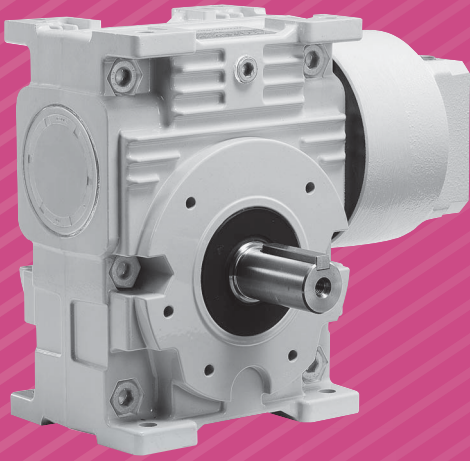
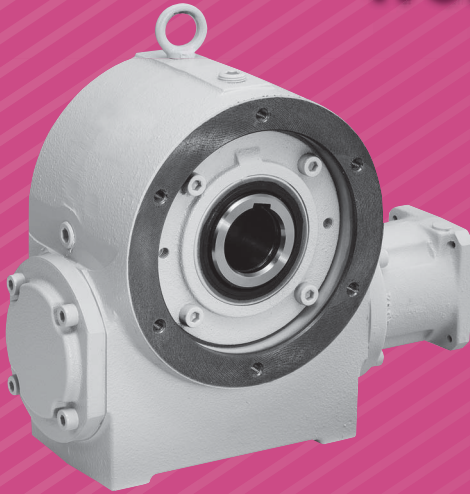




TERVO[®] *Series*

Worm Gear Reducers

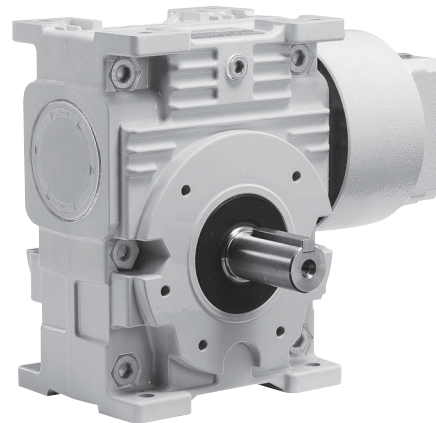
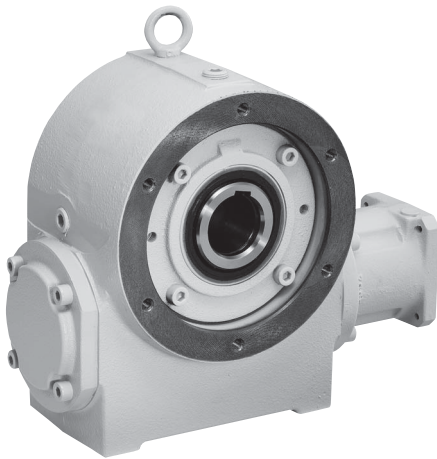


- ▶ **Features** 197
- ▶ **Model** 198 - 200
 - Model
 - Shaft Arrangement

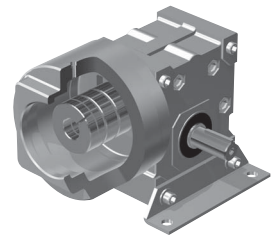
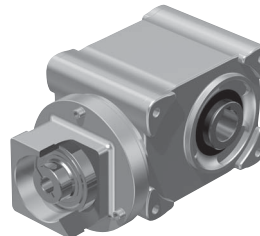
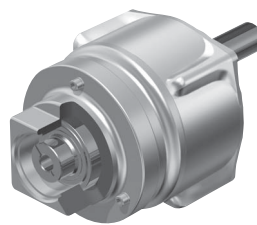
Features

Tsubaki's TERVO Converts Equipment to Drive

BROAD LINE UP



Standardized clamp for servo motors.



Highly versatile

- Right angle models with solid output shafts and hollow output shaft models are each available in seven sizes.
- Standardized selection of flanges for servo motor manufacturers. (Specified by mount code)

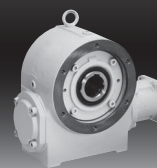
Economical



Worm gear

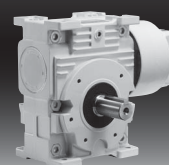
Highly durable

Low noise



**Hollow shaft
Worm gear head
SWJMK/SWMK**

Model range 0.2 to 2 kW



**Solid shaft
Worm gear head
EWJMK/EWMK**

Model range 0.2 to 2 kW

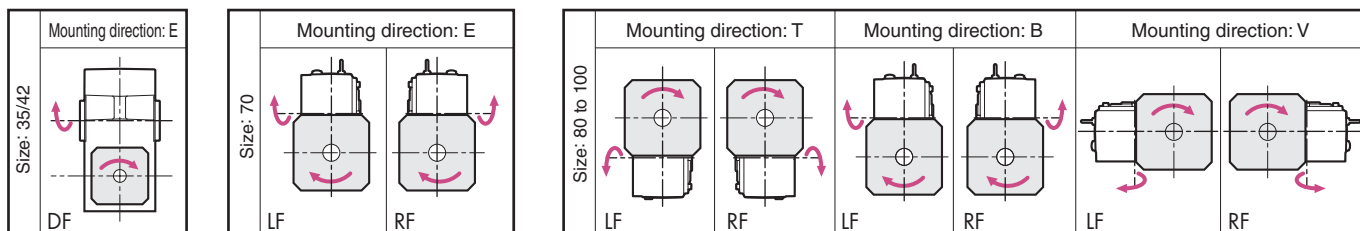
Model

Series		Size	Mounting direction	Reduction ratio	Shaft arrangement		Mount code (clamp type)	
TERVO Series	Hollow output shaft	SWJMK	42	E	30	DF	-	□□□ C
		SWMK	80	T	30	LF	-	□□□ C
	Solid output shaft	EWJMK	70	E	30	LR	-	□□□ C
		EWMK	80	T	30	L	-	□□□ C
		SWJMK 35/42/ 50/63/70 SWMK 80/100 EWJMK 35/42/ 50/63/70 EWMK 80/100	SWJMK E: Mounting direction E SWMK 80/100 T: Mounting direction T B: Mounting direction B V: Mounting direction V EWJMK E: Mounting direction E V: Mounting direction V EWMK T: Mounting direction T V: Mounting direction V	10: 1/10 15: 1/15 20: 1/20 25: 1/25 30: 1/30 40: 1/40 50: 1/50 60: 1/60	See Table below.	Mount code is determined based on the servo motor dimensions. Mount codes for each servo motor manufacturer can be found in pages 199 and 200.		

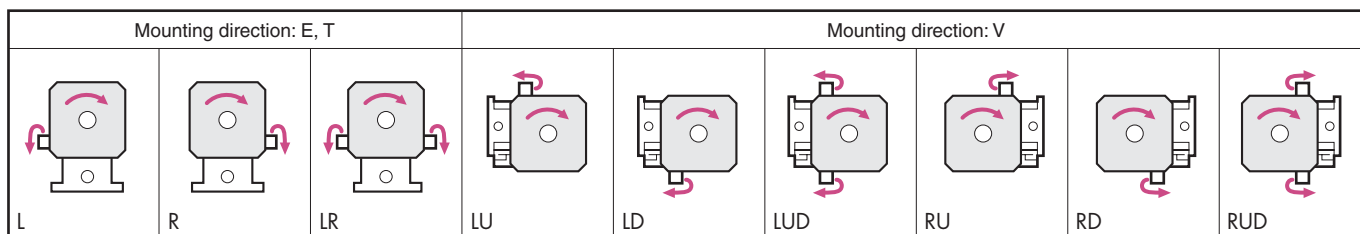
Note) Shafts can also be made for keyed servo motors. Contact us.

Shaft Arrangement

SWJMK/SWMK



EWJMK/EWMK



* Transfer capacities and dimensions are shown in "Tsubaki TERVO" catalog.

Models

Worm Gear Head SWJMK/SWMK, EWJMK/EWMK

Transfer capacity at input speed of 2000 r/min (kW)

Upper row SWJMK/SWMK
Lower row EWJMK/EWMK

Reduction ratio Size	10	15	20	25	30	40	50	60
35	0.38	0.30	0.25	0.22	0.19	0.16	0.14	0.13
42	0.57	0.45	0.37	0.33	0.28	0.23	0.21	0.19
50	0.96	0.75	0.65	0.57	0.47	0.41	0.36	0.32
	1.87	1.40	1.10	0.92	0.81	0.64	0.52	0.43
63	1.69	1.32	1.12	1.00	0.83	0.70	0.63	0.58
	3.32	2.94	1.99	1.65	1.44	1.14	0.93	0.77
70	2.66	2.08	1.79	1.59	1.30	1.12	0.93	0.77
	4.30	3.23	2.59	2.16	1.86	1.47	1.21	1.00
80	6.33	4.72	3.63	3.02	2.69	2.05	1.67	1.38
100	10.26	7.64	6.04	4.94	4.31	3.36	2.70	2.20

Motor Mount Codes

Upon referring to the Transfer Capacity Chart of each series, always **select a model within the capacity range of each gear head for the load conditions.**

Standard mount codes by worm gear head

Flange	Mount code	SWJMK/SWMK type							EWJMK/EWMK type						
		SWJMK35	SWJMK42	SWJMK50	SWJMK63	SWJMK70	SWMK80	SWMK100	EWJMK35	EWJMK42	EWJMK50	EWJMK63	EWJMK70	EWMK80	EWMK100
□60	E4DC	○	○	—	—	—	—	—	○	○	—	—	—	—	—
	E4HC	○	○	—	—	—	—	—	○	○	—	—	—	—	—
□80	G2HC	—	—	○	○	○	—	—	—	—	○	—	—	—	—
	G5LC	—	—	○	○	○	—	—	—	—	○	○	—	—	—
□130	K2LC	—	—	—	○	○	○	—	—	—	—	○	○	○	—
	K3YC	—	—	—	○	○	○	—	—	—	—	○	○	○	—
	K4PC	—	—	—	□	□	□	—	—	—	—	□	□	□	—
□176	L1MC	—	—	—	○	○	○	○	—	—	—	○	○	○	○
	L1PC	—	—	—	○	○	○	○	—	—	—	○	○	○	○
	L1RC	—	—	—	○	○	○	○	—	—	—	○	○	○	○

○: Standard product □: Made to order. Ask for delivery time.

Mount codes by motor manufacturer

1. Mitsubishi Electric Corporation

Servo motor J4 Series

Motor capacity	Rating Speed	Model No.	Mount code
200 W	3000 r/min	HG-KR23	E4HC
400 W		HG-KR43	E4HC
750 W		HG-KR73	G5LC
200 W	3000 r/min	HG-MR23	E4HC
400 W		HG-MR43	E4HC
750 W		HG-MR73	G5LC
500 W	2000 r/min	HG-SR52	K3YC
1000 W		HG-SR102	K3YC
1500 W		HG-SR152	K3YC
2000 W		HG-SR202	L1RC
500 W	1000 r/min	HG-SR51	K3YC
850 W		HG-SR81	K3YC
1200 W		HG-SR121	L1RC
2000 W		HG-SR201	L1RC
3500 W	2000 r/min	HG-SR352	L1RC
5000 W		HG-SR502	L1RC
7000 W		HG-SR702	L1RC
3000 W	1000 r/min	HG-SR301	L1RC
4200 W		HG-SR401	L1RC

* The product names above are trademarks or registered trademarks of their respective companies.

Servo motor J3 Series

Motor capacity	Rating Speed	Model No.	Mount code
200 W	3000 r/min	HF-KP23	E4HC
400 W		HF-KP43	E4HC
750 W		HF-KP73	G5LC
200 W	3000 r/min	HF-MP23	E4HC
400 W		HF-MP43	E4HC
750 W		HF-MP73	G5LC
500 W	2000 r/min	HF-SP52	K3YC
1000 W		HF-SP102	K3YC
1500 W		HF-SP152	K3YC
2000 W		HF-SP202	L1RC
500 W	2000 r/min	HC-LP52	K3YC
1000 W		HC-LP102	K3YC
1500 W		HC-LP152	K3YC
2000 W		HC-LP202	L1RC

Note 1. Mount code chart shows the typical examples as of June 2018. Servo motors that are not listed in the table may be available. Please contact us for details.

Note 2. The specifications of servo motors are subject to change due to each manufacturer's circumstances. Please be sure to check the gear head dimension matches the updated motor installation dimension.

2. Yaskawa Electric Corporation

Servo motor Σ -7 Series

Motor size	Rating Speed	Model No.	Mount code
200 W	3000 r/min	SGM7A-02	E4HC
400 W		SGM7A-04	E4HC
600 W		SGM7A-06	E4HC
750 W		SGM7A-08	G5LC
1000 W		SGM7A-10	G5LC
1500 W		SGM7A-15	J3YC
2000 W		SGM7A-20	J3YC
300 W	1500 r/min	SGM7G-03	H2KC
450 W		SGM7G-05	H2KC
850 W		SGM7G-09	K3YC
1300 W		SGM7G-13	K3YC
1800 W		SGM7G-20	K3YC
200 W	3000 r/min	SGM7J-02	E4HC
400 W		SGM7J-04	E4HC
600 W		SGM7J-06	E4HC
750 W		SGM7J-08	G5LC
200 W	3000 r/min	SGM7P-02	G2HC
400 W		SGM7P-04	G2HC
750 W		SGM7P-08	K2LC

3. Fuji Electric FA Components & Systems

Motor size	Rating Speed	Model No.	Mount code
200 W	3000 r/min	GYC201	G2HC
400 W		GYC401	G2HC
750 W		GYC751	J2KC
1000 W		GYC102	K3YC
1500 W		GYC152	K3YC
2000 W		GYC202	K3YC
200 W	3000 r/min	GYS201	E4HC
375 W		GYS371	E4HC
400 W		GYS401	E4HC
750 W		GYS751	G5KC
500 W	1500 r/min	GYA501	K3YC
1500 W		GYA152	K4PC

5. Tamagawa Seiki Co., Ltd.

Servo motor TBL-i II Series

Motor size	Rating Speed	Model No.	Mount code
200 W	3000 r/min	TS4607	E4HC
400 W		TS4609	E4HC
200 W	3000 r/min	TS4611	G2HC
400 W		TS4612	G2HC
600 W		TS4613	G5LC
750 W		TS4614	G5LC

Servo motor Σ -V Series

Motor size	Rating Speed	Model No.	Mount code
200 W	3000 r/min	SGMAV-02	E4HC
400 W		SGMAV-04	E4HC
200 W	3000 r/min	SGMJV-02	E4HC
400 W		SGMJV-04	E4HC

4. Panasonic Corporation

Servo motor MINAS A5 Series

Motor size	Rating Speed	Model No.	Mount code
200 W	3000 r/min	MSMD02	E3GC
400 W		MSMD04	E3HC
750 W		MSMD08	G4LC
400 W	3000 r/min	MSME04	E3HC
750 W		MSME08	G4LC
1000 W	2000 r/min	MDME10	J5LC
1500 W		MDME15	J5LC
2000 W		MDME20	J5LC

Note 1. Mount code chart shows the typical examples as of June 2018. Servo motors that are not listed in the table may be available. Please contact us for details.

Note 2. The specifications of servo motors are subject to change due to each manufacturer's circumstances. Please be sure to check the gear head dimension matches the updated motor installation dimension.

Transfer Capacity Table

Size	Installation direction	Reduction ratio (Actual reduction ratio)	Allowable input kW			Allowable torque on output shaft N·m		
			Input rotation speed r/min			Input rotation speed r/min		
			3000	2000	1500	3000	2000	1500
SWJMK35	E	10	0.44	0.38	0.35	12.2	15.7	19.2
		15	0.35	0.30	0.27	13.9	17.7	21.6
		20	0.28	0.25	0.23	14.5	18.4	22.3
		25	0.25	0.22	0.20	15.5	19.6	23.8
		30	0.22	0.19	0.17	15.4	19.4	23.5
		40	0.18	0.16	0.15	15.6	19.5	23.6
		50	0.16	0.14	0.13	16.4	20.5	24.8
SWJMK42	E	60	0.14	0.13	0.12	16.2	20.3	24.4
		10	0.65	0.57	0.51	18.2	23.3	28.5
		15	0.52	0.45	0.41	20.9	26.6	32.3
		20	0.42	0.37	0.33	21.9	27.7	33.5
		25	0.37	0.33	0.30	23.4	29.6	35.8
		30	0.32	0.28	0.26	23.3	29.2	35.2
		40	0.26	0.23	0.21	23.6	29.5	35.5
SWJMK50	E	50	0.24	0.21	0.19	25.0	31.2	37.4
		60	0.21	0.19	0.18	26.0	32.4	38.9
		10	1.09	0.96	0.86	31.1	40.1	49.2
		15	0.86	0.75	0.67	35.3	45.1	54.9
		20	0.74	0.65	0.58	39.7	50.5	61.4
		25	0.65	0.57	0.51	42.3	53.6	64.9
		30	0.54	0.47	0.43	40.1	50.4	60.7
SWJMK63	E	40	0.46	0.41	0.37	44.0	55.2	66.4
		50	0.41	0.36	0.33	45.9	57.4	69.0
		60	0.36	0.32	0.29	47.2	58.9	68.5
		10	1.92	1.69	1.52	55.0	71.3	87.2
		15	1.51	1.32	1.18	62.8	80.5	97.7
		20	1.28	1.12	1.00	69.3	88.1	107
		25	1.15	1.00	0.90	76.0	96.3	116
SWJMK70	E	30	0.95	0.83	0.74	71.9	90.5	109
		40	0.80	0.70	0.63	76.9	96.4	115
		50	0.72	0.63	0.57	83.1	104	124
		60	0.65	0.58	0.52	87.5	109	129
		10	3.03	2.66	2.40	86.8	113	138
		15	2.38	2.08	1.86	99.2	127	154
		20	2.05	1.79	1.60	112	142	172
SWMK80	T B V	25	1.83	1.59	1.43	121	154	186
		30	1.49	1.30	1.17	114	143	172
		40	1.28	1.12	1.01	125	156	187
		50	1.06	0.93	0.84	124	155	184
		60	0.87	0.77	0.69	118	147	174
		10	7.44	6.33	5.55	215	271	323
		15	5.51	4.72	4.16	232	293	350
SWMK100	T B V	20	4.34	3.63	3.30	238	292	358
		25	3.56	3.02	2.72	240	297	360
		30	3.09	2.69	2.40	241	303	362
		40	2.40	2.05	1.88	239	293	358
		50	1.93	1.67	1.53	232	287	347
		60	1.57	1.38	1.25	220	274	326
		10	—	10.26	8.85	—	443	521
EWJMK35	E	15	—	7.64	6.65	—	481	569
		20	—	6.04	5.30	—	494	586
		25	—	4.94	4.37	—	495	591
		30	—	4.31	3.81	—	499	592
		40	—	3.36	3.00	—	495	588
		50	—	2.70	2.42	—	478	571
		60	—	2.20	1.99	—	454	542

Size	Installation direction	Reduction ratio (Actual reduction ratio)	Allowable input kW			Allowable torque on output shaft N·m		
			Input rotation speed r/min			Input rotation speed r/min		
			3000	2000	1500	3000	2000	1500
EWJMK35	E	10	0.44	0.38	0.35	12.2	15.7	19.2
		15	0.35	0.30	0.27	13.9	17.7	21.6
		20	0.28	0.25	0.23	14.5	18.4	22.3
		25	0.25	0.22	0.20	15.5	19.6	23.8
		30	0.22	0.19	0.17	15.4	19.4	23.5
		40	0.18	0.16	0.15	15.6	19.5	23.6
		50	0.16	0.14	0.13	16.4	20.5	24.8
EWJMK42	E	60	0.14	0.13	0.12	16.2	20.3	24.4
		10	0.65	0.57	0.51	18.2	23.3	28.5
		15	0.52	0.45	0.41	20.9	26.6	32.3
		20	0.42	0.37	0.33	21.9	27.7	33.5
		25	0.37	0.33	0.30	23.4	29.6	35.8
		30	0.32	0.28	0.26	23.3	29.2	35.2
		40	0.26	0.23	0.21	23.6	29.5	35.5
EWJMK50	E V	50	0.24	0.21	0.19	25.0	31.2	37.4
		60	0.21	0.19	0.18	26.0	32.4	38.9
		10	2.21	1.87	1.60	62.7	78.4	90.8
		15	1.65	1.40	1.20	67.8	84.6	97.6
		20	1.27	1.10	0.93	68.2	86.2	98.1
		25	1.06	0.92	0.77	69.0	86.5	98.0
		30	0.91	0.81	0.70	67.8	86.2	100.5
EWJMK63	E V	40	0.72	0.64	0.55	68.4	56.2	97.9
		50	0.59	0.52	0.45	66.7	83.4	94.3
		60	0.49	0.43	0.37	63.4	78.9	89.0
		10	3.96	3.32	2.59	113	140	169
		15	2.94	2.49	2.21	122	152	182
		20	2.33	1.99	1.75	126	157	186
		25	1.92	1.65	1.44	127	159	186
EWJMK70	E V	30	1.67	1.44	1.29	126	158	188
		40	1.30	1.14	1.02	126	157	186
		50	1.05	0.93	0.82	122	153	179
		60	0.87	0.77	0.68	116	145	168
		10	5.21	4.30	3.90	149	182	225
		15	3.87	3.23	2.92	161	198	242
		20	3.05	2.59	2.32	166	206	248
EWMK80	T V	25	2.51	2.16	1.91	167	209	248
		30	2.18	1.86	1.70	167	205	250
		40	1.70	1.47	1.34	166	206	248
		50	1.38	1.21	1.09	161	201	239
		60	1.13	1.00	0.90	153	192	226
		10	7.44	6.33	5.55	215	271	323
		15	5.51	4.72	4.16	232	293	350
EWMK100	T V	20	4.34	3.63	3.30	238	292	358
		25	3.56	3.02	2.72	240	297	360
		30	3.09	2.69	2.40	241	303	362
		40	2.40	2.05	1.88	239	293	358
		50	1.93	1.67	1.53	232	287	347
		60	1.57	1.38	1.25	220	274	326
		10	—	10.26	8.85	—	443	521
EWJMK100	T V	15	—	7.64	6.65	—	481	569
		20	—	6.04	5.30	—	494	586
		25	—	4.94	4.37	—	495	591
		30	—	4.31	3.81	—	499	592
		40	—	3.36	3.00	—	495	588
		50	—	2.70	2.42	—	478	571
		60	—	2.20	1.99	—	454	542

- (1) Maximum input rotation speed: [SWJMK35 to 70, SWMK80, EWJMK35 to 70, EWMK80] 3,000 r/min, [SWMK100, EWMK100] 2,000 r/min
- (2) SWJMK70, SWMK80, and SWMK100 output shaft allowable torques are for intermittent operation. Use with an operating time ratio (ED ratio) of 50% and continuous operation of 20 minutes or less.
The thermal rating capacity must be considered for continuous operation applications. Contact us for details.
- (3) For intermittent operation, make sure that the motor can accelerate at motor start-up torque. The efficiency at start-up must be lower than half of the efficiency, calculated from the allowable input kW and allowable output torque.
- (4) SWM Series are available for servo motors larger than those listed above. Fill in the Inquiry Form in page 259 and contact Tsubaki representative.
- (5) Contact Tsubaki representative for details on the moment of inertia on the input shaft and backlash.
- (6) Depending on the mount code, the highlighted figures in may exceed the allowable torque of the servo motor and reducer coupling. Contact Tsubaki representative for detail.



PT. MASA JAYA PERKASA

M info@masajayaperkasa.com

**Jl. Hayam Wuruk No. 76,
Jakarta Barat, DKI Jakarta 11160**

(+62)21-649-6496

(+62)852-1116-7713