

MDMA Series - Middle Inertia

Outline

Output Range

0.75kW, 1.0kW, 1.5kW, 2.0kW, 2.5kW, 3.0kW, 3.5kW, 4.0kW, 4.5kW, 5.0kW

Middle Inertia Type

Rated Speed: 2000rpm

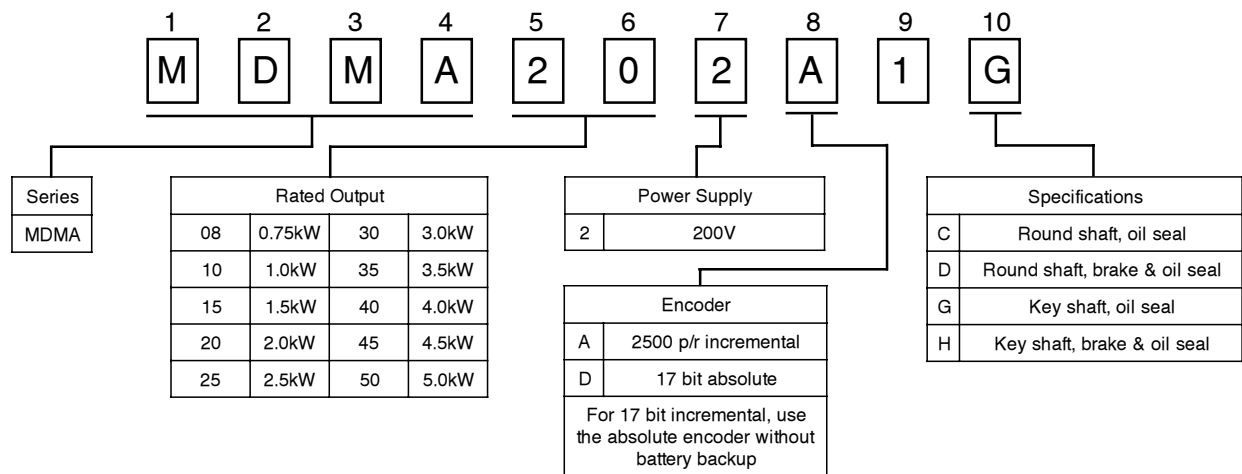
Maximum Speed: 3000rpm

Torque: From 94.77 to 632.37lb at peak

Applicable Amplifier

Use with MDDA Driver

Explanation of Part Numbers



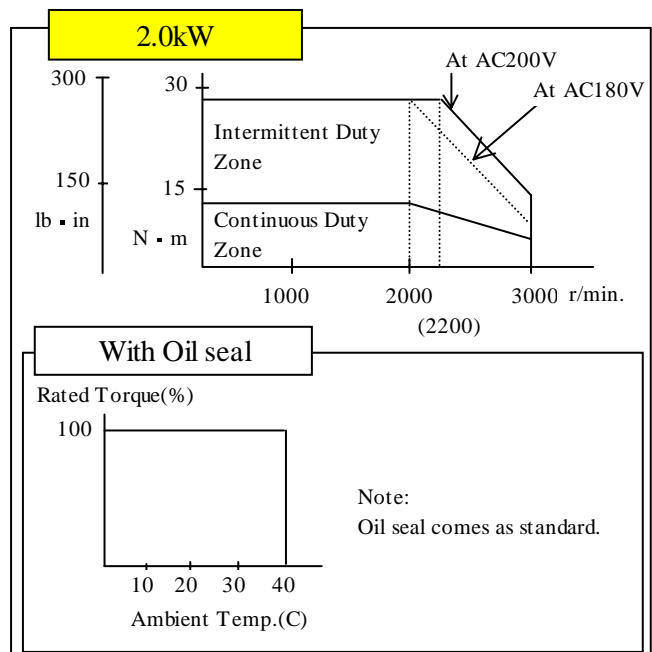
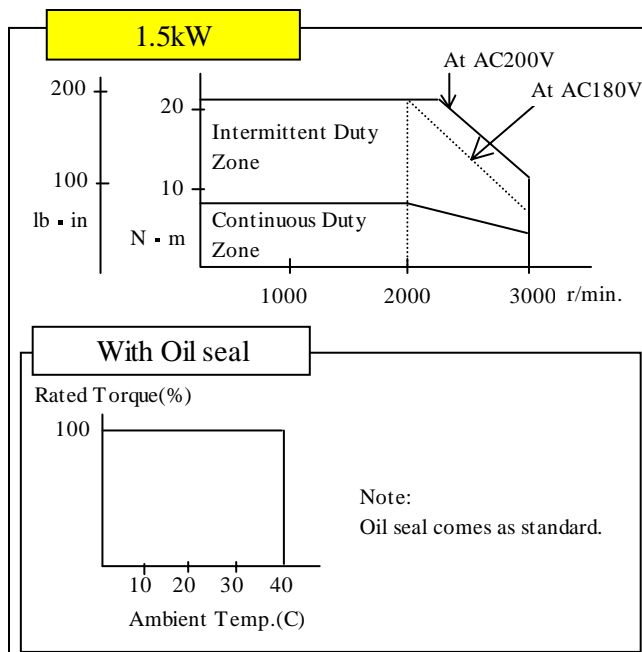
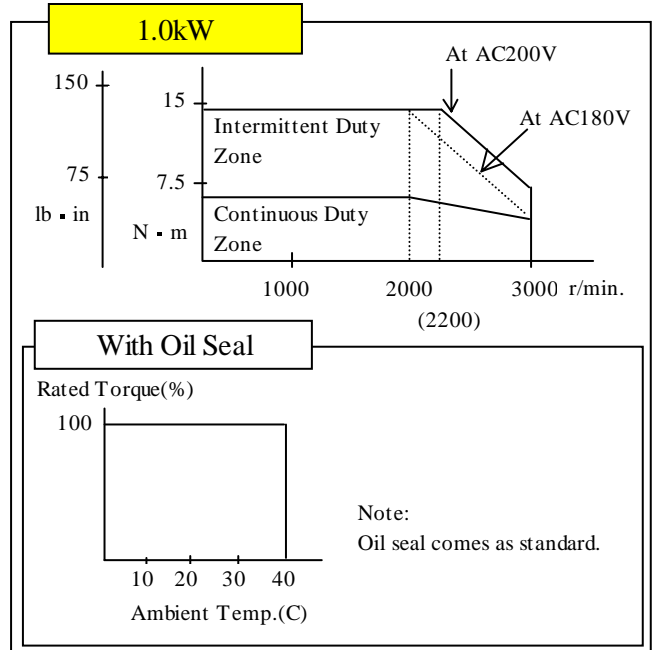
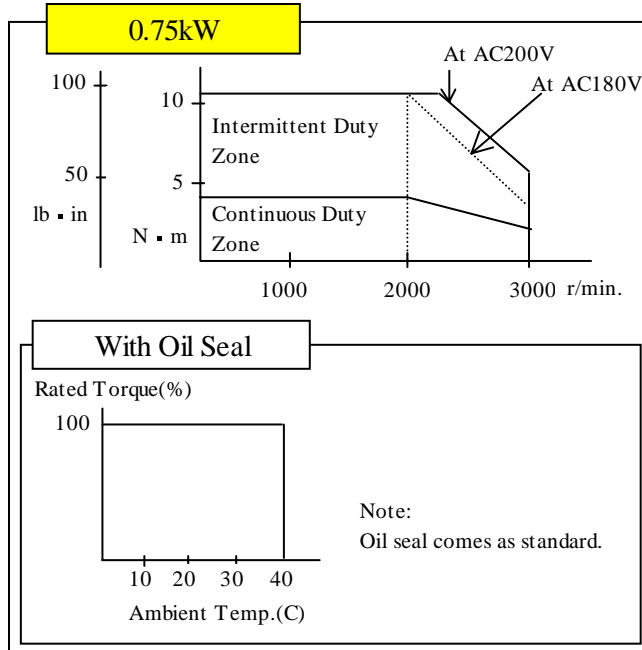
Basic Specifications

Note: Separate power source required for brake (DC24V)

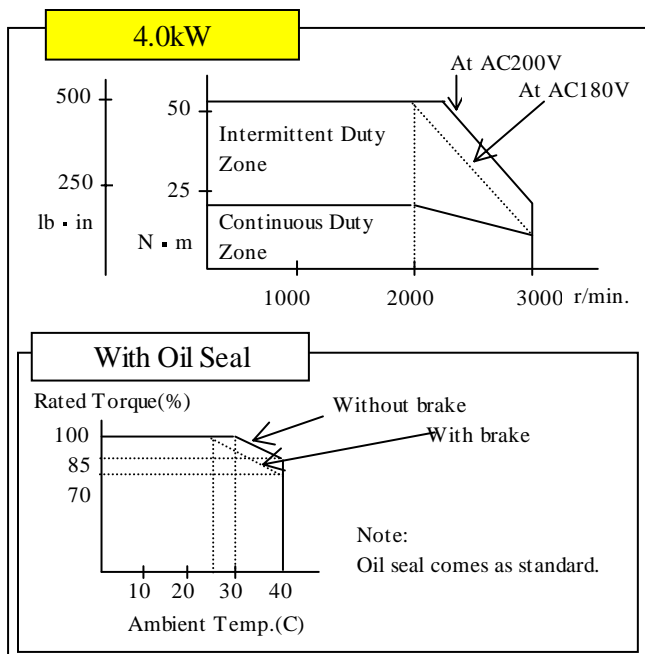
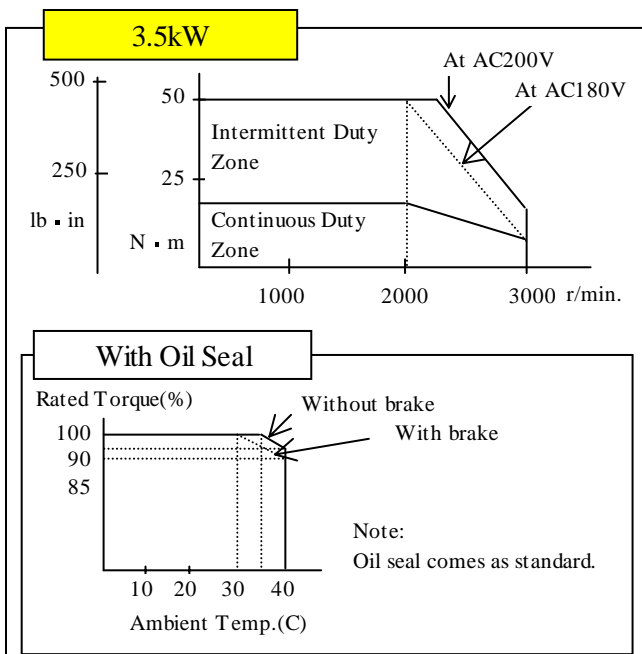
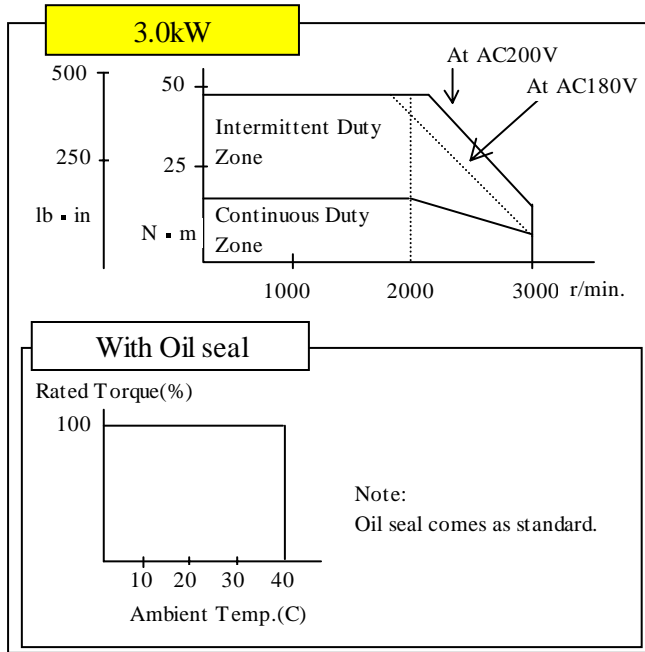
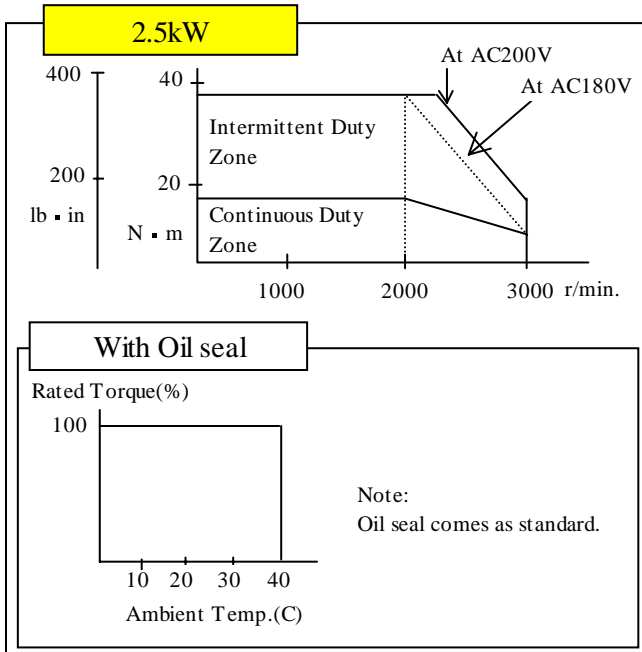
Rated Output		kW	0.75	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
Torque	Rated	N. m	3.57	4.80	7.15	9.54	11.80	14.30	16.6	18.8	21.4	23.8
		lb-in.	31.62	42.51	63.33	84.49	104.51	126.65	147.02	166.51	189.53	210.79
	Peak	N. m	10.70	14.40	21.50	28.50	35.5	42.90	50.0	56.4	64.3	71.4
		lb-in.	94.77	127.54	190.42	252.42	314.41	379.95	442.84	499.52	569.49	632.37
Rotor Inertia	Without Brake	x10kg· ⁴ m ²	2.82	6.17	11.20	15.20	19.2	22.30	35.90	42.50	50.60	60.70
		lb. in ²	0.964	2.108	3.827	5.194	6.561	7.620	12.267	14.522	17.290	20.741
	With Brake	x10kg· ⁴ m ²	3.13	6.79	12.30	16.70	21.10	24.60	40.20	46.80	55.60	66.70
		lb. in ²	1.070	2.320	4.203	5.706	7.210	8.406	13.736	15.992	18.999	22.791
Velocity	Rated	r/min.	2000									
	Peak	r/min.	3000									
Approximate Mass	Without Brake	kg	4.8	6.8	8.5	10.6	12.8	14.6	16.2	18.8	21.5	25.0
		lb	10.58	14.99	18.74	23.37	28.22	32.19	35.71	41.45	47.40	55.12
	With Brake	kg	6.5	8.7	10.1	12.5	14.7	16.5	18.7	21.3	25.0	28.5
		lb	14.33	19.18	22.27	27.56	32.41	36.38	41.23	46.96	55.12	62.83
Current	Rated	A(rms)	5.0	5.6	9.4	12.3	14.0	17.8	18.7	23.4	26.2	28.0
	Peak	A(0-P)	21	24	40	52	60	76	80	100	111	120
Power Rate	Without Brake	kW/s	45.1	37.3	45.8	60.0	73.2	91.6	76.0	83.2	91.1	93.5
	With Brake	kW/s	40.7	34.0	41.4	54.7	66.7	83.2	68.0	75.6	82.9	85.0
Brake (Option)	Voltage	V	DC 24 ± 2.4									
	Current	DC, A	0.81 ±10%	0.59 ±10%	0.79 ±10%		0.90 ±10%		1.10 ±10%		1.30 ±10%	
	Static Friction Torque	N. m	7.84 or higher	4.9 or higher	13.7 or higher		16.1 or higher		21.5 or higher		24.5 or higher	
		lb-in	43.40 or higher	69.08 or higher	121.34 or higher		142.59 or higher		190.42 or higher		216.99 or higher	

Design and specifications are subject to change without notice. Ask Panasonic for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please contact Panasonic immediately for technical consultation.

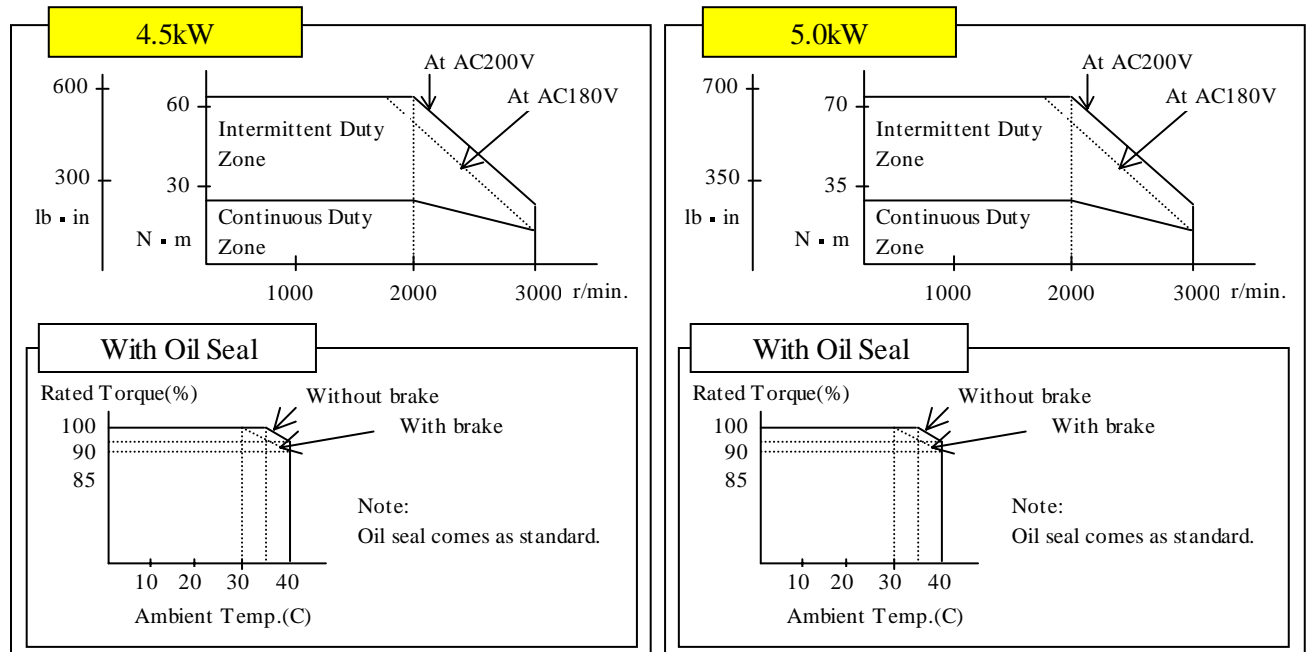
S-T Characteristics



S-T Characteristics

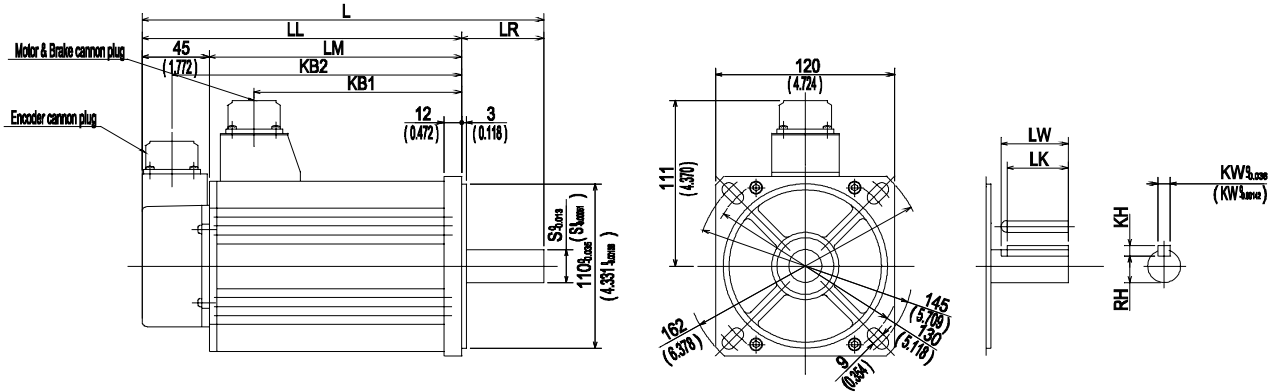


S-T Characteristics

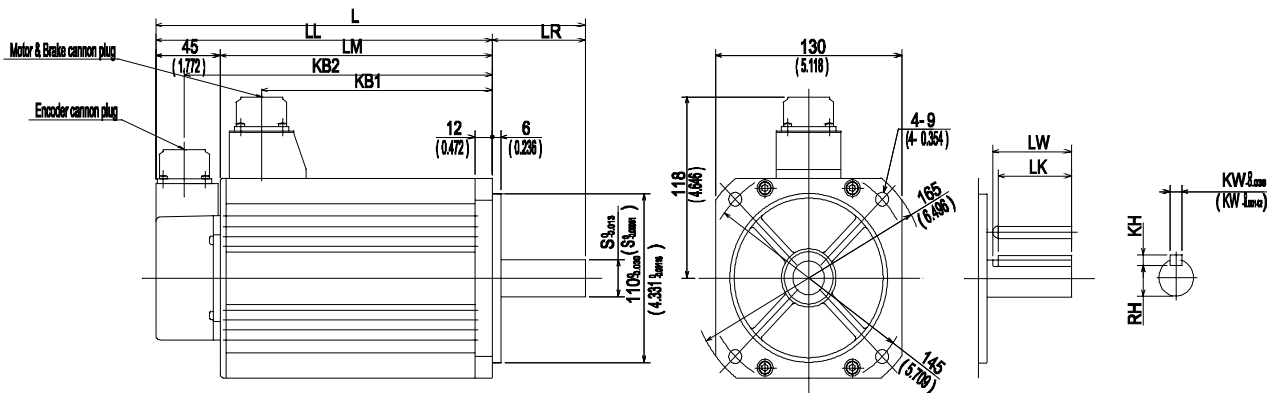


Dimensions

0.75 kW



1.0, 1.5, 2.0, 2.5, 3.0 kW



Dimensions

Unit: mm

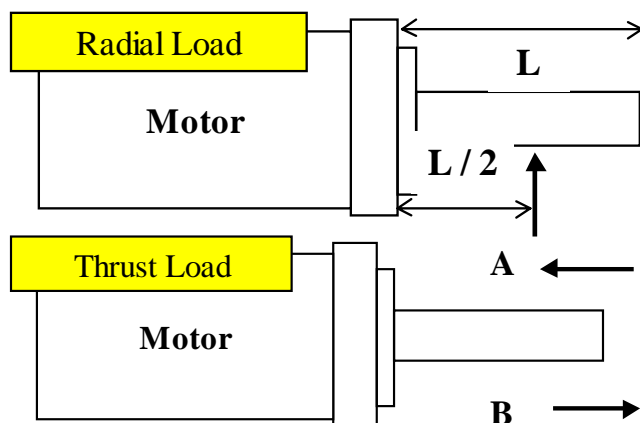
Output	Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
0.75	Without	199	144	99	70	124	19	55	45	42	6	6	15.5
	With	224	169	124	95	149							
1.0	Without	205	150	105	75	130	22	55	45	41	8	7	18
	With	230	175	130	100	155							
1.5	Without	230	175	130	100	155	22	55	45	41	8	7	18
	With	255	200	155	125	180							
2.0	Without	255	200	155	125	180	22	55	45	41	8	7	18
	With	280	225	180	150	205							
2.5	Without	290	225	180	150	205	24	65	55	51	8	7	20
	With	315	250	205	175	230							
3.0	Without	315	250	205	175	230	24	65	55	51	8	7	20
	With	340	275	230	200	255							

Unit: in.

Output	Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
0.75	Without	7.835	5.669	3.898	2.756	4.882	0.748	2.165	1.772	1.654	0.236	0.236	0.610
	With	8.819	6.654	4.882	3.740	5.866							
1.0	Without	8.071	5.906	4.134	2.953	5.118	0.866	2.165	1.772	1.614	0.315	0.276	0.709
	With	9.055	6.890	5.118	3.937	6.102							
1.5	Without	9.055	6.890	5.118	3.937	6.102	0.866	2.165	1.772	1.614	0.315	0.276	0.709
	With	10.039	7.874	6.102	4.921	7.087							
2.0	Without	10.039	7.874	6.102	4.921	7.087	0.866	2.165	1.772	1.614	0.315	0.276	0.709
	With	11.024	8.858	7.087	5.906	8.071							
2.5	Without	11.417	8.858	7.087	5.906	8.071	0.945	2.559	2.165	2.008	0.315	0.276	0.787
	With	12.402	9.843	8.071	6.890	9.055							
3.0	Without	12.402	9.843	8.071	6.890	9.055	0.945	2.559	2.165	2.008	0.315	0.276	0.787
	With	13.386	10.827	9.055	7.874	10.039							

Thrust and Radial Load

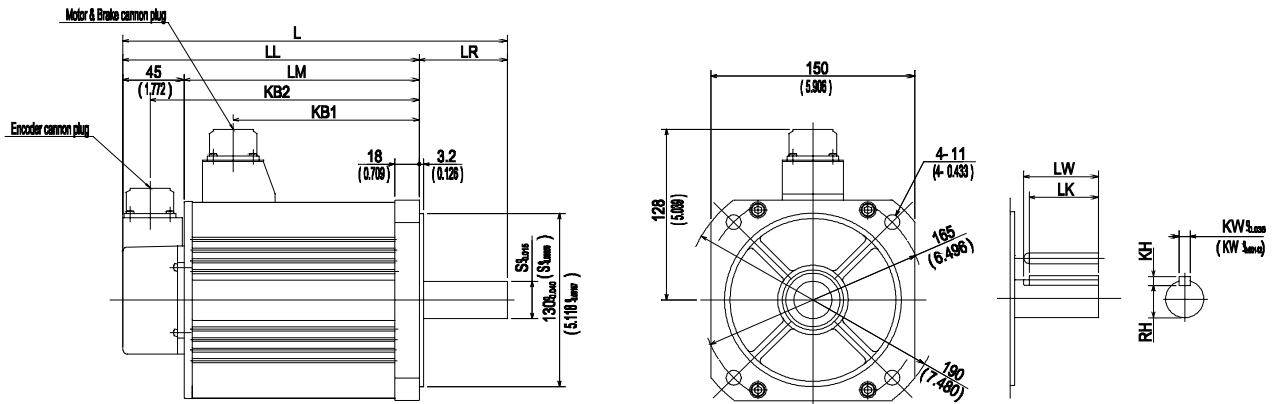
Note: Same overall length for both incremental and absolute



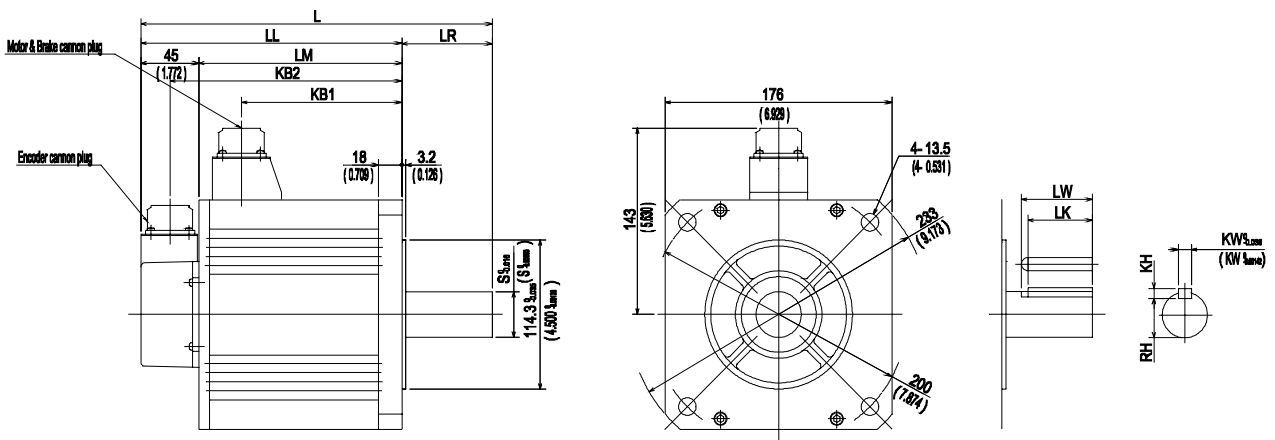
Output (kW)	Upon setting a motor to your system			Upon running a motor	
	Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
0.75	686 N	392 N	490 N	392 N	147 N
	154 lb	88 lb	110 lb	88 lb	33 lb
1.0, 1.5, 2.0	980 N	588 N	686 N	490 N	196 N
	220 lb	132 lb	154 lb	110 lb	44 lb
2.5, 3.0	980 N	588 N	686 N	784 N	343 N
	220 lb	132 lb	154 lb	176 lb	77 lb

Dimensions

3.5, 4.0 kW



4.5, 5.0 kW



Dimensions

Unit: mm

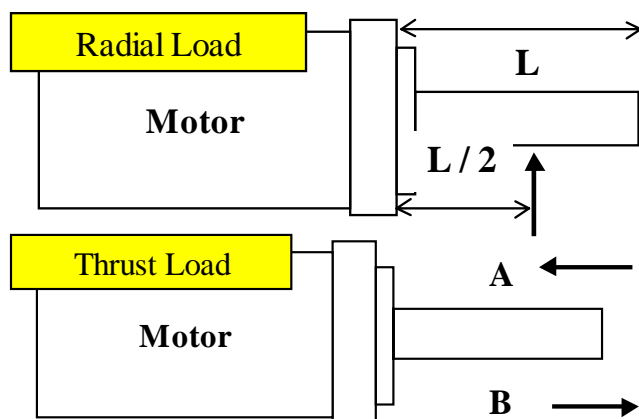
Output	Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
3.5	Without	284	219	174	143	199	28	65	55	51	8	7	24
	With	309	244	199	168	224							
4.0	Without	304	239	194	163	219	28	65	55	51	8	7	24
	With	329	264	219	188	244							
4.5	Without	272	202	157	125	182	35	70	55	50	10	8	30
	With	297	227	182	150	207							
5.0	Without	292	222	177	145	202	35	70	55	50	10	8	30
	With	317	247	202	170	227							

Unit: in.

Output	Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
3.5	Without	11.181	8.622	6.850	5.630	7.835	1.102	2.559	2.165	2.008	0.315	0.276	0.945
	With	12.165	9.606	7.835	6.614	8.819							
4.0	Without	11.968	9.409	7.638	6.417	8.622	1.102	2.559	2.165	2.008	0.315	0.276	0.945
	With	12.953	10.394	8.622	7.402	9.606							
4.5	Without	10.709	7.953	6.181	4.921	7.165	1.378	2.756	2.165	1.969	0.394	0.315	1.181
	With	11.693	8.937	7.165	5.906	8.150							
5.0	Without	11.496	8.740	6.968	5.709	7.953	1.378	2.756	2.165	1.969	0.394	0.315	1.181
	With	12.480	9.724	7.953	6.693	8.937							

Note: Same overall length for both incremental and absolute

Thrust and Radial Load



Output (kW)	Upon setting a motor to your system			Upon running a motor	
	Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
3.5, 4.0,	1666 N	784 N	980 N	784 N	343 N
4.5, 5.0	374 lb	176 lb	220 lb	176 lb	77 lb

Connectors

Motor (Without Brake)

0.75-2.5kW	Plug	JL04V-2E20-4PE-B
	Female Plug - Straight	JL04V-6A20-4SE-EB
	Female Plug - L angle	JL04V-8A20-4SE-EB
	Cable clamp	JL04-2022CK(14)
3.0-5.0kW	Plug	JL04HV-2E22-22PE-B
	Female Plug - Straight	JL04V-6A22-22SE-EB
	Female Plug - L angle	JL04V-8A22-22SE-EB
	Cable clamp	JL04-2022CK(14)

Pin	Signal
A	U
B	V
C	W
D	E

Motor (With Brake)

0.75-2.5kW	Plug	JL04V-2E20-18PE-B
	Female Plug - Straight	JL04V-6A20-18SE-EB
	Female Plug - L angle	JL04V-8A20-18SE-EB
	Cable clamp	JL04-2022CK(14)
3.0-5.0kW	Plug	JL04HV-2E24-11PE-B
	Female Plug - Straight	JL04V-6A24-11SE-EB
	Female Plug - L angle	JL04V-8A24-11SE-EB
	Cable clamp	JL04-2428CK(17)

Pin	Signal
G	Brake
H	Brake
A	No Connection
F	U
I	V

Pin	Signal
B	W
E	FG-Frame Ground
D	FG-Frame Ground
C	No connection

Pin	Signal
A	Brake
B	Brake
C	No Connection
D	U
E	V

Pin	Signal
F	W
G	FG-Frame Ground
H	FG-Frame Ground
I	No connection

Encoder - 2500p/r Incremental

0.75-5.0kW	Plug	MS3102A 20-29P
	Female Plug - Straight	JA06A-20-29S-J1-EB
	Female Plug - L angle	JA08A-20-29S-J1-EB
	Cable clamp	JL04-2022CK(14)

Pin	Signal
A	A
B	\overline{A}
C	B
D	\overline{B}
E	Z
F	\overline{Z}
G	Power ground
H	+5V
J	FG-Frame ground

Pin	Signal
K	No connection
L	No connection
M	No connection
N	No connection
P	RX
R	\overline{RX}
S	No connection
T	No connection

Encoder - 17 bit

0.75-5.0kW	Plug	MS3102A 20-29P
	Female Plug - Straight	JA06A-20-29S-J1-EB
	Female Plug - L angle	JA08A-20-29S-J1-EB
	Cable clamp	JL04-2022CK(14)

Pin	Signal
A	No connection
B	No connection
C	No connection
D	No connection
E	No connection
F	No connection
G	0V
H	+5V
J	FG-Frame ground

Pin	Signal
K	SD
L	\overline{SD}
M	No connection
N	No connection
P	No connection
R	No connection
S	Battery ground
T	No. 2 battery

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