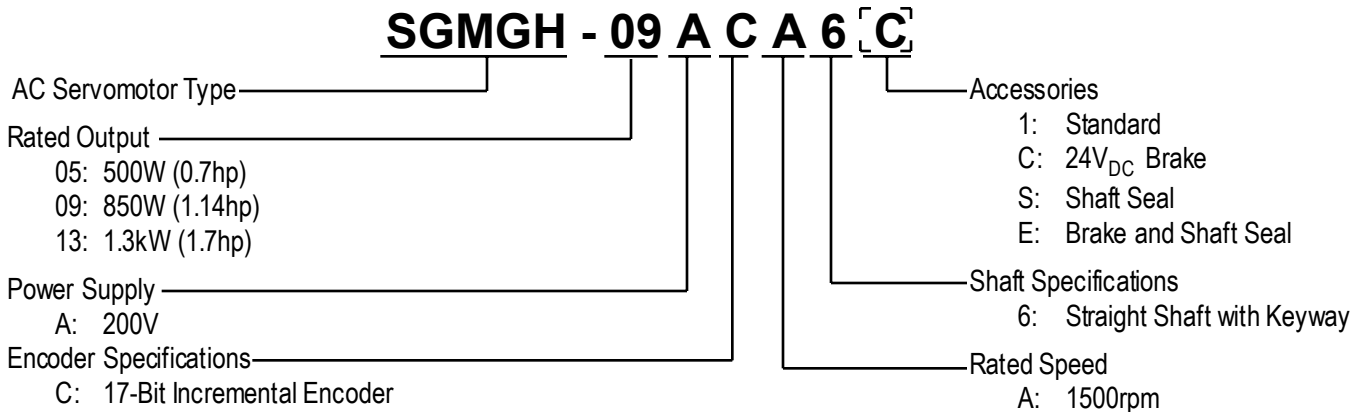# Selecting Your SGMGH LEGEND System

First, select the AC servomotor suited for your application using SigmaSize: the Yaskawa servomotor sizing software, available at no charge. (Request SigmaSize software via e-mail, at: literature@yaskawa.com).

Use the diagram below to locate and identify the components of your system. Each item is letter-coded and cross-referenced in the option tables on the following pages.

## System Configuration



Optional Holding Brake

Shaft Keyway

SGMGH Servomotor **(A)**

Shaft Seal

SGDG Digital Torque Amplifier **(B)**

Connector for Encoder Signal **(D)**

Encoder side Connector **(D)**

Motor side Connector **(D)**

1CN

2CN

Encoder Cable **(C)**

Motor Cable **(C)**

I/O Signal Connector **(D)**

Specify a technical manual, if it is needed, on your servo system purchase order:
*LEGEND Digital Torque Amplifier User's Manual*: YEA-SIA-LGD-1.2
(Manual is provided at no charge with a purchase order, but it must be requested).

Regenerative Unit **(E)**

## Model Number Designation

**SGMGH - 09 A C A 6 C**

AC Servomotor Type

Rated Output
    05: 500W (0.7hp)
    09: 850W (1.14hp)
    13: 1.3kW (1.7hp)

Power Supply
    A: 200V

Encoder Specifications
    C: 17-Bit Incremental Encoder

Accessories
    1: Standard
    C: $24V_{DC}$ Brake
    S: Shaft Seal
    E: Brake and Shaft Seal

Shaft Specifications
    6: Straight Shaft with Keyway

Rated Speed
    A: 1500rpm

## Servomotor & Amplifier Selection

Use the table below to select the appropriate SGMGH AC servomotor and amplifier.

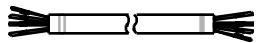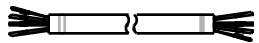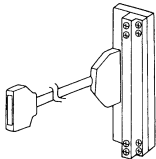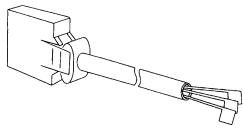| Description | Peak Torque* (in • lb) | Rated Torque* (in • lb) | Motor Inertia (in • lb • s$^2$ x 10$^{-3}$) | Motor MODEL # (A) | Amplifier MODEL # (B)* Analog/Digital Input SGDG- | Motor & Amplifier Item Class |
|---|---|---|---|---|---|---|
| 200V | 79 | 25 | 6.41 | SGMGH-05ACA61 | 10GT* | Stock |
| 17-bit Incremental Encoder | | | 8.26 | SGMGH-05ACA6C | | |
| | 122 | 48 | 12.30 | SGMGH-09ACA61 | | |
| Straight Shaft with Keyway | | | 14.15 | SGMGH-09ACA6C | | |
| 3000rpm* maximum MS Connectors | 207 | 74 | 18.2 | SGMGH-13ACA61 | 15GT* | |
| | | | 20.1 | SGMGH-13ACA6C | | |
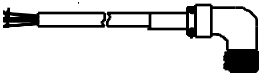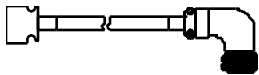
Note:   24V$_{DC}$ brakes for SGMGH AC servomotors are standard. Contact a local source for 24V$_{DC}$ power supplies.

For technical information, request Yaskawa manual number YEA-SIA-LGD-1.2.

\*     The speed/torque specifications listed above are achievable when applied with 200V 3 phase systems. Reference the speed/torque (force) curves for performance with any other applied voltages and phase(s).

**SGMGH Servomotors**

## Pre-wired Cable Selection

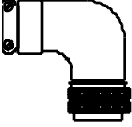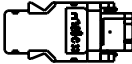Use the table below to select pre-wired cables for your SGMGH AC servomotor.

| Cable Description  (C) | | Motor Size (kW) | Part Number* | | Comments | Item Class |
|---|---|---|---|---|---|---|
| | | | without Brake | with Brake | | |
| Power Cable with Connectors (IP67) | | 0.5, 0.9, 1.3 | B1E-☐☐(A) | B1BE-☐☐(A) | Use the following key to specify needed cable length (last two digits of the part number):<br>03: 3m<br>05: 5m<br>10: 10m (standard)<br>15: 15m<br>20: 20m | |
| Encoder Cable (IP67) | | | JZSP-CMP02-☐☐(B) | | These cables are available in five lengths.  Use two digits in the part number's last place:<br>03: 3m<br>05: 5m<br>10: 10m (standard)<br>15: 15m<br>20: 20m | |
| Encoder Cable (for applications up to 20m). Only for solder connections | | | FR-RMCT-SB | | These cables are available in any length.<br><br>For example, to order one FR-RMCT-SB cable, 16m long, specify:<br>quantity: 16<br>part no.: FR-RMCT-SB | Stock** |
| Encoder Cable (for applications from >20 to <50m) Only for solder connections | | All | UL20276-SB | | | |
| Input/Output 1CN Cable & Transition Terminal Block | | | JUSP-TA36P | | 35 mm DIN rail mountable; the cable length is 0.5m. | |
| Input/Output 1CN Cable with Pigtail Leads | | | CKI-SGDG-☐☐ | | Use the following key to specify needed cable length (last digit of part number):<br>01: 1m (standard)<br>02: 2m<br>03: 3m | |

\* The "(A)" at the end of the cable number indicates the revision level.  The revision level may be subject to change prior to this catalog's reprinting.

\*\* Standard cable lengths are Stock items; non-standard cable lengths are Limited Stock items.

## Connector Selection

Use the table below to select mating connectors for each SGMGH AC servomotor.

| Connector Description (D) | | Motor Size (kW) | Part Number | | Comments | Item Class |
|---|---|---|---|---|---|---|
| | | | without Brake | with Brake | | |
| MS Connector for Motor Power Cable* | | 0.5, 0.9, 1.3 | MS3106B18-10S | MS3106B20-15S | Straight-type connector | |
| | | | MS3108B18-10S | MS3108B20-15S | L-type connector | |
| | | | MS3057-10A | MS3057-12A | Cable clamp | |
| MS Connector for Encoder Cable | | All | MS3106B20-29S | | Straight-type connector | Stock |
| | | | MS3108B20-29S | | L-type connector | |
| | | | MS3057-12A | | Cable clamp | |
| 1CN Mating Connector | | | DP9420007 | | Can use 1CN for analog speed and torque monitor service checks. | |
| 2CN Encoder Mating Connector | | | JZSP-CMP9-1 | | — | |

*   Choose either a straight or L-type connector and the associated cable clamp for a complete assembly. For example, L-type connector MS3108B18-10S is compatible with cable clamp MS3057-10A. MS connectors listed in the table are nonenvironmental.

## Peripheral Device Selection

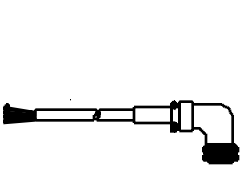Use the table below to select peripheral devices for each SGMGH AC servomotor.

| Component Description **(E)** | | Part Number | Comments | Item Class |
|---|---|---|---|---|
| External Regenerative Unit* | 50 ohms 120 watt for 1.0 amp | RH120 50ohmJ | This is a general purpose regenerative unit. | Stock |
| | 25 ohms 300 watt for 1.5 amp | RH500N25_ohmK | **Caution:** Proper set-up is necessary to avoid equipment damage. | |

\*      Refer to the *LEGEND Digital Torque Amplifier User's Manual (YEA-SIA-LGD-1.2) for proper resistor sizing guidelines.*

## CE Pre-wired Cable Selection

Use the table below to select shielded pre-wired power cables for your SGMGH AC servomotor.

| Cable Description (C) | | Motor Size (kW) | Part Number* | | Comments | Item Class |
|---|---|---|---|---|---|---|
| | | | without Brake | with Brake | | |
| Power Cable with Connectors IP67 | | 0.5, 0.9, 1.3 | B1CE-☐☐(A) | B1BCE-☐☐(A) | Use the following key to specify needed cable length (last two digits of the part number): 03: 3m 05: 5m 10: 10m (standard) 15: 15m 20: 20m | Limited Stock |

\* The "(A)" at the end of the cable number indicates the revision level, which may be subject to change prior to this catalog's reprinting.

## CE Connector Selection

Use the table below to select mating connectors for your SGMGH AC servomotor.

| Connector Description (D) | | Motor Size (kW) | Part Number | | Comments** | Item Class |
|---|---|---|---|---|---|---|
| | | | without Brake | with Brake | | |
| Connector for Motor Power Cable* | | 1.0, 1.5, 2.0 | CE05-8A18-10SD-B-BAS CE3057-10A-1(D265) | CE05-8A20-15SD-B-BAS CE3057-12A-1(D265) | L-type connector Cable clamp | Limited Stock |
| Connector for Encoder Cable | | | CE02-6A20-29NSW and CE20BA-S and CE3057-12A-3(D265) | | L-type connector (plug and back shell) and Cable clamp (diameters 0.265 to 0.394in) | |

\* Choose the connector and the associated cable clamp for a complete assembly. Connectors listed in this table are environmentally sealed.
\*\* Connectors are manufactured by DDK and listed here with the largest standard cable clamp available.

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