



**YASKAWA  
ELECTRIC**

CHE-C254-1

NON-FERROUS-CORE TYPE DC SERVOMOTORS

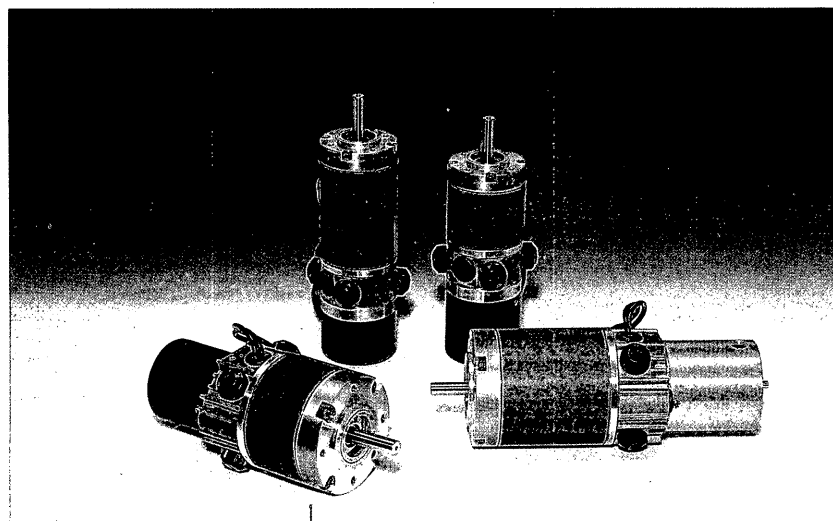
# *Minertia<sup>®</sup> Motor*

## **QM SERIES**

Type UGQMEM-□□□□

Yaskawa Minertia Motor QM series is a high performance non-ferrous-core type DC servomotor based on years of experience and technic.

This motor features low ripple, high servo performance (high power rate, quick response), and exhibits its power for rapid feed in extra-precision instruments.



589-139

## **FEATURES**

- Non-ferrous-core armature structure
- High power rate, optimum for rapid positioning
- Quick response and accurate positioning
- Very low ripple and no cogging
- Small size and light weight through the use of rare earth magnets (Sm and Co)
- Available with analog clamps and servo drive system



984-26

The Deming Application Prize Medal Awarded to Yaskawa in 1984 for Exceptional Achievement in Industrial Performance



# APPLICATIONS

Semiconductor Equipment : IC Bonders, Steppers

Extra-Precision Instrument : Three Dimensional Measuring Instruments,  
Mirror Processing Machines

OA Terminal Equipment : High-Speed Auto-Drafting Machines

Service Tape Equipment : Service VTRs, Tape Dubbing Machines

# RATINGS AND SPECIFICATIONS

Time Rating : Continuous

Insulation Class : Type F

Insulation-Proof Pressure : 500VAC/min

Protection Method : Totally-Enclosed Self-Cooled (Type EE)

Ambient Temperature : -10 to +40°C

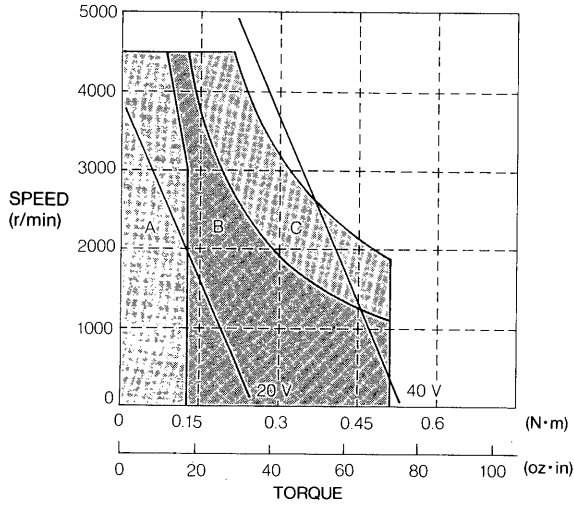
Specifications	Motor Type	UGQMEM-				
		02SA	02MA	04SA	04MA	06MA
Rated Output	W	40	75	75	130	220
Rated Torque	N·m	0.127	0.238	0.238	0.412	0.71
	oz·in	18	33.8	33.8	58.3	100
Peak Torque	N·m	0.51	0.95	0.95	1.65	2.82
	oz·in	72	135	135	233	400
Rated Speed	r/min	3000	3000	3000	3000	3000
Maximum Speed	r/min	4500	4500	4500	4500	4500
Rated Armature Voltage	V	25	22	38	32	46
Rated Armature Current	A	3.4	5.7	3.9	6.4	6.9
Rated Power Rate	kW/s	2.63	6.98	5.46	11.8	34.8
Rotor Moment of Inertia	kg·m <sup>2</sup> ×10 <sup>-4</sup>	0.062	0.081	0.104	0.143	0.143
	oz·in·s <sup>2</sup> ×10 <sup>-3</sup>	0.875	1.15	1.47	2.03	2.03

## ORDERING INFORMATION

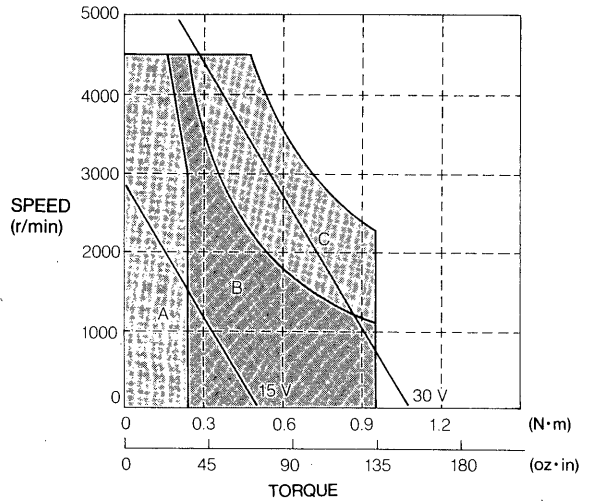
- Application
- Type
- Ratings: output, voltage, current, torque, speed
- Environmental conditions: ambient temperature, location
- Others to be specified

# MOTOR PERFORMANCE INFORMATION

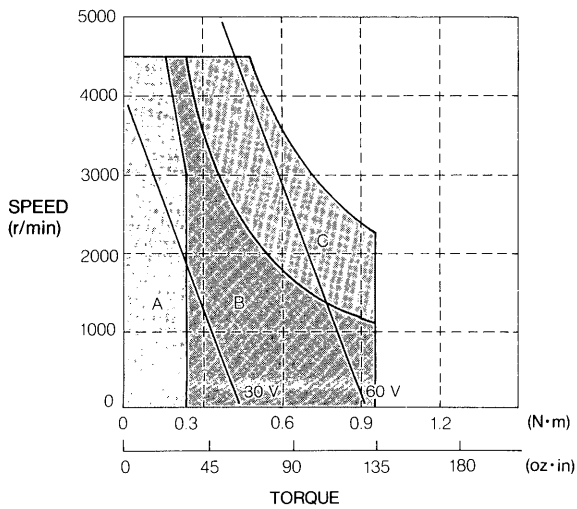
UGQMEM-02SA



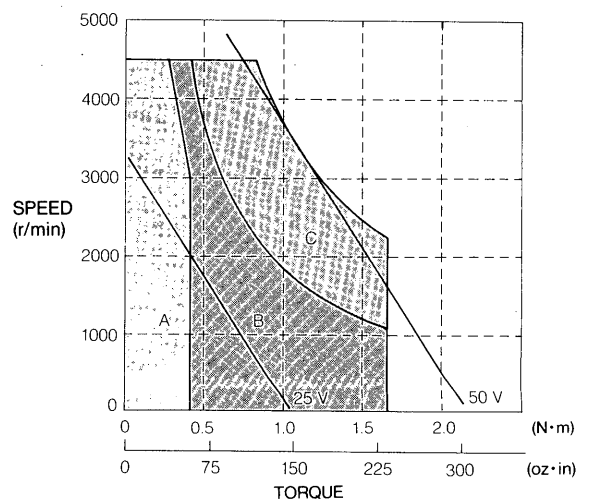
UGQMEM-02MA



UGQMEM-04SA



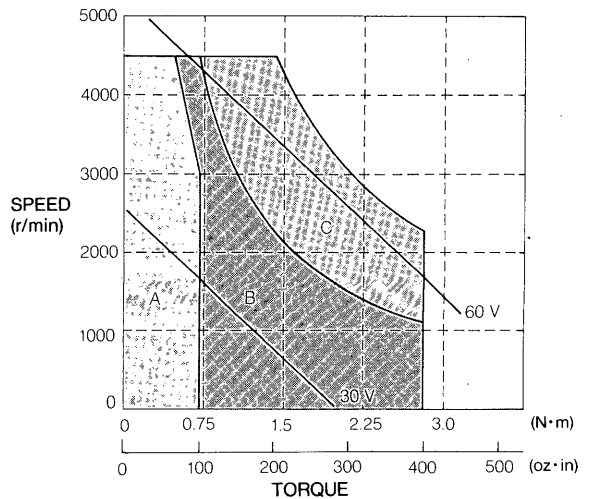
UGQMEM-04MA



- A** : Continuous Duty Zone
- B** : Intermittent Duty Zone
- C** : Accel-decel Duty Zone

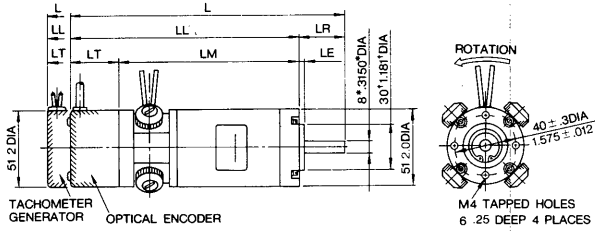
Typical at 125°C  
(armature winding temp.)

UGQMEM-06MA

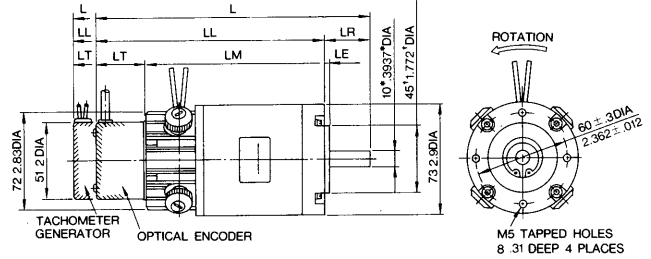


# DIMENSIONS in mm inch

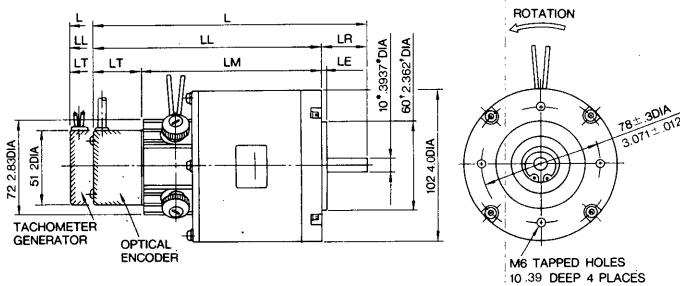
## UGQMEM-02



## UGQMEM-04



## UGQMEM-06



Type UGQMEM-	Option	LE	LM	LR	L	LL	LT	Allowable Tolerance		Weight kg lb	Allowable Radial Load	Allowable Thrust Load
								*	†			
02SAK0E	PG	3 0.12	90 3.54	30 1.18	152 5.98	122 4.80	32 1.26	-0.005	0	0.9 2.0	59N(6kgf 13.2lb)	39N(4kgf 8.8lb)
02SAK03	TG	3 0.12	90 3.54	30 1.18	167 6.57	137 5.39	47 1.85	-0.014	-0.021			
02MAK0E	PG	3 0.12	118 4.65	30 1.18	180 7.09	150 5.91	32 1.26	-0.0002	0	1.3 2.9	59N(6kgf 13.2lb)	39N(4kgf 8.8lb)
02MAK03	TG	3 0.12	118 4.65	30 1.18	195 7.68	165 6.50	47 1.85	-0.0006	-0.0008			
04SAK0E	PG	3 0.12	90 3.54	30 1.18	152 5.98	122 4.80	32 1.26	-0.0005	0	1.6 3.5	108N(11kgf 24.2lb)	39N(4kgf 8.8lb)
04SAK03	TG	3 0.12	90 3.54	30 1.18	167 6.57	137 5.39	47 1.85	-0.014	-0.025			
04MAK0E	PG	3 0.12	118 4.65	30 1.18	180 7.09	150 5.91	32 1.26	-0.0002	0	2.6 5.7	108N(11kgf 24.2lb)	39N(4kgf 8.8lb)
04MAK03	TG	3 0.12	118 4.65	30 1.18	195 7.68	165 6.50	47 1.85	-0.0006	-0.0010			
06MAK0E	PG	3 0.12	118 4.65	30 1.18	180 5.98	150 4.80	32 1.26	0.0005	0	4.1 9.0	108N(11kgf 24.2lb)	39N(4kgf 8.8lb)
06MAK03	TG	3 0.12	118 4.65	30 1.18	195 6.57	165 5.39	47 1.85	-0.014	-0.030			
								-0.0002	-0.0012			
								0.0006				

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Due to ongoing product modification/improvement, data subject to change without notice.