

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

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

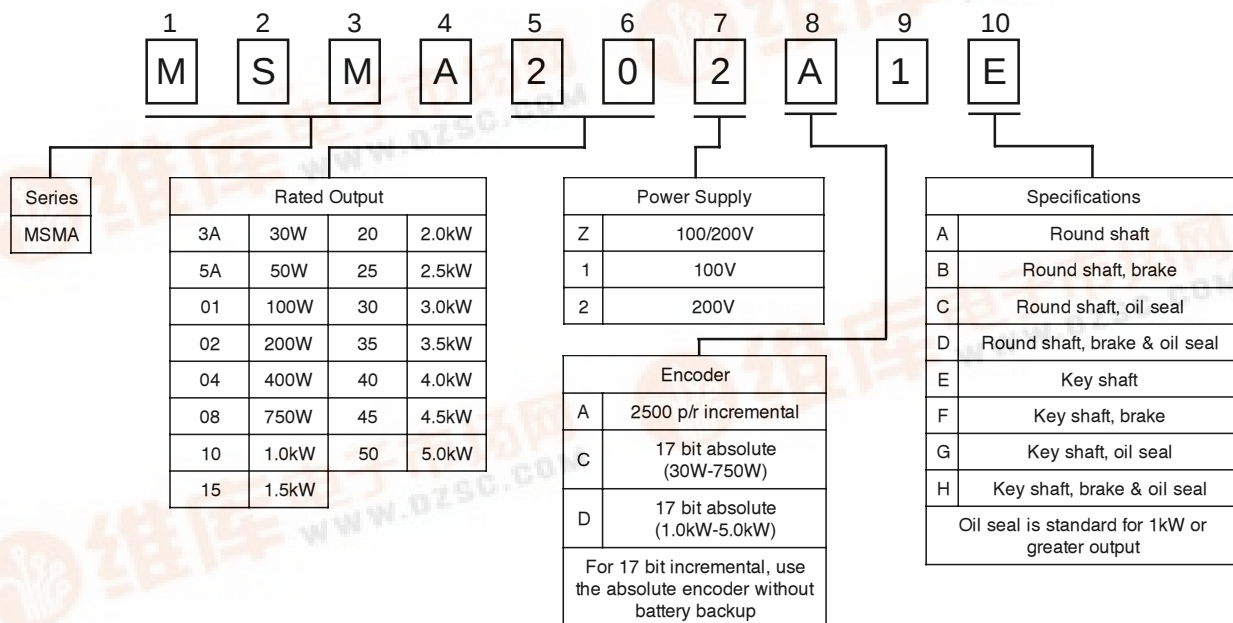
Maximum Speed: 4500/5000rpm

Torque: From 2.48 to 421.58 lb-in at peak

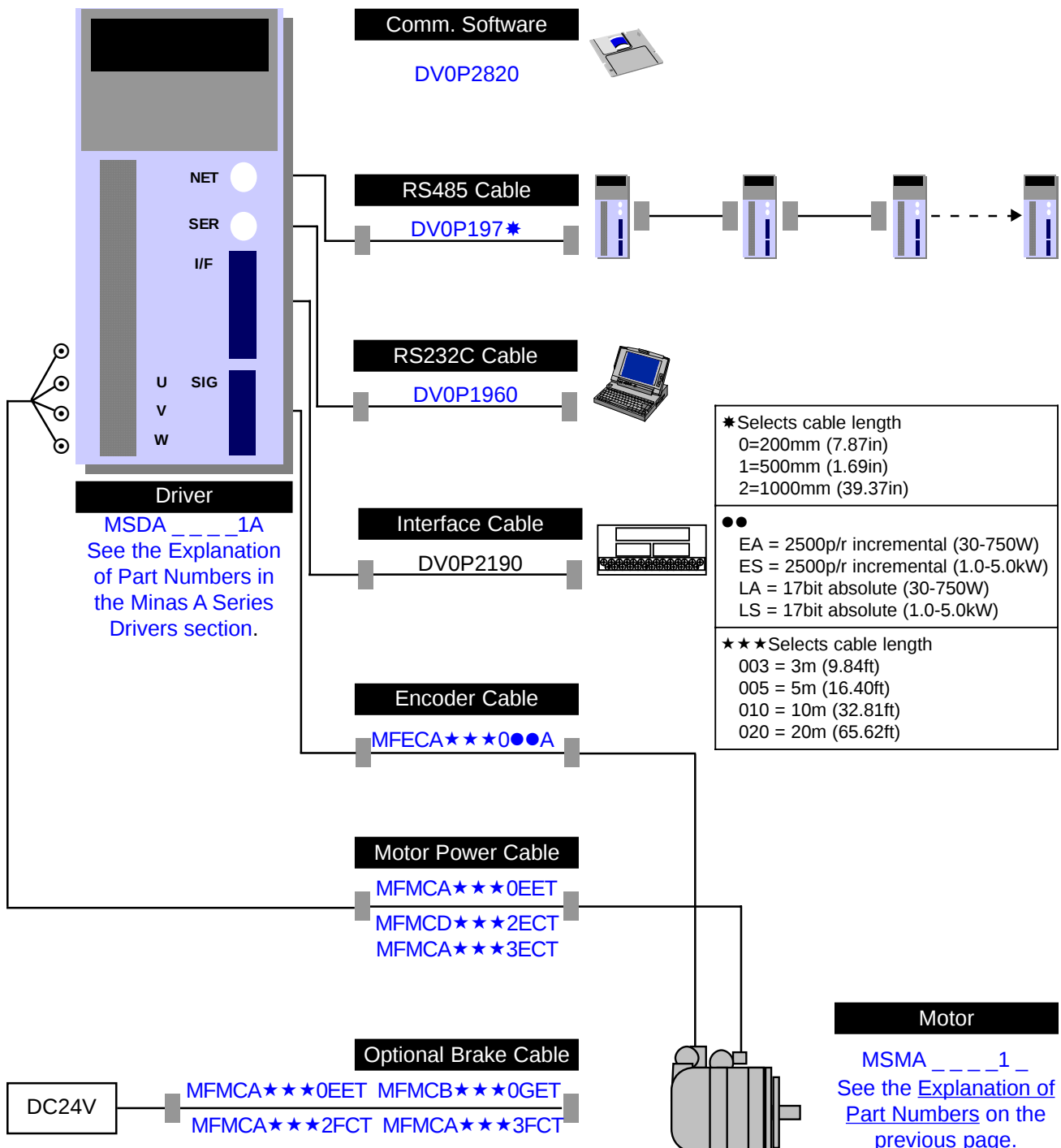
Applicable Amplifier

Use with [MSDA Driver](#)

Explanation of Part Numbers



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	

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

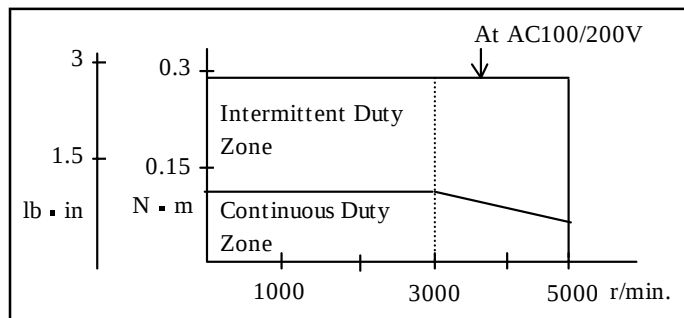
MSMA3AZ□□□ - 30W/100V or 200V

Specifications

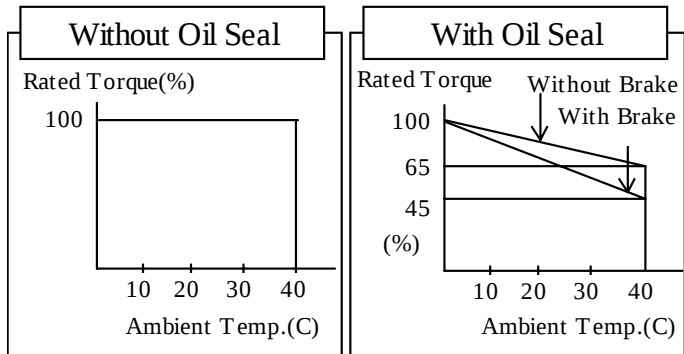
Torque	Rated	N. m	0.095
		lb-in.	0.84
	Maximum	N. m	0.28
		lb-in.	2.48
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	0.016
		lb. in ²	0.005
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	0.020
		lb. in ²	0.007
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	0.27
		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 $\pm$ 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)

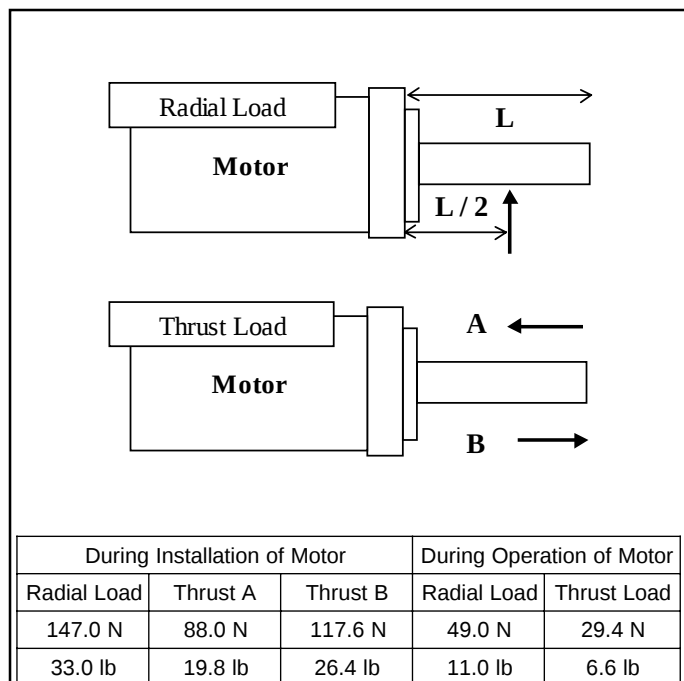
Speed - Torque Curve



Temperature Characteristics



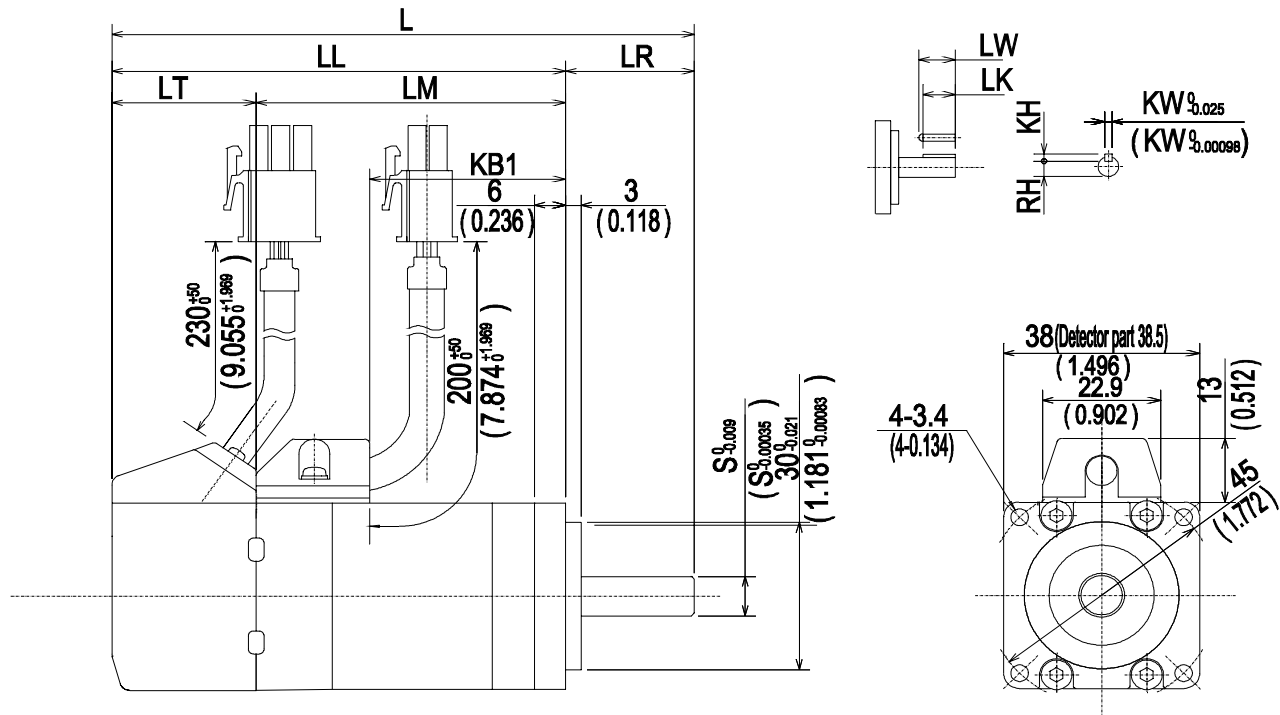
Permissible Radial and Thrust Loads



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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

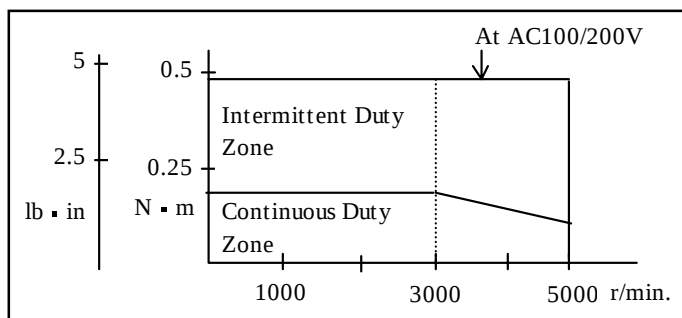
MSMA5AZ□□□ - 50W/100V or 200V

Specifications

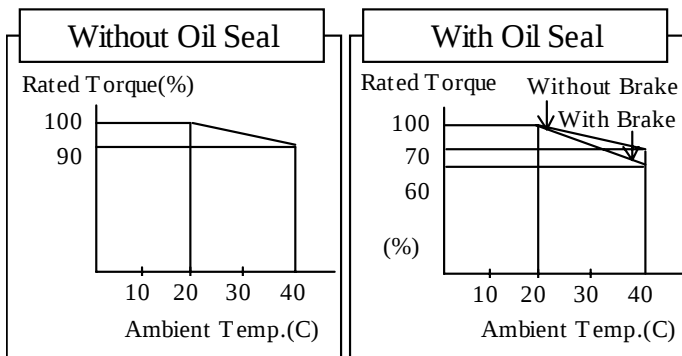
Torque	Rated	N. m	0.16
		lb-in.	1.42
	Maximum	N. m	0.48
		lb-in.	4.25
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	0.025
		lb. in ²	0.009
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	0.030
		lb. in ²	0.010
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	0.34
		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 $\pm$ 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)

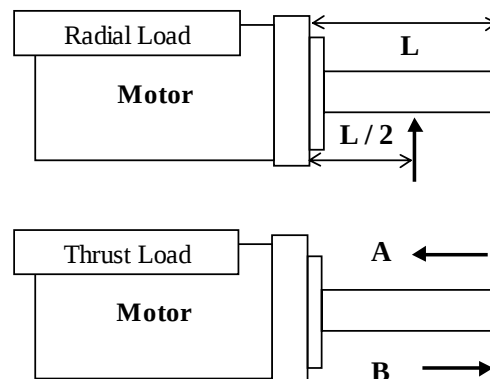
Speed - Torque Curve



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

TABLE OF CONTENTS

Panasonic

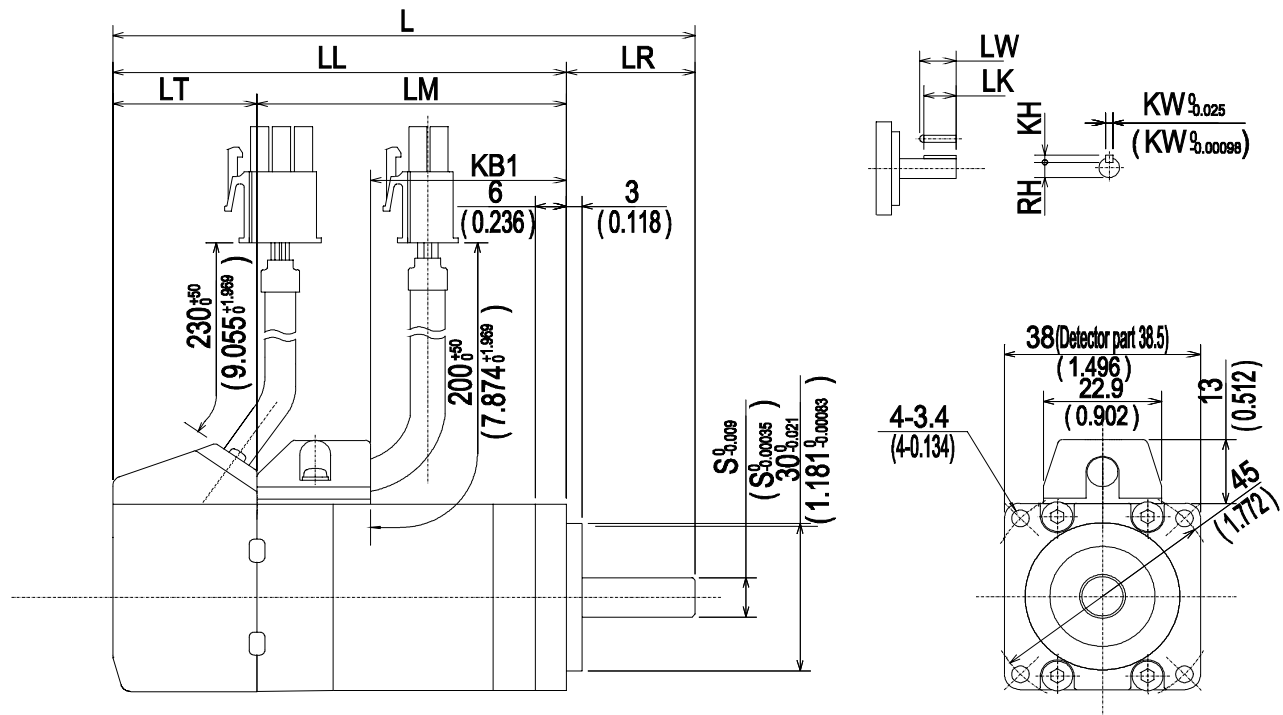
Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

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.

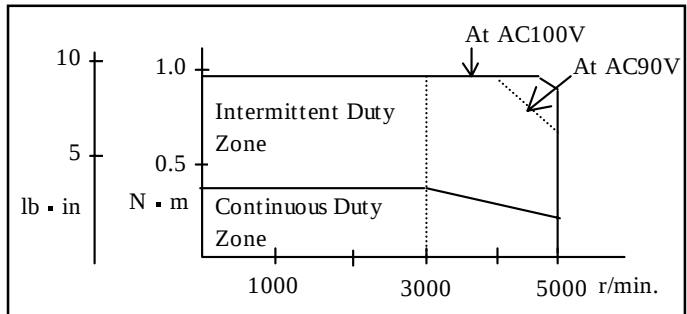
MSMA011□□□ - 100W/100V

Specifications

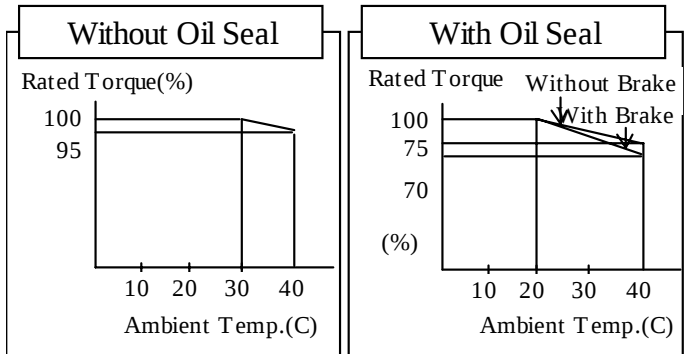
Torque	Rated	N. m	0.32
		lb-in.	2.83
	Maximum	N. m	0.95
		lb-in.	8.41
Rotor Inertia	Without Brake	$\times 10\text{kg} \cdot \text{cm}^2$	0.062
		lb. in ²	0.021
	With Brake	$\times 10\text{kg} \cdot \text{cm}^2$	0.066
		lb. in ²	0.023
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	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 $\pm$ 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)

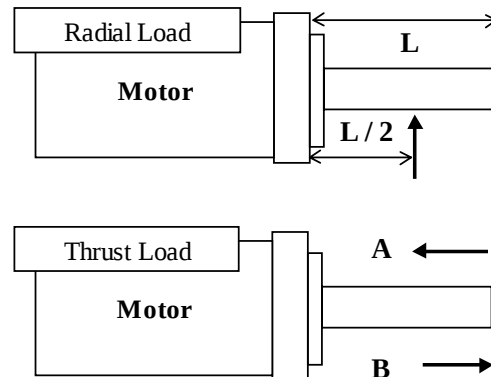
Speed - Torque Curve



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

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

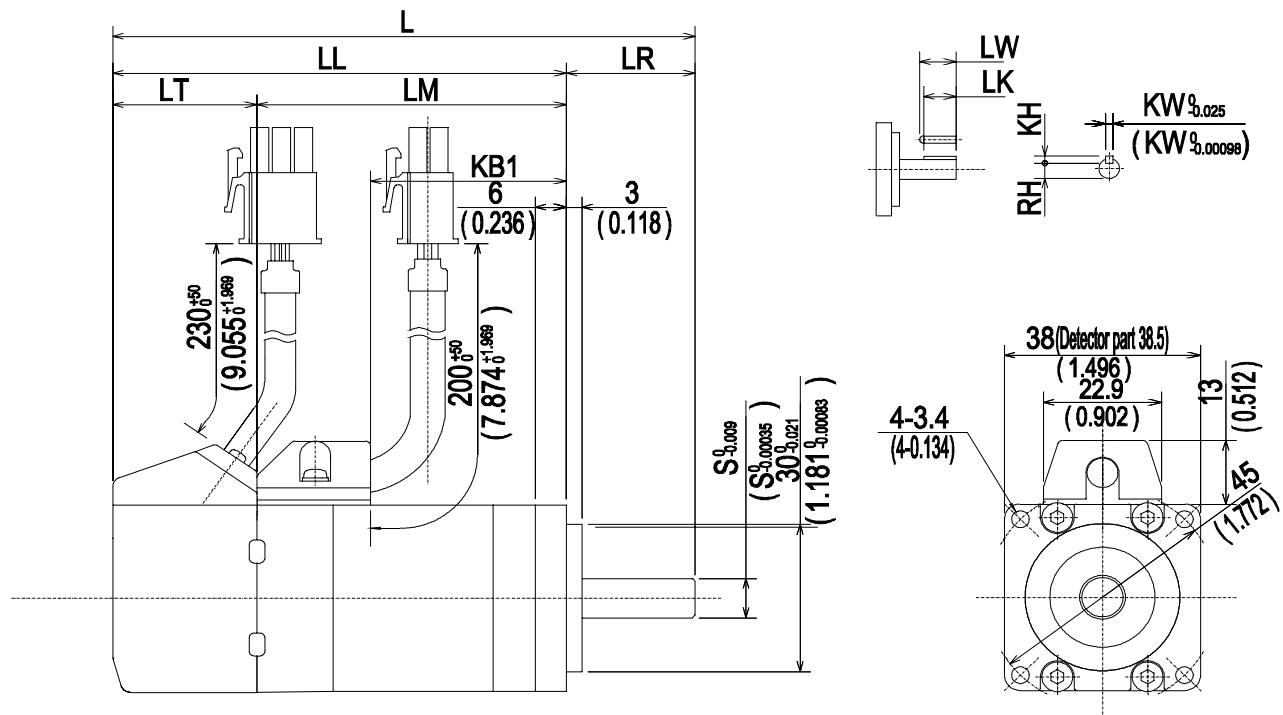
MSMA Series

(Low Inertia)

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 (0.039)	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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

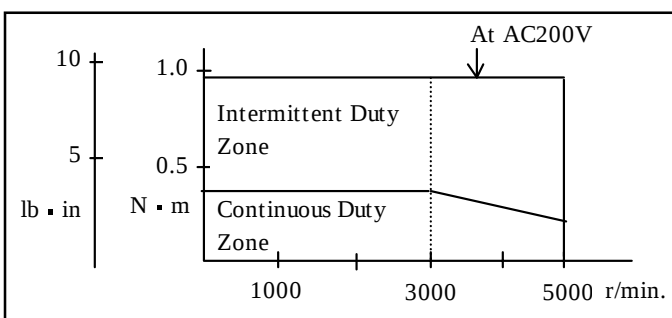
MSMA012□□□ - 100W/200V

Specifications

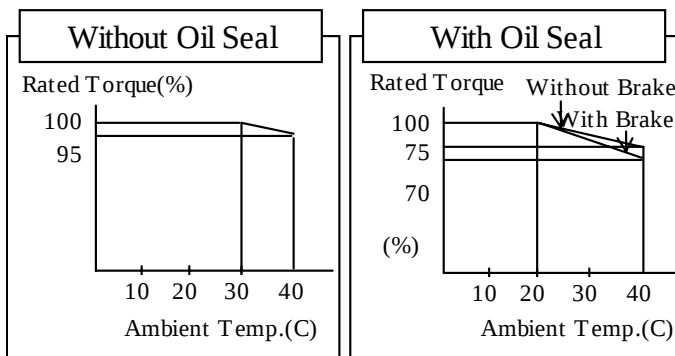
Torque	Rated	N. m	0.32
		lb-in.	2.83
	Maximum	N. m	0.95
		lb-in.	8.41
Rotor Inertia	Without Brake	$\times 10\text{kg} \cdot \text{cm}^2$	0.062
		lb. in ²	0.021
	With Brake	$\times 10\text{kg} \cdot \text{cm}^2$	0.066
		lb. in ²	0.023
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	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 $\pm$ 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)

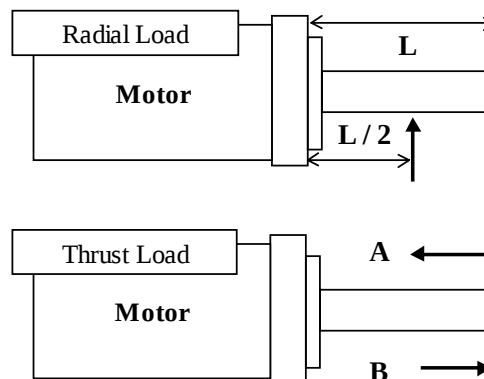
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

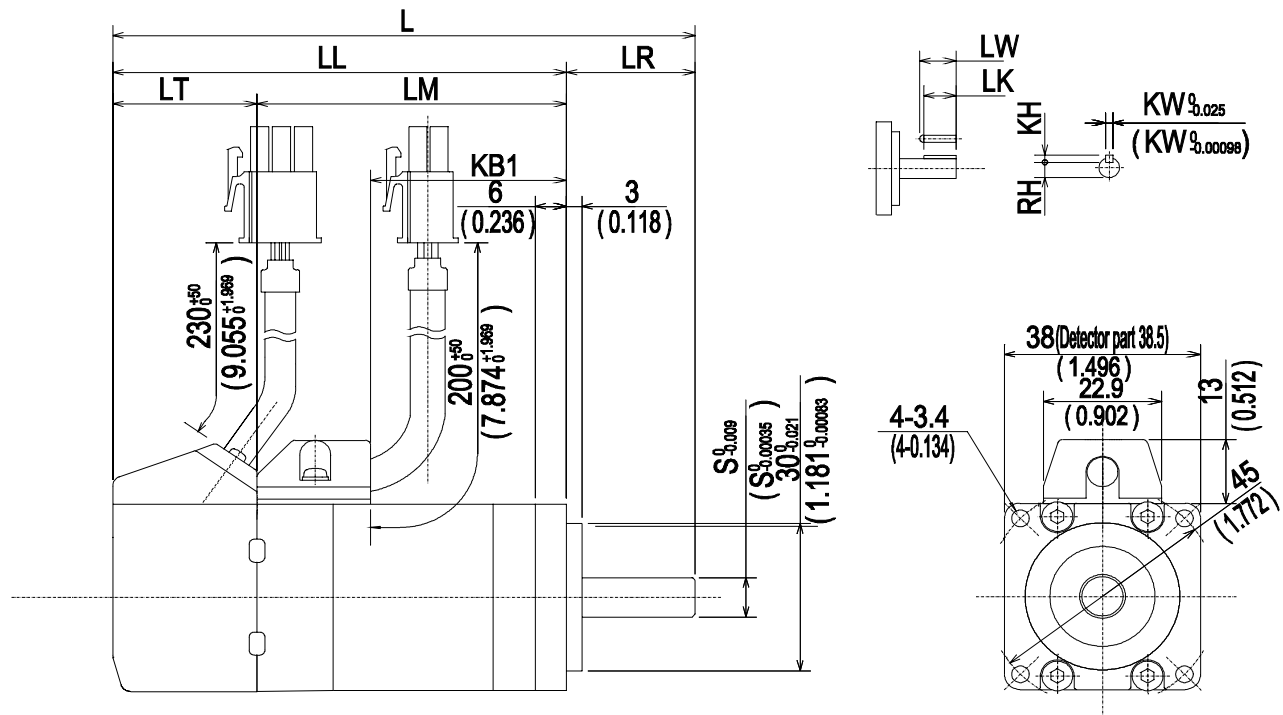


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
147.0 N	88.0 N	117.6 N	68.6 N	58.8 N
33.0 lb	19.8 lb	26.4 lb	15.4 lb	13.2 lb

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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

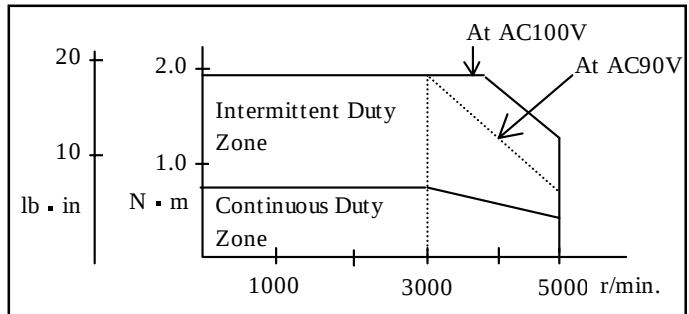
MSMA021□□□ - 200W/100V

Specifications

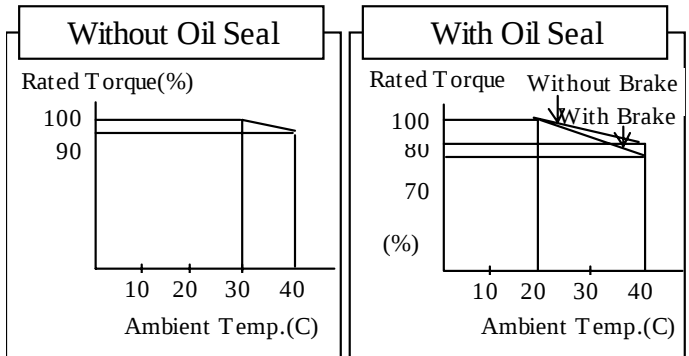
Torque	Rated	N. m	0.64
		lb-in.	5.67
	Maximum	N. m	1.91
		lb-in.	16.92
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	0.170
		lb. in ²	0.058
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	0.200
		lb. in ²	0.068
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	1.00
		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 $\pm$ 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)

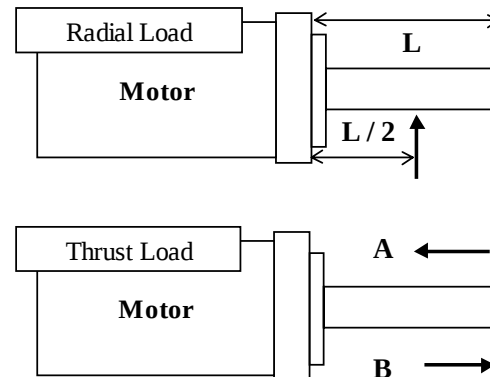
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

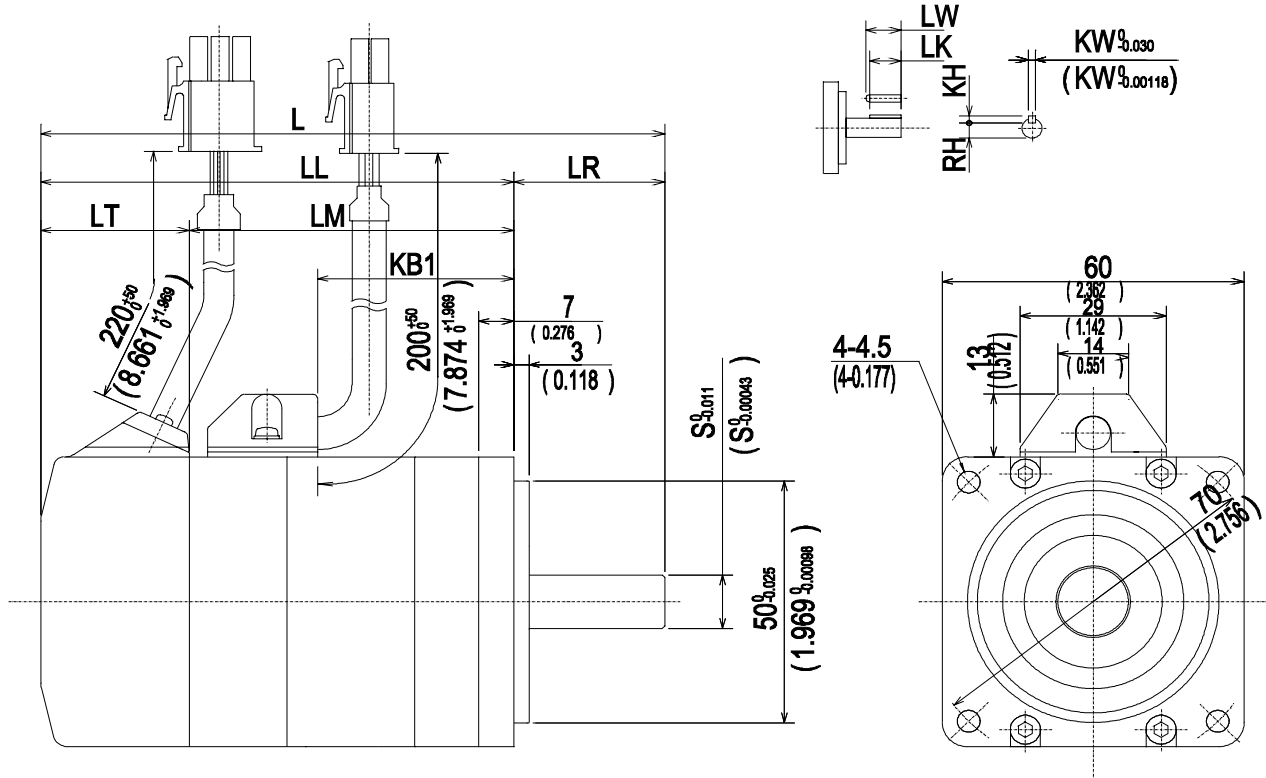


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
392.0 N	147.0 N	196.0 N	245.0 N	98.0 N
88.0 lb	33.0 lb	44.0 lb	55.0 lb	22.0 lb

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)									

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

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

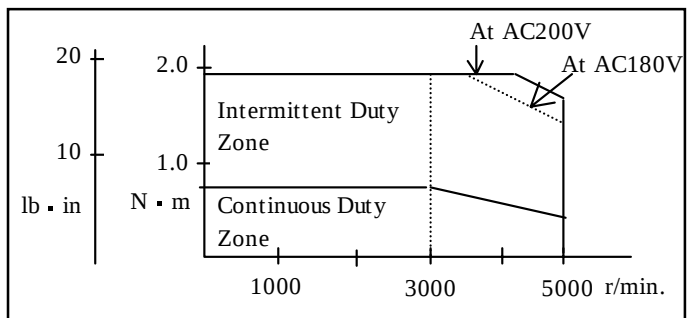
MSMA022□□□ - 200W/200V

Specifications

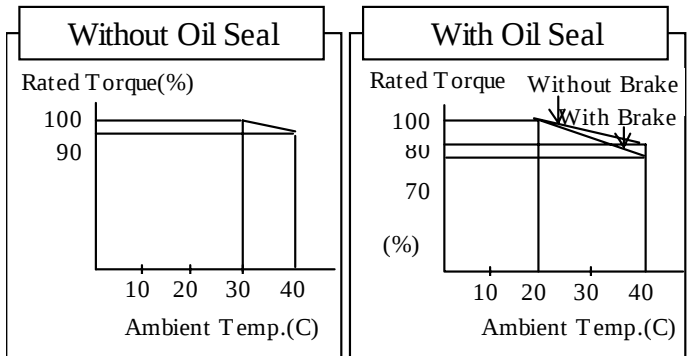
Torque	Rated	N. m	0.64
		lb-in.	5.67
	Maximum	N. m	1.91
		lb-in.	16.92
Rotor Inertia	Without Brake	$\times 10\text{kg} \cdot \text{cm}^2$	0.170
		lb. in ²	0.058
	With Brake	$\times 10\text{kg} \cdot \text{cm}^2$	0.200
		lb. in ²	0.068
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	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 $\pm$ 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)

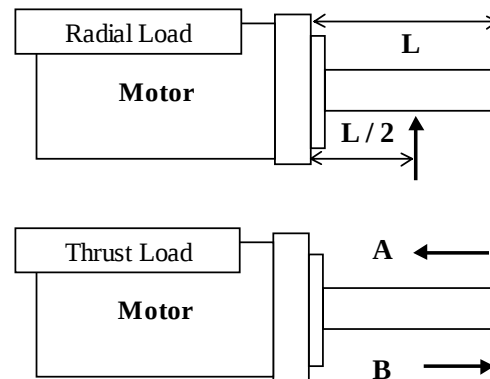
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

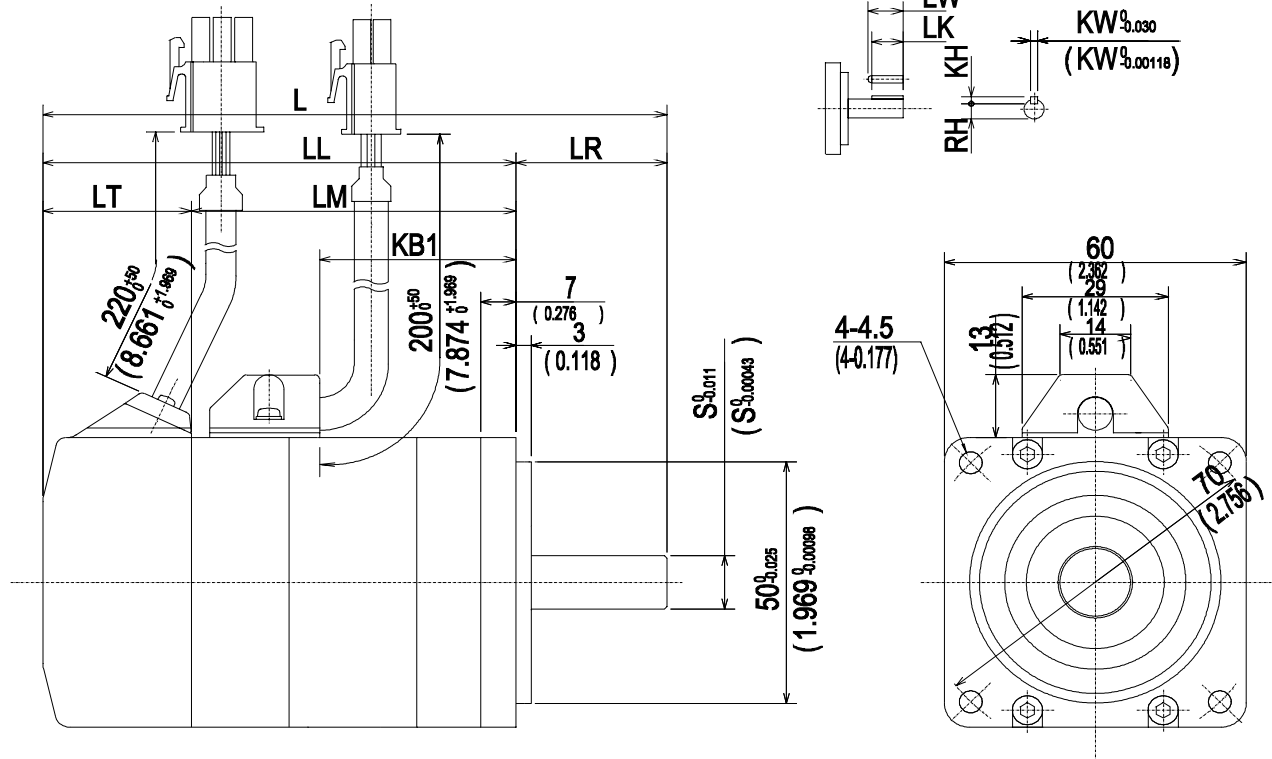


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
392.0 N	147.0 N	196.0 N	245.0 N	98.0 N
88.0 lb	33.0 lb	44.0 lb	55.0 lb	22.0 lb

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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

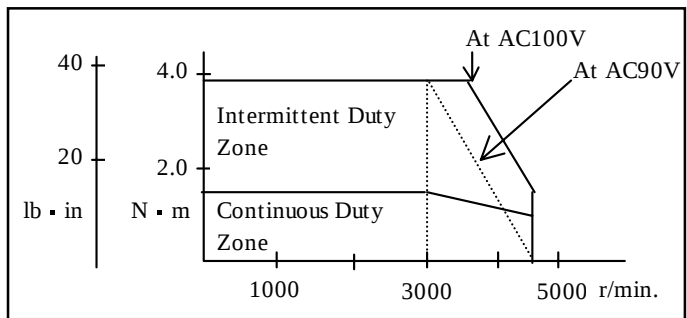
MSMA041□□□ - 400W/100V

Specifications

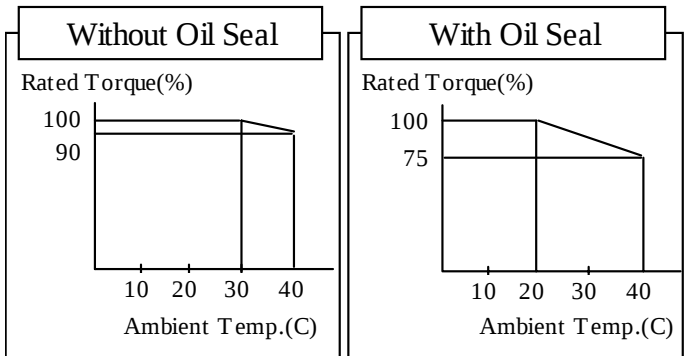
Torque	Rated	N. m	1.30
		lb-in.	11.51
	Maximum	N. m	3.80
		lb-in.	33.66
Rotor Inertia	Without Brake	$\times 10\text{kg} \cdot \text{cm}^2$	0.360
		lb. in ²	0.123
	With Brake	$\times 10\text{kg} \cdot \text{cm}^2$	0.390
		lb. in ²	0.133
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	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 $\pm$ 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)

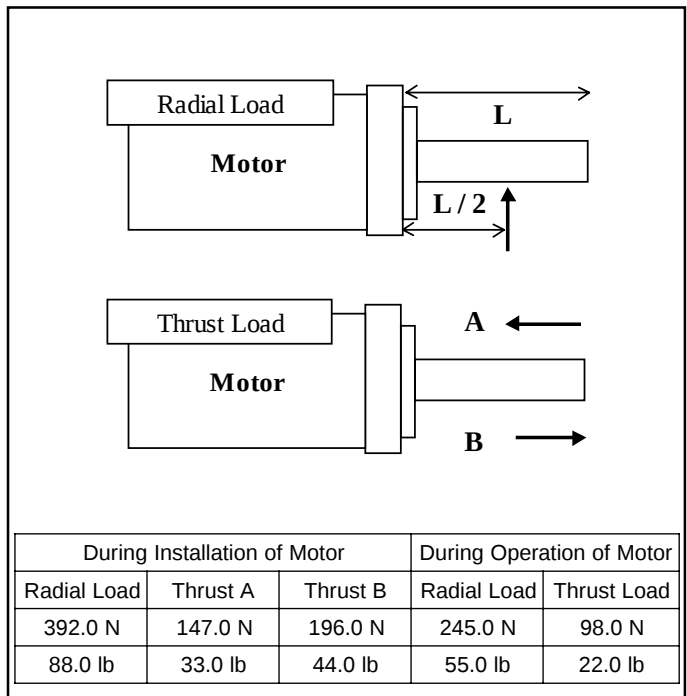
Speed - Torque Curve



Temperature Characteristics



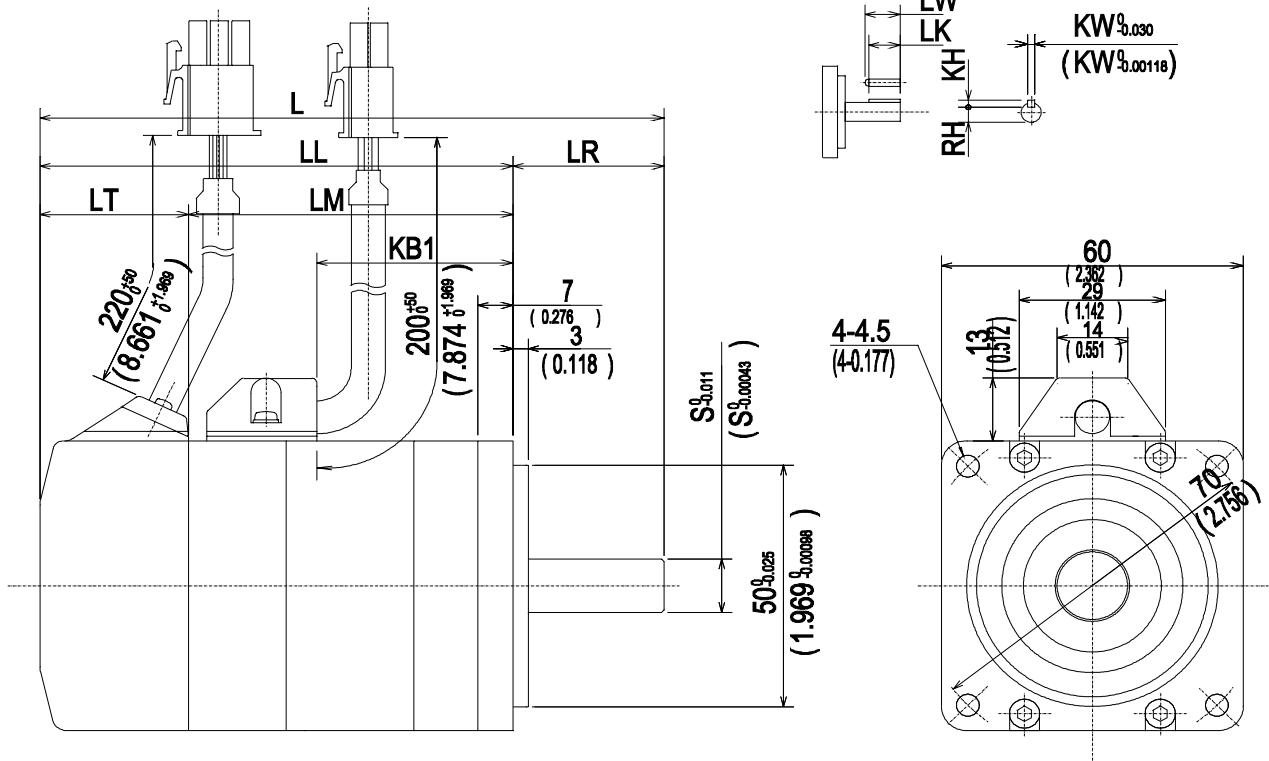
Permissible Radial and Thrust Loads



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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

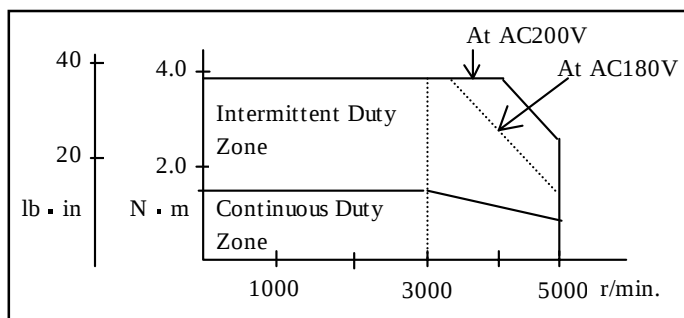
MSMA042□□□ - 400W/200V

Specifications

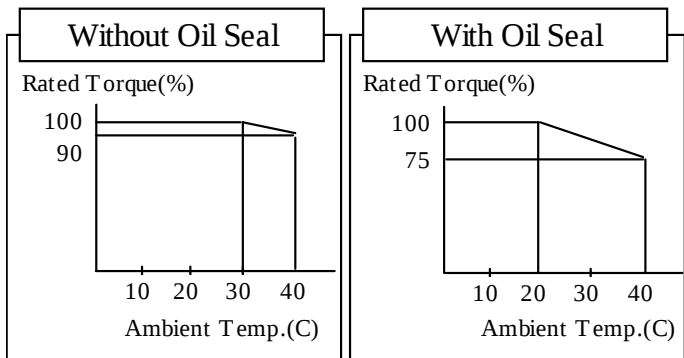
Torque	Rated	N. m	1.30
		lb-in.	11.51
	Maximum	N. m	3.80
		lb-in.	33.66
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	0.360
		lb. in ²	0.123
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	0.390
		lb. in ²	0.133
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	1.60
		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)

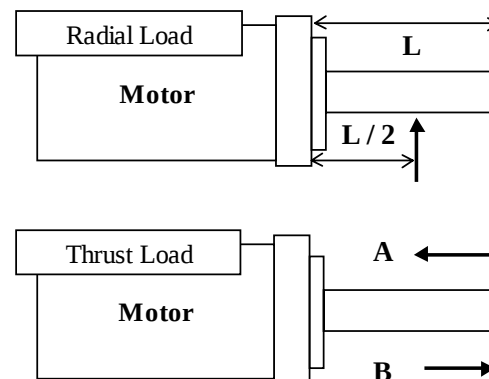
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

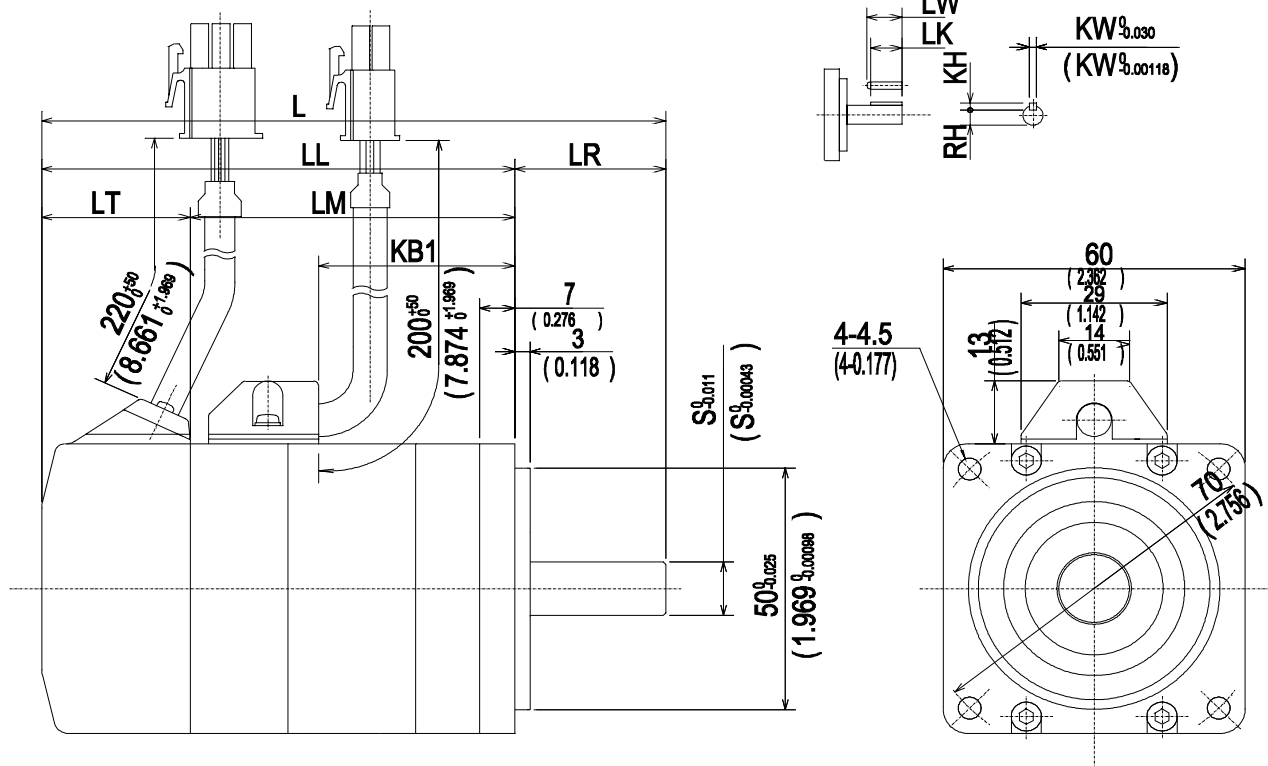


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
392.0 N	147.0 N	196.0 N	245.0 N	98.0 N
88.0 lb	33.0 lb	44.0 lb	55.0 lb	22.0 lb

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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

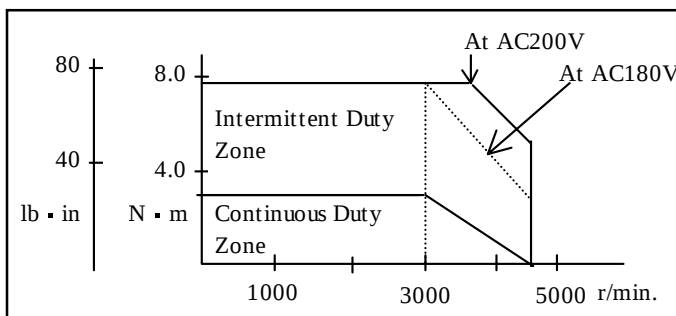
MSMA082 - 750W/200V

Specifications

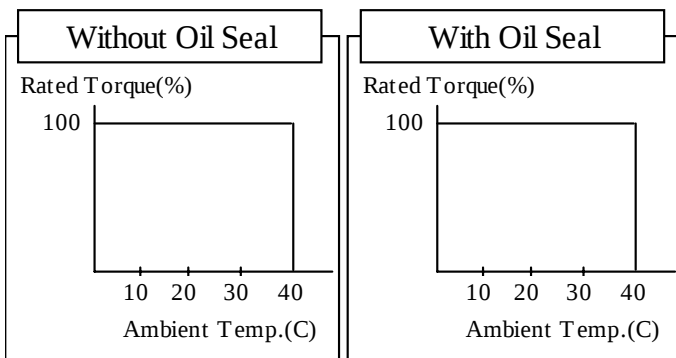
Torque	Rated	N. m	2.40
		lb-in.	21.26
	Maximum	N. m	7.10
		lb-in.	62.88
Rotor Inertia	Without Brake	$\times 10\text{kg} \cdot \text{cm}^2$	1.310
		lb. in ²	0.448
	With Brake	$\times 10\text{kg} \cdot \text{cm}^2$	1.390
		lb. in ²	0.475
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	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 $\pm$ 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)

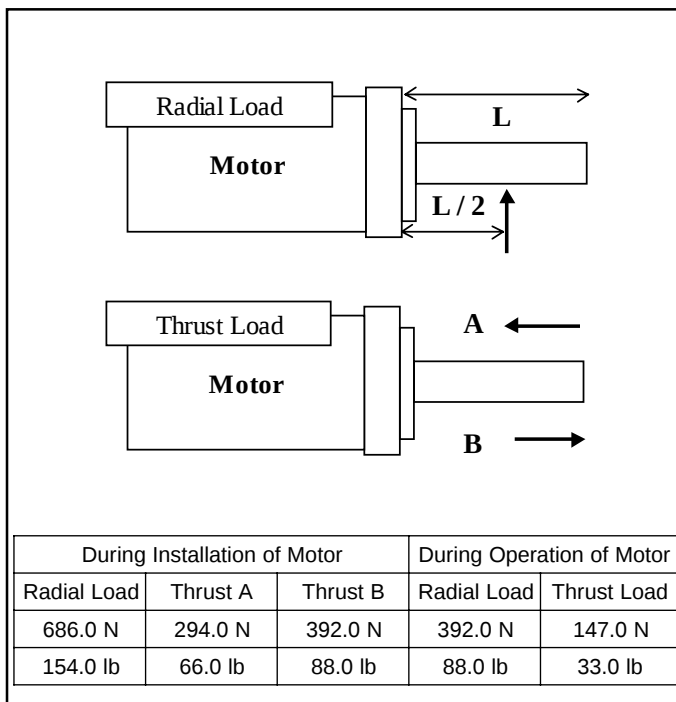
Speed - Torque Curve



Temperature Characteristics



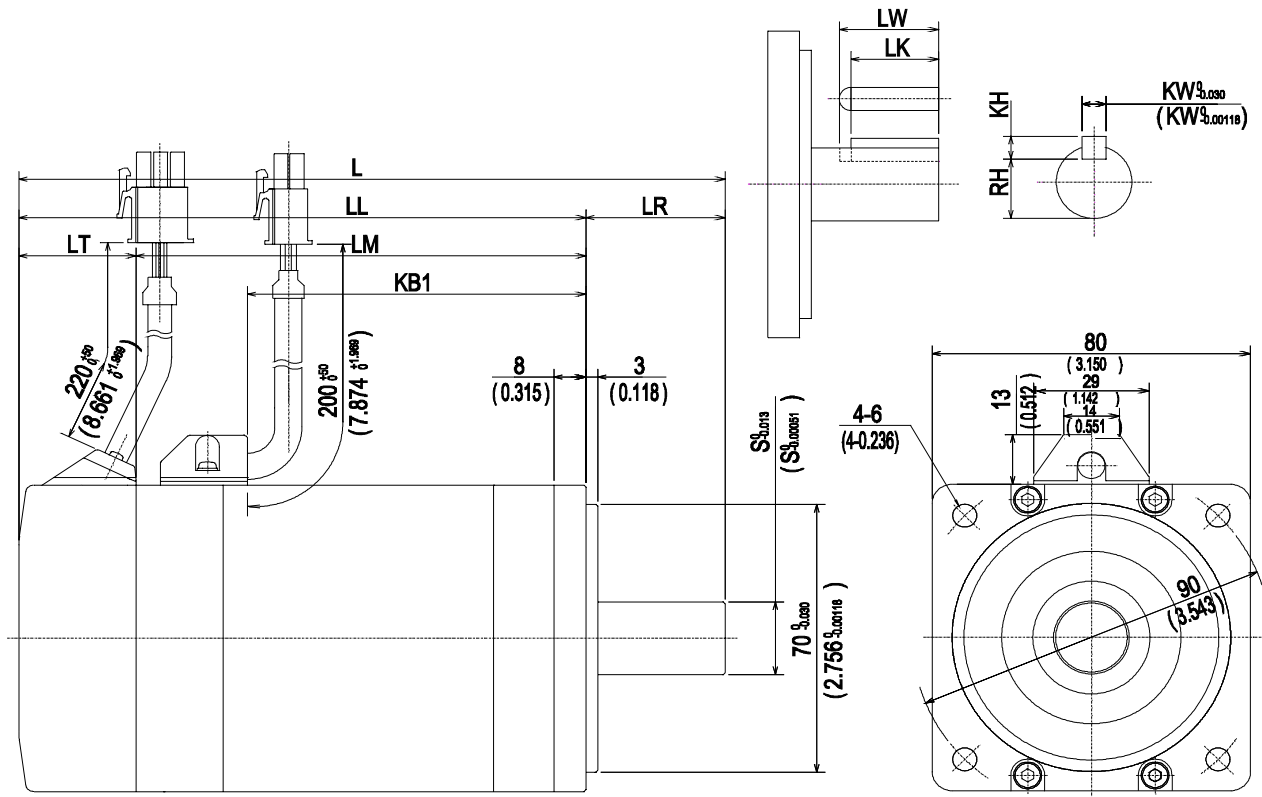
Permissible Radial and Thrust Loads



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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

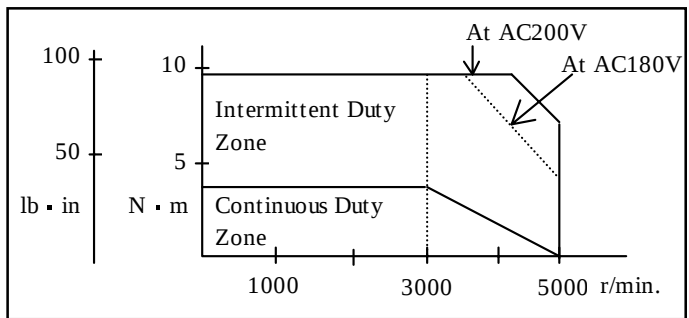
MSMA102 - 1.0kW/200V

Specifications

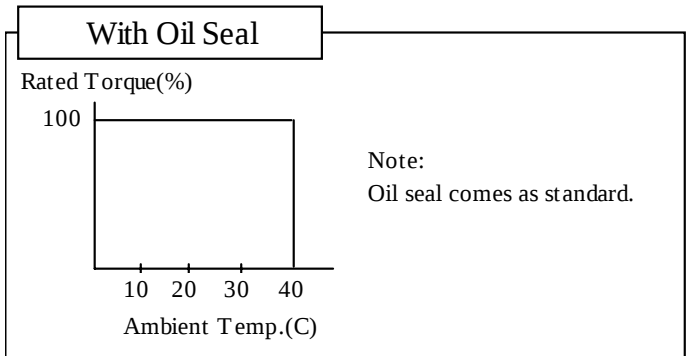
Torque	Rated	N. m	3.18
		lb-in.	28.16
	Maximum	N. m	9.50
		lb-in.	84.14
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	1.69
		lb. in ²	0.58
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	1.88
		lb. in ²	0.64
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	4.5
		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 $\pm$ 2.4
	Current	DC, A	0.74 $\pm$ 10%
	Static Friction Torque	N. m	4.9 or higher
		lb-in	43.40 or higher

Note: Separate power source required for brake (DC24V)

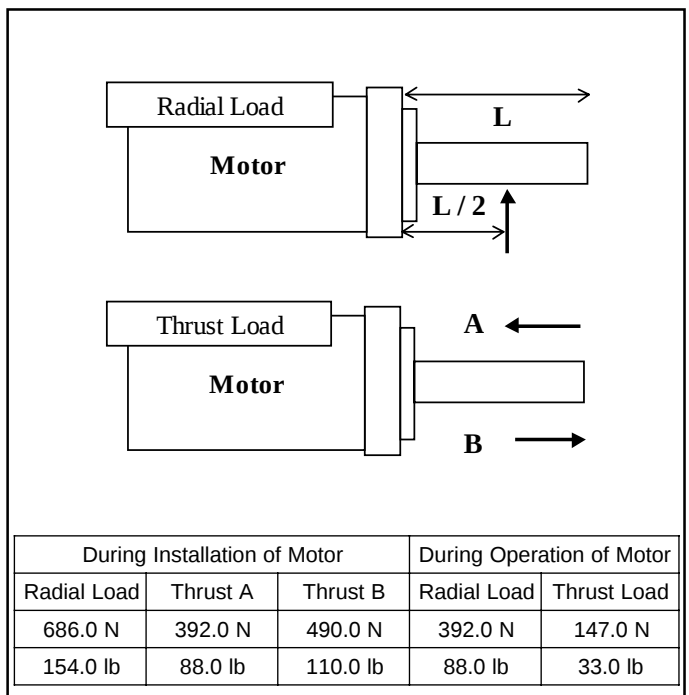
Speed - Torque Curve



Temperature Characteristics



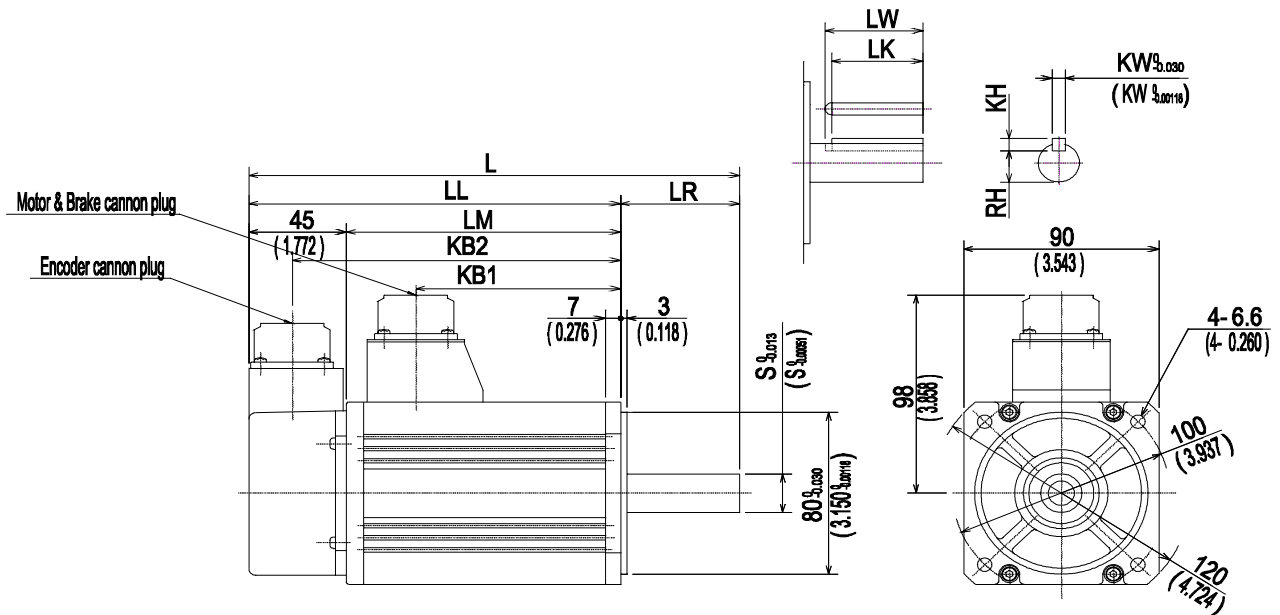
Permissible Radial and Thrust Loads



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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

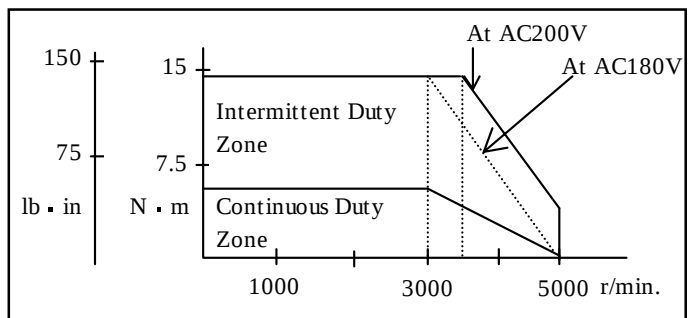
MSMA152 - 1.5kW/200V

Specifications

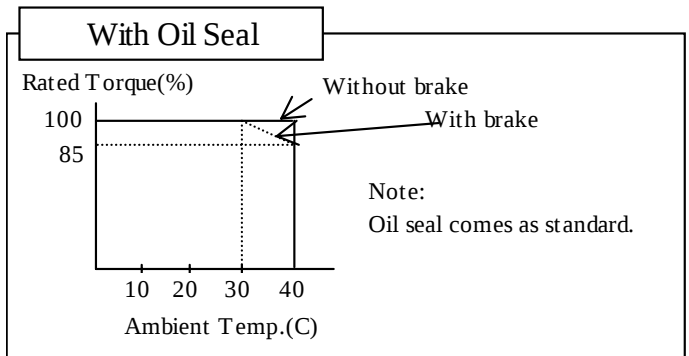
Torque	Rated	N. m	4.77
		lb-in.	42.25
	Maximum	N. m	14.30
		lb-in.	126.65
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	2.59
		lb. in ²	0.89
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	2.84
		lb. in ²	0.97
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	5.1
		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 $\pm$ 2.4
	Current	DC, A	0.81 $\pm$ 10%
	Static Friction Torque	N. m	7.8 or higher
		lb-in	69.08 or higher

Note: Separate power source required for brake (DC24V)

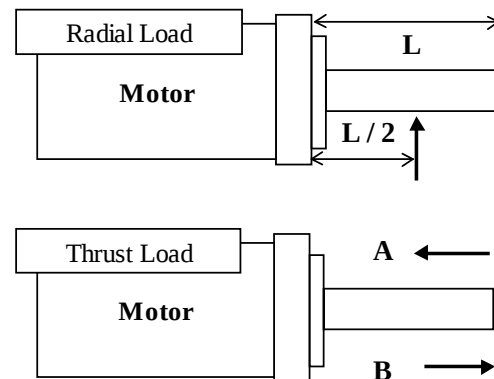
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

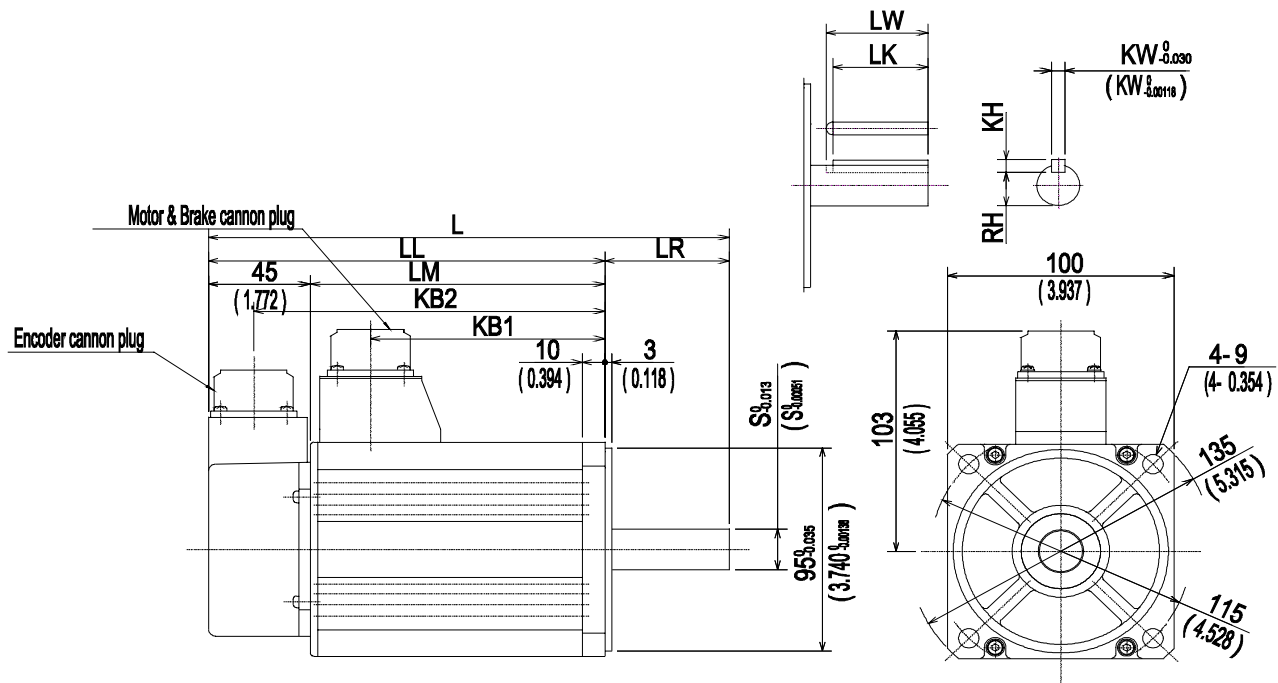


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb

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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

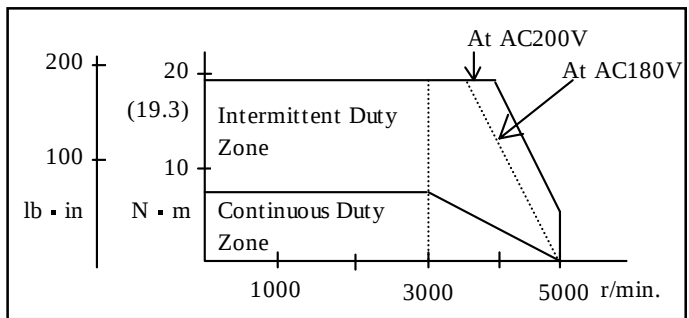
MSMA202□□□ - 2.0kW/200V

Specifications

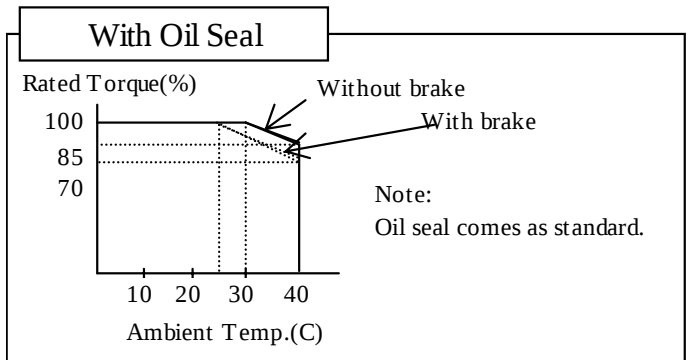
Torque	Rated	N. m	6.36
		lb-in.	56.33
	Maximum	N. m	19.10
		lb-in.	169.16
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	3.46
		lb. in ²	1.18
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	3.81
		lb. in ²	1.30
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	6.5
		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)

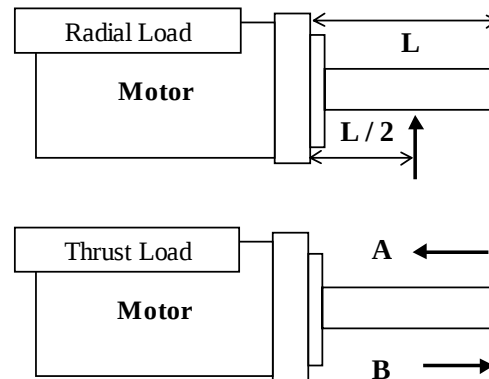
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

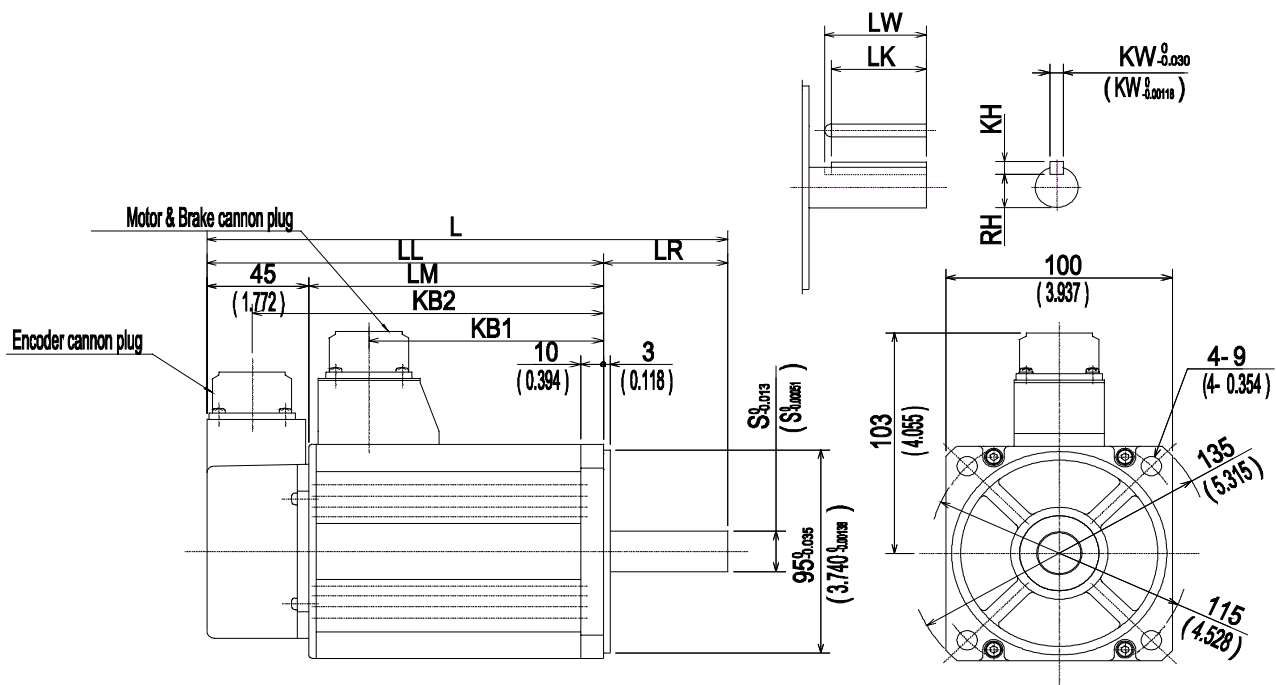


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb

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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

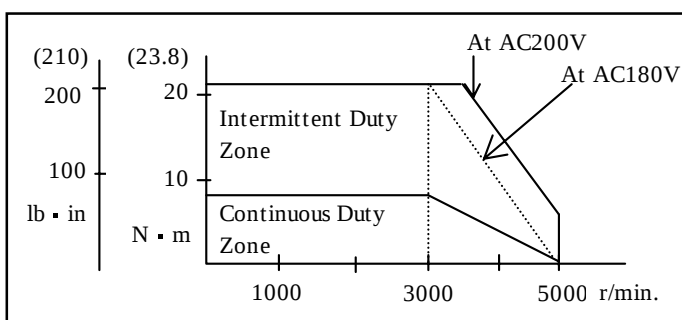
MSMA252□□□ - 2.5kW/200V

Specifications

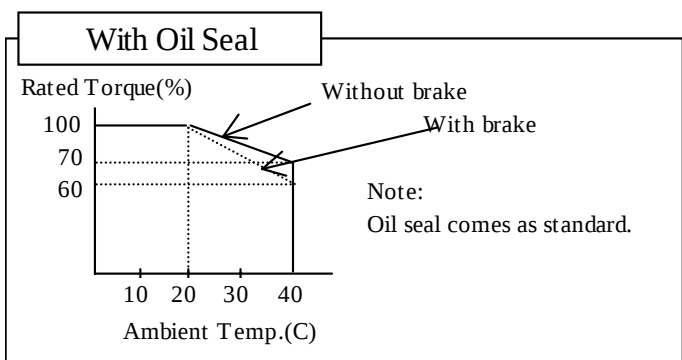
Torque	Rated	N. m	7.94
		lb-in.	70.32
	Maximum	N. m	23.80
		lb-in.	210.79
Rotor Inertia	Without Brake	$\times 10\text{kg} \cdot \text{m}^2$	4.31
		lb. in ²	1.47
	With Brake	$\times 10\text{kg} \cdot \text{m}^2$	4.74
		lb. in ²	1.62
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	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 $\pm$ 2.4
	Current	DC, A	0.81 $\pm$ 10%
	Static Friction Torque	N. m	7.8 or higher
		lb-in	69.08 or higher

Note: Separate power source required for brake (DC24V)

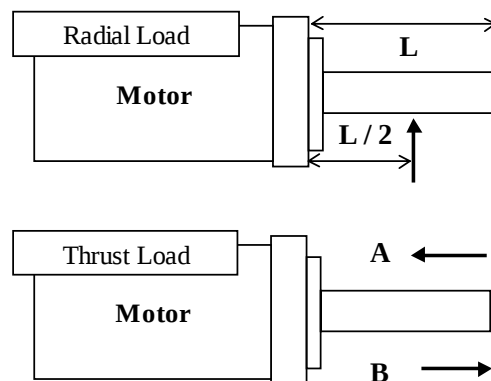
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

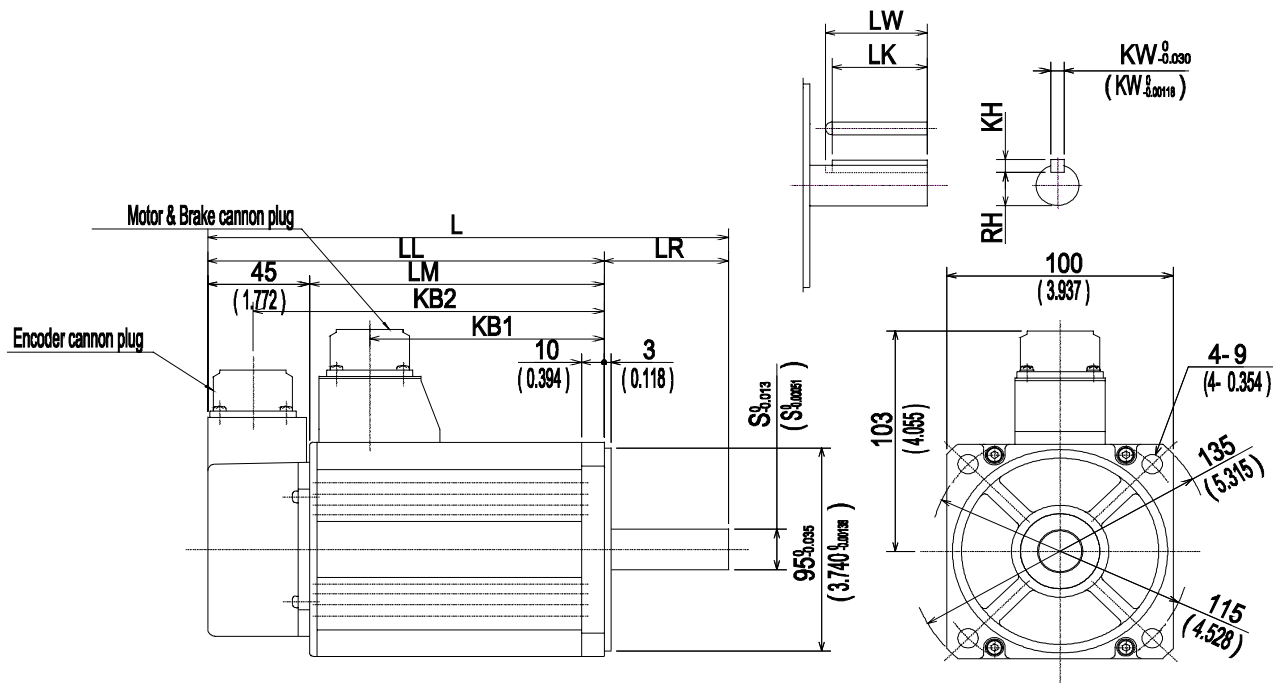


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb

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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

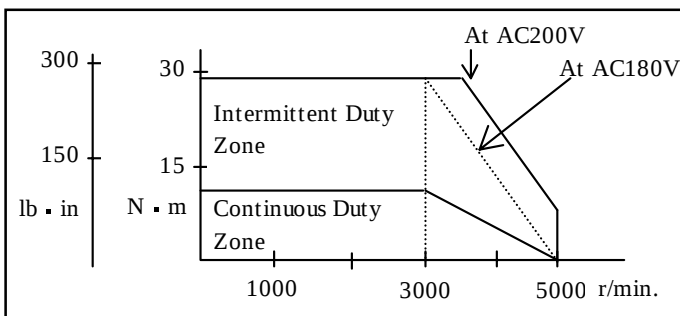
MSMA302□□□ - 3.0kW/200V

Specifications

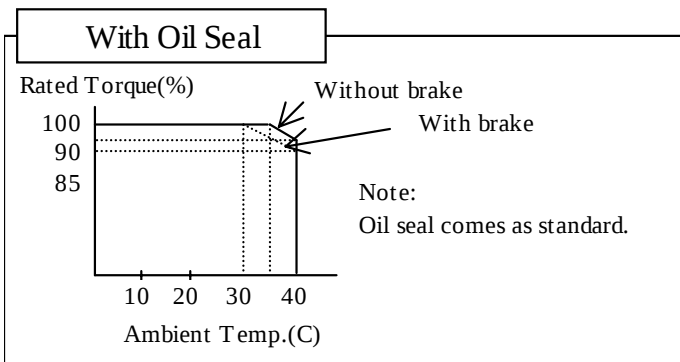
Torque	Rated	N. m	9.54
		lb-in.	84.49
	Maximum	N. m	28.60
		lb-in.	253.30
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	6.77
		lb. in ²	2.31
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	7.45
		lb. in ²	2.55
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	9.3
		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 $\pm$ 2.4
	Current	DC, A	0.81 $\pm$ 10%
	Static Friction Torque	N. m	11.8 or higher
		lb-in	104.50 or higher

Note: Separate power source required for brake (DC24V)

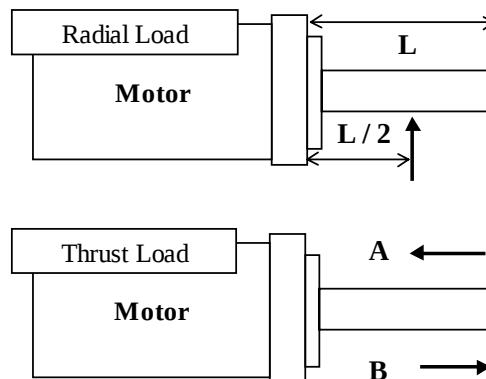
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

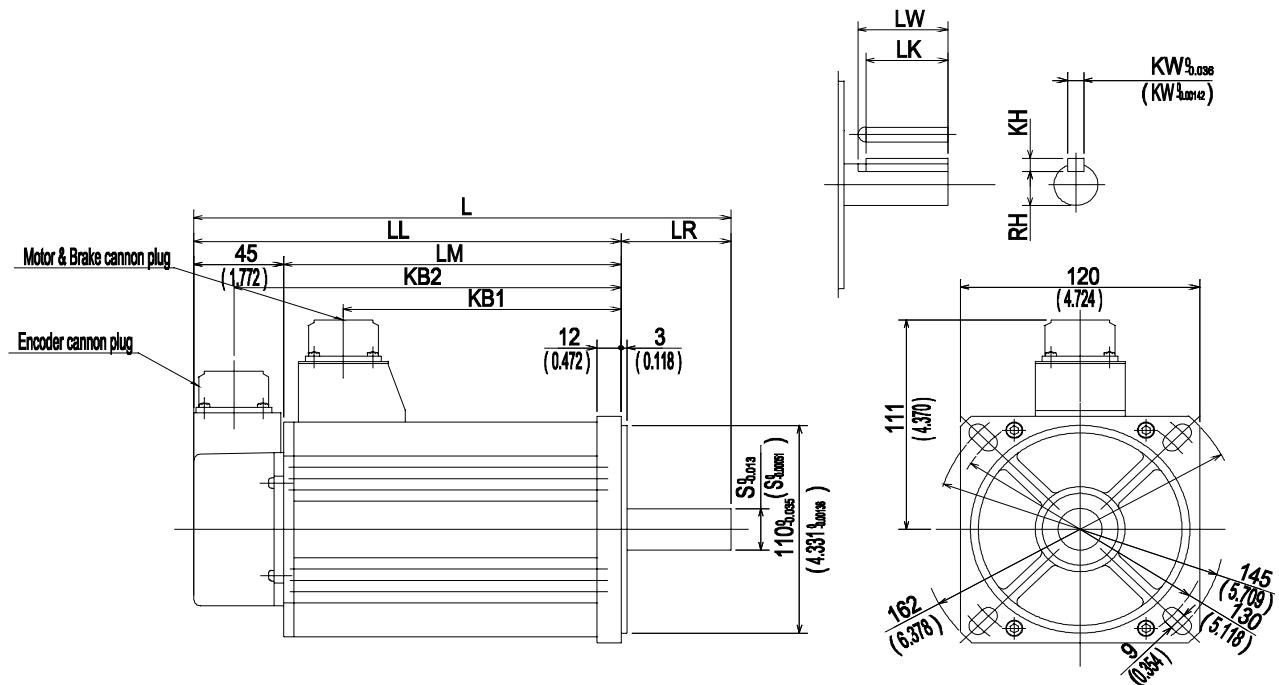


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb

MSMA302□□□ - 3.0kW/200V

Dimensions

Units: mm(in)



Drawing not to scale

Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
Without	269 (10.591)	214 (8.425)	169 (6.654)	140 (5.512)	194 (7.638)	22 (0.866)	55 (2.165)	45 (1.772)	41 (1.614)	8 (0.315)	7 (0.276)	18 (0.709)
With	294 (11.575)	239 (9.409)	194 (7.638)	165 (6.496)	219 (8.622)							

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

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

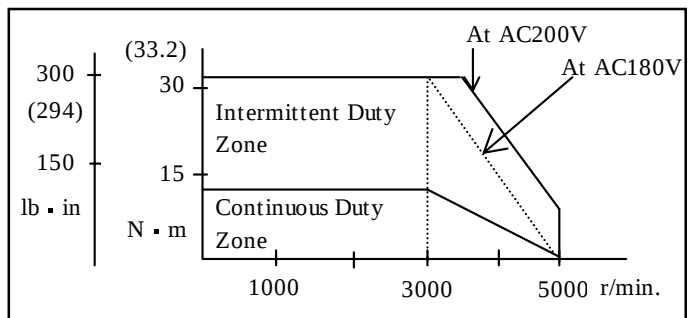
MSMA352□□□ - 3.5kW/200V

Specifications

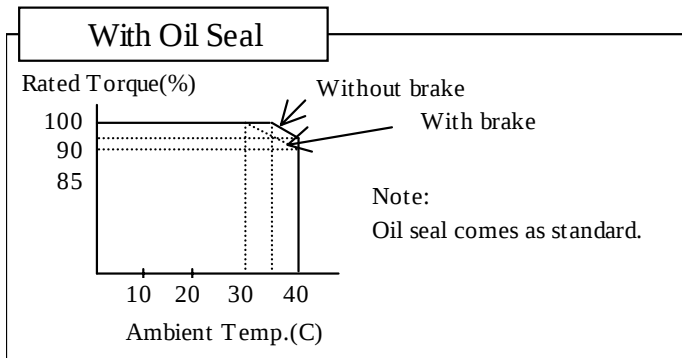
Torque	Rated	N. m	11.00
		lb-in.	97.42
	Maximum	N. m	33.20
		lb-in.	294.04
Rotor Inertia	Without Brake	$\times 10\text{kg} \cdot \text{m}^2$	7.90
		lb. in ²	2.70
	With Brake	$\times 10\text{kg} \cdot \text{m}^2$	8.69
		lb. in ²	2.97
Speed	Rated	r/min.	3000
	Maximum	r/min.	5000
Weight	Without Brake	kg	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 $\pm$ 2.4
	Current	DC, A	0.81 $\pm$ 10%
	Static Friction Torque	N. m	11.8 or higher
		lb-in	104.50 or higher

Note: Separate power source required for brake (DC24V)

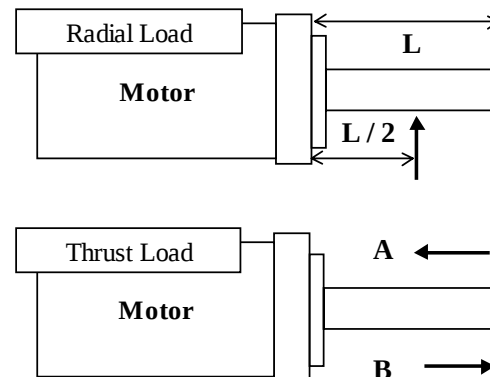
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

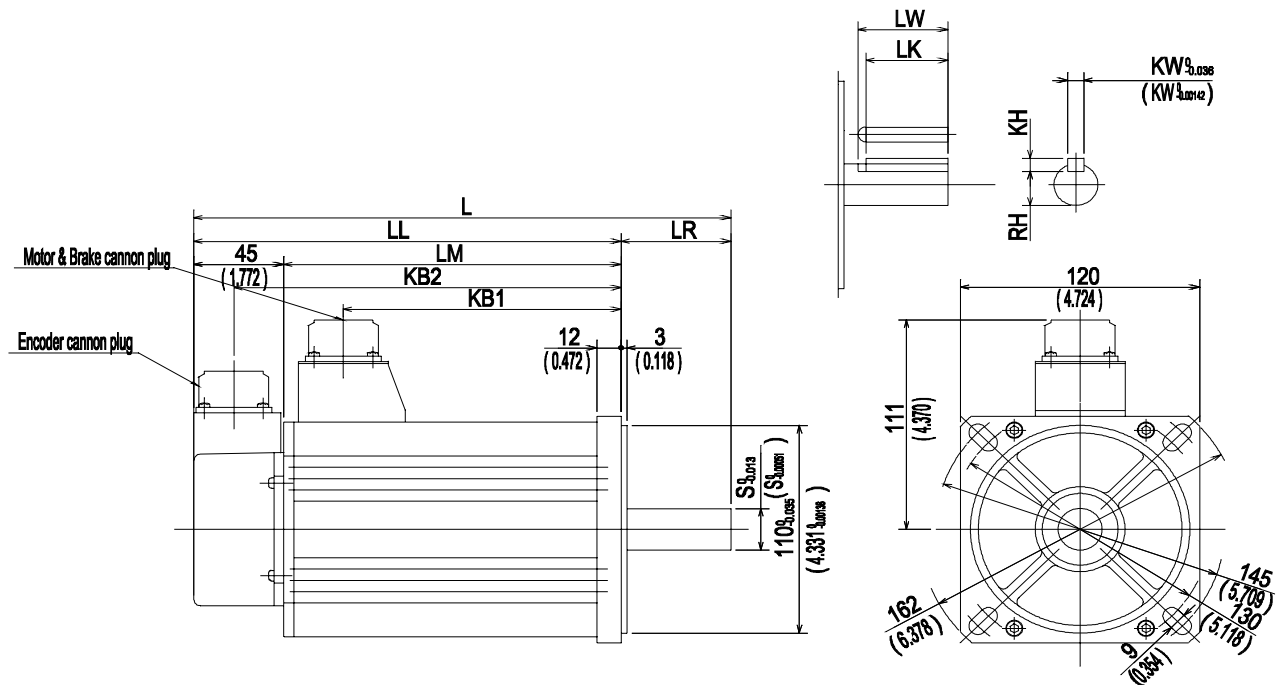


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	490.0 N	196.0 N
220.0 lb	132.0 lb	154.0 lb	110.0 lb	44.0 lb

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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

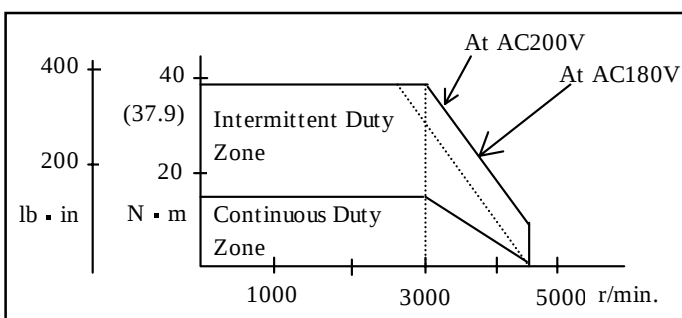
MSMA402□□□ - 4.0kW/200V

Specifications

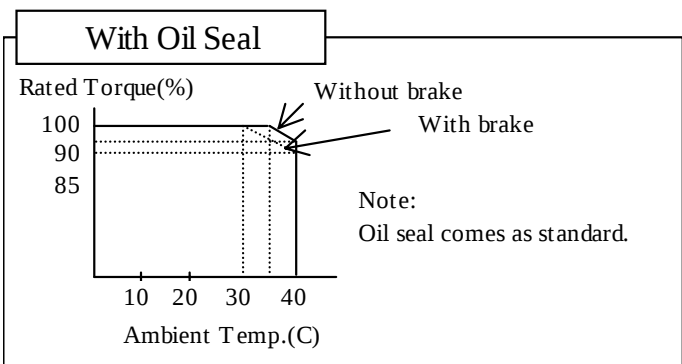
Torque	Rated	N. m	12.60
		lb-in.	111.59
	Maximum	N. m	37.90
		lb-in.	335.67
Rotor Inertia	Without Brake	$\times 10\text{kg}\cdot\text{m}^2$	12.70
		lb. in ²	4.34
	With Brake	$\times 10\text{kg}\cdot\text{m}^2$	14.10
		lb. in ²	4.82
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	kg	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 $\pm$ 2.4
	Current	DC, A	0.90 $\pm$ 10%
	Static Friction Torque	N. m	16.1 or higher
		lb-in	142.59 or higher

Note: Separate power source required for brake (DC24V)

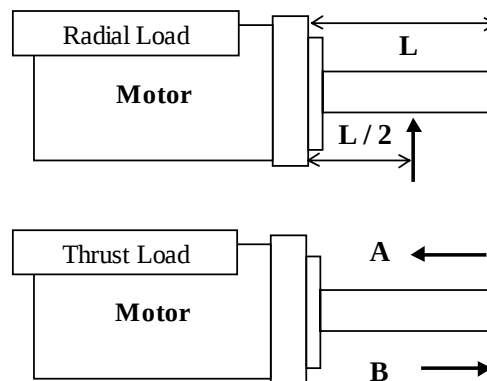
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

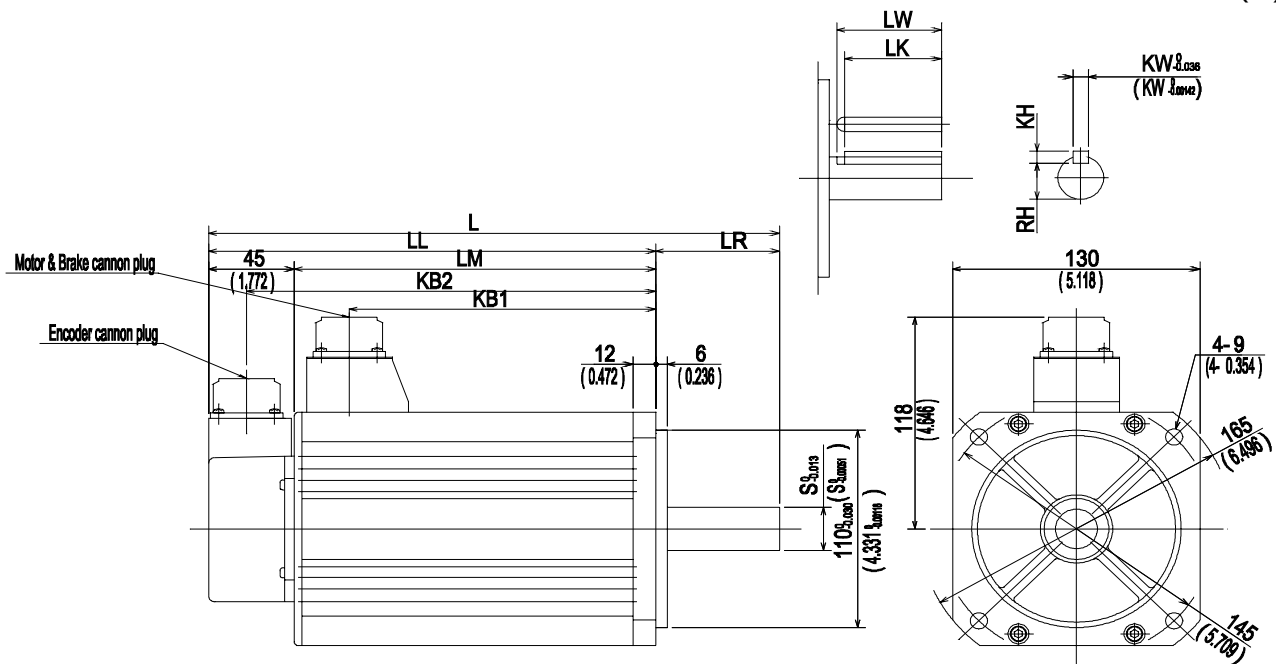


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	784.0 N	343.0 N
220.0 lb	132.0 lb	154.0 lb	176.0 lb	77.0 lb

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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

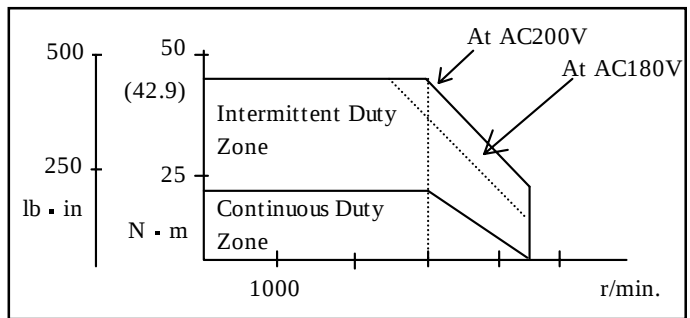
MSMA452□□□ - 4.5kW/200V

Specifications

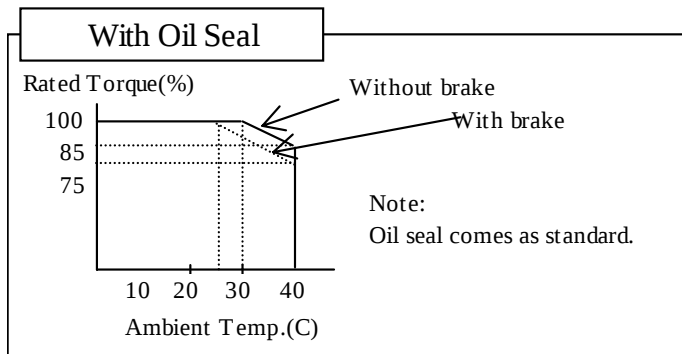
Torque	Rated	N. m	14.30
		lb-in.	126.65
	Maximum	N. m	42.90
		lb-in.	379.95
Rotor Inertia	Without Brake	$\times 10\text{kg} \cdot \text{m}^2$	15.30
		lb. in ²	5.23
	With Brake	$\times 10\text{kg} \cdot \text{m}^2$	17.00
		lb. in ²	5.81
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	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 $\pm$ 2.4
	Current	DC, A	0.90 $\pm$ 10%
	Static Friction Torque	N. m	16.1 or higher
		lb-in	142.59 or higher

Note: Separate power source required for brake (DC24V)

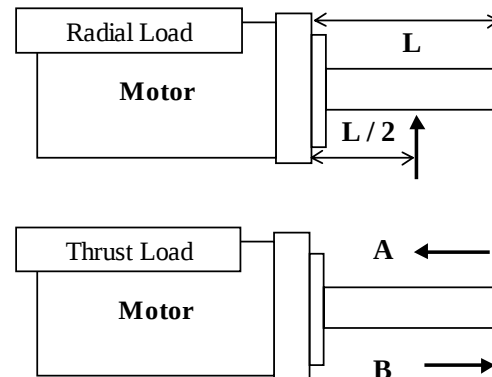
Speed - Torque Curve



Temperature Characteristics



Permissible Radial and Thrust Loads

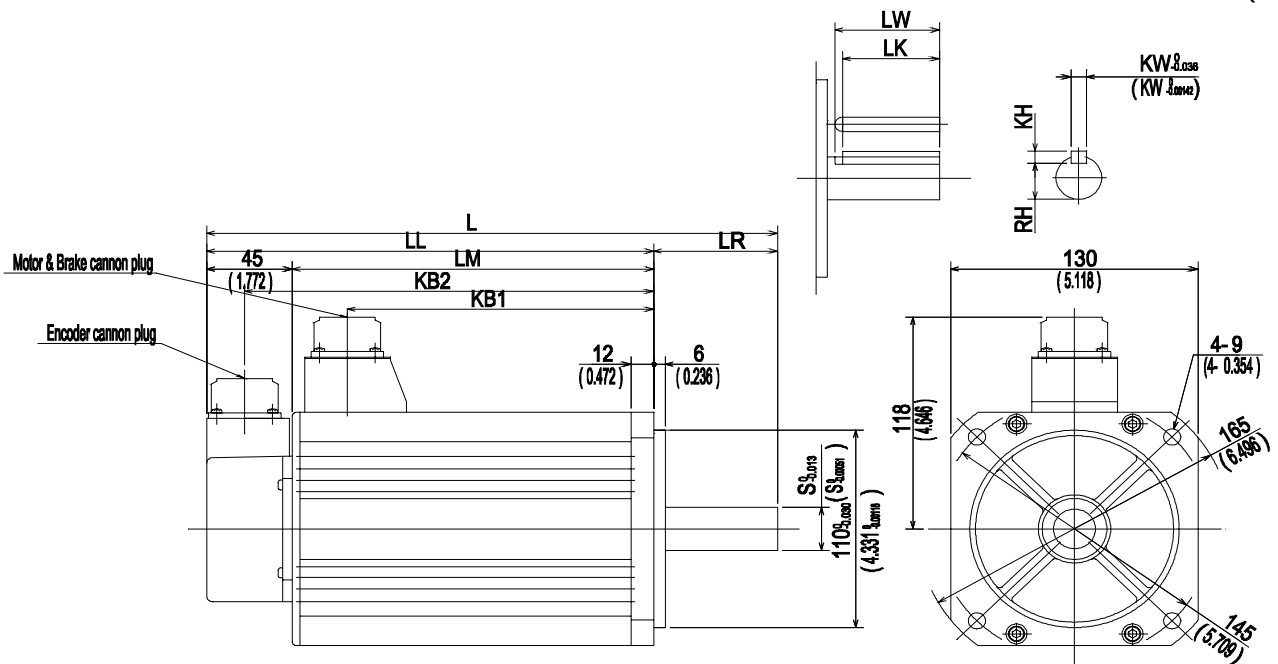


During Installation of Motor			During Operation of Motor	
Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
980.0 N	588.0 N	686.0 N	784.0 N	343.0 N
220.0 lb	132.0 lb	154.0 lb	176.0 lb	77.0 lb

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.

TABLE OF CONTENTS

Panasonic

Minas A Series Digital AC Servo Motors & Drivers

MSMA Series
(Low Inertia)

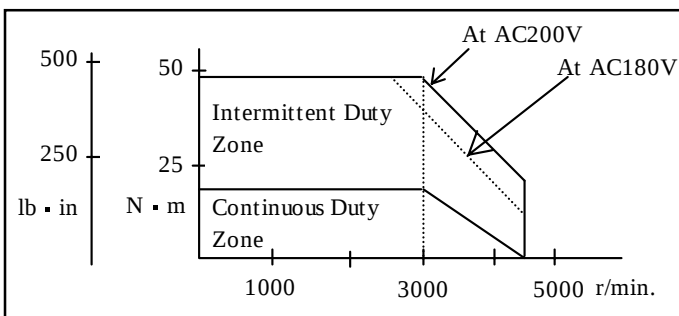
MSMA502□□□ - 5.0kW/200V

Specifications

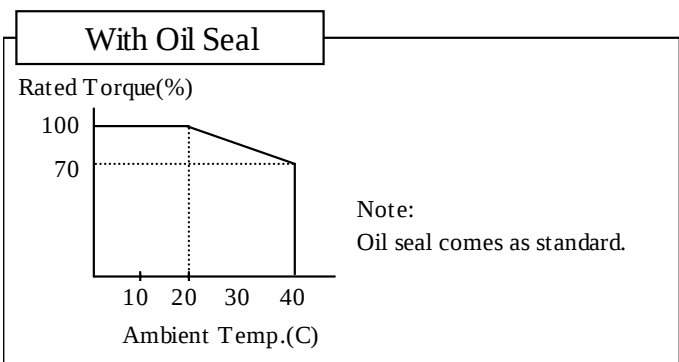
Torque	Rated	N. m	15.80
		lb-in.	139.94
	Maximum	N. m	47.60
		lb-in.	421.58
Rotor Inertia	Without Brake	$\times 10\text{kg} \cdot \text{m}^2$	17.80
		lb. in ²	6.08
	With Brake	$\times 10\text{kg} \cdot \text{m}^2$	19.70
		lb. in ²	6.73
Speed	Rated	r/min.	3000
	Maximum	r/min.	4500
Weight	Without Brake	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 $\pm$ 2.4
	Current	DC, A	0.90 $\pm$ 10%
	Static Friction Torque	N. m	16.1 or higher
		lb-in	142.59 or higher

Note: Separate power source required for brake (DC24V)

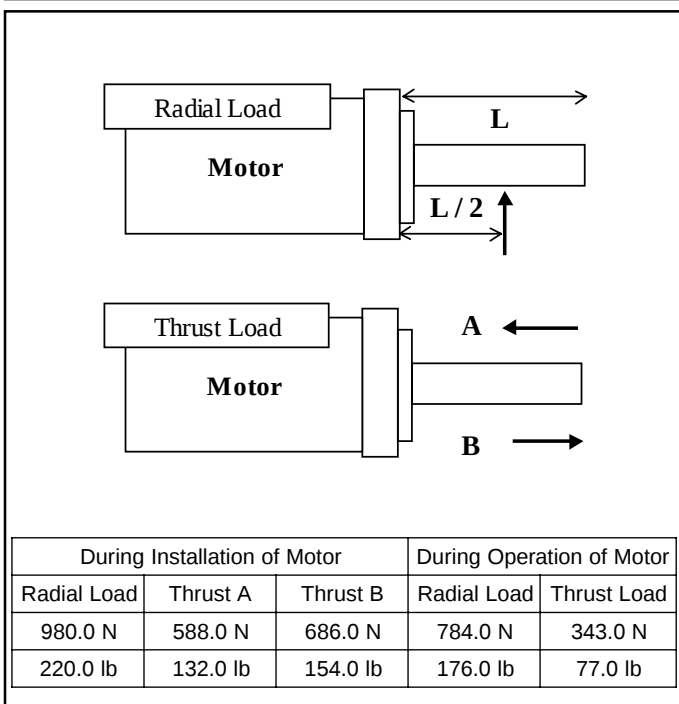
Speed - Torque Curve



Temperature Characteristics



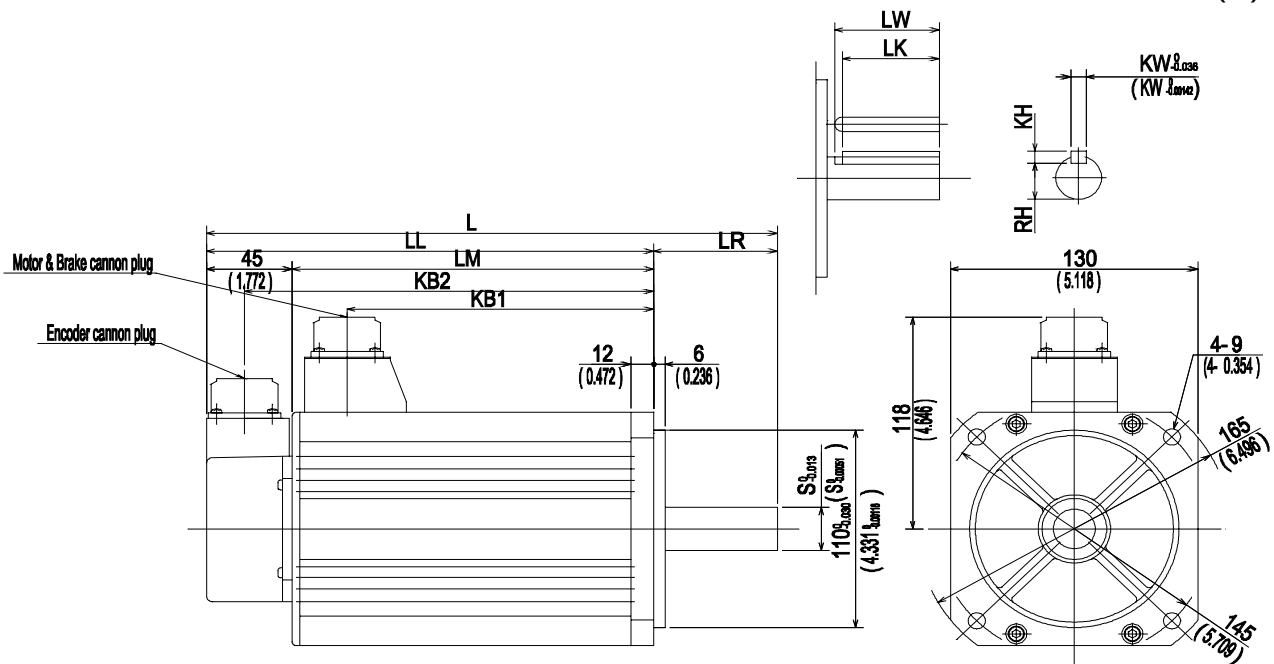
Permissible Radial and Thrust Loads



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.