

# Технические характеристики

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# The 200 V Series

## Amplifiers

- Single & three-phase input
- Embedded fieldbus
  - » Pulse train / analog input
  - » MECHATROLINK-II
  - » MECHATROLINK-III
  - » EtherCAT
  - » PROFINET
  - » Command Option Type
- Single & dual axis amplifier
- Dual axis amplifier with built-in controller
- Single axis amplifier with IEC-based built-in controller

## Motors

- Rotary, Linear and Direct Drive Motors available
- Very compact design
- Available from 50 W to 15 kW



# Product Overview 200 V

## Servomotors

### Rotary

#### SGM7J

- Medium inertia, high speed
- 50 W - 750 W



#### SGM7A

- Low inertia, high speed
- 50 W - 7 kW



#### SGM7G

- Medium inertia, large torque
- 300 W - 15 kW



#### SGMMV

- Low inertia, ultra-small capacity
- 10 W - 30 W



### Direct Drive

#### SGM7D

- Medium capacity, with core
- Rated: 1.3 Nm - 240 Nm  
Peak: 4 Nm - 400 Nm



#### SGM7E

- Coreless, inner rotor
- Rated: 2 Nm - 35 Nm  
Peak: 6 Nm - 105 Nm



#### SGM7F

- With core, inner rotor
- Rated: 2 Nm - 200 Nm  
Peak: 6 Nm - 600 Nm



#### SGMCS

- Small capacity, coreless or Medium capacity, with core
- Rated: 2 Nm - 200 Nm  
Peak: 6 Nm - 600 Nm



#### SGMCV

- Small capacity, with core
- Rated: 4 Nm - 35 Nm  
Peak: 12 Nm - 105 Nm



### Linear

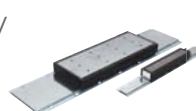
#### SGLG

- Coreless model
- Rated: 12.5 N - 750 N  
Peak: 40 N - 3000 N



#### SGLFW2 / SGLFW

- Model with F-type iron core
- Rated: 25 N - 2520 N  
Peak: 86 N - 7560 N



#### SGLT

- Model with T-type iron core
- Rated: 130 N - 2000 N  
Peak: 380 N - 7500 N



## SERVOPACKs

### SGD7S-□□□A00A

Single-axis  
Analog Voltage/  
Pulse Train Refer-  
ence



### SGD7S-□□□A10A

Single-axis  
MECHATROLINK-II  
Communication  
Reference



### SGD7S-□□□A20A

Single-axis  
MECHATROLINK-III  
Communication  
Reference



### SGD7S-□□□A30A

Single-axis  
MECHATROLINK-III  
Communication  
Reference  
with RJ45 connector



### SGD7S-□□□AA0A

Single-axis  
EtherCAT  
Communication  
Reference



### SGD7S-□□□AC0A

Single-axis  
PROFINET  
Communication  
Reference

### SGD7S-□□□AE0A

Single-axis  
Command Option  
Attachable Type

### SGD7S-□□□M0A

Single-axis  
Sigma-7Siec  
(with integrated  
iec-Controller)



### SGD7W-□□□A20A

Dual-axis  
MECHATROLINK-III  
Communication  
Reference



### SGD7C- □□□AMAA□□□

Dual-axis  
SERVOPACK  
with built-in  
controller



## Option Modules

### SGDV-OF□0□A

Fully-Closed /  
Feedback Option  
Modules



### SGDV-OSA01A

Safety Module



### SGDV-OCA03A

INDEXER Module



### SGDV-OCA0□A

DeviceNet Modules



### SGDV-OCC02A

MP2600iec Module

# Model Designations 200V

## Rotary Servomotors

SGM7J

Sigma-7 Series  
Servomotors:  
SGM7J

- 01 A 7 A 2 1  
1st + 2nd 3rd 4th 5th 6th 7th digit

1st + 2nd digit - Rated Output	
Code	Specification
A5	50 W
01	100 W
C2	150 W
02	200 W
04	400 W
06	600 W
08	750 W

3rd digit - Power Supply Voltage	
Code	Specification
A	200 VAC

4th digit - Serial Encoder	
Code	Specification
6	24-bit batteryless absolute
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order	
Code	Specification
A	Standard model

6th digit - Shaft End	
Code	Specification
2	Straight without key
6	Straight with key and tap
B	With two flat seats

7th digit - Options	
Code	Specification
1	Without options
C	With holding brake (24 VDC)
E	With oil seal and holding brake (24 VDC)
S	With oil seal

SGM7A

Sigma-7 Series  
Servomotors:  
SGM7A

- 01 A 7 A 2 1  
1st + 2nd 3rd 4th 5th 6th 7th digit

1st + 2nd digit - Rated Output	
Code	Specification
A5	50 W
01	100 W
C2	150 W
02	200 W
04	400 W
06	600 W
08	750 kW
10	1.0 kW
15	1.5 kW
20	2.0 kW
25	2.5 kW
30	3.0 kW
40	4.0 kW
50	5.0 kW
70	7.0 kW

3rd digit - Power Supply Voltage	
Code	Specification
A	200 VAC

4th digit - Serial Encoder	
Code	Specification
6	24-bit batteryless absolute
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order	
Code	Specification
A	Standard model

6th digit - Shaft End	
Code	Specification
2	Straight without key
6	Straight with key and tap
B*	With two flat seats

\* Code B is not supported for models with a rated output of 1.5 kW or higher.

7th digit - Options	
Code	Specification
1	Without options
C	With holding brake (24 VDC)
E	With oil seal and holding brake (24 VDC)
S	With oil seal

## SGM7G

Sigma-7 series  
Servomotors:  
SGM7G

- 03 A 7 A 2 1  
1st + 2nd 3rd 4th 5th 6th 7th digit

### 1st + 2nd digit - Rated Output

Code	Specification
03	300 W
05	450 W
09	850 W
13	1.3 kW
20	1.8 kW
30	2.9 kW*
44	4.4 kW
55	5.5 kW
75	7.5 kW
1A	11.0 kW
1E	15.0 kW

### 3rd digit - Power Supply Voltage

Code	Specification
A	200 VAC

### 4th digit - Serial Encoder

Code	Specification
6	24-bit batteryless absolute
7	24-bit absolute
F	24-bit incremental

### 5th digit - Design Revision Order

Code	Specification
A	Standard model

### 6th digit - Shaft End

Code	Specification
2	Straight without key
6	Straight shaft with key and tap

### 7th digit - Options

Code	Specification
1	Without options
C	With holding brake (24 VDC)
E	With oil seal and holding brake (24 VDC)
S	With oil seal

\* The rated output is 2.4 kW if you combine the SGM7G-30A with the SGD7S-200A.

## SGMMV

Sigma-5 mini series  
Servomotors:  
SGMMV

- A1 A 2 A 2 1  
1st + 2nd 3rd 4th 5th 6th 7th digit

### 1st + 2nd digit - Rated Output

Code	Specification
A1	10 W
A2	20 W
A3	30 W

### 3rd digit - Power Supply Voltage

Code	Specification
A	200 VAC

### 4th digit - Serial Encoder

Code	Specification
2	17-bit absolute

### 5th digit - Design Revision Order

Code	Specification
A	Standard model

### 6th digit - Shaft End

Code	Specification
2	Straight without key
A	Straight with fl at seats (optional)

### 7th digit - Options

Code	Specification
1	Without options
C	With holding brake (24 VDC)

# Direct Drive Servomotors

SGM7D - 30 F 7 C 4 1

Direct Drive  
Servomotors

1st + 2nd

3rd

4th

5th

6th

7th

digit

1st + 2nd digit - Rated Output			
Code	Specification	Code	Specification
01	1.3 Nm	30	30 Nm
02	2.06 Nm	34	34 Nm
03	3 Nm	38	38 Nm
05	5 Nm	45	45 Nm
06	6 Nm	58	58 Nm
08	8 Nm	70	70 Nm
09	9 Nm	90	90 Nm
12	12 Nm	1Z	100 Nm
18	18 Nm	1A	110 Nm
20	20 Nm	1C	130 Nm
24	24 Nm	2B	220 Nm
28	28 Nm	2D	240 Nm

3rd digit - Servomotor Outer Diameter	
Code	Specification
F	264 mm
G	160 mm
H	116 mm
I	264 mm
J	150 mm
K	107 mm
L	224 mm x 224 mm

4th digit - Serial Encoder	
Code	Specification
7	24-bit multi-turn absolute encoder <sup>*1</sup>
F	24-bit incremental encoder <sup>*1</sup>

5th digit - Design Revision Order	
Code	Specification
C	Standard Model

6th digit - Flange								
Code	Mounting	Servomotor Outer Diameter Code (3rd digit)						
		F	G	H	I	J	K	L
4	Non-load side with cable on side	✓	✓	✓	—	—	—	✓
5	Non-load side with cable on bottom	✓	✓ <sup>2</sup>	—	✓	✓	✓	—

7th digit - Options	
Code	Specification
1	Standard machine precision
2	High machine precision <sup>*3</sup>

\*1. Both multiturn absolute encoder and incremental encoder can be used as a single-turn absolute encoder by setting parameters.

\*2. SGM7D-01G and -05G are not available with a cable extending from the bottom.

\*3. The SGM7D-01G, -05G, and -03H are available only with high mechanical precision.

SGM7E - 02 B 7 A 1 1

Direct Drive  
Servomotors

1st + 2nd

3rd

4th

5th

6th

7th

digit

1st + 2nd digit - Rated Output	
Code	Specification
02	2 Nm
04	4 Nm
05	5 Nm
07	7 Nm
08	8 Nm
10	10 Nm
14	14 Nm
16	16 Nm
17	17 Nm
25	25 Nm
35	35 Nm

3rd digit - Servomotor Outer Diameter	
Code	Specification
B	135 mm
C	175 mm
D	230 mm
E	290 mm

4th digit - Serial Encoder	
Code	Specification
7	24-bit multiturn absolute encoder <sup>*</sup>
F	24-bit incremental encoder <sup>*</sup>

5th digit - Design Revision Order	
Code	Specification
A	Standard Model

6th digit - Flange	
Code	Mounting
1	Non-load side
4	Non-load side (with cable on side)

7th digit - Options	
Code	Specification
1	Without options
4	High machine precision (runout at end of shaft and runout of shaft surface: 0.01 mm)

\* Both multiturn absolute encoder and incremental encoder can be used as a single-turn absolute encoder by setting parameters.

Note: 1. Direct Drive Servomotors are not available with holding brakes.

2. This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.



# SGM7F - 02 A 7 A 1 1

Direct Drive  
Servomotors

1st + 2nd 3rd 4th 5th 6th 7th digit

## 1st + 2nd digit - Rated Output

Code	Specification	Code	Specification
Small-capacity Series, coreless		Medium-capacity Series, with core	
02	2 Nm	45	45 Nm
04	4 Nm	80	80 Nm
05	5 Nm	1A	110 Nm
07	7 Nm	1E	150 Nm
08	8 Nm	2Z	200 Nm
10	10 Nm		
14	14 Nm		
16	16 Nm		
17	17 Nm		
25	25 Nm		
35	35 Nm		

## 3rd digit - Servomotor Outer Diameter

Code	Specification
A	100 mm
B	135 mm
C	175 mm
D	230 mm
M	280 mm
N	360 mm

## 4th digit - Serial Encoder

Code	Specification
7	24-bit multiturn absolute encoder*
F	24-bit incremental encoder*

## 5th digit - Design Revision Order

Code	Specification
A	Standard Model

## 6th digit - Flange

Code	Mounting	Servomotor Outer Diameter Code (3rd digit)					
		A	B	C	D	M	N
1	Non-load side	✓	✓	✓	✓	—	—
	Load side	—	—	—	—	✓	✓
3	Non-load side	—	—	—	—	✓	✓
4	Non-load side (with cable on side)	✓	✓	✓	✓	—	—

## 7th digit - Options

Code	Specification
1	Without options
2	High machine precision (runout at end of shaft and runout of shaft surface: 0.01 mm)

\* Both multiturn absolute encoder and incremental encoder can be used as a single-turn absolute encoder by setting parameters.

Note: 1. Direct Drive Servomotors are not available with holding brakes.

2. This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

# SGMCS - 02 B 3 C 1 1 E

Direct Drive  
Servomotors

1st + 2nd 3rd 4th 5th 6th 7th 8th digit

## 1st + 2nd digit - Rated Output

Code	Specification	Code	Specification
Small-capacity Series, coreless		Medium-capacity Series, with core	
02	2 Nm	45	45 Nm
04	4 Nm	80	80 Nm
05	5 Nm	1A	110 Nm
07	7 Nm	1E	150 Nm
08	8 Nm	2Z	200 Nm
10	10 Nm		
14	14 Nm		
16	16 Nm		
17	17 Nm		
25	25 Nm		
35	35 Nm		

## 3rd digit - Servomotor Outer Diameter

Code	Specification
B	135 mm
C	175 mm
D	230 mm
E	290 mm
M	280 mm
N	360 mm

## 4th digit - Serial Encoder

Code	Specification
3	20-bit single-turn absolute encoder
D	20-bit incremental encoder

## 5th digit - Design Revision Order

Code	Specification
A	Model with servomotor outer diameter code M or N
B	Model with servomotor outer diameter code E
C	Model with servomotor outer diameter code B, C, or D

## 6th digit - Flange

Code	Mounting	Servomotor Outer Diameter Code (3rd digit)					
		B	C	D	E	M	N
1	Non-load side	✓	✓	✓	✓	—	—
	Load side	—	—	—	—	✓	✓
3	Non-load side	—	—	—	—	✓	✓
4	Non-load side (with cable on side)	✓	✓	✓	✓	—	—

## 7th digit - Options

Code	Specification
1	Without options

## 8th digit

Code	Specification
E	RoHS II Suffix

Note:

1. Direct Drive Servomotors are not available with holding brakes.

2. This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.



SGMCV - 04 B E A 1 1

Direct Drive  
Servomotors

1st + 2nd

3rd

4th

5th

6th

7th

digit

#### 1st + 2nd digit - Rated Output

Code	Specification
04	4 Nm
08	8 Nm
10	10 Nm
14	14 Nm
17	17 Nm
25	25 Nm
35	35 Nm

#### 3rd digit - Servomotor Outer Diameter

Code	Specification
B	135 mm dia.
C	175 mm dia.
D	230 mm dia.

#### 4th digit - Serial Encoder

Code	Specification
E	22-bit single-turn absolute encoder
I	22-bit multiturn absolute encoder

#### 5th digit - Design Revision Order

Code	Specification
A	Standard Model

#### 6th digit - Flange

Code	Mounting
1	Non-load side
4	Non-load side (with cable on side)

#### 7th digit - Options

Code	Specification
1	Without options
5	High machine precision (runout at end of shaft and runout of shaft surface: 0.01 mm)

Note:

1. Direct Drive Servomotors are not available with holding brakes.
2. This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

# Linear Servomotors SGLG (Coreless Models)

## Moving Coil

SGL      G   W   -   30   A   050   C   P   □   -   E

Sigma-7 Series      1st      2nd      3rd + 4th      5th      6th - 8th      9th      10th      11th      12th      digit

Linear Servomotors

1st digit - Servomotor Type	
Code	Specifications
G	Coreless model

2nd digit - Moving Coil/ Magnetic Way	
Code	Specification
W	Moving Coil

3rd + 4th digit - Magnet Height	
Code	Specification
30	30 mm
40	40 mm
60	60 mm
90	86 mm

5th digit - Power Supply Voltage	
Code	Specification
A	200 VAC

6th ... 8th digit - Length of Moving Coil	
Code	Specification
050	50 mm
080	80 mm
140	140 mm
200	199 mm
253	252.5 mm
365	365 mm
370	367 mm
535	535 mm

7th digit - Design Revision Order	
Code	Specification
A, B, ...	Revision

10th digit - Sensor Specification and Cooling Method			
Code	Specifications		
	Polarity Sensor	Cooling Method	Applicable Models
None	None	Self-cooled	All models
C	None	Air-cooled	SGLGW-40A, -60A, -90A
H	Yes	Air-cooled	
P	Yes	Self-cooled	All models

11th digit - Connector for Servomotor Main Circuit Cable		
Code	Specifications	Applicable Models
None	Connector from Tyco Electronics Japan G.K.	All models
D	Connector from Interconnectron GmbH	SGLGW-30A, -40A, -60A

12th digit	
Code	Specifications
E	RoHS II Suffix

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

## Magnetic Way

SGL      G   M   -   30   108   C   □   -   E

Sigma-7 Series      1st      2nd      3rd + 4th      5th - 7th      8th      9th      10th      digit

Linear Servomotors

1st digit - Servomotor Type	
Code	Specifications
G	Coreless model

2nd digit - Moving Coil/ Magnetic Way	
Code	Specifications
M	Magnetic Way

3rd + 4th digit - Magnet Height	
Code	Specifications
30	30 mm
40	40 mm
60	60 mm
90	86 mm

5rd ... 7th digit - Length of Magnetic Way	
Code	Specifications
090	90 mm
108	108 mm
216	216 mm
225	225 mm
252	252 mm
360	360 mm
405	405 mm
432	432 mm
450	450 mm
504	504 mm

8th digit - Design Revision Order	
Code	Specifications
A, B, C*	Revision

9th digit - Options		
Code	Specifications	Applicable Models
None	Standard-force	All models
-M	High-force	SGLGM-40, -60

10th digit	
Code	Specifications
E	RoHS II Suffix

\*: SGLGM-40 and SGLGM-60 also have a CT Code.  
C = Without mounting holes on the bottom.  
CT = With mounting holes on the bottom.

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

# Linear Servomotors (Models with F-type Iron Cores)

## Moving Coil

S G L F W2 - 30 A 070 A S 1 E

Sigma-7 Series Linear Servomotors

1st 2nd 3rd + 4th 5th 6th - 8th 9th 10th 11th 12th digit

1st digit - Servomotor Type	
Code	Specification
F	With F-type iron core

2nd digit - Moving Coil/Magnetic Way	
Code	Specification
W2	Moving Coil

3rd + 4th digit - Magnet Height	
Code	Specification
30	30 mm
45	45 mm
90	90 mm
1D	135 mm

5th digit - Power Supply Voltage	
Code	Specification
A	200 VAC

6th ... 8th digit - Length of Moving Coil	
Code	Specification
070	70 mm
120	125 mm
200	205 mm
230	230 mm
380	384 mm
560	563 mm

9th digit - Design Revision Order	
Code	Specification
A	Standard Model

10th digit - Sensor Specification	
Code	Specification
S	With polarity sensor and thermal protector
T	Without polarity sensor, with thermal protector

11th digit - Options	
Code	Cooling Method
1	Self-cooled
L	Water-cooled*

12th digit - Options	
Code	Connection
E	Metal round connector (Phoenix)

\* Contact your Yaskawa representative for information on water-cooled model.  
Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

## Magnetic Way

S G L F M2 - 30 270 A

Sigma-7 Series Linear Servomotors

1st 2nd 3rd + 4th 5th - 7th 8th digit

1st digit - Servomotor Type	
Code	Specification
F	With F-type iron core

2nd digit - Moving Coil/Magnetic Way	
Code	Specification
M2	Magnetic Way

3rd + 4th digit - Magnet Height	
Code	Specification
30	30 mm
45	45 mm
90	90 mm
1D	135 mm

5th ... 7th digit - Length of Magnetic Way	
Code	Specification
270	270 mm
306	306 mm
450	450 mm
510	510 mm
630	630 mm
714	714 mm

8th digit - Design Revision Order	
Code	Specification
A	Standard Model

Note: This information is provided to explain model numbers.  
It is not meant to imply that models are available for all combinations of codes.

## Moving Coil

S G L F W - 20 A 090 A P □ - E

Sigma-7 Series  
Linear Servomotors

1st 2nd

3rd + 4th 5th 6th - 8th 9th 10th 11th 12th digit

### 1st digit - Specification

Code	Servomotor Type
F	With F-type iron core

### 2nd digit - Moving Coil/ Magnetic Way

Code	Specification
W	Moving Coil

### 3rd + 4th digit - Magnet Height

Code	Specification
20	20 mm
35	36 mm
50	47.5 mm
1Z	95 mm

### 5th digit - Voltage

Code	Specification
A	200 VAC

### 6th - 8th digit - Length of Moving Coil

Code	Specification
090	91 mm
120	127 mm
200	215 mm
230	235 mm
380	395 mm

### 9th digit - Design Revision Order

Code	Specification
A, B, ...	Revision

### 10th digit - Sensor Specification

Code	Specification
P	With polarity sensor
None	Without polarity sensor

### 11th digit - Connector for Servomotor Main Circuit Cable

Code	Specification	Applicable Models
None	Connector from Tyco Electronics Japan G.K.	All models
D	Connector from Interconnectron GmbH	SGLFW-35, -50, -1Z□200B

### 12th digit

Code	Specifications
E	RoHS II Suffix

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

## Magnetic Way

S G L F M - 20 324 A □ - E

Sigma-7 Series  
Linear Servomotors

1st 2nd

3rd + 4th 5th - 7th 8th 9th 10th digit

### 1st digit - Servomotor Type

Code	Specification
F	With F-type iron core

### 2nd digit - Moving Coil/Magnetic Way

Code	Specification
M	Magnetic Way

### 3rd + 4th digit - Magnet Height

Code	Specification
20	20 mm
35	36 mm
50	47.5 mm
1Z	95 mm

### 5rd ... 7th digit - Length of Magnetic Way

Code	Specification
324	324 mm
405	405 mm
540	540 mm
675	675 mm
756	756 mm
945	945 mm

### 8th digit - Design Revision Order

Code	Specification
A, B, ...	Revision

### 9th digit - Options

Code	Specification
None	Without options
C	With magnet cover

### 10th digit

Code	Specifications
E	RoHS II Suffix

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

# SGLT (Models with T-type Iron Cores)

## Moving Coil

SGL T W - 20 A 170 A P □ - E

Sigma-7 Series Linear Servomotors

1st 2nd 3rd + 4th 5th 6th ... 8th 9th 10th 11th 12th digit

1st digit - Servomotor Type	
Code	Specification
T	With T-type iron core

2nd digit - Moving Coil/Magnetic Way	
Code	Specification
W	Moving Coil

3rd + 4th digit - Magnet Height	
Code	Specification
20	20 mm
35	36 mm
40	40 mm
50	51 mm
80	76.5 mm

5th digit - Power Supply Voltage	
Code	Specification
A	200 VAC

6th ... 8th digit - Length of Moving Coil	
Code	Specification
170	170 mm
320	315 mm
400	394.2 mm
460	460 mm
600	574.2 mm

9th digit - Design Revision Order	
Code	Specification
A, B, ...	Revision
H	High-efficiency model

10th digit - Sensor Specifications and Cooling Method			
Code	Specifications		Applicable Models
	Polarity Sensor	Cooling Method	
None	None	Self-cooled	All models
C*	None	Water-cooled	SGLTW-40, -80
H*	Yes	Water-cooled	
P	Yes	Self-cooled	All models

11th digit - Connector for Servomotor Main Circuit Cable		
Code	Specification	Applicable Models
	Connector from Tyco Electronics Japan G.K.	SGLTW-20A□□□□□□ -35A□□□□□□
None	MS connector	SGLTW-40A□□□□□□ -80A□□□□□□
	Loose lead wires with no connector	SGLTW-35A□□□□H□ -50A□□□□H□

12th digit	
Code	Specifications
E	RoHS II Suffix

\* Contact your Yaskawa representative for the characteristics, dimensions, and other details on servomotors with these specifications.

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combination of codes.

## Magnetic Way

SGL T M - 20 324 A □ - E

Sigma-7 Series Linear Servomotors

1st 2nd 3rd + 4th 5th ... 7th 8th 9th 10th digit

1st digit - Servomotor Type	
Code	Specification
T	With T-type iron core

2nd digit - Moving Coil/Magnetic Way	
Code	Specification
M	Magnetic Way

3rd + 4th digit - Magnet Height	
Code	Specification
20	20 mm
35	36 mm
40	40 mm
50	51 mm
80	76.5 mm

5th ... 7th digit - Length of Magnetic Way	
Code	Specification
324	324 mm
405	405 mm
540	540 mm
675	675 mm
756	756 mm
945	945 mm

8th digit - Design Revision Order	
Code	Specification
A, B, ...	Revision
H	High-efficiency model

9th digit - Options		
Code	Specification	Applicable Models
None	Without options	-
C	With magnet cover	All models
Y	With base and magnet cover	SGLTM-20, -35*, -40, -80

10th digit	
Code	Specifications
E	RoHS II Suffix

\* The SGLTM-35□□□□ (high-efficiency models) do not support this specification.

# SERVOPACKs

SGD7S - R70 A 00 A 001 000

Sigma-7 Series  
Sigma-7S Models

1st ... 3rd

4th

5th + 6th

7th

8th ... 10th

11th ... 13th

digit

1st ... 3rd digit - Maximum Applicable Motor Capacity	
Code	Specification
Three-phase, 200 V	
R70* <sup>1</sup>	0.05 kW
R90* <sup>1</sup>	0.1 kW
1R6* <sup>1</sup>	0.2 kW
2R8* <sup>1</sup>	0.4 kW
3R8	0.5 kW
5R5* <sup>1</sup>	0.75 kW
7R6	1.0 kW
120* <sup>2</sup>	1.5 kW
180	2.0 kW
200* <sup>3</sup>	3.0 kW
330	5.0 kW
470	6.0 kW
550	7.5 kW
590	11 kW
780	15 kW

4th digit - Voltage	
Code	Specification
A	200 VAC

5th + 6th digit - Interface* <sup>4</sup>	
Code	Specification
00	Analog Voltage/ Pulse train reference
10	MECHATROLINK-II communication reference
20	MECHATROLINK-III communication reference
30	MECHATROLINK-III communication reference with RJ45 connector
A0	EtherCAT communication reference
C0	PROFINET* <sup>5</sup> communication reference
E0	Command Option Attachable Type* <sup>6</sup>
M0	Sigma-7Siec (with integrated iec-Controller)

7th digit - Design Revision Order	
Code	Specification
A	Standard Model

8th ... 10th digit - Hardware Options Specifications		
Code	Specifications	Applicable Models
None	Without Options	All models
001	Rack-mounted	SGD7S-R70A to -330A
	Duct-ventilated	SGD7S-470A to -780A
002	Varnished	All models
008	Single-phase, 200 V power input	SGD7S-120A
	No dynamic brake	SGD7S-R70A to -2R8A
020* <sup>7</sup>	External dynamic brake resistor	SGD7S-3R8A to -780A
00A	Varnished and single- phase power input	All models

11th ... 13th digit - FT/EX Specifications	
Code	Specifications
None	
000	None
F50* <sup>9</sup>	Application function for integrated MPiec
F82* <sup>8</sup>	Application function option for special motors, SGM7D motor drive
F83* <sup>8</sup>	Application function option for special motors, SGM7D motor drive, indexing

## Notes:

\*1. You can use these models with either a single-phase or three-phase power supply input.

\*2. A model with a single-phase, 200-VAC power supply input is available as a hardware option (SGD7S-120A00A008).

\*3. The rated output is 2.4 kW if you combine the SGM7G-30A with the SGD7S-200A.

\*4. The same SERVOPACKs are used for both Rotary Servomotors and Linear Servomotors.

\*5. Available for a rated output of up to 1.5 kW.

\*6. A command option module must be attached to the Command Option Attachable-type SERVOPACK for use.

\*7. Refer to the following manual for details.

Sigma-7-Series AC Servo Drive Sigma-7S/Sigma-7W SERVOPACK with Hardware Option Specifications Dynamic Brake Product Manual (Manual No.: SIEP S800001 73)

\*8. Refer to the following manual for details.

Sigma-7-Series AC Servo Drive 0-7S SERVOPACK with FT/EX Specification for SGM7D Motor Product Manual (Manual No.: SIEP S800001 91)

\*9. Applicable for Sigma-7Siec models.

SGD7W - 1R6 A 20 A 700 000

Sigma-7 Series  
Sigma-7W Models

1st ... 3rd

4th

5th + 6th

7th

8th ... 10th

11th ... 13th

digit

#### 1st ... 3rd digit - Maximum Applicable Motor Capacity per Axis

Code	Specification
Three-phase, 200 V	
1R6* <sup>1</sup>	0.2 kW
2R8* <sup>1</sup>	0.4 kW
5R5* <sup>2</sup>	0.75 kW
7R6	1.0 kW

#### 4th digit - Voltage

Code	Specification
A	200 VAC

#### 5th + 6th digit - Interface\*<sup>3</sup>

Code	Specification
20	MECHATROLINK-III communication Reference

#### 7th digit - Design Revision Order

Code	Specification
A	Standard Model

#### 8th ... 10th digit - Hardware Options Specifications

Code	Specification	Applicable Models
None	Without Options	All models
700* <sup>4</sup>	HWBB Option	All models

#### 11th ... 13th digit - FT/EX Specifications

Code	Specifications
None	None
000	None

Note:

\*1. You can use these models with either a single-phase or three-phase power supply input. For more information, please contact your Yaskawa representative.

\*2. If you use the SGD7W-5R5A with a single-phase 200-VAC power supply input, derate the load ratio to 65%. An example is given below.

\*3. The same SERVOPACKs are used for both Rotary Servomotors and Linear Servomotors.

\*4. Refer to the following manual for details.

Sigma-7 Series AC Servo Drive Sigma-7W/Sigma-7C SERVOPACK with Hardware Option Specifications HWBB Function Product Manual (Manual No.: SIEP S800001 72)

SGD7C - 1R6 A MA A 700

Sigma-7 Series  
Sigma-7C Models

1st ... 3rd

4th

5th + 6th

7th

8th ... 10th

digit

#### 1st ... 3rd digit - Maximum Applicable Motor Capacity per Axis

Code	Specification
Three-phase, 200 V	
1R6* <sup>1</sup>	0.2 kW
2R8* <sup>1</sup>	0.4 kW
5R5* <sup>2</sup>	0.75 kW
7R6	1.0 kW

#### 4th digit - Voltage

Code	Specification
A	200 VAC

#### 5th + 6th digit - Interface\*<sup>3</sup>

Code	Specification
20	MECHATROLINK-III communication Reference
MA	Bus connection with references

#### 7th digit - Design Revision Order

Code	Specification
A	Standard Model

#### 8th ... 10th digit - Hardware Options Specifications

Code	Specification	Applicable Models
None	Without Options	All models
700* <sup>4</sup>	HWBB Option	All models

Note:

\*1. You can use these models with either a single-phase or three-phase power supply input.

\*2. If you use the SGD7W-5R5A with a single-phase 200-VAC power supply input, derate the load ratio to 65%. An example is given below.

\*3. The same SERVOPACKs are used for both Rotary Servomotors and Linear Servomotors.

\*4. Refer to the following manual for details.

Sigma-7 Series AC Servo Drive Sigma-7W/Sigma-7C SERVOPACK with Hardware Option Specifications HWBB Function Product Manual (Manual No.: SIEP S800001 72)



# The 400 V Series

## Amplifier

- Space saving bookstyle for side-by-side mounting
- Embedded fieldbus
  - » EtherCAT
  - » MECHATROLINK-III
  - » PROFINET
  - » iec-Controller
- Single & dual axis amplifier
- European connectors
- Daisy-chain-connection

## Motors

- Plug-and-turn connectors according to european standards (M12, M17, M23 and M40)
- Available from 200 W - 15 kW



- Connectors for power supply, EtherCAT, I/O, encoder, USB, etc.



- Option units for advanced safety, encoder



- Connector for digital operator



- Power connectors for motor, brake, braking resistor
- Metal sheet for motor cable shielding

# Product Overview 400 V

## Servomotors

### Rotary

#### SGM7J

- Medium inertia, high speed
- 200 W - 1.5 kW



#### SGM7A

- Low inertia, high speed
- 200 W - 7.0 kW



#### SGM7G

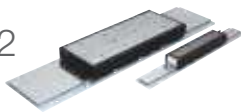
- Medium inertia, high torque, low speed or high speed models
- 450 W - 15 kW



### Linear

#### SGLFW2

- Model with F-type iron core
- Rated: 45 N - 2,520 N  
Peak: 135 N - 7,560 N



## SERVOPACKs

### Single Axis

#### SGD7S-□□□DA0B

EtherCAT  
Communication  
Reference



#### SGD7S-□□□D30B

MECHATROLINK-III  
Communication  
Reference



#### SGD7S-□□□DC0B

PROFINET  
Communication  
Reference



#### SGD7S-□□□DM0B

Siec (with integrated  
iec-Controller)



### Dual Axis

#### SGD7W-□□□DA0B

EtherCAT  
Communication  
Reference



#### SGD7W-□□□D30B

MECHATROLINK-III  
Communication  
Reference



## Option Modules

#### SGDV- OSA01A000FT900

Safety Module

#### SGDV-OF□□□A

Feedback Option/  
Fully Closed Loop  
Module

# Model Designations 400V

## Rotary Servomotors

### SGM7J

Sigma-7 Series  
Servomotors:  
SGM7J

SGM7J - 02 D F F 6 1  
1st + 2nd 3rd 4th 5th 6th 7th digit

1st + 2nd digit - Rated Output	
Code	Specification
02	200 W
04	400 W
08	750 W
15	1.5 kW

3rd digit - Power Supply Voltage	
Code	Specification
D	400 VAC

4th digit - Serial Encoder	
Code	Specification
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order	
Code	Specification
F	Standard model

6th digit - Shaft End	
Code	Specification
2	Straight without key
6	Straight with key and tap

7th digit - Options	
Code	Specification
1	Without options
C	With holding brake (24 VDC)

### SGM7A

Sigma-7 Series  
Servomotors:  
SGM7A

SGM7A - 02 D F F 6 1  
1st + 2nd 3rd 4th 5th 6th 7th digit

1st + 2nd digit - Rated Output	
Code	Specification
02	200 W
04	400 W
08	750 W
10	1.0 kW
15	1.5 kW
20	2.0 kW
25	2.5 kW
30	3.0 kW
40	4.0 kW
50	5.0 kW
70	7.0 kW

3rd digit - Power Supply Voltage	
Code	Specification
D	400 VAC

4th digit - Serial Encoder	
Code	Specification
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order	
Code	Specification
F	Standard model

6th digit - Shaft End	
Code	Specifications
2	Straight without key
6	Straight with key and tap

7th digit - Options	
Code	Specifications
1	Without options
C <sup>*2</sup>	With holding brake (24 VDC)
F <sup>*1, *2</sup>	With dust seal
H <sup>*1, *2</sup>	With dust seal and holding brake (24 VDC)

\*1 This option is supported only for SGM7A-10 to -50 Servomotors.

\*2 These options are not supported by SGM7A-70 Servomotors.

### SGM7G

Sigma-7 Series  
Servomotors:  
SGM7G

SGM7G - 05 D F F 6 F  
1st + 2nd 3rd 4th 5th 6th 7th digit

1st + 2nd digit - Rated Output	
Code	Specification
05	450 W
09	850 W
13	1.3 kW
20	1.8 kW
30	2.9 kW
44	4.4 kW
55	5.5 kW
75	7.5 kW
1A	11.0 kW
1E	15.0 kW

3rd digit - Power Supply Voltage	
Code	Specification
D	400 VAC

4th digit - Serial Encoder	
Code	Specification
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order	
Code	Specification
F	Standard model
R <sup>*2</sup>	High-speed model

6th digit - Shaft End	
Code	Specification
2	Straight without key (450 W, 1.8 kW, 2.9 kW)
6	Straight with key and tap (450 W, 1.8 kW, 2.9 kW)
S <sup>*1</sup>	Straight without key (850 W, 1.3 kW)
K <sup>*1</sup>	Straight with key and tap (850 W, 1.3 kW)

7th digit - Options	
Code	Specification
1	Without options
C	With holding brake (24 VDC)
F	With dust seal
H	With dust seal and holding brake (24 VDC)

\*1 The shaft end codes are different for 850 W and 1.3 kW Servomotors.  
The shaft diameter for 850 W Servomotors is 19 mm.  
The shaft diameter for 1.3 kW Servomotors is 22 mm.

\*2 Available up to 4.4 kW.

# Linear Servomotors with F-Type Iron Cores

## Moving Coil

S G L F W2 - 30 D 070 A S 1 E

Sigma-7 Series  
Linear Servomotors:

1st 2nd

3rd + 4th 5th 6th - 8th 9th 10th 11th 12th digit

1st digit - Servomotor Type	
Code	Specification
F	With F-type iron core

2nd digit - Moving Coil/Magnetic Way	
Code	Specification
W2	Moving Coil

3rd + 4th digit - Magnet Height	
Code	Specification
30	30 mm
45	45 mm
90	90 mm
1D	135 mm

5th digit - Power Supply Voltage	
Code	Specification
D	400 VAC

6th ... 8th digit - Length of Moving Coil	
Code	Specification
070	70 mm
120	125 mm
200	205 mm
230	230 mm
380	384 mm

9th digit - Design Revision Order	
Code	Specification
A	Standard model

10th digit - Sensor Specification	
Code	Specification
T	Without polarity sensor, with thermal protector
S	With polarity sensor and thermal protector

11th digit - Options	
Code	Cooling Method
1	Self-cooled
L	Water-cooled*

12th digit - Options	
Code	Connection
E	Metal round connector (Phoenix)

\* Contact your Yaskawa representative for information on water-cooled model.

## Magnetic Way

S G L F M2 - 30 270 A

Sigma-7 Series  
Linear Servomotors:

1st 2nd

3rd + 4th 5th - 7th 8th digit

1st digit - Servomotor Type	
Code	Specification
F	With F-type iron core

2nd digit - Moving Coil/Magnetic Way	
Code	Specification
M2	Magnetic Way

3rd + 4th digit - Magnet Height	
Code	Specification
30	30 mm
45	45 mm
90	90 mm
1D	135 mm

5th ... 7th digit - Length of Magnetic Way	
Code	Specification
270	270 mm
306	306 mm
450	450 mm
510	510 mm
630	630 mm
714	714 mm

8th digit - Design Revision Order	
Code	Specification
A	Standard model

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

# SERVOPACKs

## Single Axis Amplifier

SGD7S - 1R9 D A0 B 000 F64

Sigma-7 Series  
Sigma-7S Models

1st ... 3rd

4th

5th + 6th

7th

8th ... 10th

11th ... 13th digit

1st ... 3rd digit - Maximum Applicable Motor Capacity	
Code	Specification
Three-phase, 400 V	
1R9	0.5 kW
3R5	1.0 kW
5R4	1.5 kW
8R4	2.0 kW
120	3.0 kW
170	5.0 kW
210	6.0kW
260	7.5kW
280	11.0kW
370	15.0kW

4th digit - Voltage	
Code	Specification
D	400 V AC

5th + 6th digit - Interface <sup>*2</sup>	
Code	Specification
A0	EtherCAT communication reference
C0	PROFINET <sup>*4</sup> communication reference
30	MECHATROLINK-III, RJ45 communication reference
M0	Sigma-7Siec (with built-in single-axis control)

7th digit - Design Revision Order	
B	Standard model

8th ... 10th digit - Hardware Options Specifications		
Code	Specification	Applicable Models
000	Without Options	All models
026 <sup>*3</sup>	With relay for holding brake	All models

11th ... 13th digit - FT/EX Specification	
Code	Specification
F64 <sup>*1</sup>	Zone table
F50	Application function for Sigma-7Siec

\*1. Only available for EtherCAT (CoE) and MECHATROLINK-III communication references.

\*2. The same SERVOPACKs are used for both rotary and linear servomotors.

\*3. For specification of the internal brake relay, please refer to the hardware manual of the amplifier.

\*4. Available for a rated output of up to 1.5 kW.

## Dual Axis Amplifier

SGD7W - 2R6 D A0 B -

Sigma-7 Series  
Sigma-7W Models

1st ... 3rd

4th

5th + 6th

7th

8th ... 10th

digit

1st ... 3rd digit - Maximum Applicable Motor Capacity per Axis	
Code	Specification
Three-phase, 400 V	
2R6	0.75 kW
5R4	1.5 kW

4th digit - Voltage	
Code	Specification
D	400 V AC

5th + 6th digit - Interface	
Code	Specification
A0	EtherCAT communication reference
30	MECHATROLINK-III, RJ45 communication reference

7th digit - Design Revision Order	
B	Standard model

8th ... 10th digit - Hardware Options Specifications		
Code	Specification	Applicable Models
-	Without Options	All models
026*	With relay for holding brake	All models

\* For specification of the internal brake relay, please refer to the hardware manual of the amplifier.

**По вопросам продаж и поддержки обращайтесь:**

Алматы (7273)495-231  
Архангельск (8182)63-90-72  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
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Брянск (4832)59-03-52  
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Пенза (8412)22-31-16  
Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Симферополь (3652)67-13-56  
Казахстан (7172)727-132

Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Тверь (4822)63-31-35  
Томск (3822)98-41-53  
Тула (4872)74-02-29  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Ярославль (4852)69-52-93