



Elinco International JPC

Precision Rotating Components





Elinco International JPC

Precision Rotating Components

Located at the Fairfield Metro a 1.1 mil sq./ ft. commercial development and regional commuter rail station on the New York City metro rail line (1 hour from Manhattan).

Elinco - Japanese Products Corp. facility, exterior view.

Aerial view of the corporate offices and manufacturing site. Fairfield, CT.

Elinco factory floor in Connecticut.

Elinco – Japanese Products Corp. warehouse interior, located in Connecticut.

Elinco factory floor.

FACTS AND FIGURES

Founded	1926 (JPC division 1969)
Legal Form	Stock owned. Majority Sharehold.
Company Focus	Manufacturing Technology of Motors, Air Moving Devices, and Drives.
Distribution Network	Worldwide in 12 countries
Products	Brushless DC Motors, Slotless Brushless Motors, Stepper Motors, Permanent Magnet DC, Performance BLDC Fans and Blowers, Encoders, Gearboxes, customized drives.
Main Markets	Communication, Industrial Automation, Medical Technology, Office Automation, Security, Home Automation,

Nidec Vietnam Plant

Nidec

Tool allocation expecting for production increasing

Products

Major product group & Application

Fans & Blowers

DC Fan, AC Fan, DC Blower, Assemblies

For cooling, exhaust, suction, and air circulation applications
Cell Phone Base Station, Router, Server, Power Unit, OA Equipment, Car, Home Appliance, House/Building Equipment, Textile Machinery

Stepping Motors

Motor Circuit Integ. Motor
Motor & Circuit Board

For the cases that high-speed response and position accuracy are required
OA Equipment, Semi Conductor Manufacturing, Monetary Equipment Surveillance Camera, Lighting, Construction Machinery

Brushless DC Motors

AC/DC Motor
Motor & Circuit Board

For applications that require high efficiency and long life
Commercial Refrigerator, OA Equipment, Monetary Equipment, Bath Ventilation, Industrial Drone, Medical Equipment, Measuring Equipment, Working Machine, Home Appliance

DC Motors

Motor & Gear Head, Assemblies

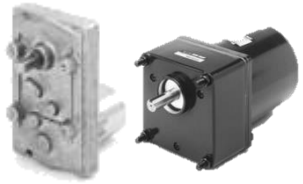
For applications that require high efficiency / controllability
OA Equipment, Amusement Equipment, Working Machine, Banking Machine, Agricultural Machinery, Medicine Dispensing Machine, Car, Vending Machine, Home Appliance, Medical Equipment, Test Equipment

System & Ice maker

Medical Equipment, Medical Blood Pump

For special applications / custom products
Ice Maker for Refrigerator, Medical Equipment, Test Equipment, Agricultural Machinery, Home/Building Equipment,
Industrial Machinery

AC Motors & GH



Induction & Gear Head
Shaded-pool Motors, Synchronous Motor

For applications that a constant speed rotation / stop system is required
Working Machine, Home/Building Equipment, Banking Machine, Agricultural Machinery, Medicine Dispensing Equipment, Home Appliance, Measuring Equipment, Food Processing Machinery

Sensors

Slip Ring, Potentiometer

For motors that require special applications / controls
Surveillance Camera, Semi Conductor Manufacturing Machine, Printing Machine, Construction Machinery, Lighting Equipment, OA Equipment, Test Equipment

Markets and Applications

VFD blade control Wind Turbine

Water Generation from solar panels

Energy + Water

Hydrogen Fueling Stations

CT Scan Machine International Top 2 or 3

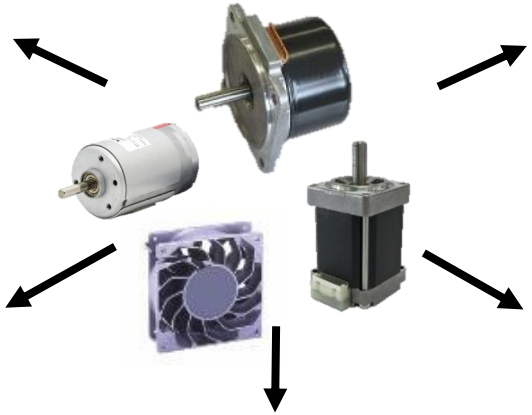
Infusion Pump

Medical + Diagnostics

Pump for MRI

Genomic and Blood Diagnostics

Surgical Tools



Data

Hardware innovation coming with data rates 100 times faster

Data Transmission through Fiber

Security Badge Reader

Data Center Cooling

Switching Equipment

Military/ Aerospace

Mil-Aero innovation

Medivac Drone

Autonomous and Manned Underwater Vehicles

Industrial + Automation

Automated Bagger

Train Cab cooling

Industrial Tools

CUSTOMIZE

Elinco - JPC offers fast solutions on Mechanical, Electrical, and Metal design. Utilize Customization and Value Add Capability.

Improve Performance | Quality per ISO and Six Sigma | Special Documentation
Save Time | Supply Chain Control

VALUE ADDED SERVICES

Elinco - JPC value-added services offers our strong capability to manufacture motors specific to your environmental, mechanical, and dimensional requirements.

Value Added Services for Motors such as pulley and coupling installation, encoders, gearboxes, special shafts, dampers and more.

ENCODERS

Verification & Accuracy with Encoders

VIBRATION

Resonance & Vibration with Dampers

GEARBOXES

Precision Gearbox Options

CUSTOMIZED BOARD DESIGN

Intelligent Motors with Electronic Design

SHAFT OPTIONS

Many shaft options easily and quickly configured

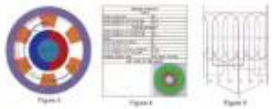
CUSTOM HOUSINGS

End Bell Design

CUSTOMIZED WINDINGS

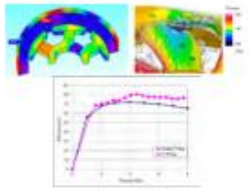
Semi-Custom or Custom

ACTIVE MATERIAL ANALYSIS



Software Analytics Neodymium, Ferrite, or FCC Magnets

THERMAL ANALYSIS



Metals and Plastics

ENVIRONMENTAL PROTECTION

Standard Coating, E-Coating, Various IP

BEARINGS

Bearings

WIRE HARNESS ASSEMBLY

Special Lead wires and Connectors

ELECTROMECHANICAL SUB-ASSEMBLIES

From Prototype to Production Elinco - JPC is your Single-Source Supplier for Contract Manufacturing and Electromechanical Subassembly requirements. Our custom engineered OEM solutions utilize expertise in process controls of precision components, gearing, assembly, testing, precision motion control build to print as well as best practices. Factories in Asia and the US are ISO certified.

OUR CORE STRENGTHS ARE:

- Contract Manufacturing – Motion Control Assemblies
- Precision positioning and motion systems
- Fine-pitch, custom, and standard gearing experts to AGMA standards
- Specialists in gears, bearings, motors, precision assemblies
- Unique engineered solutions from initial design to production
- Manufacturing excellence and ultimate quality
- DFMEA, PFMEA, FAI, PPAP, Control Plan
- Reliability in design, and total partnership with our customers
- Vertically Integrated Manufacturing
- Manufacturing and Assembly of small to large Motion Control and Electro-Mechanical Assemblies

INTERNATIONAL STANDARDS ON MEDICAL ASSEMBLIES

- ISO 13485(MDD) Management system for medical devices
- IEC 60601-1-1 Medical equipment and electrical equipment
- IEC 60601-1-2 Electromagnetic compatibility for medical devices
- IEC 60601-2-24 Safety of infusion pumps and controllers
- ISO 14971 Application of risk management to medical devices
- IEC 62304 Medical device software - software life cycle processes

Gears - Pulleys - Lead Screws – Holes – Slots – Chamfers - Drill and Pin – Flats – Threads - Fan Trays
Encoder Mounting- US Digital partner, CUI partner - Balancing, Testing

Elinco International JPC – Quality

- ISO9001 2015 Certified QMS System
- Focused on consistently meeting customer requirements and enhancing satisfaction.
- Processes are designed to meet necessary statutory and regulatory requirements.
- Helps to anticipate future needs of our customers.
- Able to provide qualified product/PPAP

Brushless DC motors

Elinco International JPC
Precision Rotating Components

Inner and Outer Rotor Brushless DC

High-efficient, long-life, wide-speed-control motors

- Lower inertia and dissipation of heat losses
- Few friction components to achieve a better durability than brushed DC motors
- Gearbox options.

Item #	Motor Frame Size	Number of Poles	Rated Voltage	Rated Torque	Rated Speed	Rated Power	Peak Current
VH22S4504-24	22 x 45 mm	8	24 V	8 mN·m	4600 rpm	4 W	0.04
VH22S45-24	24 x 45 mm	8	24 V	9.6 mN·m	4600 rpm	3.8 W	1.1 A
VH22S6808-24	22 x 68 mm	8	24 V	20 mN·m	3800 rpm	8 W	1.5 A
VH22S70-24	22 x 70 mm	8	24 V	24 mN·m	3500 rpm	8 W	1.5 A
VH28S2604-15	28 x 26 mm	4	15 V	7 mN·m	8000 rpm	6 W	2.5 A
VH28S3815-15	28 x 38 mm	4	24 V	14.12 mN·m	10000 rpm	14.78 W	2.8 A
VH28S7716-24	28 x 77 mm	4	24 V	50 mN·m	3700 rpm	15 W	0.13
VH33S3807-24	33 x 38 mm	4	24 V	22 mN·m	3000 rpm	7 W	1.7 A
VH33S8040-48	33 x 80 mm	4	48 V	40 mN·m	10000 rpm	40 W	0.13
VH33S8040-24	33 x 80 mm	4	24 V	50 mN·m	7800 rpm	40 W	4.8 A
VH36S3008-24	36 x 30 mm	8	24 V	15 mN·m	4800 rpm	8 W	1.5 A
VH36S4018-24	36 x 40 mm	8	24 V	35 mN·m	4800 rpm	18 W	0.13
VH36S4018-24-1	36 x 40 mm	8	24 V	36 mN·m	4800 rpm	18 W	0.17
VH36S5524-24	36 x 55 mm	8	24 V	50 mN·m	4500 rpm	24 W	0.17
VH36S5733-24	36 x 57 mm	8	24 V	70 mN·m	4500 rpm	33 W	5.3 A
VH36S6040-24	36 x 60 mm	8	24 V	80 mN·m	4800 rpm	40 W	6.5 A
VH39S4840-24	39 x 48 mm	6	24 V	110 mN·m	3200 rpm	40 W	0.25

Applications:

AGV's, agriculture, measuring instruments, textiles, industrial, electric tools, medical equipment, office, energy, home, office.

Brushless DC motors

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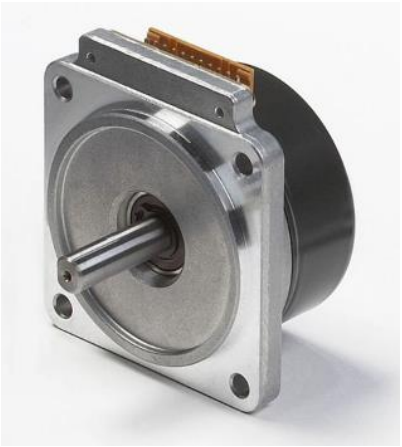
Item #	Motor Frame Size	Number of Poles	Rated Voltage	Rated Torque	Rated Speed	Rated Power	Peak Current
VH42S4022-24	42 x 40 mm	10	24 V	70 mN·m	3000 rpm	22 W	0.17
VH42S4026-24	42 x 40 mm	8	24 V	63 mN·m	4000 rpm	26 W	0.25
VH42S4020-24	42 x 40 mm	6	24 V	64 mN·m	3000 rpm	20 W	3.5 A
VH42S6054-24	42 x 60 mm	6	24 V	178 mN·m	3000 rpm	53.5 W	0.38
VH42S6041-15	42 x 60 mm	4	15 V	88 mN·m	4450 rpm	41 W	0.46
VH42S6053-24	42 x 60 mm	8	24 V	125 mN·m	4000 rpm	52.5 W	10.8 A
VH42S6025-24	42 x 60 mm	8	24 V	56 mN·m	4200 rpm	25 W	4.4 A
VH42S6043-24	42 x 60 mm	4	24 V	68 mN·m	5900 rpm	43 W	6.6 A
VH42S6050-24	42 x 60 mm	10	24 V	160 mN·m	3000 rpm	50 W	8.3 A
VH42S8081-24	42 x 80 mm	10	24 V	260 mN·m	3000 rpm	81 W	13.5 A
VH42S8094-24	42 x 80 mm	6	24 V	300 mN·m	3000 rpm	94 W	14.5 A
VH42S8078-24	42 x 80 mm	8	24 V	185 mN·m	4000 rpm	77.5 W	15.5 A
VH42S8562-24	42 x 85 mm	8	24 V	150 mN·m	4000 rpm	62 W	11.4 A
VH42S9376-24	42 x 93 mm	8	24 V	115 mN·m	6300 rpm	76 W	11.8 A
VH42S100113-24	42 x 100 mm	10	24 V	360 mN·m	3000 rpm	113 W	19 A
VH42S100135-24	42 x 100 mm	6	24 V	430 mN·m	3000 rpm	135 W	20.8 A
VH42S100105-24	42 x 100 mm	8	24 V	250 mN·m	4000 rpm	105 W	21.7 A
VH52S86100-24	52 x 86 mm	4	24 V	240 mN·m	4000 rpm	100 W	15.5 A
VH52S8624-12	52 x 86 mm	4	12 V	160 mN·m	1500 rpm	24 W	8.5 A
VH57S4423-36	57 x 44 mm	4	36 V	55 mN·m	4000 rpm	23 W	0.17
VH57S45-36	57 x 45 mm	4	36 V	55 mN·m	4000 rpm	23 W	0.17
VH57S5446-36	57 x 54 mm	4	36 V	110 mN·m	4000 rpm	46 W	6.8 A
VH57S5483-36	57 x 54 mm	6	36 V	200 mN·m	4000 rpm	83 W	8.6 A
VH57S55-36	57 x 55 mm	4	36 V	110 mN·m	4000 rpm	46 W	0.29
VH57S7499-36	57 x 74 mm	4	36 V	220 mN·m	4000 rpm	92 W	11.5 A
VH57S74167-36	57 x 74 mm	6	36 V	400 mN·m	4000 rpm	167 W	16 A
VH57S75-36	57 x 75 mm	4	36 V	220 mN·m	4000 rpm	92 W	0.00
VH57S7694-36	57 x 76 mm	8	36 V	300 mN·m	3000 rpm	94 W	12.3 A
VH57S7694-36	57 x 76 mm	8	36 V	450 mN·m	3000 rpm	141 W	18.2 A
VH57S94138-36	57 x 94 mm	4	36 V	320 mN·m	4000 rpm	133 W	16.5 A
VH57S94251-36	57 x 94 mm	6	36 V	600 mN·m	4000 rpm	251 W	29 A
VH57S95-36	57 x 95 mm	4	36 V	320 mN·m	4000 rpm	133 W	17 A
VH57S96141-36	57 x 96 mm	8	36 V	450 mN·m	3000 rpm	141 W	18.2 A
VH57S114335-36	57 x 114 mm	6	36 V	800 mN·m	4000 rpm	335 W	35 A
VH57S115-36	57 x 115 mm	4	36 V	430 mN·m	4000 rpm	180 W	21 A
VH57S116188-36	57 x 116 mm	8	36 V	600 mN·m	3000 rpm	188 W	23.8 A

Item #	Motor Frame Size	Number of Poles	Rated Voltage	Rated Torque	Rated Speed	Rated Power	Peak Current
VH60S80110-150	60 x 80 mm	4	150 V	350 mN·m	3000 rpm	110 W	0.13
VH60S95750-150	60 x 95 mm	4	150 V	500 mN·m	14000 rpm	750 W	17 A
VH60S1501500-310	60 x 150 mm	4	310 V	1200 mN·m	12000 rpm	1500 W	17.5 A
VH86S56110-48	86 x 56 mm	8	48 V	350 mN·m	3000 rpm	110 W	9.5 A
VH86S64130-48	86 x 64 mm	8	48 V	400 mN·m	3000 rpm	130 W	0.46
VH86S70220-48	86 x 70 mm	8	48 V	700 mN·m	3000 rpm	220 W	20 A
VH86S77250-48	86 x 77 mm	8	48 V	400 mN·m	3000 rpm	130 W	0.46
VH80S84280-48	80 x 84 mm	8	48 V	900 mN·m	3000 rpm	280 W	22 A
VH86S84330-48	86 x 84 mm	8	48 V	1050 mN·m	3000 rpm	330 W	24 A
VH86S96440-48	86 x 96 mm	8	48 V	1400 mN·m	3000 rpm	440 W	33 A
VH80S105530-48	80 x 105 mm	8	48 V	1700 mN·m	3000 rpm	530 W	45 A
VH86S105500-48	86 x 105 mm	8	48 V	1600 mN·m	3000 rpm	500 W	37 A
VH80S120700-48	80 x 120 mm	8	48 V	2200 mN·m	3000 rpm	700 W	22 A
VH86S123660-48	86 x 123 mm	8	48 V	2100 mN·m	3000 rpm	660 W	56 A
VH86S125700-48	86 x 125 mm	8	48 V	2200 mN·m	3000 rpm	700 W	52 A
VH80S140950-48	80 x 140 mm	8	48 V	3000 mN·m	3000 rpm	950 W	78 A
VH90S80220-115	90 x 80 mm	4	115 V	400 mN·m	5300 rpm	220 W	8.5 A
VH110S102942-60	110 x 51 mm	8	60 V	4500 mN·m	3000 rpm	1413 W	110 A
VH110S102942-60	110 x 51 mm	8	60 V	3000 mN·m	3000 rpm	942 W	68 A
VH125S64340-24	125 x 60 mm	24	60 V	6800 mN·m	480 rpm	340 W	46 A
VH150S3255-24	150 x 32 mm	28	24 V	1000 mN·m	500 rpm	55 W	0.42
VH150S3655-24	150 x 36 mm	28	24 V	1800 mN·m	300 rpm	55 W	0.46
VH150S46140-48	150 x 46 mm	28	48 V	3600 mN·m	350 rpm	140 W	13 A

Brushless DC motors

NIDEC MOTOR CORPORATION

Outer Rotor BLDC



Inner Rotor BLDC

High-efficient, long-life, wide-speed-control motors

- Proper rotor-detecting energization to achieve high efficiency and energy-saving capability
- Few friction components to achieve a better durability than brushed DC motors
- A dedicated control circuit to control speed widely and accurately.
- Compatible with our company's induction motors (installation).

機種名		適合ドライバ	出力	電源電圧	速度制御範囲	定格トルク
(ストレート軸)	(ピニオン軸)		W	V(DC)	r/min	mN·m
FED6P10S-D3	FED6P10PF-D3	(ドライバセット販売)	10	24	200～2500	64
FED6P20S-D3	FED6P20PF-D3	(ドライバセット販売)	20	24	200～2500	130
FHD6P20S-D3	FHD6P20PF-D3	(ドライバセット販売)	20	24	200～2500	98
FHD6P40S-D3	FHD6P40PE-D3	(ドライバセット販売)	40	24	200～2500	200
FH6S20H-D3	FH6PF20H-D3	FHD620HD3	20	24	200～2500	98
FH6S40H-D3	FH6PE40H-D3	FHD640HD3	40	24	200～2500	200
FY6S6-D3	FY6PF6N-D3	FYD66PD3/FYD66SD3	6	24	200～2500	39
FY8S15-D3	FY8PF15N-D3	FYD815PD3/FYD815SD3	15	24	200～2500	98
FY8S25-D3	FY8PF25N-D3	FYD825PD3/FYD825HD3	25	24	200～2300	157
FY9S40-D3	FY9PF40N-D3	FYD940PD3/FYD940HD3	40	24	200～2000	250

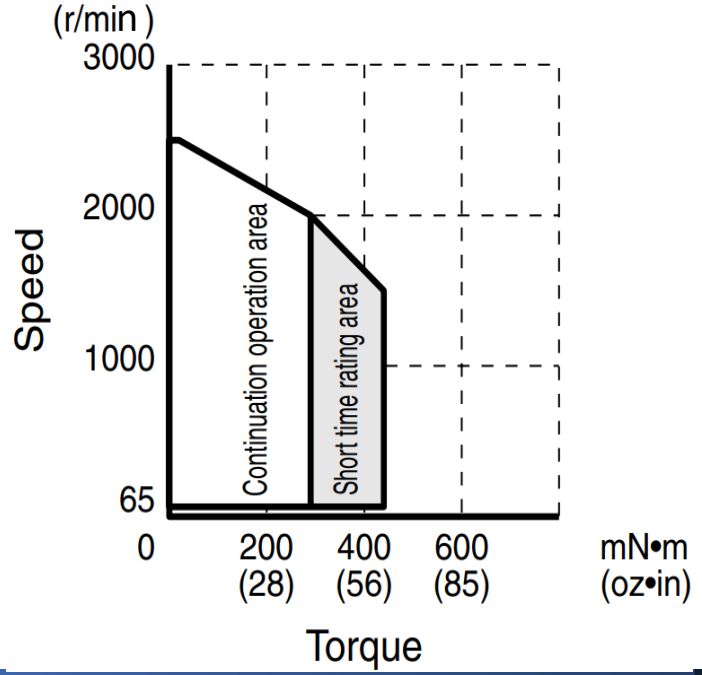
Applications:

Office equipment, money-handling machines, industrial drones, medical equipment, measuring instruments, working machines, appliances, electric tools, automatic doors, kitchen appliances, transfer units, etc.

Brushless DC motors

6, 15, 20, 25, 40 W motors available in Nidec Catalog
39 ~ 290 mN-m Rated Torque
NEMA 24 ~ 32 Frame Size
Hall Effect Sensor feedback

Higher/Lower Power and NEMA sizes available with different Elinco offerings



Features Compared to Brushed

- Flat Rated Torque
- Closed-Loop Feedback
- Longer Life, no maintenance
- Less Audible and Electrical Noise
- More Efficient and Powerful

Sizing Considerations

- Operational Torque
- Operational Speed Range
- Starting Acceleration (Starting Torque)
- Inertial Loading
- Gearbox Sizing

Gearbox Torque

$$\text{Output Torque} = \eta \bullet GR \bullet \tau$$

η = Gearbox Efficiency
GR = Gear Ratio
$\tau = Motor\ Torque$

Slotless Brushless High Energy Series

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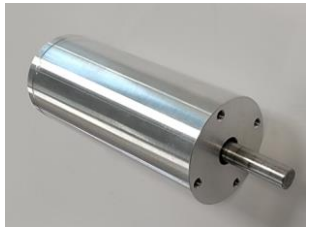
Precision Rotating Components



Worldwide Patented Winding Process

- **Performance improvement over Full Automation – less tooling costs**
- **Better torque due to higher achievable fill and new high-density metals**

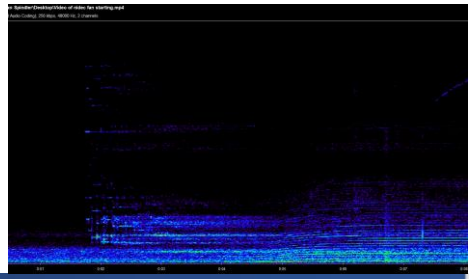
Industries & Applications for Elinco SBLDC

-Medical
-Industrial hand tools
-Lasers, Riveting,
-Aerospace & Defense

Comparison of Gen 1 Hand wound with Bobbin VS
Gen 2 Bobbin-less Semi-automated patented process.
% Drop in Resistance

Housed Size	16mm DC	30mm	30mm	35mm	35mm	40mm	40mm	48mm	48mm
Voltage Range	12V-360V	12V-360V		12V-360V		12V-360V		12V-360V	
Operating Voltage	20V DC	20V DC	320V DC	20V DC	320V DC	20V DC	320V DC	20V DC	320V DC
BEMF @ 1800RPM	2.3	2.85	25.05	25.15	3.52	24.12	23.87	9.47	27.31
Resistance LL	1.6	0.122	11.39	5.99	0.045	1.51	1.56	0.078	0.881
Inductance LL	0.5	0.051	4.71	2.65	0.035	1.53	1.54	0.088	0.61
HE* estimated values									
BEMF @ 1800RPM	2.2	2.85	25.33	24.53	3.626	24	24	9.89	27.31
Resistance LL	1.45	0.084	5.8	3.87	0.025	1.36	1.36	0.053	0.798
% drop in resistance from STD	-37.16	-31.15%	-49.08%	-35.39%	-44.44%	-9.93%	-12.82%	-32.05%	-9.42%

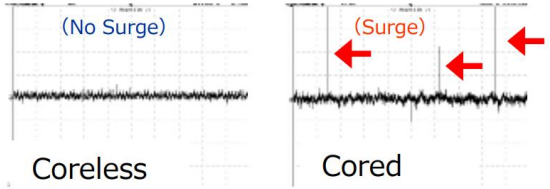
- **Smaller package by use of higher energy materials**
- **Magnet retention:**
  - **Embedded magnets for simple manufacturing, elimination of the need for a rotor speed, improved part to part rotor balance consistency**
  - **Surface mount magnet for the design that need that little bit extra**
- **Product can be sold as framed, frameless, or integrated into a custom housing of the customers' design.**
- **Magnetic designs optimized for the criteria that make our customers successful.**
  - **Power density**
  - **Noise**
  - **Weight**
  - **Cost**
  - **Vibration**
  - **Efficiency**



Slotless – Coreless Brushless DC

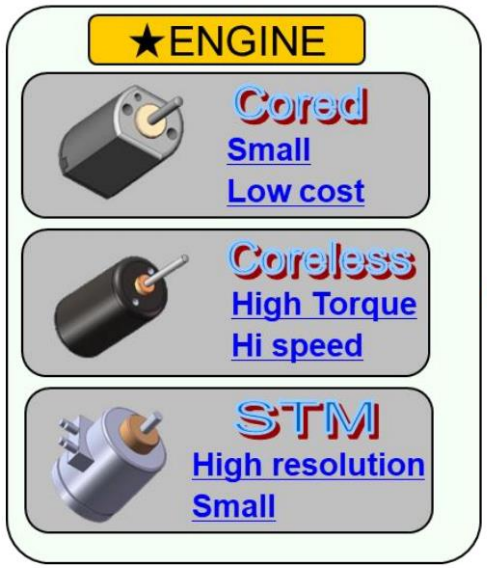
NIDEC MOTOR CORPORATION

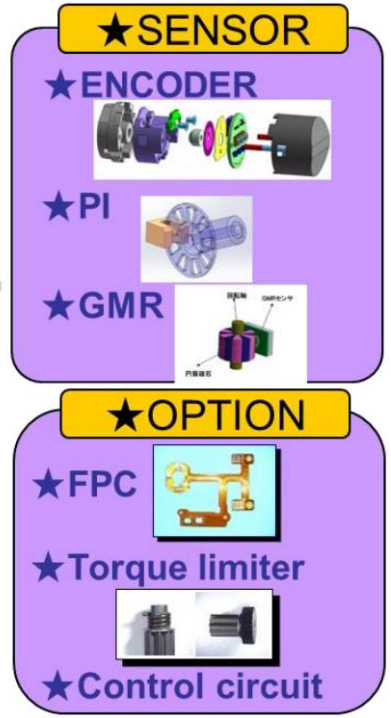
Brushed & Brushless
Options Available



Wider speed range due to lower minimum voltage requirement

Motor and Gearhead are preassembled as a single part number





Size	ϕ3.5	ϕ4	ϕ6	ϕ8	ϕ10	ϕ12	ϕ14	ϕ16	ϕ20	ϕ22	ϕ24	ϕ25	ϕ29	ϕ30	ϕ32	ϕ35	ϕ37
NAMC												NAMC	NAMC			NAMC	NAMC
NPCJ	NPCJ	NPCJ	NPCJ	NPCJ	NPCJ	NPCJ	NPCJ	NPCJ	NPCJ	NPCJ	NPCJ	NPCJ		NPCJ	NPCJ		

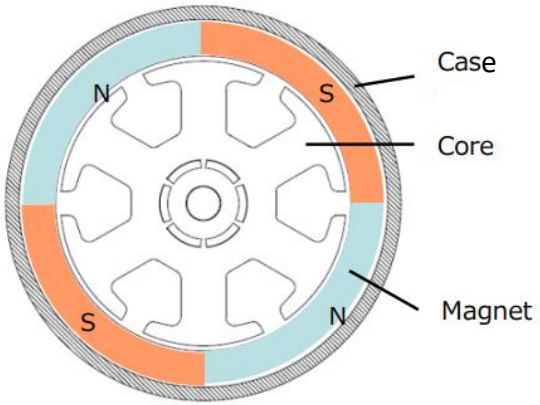
Brushless DC motors

NIDEC MOTOR CORPORATION

Coreless Motors

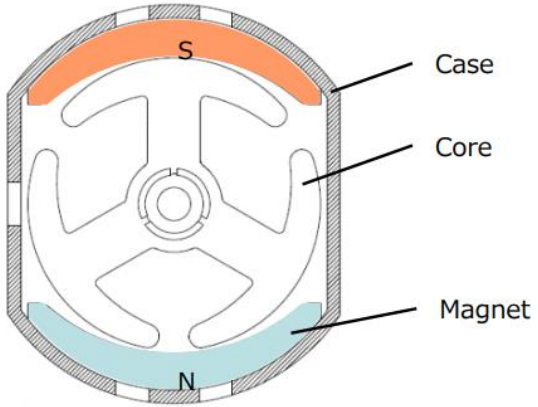
4-6 Structure Motor

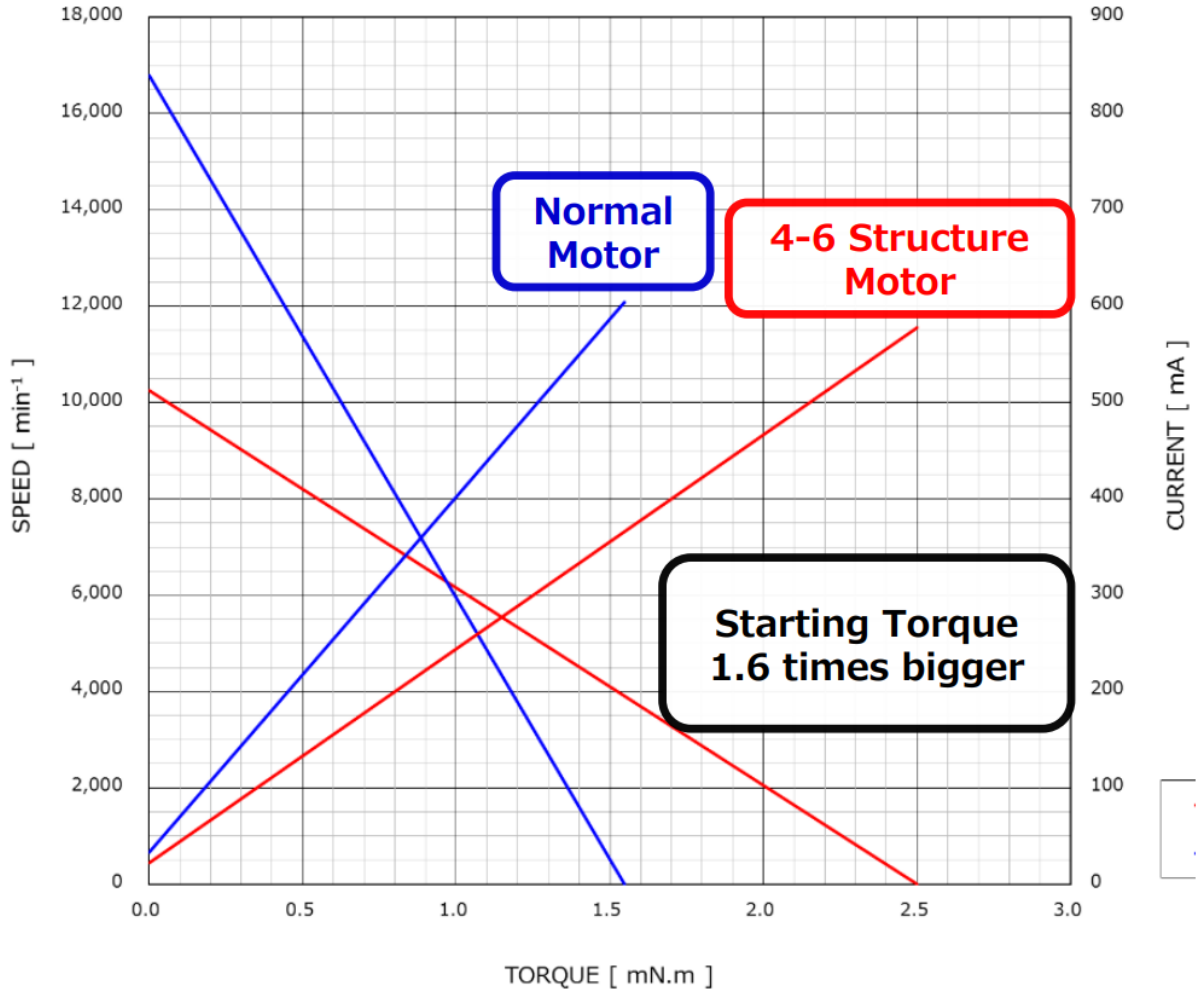
6 Slot Core
4 Pole Magnet



Normal Motor

3 Slot Core
2 Pole Magnet





Stepper motors

NIDEC MOTOR CORPORATION

Fast response, high-precision, and high controllability

- HB-type stepping motors that follow input pulses to rotate by a certain angle each time
- An open loop can be used to control locations and rotating angles.
- Super-slow synchronized operations are possible even without the use of a reducer
- Applications vary, from printers to copiers to factory automation equipment.
-Ultra low vibration and noise

シリーズ名	相数	取付寸法 mm	ステップ 角°/step	駆動方式	最大静止トルク mN・m	特徴
KV28	2	□28	1.8	ユニポーラ/バイポーラ	65~120 / 85~165	ダウンサイズ
KH39　800	2	□39	1.8	ユニポーラ/バイポーラ	59~127 / 78~157	低振動
KH42　B900	2	□42	1.8	ユニポーラ/バイポーラ	190~460 / 250~570	低振動
KV42	2	□42	1.8	ユニポーラ/バイポーラ	210~410 / 260~520	低振動/高トルク
			4.09	ユニポーラ/バイポーラ	150~295 / 200~390	低振動/高トルク
KF42	2	□42	1.8	バイポーラ	330~460	超高トルク
KH56　B900	2	□56	1.8	ユニポーラ/バイポーラ	680~1970 / 780~2270	高トルク
KH60　B900	2	□60	1.8	ユニポーラ/バイポーラ	1450~1750 / 1950~2400	高トルク
KH86	2	□86	1.8	ユニポーラ/バイポーラ	2500~6700 / 3300~9300	高トルク
KT35	3	□35	1.2	スター	59	超低振動
KT42	3	□42	0.6	スター	90~200	高精度/超低振動
			1.2	スター	70~280	超低振動
			3.75	スター	55~180	高精度/超低振動
KT60	3	□60	0.6	スター	440~600	高精度/超低振動
			1.2	スター	600	超低振動

Applications:

Office machines, semiconductor production equipment, money-handling machines, surveillance cameras, lighting equipment, construction equipment, medical devices, physical and chemical science devices, play game machines, spinners, etc.

Stepper motors

NIDEC MOTOR CORPORATION

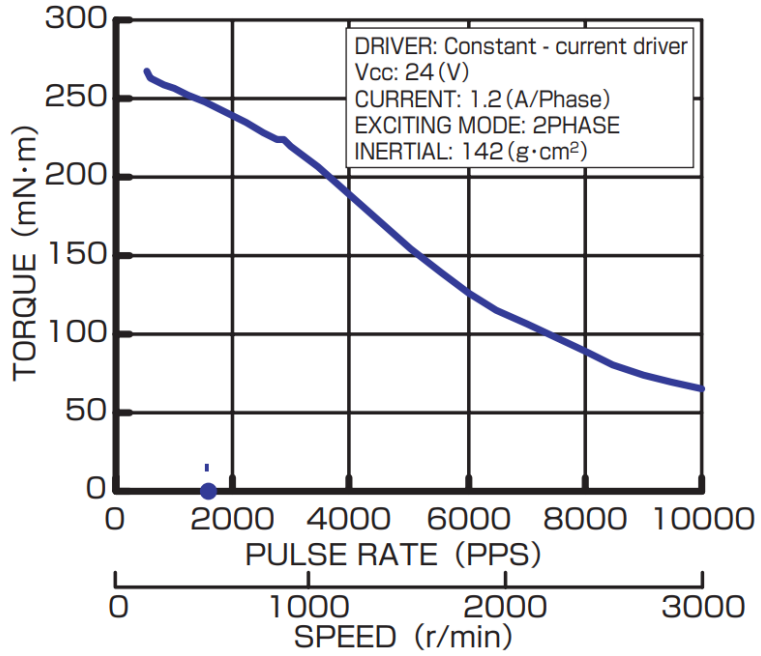
2 Phase/3 Phase Steppers

Bipolar and Unipolar Wiring

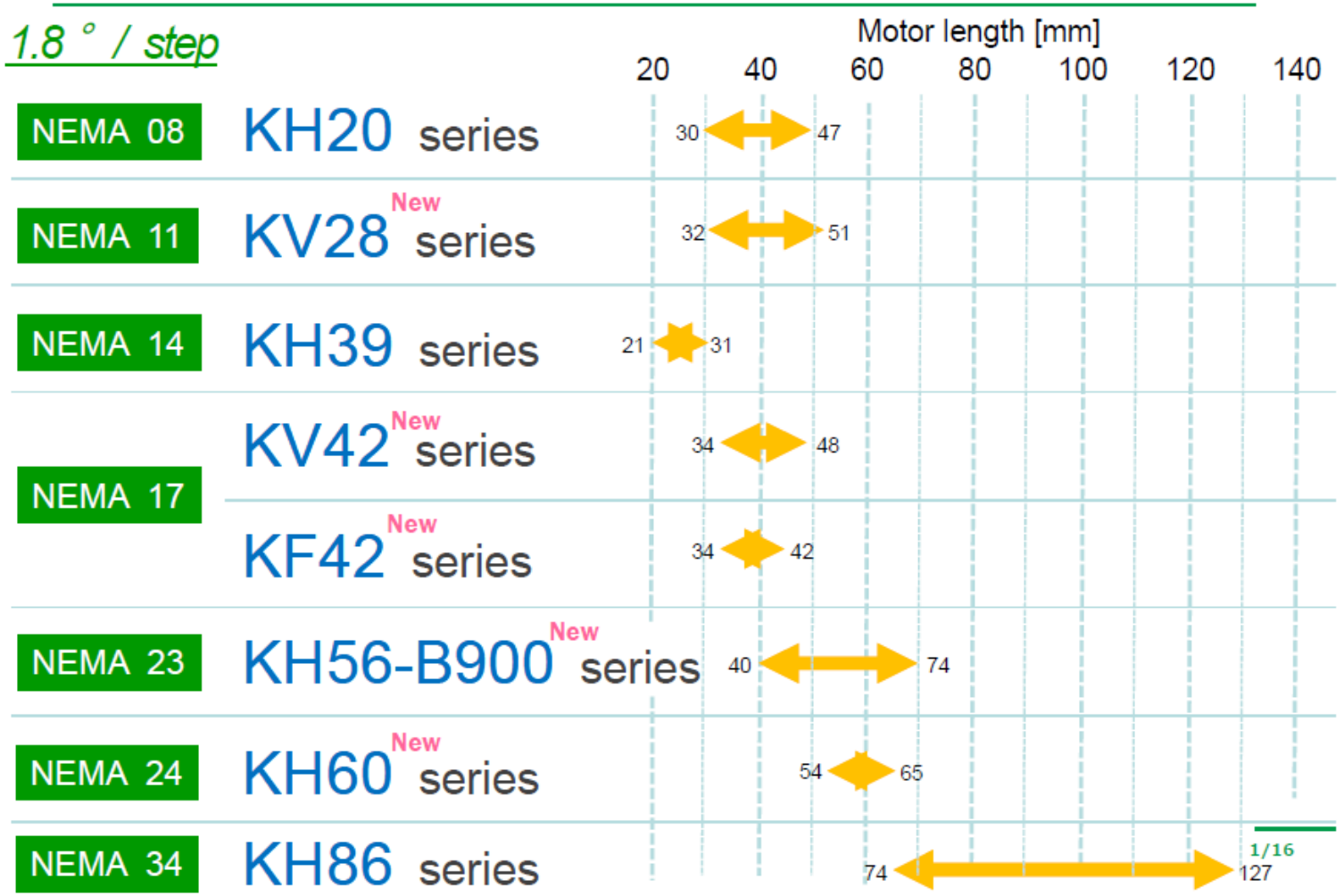
24VDC

14.4 ~ 9300 mN-m Holding Torque

KH4248-B901□□



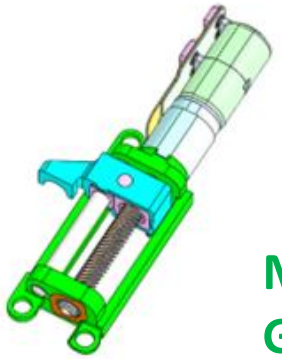
1.8 ° / step



Elinco International JPC

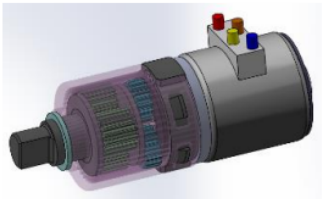
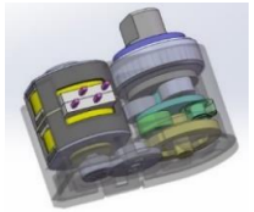
Stepper motors

NIDEC MOTOR CORPORATION



Microstepping-Geared

Not seen on slide are additional offerings such as Spur-Gear Stepper and RC Module

Motor type	Stepping Geared Motor	
Image		
Model	LPD6G-077	LPD6G-028
Motor body size	Φ6×L12.75	W7×L12.5
Exciting driving	Bipolar	Bipolar
Rated voltage (V)	5	3
Resistance (Ω)	20±10%	33±10%
Gear Ratio	1/47.02…	1/135.7…
1 Step Angle (Motor)	18°	18°
1 Step Angle with Gear Head	0.383°	0.132°
Weight (g)	1.1	1.4

Permanent Magnet DC motors

NIDEC MOTOR CORPORATION

Durable, high-output, and low-noise

- Compact and high-output motors competitive to those with an output a rank above.
- Resin brush holders are used to reduce noise.
- Combined with a variety of gear heads to accommodate various needs.
- Constant operation-based curability: 3,000 hours, 1 million cycles in repetitive operations. (*Subject to operating conditions.)

Applications:

Office equipment, game play machines, working machines, money handling machines, agricultural machines, housing equipment, packaging machines, automobiles, bending machines, medical equipment, inspection instruments, etc.

機種名	定格					無負荷		停動トルク	対応ギヤヘッド減速比	
	出力 W	電圧 V	トルク mN・m	電流 A	回転速度 r/min	電流 A	回転速度 r/min	mN・m	ギヤヘッド付き	ギヤヘッド別売
DMN29BA	3	12	7.8	0.42	3700	0.07	5000	30	9~600	3~1800
DMN29BB	3	24	7.8	0.21	3700	0.05	5000	30		
DMN37SA	4.6	12	9.8	0.78	4500	0.26	5500	54	9~72	
DMN37SB	4.6	24	9.8	0.37	4500	0.12	5500	54		
DMN37BA	7.2	12	14.7	1.01	4700	0.25	5500	98		
DMN37BB	7.2	24	14.7	0.53	4700	0.13	5500	98		
DMN37KA	9.2	12	24.5	1.2	3600	0.27	4300	160		
DMN37KB	9.2	24	24.5	0.6	3600	0.14	4300	160		
DMN37JB	14.7	24	39.2	0.94	3600	0.16	4300	240	-	
DMN37HB	27	24	68.6	1.57	3800	0.14	4800	340		

Permanent Magnet DC motors

NIDEC MOTOR CORPORATION

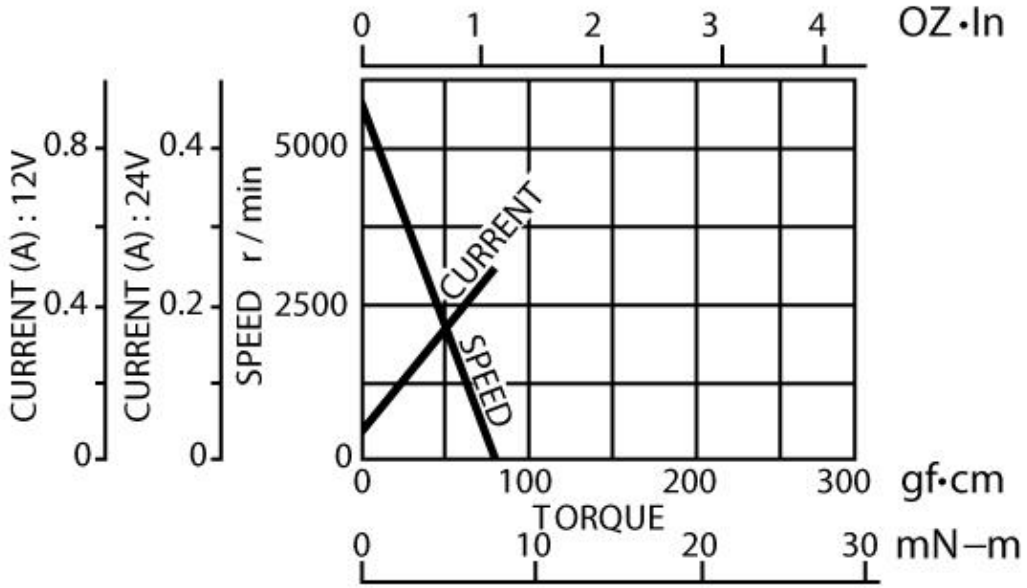
PMDC Motors

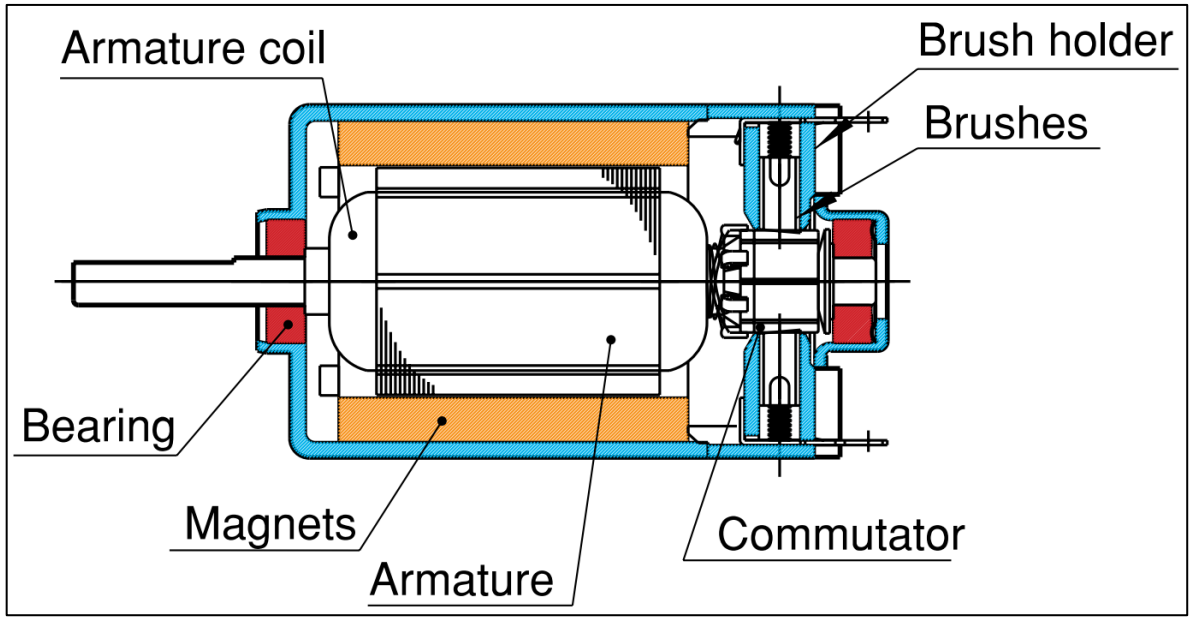
DME Series 25 ~ 60 mm OD
DMN Series 29 ~ 37 mm OD
12 ~ 24 VDC

Product Characteristic

- Lower operational time between profile cycles
- No feedback
- Torque and speed have a linearly inverse relationship
- Lower cost
- Brush wear

Additional catalog offerings available in Nidec Precision Catalog

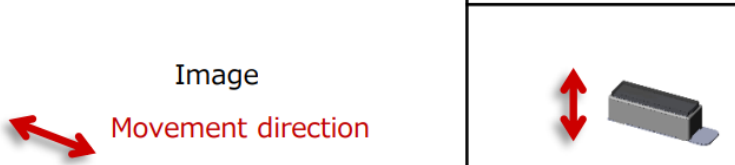




LRA/ ERM “Haptic” output motors

“Haptic” output motors

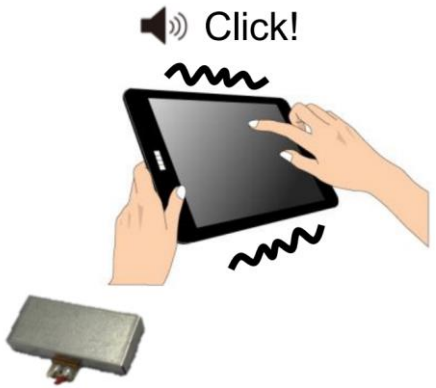
Applications

Motor type	Linear Resonant Actuator (LRA)			
	Sprinter Z	Sprinter F	Sprinter γ	Deus2
Image Movement direction				
Dimension (W×L×H)	4×12×3.5 mm	6×12×2.8 mm	8×15×3.8 mm	9×20×3.0 mm
Rated Voltage	AC 1.8 Vrms	AC 2.0 Vrms	AC 2.0 Vrms	AC 2.0 Vrms
Frequency	240 Hz	190 Hz	150 Hz	180 Hz
Acceleration@F0	0.9 Grms(min)	1.2 Grms(min)	2.0 Grms(min)	3.7 Grms(min)
Rise time (0-50%)	50 ms(max)	50 ms(max)	50 ms(max)	40 ms(max)
Fall time (100-50%)	80 ms(max)	55 ms(max)	50 ms(max)	40 ms(max)
Rated current	90 mA(max)	150 mA(max)	160 mA(max)	230 mA(max)
Resistance	25.9 Ω	13.6 Ω	14.0 Ω	10.8 Ω
Production Status	Mass-production	Under development	Mass-production	Mass-production

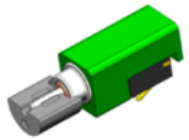
LRA/ ERM “Haptic” output motors

LRA/ERM

Applications



Vibration Motor – Brushed Cylinder Type (ERM)

Motor Type		Cylinder Type			
		Non-SMD			SMD
Image		LA3R5-472QC	LA4-459QB	LA4-473KB	BRE-3728
					
Motor body size W/L/H		Φ3.5×L8 4.1/13.5/4.35	Φ4×L8 5.0/13.35/5.8	Φ4×L8 4.7/13.0/4.7	Φ4×H3 L6 4.4 / 11.4 / 3.4
Rated voltage (V)		3.0	3.0	3.0	2.7
Rated speed (rpm)		11,500±2,500	10,000±3,000	8,000±3,000	14,000±2,500
Rated current (mA) Typ.		60	82	110	68
Stall current (mA) Typ.		73	96	134	77
Counter weight size		R2.0-L3.0	R2.5-L3.6	R3.0-L3.6	R1.7 L2.8
※Ref. Vibration (G_{o-p})	100g Block	0.68	0.83	1.22	0.31
	50g Block	1.36	1.66	2.44	0.62

Brushless DC fans

NIDEC MOTOR CORPORATION

Low-noise, energy-efficient, and highly reliable

- DC drive fans that feeds air to the axial direction
- Unsteady flow analysis-based low-noise performance
-With stator vanes on the discharge side, the products of this lineup enjoy high static efficiency.
- With low-noise and high-air-volume capabilities, the fans are used in a variety of products.

シリーズ名	フレーム外形寸法(mm) サイズ	厚み	最大風量 (m^3/min)	最大静圧 (Pa)
EUDC	□40 ×	13	0.12-0.23	37-79
TUDC	□60 ×	25	0.35-0.9	24-150
G0625			0.4-0.8	44-150
G0638		38	1.2-1.8	210-470
PUDC	□80 ×	25	0.73-1.58	25-100
G0838		38	3.2-4.4	480-795
D0925	□92 ×	25	1.5-2.0	40-67
KLDC		32	1.5-1.7	65-86
D0938		38	2.5	200
G0938			3.2-3.6	350-400
G1238B	□119 ×	38	6.3-7.4	415-520
G1238C			5.6-6.7	300
D1225	□120 ×	25	1.3-4.25	13-150
CNDC		38	2.1-4.4	44-160
D1238			4.4-6.2	170-300
D1338	□127 ×	38	5.8	185
G1438	□130 ×	38	11.1-11.7	2450-3380
D1350		50	2.7-2.9	68-83
D1550	□150 ×	50	2.0-3.8	46
D1751	Φ172 ×	51	5.8-14.2	120-640
G1751			9.2-11.2	125-840

Applications:

Office machines, appliances, servers and routers, mobile phone base stations, automobiles, beverage machines, image projectors, housing and building equipment, power source cooling, construction equipment, etc.

Brushless DC fans

NIDEC MOTOR CORPORATION

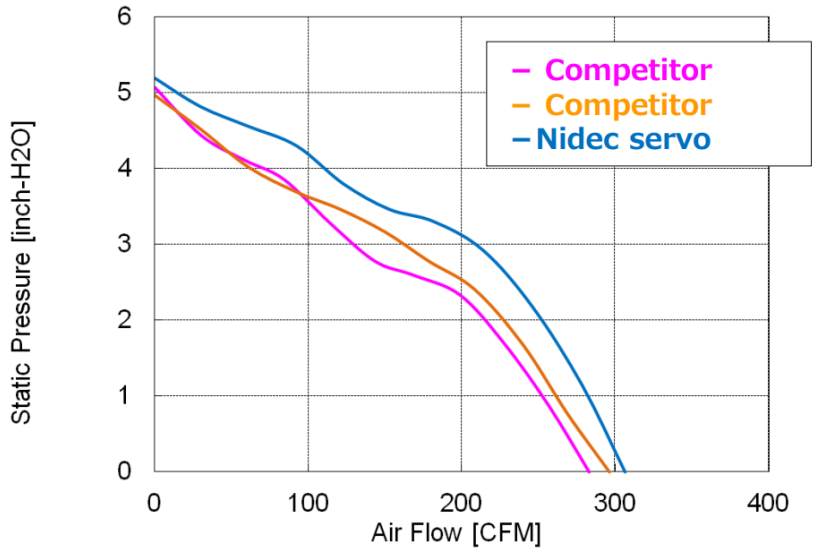
Axial Cooling Fans

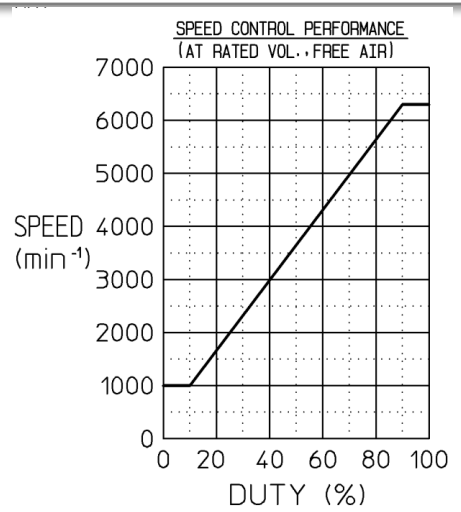
- Low noise
- Low vibration
- High static pressure

Frame Dimensions : □40～Φ172
Airflow: 12 ~ 501 CFM

Sizing Considerations

- Maximum Static Pressure
- Maximum Airflow
- Frame Dimensions and Thickness
- Audible Noise
- PWM or Signal Output requirements
- Power Supply Voltage
- Maximum Fan Current or Voltage
- IP Rating
- Series or Parallel Configuration Compatible



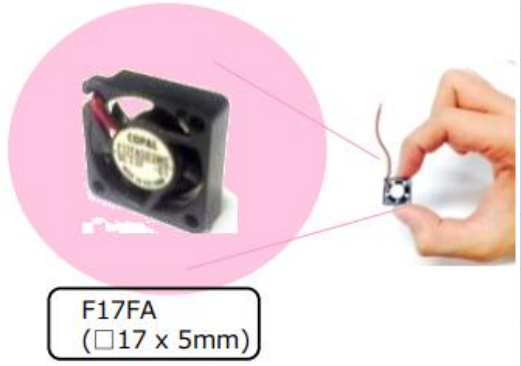


Brushless DC fans

NIDEC MOTOR CORPORATION

Compact Axial Fans

17 ~ 60 mm Frame Size
Rated Voltage 3.3, 5, 12 VDC
Airflow 0.212 ~ 11.3 CFM



Size	5mm	8mm	10mm	15mm	25mm	32mm	38mm	50㎜	51mm
ϕ172									NAMC
□130								NAMC	
□120					NAMC		NAMC		
□92						NAMC	NAMC		
□80					NAMC				
□70									
□60				NPCJ	NAMC		NAMC		
□40			NPCJ						
□30			NPCJ						
□25			NPCJ						
□17	NPCJ	NPCJ							

Fan thickness in comparison to NAMC subsidiary catalog

Applications

Elinco International JPC

Brushless DC Blowers

NIDEC MOTOR CORPORATION

Low-noise, energy-efficient, a wide variety of product lineup

- DC drive blowers that feeds air to the distal direction
- High static pressure efficiency
- Blades' design: Unsteady flow analysis to minimize the blades' air vortex to reduce noise

シリーズ名	フレーム外形寸法(mm)		最大風量 (m^3/min)	最大静圧 (Pa)
	サイズ	厚み		
E0525H/K	□48 ×	25	0.22	220
E0515	51 × 53	15	0.1-0.12	135-210
E0720H	70 × 76	20	0.25-0.29	210-300
E0720L	72 × 75	20	0.31	265
SMBD	□76 ×	25	0.24-0.33	88-180
MBDC		30	0.25-0.33	83-172
SFBD	□94 ×	30	0.44-0.65	120-280
E1027H	97 × 95	25	0.57-0.78	315-520
E1033H		33	0.53-1.14	120-500
E1033L		33	1.15-1.55	700-1400
E1232L	119 × 117	32	0.75-1.13	200-460
E1331K	126 × 127	31	0.72-1.08	210-480
E1540H	150 × 152	40	1.65-2.0	270-430
E2271Z	Φ220 ×	71	14.7-18.1	470-600

Applications:

Office machines, appliances, servers and routers, mobile phone base stations, automobiles, beverage machines, image projectors, housing and building equipment, power source cooling, construction equipment, etc.

Brushless DC Blowers

NIDEC MOTOR CORPORATION

Blower Fans

Similar Sizing Considerations

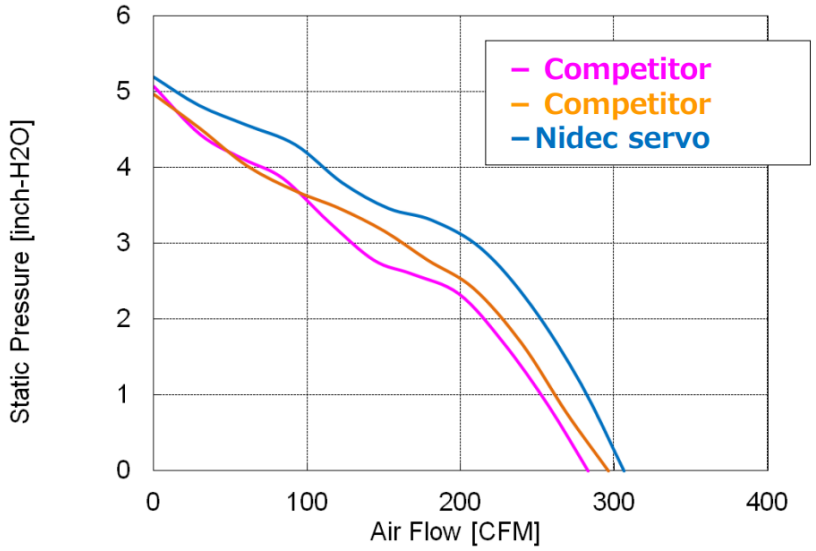
- Low noise
- Multi-blade Impeller
- High Air Flow

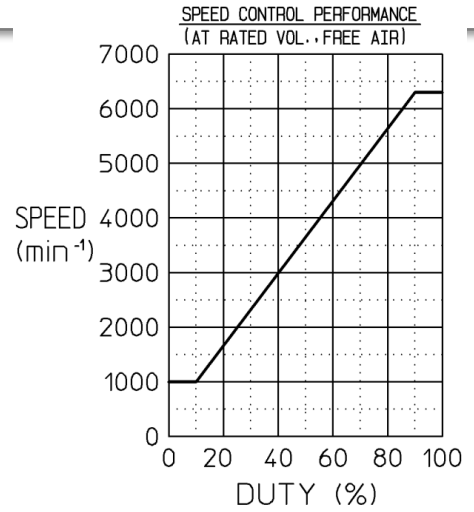
Frame Dimensions : □48~Φ220

Airflow: 7.8 ~ 639 CFM

Sizing Considerations

- Maximum Static Pressure
- Maximum Airflow
- Frame Dimensions and Thickness
- Audible Noise
- PWM or Signal Output requirements
- Power Supply Voltage
- Maximum Fan Current or Voltage
- IP Rating
- Series or Parallel Configuration Compatible





Elinco International JPC

Nidec Advanced Motors Corporation

R&D center	Sales office	Factories
1 (Gunma, Japan)	8 (Japan & Oversea)	5 (Japan & Oversea)

Nidec Precision Corporation

Nidec
All for dreams

Surface and thermal treatment processing parts, optical equipment

■ Niigata Factory

Press dies for precision parts, Molds for mounting devices, Units for various devices, Development & manufacturing of dies & parts for equipment

■ Nidec Precision Yamada Corporation

■ Head Office

Manufacture of electronic component equipment / Inserting machine, Factory automation equipment and precision parts

■ Shiojiri

Production of optical equipment and system products Parts processing (press, mold) surface treatment, Manufacture of heat treated parts

■ Koriyama Factory

■ Production・Development Bases
● Sales Offices

Factory

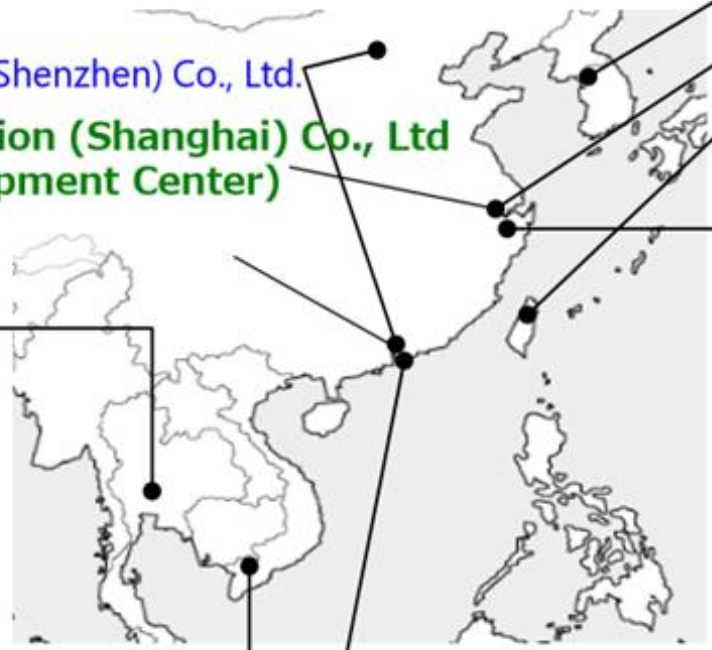
● Osaka Sales Office

Confidential

Major Bases in Asia (Outside Japan)

Nidec
All for dreams

※Overseas sales offices are integrated with Nidec



● Nidec (Beijing・Shenzhen) Co., Ltd.

■ **Nidec Precision (Shanghai) Co., Ltd (China Development Center)**

Founded in Aug., 1999
Manufacturing of Shutters and Lens Units for Cameras and Mobile Equipment, Precision Mini-motors

■ **Nidec Precision Components (Thailand) Co., Ltd.**

Land area： 51,200㎡
Building area： 40,000㎡

■ **Nidec Precision Vietnam Corporation**

Land area: 68,200㎡ / Building area: 48,000㎡

Founded in Apr., 2010
Manufacturing of Precision Mini-motors

■ **Tan Thuan Branch of Nidec Precision Vietnam**

Land area: 13,742㎡ / Building area: 10,270㎡

● Nidec Precision (Hong Kong) Co., Ltd.

● Nidec Korea Corporation

● Nidec (Shanghai) Int'l Trading Co. Ltd.

● Nidec Taiwan Corporation

Land area: 51,480㎡
Building area: 29,250㎡

■ **Nidec Precision Components (Zhejiang) Co., Ltd.**

Founded in Sep., 2001
Manufacturing of Camera Shutters, Camera Lens Cones, Press Stamping Parts, Molding Parts, Machining Parts, Surface Treatment Parts

● Nidec Europe Sales B.V.

● Nidec Motors & Actuators (Germany) GmbH

● Nidec America Corporation

■ **Production Bases**

● Sales Offices

Elinco International JPC

Precision Rotating Components

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Email: info@e-jpc.com

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ISO 9001:2015 CERTIFIED