MQMA Series
Low Inertia - Flat Type

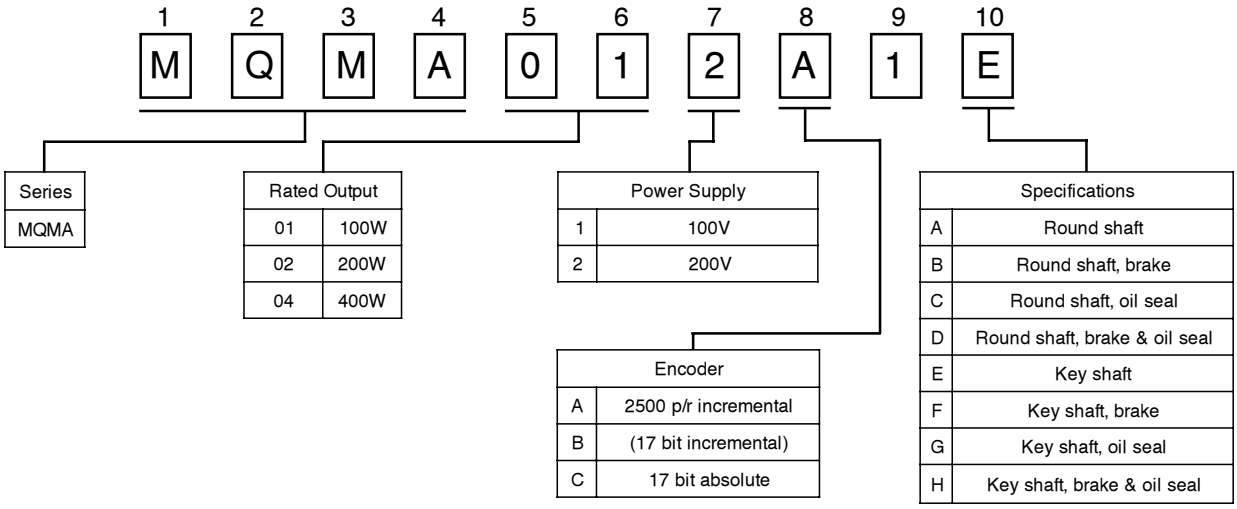
Outline

Output Range
100W, 200W, 400W

Low Inertia - Flat Type
Rated Speed: 3000rpm
Maximum Speed: 5000rpm (4500rpm for 400W/100V)
Torque: From 8.41 to 33.83 lb at peak

Applicable Amplifier
Use with MQDA Driver

Explanation of Part Numbers



Series
MQMA

Rated Output	
01	100W
02	200W
04	400W

Power Supply	
1	100V
2	200V

Encoder	
A	2500 p/r incremental
B	(17 bit incremental)
C	17 bit absolute

Specifications	
A	Round shaft
B	Round shaft, brake
C	Round shaft, oil seal
D	Round shaft, brake & oil seal
E	Key shaft
F	Key shaft, brake
G	Key shaft, oil seal
H	Key shaft, brake & oil seal

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Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MQMA Series
(Low Inertia)

Basic Specifications

Note: Separate power source required for brake (DC24V)

Rated Output		W	100V 100W	100V 200W	100V 400W	200V 100W	200V 200W	200V 400W
Torque	Rated	N. m	0.32	0.64	1.30	0.32	0.64	1.30
		lb-in.	2.83	5.67	11.51	2.83	5.67	11.51
	Peak	N. m	0.95	1.91	3.82	0.95	1.91	3.82
		lb-in.	8.41	16.92	33.83	8.41	16.92	33.83
Rotor Inertia	Without Brake	x10kg.$^{-4}$m^2	0.09	0.34	0.64	0.09	0.34	0.64
		lb. in^2	0.031	0.116	0.219	0.031	0.116	0.219
	With Brake	x10kg.$^{-4}$m^2	0.12	0.42	0.72	0.12	0.42	0.72
		lb. in^2	0.041	0.144	0.246	0.041	0.144	0.246
Velocity	Rated	r/min.	3000					
	Peak	r/min.	5000		4500	5000		
Approximate Mass	Without Brake	kg	0.65	1.30	1.80	0.65	1.30	1.80
		lb	1.43	2.87	3.97	1.43	2.87	3.97
	With Brake	kg	0.90	2.00	2.50	0.90	2.00	2.50
		lb	1.98	4.41	5.51	1.98	4.41	5.51
Current	Rated Peak	A(rms)	1.6	2.5	4.4	1.0	1.6	2.5
		A(0-P)	6.9	10.5	18.6	4.3	6.8	10.5
Power Rate	Without Brake	kW/s	11.4	12.0	26.4	11.4	11.8	25.5
	With Brake	kW/s	8.5	9.8	23.5	8.5	9.6	22.7
Brake (Option)	Voltage	V	DC 24 ± 2.4					
	Current	DC, A	0.29	0.41		0.29	0.41	
	Static Friction Torque	N. m	0.29 or higher	1.27 or higher		0.29 or higher	1.27 or higher	
		lb-in	2.57 or higher	11.24 or higher		2.57 or higher	11.24 or higher	

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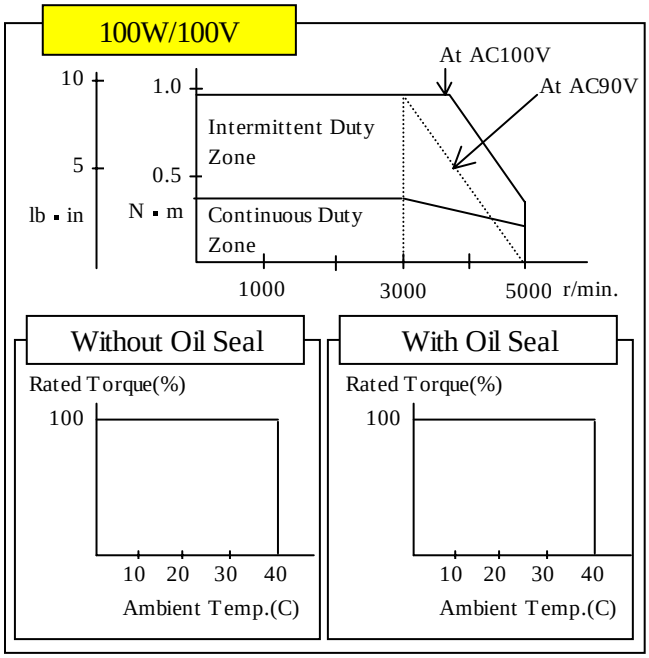
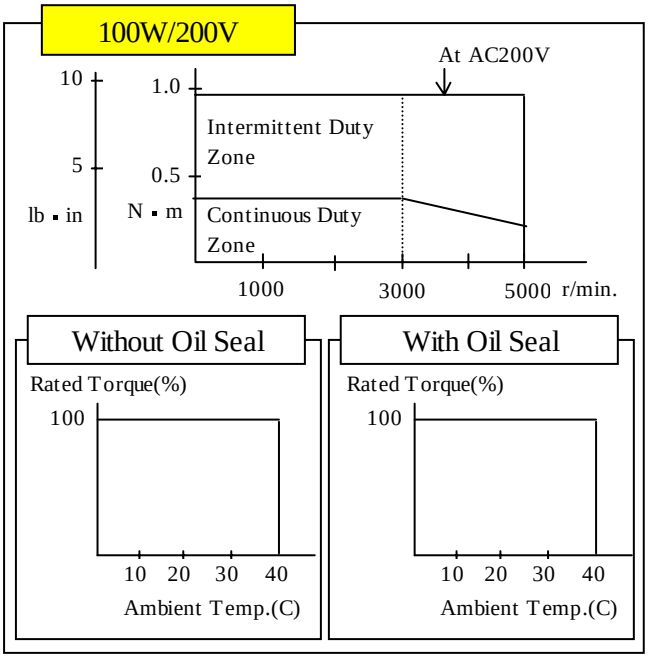
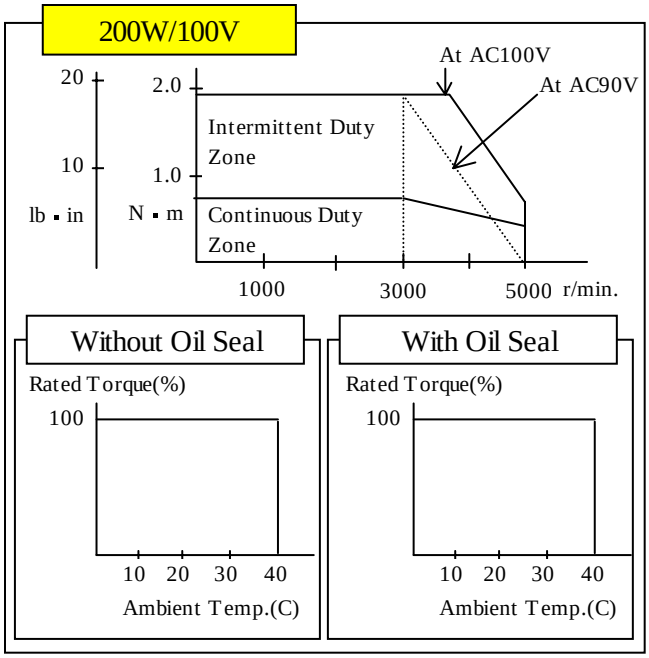
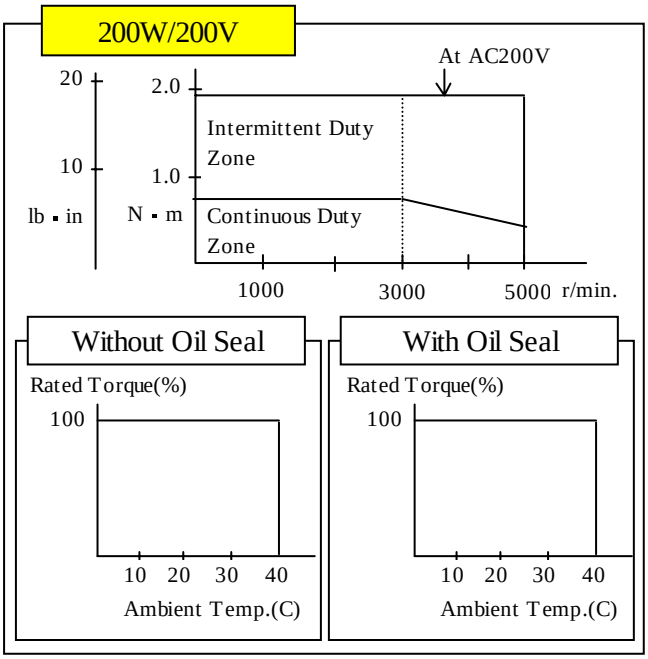
S-T Characteristics









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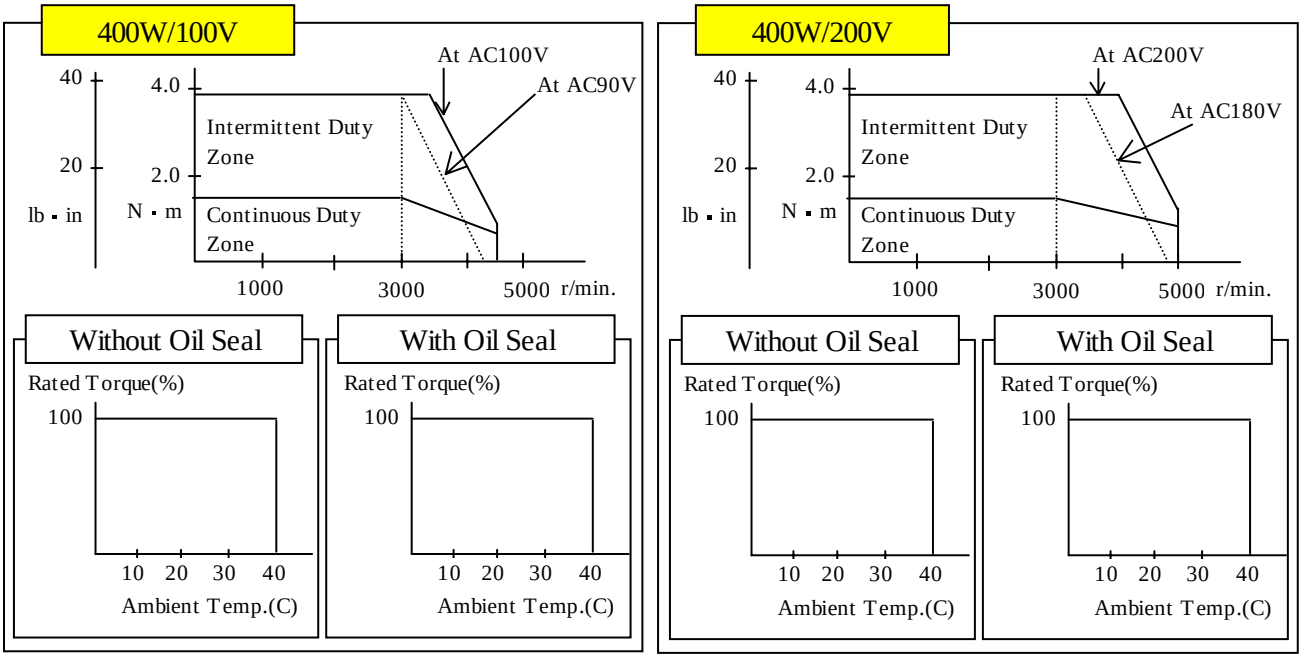

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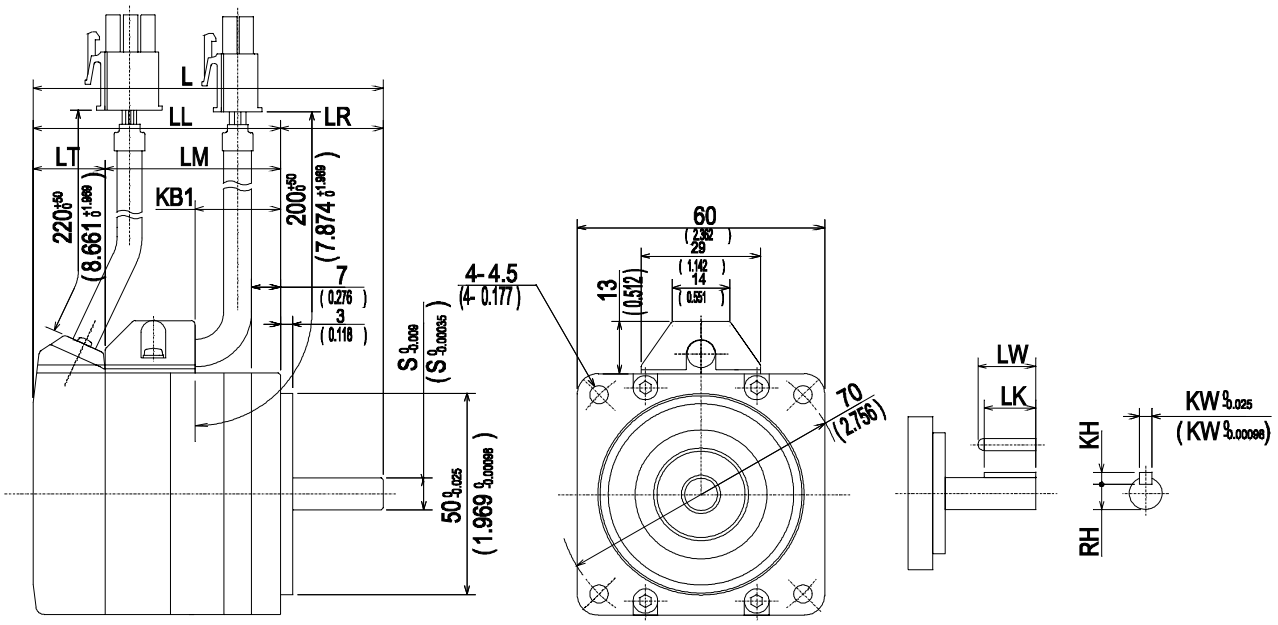
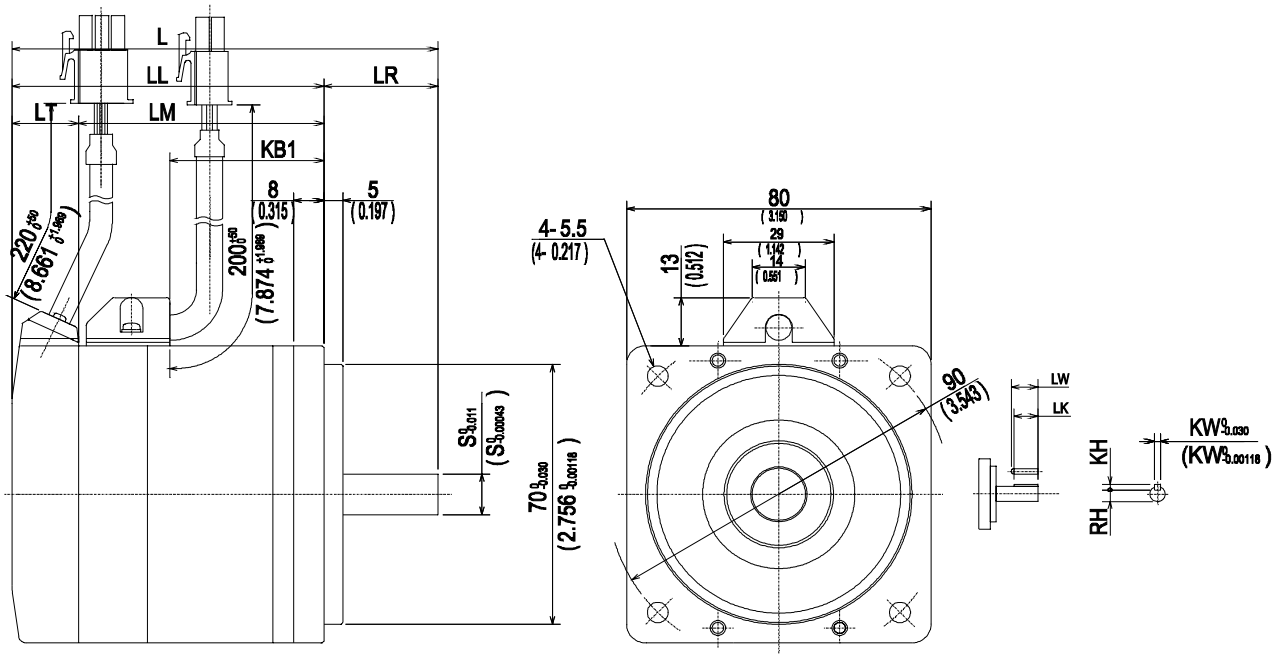
Dimensions

100W



200, 400W



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Dimensions

Unit: mm

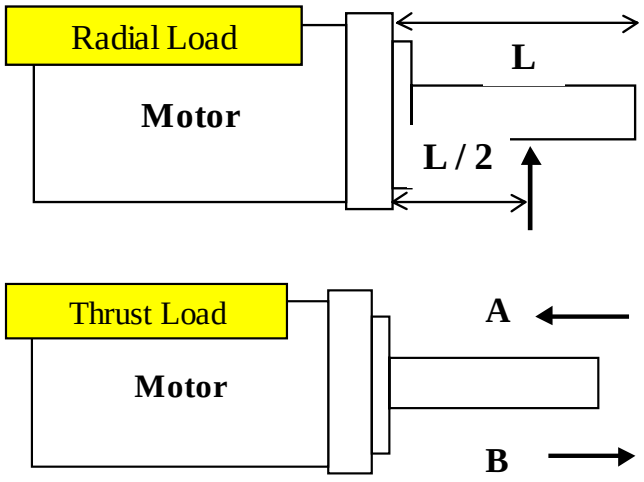
Output	Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
100	Without	85	60	42.5	21	50.5	8	25	14	12.5	3	3	6.2
	With	109	84	66.5	21	74							
200	Without	97	67	49.5	25.5	57.5	11	30	20	18	4	4	8.5
	With	129.5	99.5	82	25.5	89.5							
400	Without	112	82	64.5	40.5	72.5	14	30	25	22.5	5	5	11
	With	144.5	114.5	97	40.5	104.5							

Unit: in.

Output	Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
100	Without	3.346	2.362	1.673	0.827	1.988	0.315	0.984	0.551	0.492	0.118	0.118	0.244
	With	4.291	3.307	2.618	0.827	2.913							
200	Without	3.819	2.638	1.949	1.004	2.264	0.433	1.181	0.787	0.709	0.157	0.157	0.335
	With	5.098	3.917	3.228	1.004	3.524							
400	Without	4.409	3.228	2.539	1.594	2.854	0.551	1.181	0.984	0.886	0.197	0.197	0.433
	With	5.689	4.508	3.819	1.594	4.114							

Note: Same overall length for both incremental and absolute

Thrust and Radial Load



Output (W)	Upon setting a motor to your system			Upon running a motor	
	Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
100	147.0 N	88.0 N	117.6 N	68.6 N	58.0 N
	33.0 lb	19.8 lb	26.4 lb	15.4 lb	13.0 lb
200, 400	392.0 N	147.0 N	196.0 N	245.0 N	98.0 N
	88.0 lb	33.0 lb	44.0 lb	55.0 lb	22.0 lb

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Connectors (30-750W)

Motor

Plug	172167-1 (AMP)
Pin	170360-1
Female Plug	172159-1 (AMP)
Female Pin	170362-1 or 170366-1

Pin	Wire Color	Signal
1	Red	U
2	White	V
3	Black	W
4	Green/Yellow	E

Brake

Plug	172165-1 (AMP)
Pin	170360-1
Female Plug	172157-1 (AMP)
Female Pin	170362-1 or 170366-1

Pin	Wire Color	Signal
1	Yellow	Brake
2	Yellow	Brake

Encoder - 2500p/r Incremental

Plug	172171-1 (AMP)
Pin	170359-1
Female Plug	172163-1 (AMP)
Female Pin	170361-1 or 170365-1

Pin	Wire Color	Signal
1	Red	A
2	Pink	$\overline{A}$
3	Yellow - Green	B
4	Blue	$\overline{B}$
5	Yellow	Z
6	Orange	$\overline{Z}$
7	-	No connection
8	-	No connection

Pin	Wire Color	Signal
9	-	No connection
10	-	No connection
11	Sky Blue	Rx
12	Violet	$\overline{Rx}$
13	White	+5V
14	Black	0V
15	Shield	FG-Frame ground

Encoder - 17 bit Absolute

Plug	172169-1 (AMP)
Pin	170359-1
Female Plug	172161-1 (AMP)
Female Pin	170361-1 or 170365-1

Pin	Wire Color	Signal
1	Red	No. 2 battery
2	Pink	Battery ground
3	Yellow - Green	FG- Frame ground
4	Sky Blue	SD
5	Violet	$\overline{SD}$

Pin	Wire Color	Signal
6	-	No connection
7	White	+5V
8	Black	0V
9	-	No connection

Note: Pin assignment is for 17 bit absolute encoder.
Connection of pin 1 and 2 not required for 17 bit incremental

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