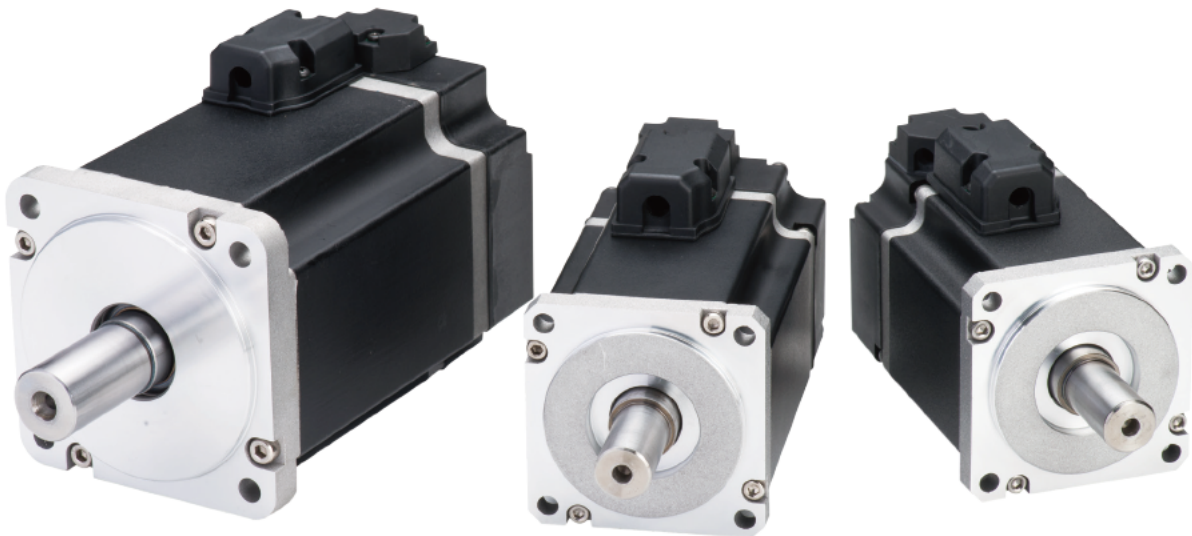


HIWIN®

HIWIN MIKROSYSTEM New Generation Servo Motor



E1

E1 Series Servo Motor

Specification

Middle inertia

200W

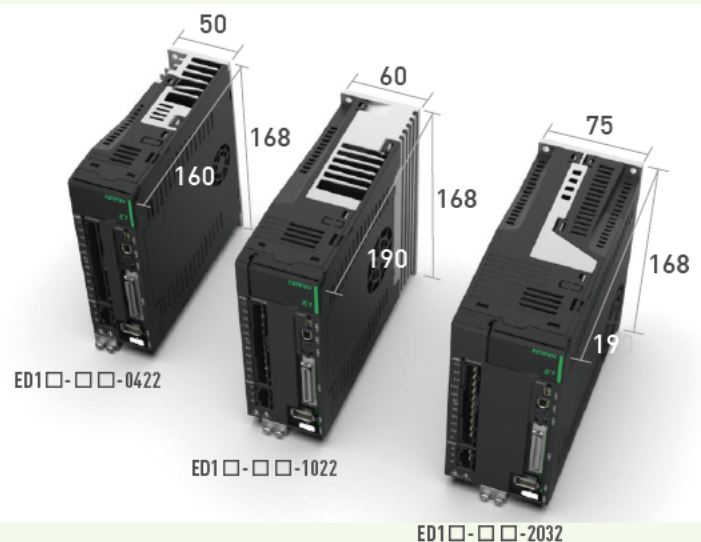
400W

750W

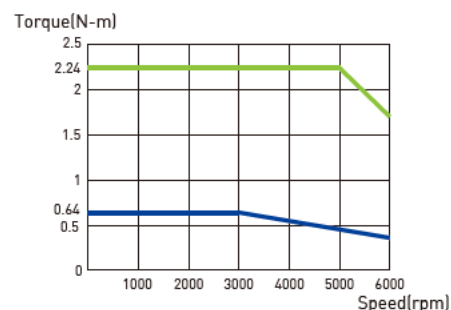
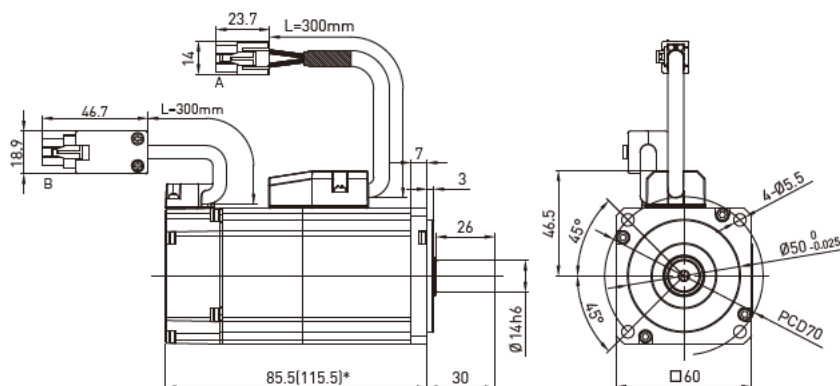
	Motor Parameter	Symbol	Unit	EM1CM202□□0□	EM1CM402□□0□	EM1CM752□□0□
	Drive input voltage	V	V	AC220	AC220	AC220
	Rated power	W	W	200	400	750
	Rated torque	Tc	N.m	0.64	1.27	2.39
	Rated current	Ic	A(rms)	1.6	2.5	4.65
	Peak max. torque	Tp	N.m	2.24	4.44	8.36
	Peak max. current	Ip	A(rms)	6.4	10	18.6
	Rated 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 (×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 prtecton 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±10%	DC24±10%	DC24±10%
	Braking time	to	ms	30	30	45
	Release time	tr	ms	20	20	10

E1 Series Drive Features

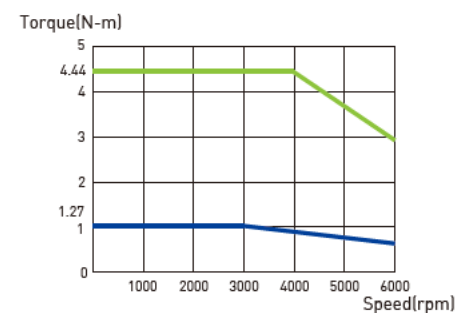
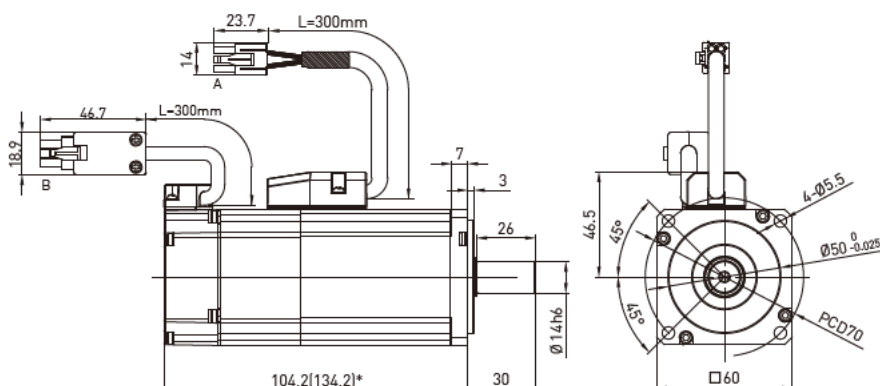
- 3.2kHz Speed Response
- Tuneless Function
- Advanced Auto-tune Function
- Ripple Compensation
- Unique Gantry Application
- Network Connectivity
- Support Variety Motors
- Built-in Safe Torque Off (STO)
- Support multiple encoder types (Digital, Analog, Tamagawa, EnDat and BiSS-C encoders).



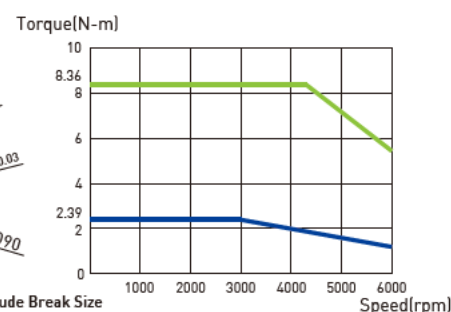
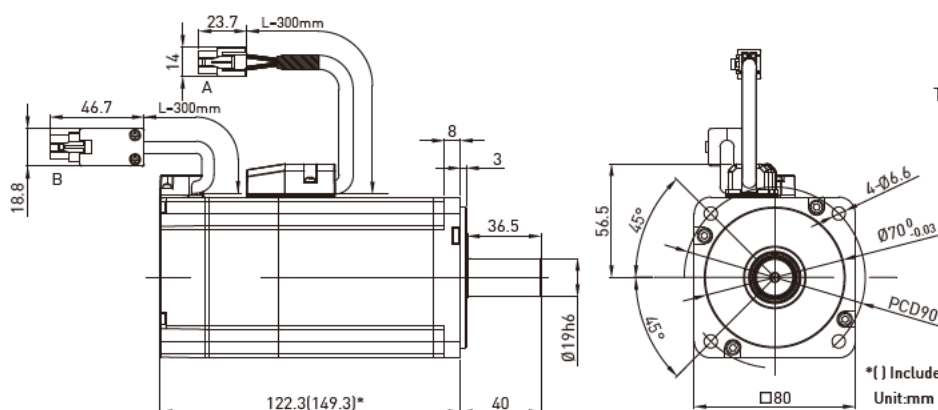
200W



400W



750W



*() Include Break Size
Unit:mm

Model Description

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

Type

S:Standard*1
F:Fieldbus*2

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)

Middle inertia, high speed

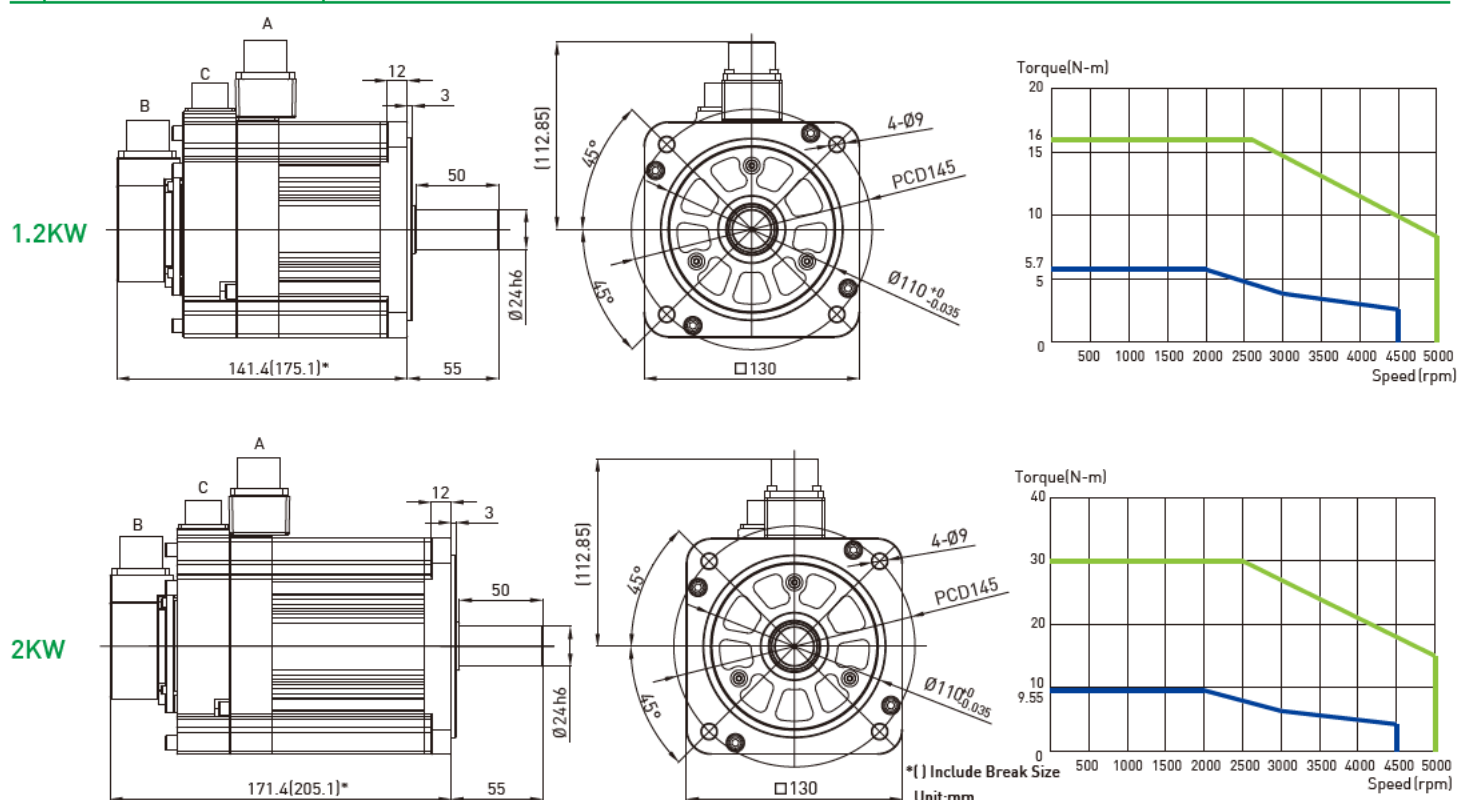
1.2KW

2KW

Motor Parameter	Symbol	Unit	EM1DM1A2□□0□	EM1DM2K2□□0□
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 prtction 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

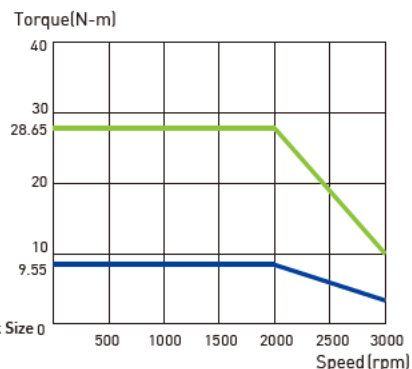
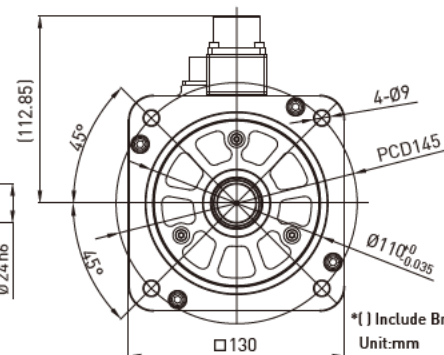
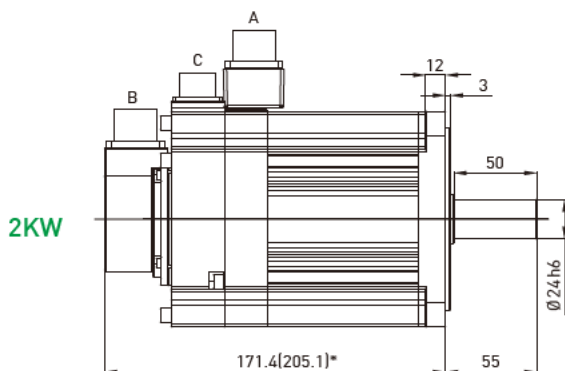
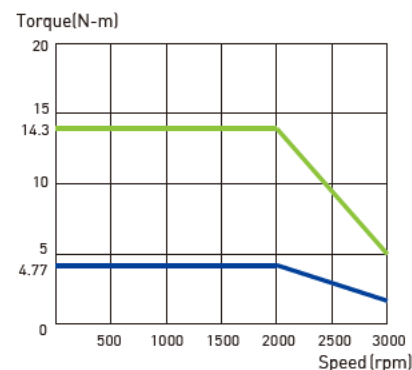
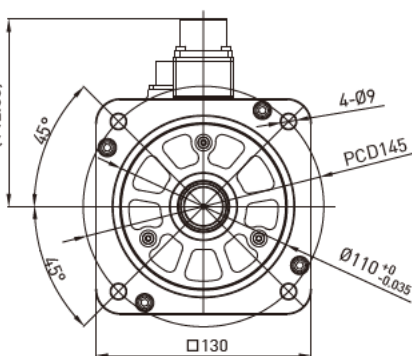
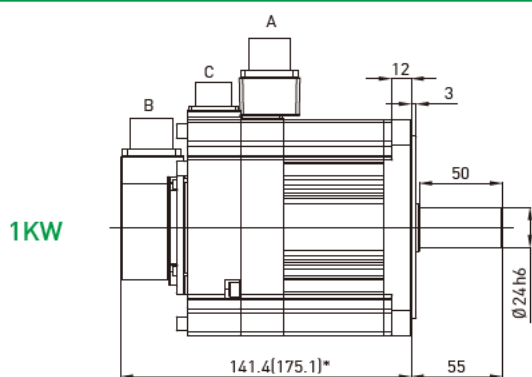
1KW

2KW

Motor Parameter	Symbol	Unit	EM1AM1K2□□0□	EM1AM2K2□□0□
Drive input voltage	V	V	AC220	AC220
Rated power	W	W	1000	2000
Rated torque	T _c	N.m	4.77	9.55
Rated current	I _c	A(rms)	5.1	11
Peak max. torque	T _p	N.m	14.3	28.65
Peak max. current	I _p	A(rms)	15.3	33
Rated speed	ω _c	rpm	2000	2000
Peak max. speed	ω _p	rpm	3000	3000
Torque constant	K _t	N-m / Arms	0.935	0.87
Back EMF constant	K _e	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 (×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 prtction level	Total enclosed, self-cooled, IP65(except for shaft and connector)			
Insulation resistance	10MΩ, DC 500V			
Insulation voltage resistance	AC1500V, 60 seconds			

Brake Specifications

Static friction torque	T _b	N.m	10	10
Enabled current	A _b	A	0.56	0.56
Brake input voltage	V	V	DC24±10%	DC24±10%
Braking time	t _o	ms	80	80
Release time	t _r	ms	30	30



* () Include Break Size 0
Unit:mm

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

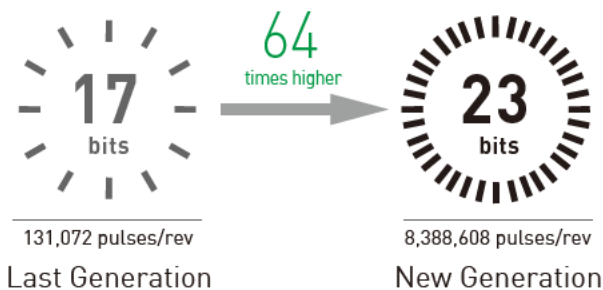
Application

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



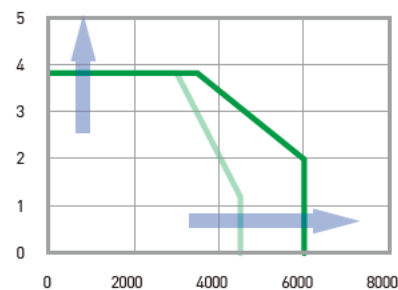
Optimized motor performance with E1 series drives.

1 Improved Processing Accuracy

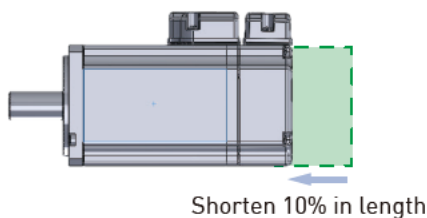


2 High speed

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

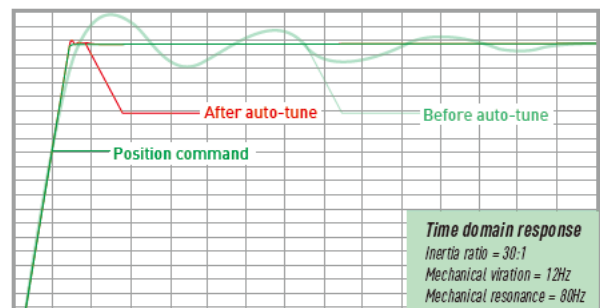


3 Compact size



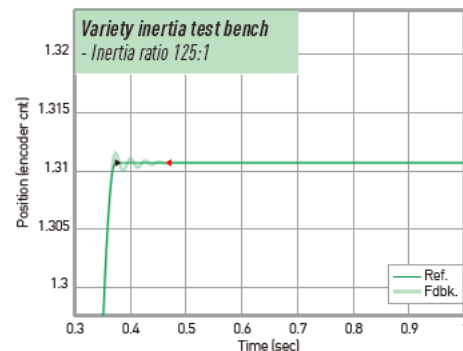
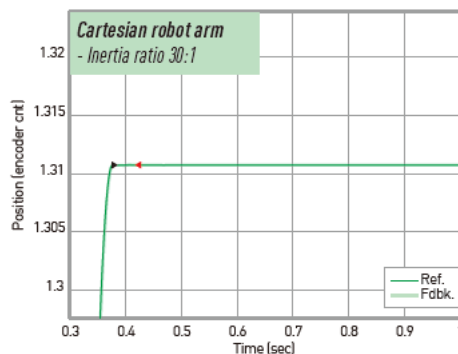
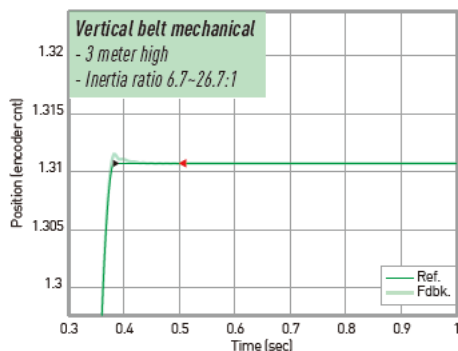
4 Advanced Auto-tune Function

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



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

Rated speed/Maximum speed*1

A:2000/3000(RPM)
C:3000/6000(RPM)
D:2000/5000(RPM)

Inertia

M:Medium inertia

Output power*1

20:200W
40:400W
75:750W
1K:1000W
1A:1200W*2
2K:2000W

Drive input voltage

2:220Vac

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

*2: 2KW drive supported.

Motor Shaft

A:Round shaft / without oil seal
B:Round shaft / with oil seal
C:With key and center tap / without oil seal
D:With key and center tap / with oil seal

Reserved

0:standard

Encoder type

E:23bit(incremental)
F:23bit(absolute)

Holding break options

0:Without holding brake
B:With holding brake



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