

# MSMA Series Low Inertia

Motor Output Range

30W, 50W, 100W, 200W, 400W, 750W, 1.0kW,  
1.5kW, 2.0kW, 2.5kW, 3.0kW, 3.5kW, 4.0kW, 4.5kW, 5.0kW

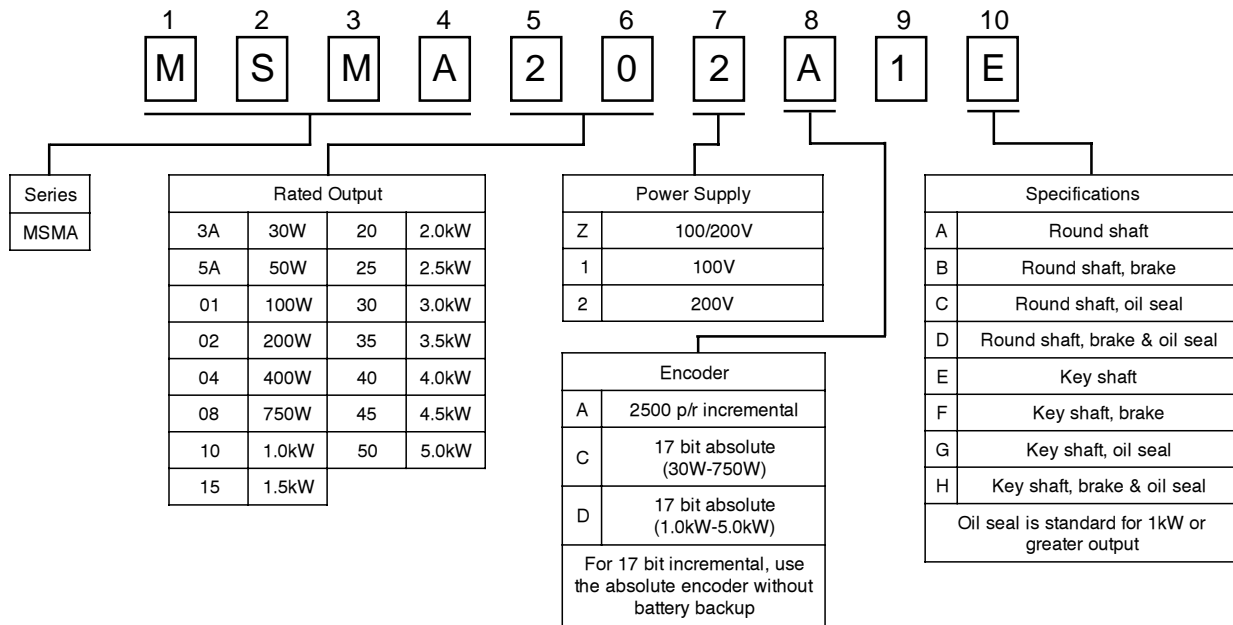
Low Inertia Type

Rated Speed: 3000rpm  
Maximum Speed: 4500/5000rpm  
Torque: From 2.48 to 421.58 lb-in at peak

Applicable Amplifier

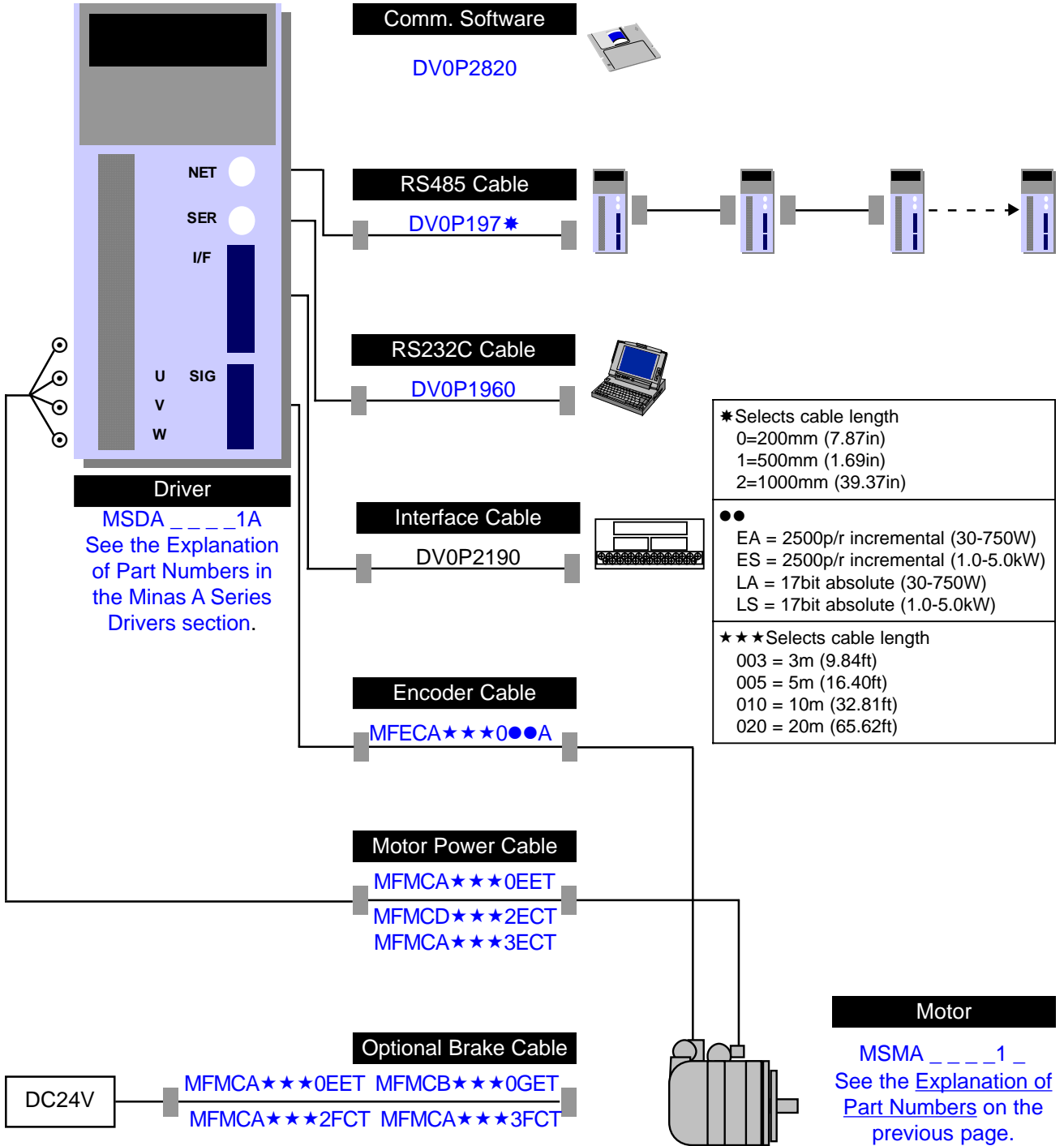
Use with [MSDA Driver](#)

**Explanation of Part Numbers**



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.

### Motor / Driver Options



## Motor / Driver Options

Communications Software	DV0P2820		
RS485 Cable	DV0P197*	*Cable length	
RS232C Cable	DV0P1960		
Interface Cable	DV0P2190		
Encoder Cable	MFECA***0EEA	2500p/r incremental for 30 - 750W	***Cable length
	MFECA***0ESA	2500p/r incremental for 1.0 - 5.0kW	
	MFECA***0LAA	17bit absolute for 30 - 750W	
	MFECA***0LSA	17bit absolute for 1.0 - 5.0kW	
Motor Power Cable	MFMCA***0EET	30 - 750W	
	MFMCD***2ECT	1.2 - 5.0kW	
	MFMCA***3ECT	3.0 - 5.0kW	
Brake Cable (Optional)	MFMCA***0EET	30 - 750W	
	MFMCB***0GET	30 - 750W (add'l brake cable)	
	MFMCA***2FCT	1.2 - 5.0kW	
	MFMCA***3FCT	3.0 - 5.0kW	
Motor	MSMA ___ A1 _	2500p/r incremental	See explanation of part numbers
	MSMA ___ C1 _	17bit absolute for 30 - 750W	
	MSMA ___ D1 _	17bit absolute for 1.0 - 5.0kW	
Driver	MSDA ___ A1A	2500p/r incremental	See explanation of part numbers in the Minas A Drivers section
	MSDA ___ D1A	17bit absolute	
Connectors (Optional)		For customer supplied cables. See the Minas A Series Accessories section	
Backup Battery		Available for absolute encoder. See the Minas A Series Accessories section	

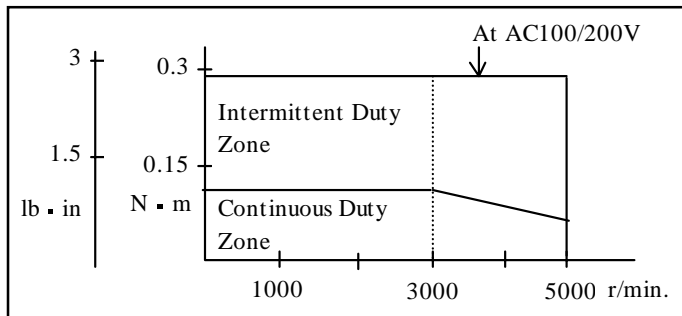
## MSMA3AZ□□□ - 30W/100V or 200V

### Specifications

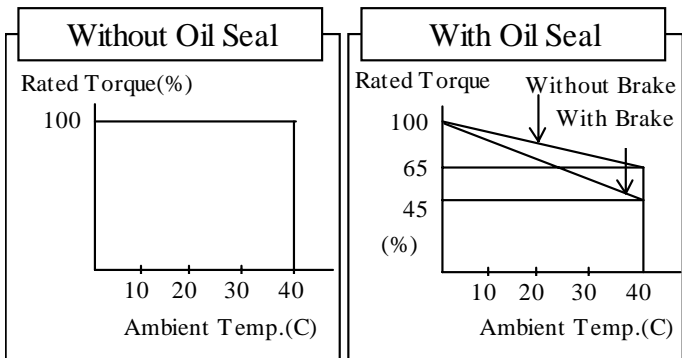
Torque	Rated	N. m	0.095
		lb-in.	0.84
	Maximum	N. m	0.28
		lb-in.	2.48
Rotor Inertia	Without Brake	x10kg. <sup>4</sup> m <sup>2</sup>	0.016
		lb. in <sup>2</sup>	0.005
	With Brake	x10kg. <sup>4</sup> m <sup>2</sup>	0.020
		lb. in <sup>2</sup>	0.007
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	0.27
		lb	0.60
	With Brake	kg	0.47
		lb	1.04
Current	Rated	A(rms)	1.0
	Maximum	A(0-P)	4.3
Power Rating	Without Brake	kW/s	5.8
	With Brake	kW/s	4.6
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.26
	Static Friction Torque	N. m	0.29 or higher
lb-in		2.57 or higher	

Note: Separate power source required for brake (DC24V)

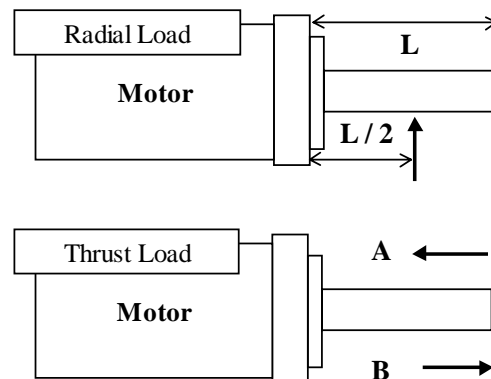
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

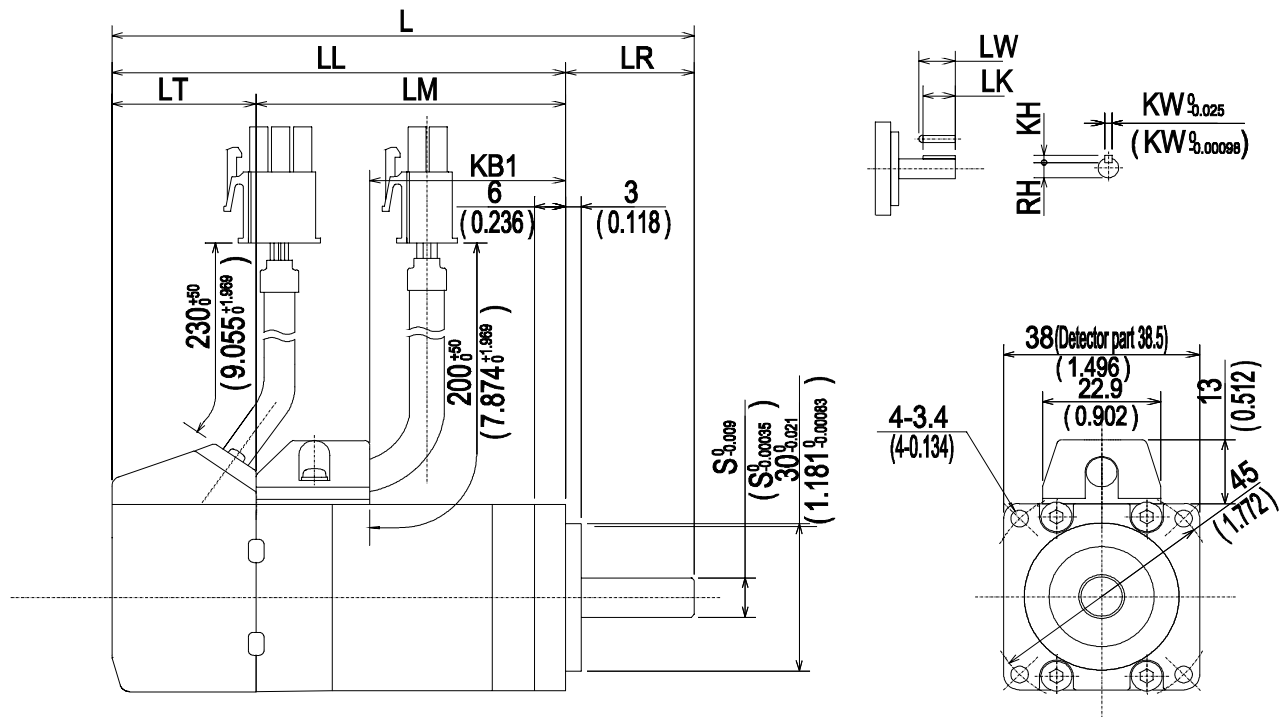


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
147.0 N	88.0 N	117.6 N	49.0 N	29.4 N
33.0 lb	19.8 lb	26.4 lb	11.0 lb	6.6 lb

**MSMA3AZ□□□ - 30W/100V or 200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	LT	S	LR	LW	LK	KW	KH	RH
Without	90 (3.543)	65 (2.559)	37 (1.457)	15 (0.591)	28 (1.102)	7 (0.276)	25 (0.984)	13 (0.512)	12 (0.472)	2 (0.079)	2 (0.079)	5.8 (0.228)
With	122 (4.803)	97 (3.819)	69 (2.717)									

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

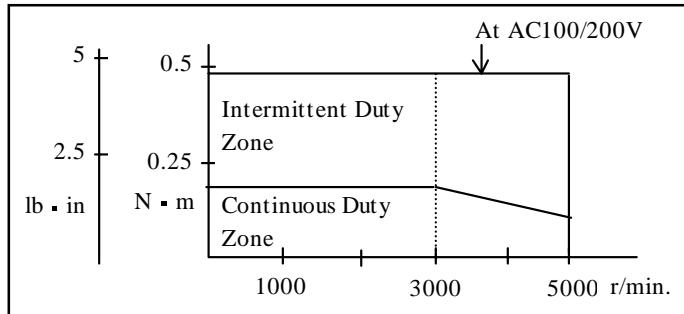
## MSMA5AZ□□□ - 50W/100V or 200V

### Specifications

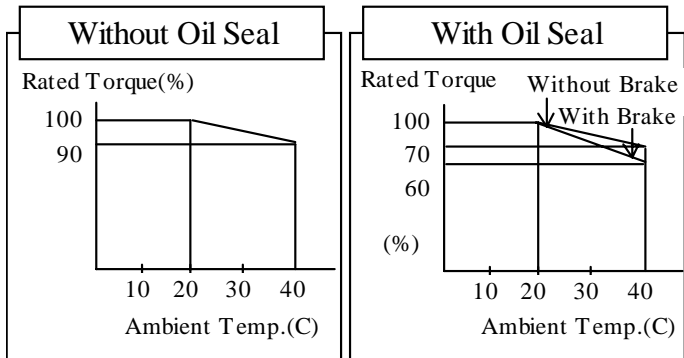
Torque	Rated	N. m	0.16
		lb-in.	1.42
	Maximum	N. m	0.48
		lb-in.	4.25
Rotor Inertia	Without Brake	x10kg. <sup>-4</sup> m <sup>2</sup>	0.025
		lb. in <sup>2</sup>	0.009
	With Brake	x10kg. <sup>-4</sup> m <sup>2</sup>	0.030
		lb. in <sup>2</sup>	0.010
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	0.34
		lb	0.75
	With Brake	kg	0.53
		lb	1.17
Current	Rated	A(rms)	1.0
	Maximum	A(0-P)	4.3
Power Rating	Without Brake	kW/s	9.9
	With Brake	kW/s	8.3
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.26
	Static Friction Torque	N. m	0.29 or higher
lb-in		2.57 or higher	

Note: Separate power source required for brake (DC24V)

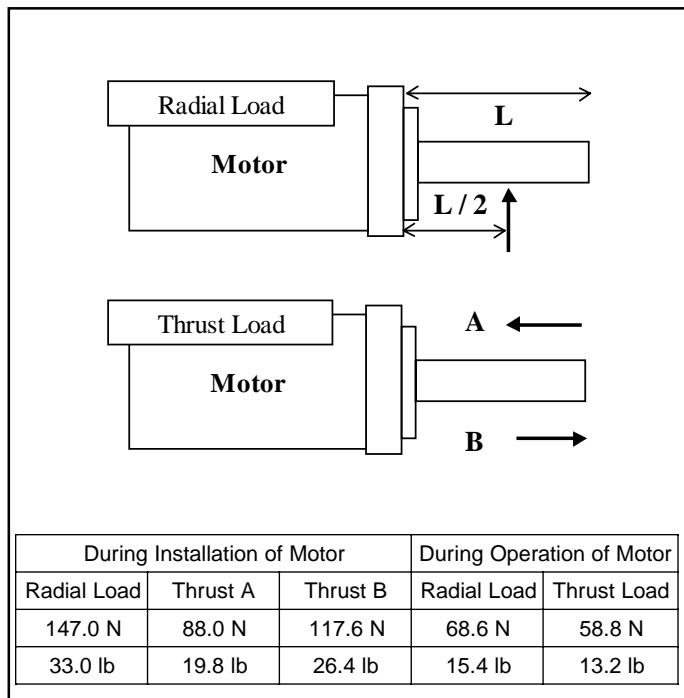
### Speed - Torque Curve



### Temperature Characteristics



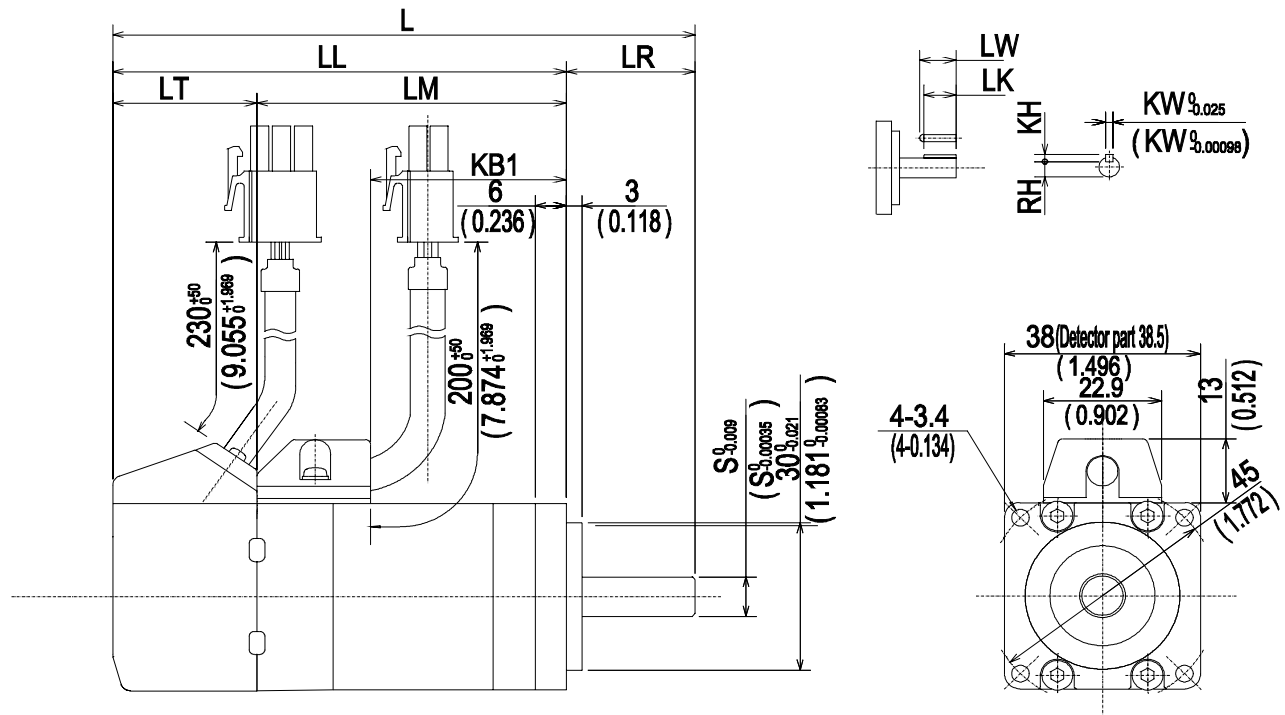
### Permissible Radial and Thrust Loads



**MSMA5AZ□□□ - 50W/100V or 200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	LT	S	LR	LW	LK	KW	KH	RH
Without	98 (3.858)	73 (2.874)	45 (1.772)	23 (0.906)	28 (1.102)	8 (0.315)	25 (0.984)	14 (0.551)	12.5 (0.492)	3 (0.118)	3 (0.118)	6.2 (0.244)
With	130 (5.118)	105 (4.134)	77 (3.031)									

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

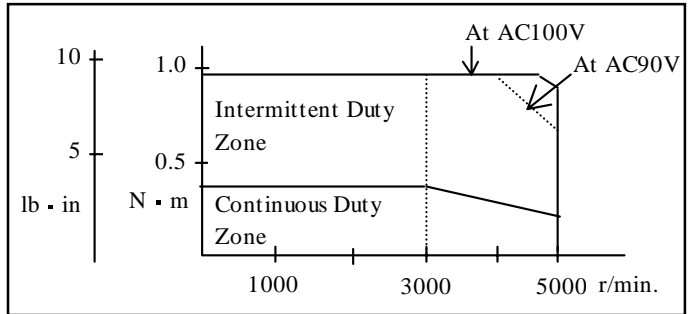
## MSMA011□□□ - 100W/100V

### Specifications

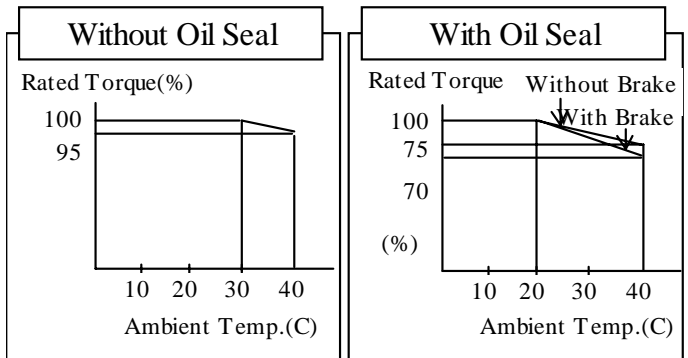
Torque	Rated	N. m	0.32
		lb-in.	2.83
	Maximum	N. m	0.95
		lb-in.	8.41
Rotor Inertia	Without Brake	x10kg. <sup>4</sup> m <sup>2</sup>	0.062
		lb. in <sup>2</sup>	0.021
	With Brake	x10kg. <sup>4</sup> m <sup>2</sup>	0.066
		lb. in <sup>2</sup>	0.023
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	0.56
		lb	1.23
	With Brake	kg	0.76
		lb	1.68
Current	Rated	A(rms)	1.6
	Maximum	A(0-P)	6.9
Power Rating	Without Brake	kW/s	16.3
	With Brake	kW/s	15.4
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.26
	Static Friction Torque	N. m	0.29 or higher
lb-in		2.57 or higher	

Note: Separate power source required for brake (DC24V)

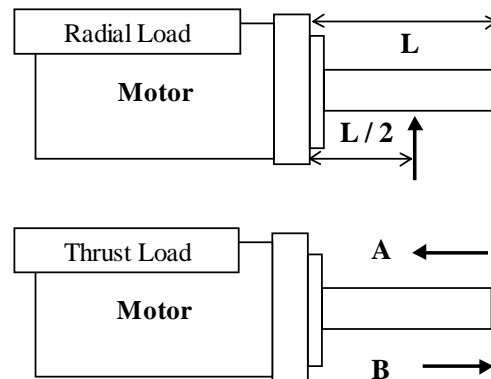
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads



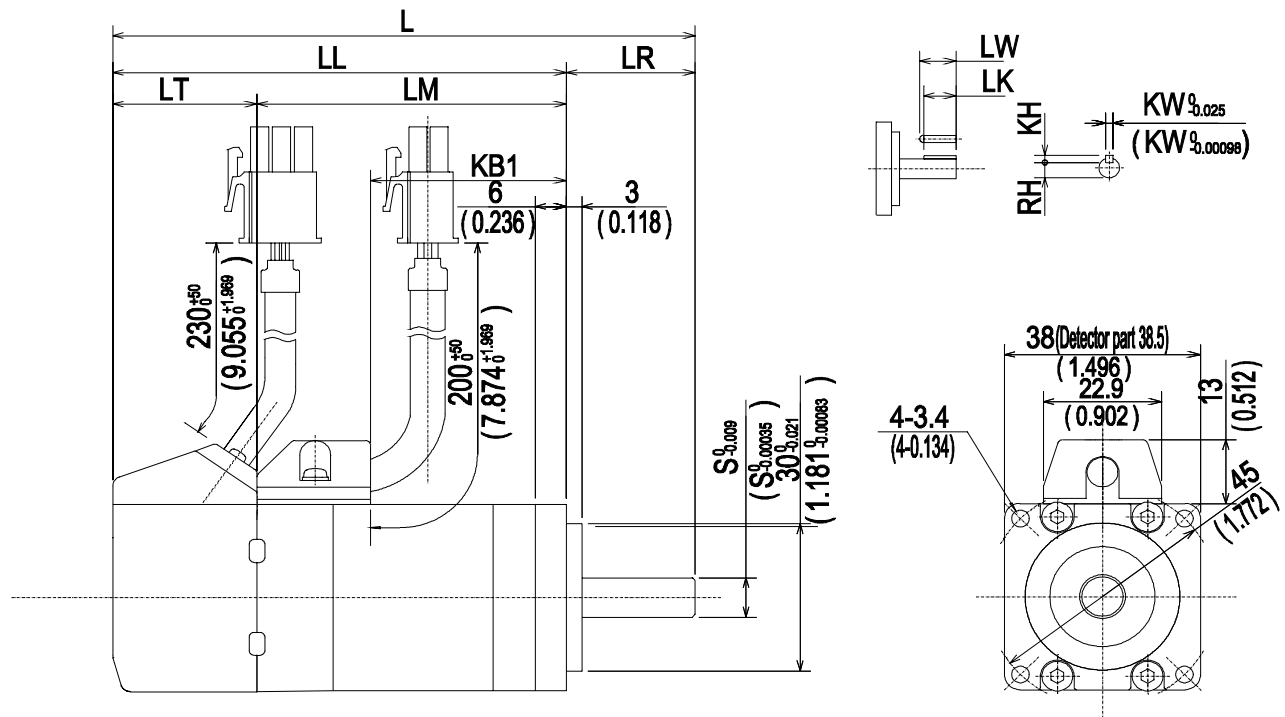
During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
147.0 N	88.0 N	117.6 N	68.6 N	58.8 N
33.0 lb	19.8 lb	26.4 lb	15.4 lb	13.2 lb



**MSMA011□□ - 100W/100V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	LT	S	LR	LW	LK	KW	KH	RH
Without	128 (5.039)	103 (4.055)	75 (2.953)	53 (2.087)	28 (1.102)	8 (0.315)	25 (0.984)	14 (0.551)	12.5 (0.492)	3 (0.118)	3 (0.118)	6.2 (0.244)
With	160 (6.299)	135 (5.315)	107 (4.213)									

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

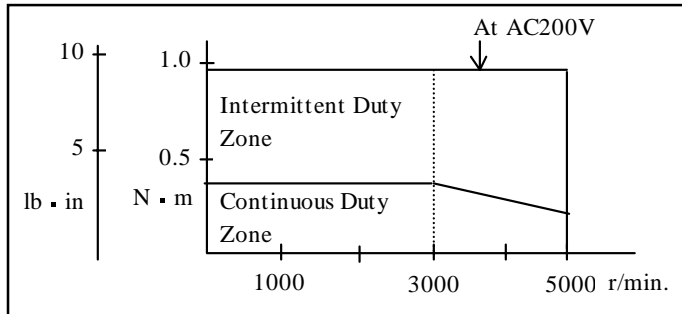
## MSMA012□□□ - 100W/200V

### Specifications

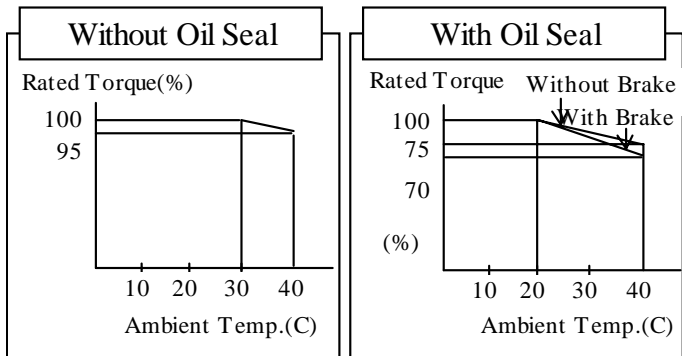
Torque	Rated	N. m	0.32
		lb-in.	2.83
	Maximum	N. m	0.95
		lb-in.	8.41
Rotor Inertia	Without Brake	x10kg. <sup>-4</sup> m <sup>2</sup>	0.062
		lb. in <sup>2</sup>	0.021
	With Brake	x10kg. <sup>-4</sup> m <sup>2</sup>	0.066
		lb. in <sup>2</sup>	0.023
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	0.56
		lb	1.23
	With Brake	kg	0.76
		lb	1.68
Current	Rated	A(rms)	1.6
	Maximum	A(0-P)	6.9
Power Rating	Without Brake	kW/s	16.3
	With Brake	kW/s	15.4
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.26
	Static Friction Torque	N. m	0.29 or higher
lb-in		2.57 or higher	

Note: Separate power source required for brake (DC24V)

### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

Radial Load

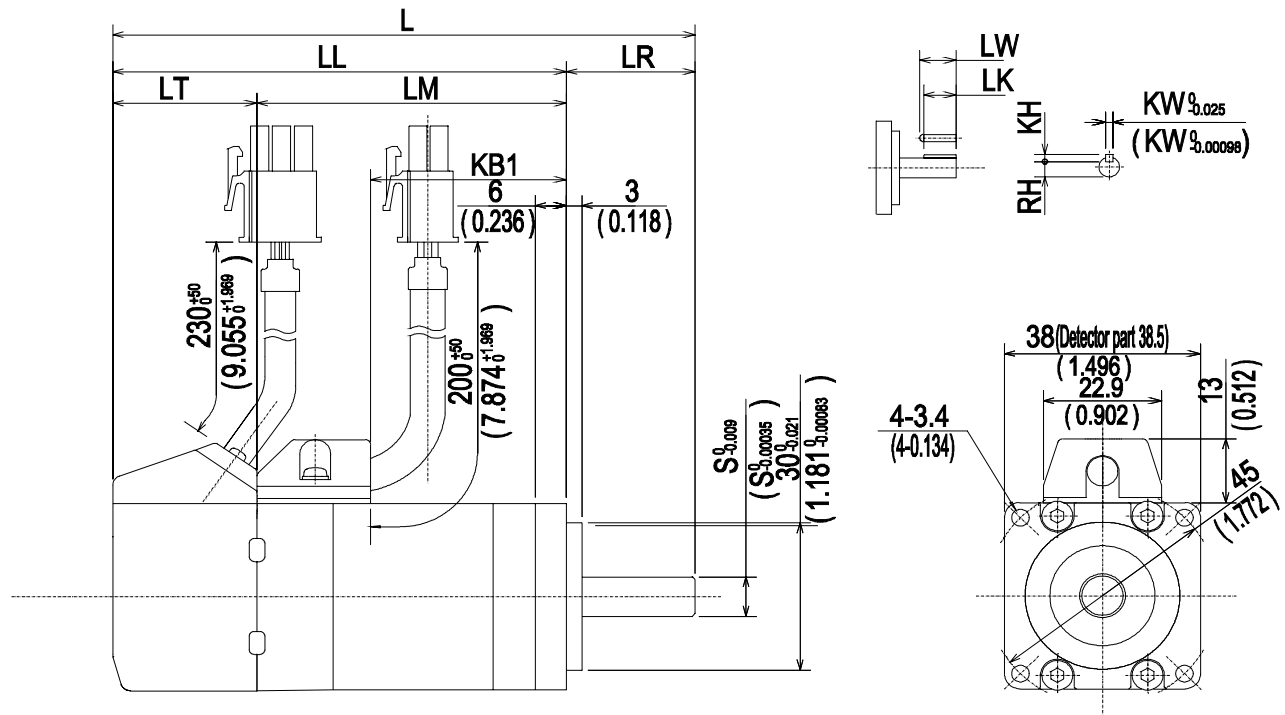
Thrust Load

During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
147.0 N	88.0 N	117.6 N	68.6 N	58.8 N
33.0 lb	19.8 lb	26.4 lb	15.4 lb	13.2 lb

**MSMA012□□ - 100W/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	LT	S	LR	LW	LK	KW	KH	RH
Without	128 (5.039)	103 (4.055)	75 (2.953)	53 (2.087)	28 (1.102)	8 (0.315)	25 (0.984)	14 (0.551)	12.5 (0.492)	3 (0.118)	3 (0.118)	6.2 (0.244)
With	160 (6.299)	135 (5.315)	107 (4.213)									

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

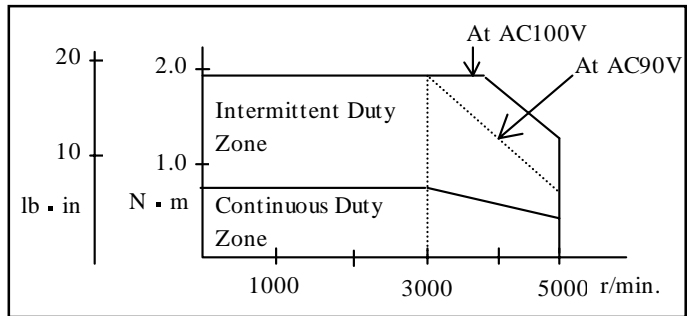
## MSMA021□□□ - 200W/100V

### Specifications

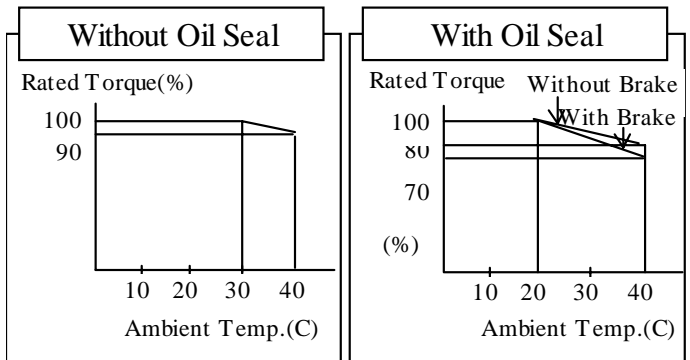
Torque	Rated	N. m	0.64
		lb-in.	5.67
	Maximum	N. m	1.91
		lb-in.	16.92
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	0.170
		lb. in <sup>2</sup>	0.058
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	0.200
		lb. in <sup>2</sup>	0.068
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	1.00
		lb	2.20
	With Brake	kg	1.40
		lb	3.09
Current	Rated	A(rms)	2.5
	Maximum	A(0-P)	10.5
Power Rating	Without Brake	kW/s	24.4
	With Brake	kW/s	20.7
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.36
	Static Friction Torque	N. m	1.27 or higher
lb-in		11.24 or higher	

Note: Separate power source required for brake (DC24V)

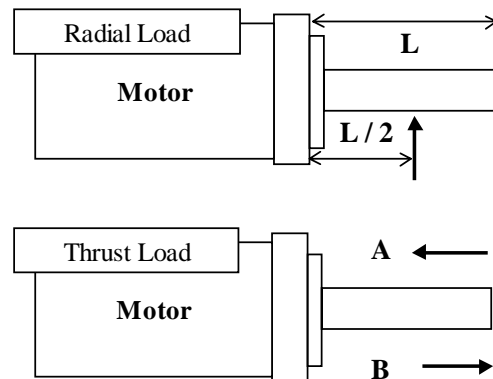
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

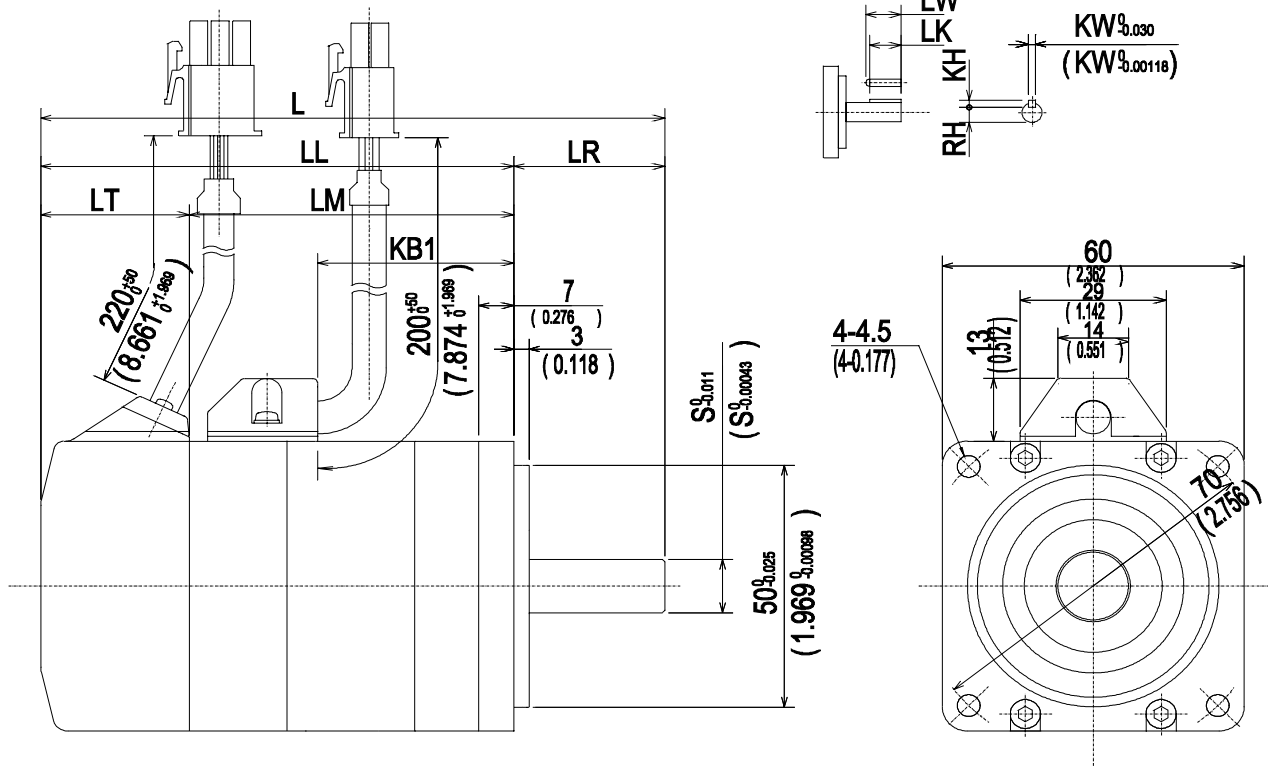


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
392.0 N	147.0 N	196.0 N	245.0 N	98.0 N
88.0 lb	33.0 lb	44.0 lb	55.0 lb	22.0 lb

**MSMA021□□□ - 200W/100V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	LT	S	LR	LW	LK	KW	KH	RH
Without	124 (4.882)	94 (3.701)	64.5 (2.539)	39 (1.535)	29.5 (1.161)	11 (0.433)	30 (1.181)	20 (0.787)	18 (0.709)	4 (0.157)	4 (0.157)	8.5 (0.335)
With	157 (6.181)	127 (5.000)	97.5 (3.839)		29.5 (1.161)	11 (0.433)	30 (1.181)	20 (0.787)	18 (0.709)	4 (0.157)	4 (0.157)	8.5 (0.335)

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

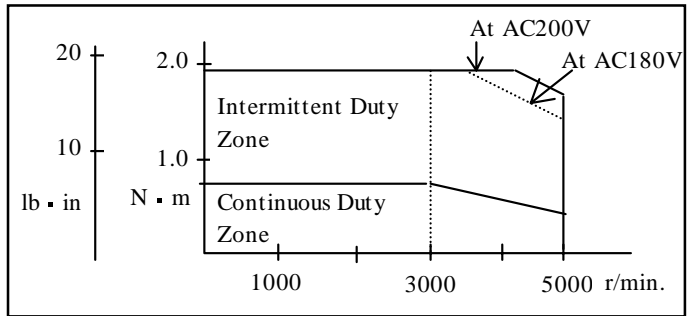
## MSMA022□□□ - 200W/200V

### Specifications

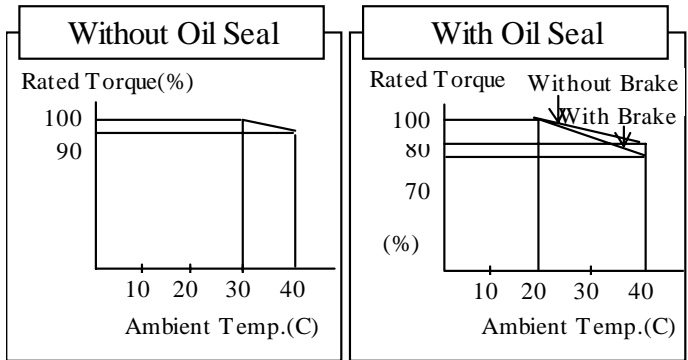
Torque	Rated	N. m	0.64
		lb-in.	5.67
	Maximum	N. m	1.91
		lb-in.	16.92
Rotor Inertia	Without Brake	x10kg. <sup>4</sup> m <sup>2</sup>	0.170
		lb. in <sup>2</sup>	0.058
	With Brake	x10kg. <sup>4</sup> m <sup>2</sup>	0.200
		lb. in <sup>2</sup>	0.068
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	1.00
		lb	2.20
	With Brake	kg	1.40
		lb	3.09
Current	Rated	A(rms)	1.6
	Maximum	A(0-P)	6.9
Power Rating	Without Brake	kW/s	24.4
	With Brake	kW/s	20.7
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.36
	Static Friction Torque	N. m	1.27 or higher
lb-in		11.24 or higher	

Note: Separate power source required for brake (DC24V)

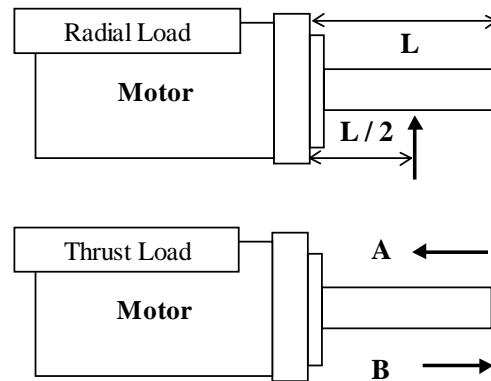
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

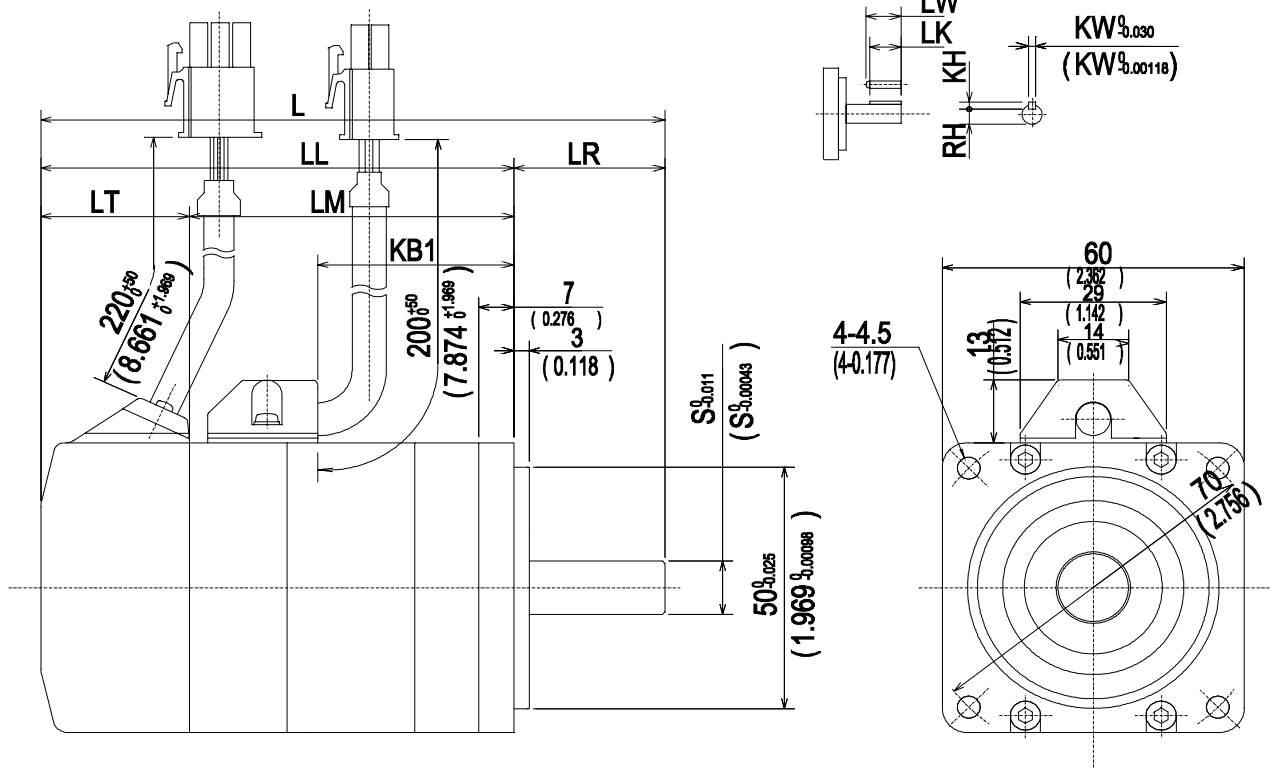


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
392.0 N	147.0 N	196.0 N	245.0 N	98.0 N
88.0 lb	33.0 lb	44.0 lb	55.0 lb	22.0 lb

## MSMA022□□ - 200W/200V

### Dimensions

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	LT	S	LR	LW	LK	KW	KH	RH
Without	124 (4.882)	94 (3.701)	64.5 (2.539)	39 (1.535)	29.5 (1.161)	11 (0.433)	30 (1.181)	20 (0.787)	18 (0.709)	4 (0.157)	4 (0.157)	8.5 (0.335)
With	157 (6.181)	127 (5.000)	97.5 (3.839)									

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

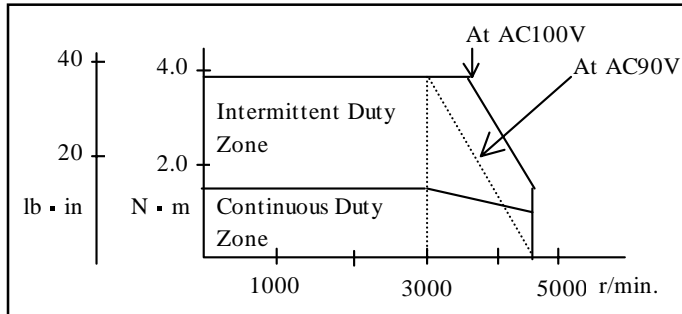
## MSMA041□□□ - 400W/100V

### Specifications

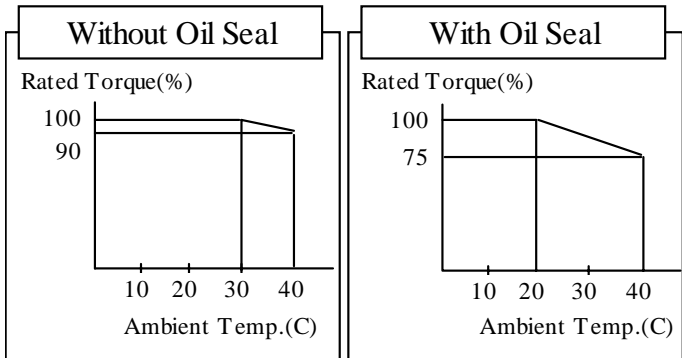
Torque	Rated	N. m	1.30
		lb-in.	11.51
	Maximum	N. m	3.80
		lb-in.	33.66
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	0.360
		lb. in <sup>2</sup>	0.123
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	0.390
		lb. in <sup>2</sup>	0.133
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	kg	1.60
		lb	3.53
	With Brake	kg	2.00
		lb	4.41
Current	Rated	A(rms)	4.4
	Maximum	A(0-P)	18.6
Power Rating	Without Brake	kW/s	44.8
	With Brake	kW/s	41.4
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.36
	Static Friction Torque	N. m	1.27 or higher
lb-in		11.24 or higher	

Note: Separate power source required for brake (DC24V)

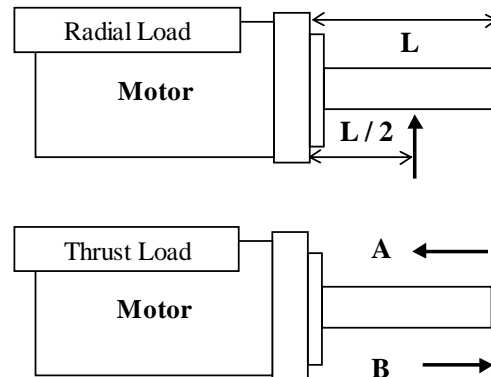
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads



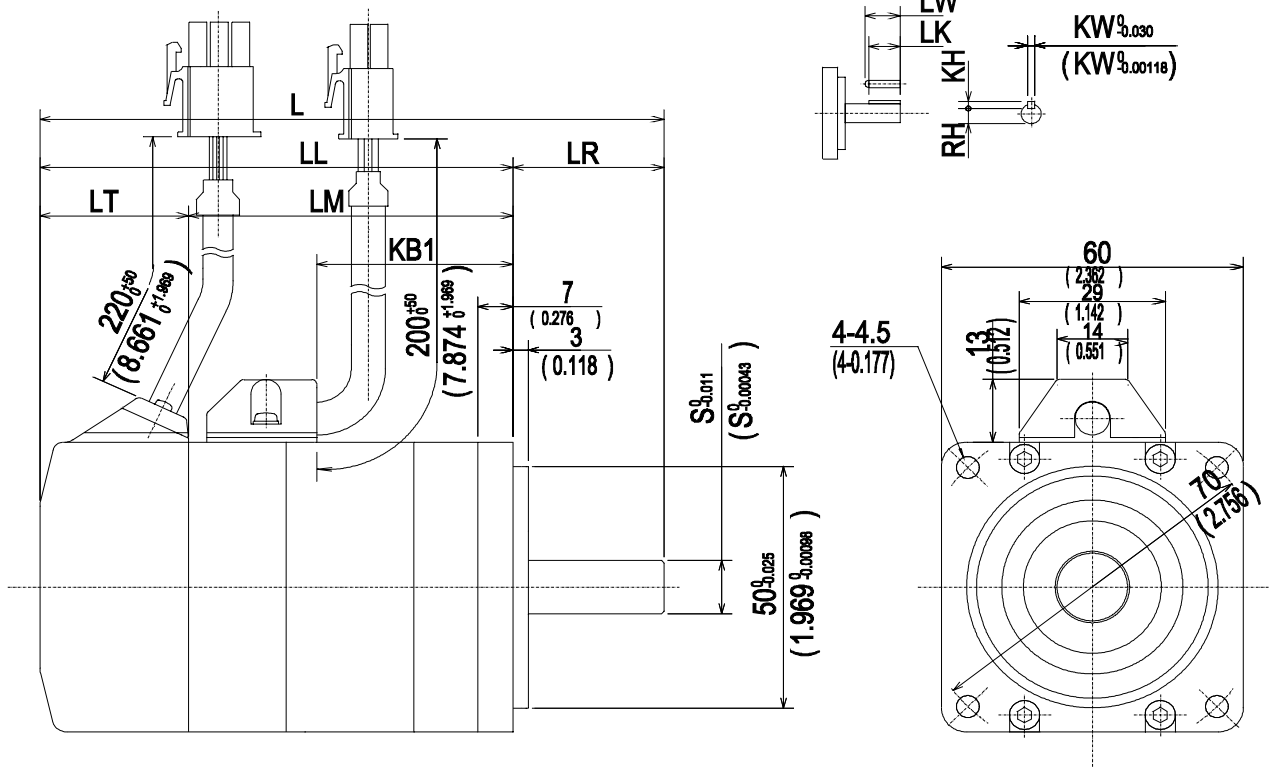
During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
392.0 N	147.0 N	196.0 N	245.0 N	98.0 N
88.0 lb	33.0 lb	44.0 lb	55.0 lb	22.0 lb



### MSMA041□□ - 400W/100V

### Dimensions

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	LT	S	LR	LW	LK	KW	KH	RH
Without	153.5 (6.043)	123.5 (4.862)	94 (3.701)	68.5 (2.697)	29.5 (1.161)	14 (0.551)	30 (1.181)	25 (0.984)	22.5 (0.886)	5 (0.197)	5 (0.197)	11 (0.433)
With	186.5 (7.343)	156.5 (6.161)	127 (5.000)									

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

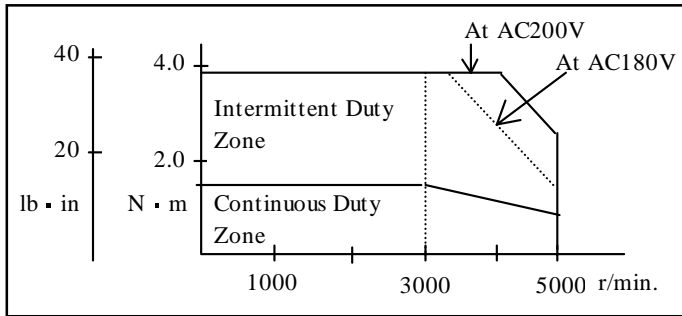
## MSMA042□□□ - 400W/200V

### Specifications

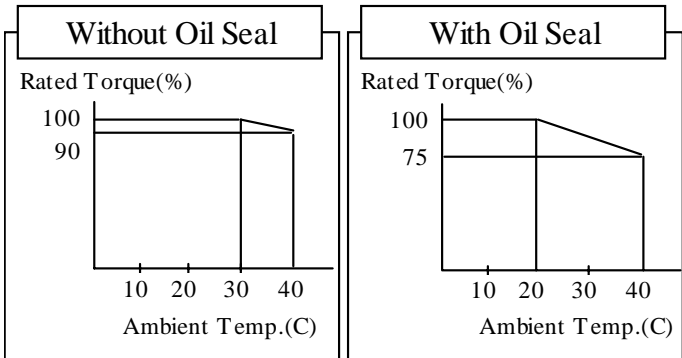
Torque	Rated	N. m	1.30
		lb-in.	11.51
	Maximum	N. m	3.80
		lb-in.	33.66
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	0.360
		lb. in <sup>2</sup>	0.123
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	0.390
		lb. in <sup>2</sup>	0.133
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	1.60
		lb	3.53
	With Brake	kg	2.00
		lb	4.41
Current	Rated	A(rms)	2.5
	Maximum	A(0-P)	10.5
Power Rating	Without Brake	kW/s	44.8
	With Brake	kW/s	41.4
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.36
	Static Friction Torque	N. m	1.27 or higher
lb-in		11.24 or higher	

Note: Separate power source required for brake (DC24V)

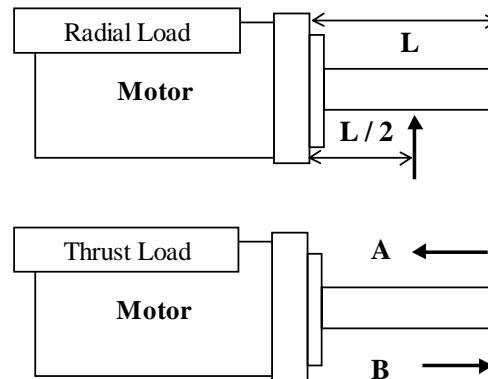
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

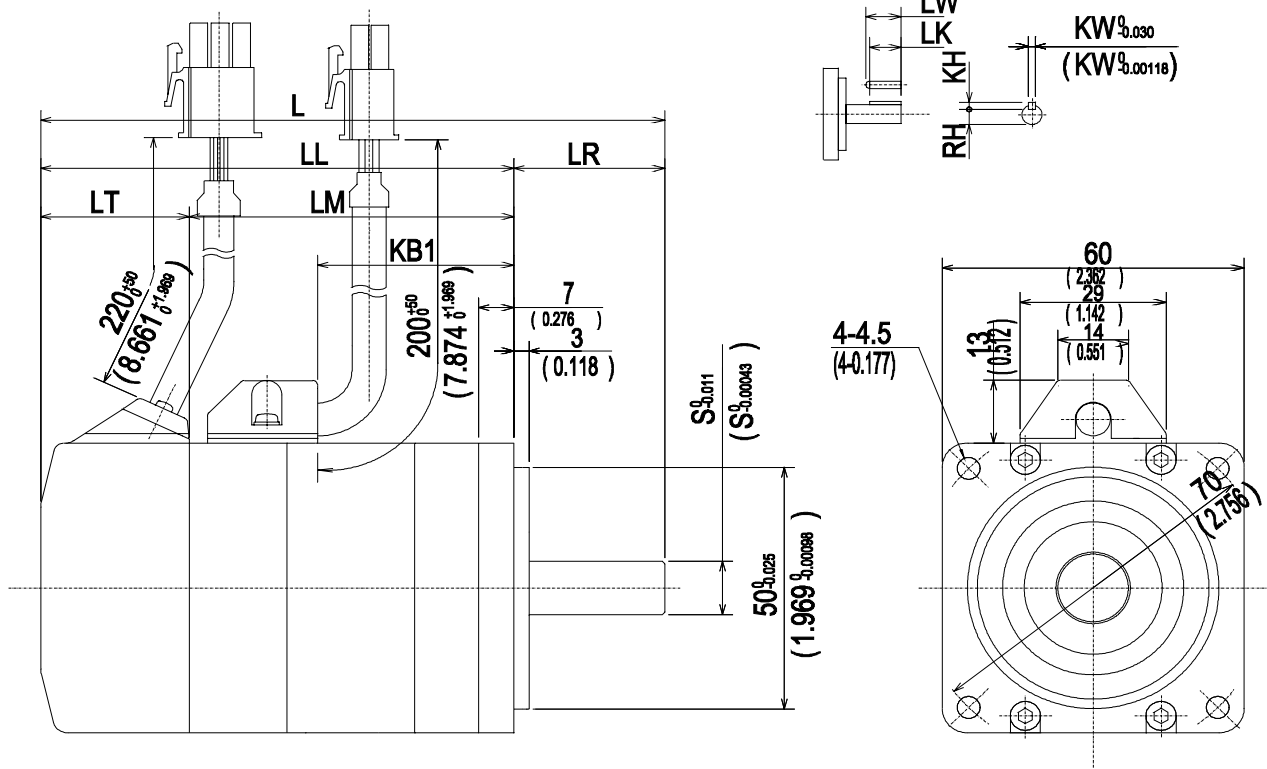


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
392.0 N	147.0 N	196.0 N	245.0 N	98.0 N
88.0 lb	33.0 lb	44.0 lb	55.0 lb	22.0 lb

### MSMA042□□ - 400W/200V

### Dimensions

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	LT	S	LR	LW	LK	KW	KH	RH
Without	153.5 (6.043)	123.5 (4.862)	94 (3.701)	68.5 (2.697)	29.5 (1.161)	14 (0.551)	30 (1.181)	25 (0.984)	22.5 (0.886)	5 (0.197)	5 (0.197)	11 (0.433)
With	186.5 (7.343)	156.5 (6.161)	127 (5.000)									

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

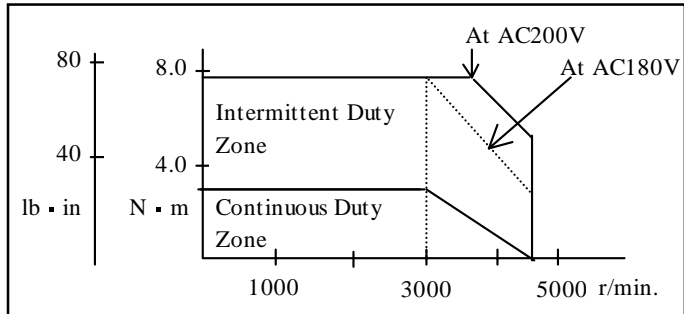
## MSMA082□□□ - 750W/200V

### Specifications

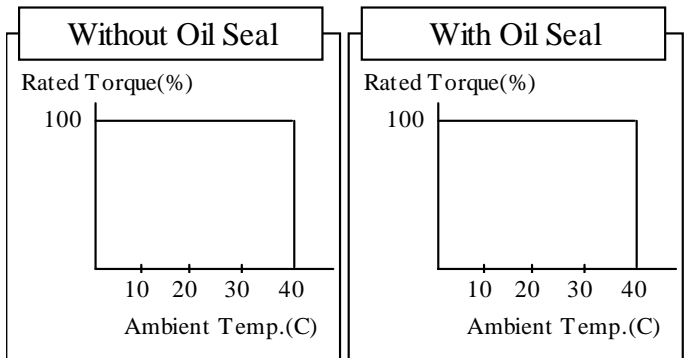
Torque	Rated	N. m	2.40
		lb-in.	21.26
	Maximum	N. m	7.10
		lb-in.	62.88
Rotor Inertia	Without Brake	x10kg.·4m <sup>2</sup>	1.310
		lb. in <sup>2</sup>	0.448
	With Brake	x10kg.·4m <sup>2</sup>	1.390
		lb. in <sup>2</sup>	0.475
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	kg	3.20
		lb	7.05
	With Brake	kg	3.90
		lb	8.60
Current	Rated	A(rms)	4.3
	Maximum	A(0-P)	18.3
Power Rating	Without Brake	kW/s	43.2
	With Brake	kW/s	40.8
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.43
	Static Friction Torque	N. m	2.45 or higher
lb-in		21.68 or higher	

Note: Separate power source required for brake (DC24V)

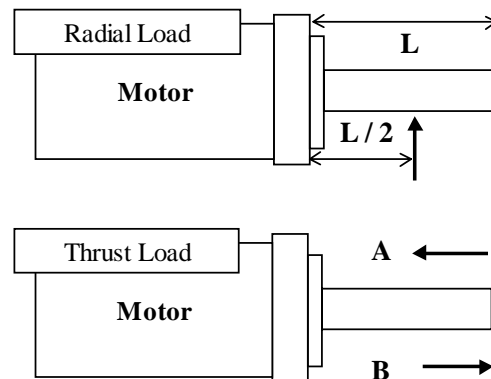
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

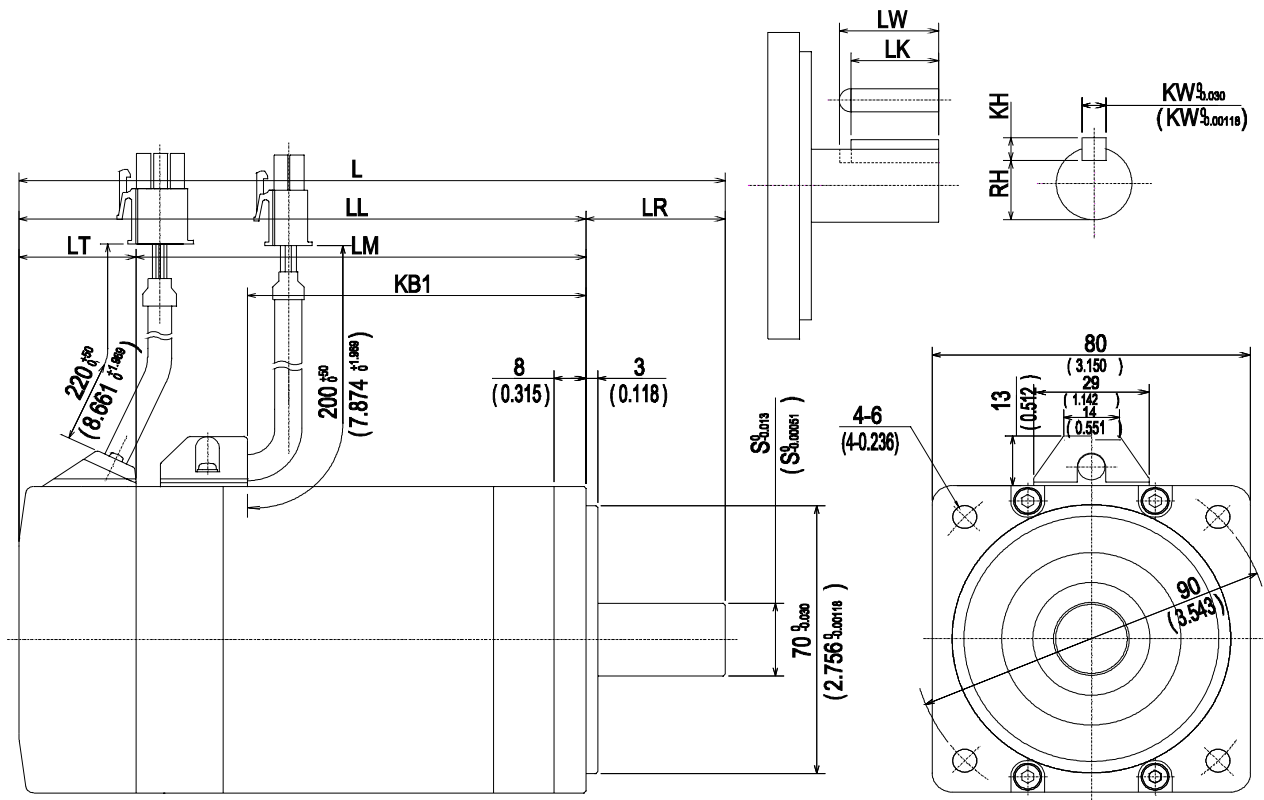


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
686.0 N	294.0 N	392.0 N	392.0 N	147.0 N
154.0 lb	66.0 lb	88.0 lb	88.0 lb	33.0 lb

**MSMA082□□ - 750W/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	LT	S	LR	LW	LK	KW	KH	RH
Without	177.5 (6.988)	142.5 (5.610)	113 (4.449)	85 (3.346)	29.5 (1.161)	19 (0.748)	35 (1.378)	25 (0.984)	22 (0.866)	6 (0.236)	6 (0.236)	15.5 (0.610)
With	212.5 (8.366)	177.5 (6.988)	148 (5.827)									

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

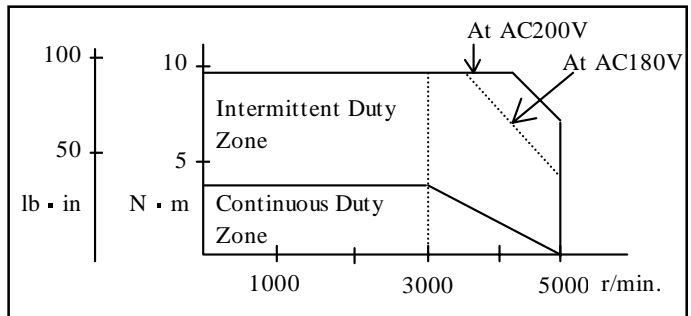
## MSMA102□□□ - 1.0kW/200V

### Specifications

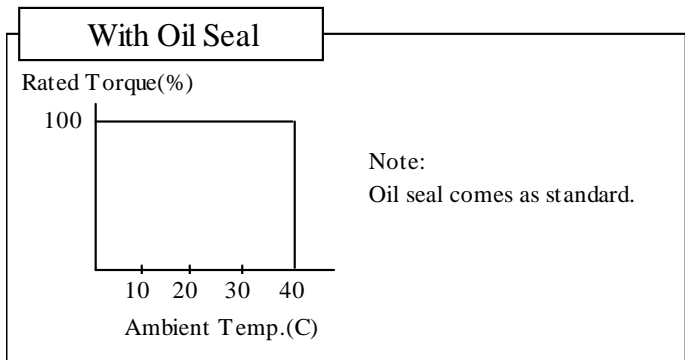
Torque	Rated	N. m	3.18
		lb-in.	28.16
	Maximum	N. m	9.50
		lb-in.	84.14
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	1.69
		lb. in <sup>2</sup>	0.58
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	1.88
		lb. in <sup>2</sup>	0.64
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	4.5
		lb	9.9
	With Brake	kg	5.1
		lb	11.2
Current	Rated	A(rms)	7.2
	Maximum	A(0-P)	30
Power Rating	Without Brake	kW/s	60
	With Brake	kW/s	54
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.74 ± 10%
	Static Friction Torque	N. m	4.9 or higher
lb-in		43.40 or higher	

Note: Separate power source required for brake (DC24V)

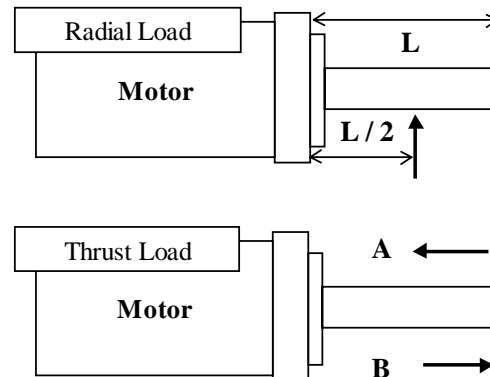
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

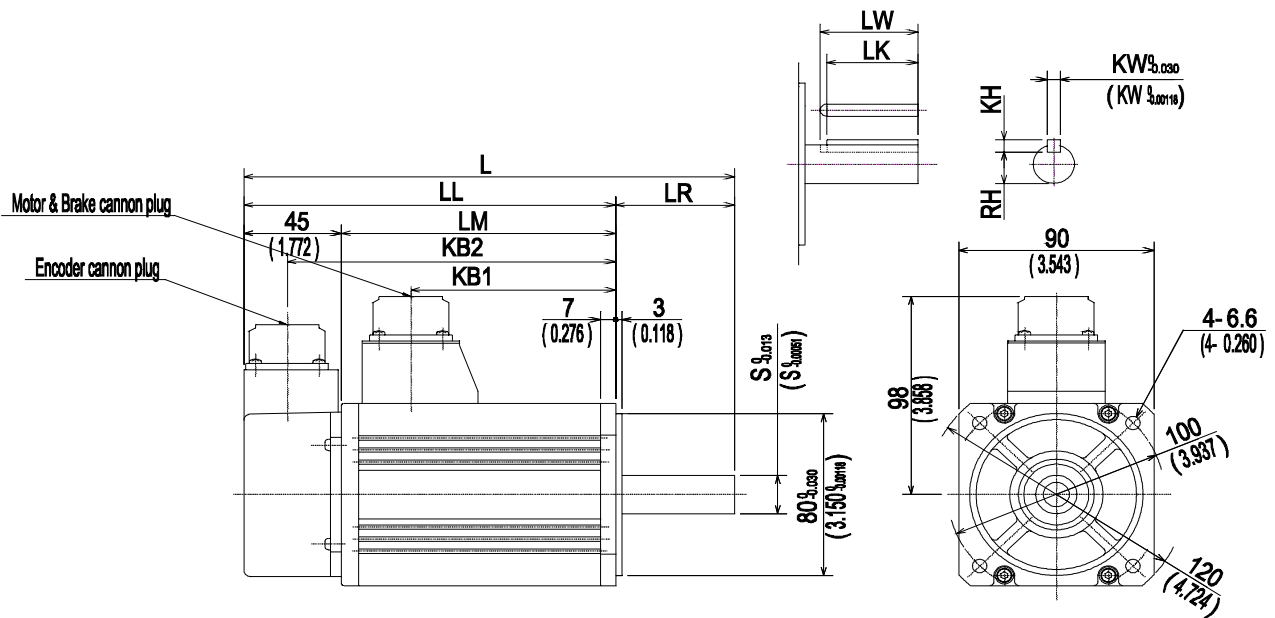


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
686.0 N	392.0 N	490.0 N	392.0 N	147.0 N
154.0 lb	88.0 lb	110.0 lb	88.0 lb	33.0 lb

**MSMA102□□□ - 1.0kW/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
Without	227 (8.937)	172 (6.772)	127 (5.000)	95 (3.740)	152 (5.984)	19 (0.748)	55 (2.165)	45 (1.772)	42 (1.654)	6 (0.236)	6 (0.236)	15.5 (0.610)
With	252 (9.921)	197 (7.756)	152 (5.984)	120 (4.724)	177 (6.968)							

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

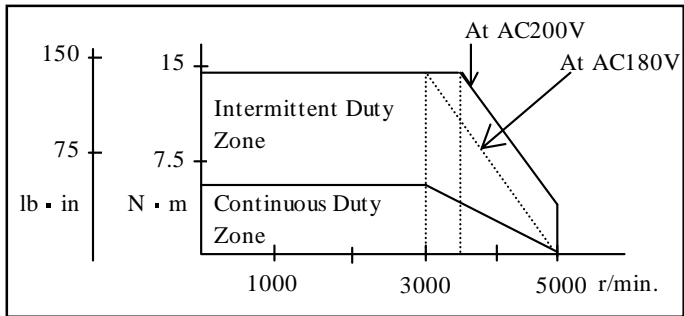
## MSMA152 - 1.5kW/200V

### Specifications

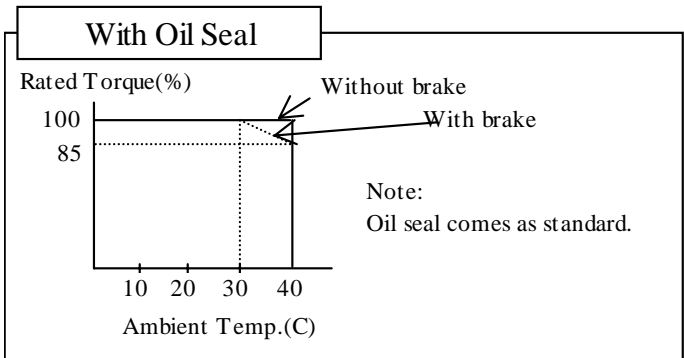
Torque	Rated	N. m	4.77
		lb-in.	42.25
	Maximum	N. m	14.30
		lb-in.	126.65
Rotor Inertia	Without Brake	x10kg.·4m <sup>2</sup>	2.59
		lb. in <sup>2</sup>	0.89
	With Brake	x10kg.·4m <sup>2</sup>	2.84
		lb. in <sup>2</sup>	0.97
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	5.1
		lb	11.2
	With Brake	kg	6.5
		lb	14.3
Current	Rated	A(rms)	9.4
	Maximum	A(0-P)	40
Power Rating	Without Brake	kW/s	88
	With Brake	kW/s	80
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.81 ±10%
	Static Friction Torque	N. m	7.8 or higher
lb-in		69.08 or higher	

Note: Separate power source required for brake (DC24V)

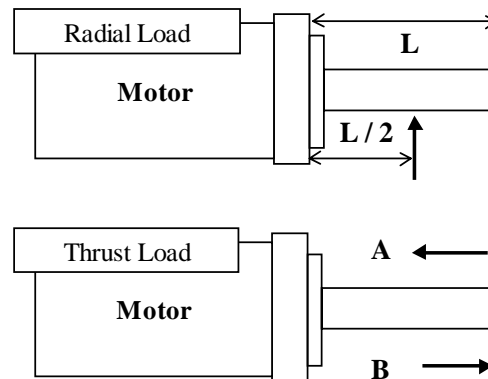
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads



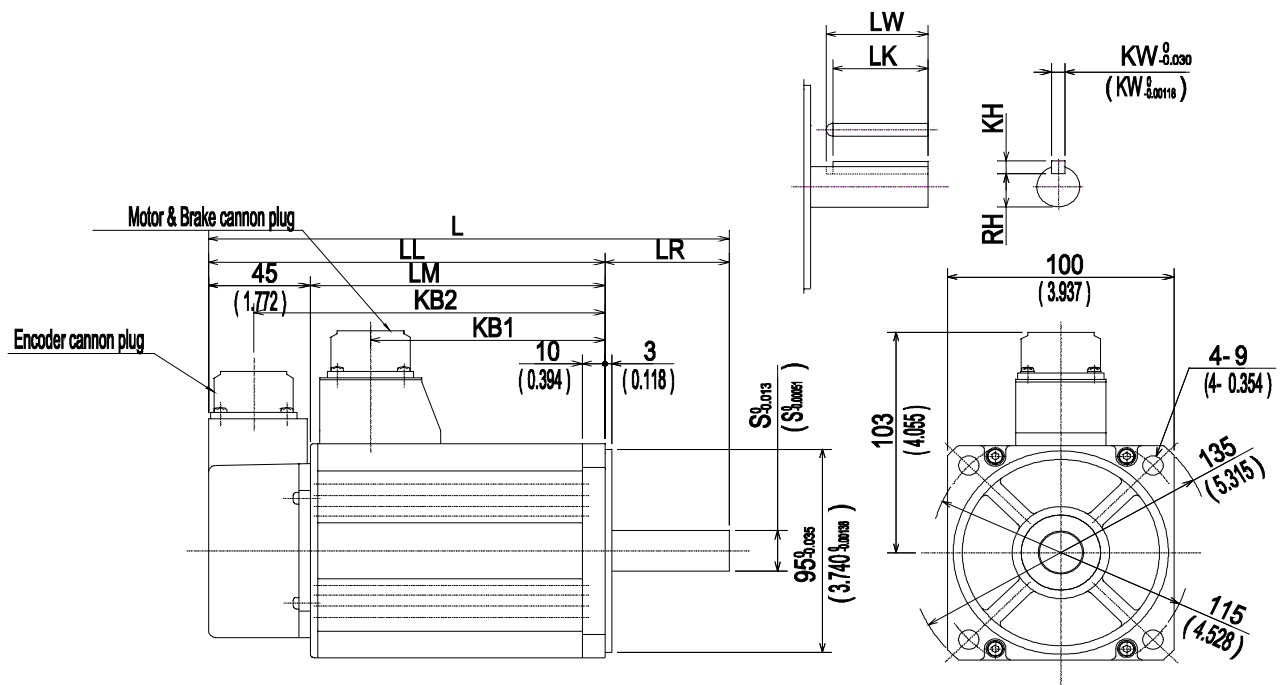
During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb



## MSMA152□□□ - 1.5kW/200V

### Dimensions

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
Without	232 (9.134)	177 (6.968)	132 (5.197)	103 (4.055)	157 (6.181)	19 (0.748)	55 (2.165)	45 (1.772)	42 (1.654)	6 (0.236)	6 (0.236)	15.5 (0.610)
With	257 (10.118)	202 (7.953)	157 (6.181)	124 (4.882)	182 (7.165)							

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

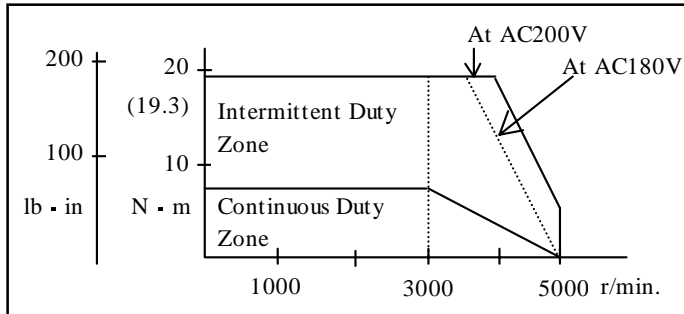
## MSMA202□□□ - 2.0kW/200V

### Specifications

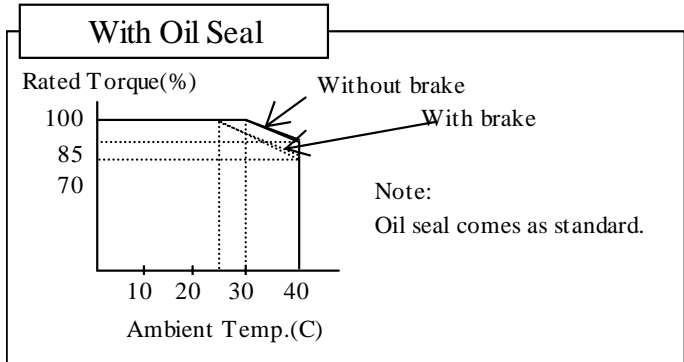
Torque	Rated	N. m	6.36
		lb-in.	56.33
	Maximum	N. m	19.10
		lb-in.	169.16
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	3.46
		lb. in <sup>2</sup>	1.18
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	3.81
		lb. in <sup>2</sup>	1.30
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	6.5
		lb	14.3
	With Brake	kg	7.9
		lb	17.4
Current	Rated	A(rms)	13.0
	Maximum	A(0-P)	56
Power Rating	Without Brake	kW/s	117
	With Brake	kW/s	106
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.81 ±10%
	Static Friction Torque	N. m	7.8 or higher
lb-in		69.08 or higher	

Note: Separate power source required for brake (DC24V)

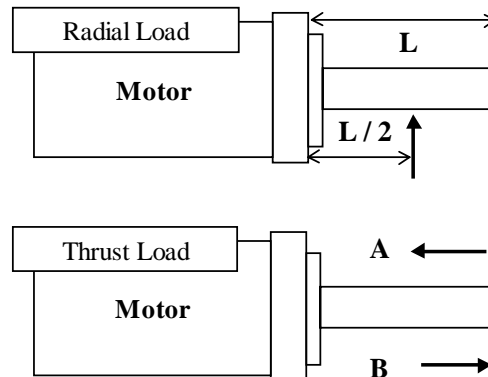
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

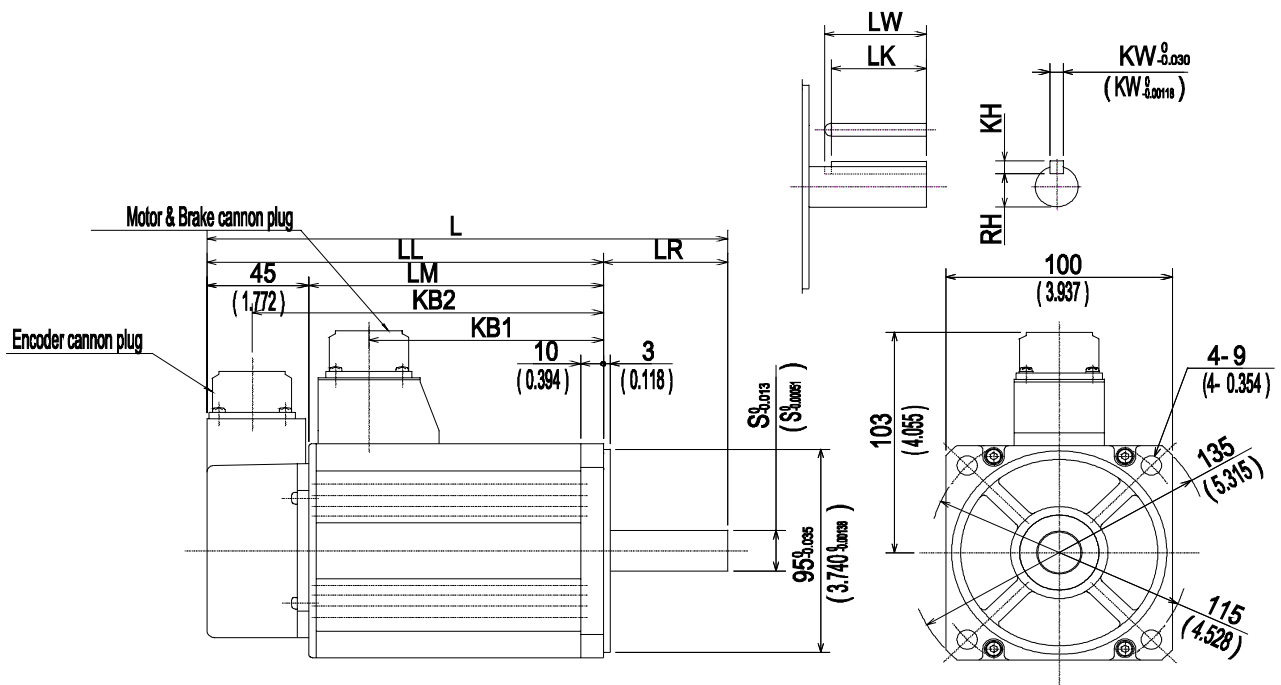


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb

**MSMA202□□ - 2.0kW/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
Without	257 (10.118)	202 (7.953)	157 (6.181)	128 (5.039)	182 (7.165)	19 (0.748)	55 (2.165)	45 (1.772)	42 (1.654)	6 (0.236)	6 (0.236)	15.5 (0.610)
With	282 (11.102)	227 (8.937)	182 (7.165)	149 (5.866)	207 (8.150)							

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

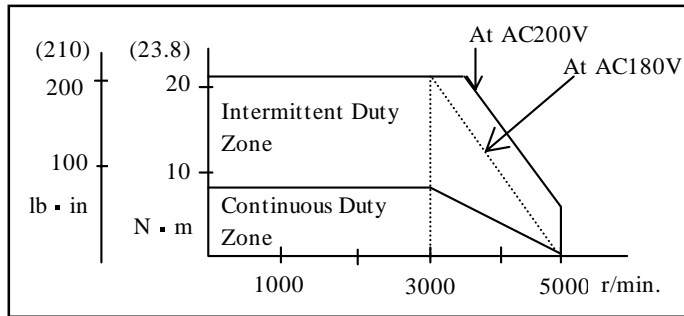
## MSMA252 - 2.5kW/200V

### Specifications

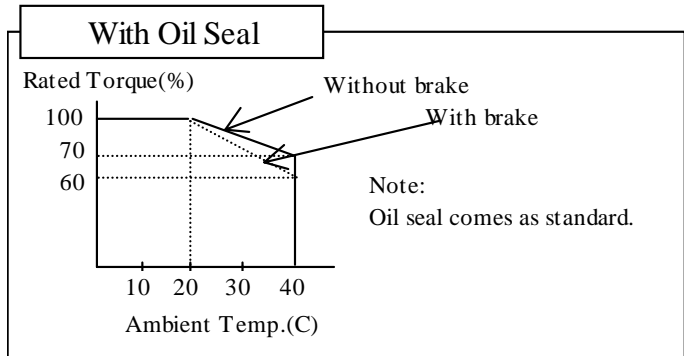
Torque	Rated	N. m	7.94
		lb-in.	70.32
	Maximum	N. m	23.80
		lb-in.	210.79
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	4.31
		lb. in <sup>2</sup>	1.47
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	4.74
		lb. in <sup>2</sup>	1.62
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	7.5
		lb	16.5
	With Brake	kg	8.9
		lb	19.6
Current	Rated	A(rms)	15.9
	Maximum	A(0-P)	68
Power Rating	Without Brake	kW/s	146
	With Brake	kW/s	133
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.81 ±10%
	Static Friction Torque	N. m	7.8 or higher
lb-in		69.08 or higher	

Note: Separate power source required for brake (DC24V)

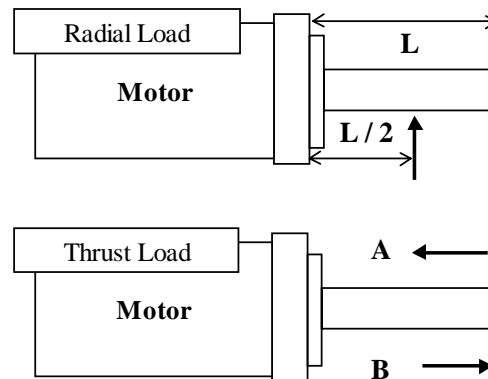
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

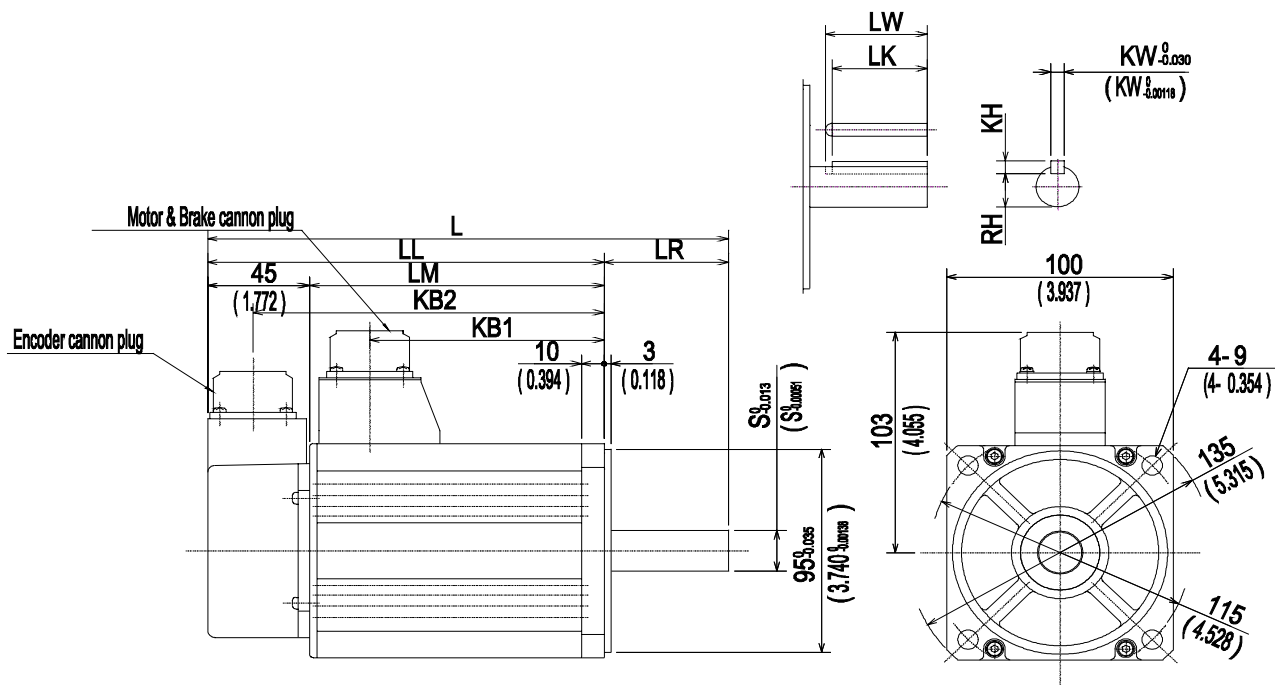


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb

**MSMA252□□□ - 2.5kW/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
Without	282 (11.102)	227 (8.937)	182 (7.165)	153 (6.024)	207 (8.150)	19 (0.748)	55 (2.165)	45 (1.772)	42 (1.654)	6 (0.236)	6 (0.236)	15.5 (0.610)
With	307 (12.087)	252 (9.921)	207 (8.150)	174 (6.850)	232 (9.134)							

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

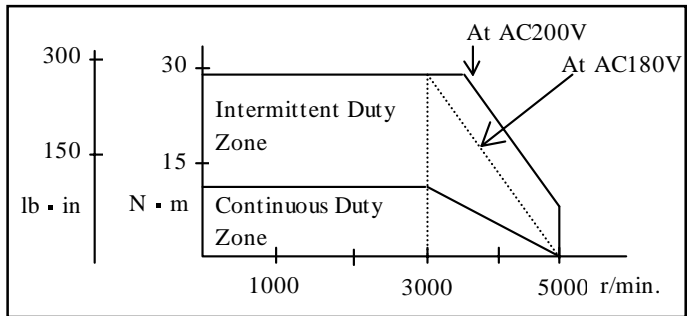
## MSMA302□□□ - 3.0kW/200V

### Specifications

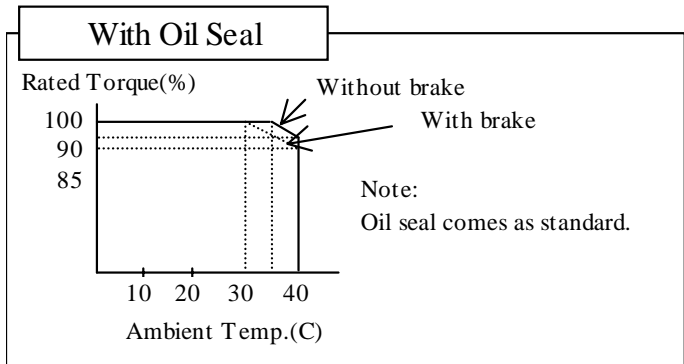
Torque	Rated	N. m	9.54
		lb-in.	84.49
	Maximum	N. m	28.60
		lb-in.	253.30
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	6.77
		lb. in <sup>2</sup>	2.31
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	7.45
		lb. in <sup>2</sup>	2.55
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	9.3
		lb	20.5
	With Brake	kg	11.0
		lb	24.3
Current	Rated	A(rms)	18.6
	Maximum	A(0-P)	80
Power Rating	Without Brake	kW/s	134
	With Brake	kW/s	122
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.81 ±10%
	Static Friction Torque	N. m	11.8 or higher
lb-in		104.50 or higher	

Note: Separate power source required for brake (DC24V)

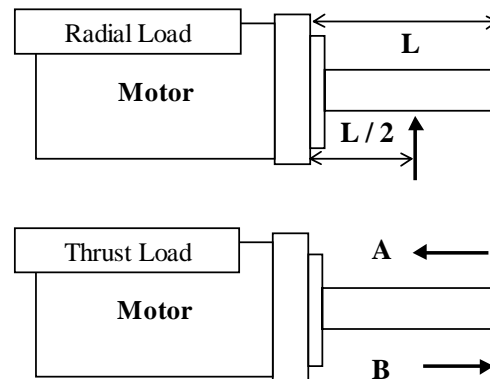
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

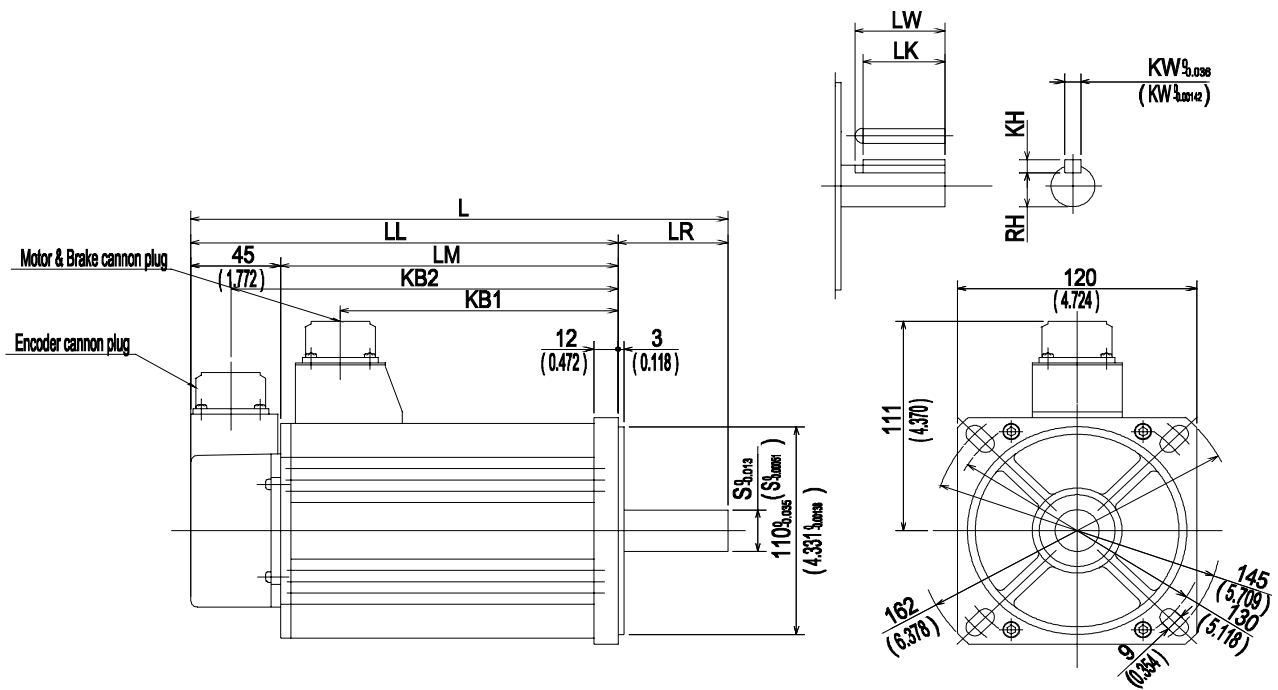


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb

**MSMA302□□□ - 3.0kW/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

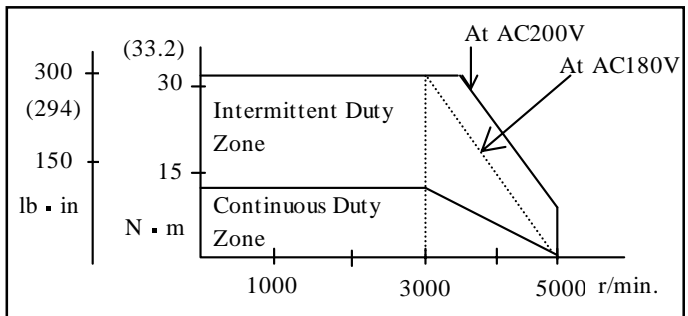
## MSMA352□□□ - 3.5kW/200V

### Specifications

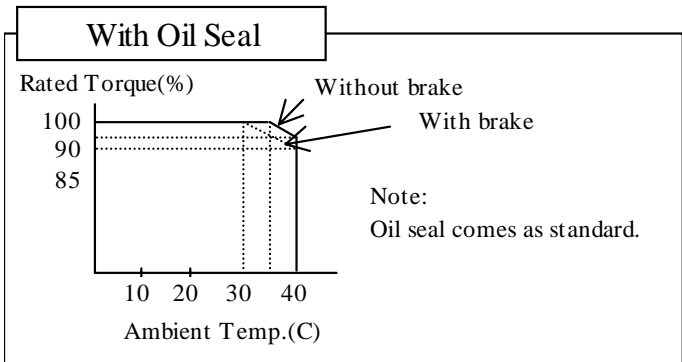
Torque	Rated	N. m	11.00
		lb-in.	97.42
	Maximum	N. m	33.20
		lb-in.	294.04
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	7.90
		lb. in <sup>2</sup>	2.70
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	8.69
		lb. in <sup>2</sup>	2.97
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	10.9
		lb	24.0
	With Brake	kg	12.6
		lb	27.8
Current	Rated	A(rms)	21.6
	Maximum	A(0-P)	92
Power Rating	Without Brake	kW/s	155
	With Brake	kW/s	141
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.81 ±10%
	Static Friction Torque	N. m	11.8 or higher
lb-in		104.50 or higher	

Note: Separate power source required for brake (DC24V)

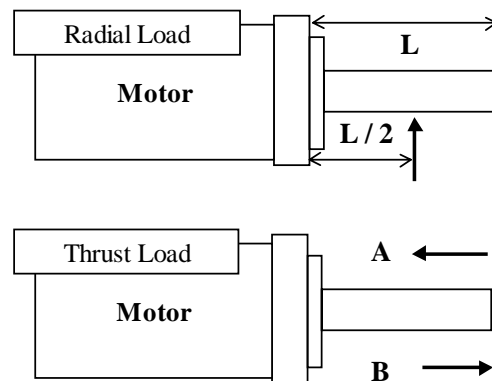
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads



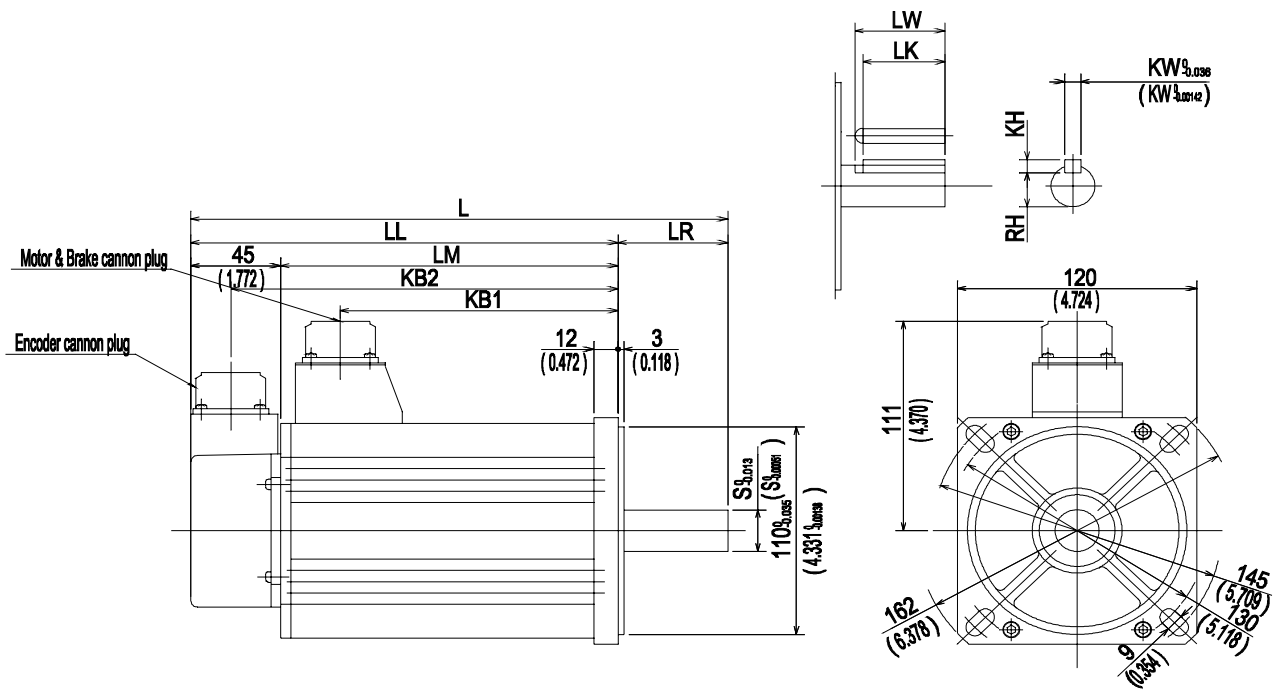
During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb



**MSMA352 - 3.5kW/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
Without	289 (11.378)	234 (9.213)	189 (7.441)	160 (6.299)	214 (8.425)	22 (0.866)	55 (2.165)	45 (1.772)	41 (1.614)	8 (0.315)	7 (0.276)	18 (0.709)
With	314 (12.362)	259 (10.197)	214 (8.425)	185 (7.283)	239 (9.409)							

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

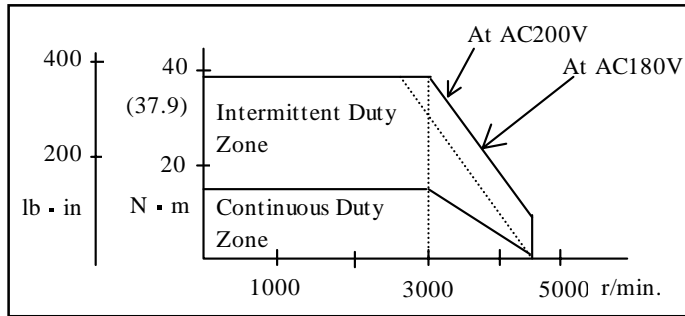
## MSMA402□□□ - 4.0kW/200V

### Specifications

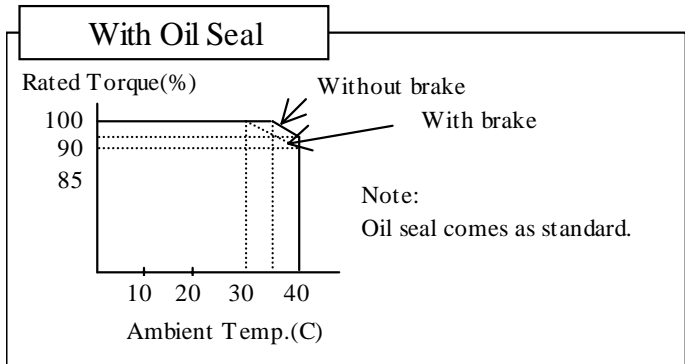
Torque	Rated	N. m	12.60
		lb-in.	111.59
	Maximum	N. m	37.90
		lb-in.	335.67
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	12.70
		lb. in <sup>2</sup>	4.34
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	14.10
		lb. in <sup>2</sup>	4.82
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	kg	12.9
		lb	28.4
	With Brake	kg	14.8
		lb	32.6
Current	Rated	A(rms)	24.7
	Maximum	A(0-P)	105
Power Rating	Without Brake	kW/s	125
	With Brake	kW/s	113
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.90 ± 10%
	Static Friction Torque	N. m	16.1 or higher
		lb-in	142.59 or higher

Note: Separate power source required for brake (DC24V)

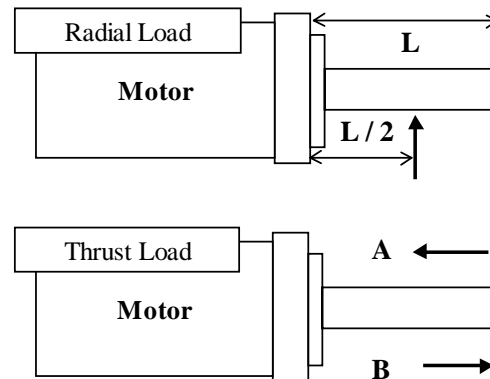
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

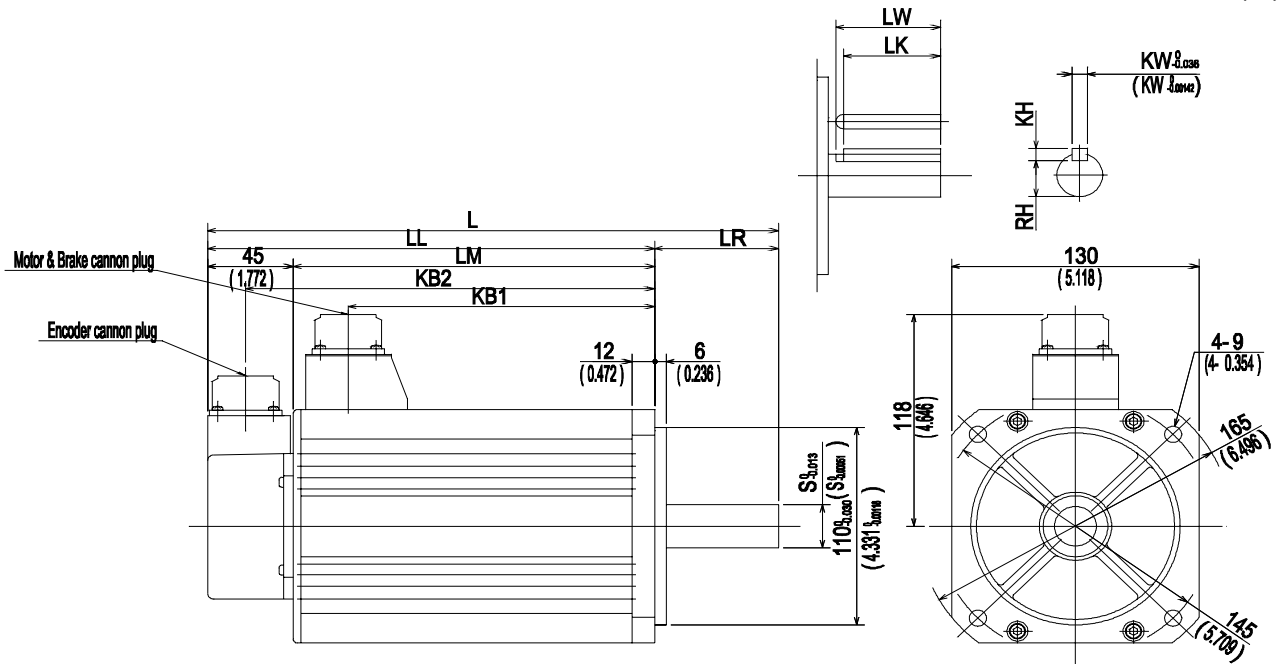


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	784.0 N	343.0 N
220.0 lb	132.0 lb	154.0 lb	176.0 lb	77.0 lb

**MSMA402□□□ - 4.0kW/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
Without	305 (12.008)	240 (9.449)	195 (7.677)	165 (6.496)	220 (8.661)	24 (0.945)	65 (2.559)	55 (2.165)	51 (2.008)	8 (0.315)	7 (0.276)	20 (0.787)
With	330 (12.992)	265 (10.433)	220 (8.661)	190 (7.480)	245 (9.646)							

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

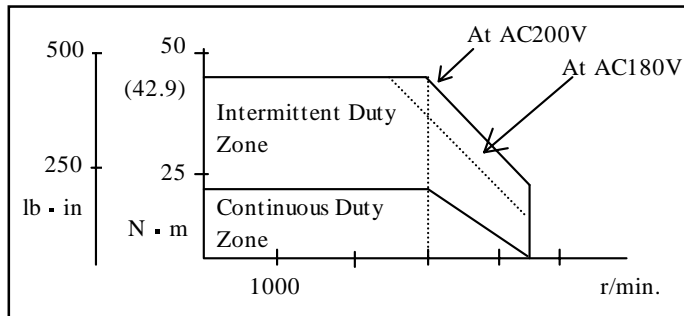
## MSMA452□□□ - 4.5kW/200V

### Specifications

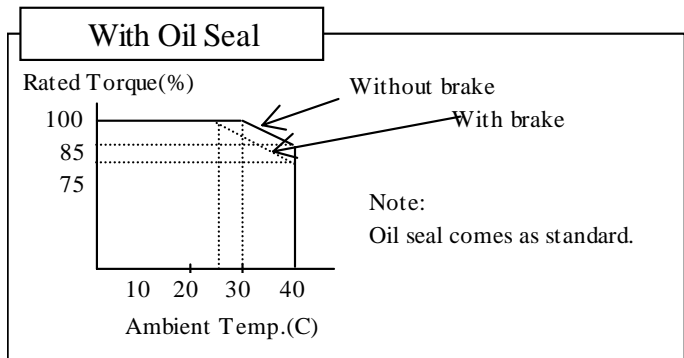
Torque	Rated	N. m	14.30
		lb-in.	126.65
	Maximum	N. m	42.90
		lb-in.	379.95
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	15.30
		lb. in <sup>2</sup>	5.23
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	17.00
		lb. in <sup>2</sup>	5.81
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	kg	15.1
		lb	33.3
	With Brake	kg	17.0
		lb	37.5
Current	Rated	A(rms)	28.0
	Maximum	A(0-P)	118
Power Rating	Without Brake	kW/s	134
	With Brake	kW/s	120
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.90 ±10%
	Static Friction Torque	N. m	16.1 or higher
lb-in		142.59 or higher	

Note: Separate power source required for brake (DC24V)

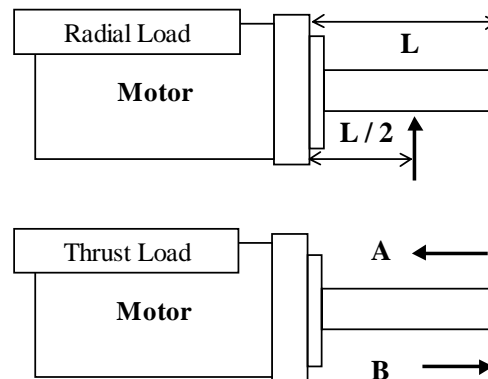
### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

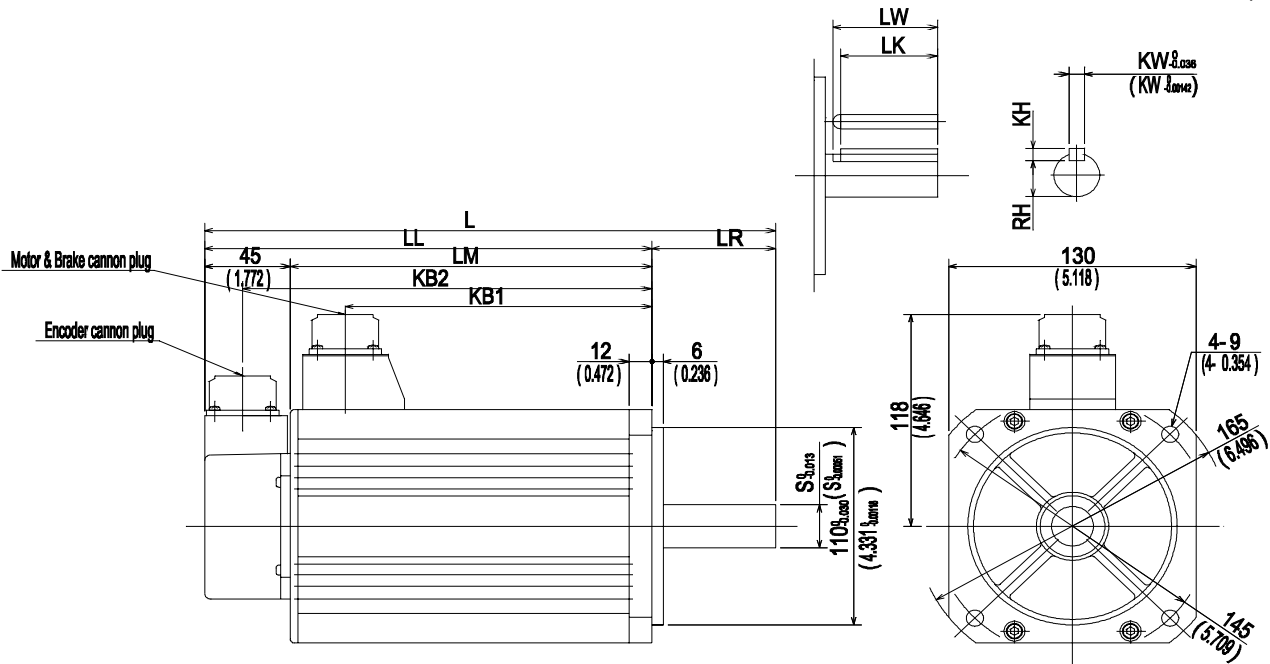


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	784.0 N	343.0 N
220.0 lb	132.0 lb	154.0 lb	176.0 lb	77.0 lb

**MSMA452□□□ - 4.5kW/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
Without	325 (12.795)	260 (10.236)	215 (8.465)	185 (7.283)	240 (9.449)	24 (0.945)	65 (2.559)	55 (2.165)	51 (2.008)	8 (0.315)	7 (0.276)	20 (0.787)
With	350 (13.780)	285 (11.220)	240 (9.449)	210 (8.268)	265 (10.433)							

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.

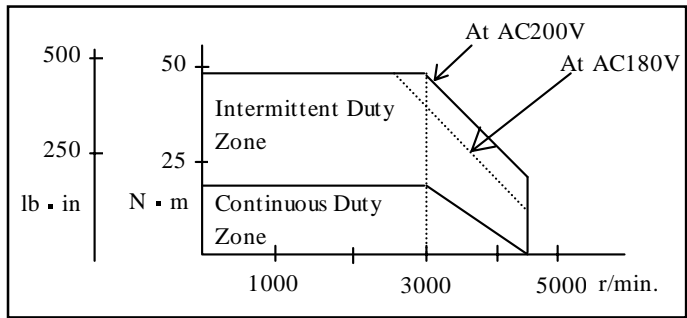
## MSMA502□□□ - 5.0kW/200V

### Specifications

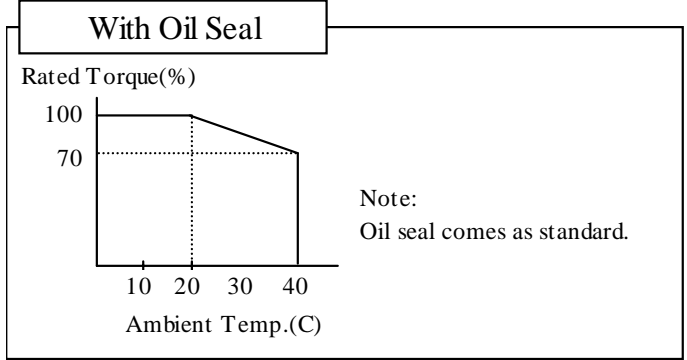
Torque	Rated	N. m	15.80
		lb-in.	139.94
	Maximum	N. m	47.60
		lb-in.	421.58
Rotor Inertia	Without Brake	x10kg.·4m <sup>2</sup>	17.80
		lb. in <sup>2</sup>	6.08
	With Brake	x10kg.·4m <sup>2</sup>	19.70
		lb. in <sup>2</sup>	6.73
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	kg	17.3
		lb	38.1
	With Brake	kg	19.2
		lb	42.3
Current	Rated	A(rms)	28.5
	Maximum	A(0-P)	120
Power Rating	Without Brake	kW/s	140
	With Brake	kW/s	128
Brake (Option)	Voltage	V	DC 24 ± 2.4
	Current	DC, A	0.90 ±10%
	Static Friction Torque	N. m	16.1 or higher
lb-in		142.59 or higher	

Note: Separate power source required for brake (DC24V)

### Speed - Torque Curve



### Temperature Characteristics



### Permissible Radial and Thrust Loads

Radial Load

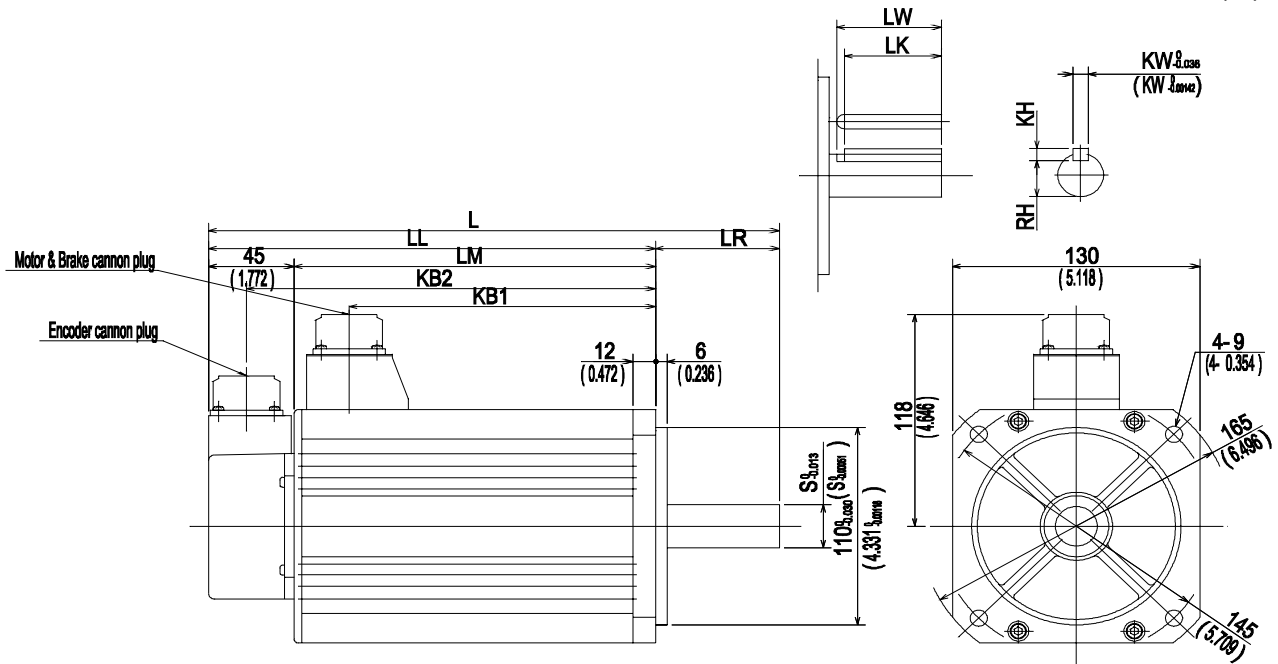
Thrust Load

During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	784.0 N	343.0 N
220.0 lb	132.0 lb	154.0 lb	176.0 lb	77.0 lb

**MSMA502□□□ - 5.0kW/200V**

**Dimensions**

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
Without	345 (13.583)	280 (11.024)	235 (9.252)	205 (8.071)	260 (10.236)	24 (0.945)	65 (2.559)	55 (2.165)	51 (2.008)	8 (0.315)	7 (0.276)	20 (0.787)
With	370 (14.567)	305 (12.008)	260 (10.236)	230 (9.055)	285 (11.220)							

Note: Dimensions reflect incremental type motor. For absolute type motor dimensions, refer to the motor specification.