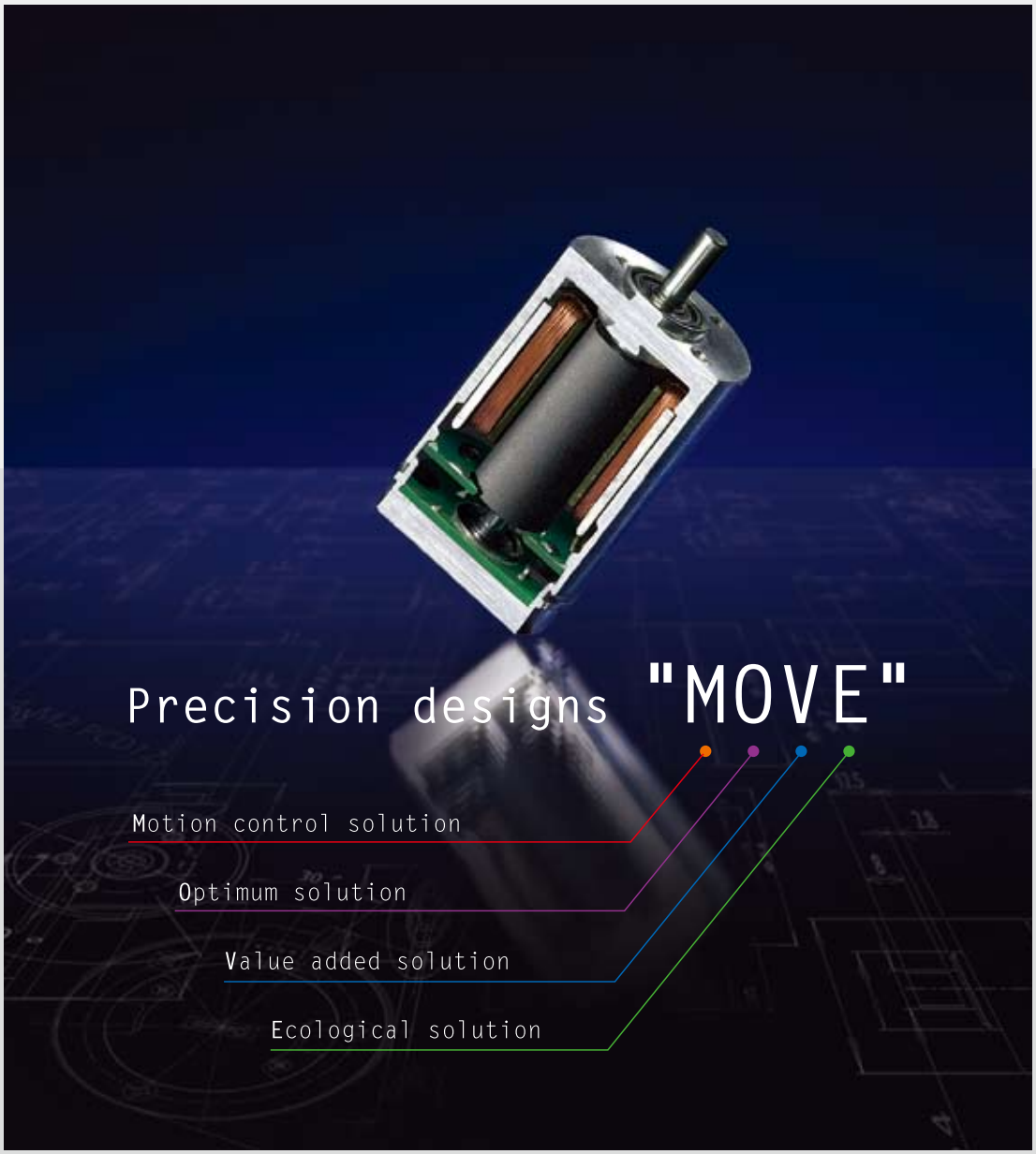
DC Micro Motors

Brushless Motors | Coreless Motors | Iron Core Motors | Actuator Units



Canon Precision Inc.

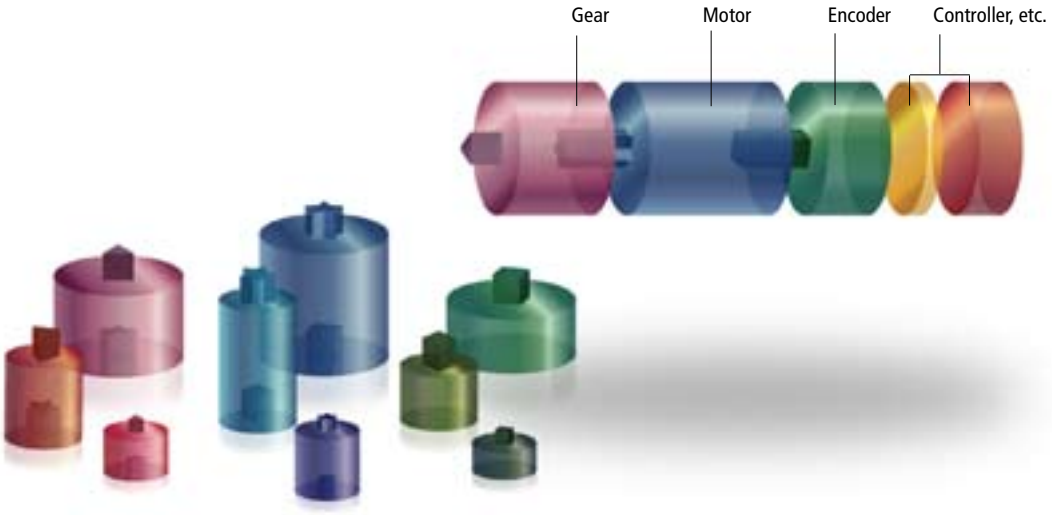
Perfectly match each customer's needs

Canon Precision's Customization

We started cultivating our core technology for DC micro motors in 1962. Today, Canon Precision uses that advanced technology to propose customized solutions to meet all kinds of customer needs. Our flexibility in design, allows us to work closely with each customer to provide the exact solution required, be it simple or complex.

A "Monotsukuri" (knowledge-based making of things) spirit is the driving force behind our development team. They work directly with our production division on the development of all new products. Key components are manufactured in-house, assuring that our high quality standards are maintained. We achieve the highest levels of productivity and reliability by designing and maintaining our own assembly and processing equipment.

Our motion control products are designed, developed and manufactured at our plant in Aomori Prefecture (Northern Japan). The high quality products are made by the highly efficient cell production system enabling us to provide quick delivery response.



Options such as gear units and encoders can be added to the motors. We can also customize the speed, reduction rate, etc. to fit your exact requirements.

Precision designs MOVE

Canon Precision provides solutions that meet your movement and motion control requirements.

Motion control solution:	we combine technology, production, and response to create leading edge motion solutions.
Optimum solution:	we study your requirements and promptly propose the optimum solution to meet your needs.
Value added solution:	we provide gears, encoders, even custom actuators, as well as other value added solutions.
Ecological solution:	we adhere to Canon's Environmental Assurance Policy providing environmentally friendly products that are lead-free and meet the European RoHS directives.

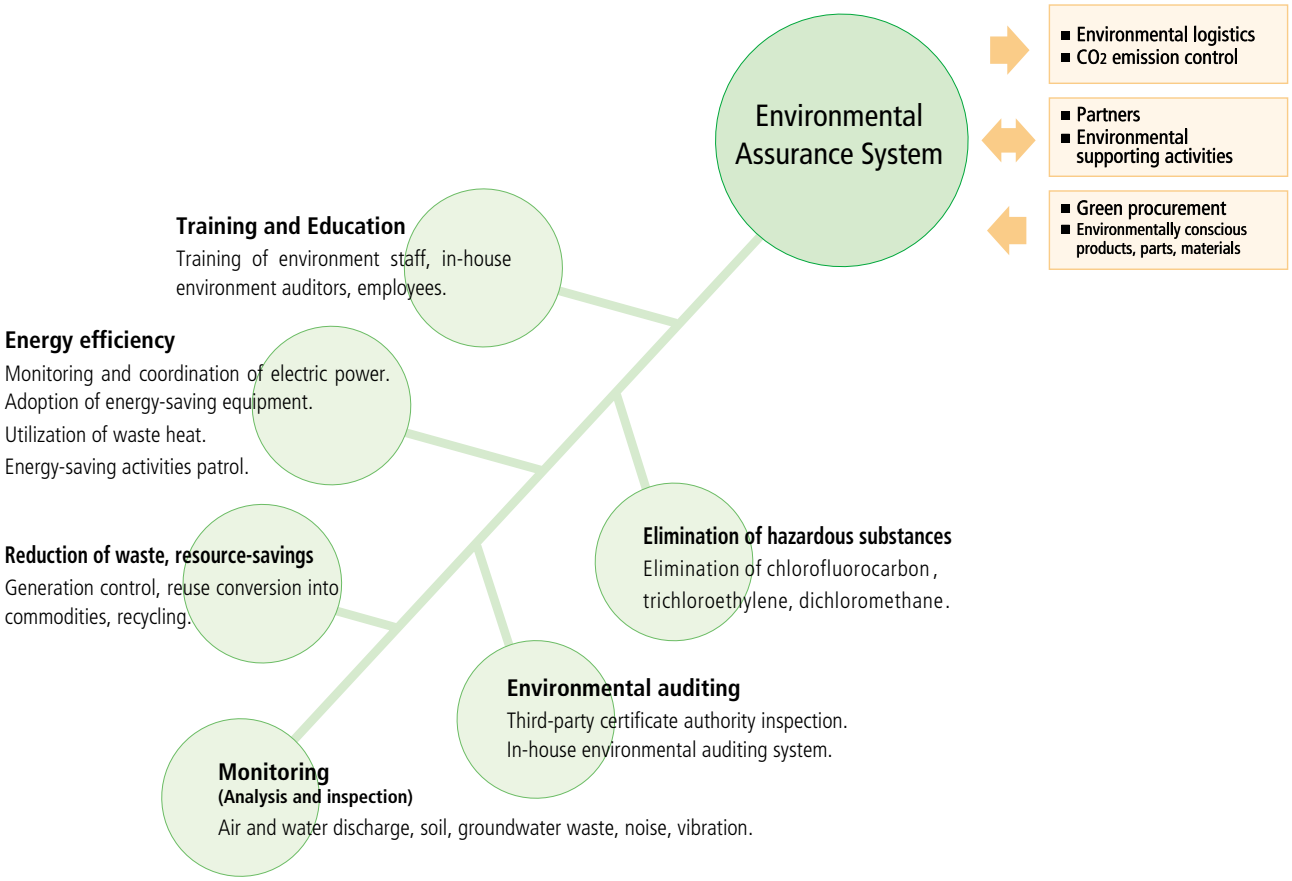
Environmental conservation

Maximizing the resource productivity is the challenge Canon Precision tackles. We believe that conventional approaches such as classifying and recycling or waste reduction are not sufficient.

It is necessary to continually strive to lower the environmental burden by means of energy and resource conservation, and to eliminate harmful substances, through and at all phases of the product life cycle, from development and design, to procurement, production, distribution, consumption and finally to disposal.

Therefore, while proceeding with constant reexamination of our technology and production systems including the elimination of harmful substances at the design and development phases, and the materials procurement and process revision stages, we are pursuing more drastic measures like reducing the levels of CO_2 in the logistic system by shortening and reducing the point to point transport and switching from road to rail transport.

Furthermore, we are promoting the green procurement system in cooperation with our partner companies and subsidiaries worldwide.



Product line-ups

Development, manufacturing and sale of DC micro motors

- DC Micro Motors
  - DC Motors
    - Brushless Motors — ·Paper handling ·Automatic shutter ·Printing head actuation
    - Coreless Motors — ·Mirror actuation/Shutter charging of the digital SRL ·Robotics, Precision apparatus
    - Iron Core Motors — ·Industrial equipment ·Cash handling equipment (ATMs,Card reader/writer)
    - Geared Motors — ·House automation equipment ·Laborsaving equipment
  - Ultrasonic Motors
    - Pan/tilt System — ·Surveillance system ·Medical equipment ·Broadcasting equipment
    - Stage System — ·Semiconductor manufacturing equipment ·Measuring equipment

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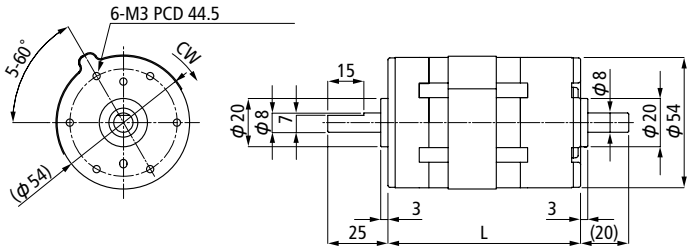
Brushless Motors

Canon Precision's brushless motors are compact in size and provide high output power. Two types are offered: an outer rotor type with high rotational stability and an inner rotor type with quick response. Inner rotor types can be equipped with reduction gears and encoders. Various custom options can be incorporated to fit your applications.

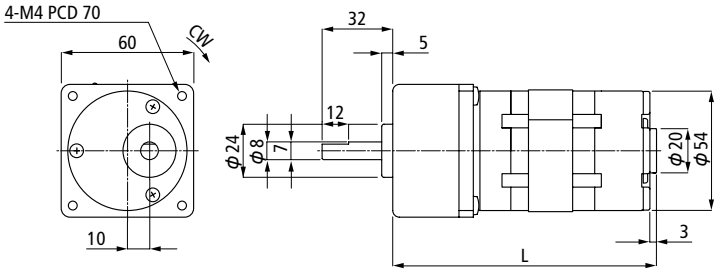
■ BN54 Series (Inner Rotor)



Type	L(mm)
S	63.0
M	80.0

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	Torque Constant	Moment of Inertia	Speed Control Range
	V	W	mN·m(gf·cm)	r/min	mA	mN·m/A(gf·cm/A)	g·cm²	r/min
BN54 S	24	22	49 (500)	4200	1600	35 (360)	110	1000～2500
BN54 M	24	31	98 (1000)	3000	1900	61 (620)	180	1000～2000

■ BN54 (Inner Rotor) + Gear Head (Spur Gear)



MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Permissible Thrust Load	Permissible Torque	Max Instantaneous Permissible Torque	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	Kg	N·m(kgf·cm)	N·m(kgf·cm)	mm
BG54 (1/ 15)	24	490 (5000)	228	900	253	480	3			120
BG54 (1/ 30)	24	980(10000)	113	1000	127	500	3			125
BG54 (1/ 60)	24	1960(20000)	56	1100	63	520	3			132

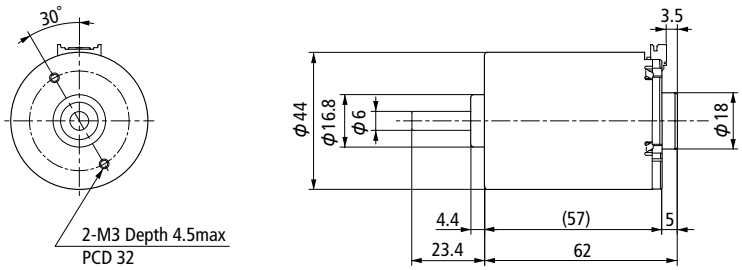
BG54: BN54+Gear Head

■ BN44 Series (Inner Rotor Type Brushless Motor)

New Model

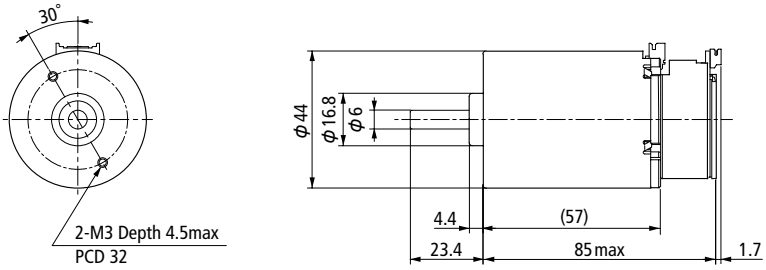
Features ●High Efficiency, High Power
●Low Mechanical Noise
●Quick Response, Long Life

Application ●Industrial Machines
●Office Machines
●Cash Handling Machines



MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	℃/W
BN44	24	18.5	49 (500)	3600	1200	4700	---	--- (---)	53.9 (550)	1.7	---	25	---	---

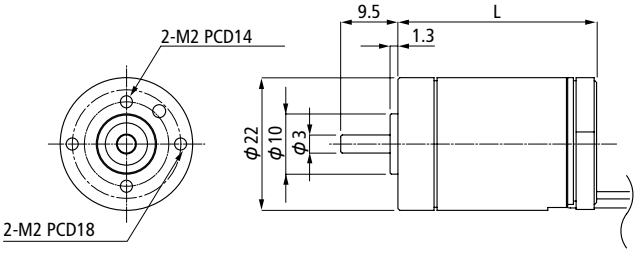
■ BN44+Encoder



MODEL(Phases)	Input Voltage	Number of Pulses	Response Frequency	Encoder Type	Output Level	Index Pulse Width	Logic Width	Duty Ratio	Output Signal Form
	V	P/R	Khz(MAX)						
BP44(2)	5	512	40	Optical	TTL	---	S=90° e±30°e	30%~70%	Square Wave
BP44(2)	5	1000	50	Optical	TTL	---	S=90° e±15°e	40%~60%	Square Wave

※BP44 model means BN44 with encoder. 3 Phase encoder model is available.

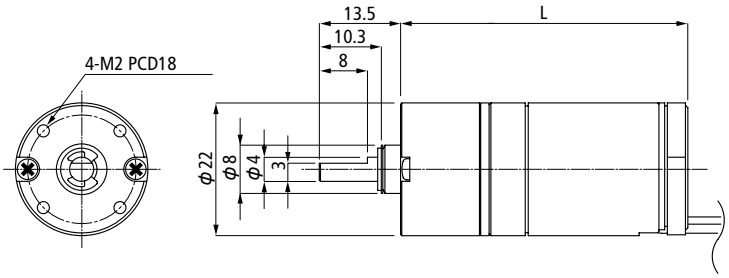
BN22 Series (Inner Rotor)



Type	L (mm)
S	33.0
L	54.0

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Mechanical Time Constant
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	ms
BN22 S	24	7.5	4.9 (50)	15000	500	17000	80	29.4 (300)	11.8 (120)	3.0
BN22 L	24	8.5	7.8 (80)	7000	400	8000	60	39.2 (450)	24.5 (250)	3.5

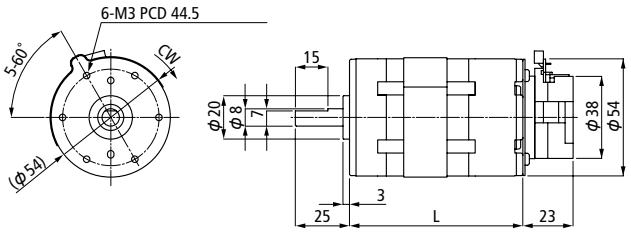
BN22 (Inner Rotor) + Gear Head (Planetary Gear)



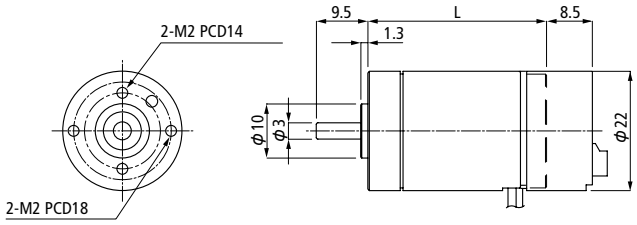
MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
BG22 S (1/ 20)	24	49 (500)	770	340	850	94	47.7
BG22 S (1/ 62)	24	98 (1000)	260	270	270	98	51.4
BG22 S (1/ 107)	24	98 (1000)	150	200	160	98	51.4
BG22 S (1/ 243)	24	147 (1500)	70	170	72	100	55.1
BG22 S (1/ 410)	24	196 (2000)	40	157	42	100	55.1
BG22 L (1/ 20)	24	49 (500)	380	185	410	68	68.7
BG22 L (1/ 62)	24	98 (1000)	125	150	132	70	72.4
BG22 L (1/ 107)	24	98 (1000)	75	120	77	70	72.4
BG22 L (1/ 243)	24	147 (1500)	33	105	35	73	76.1
BG22 L (1/ 410)	24	196 (2000)	19	100	20	73	76.1

BG22: BN22+Gear Head

■ BN54 + Encoder



■ BN22 + Encoder

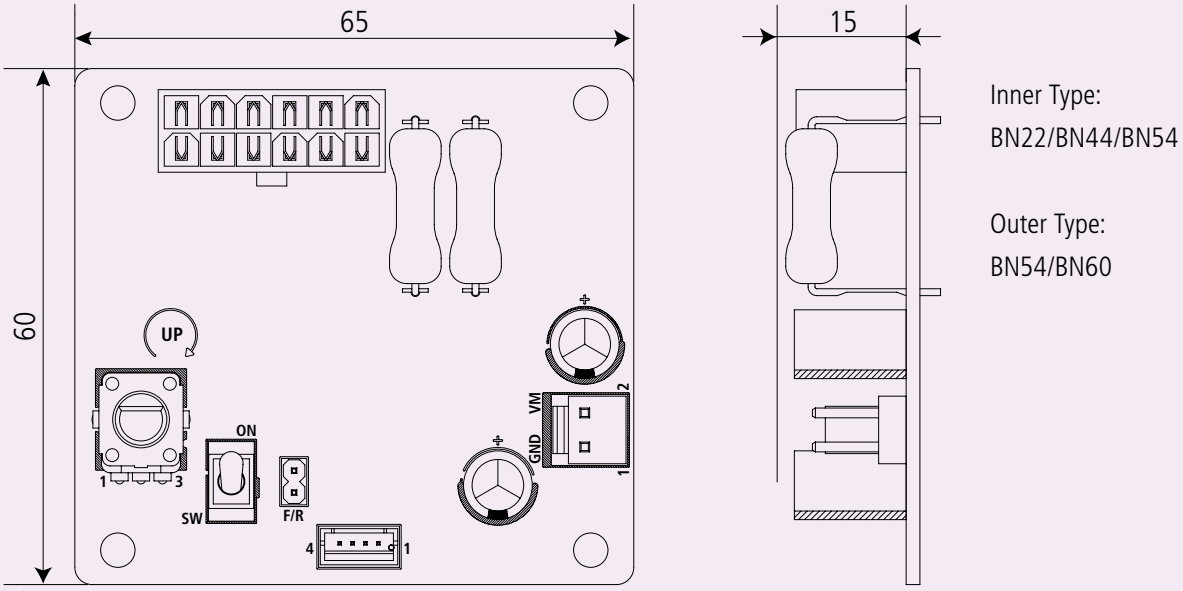


MODEL(Phases)	Input Voltage	Number of Pulses	Response Frequency	Encoder Type	Output Level	Index Pulse Width	Logic Width	Duty Ratio	Output Signal Form
	V	P/R	KHz(MAX)						
BP54 (2)	5	512	40	Optical	TTL	---	S=90°e±30°e	30%～70%	Square Wave
BP54 (3)	5	1000	50	Optical	TTL	180°e×4	S=90°e±15°e	40%～60%	Square Wave

MODEL(Phases)	Input Voltage	Number of Pulses	Response Frequency	Encoder Type	Output Level	Index Pulse Width	Logic Width	Duty Ratio	Output Signal Form
	V	P/R	KHz(MAX)						
BP22 (3)	5	110 (200)	30	Optical	TTL	180°e×2	S=90°e±30°e	30%～70%	Square Wave

BP54: BN54+Encoder BP22: BN22+Encoder

General purpose driving circuit for brushless motors

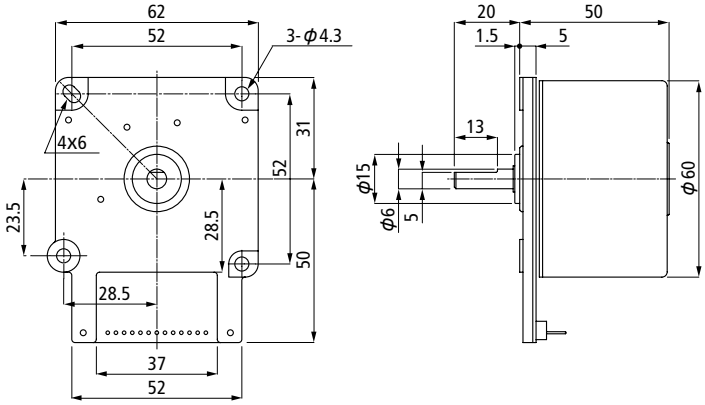


Inner Type:
BN22/BN44/BN54

Outer Type:
BN54/BN60

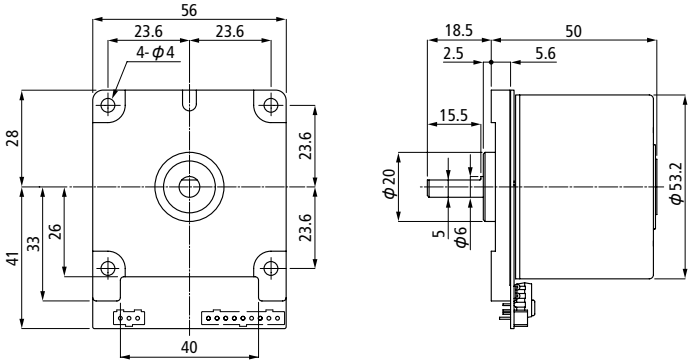
- Voltage：DC. 24V
- ON/OFF、CW/CCW、Speed change possible
- Lock rotor protection/short breaking/rotation pulse signal output available

BF60 Series (Outer Rotor)



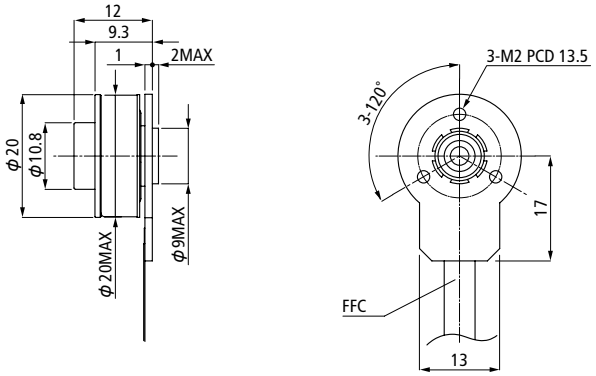
MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)
BF60	24	40	196 (2000)	1990	2500	2980	195	588 (6000)

BF54 Series (Outer Rotor)



MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)
BF54 M-speed	24	23	167 (1700)	1360	1500	2160	130	441 (4500)
BF54 H-speed	24	31	167 (1700)	1800	2200	2600	150	539 (5500)

BN20 Series (Outer Rotor)

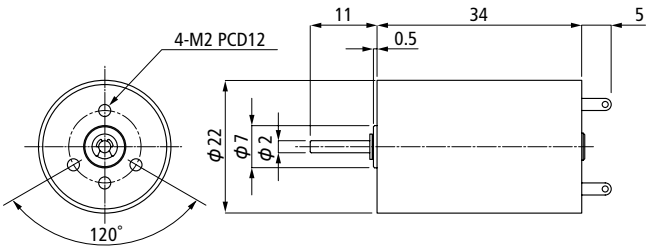


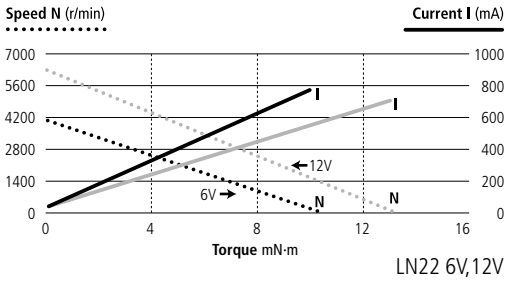
MODEL	Rated Voltage	No Load Speed	No Load Current	Torque Constant	Winding Resistance
	V	r/min	mA	mN·m/A(gf·cm/A)	Ω
BN20	12	16000	120	5.9 (60)	8

Coreless Motors

Canon Precision's coreless motors create high power output from a small package. Their low moment of inertia provides quick response rates and high controllability. Our coreless motors have demonstrated their high reliability in many applications including cameras and pumps. Customization, like the addition of reduction gears, is available.

LN22 Series

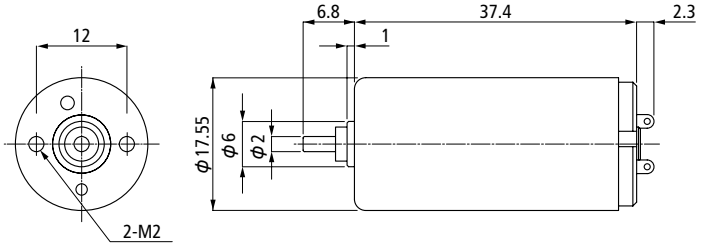


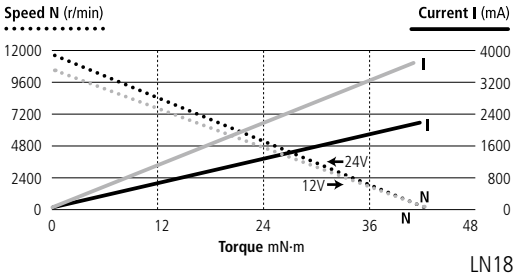


LN22 6V,12V

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Starting Current	Torque Constant	Rotation	Moment of Inertia	Weight
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mA	mN·m/A(gf·cm/A)		g·cm²	g
LN22	6	0.70	1.96 (20)	3400	180	4300	25	9.8 (100)	790	12.8 (131)	CW/CCW	3.0	70
	12	1.38	2.94 (30)	4500	175	5900	20	12.3 (125)	670	18.8 (192)	CW/CCW	3.0	70

LN18 Series

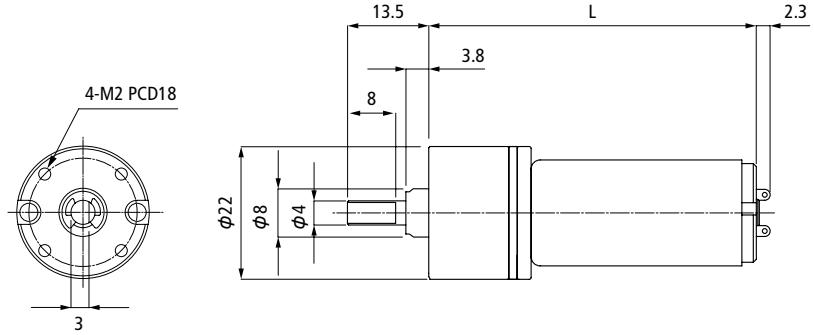




LN18

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Starting Current	Torque Constant	Rotation	Moment of Inertia	Weight
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mA	mN·m/A(gf·cm/A)		g·cm²	g
LN18	12	4.72	4.90 (50)	9200	500	10500	25	37.3 (380)	3800	10.3 (105)	CW/CCW	1.9	45

LN18 + Gear Head (Planetary Gear)

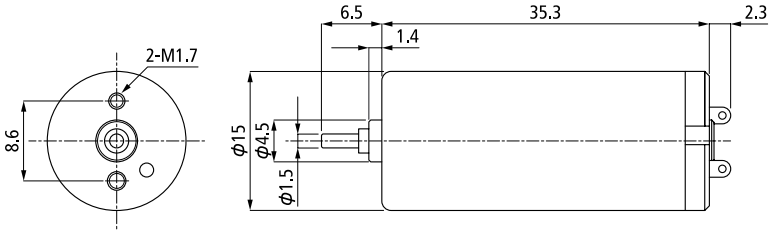


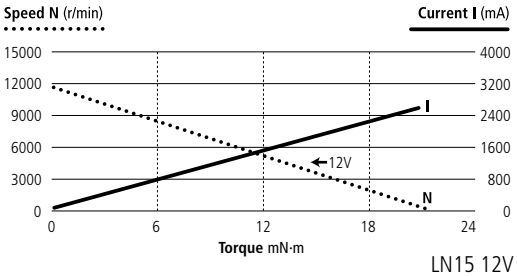
MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
LG18 (1/ 20)	12	29.4 (300)	355	170	375	45	54.4
LG18 (1/ 62)	12	78.5 (800)	115	165	120	45	58.1
LG18 (1/ 107)	12	98.1 (1000)	68	130	70	45	58.1
LG18 (1/ 242)	12	147.0 (1500)	30	110	31	50	61.8
LG18 (1/ 410)	12	196.0 (2000)	18	100	19	50	61.8

LG18: LN18+Gear Head

Please inquire for the variants of different input voltages.

LN15 Series

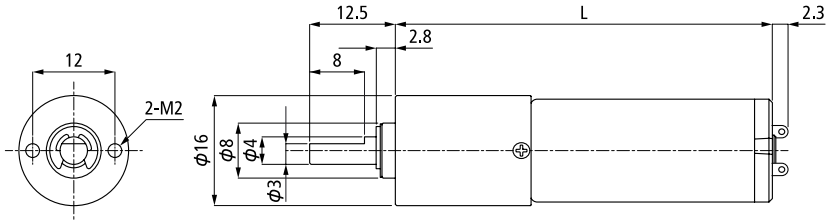




LN15 12V

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Starting Current	Torque Constant	Rotation	Moment of Inertia	Weight
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mA	mN·m/A(gf·cm/A)		g·cm²	g
LN15	12	2.22	1.96 (20)	10800	240	11800	35	23.5 (240)	2430	8.71(88.8)	CW/CCW	0.75	30

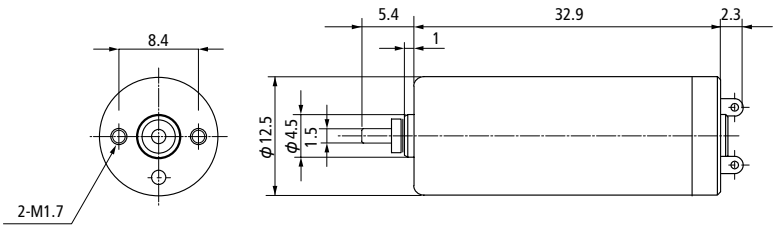
LN15 + Gear Head (Planetary Gear)

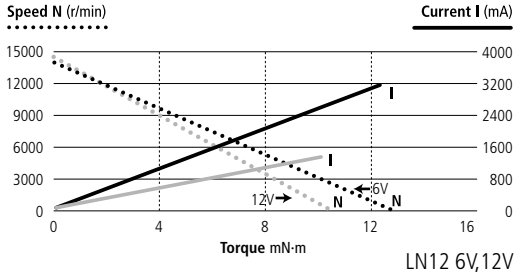


MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
LG15 (1/ 20)	12	19.6 (200)	550	180	580	50	51.3
LG15 (1/ 62)	12	49.1 (500)	180	180	190	55	55.0
LG15 (1/ 107)	12	98.1 (1000)	103	200	109	55	55.0
LG15 (1/ 242)	12	147.0 (1500)	46	170	48	60	58.7
LG15 (1/ 410)	12	196.0 (2000)	28	150	29	60	58.7

LG15: LN15+Gear Head

LN12 Series



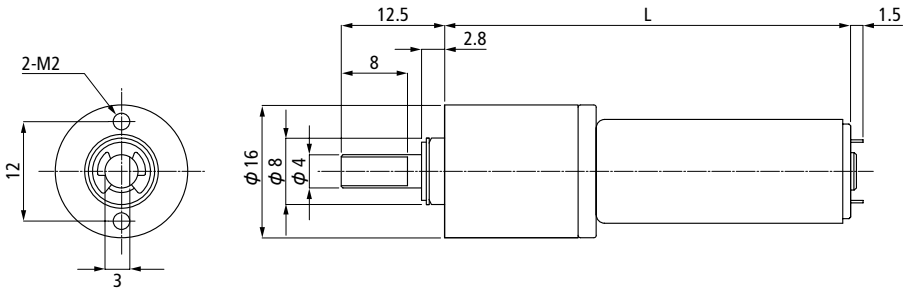


LN12 6V,12V

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Starting Current	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mA	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms
LN12	6	1.32	0.98 (10)	12850	280	14000	32	11.93 (121.7)	3051	3.95(40.3)	1.9	0.03	0.34	4.1
LN12	12	1.32	0.98 (10)	12900	170	14300	36	10.01 (102.1)	1405	7.31(74.6)	8.6	0.076	0.34	5.6

Please inquire for the variants of different input voltages.

■ LN12 + Gear Head (Planetary Gear)



MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
LG12 (1/ 20)	6	11.8 (120)	415	180	455	55	49.1
LG12 (1/ 62)	6	29.4 (300)	135	170	145	65	52.8
LG12 (1/ 107)	6	49.1 (500)	80	170	85	65	52.8
LG12 (1/ 242)	6	98.1 (1000)	35	170	37	75	56.5
LG12 (1/ 410)	6	147.0 (1500)	20	160	22	75	56.5

LG12: LN12+Gear Head

Please inquire for the variants of different input voltages.

Iron Core Motors

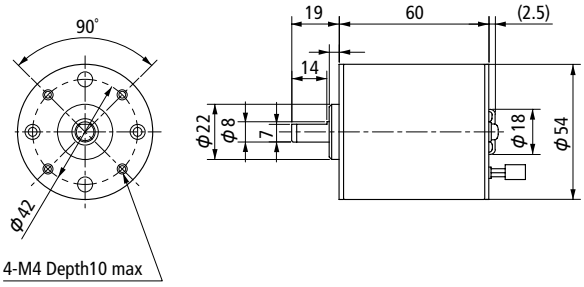
Canon Precision's iron core motors come in a wide variety of sizes and windings. They can be used in many different markets from consumer products to industrial and professional products. A rich lineup of options, such as gears and encoders, serves to provide the optimum solution to fulfill any requirement.

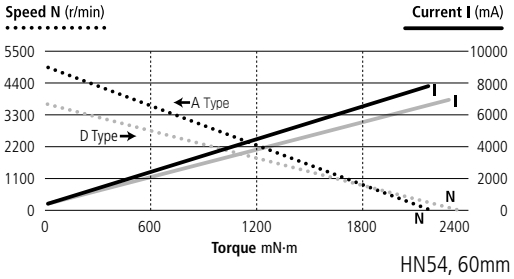
■ HN54 Series (L=60mm)

Changes on winding configuration, shaft length or other customizing available.

Features ●7 Slots High Power Motor
●4-Pole Magnet
●Low Electric Noise, Low Mechanical Noise

Application ●Industrial Machines
●Office Machines
●Cash Handling Machines





HN54, 60mm

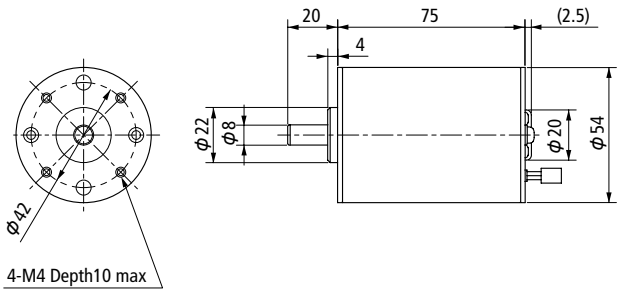
MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Starting Current	Torque Constant	Weight
	V	W	mN·m(gf·cm)	r/min	A	r/min	A	mN·m(gf·cm)	A	mN·m/A(gf·cm/A)	g
HN54(A type)	24	24.6	58.8 (600)	4000	1.9	5000	0.4	245.2 (2500)	8.0	44.8 (457)	550
HN54(D type)	24	19.4	63.7 (650)	2900	1.5	3500	0.3	294.2 (3000)	7.0	67.3 (686)	550

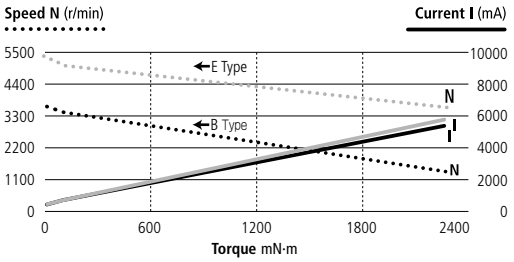
■ HN54 Series (L=75mm)

Changes on winding configuration, shaft length or other customizing available.

Features ●7 Slots High Power Motor
●2-Pole Magnet
●Low Electric Noise, Low Mechanical Noise

Application ●Industrial Machines
●Office Machines
●Cash Handling Machines





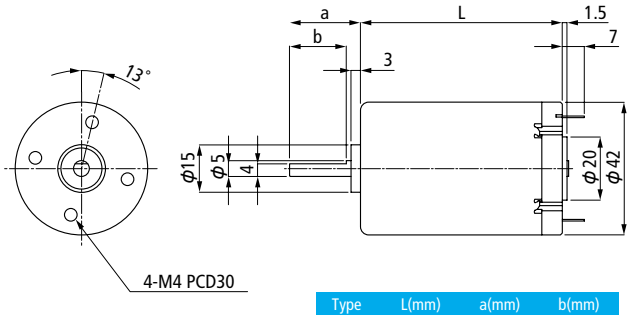
HN54, 75mm

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Starting Current	Torque Constant	Weight
	V	W	mN·m(gf·cm)	r/min	A	r/min	A	mN·m(gf·cm)	A	mN·m/A(gf·cm/A)	g
HN54(B type)	24	35.4	147.1 (1500)	2300	2.5	3200	0.33	392.3 (4000)	9.0	72.4 (739)	700
HN54(E type)	24	46.2	98.1 (1000)	4500	3.0	5400	0.45	392.3 (4000)	16.0	40 (408)	700

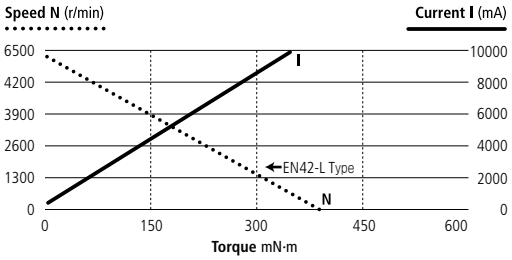
※HN54 Series are the products of Nisca Corporation.

EN42 Series

Changes on winding configuration, shaft length or other customizing available.



Type	L(mm)	a(mm)	b(mm)
L	74.0	24.4	12.5

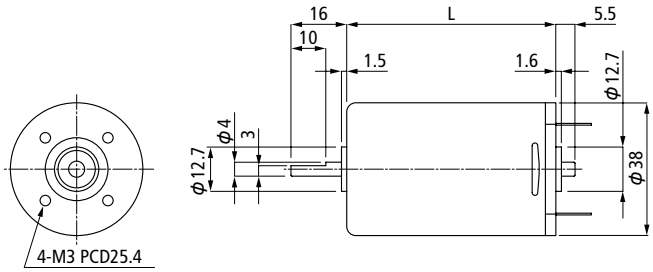


EN42 L

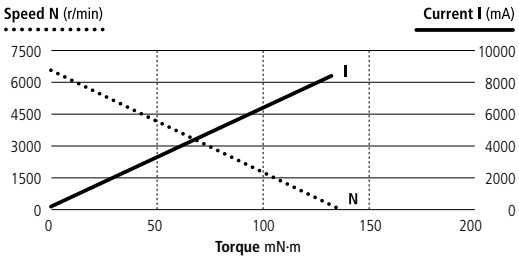
MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
EN42 L	24	29.0	49.0 (500)	5600	1700	6500	250	383 (3900)	33.9 (346)	2.1	1.9	150.0	27	9

FN38 Series

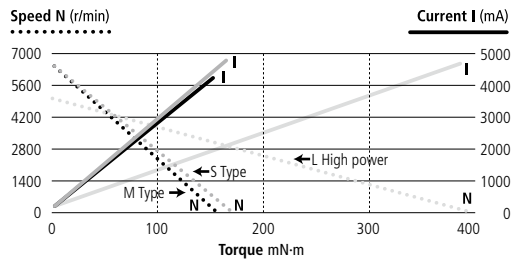
Changes on winding configuration, shaft length or other customizing available.



Type	L (mm)
S	55.0
M	60.0
L	70.0



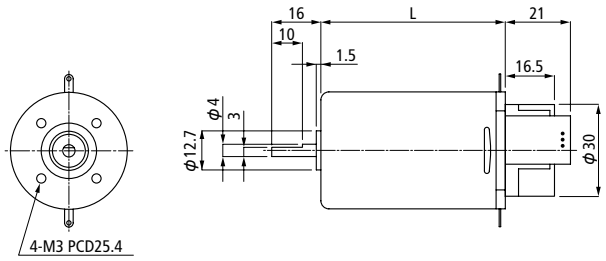
FN38 S 12V



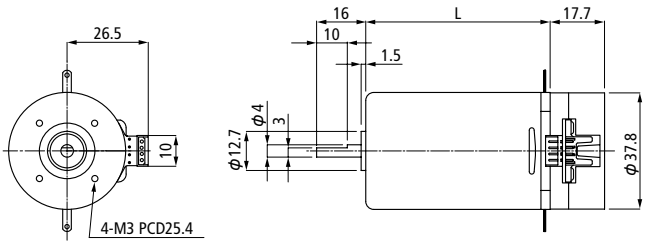
FN38 S/M/L 24V

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
FN38 S	12	13	24.5 (250)	5100	1700	6200	230	137 (1400)	16.7 (170)	1.5	0.7	32	17	20
	24	13	24.5 (250)	5200	840	6100	115	158 (1610)	33.8 (345)	5.0	2.9	32	14	20
FN38 M	12	14	24.5 (250)	5400	1660	6600	205	137 (1400)	16.9 (172)	1.7	0.9	39	23	17
	24	13	24.5 (250)	5150	850	6300	110	132 (1350)	33.1 (338)	5.9	3.7	39	21	17
FN38 L	24	26	58.8 (600)	4200	1600	5000	130	373 (3800)	40.2 (410)	2.7	2.7	117	20	14

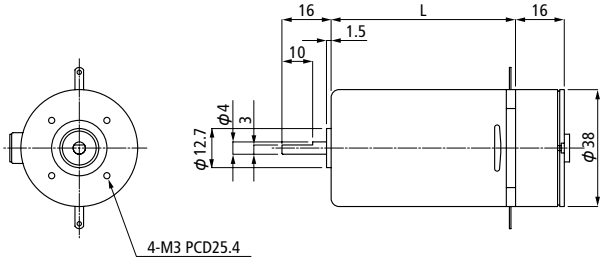
FN38 + Encoder



FN38+Encoder 60P/R



FN38+Encoder 200/512 P/R

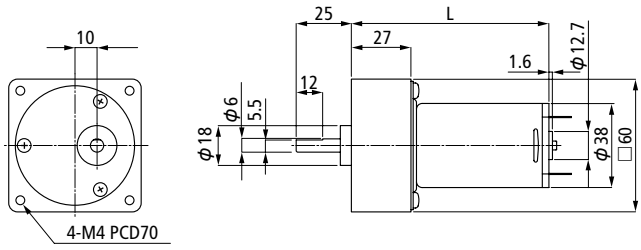


FN38+Encoder 1000P/R

MODEL(Phases)	Input Voltage	Number of Pulses	Response Frequency	Encoder Type	Output Level	Index Pulse Width	Logic Width	Duty Ratio	Output Signal Form
	V	P/R	KHz(MAX)						
FP38 (1)	5	60	20	Optical	TTL	---	---	30%～70%	Square Wave
FP38 (2)	5	200	20	Optical	TTL	---	S=90°e±10°e	35%～65%	Square Wave
	5	512	40	Optical	TTL	---	S=90°e±30°e	30%～70%	Square Wave
FP38 (3)	5	1000	50	Optical	TTL	180°e×4	S=90°e±15°e	40%～60%	Square Wave

FP38: FN38+Encoder

FN38 + Gear Head (Spur Gear)

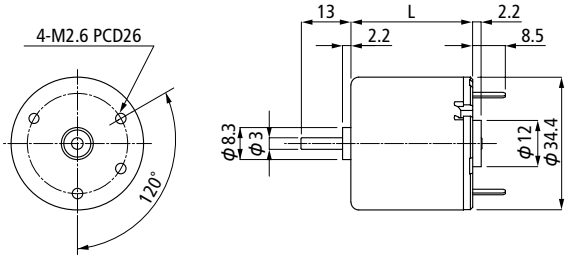


MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
FG38 S (1/12.5)	24	490 (5000)	342	1600	485	170	84.5
FG38 M (1/12.5)	24	490 (5000)	400	1000	500	170	89.5
FG38 L (1/12.5)	24	490 (5000)	345	1400	395	180	99.5

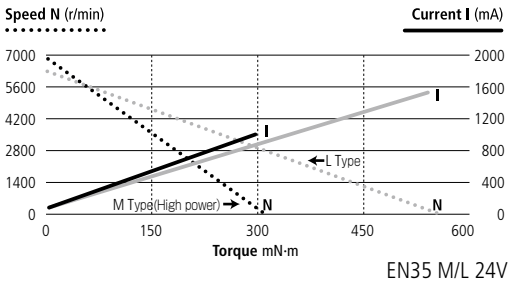
FG38: FN38+Gear Head

EN35 Series

Changes on winding configuration, shaft length or other customizing available.



Type	L (mm)
M	31.6
L	38.2

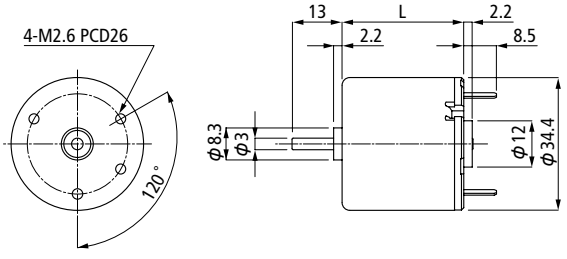


EN35 M/L 24V

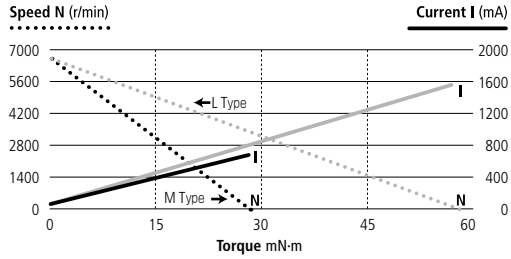
MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
EN35 M	12	2.3	3.92 (40)	5700	340	6500	95	28.4 (290)	16.1 (164)	6.0	3.5	21.0	49	27
	24	2.5	3.92 (40)	6000	175	6900	50	29.4 (300)	30.8 (314)	23.7	12.8	21.0	52	26
EN35 L	12	4.5	7.85 (80)	5500	550	6400	100	49.0 (500)	17.1 (174)	3.9	2.6	35.0	47	24
	24	4.5	7.85 (80)	5500	280	6400	50	49.0 (500)	33.7 (344)	15.0	10.7	35.0	46	23

DN35 Series

Changes on winding configuration, shaft length or other customizing available.



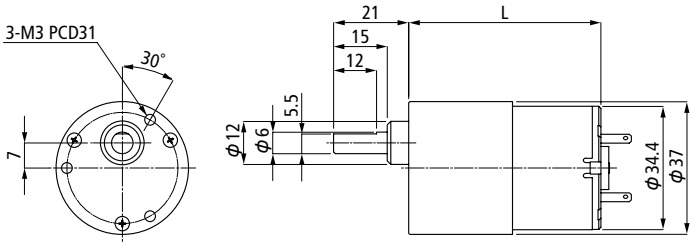
Type	L (mm)
M	31.6
L	38.2



DN35 M/L 24V

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
DN35 M	12	2.3	3.92 (40)	5600	330	6500	90	28.4 (290)	16.0 (163)	6.5	6.7	19	48	27
	24	2.3	3.92 (40)	5500	165	6500	45	25.5 (260)	35.8 (365)	32.0	30.0	19	47	26
DN35 L	12	4.5	7.85 (80)	5500	560	6550	90	49.0 (500)	17.0 (173)	4.2	4.0	33	48	24
	24	4.5	7.85 (80)	5500	300	6500	60	49.0 (500)	33.1 (338)	15.2	17.0	33	46	23

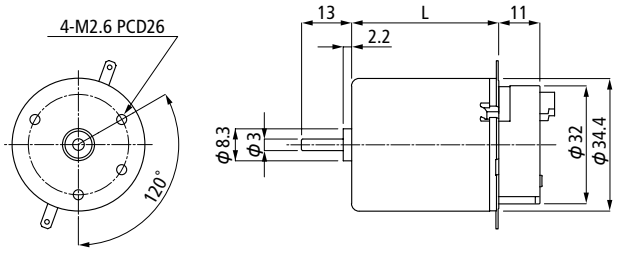
DN35 + Gear Head (Spur Gear)



MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
DG35 M (1/ 30)	12	78.5 (800)	200	320	225	100	53.7
	24	78.5 (800)	180	160	210	50	53.7
DG35 M (1/ 60)	12	147.0 (1500)	100	325	110	100	56.2
	24	147.0 (1500)	90	160	110	50	56.2
DG35 M (1/ 100)	12	245.0 (2500)	60	325	70	100	56.2
	24	245.0 (2500)	52	170	62	50	56.2
DG35 M (1/ 150)	12	343.0 (3500)	40	325	45	100	58.7
	24	343.0 (3500)	37	130	42	50	58.7
DG35 M (1/ 300)	12	588.0 (6000)	20	300	23	100	58.7
	24	588.0 (6000)	19	130	22	50	58.7
DG35 M (1/ 500)	12	588.0 (6000)	12	230	14	100	61.2
	24	588.0 (6000)	12	120	13	50	61.2
DG35 L (1/ 30)	12	147.0 (1500)	185	500	215	100	60.3
	24	147.0 (1500)	185	265	210	60	60.3
DG35 L (1/ 60)	12	294.0 (3000)	90	540	110	100	62.8
	24	294.0 (3000)	90	270	105	60	62.8
DG35 L (1/ 100)	12	441.0 (4500)	55	500	65	100	62.8
	24	441.0 (4500)	55	260	62	60	62.8
DG35 L (1/ 150)	12	588.0 (6000)	37	490	45	100	65.3
	24	588.0 (6000)	36	260	42	60	65.3
DG35 L (1/ 300)	12	588.0 (6000)	20	300	22	100	65.3
	24	588.0 (6000)	20	160	21	60	65.3
DG35 L (1/ 500)	12	588.0 (6000)	12	230	13	100	67.8
	24	588.0 (6000)	12	130	13	60	67.8

DG35: DN35+Gear Head

DN35 + Encoder



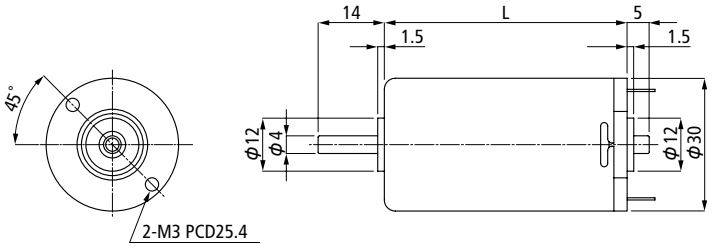
DN35+Encoder 200P/R

MODEL(Phases)	Input Voltage	Number of Pulses	Response Frequency	Encoder Type	Output Level	Index Pulse Width	Logic Width	Duty Ratio	Output Signal Form
	V	P/R	KHz(MAX)						
DP35 (3)	5	200	30	Optical	TTL	180°e×2	S=90°e±30°e	30%～70%	Square Wave

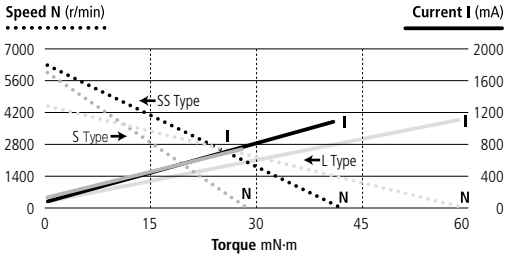
DP35: DN35+Encoder

FN30 Series

Changes on winding configuration, shaft length or other customizing available.



FN30 S / FN30 L

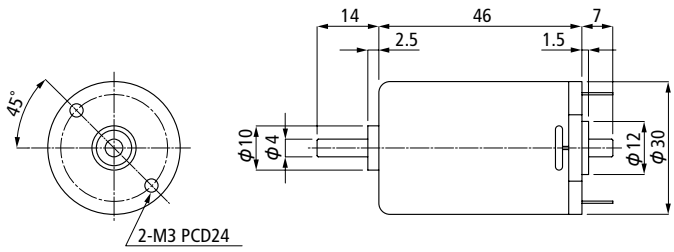


FN30 S/L 24V

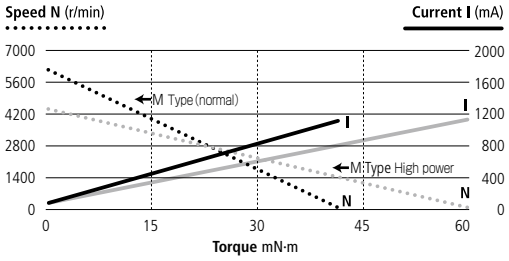
Type	L (mm)
S	41.0
L	55.0

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
FN30 S	12	3.6	7.35 (75)	4650	550	6300	110	26.5 (270)	17.1 (174)	6.7	3.6	14	33	28
	24	3.4	7.35 (75)	4400	300	6300	50	25.5 (260)	29.7 (303)	27.3	14.7	14	44	27
FN30 L	12	5.0	14.70 (150)	3200	700	4500	75	53.9 (550)	24.8 (253)	5.0	3.1	32	26	21
	24	5.8	14.70 (150)	3300	350	4600	40	53.0 (540)	45.1 (460)	20.0	17.7	32	31	20

Changes on winding configuration, shaft length or other customizing available.



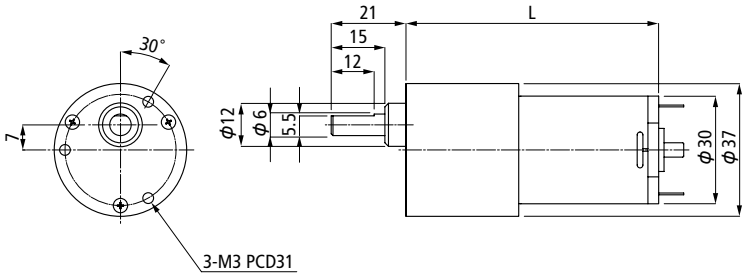
FN30 M



FN30 M 24V

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
FN30 M	12	3.3	9.81 (100)	3200	440	4500	60	34.3 (350)	23.5 (240)	8.0	4.1	22	32	24
	24	3.2	9.81 (100)	3100	230	4400	30	32.4 (330)	47.0 (480)	33.0	17.3	22	33	24

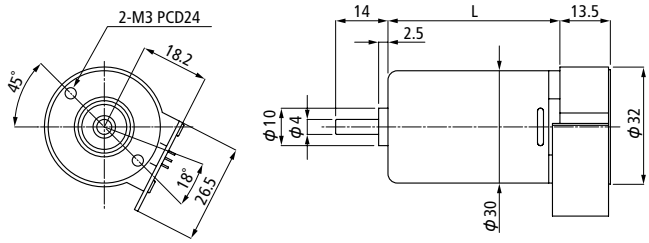
FN30 + Gear Head (Spur Gear)



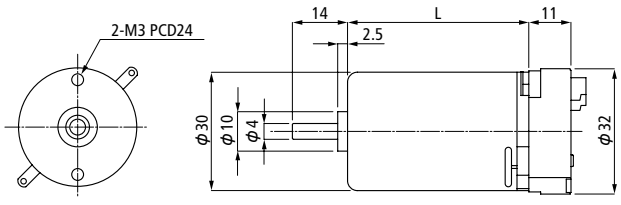
MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
FG30 (1/ 30)	12	196 (2000)	110	420	150	70	68.1
	24	196 (2000)	105	220	145	35	68.1
FG30 (1/ 100)	12	294 (3000)	40	220	45	70	70.6
	24	294 (3000)	40	120	45	35	70.6
FG30 (1/ 150)	12	588 (6000)	25	300	30	70	73.1
	24	588 (6000)	24	160	30	35	73.1

FG30: FN30+Gear Head

FN30 + Encoder



FN30+Encoder 120P/R



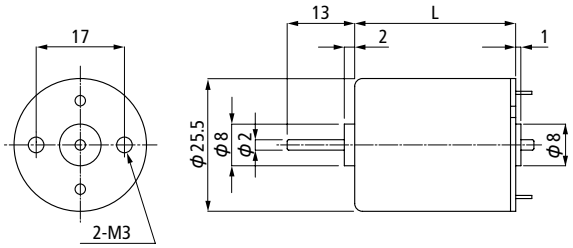
FN30+Encoder 200P/R

MODEL(Phases)	Input Voltage	Number of Pulses	Response Frequency	Encoder Type	Output Level	Index Pulse Width	Logic Width	Duty Ratio	Output Signal Form
	V	P/R	KHz(MAX)						
FP30 (1)	5	120	10	Optical	TTL	---	---	30%～70%	Square Wave
FP30 (3)	5	200	30	Optical	TTL	180°e×2	S=90°e±30°e	30%～70%	Square Wave

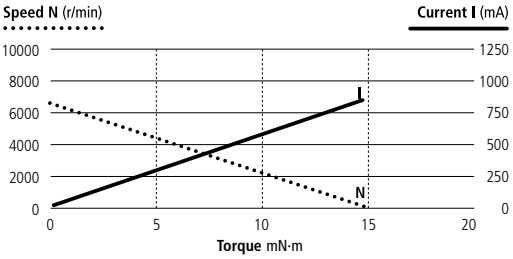
FP30: FN30+Encoder

■ DN26 Series

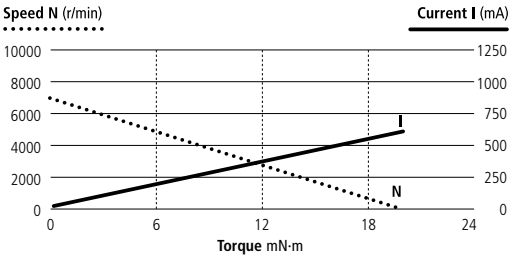
Changes on winding configuration, shaft length or other customizing available.



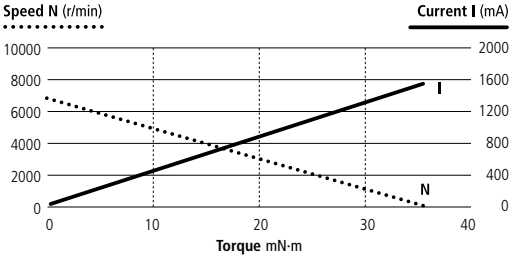
Type	L (mm)
M	31.0
L	36.5



DN26 M 12V



DN26 L 24V

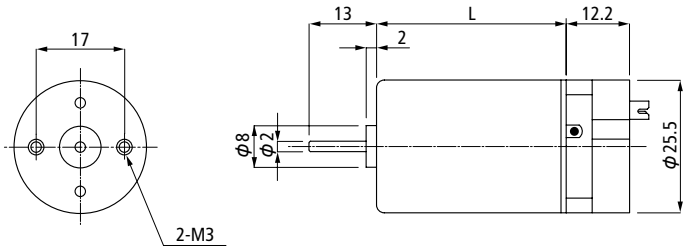


DN26 L 22V High Power

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
DN26 M	12	2.1	4.90 (50)	4100	320	6150	30	14.7 (150)	16.7 (170)	13.0	12.2	8.7	40.7	40
	24	2.0	4.90 (50)	4000	170	5900	30	14.7 (150)	33.3 (340)	51.8	50.1	8.7	40.5	40
DN26 L	12	2.6	4.90 (50)	5000	340	6650	45	20.6 (210)	16.9 (172)	9.5	7.5	11.0	37.0	33
	24	2.6	4.90 (50)	5100	180	6900	25	19.6 (200)	31.4 (320)	38.2	31.0	11.0	43.0	33
DN26 L High Power	22	3.9	6.86 (70)	5400	270	6750	40	36.3 (370)	30.4 (310)	16.4	13.8	11.0	19.5	33

■ DN26 + Encoder

Changes on winding configuration, shaft length or other customizing available.

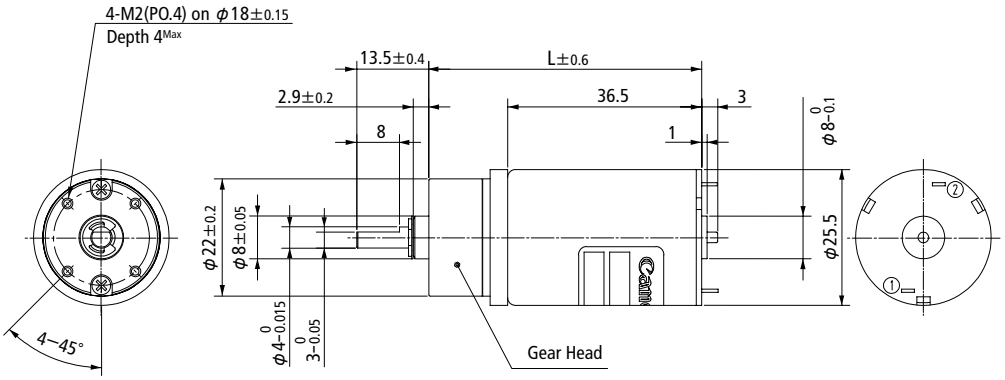


DN26+Encoder 144P/R

MODEL(Phases)	Input Voltage	Number of Pulses	Response Frequency	Encoder Type	Output Level	Index Pulse Width	Logic Width	Duty Ratio	Output Signal Form
	V	P/R	KHz(MAX)						
DP26 (3)	5	144	30	Optical	TTL	180°e×2	S=90°e±30°e	30%～70%	Square Wave

DP26: DN26+Encoder

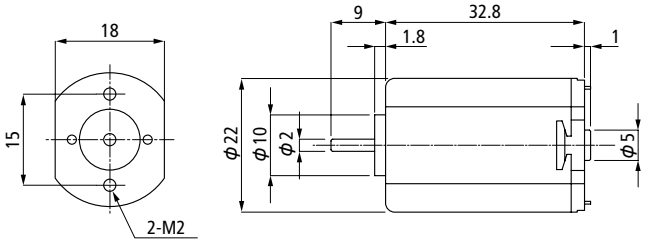
DG26 Series

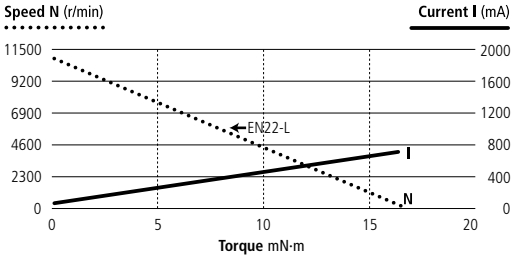


MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
DG26 (1/ 20)	12	58.8 (600)	245	335	325	70	55.1
DG26 (1/ 62)	12	147.0 (1500)	80	342	110	70	58.8
DG26 (1/ 107)	12	196.0 (2000)	50	277	60	70	58.8
DG26 (1/ 245)	12	294.0 (3000)	23	240	27	70	62.5
DG26 (1/ 410)	12	294.0 (3000)	15	170	16	70	62.5

EN22 Series

Changes on winding configuration, shaft length or other customizing available.



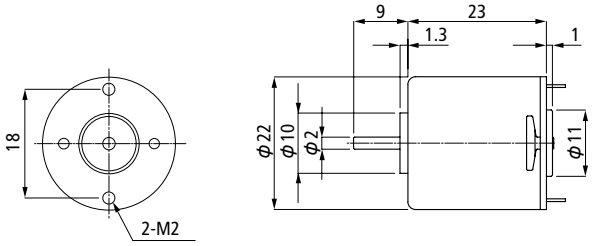


EN22 24V

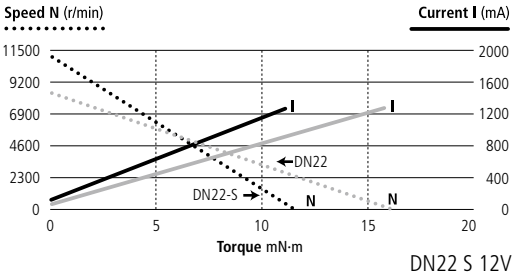
MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
EN22	12	1.4	2.45 (25)	5400	180	7000	30	10.3 (105)	16.1 (164)	17.9	6.6	4.3	30	38
	24	1.4	2.45 (25)	5400	90	6900	15	10.8 (110)	32.7 (333)	71.9	20.0	4.3	29	38

DN22 Series

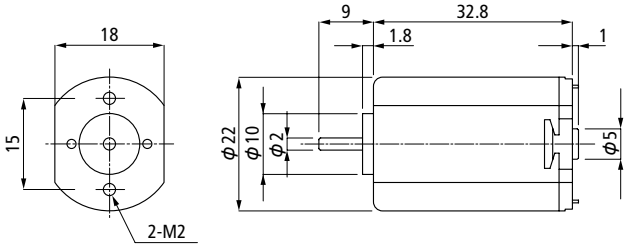
Changes on winding configuration, shaft length or other customizing available.



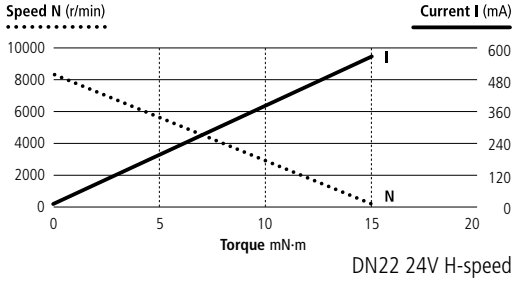
DN22 S



DN22 S 12V



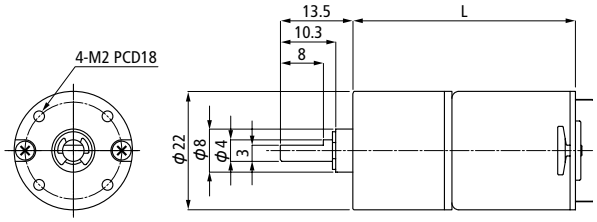
DN22



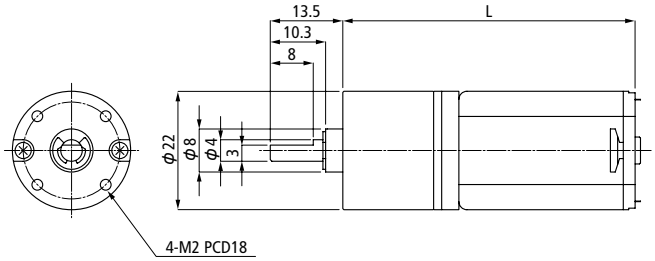
DN22 24V H-speed

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
DN22 S	6	2.0	2.45 (25)	7900	550	10500	80	9.8 (100)	5.2 (53)	3.0	1.3	1.6	17.8	45
	12	2.2	2.45 (25)	8600	340	11000	85	11.3 (115)	9.6 (98)	9.4	4.4	1.6	16.3	45
DN22 M-speed	12	1.3	2.45 (25)	5200	190	6800	35	10.8 (110)	15.7 (160)	16.4	7.6	3.7	25.0	42
	24	1.4	2.45 (25)	5300	100	6600	20	11.8 (120)	31.1 (317)	60.9	28.4	3.7	23.0	42
DN22 H-speed	12	1.8	2.45 (25)	7000	230	8200	45	15.7 (160)	12.5 (127)	9.4	4.4	3.7	23.0	42
	24	1.8	2.45 (25)	7000	120	8300	25	15.2 (155)	25.2 (257)	38.2	21.0	3.7	22.0	42

■ DN22 S+Gear Head (Planetary Gear)



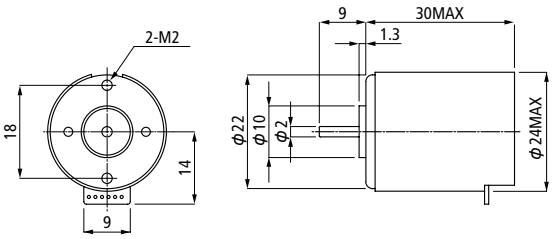
■ DN22+Gear Head (Planetary Gear)



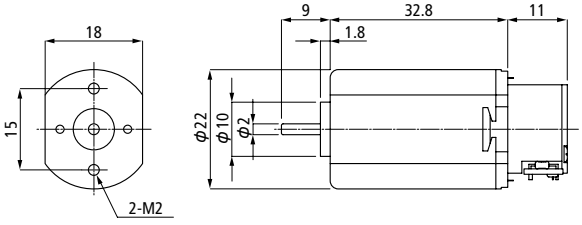
MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
DG22 S (1/ 20)	6	29.4 (300)	410	520	510	160	37.7
	12	29.4 (300)	450	330	540	120	37.7
DG22 S (1/ 62)	6	78.5 (800)	135	510	165	160	41.4
	12	78.5 (800)	145	320	170	120	41.4
DG22 S (1/107)	6	98.1 (1000)	85	410	95	160	41.4
	12	98.1 (1000)	90	270	100	120	41.4
DG22 S (1/242)	6	147.0 (1500)	38	340	43	160	45.1
	12	147.0 (1500)	40	230	45	120	45.1
DG22 S (1/410)	6	196.0 (2000)	23	300	25	160	45.1
	12	196.0 (2000)	25	210	27	120	45.1
DG22 (1/ 20)	12	29.4 (300)	355	230	405	80	50.7
	24	29.4 (300)	350	110	400	40	50.7
DG22 (1/ 62)	12	78.5 (800)	115	230	140	80	54.4
	24	78.5 (800)	115	130	135	40	54.4
DG22 (1/107)	12	98.1 (1000)	70	170	76	80	54.4
	24	98.1 (1000)	80	100	75	40	54.4
DG22 (1/242)	12	147.0 (1500)	31	160	33	80	58.1
	24	147.0 (1500)	30	90	33	40	58.1
DG22 (1/410)	12	196.0 (2000)	19	130	20	80	58.1
	24	196.0 (2000)	19	65	20	40	58.1

DG22: DN22+Gear Head

■ DN22 + Encoder



DN22 S+Encoder 3P/R



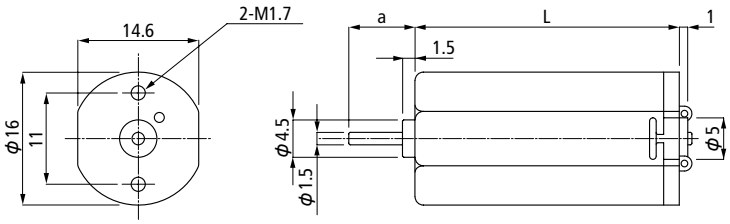
DN22+Encoder 62P/R

MODEL(Phases)	Input Voltage	Number of Pulses	Response Frequency	Encoder Type	Output Level	Logic Width	Duty Ratio	Output Signal Form
	V	P/R	KHz(MAX)					
DP22 (1)	5	62	20	Optical	Simulated Sine Wave	---	Simulated Sine Wave	Sine Wave
DP22 S (2)	5	3	---	Magnetic	TTL	S=90°e±45°e	35%～65%	Square Wave

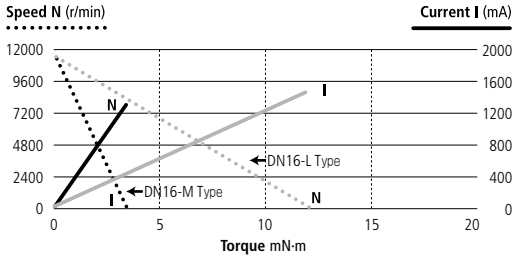
DP22: DN22+Encoder

DN16 Series

Changes on winding configuration, shaft length or other customizing available.



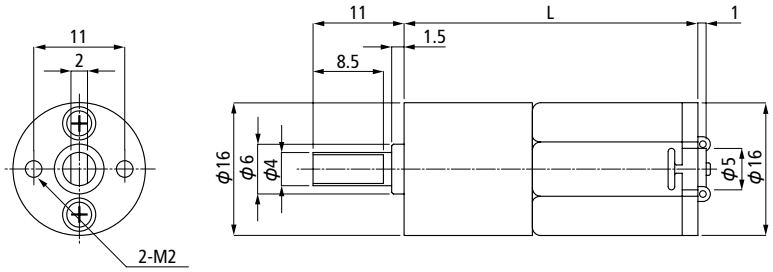
Type	L(mm)	a(mm)
M	20.0	9.4
L	31.9	8.0



DN16 M/L 12V M-speed

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
DN16 M M-speed	12	0.8	0.98 (10)	8000	170	13000	40	2.55 (26)	7.40 (75)	31.1	8.3	0.67	39	57
DN16 M H-speed	12	1.2	0.98 (10)	11500	230	16000	60	3.24 (33)	5.60 (57)	19.4	4.9	0.67	42	57
DN16 L M-speed	12	1.5	1.96 (20)	7500	230	10000	40	7.85 (80)	10.40 (106)	15.0	4.4	0.80	11	42
	24	1.8	1.96 (20)	8800	140	11500	20	8.24 (84)	17.70 (180)	48.7	14.0	0.80	13	42
DN16 L H-speed	12	2.3	1.96 (20)	11000	300	13500	55	11.80 (120)	7.85 (80)	8.0	2.5	0.80	11	42
	24	2.4	1.96 (20)	11500	160	14000	25	10.80 (110)	14.50 (148)	33.0	9.0	0.80	13	42

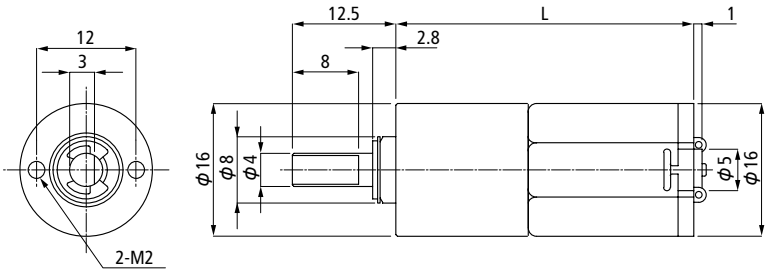
DN16 + Gear Head (Spur Gear)



MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
DG16 M (1/ 34)	12	19.6 (200)	360	180	460	60	35.5
DG16 M (1/ 53)	12	29.4 (300)	235	180	300	60	35.5
DG16 M (1/ 97)	12	49.0 (500)	130	170	160	65	37.0
DG16 M (1/150)	12	49.0 (500)	95	130	105	65	37.0
DG16 L (1/ 34)	12	49.0 (500)	320	310	390	60	47.4
	24	49.0 (500)	330	165	400	30	47.4
DG16 L (1/ 53)	12	49.0 (500)	225	200	250	60	47.4
	24	49.0 (500)	235	110	260	30	47.4
DG16 L (1/ 97)	12	49.0 (500)	130	140	135	60	48.9
	24	49.0 (500)	135	80	145	30	48.9
DG16 L (1/150)	12	49.0 (500)	85	110	90	60	48.9
	24	49.0 (500)	90	60	95	30	48.9

DG16: DN16+Gear Head

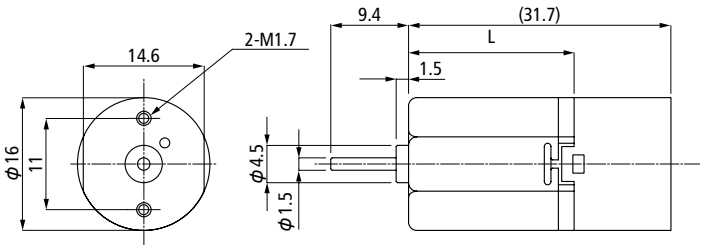
DN16 + Gear Head (Planetary Gear)



MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
DG16 M (1/ 20)	12	11.8 (120)	375	180	570	80	36.0
DG16 M (1/ 62)	12	29.4 (300)	130	160	185	80	39.7
DG16 M (1/107)	12	49.0 (500)	80	150	110	80	39.7
DG16 M (1/242)	12	98.1 (1000)	35	150	45	80	43.4
DG16 M (1/410)	12	147.0 (1500)	20	135	27	70	43.4
DG16 L (1/ 20)	12	19.6 (200)	400	200	480	70	47.9
	24	19.6 (200)	430	130	530	45	47.9
DG16 L (1/ 62)	12	49.0 (500)	130	185	155	70	51.6
	24	49.0 (500)	155	110	180	40	51.6
DG16 L (1/107)	12	98.1 (1000)	75	180	90	60	51.6
	24	98.1 (1000)	90	110	105	30	51.6
DG16 L (1/242)	12	147.0 (1500)	35	160	40	70	55.3
	24	147.0 (1500)	40	90	46	40	55.3
DG16 L (1/410)	12	196.0 (2000)	21	140	24	70	55.3
	24	196.0 (2000)	26	70	28	35	55.3

DG16: DN16+Gear Head

DN16 + Encoder

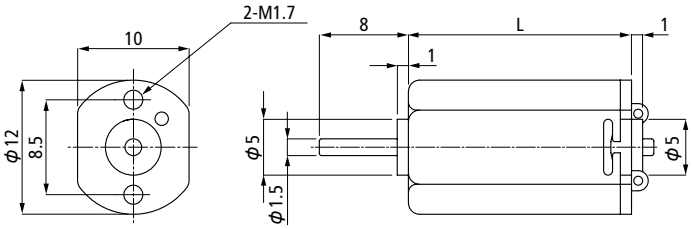


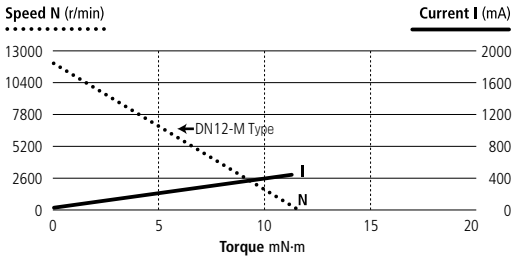
MODEL(Phases)	Input Voltage	Number of Pulses	Encoder Type	Output Level	Duty Ratio	Output Signal Form
	V	P/R				
DP16 (1)	5	4	Magnetic	TTL	45%～75%	Square Wave

DP16: DN16+Encoder

DN12 Series

Changes on winding configuration, shaft length or other customizing available.

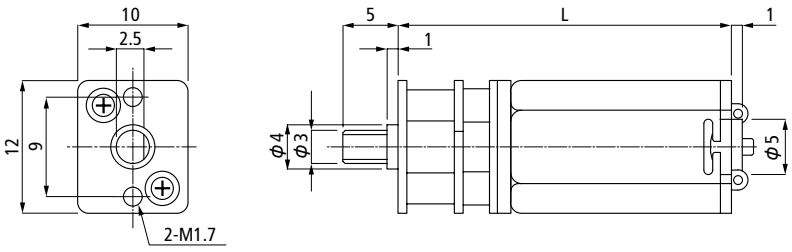




DN12 M

MODEL	Rated Voltage	Rated Power Output	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Starting Torque	Torque Constant	Winding Resistance	Winding Inductance	Moment of Inertia	Mechanical Time Constant	Thermal Resistance
	V	W	mN·m(gf·cm)	r/min	mA	r/min	mA	mN·m(gf·cm)	mN·m/A(gf·cm/A)	Ω	mH	g·cm²	ms	°C/W
DN12 M	5	0.28	0.29 (3)	9150	145	12300	55	1.15 (11.7)	3.33 (34.0)	12.50	2.4	0.24	27	90

DN12 + Gear Head (Spur Gear)



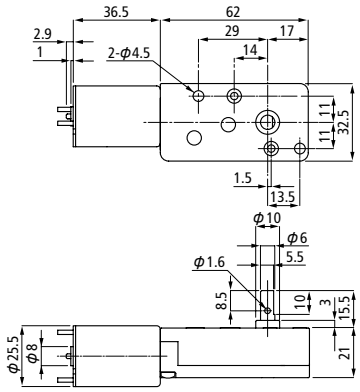
MODEL(Gear Ratio)	Rated Voltage	Rated Torque	Rated Speed	Rated Current	No Load Speed	No Load Current	Total Length
	V	mN·m(gf·cm)	r/min	mA	r/min	mA	mm
DG12 M (1/ 75)	5	14.7 (150)	120	150	160	65	30.2
DG12 M (1/ 134)	5	24.5 (250)	65	150	90	60	30.2
DG12 M (1/ 196)	5	39.2 (400)	43	160	60	60	30.2

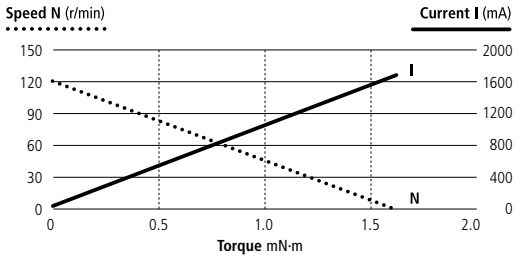
DG12: DN12+Gear Head

Actuator Units

Canon Precision's actuator units are developed and designed by utilization and implementation of simulation techniques combined with motors, our core technology. These small sized, lightweight actuators, designed to customer specifications, have already been used in many applications, such as water boiler valve actuators, with very high levels of customer satisfaction.

YB01



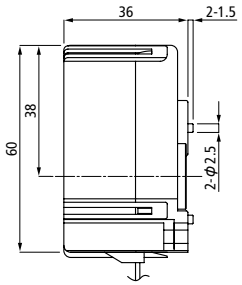


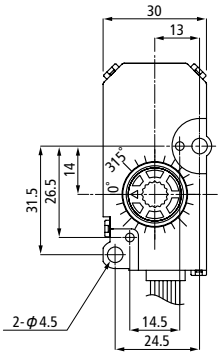
YB01

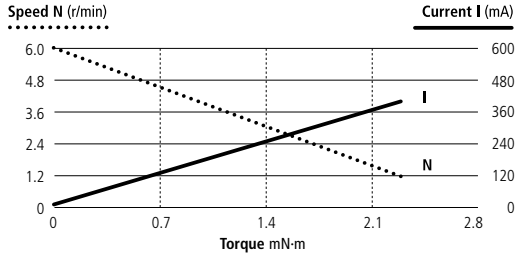
*( ) At no load

MODEL	Rated Voltage	Rated Torque	Rated Speed*	Rated Current*	Rotation
	V	N·m(kgf·cm)	r/min	mA	
YB01	24	0.20 (2)	105 (120)	250 (50)	CW/CCW

YK01





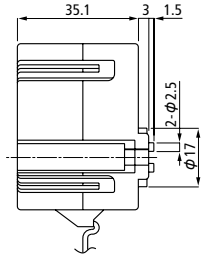


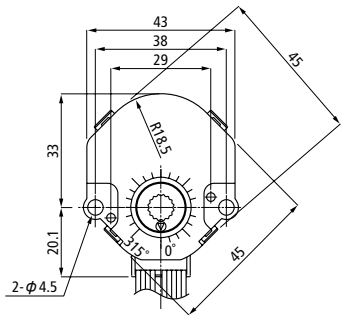
YK01

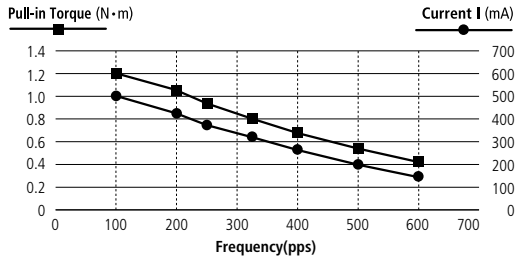
*( ) At no load

MODEL	Rated Voltage	Rated Torque	Rated Speed*	Rated Current*	Rotation
	V	N·m(kgf·cm)	r/min	mA	
YK01	12	0.39 (4)	5 (6)	200 (100)	CW/CCW

YK02







YK02

MODEL	Rated Voltage	Pull-in Torque	Pull-out Torque	Stepping Angle	Resistance Per Phase	Reduction Ratio	Excitation Mode
	V	N·m(kgf·cm)	N·m(kgf·cm)	°	Ω		
YK02	12	0.69 (7)	0.72 (7.3)	7.5	36	1/63.3	2-2

Changes on winding configuration, shaft length or other customizing available.

Base motor	Voltage
DN12	5

	Gearhead type	Dimensions(GH)	Ratio	Shaft dia.	Shaft L	Total motor length(mm)
DG12	Spur gearhead 12mm square	□12×10	1/75	φ3.0	5	30.2
	〃	〃	1/134	φ3.0	5	30.2
	〃	〃	1/196	φ3.0	5	30.2

Base motor	Voltage
DN16	6 ～

	Gearhead type	Dimensions(GH)	Ratio	Shaft dia.	Shaft L	Total motor length(mm)
DG16	Spur gearhead 16mm diameter	φ16×L	1/34	φ4.0	11	35.5
	〃	〃	1/53	φ4.0	11	35.5
	〃	〃	1/97	φ4.0	11	37
	〃	〃	1/150	φ4.0	11	37

*The motor length shown is of DN16- M type

Base motor	Voltage
LN12	6
LN15	12
DN16-M	6 ～
DN16-L	12 ～

	Gearhead type	Dimensions(GH)	Ratio	Shaft dia.	Shaft L	Total motor length(mm)
LG12/15/18	Planetary gearhead 16mm dia.	φ16×L	1/20	φ4.0	12.5	36
DG16	〃	〃	1/62	φ4.0	12.5	39.7
	〃	〃	1/107	φ4.0	12.5	39.7
	〃	〃	1/242	φ4.0	12.5	43.4
	〃	〃	1/410	φ4.0	12.5	43.4

*The motor length shown is of DN16- M type

Base motor	Voltage
LN18	12 ～
BN22	24
DN22-S	12
DN/EN22	6 ～
DN26-L	12 ～

	Gearhead type	Dimensions(GH)	Ratio	Shaft dia.	Shaft L	Total motor length(mm)
LG18	Planetary gearhead 22mm dia.	φ22×L	1/20	φ4.0	13.5	50.7
BG22	〃	〃	1/62	φ4.0	13.5	54.4
DG/EG22	〃	〃	1/107	φ4.0	13.5	54.4
DG26	〃	〃	1/242	φ4.0	13.5	58.1
	〃	〃	1/410	φ4.0	13.5	58.1

*The motor length shown is of DN22- M type

Base motor	Voltage
DN26-L	12 ～
DN/EN35	12 ～
FN30	12 ～

	Gearhead type	Dimensions(GH)	Ratio	Shaft dia.	Shaft L	Total motor length(mm)
DG26	Spur gearhead 37mm diameter	φ37×L	1/10	φ6.0	15.0	53.7
DG/ EG35	〃	〃	1/30	φ6.0	15.0	56.2
FG30	〃	〃	1/60	φ6.0	15.0	56.2
	〃	〃	1/100	φ6.0	15.0	56.2
	〃	〃	1/150	φ6.0	15.0	58.7
	〃	〃	1/300	φ6.0	15.0	58.7
	〃	〃	1/500	φ6.0	15.0	61.2

*The motor length shown is of DN35- M type

Base motor	Voltage
FN38	12

	Gearhead type	Dimensions(GH)	Ratio	Shaft dia.	Shaft L	Total motor length(mm)
FG38	Spur gearhead 60mm square	□60×27	1/12.5	φ6.0	25.0	89.5

*The motor length shown is of FN38- M type

Base motor	Voltage
BN54	24

	Gearhead type	Dimensions(GH)	Ratio	Shaft dia.	Shaft L	Total motor length(mm)
BG54	Spur gearhead 60mm square	□60×L	1/18	φ8.0	32.0	120
	〃	〃	1/30	φ8.0	32.0	125
	〃	〃	1/60	φ8.0	32.0	132
	〃	〃	1/100	φ8.0	32.0	132

*The motor length shown is of BN54- M type

- Please inquire for the customized variant such as the shaft modification.
  Please inquire for the detailed gearhead specifications.

Rated values					Specifications						
Model	Power output	Voltage	Speed	Torque	Shaft dia.	No-load speed	Starting torque	Torque constant	Terminal resistance	Thermal resistance	Length
Unit	W	V	r/min	mN·m(gf·cm)	mm	r /min	mN·m(gf·cm)	mNm/A(gf·cm)	Ω	℃ /W	mm
BN54-M	31.0	24	3000	98.0(1000)	8.0			61.0(620)			80
BN54-S	22.0	24	4200	49.0(500)	8.0			35.0(360)			63
BN44	18.5	24	3600	49.0(500)	6.0	4700	392.3(4000)	53.9(550)	1.7		57
BN22-S Hi-spped	7.5	24	15000	4.9(50)	3.0	17000	29.4(300)	11.8(120)			33
LN18(12V)	4.72	12	9200	4.9(50)	2.0	10500	37.3(380)	10.3(105)			37.4
LN15(12V)	2.22	12	10800	1.96(20)	1.5	11800	23.5(240)	8.71(88.8)			35.3
LN12(6V)	1.25	6	12200	0.98(10)	1.5	14400	6.4(65)	3.8(39)			31
HN54-L60mm	24.6	24	4000	58.8(600)	8.0	5000	245.2(2500)	44.8(457)			60
HN54-L75mm	46.2	24	4500	98.1(1000)	8.0	5400	392.3(4000)	40.0(408)			75
EN42	29.0	24	5600	49.0(500)	5.0	6500	383(3900)	33.9(346)	2.1	9	74
FN38-L·JB	26.0	24	4200	58.8(600)	4.0	5000	373(3800)	40.2(410)	2.7	14	70
FN38-M	13.0	24	5150	24.5(250)	4.0	6300	132(1350)	33.1(338)	5.9	17	60
FN38-S	13.0	24	5200	245.0(250)	4.0	6100	158(1610)	33.8(345)	5.0	20	55
DN/EN35-L	2.3	24	6000	3.92(40)	3.0	6900	29.4(300)	30.8(314)	23.7	26	31.6
DN/EN35-M	4.5	24	5500	7.85(80)	3.0	6400	49.0(500)	33.7(344)	15.0	23	38.2
FN30-L	5.8	24	3300	14.7(150)	4.0	4600	53.0(530)	45.1(460)	20.0	20	55
FN30-M-HP	3.6	24	3600	9.8(100)	4.0	4400	58.3(595)	51.5(525)	20.5	24.4	46
FN30-M	4.4	24	4400	9.8(100)	4.0	5800	39.2(400)	35.5(362)	20.5	24.4	46
FN30-S	3.4	24	4400	7.35(75)	4.0	6300	25.5(260)	29.7(303)	27.3	27	41
DN26-M	2.0	24	4000	4.9(50)	2.0	5900	14.7(150)	33.3(340)	51.8	40	31
DN26-L	2.6	24	5100	4.9(50)	2.0	6900	19.6(200)	31.4(320)	38.2	33	36.5
DN26-L-HP	3.9	22	5400	6.86(70)	2.0	6750	36.3(370)	30.4(310)	16.4	33	36.5
DN/EN22 Hi-speed	1.8	24	7000	2.45(25)	2.0	8300	15.2(155)	25.2(257)	38.2	42	32.8
DN22-S	2.2	12	8600	2.45(25)	2.0	11000	11.3(115)	9.6(98)	9.4	45	23
DN16-L	1.2	12	11500	0.98(10)	1.5	16000	3.24(33)	50.6(57)	19.4	57	31.9
DN16-M	2.4	24	11500	1.96(20)	1.5	14000	10.8(110)	14.5(148)	33.0	42	20
DN12	0.28	5	9150	0.29(3)	1.5	12300	1.15(11.7)	3.33(34)	12.5	90	20

YOUR REQUIREMENT

Name:

Firm:

Adress:
Tel. & Fax:

Application:			
Driving purpose:	DC	V	
Voltage		r/min	
Speed(Rated)		r/min	
Speed(No load)		mN·m (	g-cm)
Torque(Rated)		mN·m (	g-cm)
Torque(Starting)		mA max.	
Current(Rated)		mA	
Current(No load)		hrs. (Cycle:	)
Life & Duty cycle			
Direction of rotation			
Size(Motor)	Dia:	Length:	
Size(Shaft)	Dia:	Length:	

Projected quantity: Total pcs. /( ) years

Production schedule:

Other requirements: Price goal Qtys. of sample etc....

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