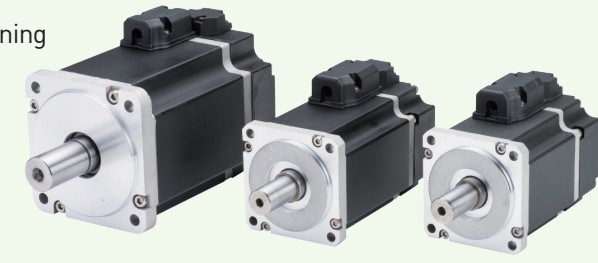


E1 Servo Motor Features

- Speeds up to 6000rpm based on model
- Encoder resolution 23Bit
- High Servo control bandwidth allows for precise angular motor positioning
- Quick and easy installation interface
- Rated output 200W~2KW, optional brake, IP65 and key

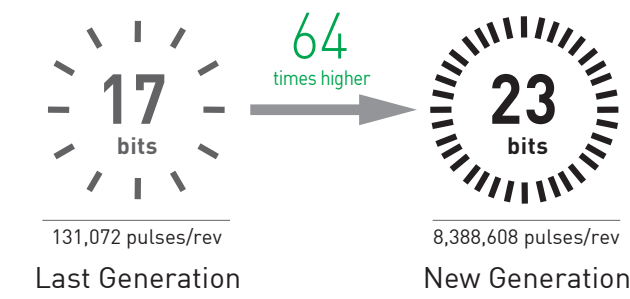


Optimized motor performance with E1 series drives.

Application

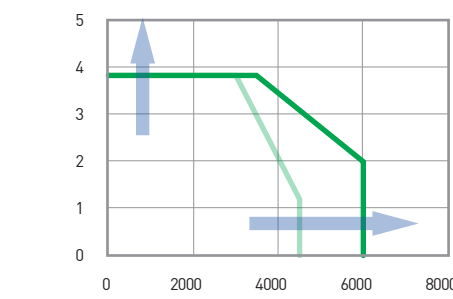
FPD, semiconductor, laser, PCB, machine tool, Inkjet, measuring/inspection, Energy industry and related automation industry.

1 Improved Processing Accuracy



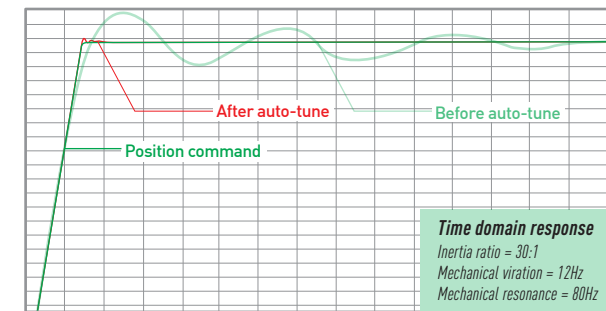
2 High speed

Max. speed 6000rpm, max. torque improves by 310-350%

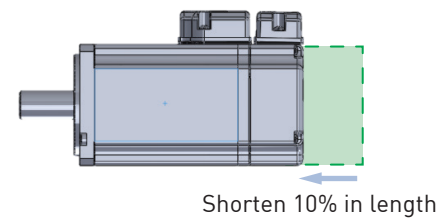


4 Advanced Auto-tune Function

Automatic gains tuning, filters adjustment, model following control activation, vibration and resonance suppression to optimize machine performance.

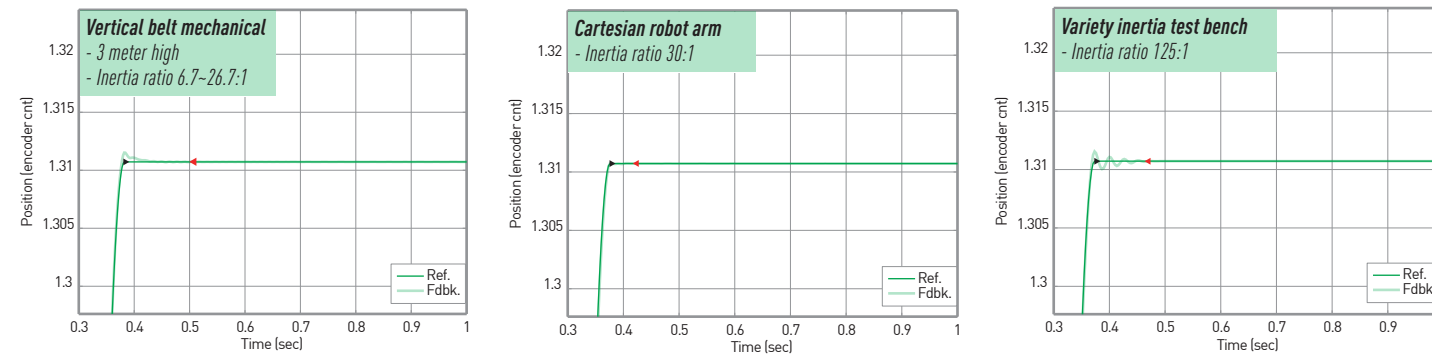


3 Compact size



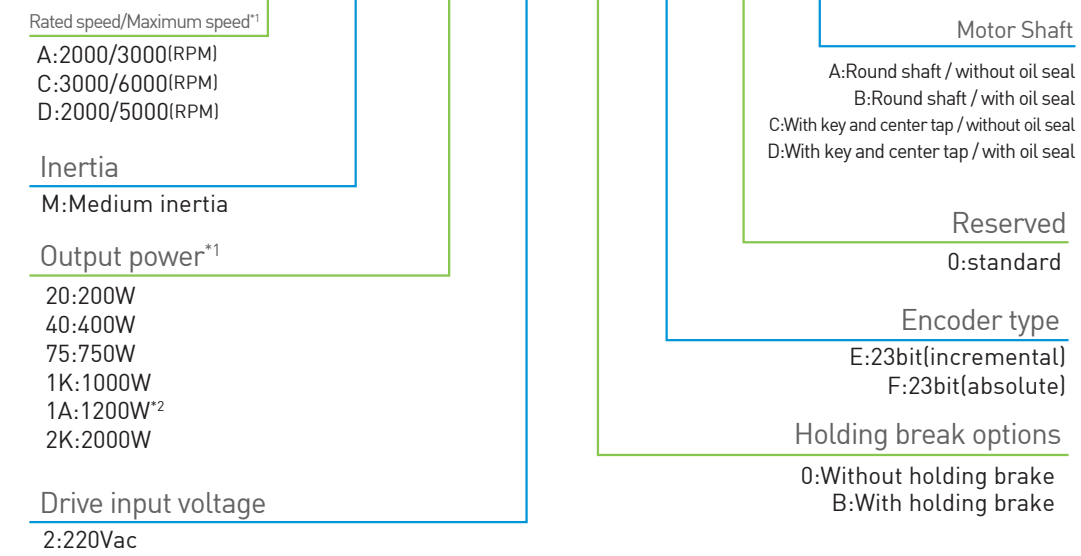
5 Tuneless Function

Brings good performance and stable movement with inertia ratio up to 250:1. Adaptive gain tuning in accordance with load changes.



Model description

EM1-C-M-40-2-0-F-0-A



¹: Refer to the motor specification parameter table for the relationship between motor speed and power.

²: 2KW drive supported.

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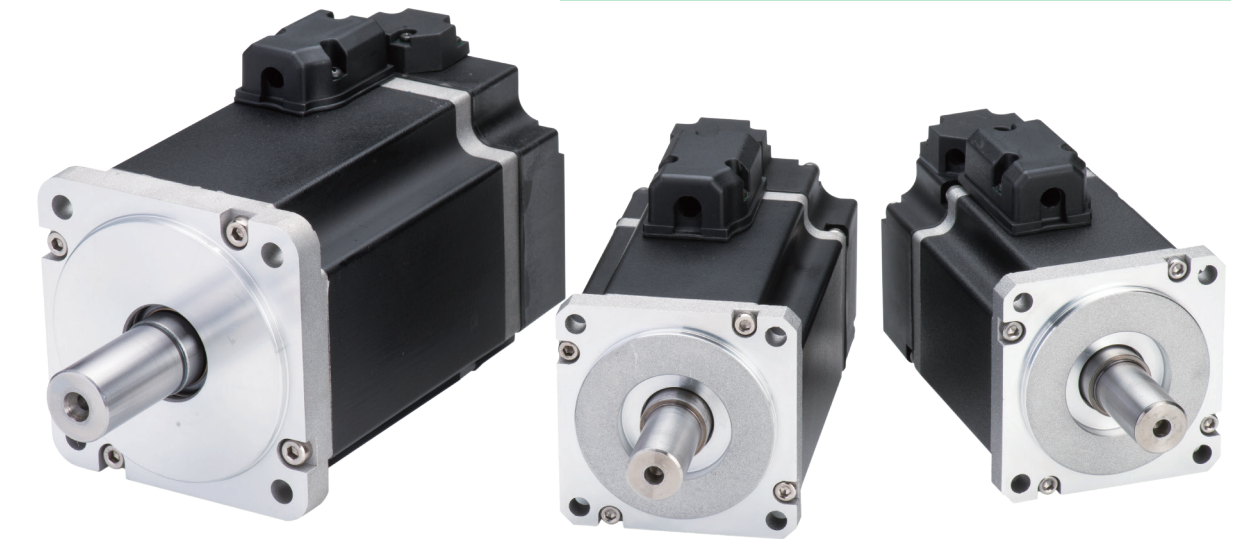
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HIWIN MIKROSYSTEM New Generation Servo Motor



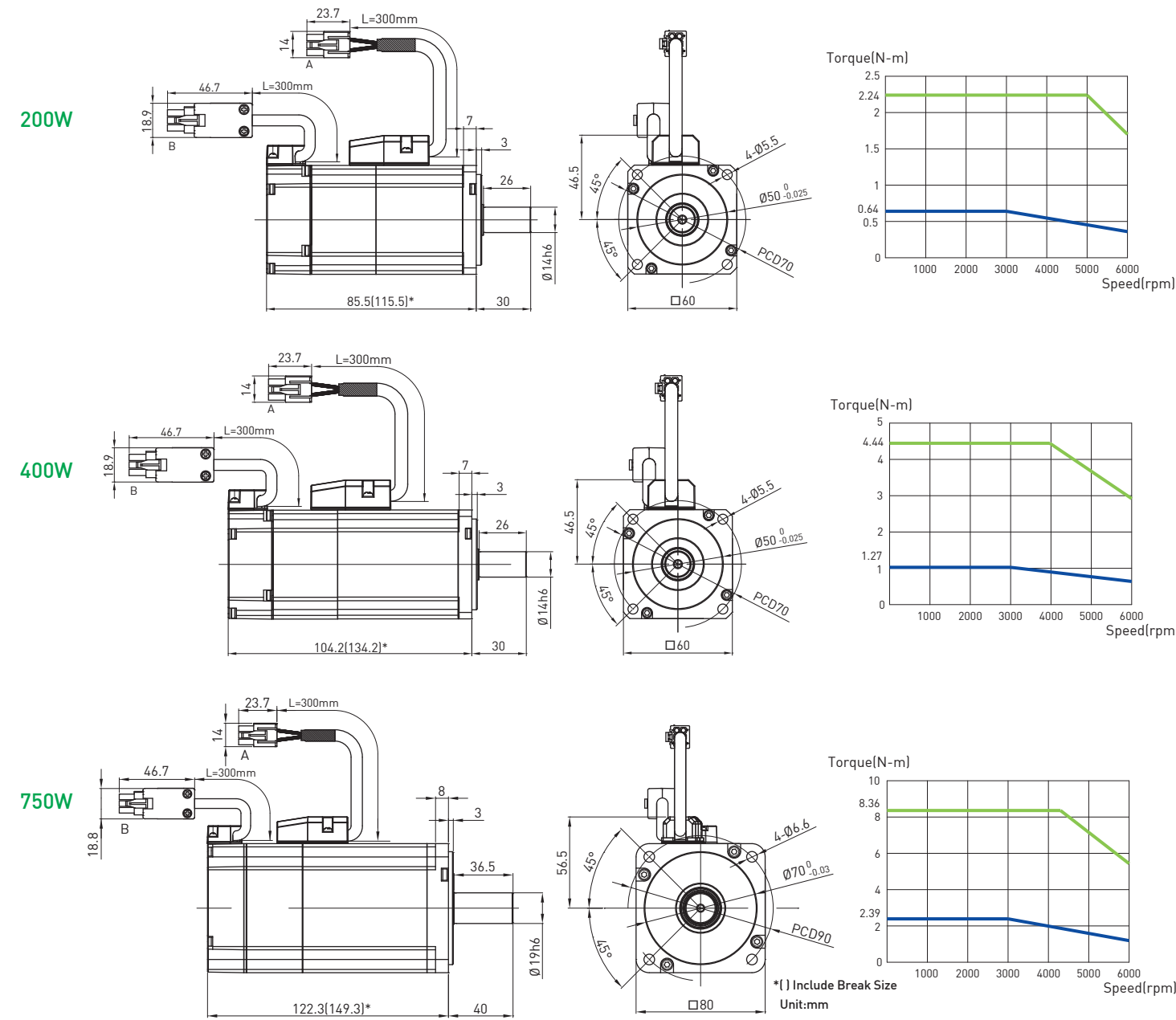
E1

E1 Series Servo Motor

Specification

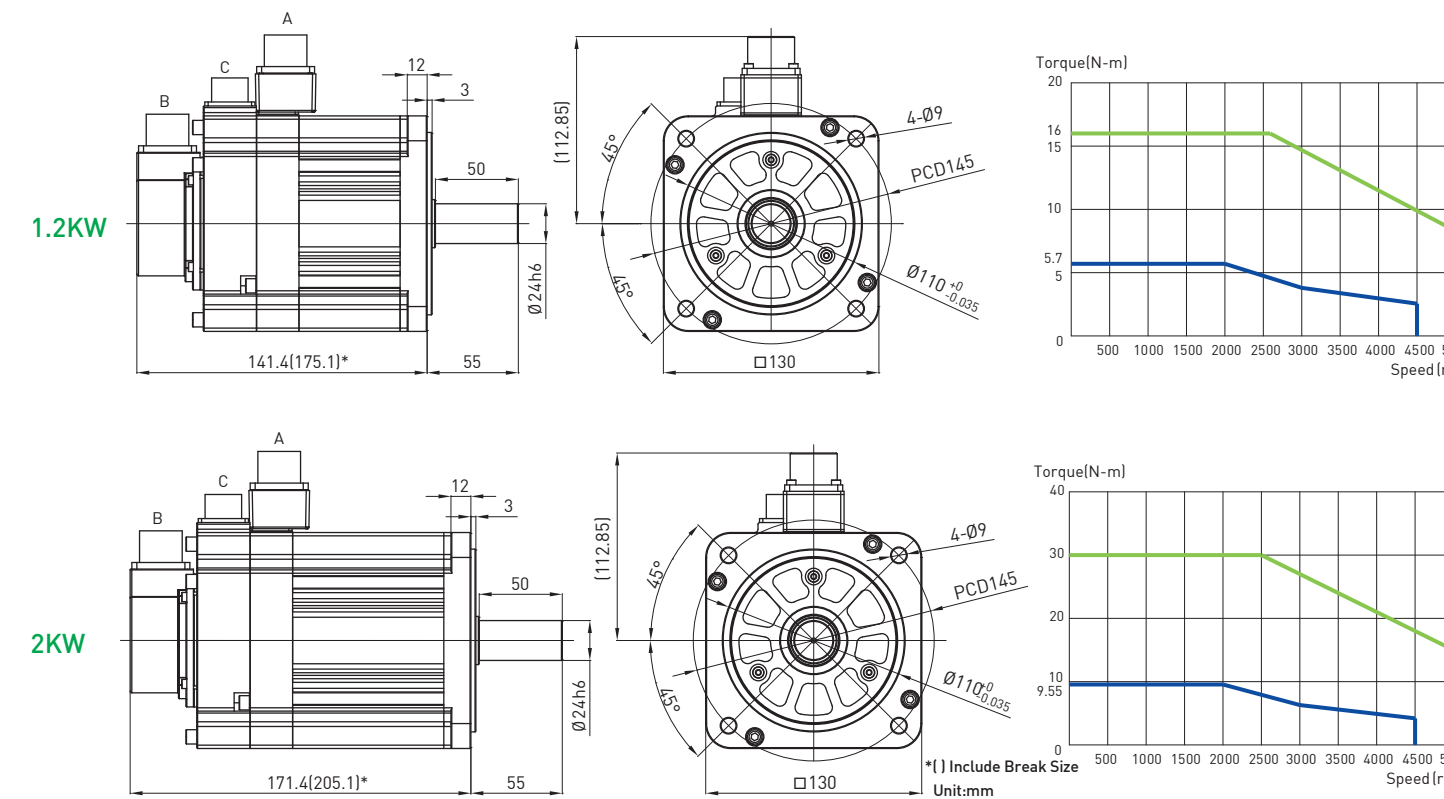
Middle inertia **200W** **400W** **750W**

Motor Parameter	Symbol	Unit	EM1CM202□□□□	EM1CM402□□□□	EM1CM752□□□□
Drive input voltage	V	V	AC220	AC220	AC220
Rated power	W	W	200	400	750
Rated torque	Tc	N.m	0.64	1.27	2.39
Rated current	Ic	A(rms)	1.6	2.5	4.65
Peak max. torque	Tp	N.m	2.24	4.44	8.36
Peak max. current	Ip	A(rms)	6.4	10	18.6
Rated speed	ω_c	rpm	3000	3000	3000
Peak max. speed	ω_p	rpm	6000	6000	6000
Torque constant	Kt	N-m / Arms	0.4	0.508	0.514
Back EMF constant	Ke	Vrms / krpm	27.23	33.87	33.48
Resistance (line to line)	R	Ω	5.53	3.59	1.08
Inductance (line to line)	L	mH	8.76	7.22	4.6
Inertia of rotating parts (with brake)	J	kg-m ² ($\times 10^{-4}$)	0.263(0.326)	0.48(0.49)	1.44(1.47)
Mass (with brake)	M	kg	0.851(1.085)	1.25(1.8)	2.7(3.36)
Motor insulation level	Class F (under certification)				
Motor protection level	Total enclosed, self-cooled, IP65(except for shaft and connector)				
Insulation resistance	10M Ω , DC 500V				
Insulation voltage resistance	AC1500V, 60 seconds				
Brake Specifications					
Static friction torque	Tb	N.m	1.3	1.3	2.4
Enabled current	Ab	A	0.32A	0.32A	0.358A
Brake input voltage	V	V	DC24 \pm 10%	DC24 \pm 10%	DC24 \pm 10%
Braking time	to	ms	30	30	45
Release time	tr	ms	20	20	10



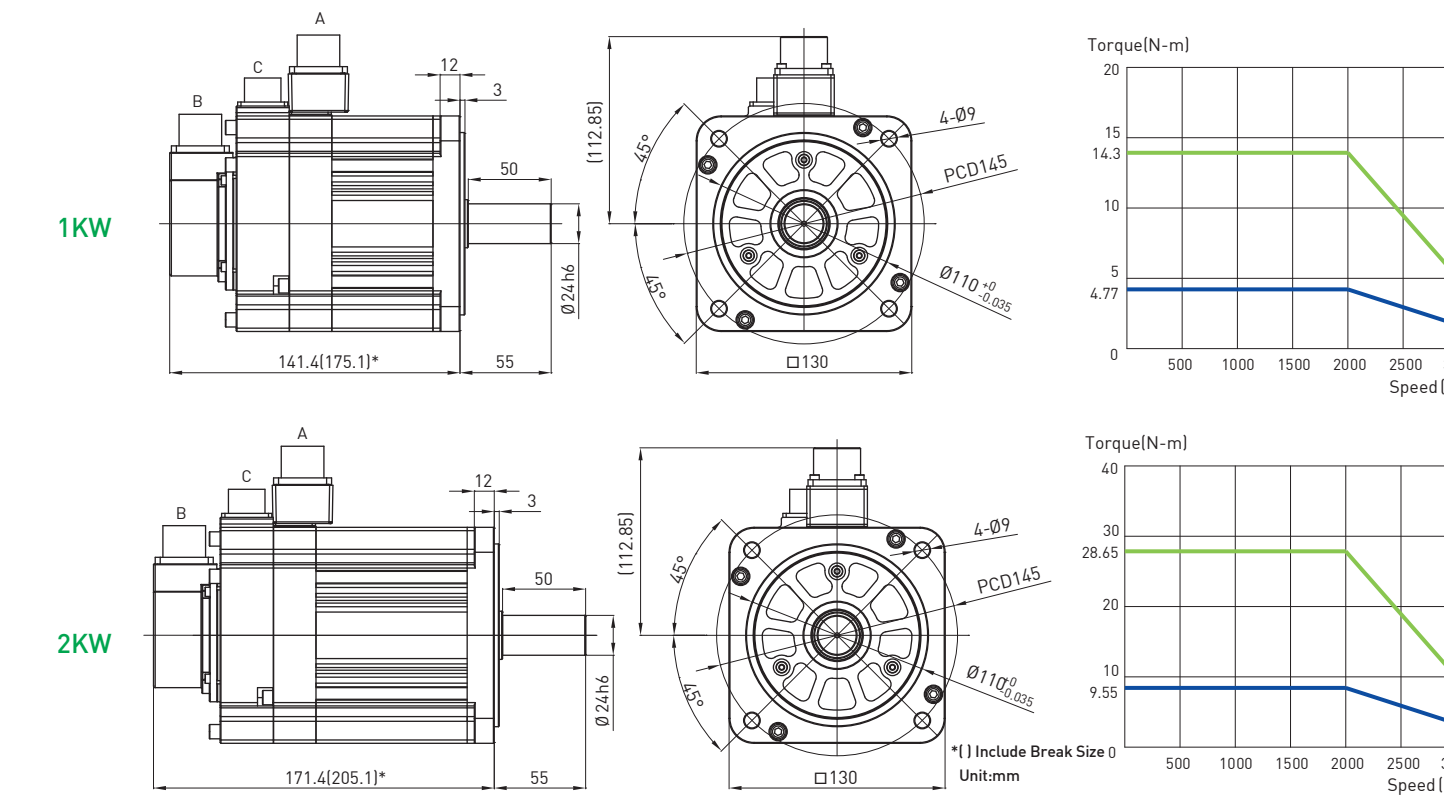
Middle inertia, high speed **1.2KW** **2KW**

Motor Parameter	Symbol	Unit	EM1DM1A2□□□□	EM1DM2K2□□□□
Drive input voltage	V	V	AC220	AC220
Rated power	W	W	1200	2000
Rated torque	Tc	N.m	5.73	9.55
Rated current	Ic	A(rms)	9.1	12
Peak max. torque	Tp	N.m	16	30
Peak max. current	Ip	A(rms)	27	42
Rated speed	ω_c	rpm	2000	2000
Peak max. speed	ω_p	rpm	5000	5000
Torque constant	Kt	N-m / Arms	0.63	0.796
Back EMF constant	Ke	Vrms / krpm	41.52	50.49
Resistance (line to line)	R	Ω	0.482	0.264
Inductance (line to line)	L	mH	4.54	2.825
Inertia of rotating parts (with brake)	J	kg-m ² ($\times 10^{-4}$)	7.2(8.0)	12.8(13.3)
Mass (with brake)	M	kg	5.3(6.1)	7.9(8.7)
Motor insulation level	Class F (under certification)			
Motor protection level	Total enclosed, self-cooled, IP65(except for shaft and connector)			
Insulation resistance	10M Ω , DC 500V			
Insulation voltage resistance	AC1500V, 60 seconds			
Brake Specifications				
Static friction torque	Tb	N.m	10	10
Enabled current	Ab	A	0.56	0.56
Brake input voltage	V	V	DC24 \pm 10%	DC24 \pm 10%
Braking time	to	ms	80	80
Release time	tr	ms	30	30



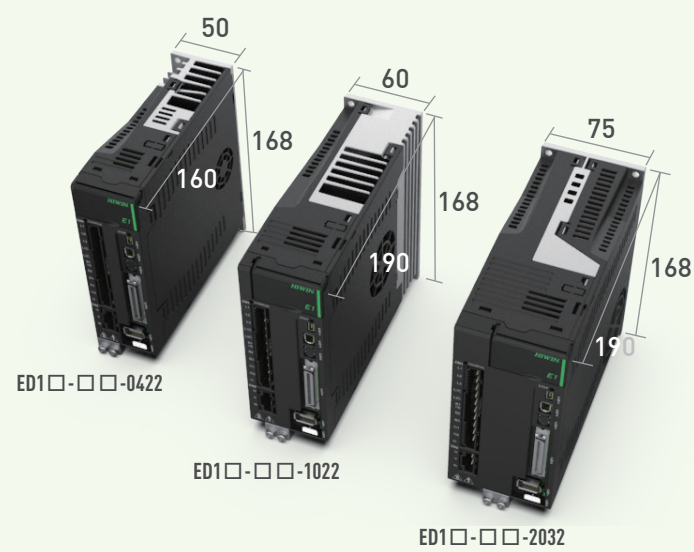
Middle inertia, low speed **1KW** **2KW**

Motor Parameter	Symbol	Unit	EM1AM1K2□□□□	EM1AM2K2□□□□
Drive input voltage	V	V	AC220	AC220
Rated power	W	W	1000	2000
Rated torque	Tc	N.m	4.77	9.55
Rated current	Ic	A(rms)	5.1	11
Peak max. torque	Tp	N.m	14.3	28.65
Peak max. current	Ip	A(rms)	15.3	33
Rated speed	ω_c	rpm	2000	2000
Peak max. speed	ω_p	rpm	3000	3000
Torque constant	Kt	N-m / Arms	0.935	0.87
Back EMF constant	Ke	Vrms / krpm	54.15	57.8
Resistance (line to line)	R	Ω	0.81	0.41
Inductance (line to line)	L	mH	8	3.7
Inertia of rotating parts (with brake)	J	kg-m ² ($\times 10^{-4}$)	7.2(8.0)	12.8(13.3)
Mass (with brake)	M	kg	5.4(6.2)	8(8.8)
Motor insulation level	Class F (under certification)			
Motor protection level	Total enclosed, self-cooled, IP65(except for shaft and connector)			
Insulation resistance	10M Ω , DC 500V			
Insulation voltage resistance	AC1500V, 60 seconds			
Brake Specifications				
Static friction torque	Tb	N.m	10	10
Enabled current	Ab	A	0.56	0.56
Brake input voltage	V	V	DC24 \pm 10%	DC24 \pm 10%
Braking time	to	ms	80	80
Release time	tr	ms	30	30



E1 Series Drive Features

- 3.2kHz Speed Response
- Tuneless Function
- Advanced Auto-tune Function
- Ripple Compensation
- Unique Gantry Application
- Network Connectivity
- Support Variety Motors
- Built-in Safe Torque Off (STO)
- Support multiple encoder types (Digital, Analog, Tamagawa, EnDat and BiSS-C encoders).



Model Description

ED1 S - V N - 0 4 2 2 - A 0

Type
S:Standard¹
F:Fieldbus²

Control Interface
V:Voltage command+Pulse
E:EtherCAT
H:mega-ulink
L:MECHATROLINK III

Special Function
G:Gantry
N:Without special function

Applicable Max. Motor Size
04:400W
10:1KW
20:2KW

Reserved
0:Standard

Motor Type
A:AC Servo motor

AC Voltage
2:220Vac

AC Phase
1:Single phase
2:Single/Three phase
3:Three phase

¹: Applicable control interface: V(voltage command+Pulse)
²: Applicable control interface: E(EtherCAT), H(mega-ulink), L(MECHATROLINK III)