1.1   Checking the Sigma II Series Products on Delivery

The following procedure is suggested to check Sigma II series products upon delivery.

Use the following checklist when Sigma II series products are delivered.

Initial Inspection	Comments
Are the delivered products the ones that were ordered?	Check the model numbers marked on the nameplates of the servomotor and servo amplifier. (Refer to the descriptions of model numbers on following pages)
Does the servomotor shaft rotate smoothly?	The servomotor shaft is normal if it can be turned smoothly by hand. Servomotors with brakes, however, cannot be turned manually.
Is there any damage?	Check the overall appearance, and check for damage or scratches that may have occurred during shipping.
Are there any loose screws?	Check screws for looseness using a screwdriver.

If any of the above are faulty or incorrect, contact Yaskawa or an authorized distributor.

1.1.1   Servomotors

■   External Appearance and Nameplate Example
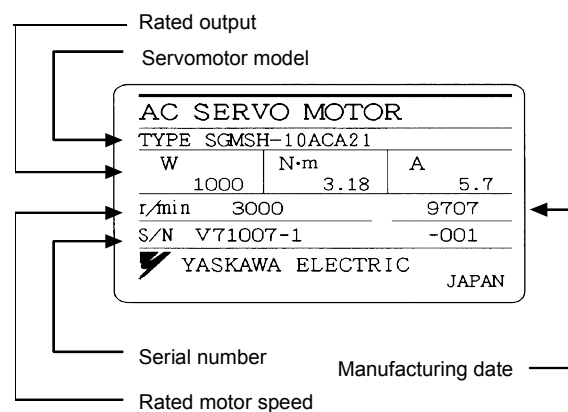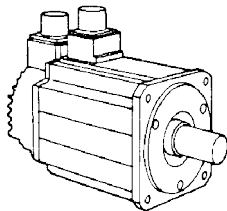
■   Model Numbers

Standard Servomotors

SGMPH - 01 A A A 2 S

Sigma II Series Servomotor Name
SGMAH
SGMPH
SGMGH
SGMSH
SGMUH
SGMBH

Servomotor Capacity (See Table 1.1)

Power Supply
A: 200V
B: 100V*
D: 400V

*The only 100V servomotors are the 0.2kW or less
  SGMAH and SGMPH models.

Serial Encoder Specifications (See Table 1.2)

Brake and Oil Seal Specifications
1: Standard
S: With oil seal
C: With 24V$_{DC}$ brake
E: S + C
SGMBH: See Catalog for options.

Shaft End Specifications
((See Table 1.3))

Design Revision Order
A SGMAH
   SGMPH
   SGMGH (1500rpm)
   SGMSH
   SGMUH
E: SGMPH (IP67 waterproof specification)
    SGMBH : A = 200% Peak Torque
            B = 250% Peak Torque

Table 1.1: Servomotor Capacity (kW)

Symbol	SGMAH	SGMPH	SGMGH	SGMSH	SGMUH	SGBMH	Symbol	SGMAH	SGMPH	SGMGH	SGMSH	SGMUH	SGMBH
	3000rpm	3000rpm	1500rpm	3000rpm	6000rpm	1500rpm		3000rpm	3000rpm	1500rpm	3000rpm	6000rpm	1500rpm
A3	0.03	—	—	—	—	—	40	—	—	—	4.0	4.0	—
A5	0.05	—	—	—	—	—	44	—	—	4.4	—	—	—
01	0.1	0.1	—	—	—	—	50	—	—	—	5.0	—	—
02	0.2	0.2	—	—	—	—	55	—	—	5.5	—	—	—
04	0.4	0.4	—	—	—	—	75	—	—	7.5	—	—	—
05	—	—	0.45	—	—	—	1A	—	—	11	—	—	—
08	0.75	0.75	—	—	—	—	1E	—	—	15	—	—	—
09	—	—	0.85	—	—	—	2B	—	—	—	—	—	22
10	—	—	—	1.0	1.0	—	3Z	—	—	—	—	—	30
13	—	—	1.3	—	—	—	3G	—	—	—	—	—	37
15	—	1.5	—	1.5	1.5	—	4E	—	—	—	—	—	45
20	—	—	1.8	2.0	—	—	5E	—	—	—	—	—	55
30	—	—	2.9	3.0	3.0	—							

Table 1.2: Serial Encoders

Code	Specification	SGMAH	SGMPH	SGMGH	SGMSH	SGMUH
1	16-bit absolute encoder	Standard	Standard	—	—	—
2	17-bit absolute encoder	—	—	Standard	Standard	Standard
A	13-bit incremental encoder	Standard	Standard	—	—	—
B	16-bit incremental encoder	Optional	Optional	—	—	—
C	17-bit incremental encoder	—	—	Standard	Standard	Standard

Table 1.3: Shaft End Specifications (Straight)

Code	Specification	SGMAH	SGMPH	SGMGH	SGMSH	SGMUH	SGMBH
2	Straight without key	Optional	Optional	Optional	Optional	Optional	—
4	Straight with key	Standard	Standard	—	—	—	Standard
6	Straight with key and tap	Optional	Optional	Standard	Standard	Standard	Optional
8	Straight with tap	Optional	Optional	Optional	—	—	—
K	Straight without key, foot mounted	—	—	—	—	—	Optional
L	Straight with key & tap, foot mounted	—	—	—	—	—	Optional (55kW Standard)

1.1.2   Direct-drive Motor Supporting Function

■   **Applicable Motors**

This function is applicable to the following SGMCS servomotors.

Servomotor Type
SGMCS- □□ C
SGMCS- □□ D
SGMCS- □□ B
SGMCS- □□ E
SGMCS- □□ M
SGMCS- □□ N

Note: For direct-drive motors, □□ indicates the motor rated torque. For other motors, □□ indicates the motor capacity.

The direct-drive motor model can be confirmed by the auxiliary function Fn011"Motor models display" on the digital operator or the panel operator.

Fn011-F. □□ ■ ■   "Voltage and Motor Model Display"
                    □□: Voltage
                            00: 100 VAC or 140 VDC
                            01: 200 VAC or 280 VDC
                            02: Reserved

                    ■ ■: Motor model
                            00: SGMAH
                            01: SGMPH
                            02: SGMSH
                            03: SGMGH-□A (1500 rpm)
                            04: SGMGH-□B (2000 rpm)
                            05: SGMDH
                            32: SGMCS-□□C
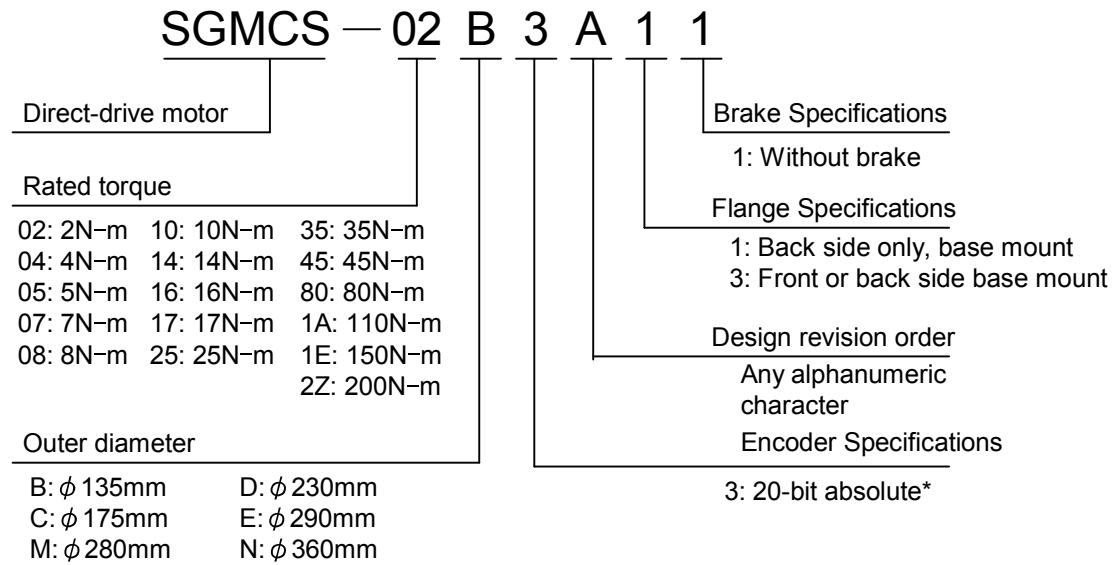   33: SGMCS-□□D
                            34: SGMCS-□□B
                            35: SGMCS-□□E
   37: SGMCS-□□M
                            38: SGMCS-□□N

Note: Note: 32 to 38 are direct-drive motors.

Model Designation

SGMCS－02 B 3 A 1 1

Direct-drive motor

Rated torque

02: 2N−m	10: 10N−m	35: 35N−m
04: 4N−m	14: 14N−m	45: 45N−m
05: 5N−m	16: 16N−m	80: 80N−m
07: 7N−m	17: 17N−m	1A: 110N−m
08: 8N−m	25: 25N−m	1E: 150N−m
		2Z: 200N−m

Outer diameter

B: φ135mm	D: φ230mm
C: φ175mm	E: φ290mm
M: φ280mm	N: φ360mm

Brake Specifications

1: Without brake

Flange Specifications

1: Back side only, base mount
3: Front or back side base mount

Design revision order

Any alphanumeric character

Encoder Specifications

3: 20-bit absolute*

*Note: A single-turn data absolute encoder is mounted on SGMCS servomotors as standard. This may also be used as an incremental encoder.
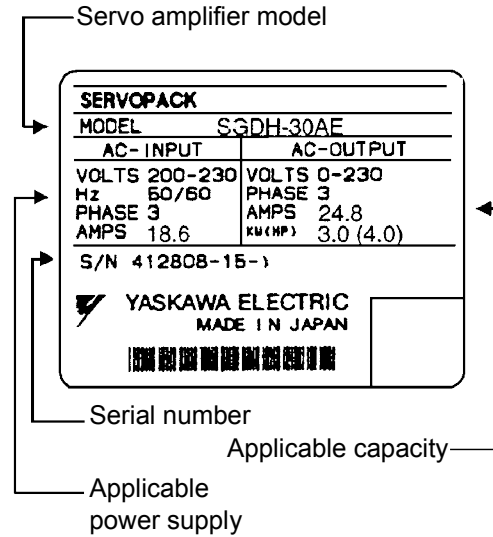
For the details of single-turn data absolute encoders, see *5.11.2 Adaptation to Single-turn Data Absolute Encoder.*

1.1.3   Servo Amplifiers
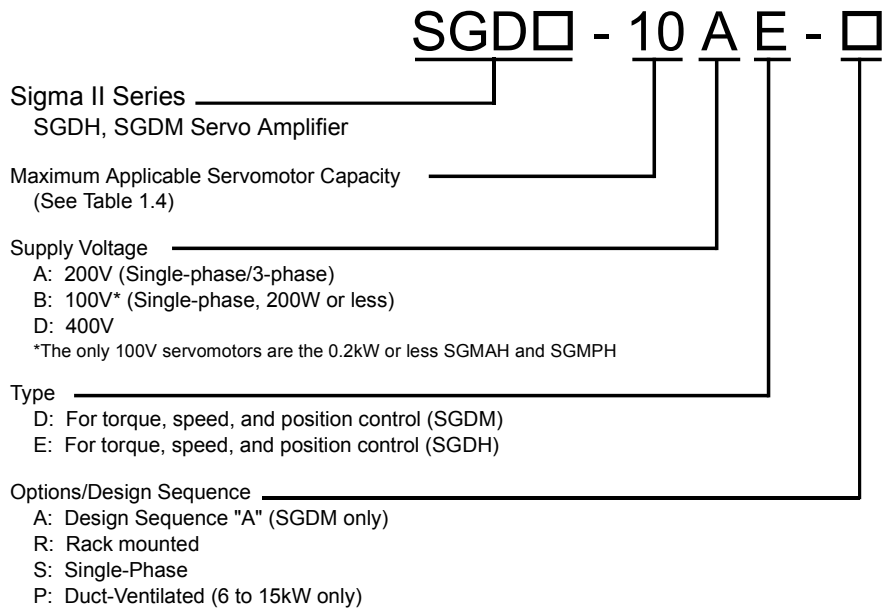
■   External Appearance and Nameplate Examples
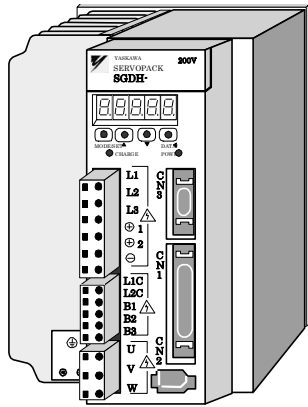
Sigma II series SGDH
servo amplifier

Table 1.4: Maximum Applicable Servomotor Capacity

Maximum Applicable Servomotor Capacity			
Symbol	Capacity (kW)	Symbol	Capacity (kW)
A3	0.03	50	5.0
A5	0.05	60	6.0
01	0.10	75	7.5
02	0.20	1A	11.0
04	0.40	1E	15.0
05	0.50	2B	22.0
08	0.75	3Z	30.0
10	1.0	3G	37.0
15	1.5	4E	45.0
20	2.0	5E	55.0
30	3.0		

■   **Model Numbers**

SGD□ - 10 A E - □

Sigma II Series —————
 SGDH, SGDM Servo Amplifier

Maximum Applicable Servomotor Capacity ——————
 (See Table 1.4)

Supply Voltage ——————
 A: 200V (Single-phase/3-phase)
 B: 100V* (Single-phase, 200W or less)
 D: 400V
 *The only 100V servomotors are the 0.2kW or less SGMAH and SGMPH

Type ——————
 D: For torque, speed, and position control (SGDM)
 E: For torque, speed, and position control (SGDH)

Options/Design Sequence ——————
 A: Design Sequence "A" (SGDM only)
 R: Rack mounted
 S: Single-Phase
 P: Duct-Ventilated (6 to 15kW only)

■   **Amplifier Version Number**

Check the 5-digit version number indicated on the front side of the servo amplifer. The first two digits indicate the hardware version, and the last two digits indicate the software version. Hardware version numbers higher than 33 and/or software version numbers higher than 32 signify upgraded products.

【 Servo Amplifer Version Number 】

□□□■■
                    —— Software version number
         —— Hardware version number