

Ratings and Specifications

Time Rating: Continuous
 Insulation Resistance: 500 VDC, 10 MΩ min.
 Ambient Temperature: 0 to 40°C
 Excitation: Permanent magnet

Withstand Voltage: 1500 VAC for one minute
 Enclosure: Self-cooled
 Ambient Humidity: 20% to 80% (no condensation)
 Allowable Winding Temperature: 130°C (Thermal class B)

200-V Class

Linear Servomotor Model		20A		35A		50A		1ZA	
SGLFW- <input type="text"/>		090A	120A	120A	230A	200B	380B	200B	380B
Peak Speed	m/s	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.9
Rated Force*	N	25	40	80	160	280	560	560	1120
Rated Current*	A_{rms}	0.70	0.80	1.4	2.8	5.0	10.0	8.7	17.5
Peak Force*	N	86	125	220	440	600	1200	1200	2400
Peak Current*	A_{rms}	3.0	2.9	4.4	8.8	12.4	25.0	21.6	43.6
Moving Coil Mass	kg	0.7	0.9	1.3	2.3	3.5	6.9	6.4	11.5
Force Constant	N/A_{rms}	36.0	54.0	62.4	62.4	60.2	60.2	69.0	69.0
BEMF Constant	$V/(m/s)$	12.0	18.0	20.8	20.8	20.1	20.1	23.0	23.0
Motor Constant	N/\sqrt{W}	7.9	9.8	14.4	20.4	34.3	48.5	52.4	74.0
Electrical Time Constant	ms	3.2	3.3	3.6	3.6	15.9	15.8	18.3	18.3
Mechanical Time Constant	ms	11.0	9.3	6.2	5.5	3.0	2.9	2.3	2.1
Thermal Resistance (With Heat Sink)	K/W	4.35	3.19	1.57	0.96	0.56	0.38	0.47	0.2
Thermal Resistance (Without Heat Sink)	K/W	7.69	5.02	4.10	1.94	1.65	0.95	1.3	0.73
Magnetic Attraction	N	314	462	809	1590	1650	3260	3300	6520
Applicable SERVOPACK	SGDV-	1R6	1R6	1R6	3R8	5R5	120A	120A	200A

Notes: 1 The items marked with an * and Force and Speed Characteristics (the table on the next page) are the values at a motor winding temperature of 100°C during operation in combination with a SERVOPACK. The others are at 20°C.

2 The above specifications show the values under the cooling condition when a heat sink (aluminum board) listed in the following table is mounted on the moving coil.

Heat Sink Size	Model
125 mm × 125 mm × 13 mm	SGLFW-20A090A, -20A120A
254 mm × 254 mm × 25 mm	SGLFW-35A120A, -35A230A
400 mm × 500 mm × 40 mm	SGLFW-50A200B, -50A380B, -1ZA200B
600 mm × 762 mm × 50 mm	SGLFW-1ZA380B

400-V Class

Linear Servomotor Model		35D		50D		1ZD	
SGLFW- <input type="text"/>		120A	230A	200B	380B	200B	380B
Peak Speed	m/s	4.5	4.5	5.0	5.0	5.0	5.0
Rated Force*	N	80	160	280	560	560	1120
Rated Current*	A_{rms}	0.6	1.3	2.3	4.5	4.9	9.8
Peak Force*	N	220	440	600	1200	1200	2400
Peak Current*	A_{rms}	2.0	4.0	5.6	11.0	12.3	24.6
Moving Coil Mass	kg	1.3	2.3	3.5	6.9	6.4	11.5
Force Constant	N/A_{rms}	136.0	136.0	134.7	134.7	122.6	122.6
BEMF Constant	$V/(m/s)$	45.3	45.3	44.9	44.9	40.9	40.9
Motor Constant	N/\sqrt{W}	14.2	20.1	33.4	47.2	51.0	72.1
Electrical Time Constant	ms	3.7	3.6	15.0	15.0	17.4	17.2
Mechanical Time Constant	ms	5.2	5.1	3.2	3.2	2.5	2.2
Thermal Resistance (With Heat Sink)	K/W	1.57	0.96	0.56	0.38	0.47	0.2
Thermal Resistance (Without Heat Sink)	K/W	4.1	1.94	1.65	0.95	1.3	0.73
Magnetic Attraction	N	810	1590	1650	3260	3300	6520
Applicable SERVOPACK	SGDV-	1R9D	1R9D	3R5D	5R4D	5R4D	120D

Notes: 1 The items marked with an * and Force and Speed Characteristics (the table on the next page) are the values at a motor winding temperature of 100°C during operation in combination with a SERVOPACK. The others are at 20°C.

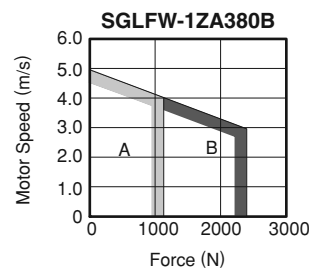
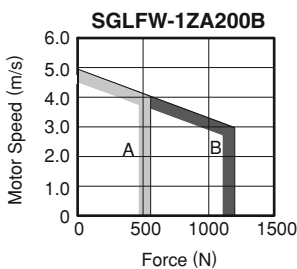
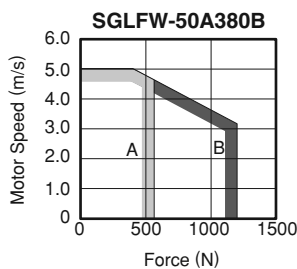
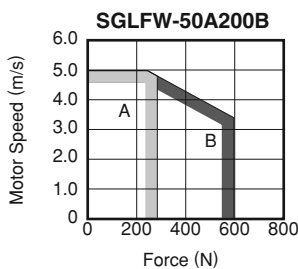
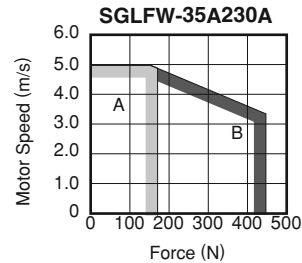
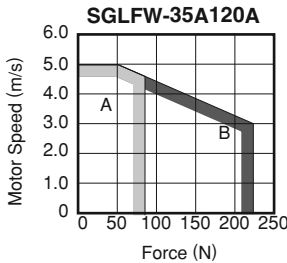
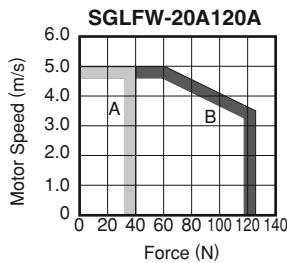
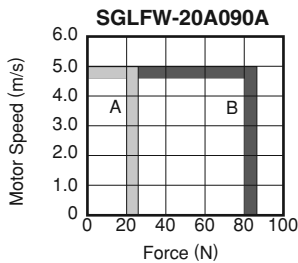
2 The above specifications show the values under the cooling condition when a heat sink (aluminum board) listed in the following table is mounted on the moving coil.

Heat Sink Size	Model
254 mm × 254 mm × 25 mm	SGLFW-35D120A, -35D230A
400 mm × 500 mm × 40 mm	SGLFW-50D200B, -50D380B, -1ZD200B
600 mm × 762 mm × 50 mm	SGLFW-1ZD380B

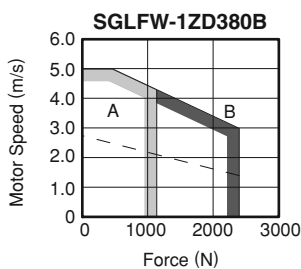
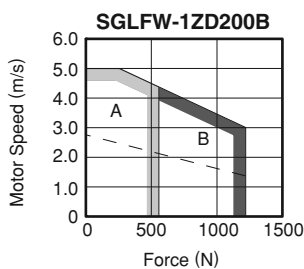
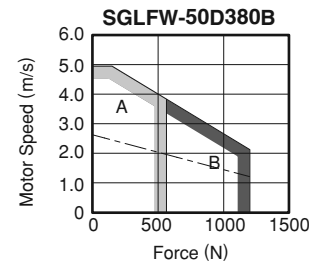
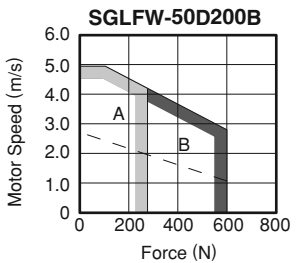
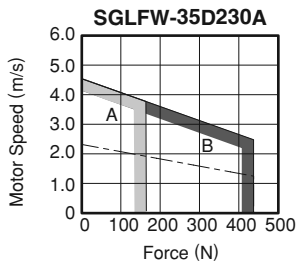
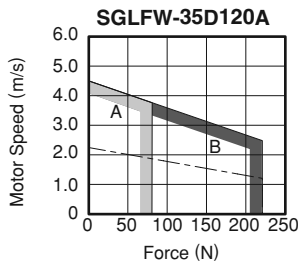
Ratings and Specifications

● Force and Speed Characteristics **A** : Continuous Duty Zone **B** : Intermittent Duty Zone (Note1)

200-V Class



400-V Class



Notes: 1 When the effective force during intermittent duty is within the rated force, the servomotor can be used within the intermittent duty zone.
 2 The dotted line indicates the characteristics when a 400-VAC linear servomotor is used with 200-V input power supply. In this case, a serial converter unit is required. Contact your Yaskawa representative for details.

● Mechanical Specifications

(1) Impact Resistance

- Impact acceleration: 196 m/s²
- Impact occurrences: twice

(2) Vibration Resistance

The linear servomotors will withstand the following vibration acceleration in three directions: Vertical, side to side, and front to back.

- Vibration acceleration: 49 m/s²