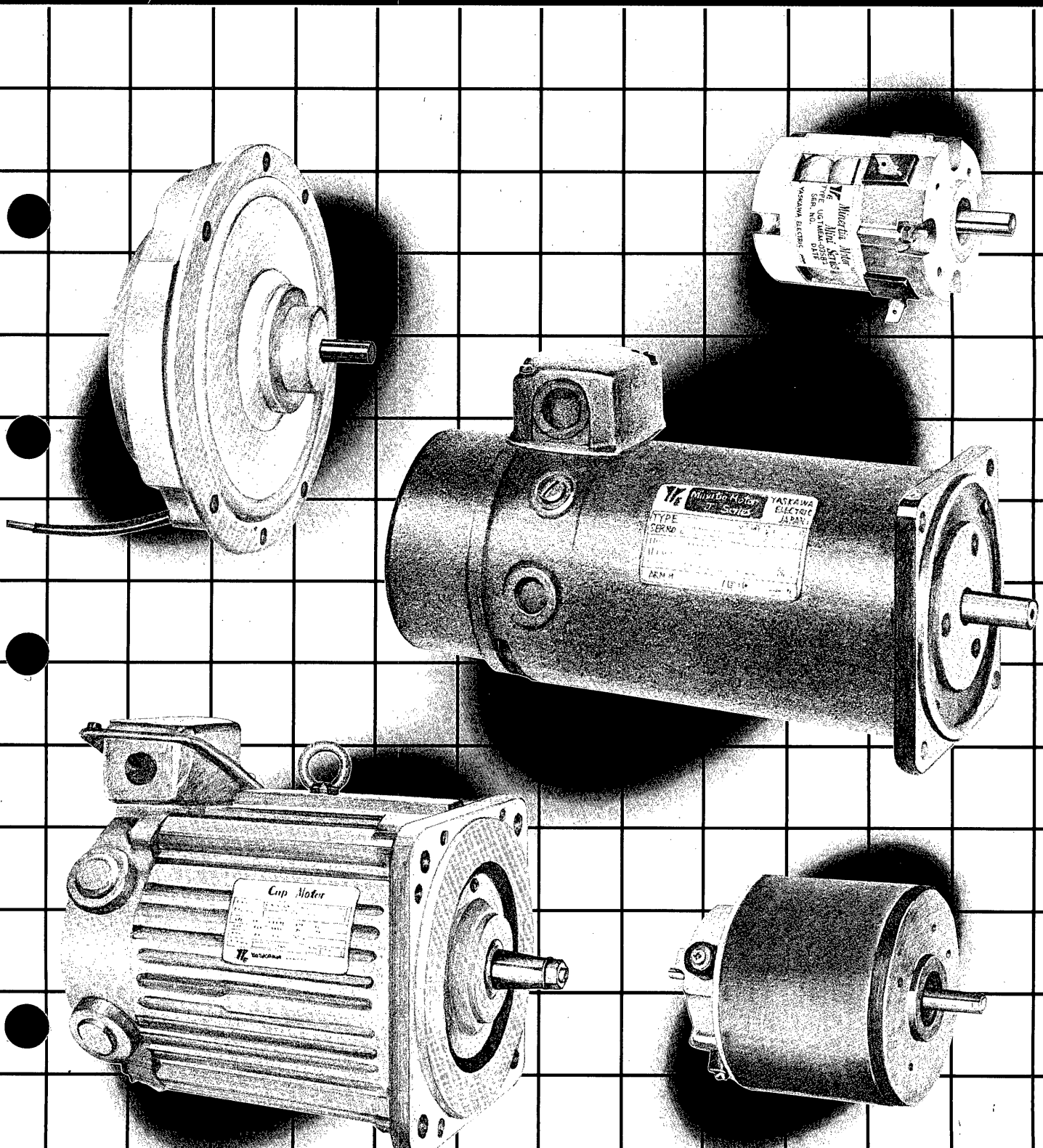
YASKAWA ELECTRIC

KAE-C240-0H

EXCELLENT PERFORMANCE, HIGH RELIABILITY, COMPACT SIZE

DC Servomotors

FOR COMPUTER PERIPHERALS, MACHINE TOOLS AND GENERAL-PURPOSE APPLICATIONS



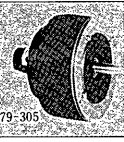
Yaskawa has Extensive Capabilities

Yaskawa offers the largest selection of OEM-oriented DC servomotors. A large share of our annual production goes into computer peripherals, NC machine tools, office machines, and many other industrial applications. With our wide variety and quality line you can choose the drive motor that best meets your application needs.

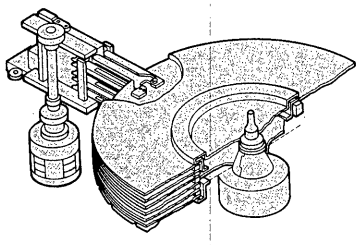
Behind the enviable reputation of Yaskawa servomotors, there exists the unmatched advantages—optimum performance, superior cost effectiveness, space-saving design, and most important: *reliability*. These advantages are result of experience and contribution in the last twenty years as a leader in the industry all over the world, and a specialist in industrial drives for nearly seventy years.

Since no one can match our experience, no one can match our reliability. Now, you can add an advantage to your products by using these reliable Yaskawa drives.

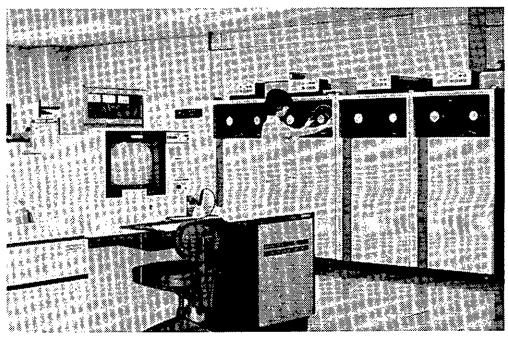
FOR COMPUTER PERIPHERALS



579-305 *Print Motor* Super Series



Pick-up Head Drive for Magnetic Disc Memories

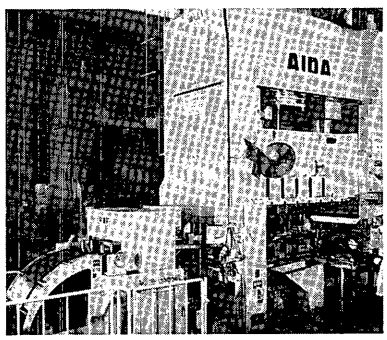


180-182 For Magnetic Tape Transport

FOR MACHINE TOOLS

580-358 *Print Motor* Standard Series

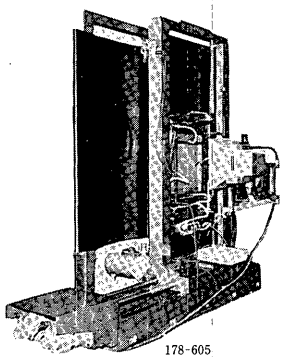
580-363 *Print Motor* Standard Series with Reduction Gear



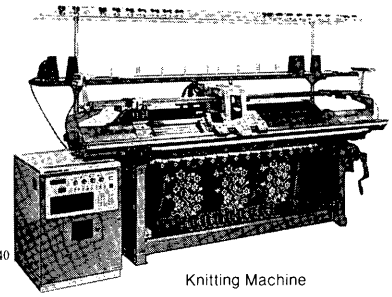
179-87 Core hoop feeder for accurate uncoiling in concert with press punching speed.

FOR GENERAL-PURPOSE MACHINES

570-83 *Print Motor* Junior Series



178-605 Photo Composer for Printing Plate

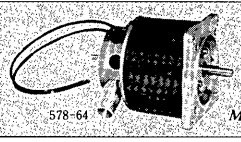


180-40 Knitting Machine

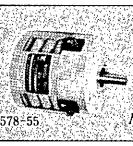
in *DC Servomotors.*

Compare the following features before you make your decision.

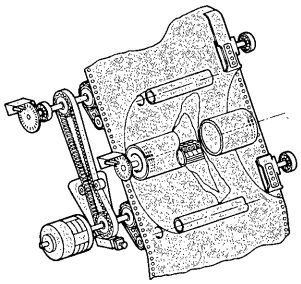
- Ripple-free, large peak torque
- Minimum rotor inertia
- Excellent torque linearity
- Good commutating characteristics
- Low mechanical and inductive time constant
- High accuracy for varying loads
- Adjustable stepless bi-directional speed control



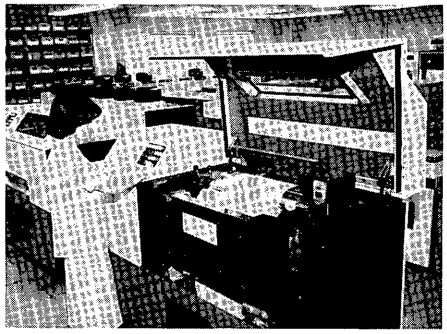
578-64 *Minertia Motor* Super Series



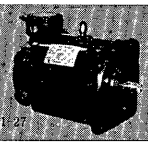
578-55 *Minertia Motor* Mini Series



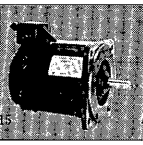
For Paper Feeding of Line Printer



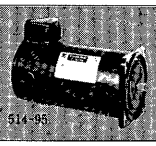
180-180 For Paper Feeding of Line Printer



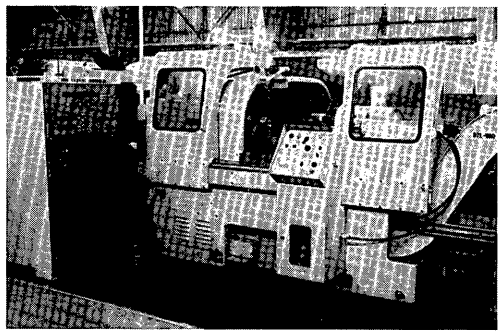
281-27 *Cup Motor*



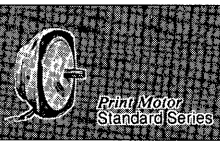
283-15 *Hi-cup Motor*



514-95 *Minertia Motor* J Series

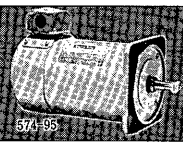


178-357 NC lathe incorporating direct drive servomotors for cutting tool feed.

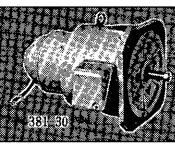


580-358 *Print Motor* Standard Series

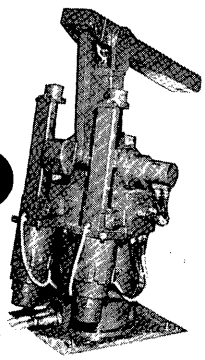
580-363 *Print Motor* Standard Series with Reduction Gear



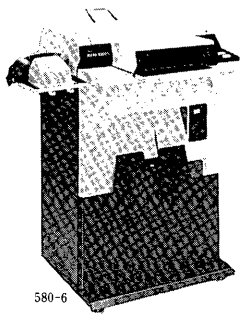
574-95 *Minertia Motor* Standard Series



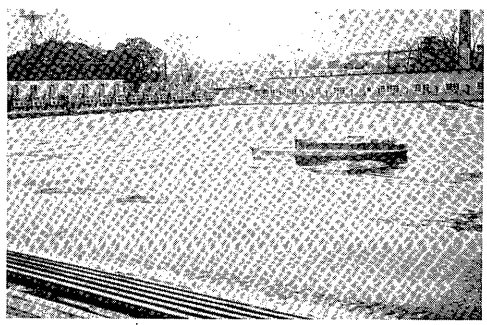
381-30 Duplex Servomotor



178-461 Industrial Robot Motoman-L (Yaskawa's Tradename)



580-6 Facsimile for Office Telecommunications



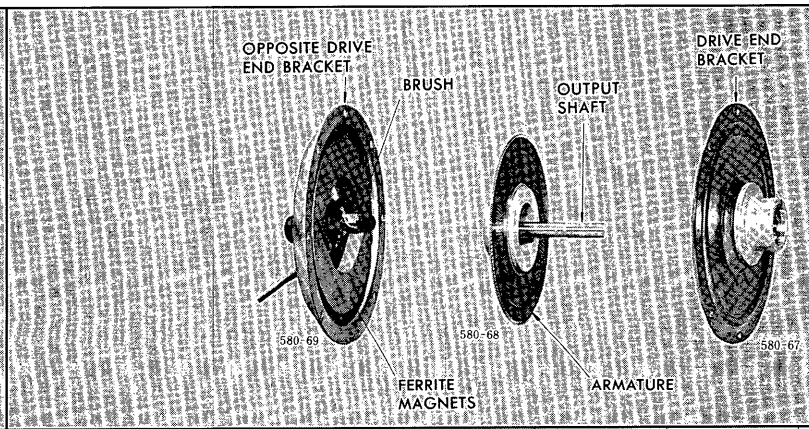
Wave Generator at Marine Facility Testing Pool 172-588

Flat Armature, Pancake Brackets

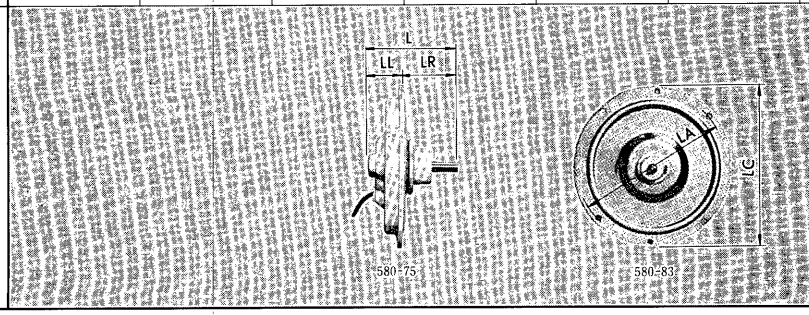
Print™ *Motor* Junior Series

Thin and light weight as much as possible, yet solid and mighty torque to move load. Punched and bonded copper armature allows direct brush commutation, and waffle-shape disc minimizes armature inertia. In combination with powerful ferrite magnets, Junior Series offers rapid stop-start for precise positioning. Junior Series is ideally suited for battery powered, simple adjustable speed drive where mounting space is critical. Available to combine with a reduction gear in one unit.

Construction



Type		UGPMEG -07B12	UGPMEE -09B12	(UG)PMEE -12CBB	(UG)PMEE -12CB2	(UG)PMFE -12CBB	UGPMEE -16AAB	UGPMEE -16AA2	UGPMFE -16AAB
Rated Output	W	6.5	30	75	75	125	175	175	350
Rated Torque	kg·cm	0.35	0.73	2.0	2.0	3.4	6.1	6.1	12.2
Rated Speed	rpm	1800	4000	3600	3600	3600	2800	2800	2800
Rated Armature Voltage	V	8.9	18	24	24	26	41	41	47
Rated Armature Current	A	1.8	2.8	5.0	5.0	8.0	6.0	6.0	11.3
Power Rate	kW/s	0.06	0.15	0.26	0.26	0.72	0.56	0.56	2.2
Maximum Torque 1 sec	kg·cm	1.75	3.7	10	10	17	31	31	37
Maximum Armature Current	A	8.1	13	22	22	36	27	27	33
Armature Inertia	kg·cm²	0.2	0.34	1.5	1.5	1.5	6.3	6.3	6.3
Armature Resistance	Ω (20°C)	1.26	1.02	0.68	0.68	0.68	0.82	0.82	0.82
Mechanical Time Constant	ms	46	37	38	38	38	35	35	35
Electrical Time Constant	ms	0.05	0.06	0.066	0.066	0.066	0.12	0.12	0.12
Motor Weight	kg	0.33	0.6	1.2	1.2	1.3	3.3	3.3	3.5
Dimensions in mm	L	52.5	52.5	84.5	72.5	107.5	96	82.5	128
	LL	22.5	22.5	32	32.5	55	36	37.5	68
	LA	88	110	142	142	142	200	200	200
	LC	96	120	152	152	152	215	215	215
	LR	30	30	52.5	40	52.5	60	45	60



Disc Armature between Double Field Pole Magnets

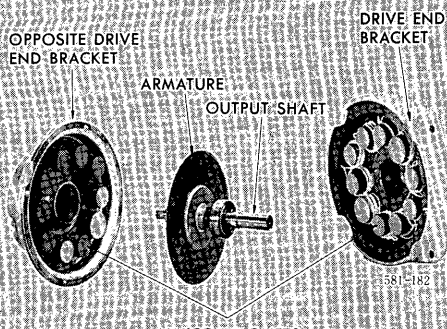
Print™ *Motor* Standard Series, and Geared Standard Series

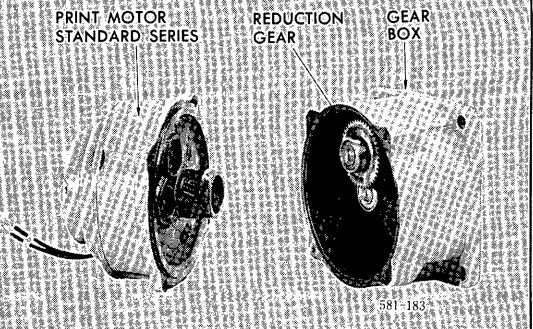
Disc armature is placed between the strong permanent alnico magnets mounted on the front and rear brackets, which are all housed in a ring. The motors can fully withstand punishing frequent bi-directional operations yet exert quick response and accurate positioning operation. Their dynamic motion with no cogging and less ripples makes them suitable for streamers and rotating head driven of VTR as well as positioning of machine tool tables, welding positioners, and material winders.

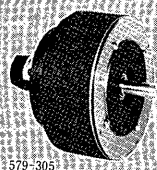
Geared Standard Series carries on its drive end a rigid cast-iron reduction gear casing, resulting in less vibration, less inertia, and high gearing efficiency. This transmits the quick motion of the Standard Series at reduced speeds.

Super Series

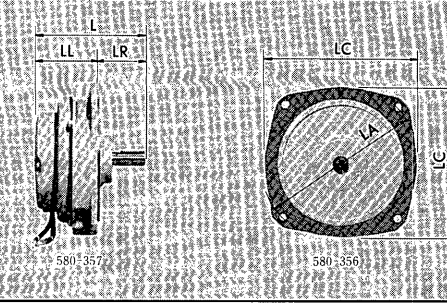
Specifically designed for computer peripherals, and featuring minimum inertia due to aluminum disc armature. Tailored on specific customer requirements.

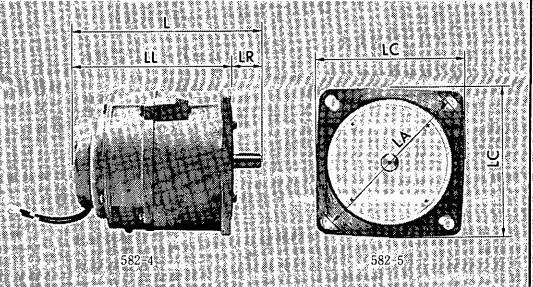






UGPMEN -08DA2	(UG)PMES -09A2	(UG)PMES -12A2	(UG)PMES -16A2	(UG)PMES -20A2	UGPMEN -08DAOF	(UG)PMES -09AF	(UG)PMES -12AF	(UG)PMES -16AF	
50	100	200	500	1000	50	100	200	500	
1.22	2.43	6.5	19.5	32.5	10.4—51.9	20.5—103	55—276	165	
4000	4000	3000	2500	3000	400—80	400—80	300—60	250	
17	26	42	83	142	17	26	42	83	
4.9	5.5	6.4	7.3	8.3	4.9	5.5	6.4	7.3	
0.72	1.3	2.5	5.8	5.0	0.72	1.3	2.5	5.8	
7.3	14.4	36.4	103	168	7.3	14.4	36.4	103	Contact the Company.
24.5	29	33	37	40	24.5	29	33	37	
0.2	0.46	1.5	6.2	20.3	0.2	0.46	1.5	6.2	
0.42	0.54	0.68	0.92	0.75	0.42	0.54	0.68	0.92	
9.2	10	8.5	7.5	8.6	9.2	10	8.5	7.5	
0.03	0.04	0.09	0.16	0.17	0.03	0.04	0.09	0.16	
1.8	2.2	3.6	8.5	13.2	8.0	8.5	12* or 16.5†	21.5	
108.5	92	116	156	210	184	192	209* or 238†	271	
77.5	59	66	92	145	152	156	173* or 193†	226	
115	130	165	215	265	160	180	180* or 235†	235	—
107	122	157	208	240	136	154	154* or 205†	205	
31	33	50	64	65	32	36	36* or 45†	45	





* For reduction ratio 1/10 † For reduction ratio 1/25, 1/50

Fast, Powerful Feed, then Precise Positioning

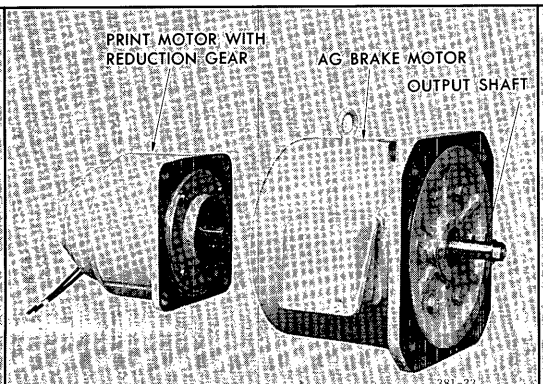
Duplex Servomotors

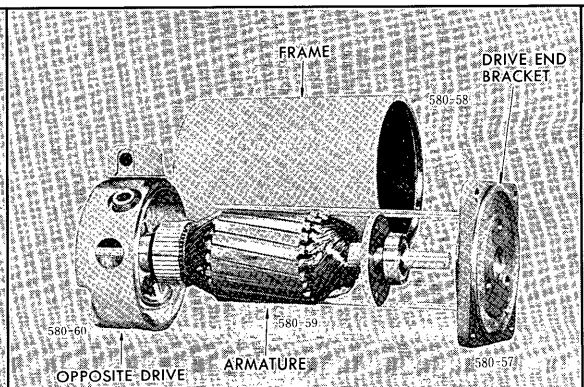
A complete marriage of an AG Brake Motor, Yaskawa's tradename of AC induction motor for fast speed, and a DC geared Print Motor for accurate positioning. The AG Brake Motor incorporates an axial air gap brake mechanism so that it runs at induction speed and brakes to a sudden stop. Since the size is extremely compact despite all of the combined functions the Duplex Servomotors can easily fit into locations with minimum available space.

Solid Armature for Direct Drive

Minertia™ *Motor* J Series

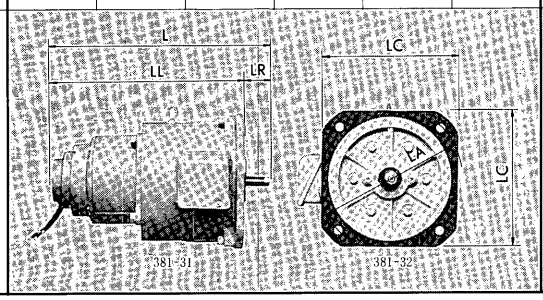
Designed aiming at low speed, cost reduction, direct drive of machine tools. The slim, solid iron-core armature produces large torque and overload capacity for its compact size. The lower running speed eliminates gear reducer and allows positioning of the shaft precisely.

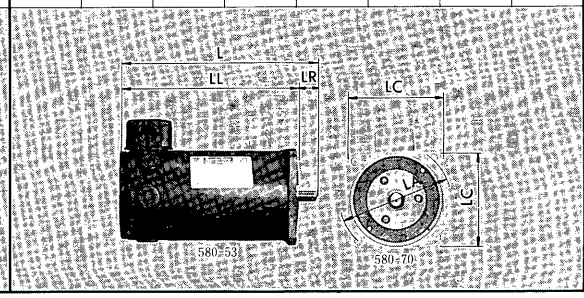




Type		UGDMEN -11AG1	UGDMEN -12AG1	UGDMEN -21AG1	UGDMEN -22AG1	UGDMEN -23AG1	UGDMEN -33AG1	UGJMED -10MA2	UGJMED -40MA2	UGJMED -40LA2	UGJMED -60MA2	UGJMED -60LA2	UGJMED -80MA2	UGJMED -80LA2	UGJMED -80KA2
Rated Output	kW	0.1*(0.4)†	0.1*(0.75)†	0.2*(0.4)†	0.2*(0.75)†	0.2*(1.5)†	0.5*(1.5)†	0.1	0.16	0.25	0.45	0.85	1.1	1.8	2.6
Rated Torque	kg·cm	2.43	2.43	6.5	6.5	6.5	19.5	9.7	15.6	24.4	44	83	107	175	255
Rated Speed	rpm	4000	4000	3000	3000	3000	2500	1000	1000	1000	1000	1000	1000	1000	1000
Rated Armature Voltage	V	26	26	42	42	42	83	64	44	60	98	94	112	103	129
Rated Armature Current	A	5.5	5.5	6.4	6.4	6.4	7.3	2.3	5.0	5.6	6.0	11.0	11.5	20.0	23.0
Power Rate	kW/s	1.3	1.3	2.5	2.5	2.5	5.8	1.5	1.5	2.9	4.2	10.5	8.0	12.0	18.6
Maximum Torque 1 sec	kg·cm	14.4	14.4	36.4	36.4	36.4	103	50	90	115	220	415	535	875	1275
Maximum Armature Current	A	29	29	33	33	33	37	11	26	25	27	52	56	96	111
Armature Inertia	kg·cm²	0.46	0.46	1.5	1.5	1.5	6.2	6	16	20	44	63	140	245	335
Armature Resistance	Ω (20°C)	0.54	0.54	0.68	0.68	0.68	0.92	5.0	1.05	1.3	1.45	0.65	0.69	0.27	0.26
Mechanical Time Constant	ms	10	10	8.5	8.5	8.5	7.5	13.7	12.2	10.1	8.3	5.4	9.1	6.7	5.2
Electrical Time Constant	ms	0.04	0.04	0.09	0.09	0.09	0.16	6	24.8	28.5	6.9	10.8	13.0	18.5	30.8
Motor Weight	kg	28.1	41.6	30.1	43.6	68.6	76	6	10.5	12	15	22	26	38	52
	L	369	402	387	420	471	501	236	286	286	311	386	355	440	527
	LL	311	332	329	350	401	401	201	251	251	266	331	276	361	448
	LA	235	265	235	265	300	300	115	145	145	165	165	200	200	200
	LC	220	250	220	250	280	280	100	125	125	150	150	178	178	178
	LR	58	70	58	70	70	70	35	35	35	45	55	79	79	79

Dimensions in mm





Note: The values with * shown for Print Motors with reduction gear, with †, AG brake motors.

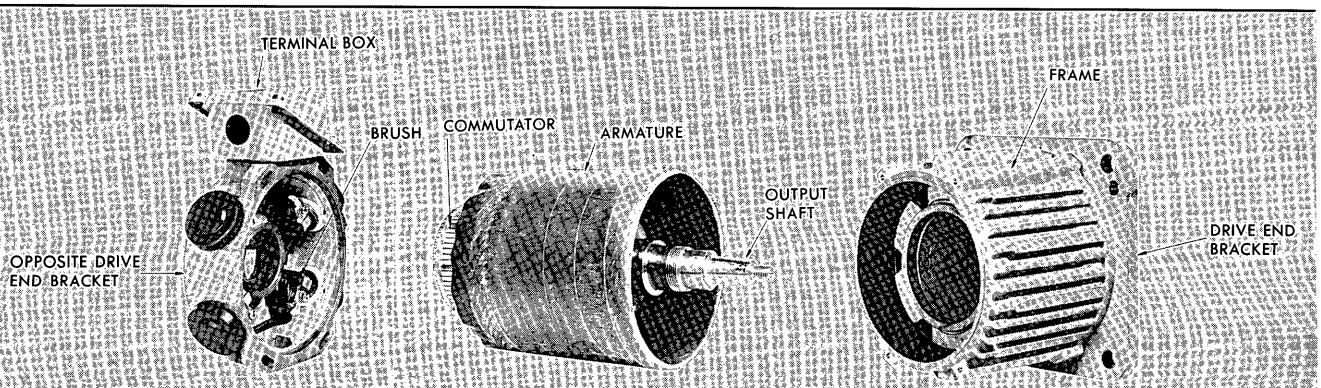
High Torque-to-Inertia Ratio by Large Dia Cup Armature

Cup Motors™

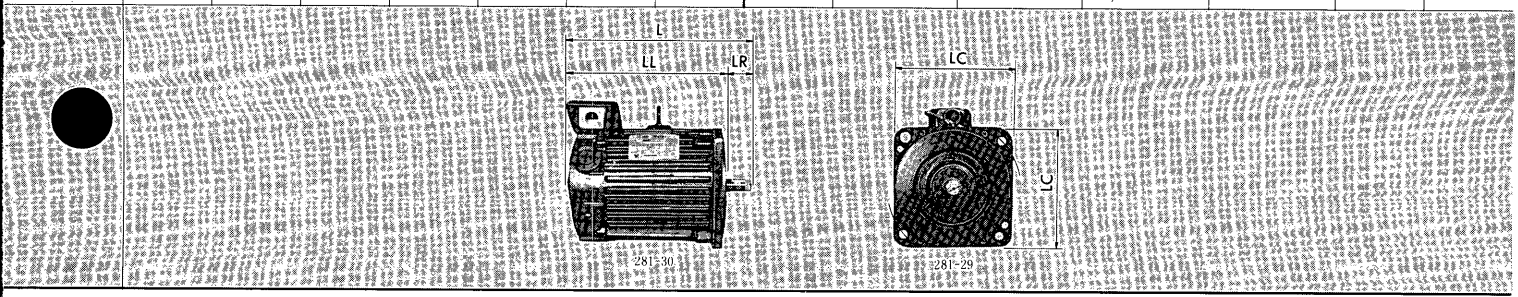
Coreless, hollow armature rotates around salient pole, permanent magnets. It provides high torques with medium inertia, and without cogging. Besides excellent commutation assures negligible brush wear. The result is maintenance free, superior servo drive operations. *Cup Motor* combined with a gear reducer is available.

Hi-Cup Motors™

This type is specifically designed for low running speeds direct servo drive yet retains all the advantages of the *Cup Motor.* Since it is possible to attach this motor directly to the load, no gear and no backlash errors attributed to gear reducer drive occur. And these motors are particularly well-suited for servo systems where size, weight, power and response times must be minimized.



UGCMED -04AA1	UGCMED -08AA1	UGCMED -15AA1	UGMED -22AA1	UGCMED -37AA1	UGCMED -55AA1	UGCMFD -75AA1	UGHMED -03GG1	UGHMED -06AA2 (-06GG1)	UGHMED -12AA2 (-12GG2)	UGHMED -20AA2 (-20GG2)	UGHMED -30AA2 (-30GG2)	UGHMED -44AA2	UGHMFD -60AA2
0.4	0.75	1.5	2.2	3.7	5.5	7.5	0.25	0.6(0.51)	1.2(1.2)	2(1.8)	3(2.88)	4.4	6.0
22.3	41.7	83.5	123	206	306	417	24	58.4(50)	117(117)	195(175)	292(280)	428	584
1750	1750	1750	1750	1750	1750	1750	1000	1000(1000)	1000(1000)	1000(1000)	1000(1000)	1000	1000
67	144	158	150	154	201	206	55	133(113)	143(143)	145(135)	150(160)	206	214
8.2	6.7	11.2	16.9	27.0	30.4	41.2	7.8	6.2(6.5)	10.6(10.6)	16.6(16.2)	23.3(21)	24.7	33.6
2.13	3.78	6.63	9.56	13.7	12.4	23.1	2.72	4.49(7.27)	9.81(9.81)	12.5(12.6)	16.6(20.6)	15.5	28.8
112	209	418	615	1030	918	918	120	292(250)	585(585)	975(875)	1606(1400)	1498	1498
40	33	55	84	133	91.2	91.2	38	30(32)	53(53)	82(80)	128(105)	86.5	86.5
22.4	44.2	101	152	298	723	723	20.3	73(33)	134(134)	292(234)	494(365)	1138	1138
1.3	3.06	1.34	0.7	0.34	0.36	0.36	2.0	4.0(3.7)	1.96(1.96)	1.0(1.0)	0.6(0.84)	0.72	0.72
34.4	31.2	22.1	18.3	15.8	23	23	37.5	29.7(19)	20(20)	19.6(18.5)	17.6(16.7)	25	25
0.61	0.85	1.42	1.86	2.35	3.0	3.0	0.5	1.65(1.05)	2.14(2.14)	3.8(3.0)	4.83(3.45)	6.1	6.1
12	18	26	35	53	95	109	12	21(15)	27(27)	38(35)	56(47)	99	113
250.5	273.5	316.5	385.5	480.5	631.5	820	254.5	295.5(295.5)	336.5(349.5)	405.5(419.5)	481.5(505.5)	614.5	803
175	198	241	288	383	512	512	179	208(220)	249(253)	308(323)	384(409)	487	487
185	215	215	235	265	300	300	145	215(145)	215(200)	235(200)	265(200)	300	300
162	190	190	210	240	280	280	132	190(132)	190(175)	210(180)	240(180)	280	280
58	58	58	80	80	102	102	58	70(58)	70(79)	80(79)	80(79)	110	110

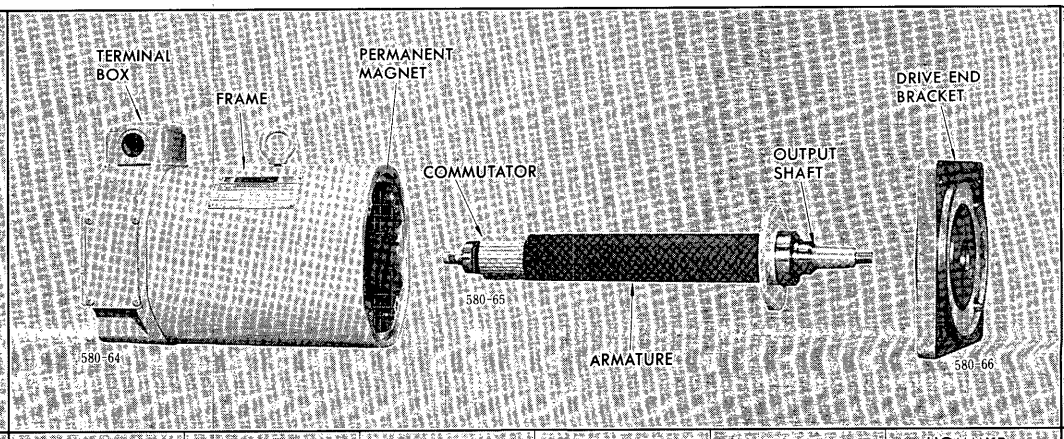


Slim and Solid Armature for Low Inertia, High Response

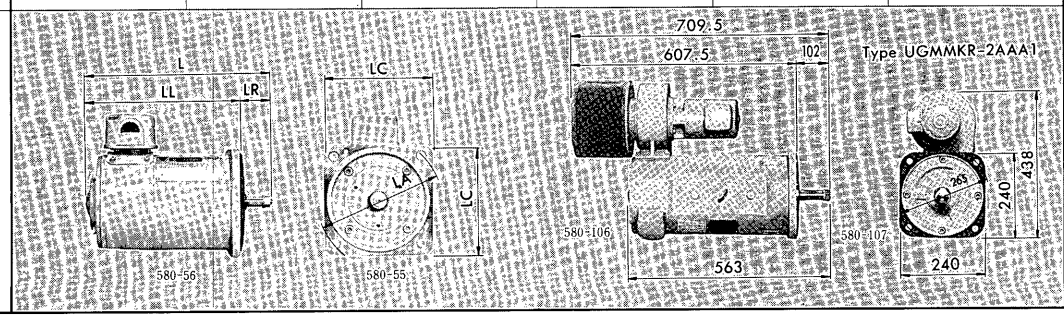
Minertia™ *Motor* Standard Series

Wire conductors are evenly wound on the slotless core and tightly bound with glass tapes and high mechanical- and heat-resistant epoxy resin, forming a smooth surface solid mass. The small diameter of slotless core helps reduce armature inertia and reactance approximately by 10% of conventional types with the same functions. This provides quick response and precise positioning as a servo drive motor for use in NC machine tools and heavy duty industrial drive mechanisms.

Construction



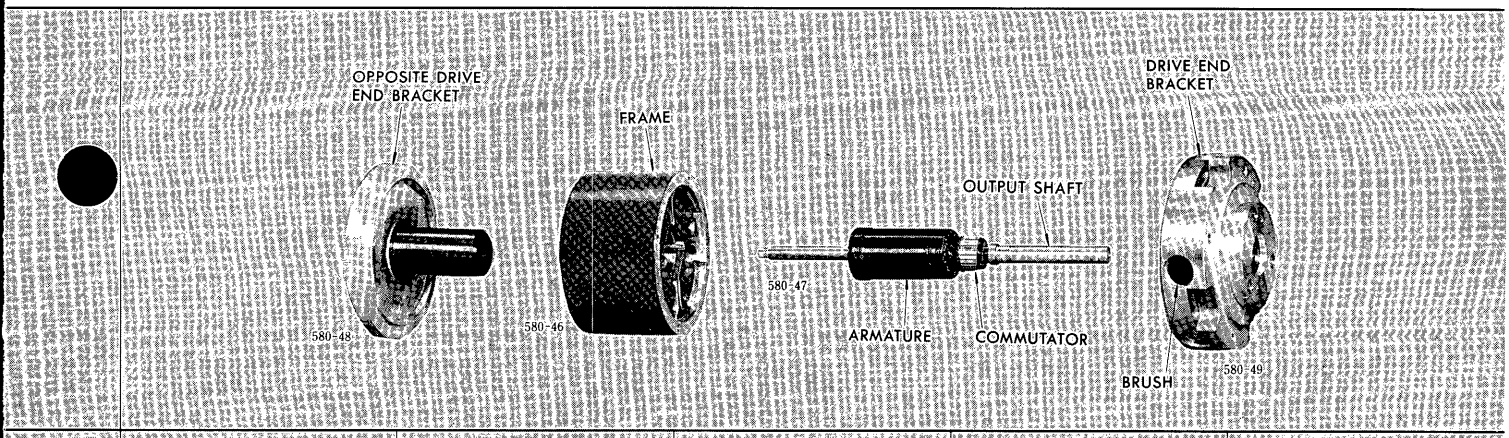
Type		UGMMEM -06AA1	UGMMEM -13AA1	UGMMEM -25AA1	UGMMEM -50AA1	UGMMEM -1AAA1	UGMMKR -2AAA1
Rated Output	W	185	401	771	1540	3080	6170
Rated Torque	kg·cm	6.0	13	25	50	100	200
Rated Speed	rpm	3000	3000	3000	3000	3000	3000
Rated Armature Voltage	V	40.5	68.5	70.9	146	139	128
Rated Armature Current	A	6.2	7.4	13.1	12.1	24.9	54.1
Power Rate	kW/s	6.1	11.5	21.2	26.1	38.1	73.1
Maximum Torque	kg·cm	60	130	250	500	800	2000
Maximum Armature Current	A	62	74	131	117	194	541
Armature Inertia	kg·cm²	0.567	1.41	2.83	9.00	25.2	52.5
Armature Resistance	Ω (20℃)	0.84	1.03	0.47	0.71	0.28	0.089
Mechanical Time Constant	ms	4.7	4.6	3.6	3.6	4.2	3.3
Electrical Time Constant	ms	1.1	1.5	1.3	3.7	6.3	3.4
Motor Weight	kg	8	14	25	49	73	90
Dimensions in mm	L	227	296	351	448	548	Refer to Figure below
	LL	183	238	293	378	468	
	LA	145	165	185	215	235	
	LC	130	145	162	200	200	
	LR	44	58	58	70	80	



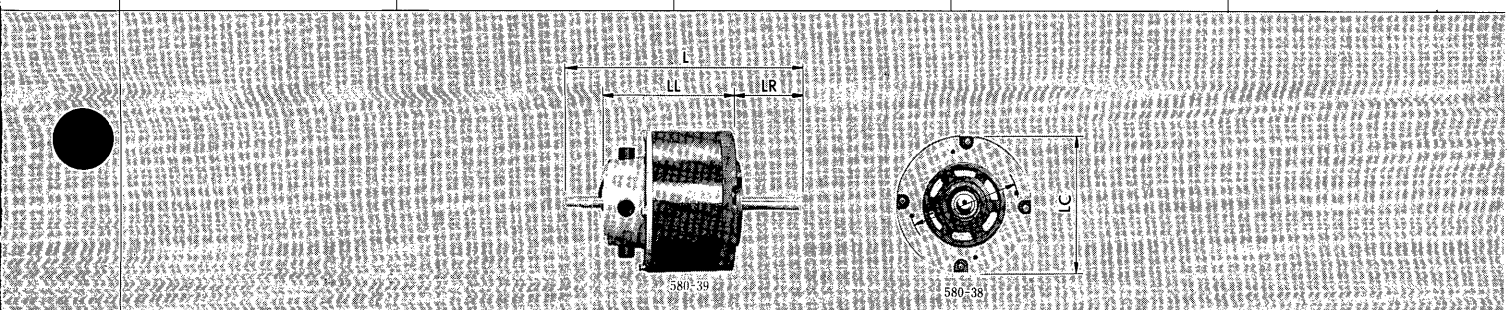
Ironless Cup-Armature with Customer-Oriented Design for Computer Peripherals

Minertia™ *Motor* Super Series

This custom-tailored Super Series provides the highest possible response speed in low inertial load applications thanks to the ironless cup-armature. No rotating iron makes it possible for lower armature inertia, lower armature inductance, lower electrical and mechanical time constants and high pulse-torque capability. And experienced mechanical design provides the highest torsional and lateral resonant frequency. Additional features include small size, lightweight, and small power consumption. Those features develop new applications such as IC bonding machines.



UGSMEM-02A	UGSMEM-02B	UGSMEM-03A	UGSMEM-12B	UGSMAM-22A
66	66	120	114	296
2.15	2.15	2.9	3.7	14.4
3000	3000	4000	3000	2000
20	40	26.7	27	39.5
5.4	2.8	6.7	6.2	11.1
11.1	11.1	24.5	28.8	25.9
15.8	15.8	17.3	29.0	62.0
38	19	38.1	45	46
0.04	0.042	0.033	0.0465	0.77
0.80	3.40	0.68	0.67	0.68
2.0	2.0	1.1	0.75	3.1
0.16	0.14	0.15	0.16	0.74
3.0	3.0	3.5	6.0	7.2
134	134	148	193	196.5
83	83	97.5	129	124.5
92.86	92.86	92.86	92.86	130
101.6	101.6	104	104	140
38	38	38	51	34.5

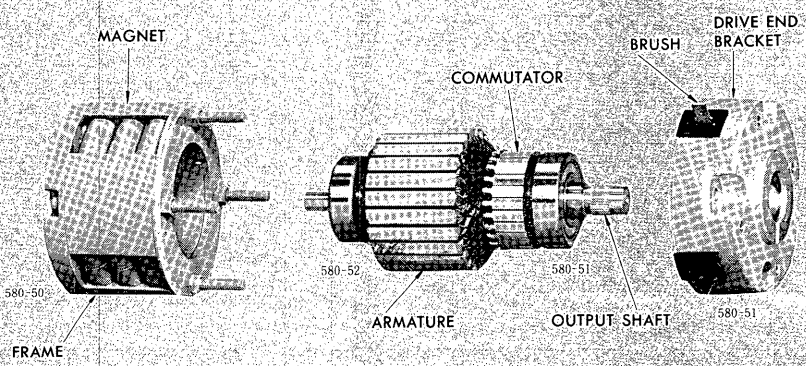


Special Armature Design, Fast Response and Low Cost

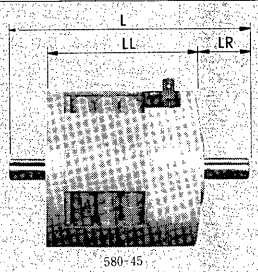
Minertia™ *Motor* Mini Series

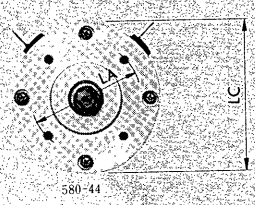
Creative design engineering and time-proven manufacturing technologies blended with accumulated knowledge on computer peripherals achieve lightweight, low cost, and high reliability in the Mini Series. Thermal time constants of ten minutes or more fully protect the motor from short term overloads. Nine standard models range from 38 to 85 millimeters in diameter, and their versatile functional ratings cover most application requirements.

Construction



Type		UGTMEM -01SB4	UGTMEM -01MB4	UGTMEM -01LB4	UGTMEM -03SB2	UGTMEM -03MB2	UGTMEM -03LB2	UGTMEM -06SB2	UGTMEM -06MB2	UGTMEM -06LB4
Rated Output	W	15.4	20.5	18.5	49.3	57	49.3	53.4	61.6	64.7
Rated Torque	kg·cm	0.5	0.8	0.9	2.4	3.7	4.8	4.0	6.0	9.0
Rated Speed	rpm	3000	2500	2000	2000	1500	1000	1300	1000	700
Rated Armature Voltage	V	20.3	24.2	22.7	24.4	17	21.2	19.8	21	22.1
Rated Armature Current	A	2.0	1.9	2.0	3.6	5.6	4.4	4.8	5.4	5.6
Power Rate	kW/s	1.5	2.8	2.9	2.4	3.9	5.9	1.6	3.3	4.4
Maximum Torque 1 sec	kg·cm	1.2	2.0	2.4	4.8	7.4	10	9.0	15	25
Maximum Armature Current	A	3.8	4.0	4.5	6.8	10.9	8.7	10.4	12.8	15
Armature Inertia	kg·cm²	0.0157	0.022	0.0265	0.235	0.333	0.372	0.95	1.049	1.764
Armature Resistance	Ω (20℃)	3.2	3.7	3.6	1.59	0.67	1.32	1.02	1.03	1.14
Mechanical Time Constant	ms	4.1	2.8	2.8	6.5	4.3	3.4	11.7	7.4	6.8
Electrical Time Constant	ms	0.3	0.2	0.2	0.8	1.0	0.9	1.9	1.7	2.7
Motor Weight	kg	0.22	0.28	0.36	1.10	1.30	1.50	1.60	1.70	2.50
Dimensions in mm	L	74.5	84	93.5	118	132	146	128	135	156
	LL	50.5	60	69.5	78	92	106	78	85	106
	LA	30	30	30	50	50	50	60	60	60
	LC	38	38	38	68	68	68	85	85	85
	LR	16	16	16	25	25	25	30	30	30





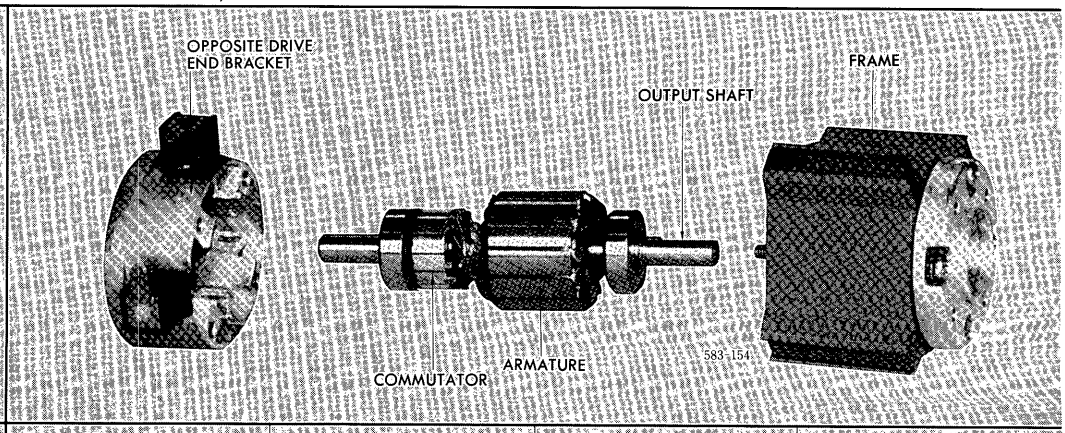
Miniaturization for Computer Peripherals Drive

Minertia™ *Motor* J Mini Series

This miniaturized J Mini Series servomotor consists primarily of powerful ferrite magnets, slotted core type armature and core laminated frame.

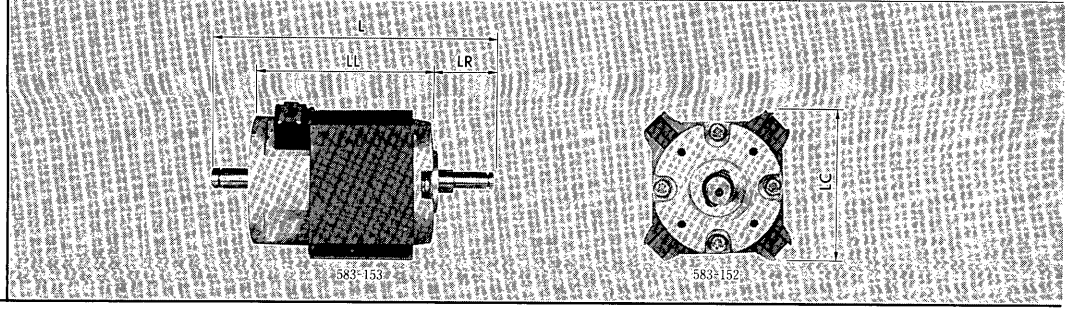
This is widely used for driving carriages of low and middle speed printers, computer peripherals, general-purpose apparatuses. When a detector is mounted on a Minertia Motor J Mini series, the motor can be manufactured compactly since tachometer generator, or optical encoder, or feedback unit is mounted opposite the drive end of the motor.

Construction



Type		UGJMEE-02TB2	UGJMEE-02SB2	UGJMEE-02EB2	UGJMEE-02MB2
Rated Output	W	7.4	17.8	23.6	29.6
Rated Torque	kg•cm	0.72	1.73	2.3	2.88
Rated Speed	rpm	1000	1000	1000	1000
Rated Armature Voltage	V	11	18	23	28.3
Rated Armature Current	A	3.0	2.9	2.7	2.5
Power Rate	kW/s	0.62	1.9	2.32	2.76
Maximum Torque 1 sec	kg•cm	3.0	7.0	10.3	13.8
Maximum Armature Current	A	10	10	10	10
Armature Inertia	kg•cm^2	0.0805	0.151	0.219	0.288
Armature Resistance	Ω (20°C)	1.86	2.66	3.47	4.27
Mechanical Time Constant	ms	16	8.1	7.1	6.4
Electrical Time Constant	ms	0.55	0.9	1.1	1.2
Motor Weight	kg	0.65	0.85	1.05	1.30
	L	101.6	114.3	127.0	139.7
	LL	60	72.5	85	98
	LA	38.9	38.9	38.9	38.9
	LC	57.2	57.2	57.2	57.2
	LR	25.4	25.4	25.4	25.4

Dimensions in mm



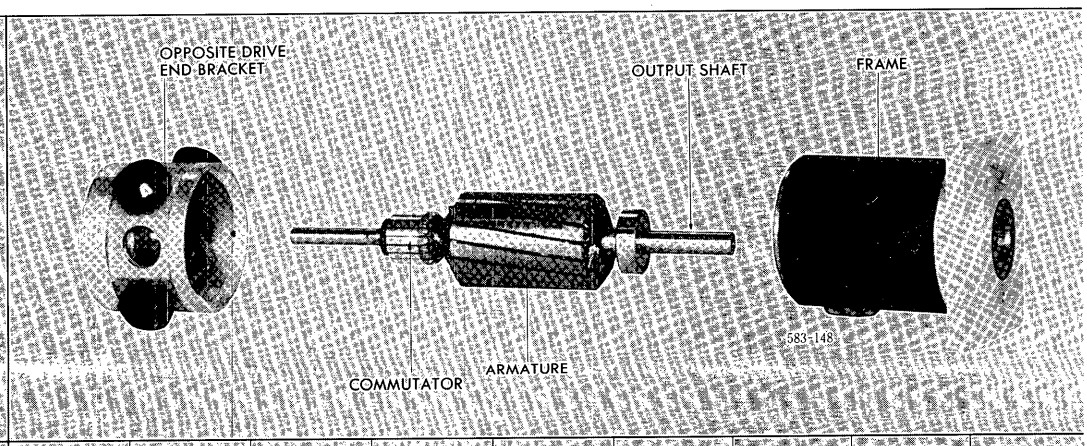
Small Size, Light Weight, Yet Excellent Torque/Weight and Torque/Volume Ratios

Minertia™ *Motor* RM Series

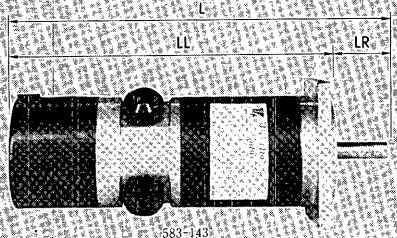
RM series is a new line introduced for integration into robots as an articulate power drive, or as a drive for insertion machines, IC bonders, or high-precision XY tables.

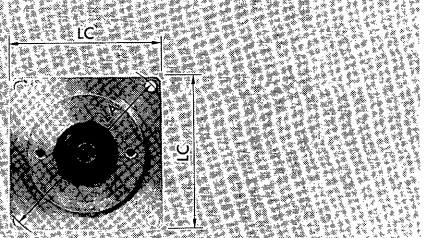
The rare earth magnet, used in the formation of the magnetic field, is the key feature of ideal performance characteristics for servo drive applications in the RM series: small size, light weight, yet excellent torque/weight and torque/volume ratios. Yaskawa's RM series motor employs a slotted core armature, is designed for 3000 rpm rated speed, and it can be easily combined with harmonic gear.

Construction



Type		UGRMEM -01SAK	UGRMEM -02SA2	UGRMEM -02MA2	UGRMEM -04SA2	UGRMEM -04MA2	UGRMEM -08SA2	UGRMEM -08MB2	UGRMEM -40SA	UGRMEM -40MA
Rated Output	W	30	60	100	120	200	300	500	800	1300
Rated Torque	kg·cm	0.97	1.95	3.25	3.9	6.5	9.74	16.2	31.2	57.6
Rated Speed	rpm	3000	3000	3000	3000	3000	3000	3000	3000	3000
Rated Armature Voltage	V	25	25	32	32	42	49.6	79.5	104	119
Rated Armature Current	A	2.1	3.9	4.5	5.3	6.2	7.5	7.3	8.9	12.1
Power Rate	kW/s	1.96	2.33	3.63	1.52	2.42	1.79	3.02	3.61	7.22
Maximum Torque 1 sec	kg·cm	5.4	11.2	18.4	22.5	37.1	45	72	85.5	154
Maximum Armature Current	A	10	19.5	22.5	26.5	31	37.5	36.5	27.6	36.3
Armature Inertia	kg·cm^2	0.046	0.157	0.28	0.96	1.68	5.1	8.33	25.9	44.1
Armature Resistance	Ω (20°C)	2.7	1.1	0.92	0.58	0.4	0.4	0.48	0.56	0.33
Mechanical Time Constant	ms	4.4	5.3	3.9	7.9	4.8	10	7.5	11	6.1
Electrical Time Constant	ms	0.44	0.82	0.98	1.2	1.5	3.0	4.2	7.1	9.4
Motor Weight	kg	0.4	0.8	1.1	1.4	2.2	4.0	5.0	9.2	12.0
Dimensions in mm	L	114	138	166	143	169	204	228	283	318
	LL	98	108	136	113	139	179	198	238	273
	LA	32	80	80	90	90	130	130	145	145
	LC	38	65	65	80	80	120	120	130	130
	LR	16	30	30	30	30	30	30	45	45



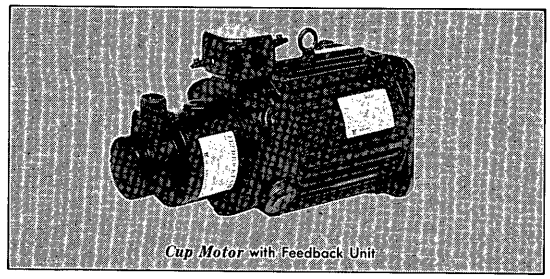


Tachometer generator or encoder is furnished as standard.

Optimum Drive from Modifications and Exclusive-Use Controllers

■ SERVOMOTORS WITH TACHOMETERS

Yaskawa servomotors form an ideal combination with a DC tachometer for speed control, or an optical encoder for position control, or both, in one enclosure. They provide a full range of compact, accurate servo motion controls for general-use adjustable speed to high precision servomotor drives. Shown in the table below are combination examples.


Cup Motor with Feedback Unit

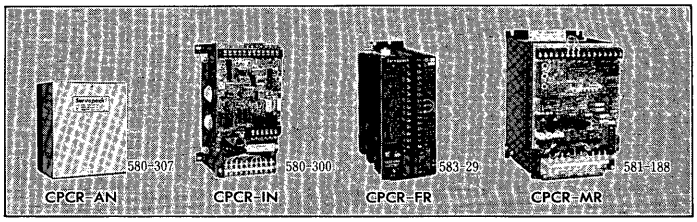
○: Possible —: Not possible

Servomotors \ Attachments	Detectors			Magnetic Brake
	DC Tachometer Generator	Optical Encoder	Feedback Unit	
Print Motor Junior Series	—	—	—	—
Print Motor Standard Series	○	○	○	○
Print Motor Standard Series with Reduction Gear	○	○	○	○
Print Motor Super Series	—	—	—	—
Duplex Servomotor	—	—	—	—
Minertia Motor J Series	○	○	○	—
Cup Motor	○	○	○	○
Hi-Cup Motor	○	○	○	—
Minertia Motor Standard Series	○	○	○	—
Minertia Motor Super Series	○	○	Contact the Company.	—
Minertia Motor Mini Series	○	○	Contact the Company.	—
Minertia Motor J Mini Series	○	○	—	—
Minertia Motor RM Series	○	○	○	○

Notes : • For machine tool applications, oil seal can be provided around the shaft to keep out oil.
• Feedback unit is composed of a tachometer generator and an optical encoder.

■ SERVOMOTOR CONTROLLERS *Servopack*™

Servopack is exclusively designed for the control of Yaskawa servomotors to obtain maximum performance. The series incorporates four standard series to meet servomotor ratings, and it establishes a complete integrated motion control system. Servopacks are available in open or in enclosed types.



○: Possible —: Not possible

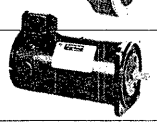
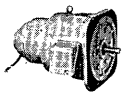
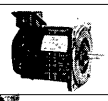
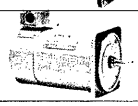
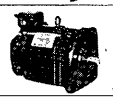
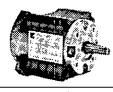
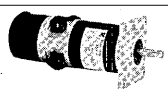
Items \ Servopack		Standard Series	Super Series		
		Non-reversing Type CPCR-AN (Thyristor Bridge Circuit)	PWM Non-reversing Type CPCR-IN(Transistor Bridge Circuit)	PWM Reversing Type CPCR-FR(FET Bridge Circuit)	PWM Reversing Type CPCR-MR(Transistor Bridge Circuit)
Specifications	Servomotor Output kW	0.05 to 3.7	0.05 to 5.5	0.05 to 0.5	0.05 to 7.5
	Derating Factor %	40 or 60	95 and over	95 and over	95 and over
	Speed Range	30 : 1	1000 : 1	1000 : 1	1000 : 1
	Speed Regulation (Load 0 to 100% Fluctuation) %	4	0.5	0.1	0.1
Servomotors	Print Motor Junior Series	—	—	—	—
	Print Motor Standard Series	○	○	○	○
	Print Motor Standard Series with Reduction Gear	○	○	○	○
	Print Motor Super Series	—	—	—	—
	Duplex Servomotor	○	—	—	—
	Minertia Motor J Series	—	○	—	○
	Cup Motor	○	○	—	○
	Hi-Cup Motor	—	○	—	○
	Minertia Motor Standard Series	—	—	—	○
	Minertia Motor Super Series	—	—	○	—
	Minertia Motor Mini Series	—	—	○	—
	Minertia Motor J Mini Series	—	—	—	—
	Minertia Motor RM Series	—	—	○	—
Bulletin for Servopack		TSE-C717-2	TSE-C717-9	TSE-C717-11	TSE-C717-12

Notes : • For controllers of servomotors with outputs exceeding 3.7 kW, contact the company.
• Controllers for Minertia Motor Super Series and Print Motor Super Series are also available. Contact the company for details.

EXCELLENT PERFORMANCE, HIGH RELIABILITY, COMPACT SIZE

DC Servomotors

Line-Up of Yaskawa DC Servomotors

Applications	Servomotors	Characteristics: Rated Output kW (0 0.05 0.1 0.5 1 2 3 4 5 6 7.8)	Rated Torque kg·cm	Rated Speed rpm
Computer Peripherals	 Minertia Motor Mini Series		0.5 to 9.0	3000 to 700
	 Minertia Motor Super Series		2.15 to 27.3	2000
	 Print Motor Super Series		Contact the Company.	
Machine Tools and General-Purpose	 Minertia Motor J Series		9.7 to 255	1000
	 Print Motor Standard Series		1.22 to 32.5	2500 to 4000
	 Print Motor Standard Series With Reduction Gear		10.4 to 276	60 to 400
	 Low Speed Duplex Servomotors		48.5 to 149	88 to 297
	High Speed Duplex Servomotors		70 to 250	1500/1800 (50/60Hz)
	 Hi-Cup Motors		58.4 to 428 24 to 280	1000
	 Minertia Motor Standard Series		6.0 to 200	3000
	 Cup Motors		22.3 to 417	1750
General-Purpose	 Print Motor Junior Series		0.35 to 12.2	1800 to 4000
	 Minertia Motor J Mini Series		0.72 to 2.88	1000
	 Minertia Motor RM Series		0.97 to 57.6	3000

A Better Tomorrow for Industry through Automation

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