PeeiMoger

We provide the best techniques
professional service.

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Company Profile

The Concept of Operation

We are diligent and conscientious to turn out PEI-EI's products to be meet up with both customers and ourselves' satisfactory. We are pursuing a goal of perfection and excellence.

The Strategy of Operation

New : keep update new concept.

Fast : short delivery lead time.

Integrity : attach most importance to honest and credibility.

Simple : to be pragmatic and simplified.

公司沿革

1979.06	成立萬立可工業社，資本捌拾萬元整 設廠於三重市大同北路
1980.05	公司名稱更改北譯精機有限公司
1986.10	遷移台北縣新莊市化成路
1990.08	公司名稱更改北譯精機股份有限公司
1990.08	電磁制動器斷磁設計 通過中央標準局新型專利10年
1994.09	成立天津北譯精密機械公司 設廠於天津市北京街
1997.01	成立北譯二廠，設廠於新莊市化成路 產品小齒輪減速馬達
1997.01	通過英國SGS ISO-9002認證
1999.03	引進台灣濱井第一台「60SPNC」滾齒機
1999.08	小型馬達半自動化輸送機裝配品保系統 完成16000台/月
1999.11	小型馬達通過SGS CE認證
2000.10	通過減速馬達新式樣專利認證 新式樣第068384號
2001.02	小馬達成功批量外銷 英國、日本、比利時
2002.04	小馬達全系列通過UL認證
2003.10	小馬達通過大陸3C認證
2004.04	設立北譯精機日本分公司
2005.12	遷廠至桃園縣龜山鄉茶專路
2007.11	引進高精度CNC滾齒機N60以及 CNC齒型檢測機TTI-120E

The Company History

1979.06	Founded "Wan Li Co Work Shops" with capital of US$25,000 in producing
1980.05	Renamed from "Wan Li Co Work Shops " to "PEI-EI Precision Machinery co., Ltd."
1986.10	Move factory to Hua-Cheng Rd. Sinjhuang City Taipei County.
1990.08	To reorganize company as "limited joint stock company"
1990.08	The design of electromagnet breaker for electromagnetic brake was granted a 10-year patent by MOEA's Bureau of Standards, Metrology and Inspection, Taiwan's Ministry of Economic Affairs
1994.09	Set up Tianjin PEI-EI Precision Machinery, a subsidiary in China with capital US$100,000. Dedicated in assembly and sales in China market
1997.01	Set up 2nd plant of PEI-EI in producing compact gearmotor
1997.01	SGS ISO-9002 Certificate is available
1999.03	Adopting the first HAMAI「60SPNC」gear hobber
1999.08	Available for semi-automatic conveyor assembly quality assurance system for compact gearmotor, which capacity can reach 16,000 per month
1999.11	The compact gear motor was acquired SGS CE approval
2000.10	Obtained new model patent of no.068384 for deceleration motor
2001.02	Successfully extend the market of compact gear motor to U.K., Japan & Belgium
2002.04	The compact gear motor was acquired UL approval
2003.10	The compact gear motor was acquired 3C approval in China
2004.04	To establish PEI-EI Precision Machinery Co Ltd Japan on Apr. 2004.
2005.12	Move factory to "No.14 Chajuuan Rd Gueishan Township Taoyuan county
2007.11	Imported the high precise N60 gear hobber and CNC gear sharp inspecting machine (TTI-120E)

The Most Professional Tool Machine

To promote our technology and skill, PEI-EI invested a whole set of CNC computer processing equipment. Accompany with qualified engineers, we are capable to elevate the accuracy of each component to assure of stable good quality.

Precise Equipment

"Total quality control" is never just a slogan, but is our insistent pursuit of perfection and excellence on our products. we have detail strict QC guide and procedure to ensure the quality, which are including of precise inspection equipments.

The Application of Production

The Application of Production

People need motors wherever in living or business running.

In projector screen

Most companys could see it on meeting.

In auto-sealer

Beverage stores always need it whatever it is cold or hot!

In bill counter

Bill counting machine : Banks make use of machine to count people's cash.

In auto-curtain

有效的隔離陽光，節能減碳的好幫手。

Blind : It is effective to seprate sunshine, save energy and reduce carbon dioxide.

AC Induction Motor

Product Feature

- **Design**

  1) International Electro-technical Commission-IEC34
  2) CE Certification
  3) UL Certification
  4) 3C Certification

- **Structure**

  1) Beautiful champagne Series
  2) Modeling thermal structure of the patent
  3) Large space in terminal box, cable entry can be from eiter side

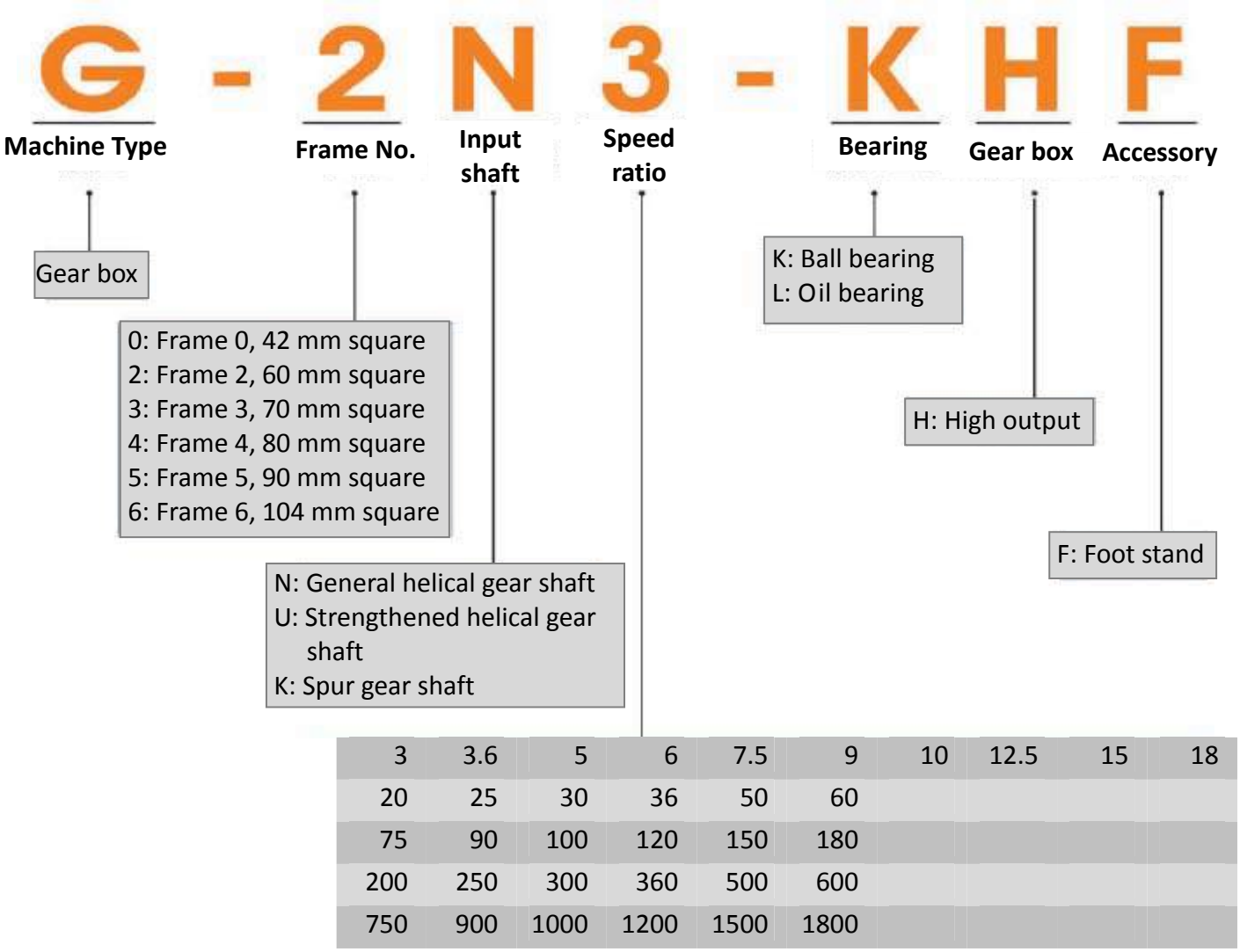
- **Performance**

  1) Higher Efficiency
  2) Lower Noise
  3) Higher Reliability
  4) Choice of diversification

- **Customer Satisfaction**

  Including mechanical structure,electrical performance, other spacific requirements,and etc.

Gear Box Models



3	3.6	5	6	7.5	9	10	12.5	15	18
20	25	30	36	50	60				
75	90	100	120	150	180				
200	250	300	360	500	600				
750	900	1000	1200	1500	1800				

Gear Box Label

AC Induction Motor

AC Induction Motor Models

M - 2 I K 6 N - C □

Machine type	Frame No.	Class	Type	Output power	Shaft	Voltage	Accessory

Motor

0: Frame 0, 42 mm square
2: Frame 2, 60 mm square
3: Frame 3, 70 mm square
4: Frame 4, 80 mm square
5: Frame 5, 90 mm square
6: Frame 6, 104 mm square

I: AC induction motor
R: Reversible AC induction motor
T: Torque AC Induction Motor
D: PMG carbon brush DC motor
L: PMG brushless DC motor

K-type

1: 1W
3: 3W
6: 6W
15: 15W
25: 25W
40: 40W
60: 60W
90: 90W
120: 120W
150: 150W
200: 200W

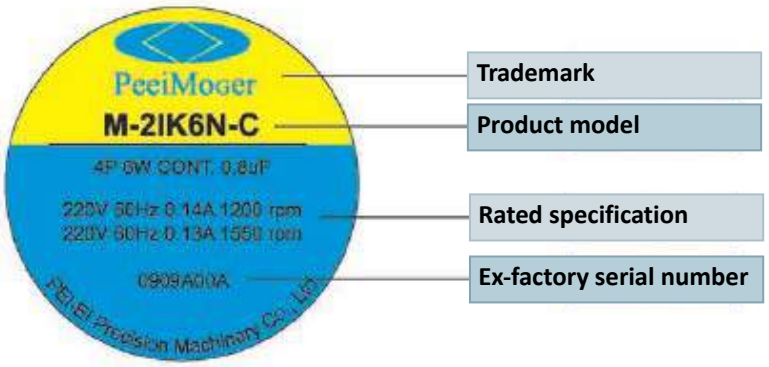
A: Circular shaft
N: General helical gear shaft
U: Strengthened helical gear shaft
K: Spur gear shaft

A : 1φ 110V±10% 4P
B : 1φ 110V 2P
C : 1φ 220V±10% 4P
D : 1φ 220V 2P
S : 3φ 220V±10% 4P
3φ 380V 4P
T : 3φ 220V 2P
3φ 380V 2P
U : 3φ 440V 4P
E : DC 12V
F : DC 24V
I : DC 48V
G : DC 90V
H : DC 180V

F: Fan
R: Forced cooling fan
T: Terminal box
B: Electromagnetic Brake
S: Safety Brake
E: European standard
U: UL standard
V: Variable speed control (US type)
VD: Variable speed control (SS type)
C: Electromagnetic clutch brake group
P: Temperature switch
W: Worm reducer

Note: The accessories are arranged in top-down sequential order.

Machine type



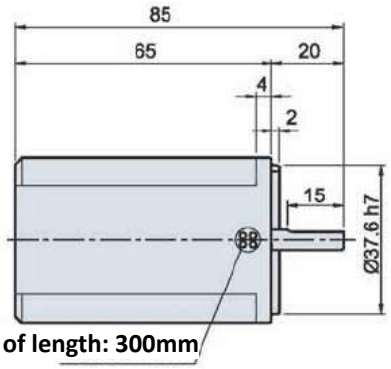
Trademark
Product model
Rated specification
Ex-factory serial number

AC Induction Motor 1W, 3W

Induction Motors [Frame 0][1W, 3W]

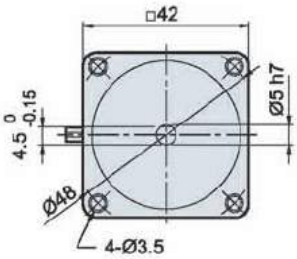
Single-phase Induction Motor

M-0IK1A-□ / M-0IK3A-□



Lead wire of length: 300mm

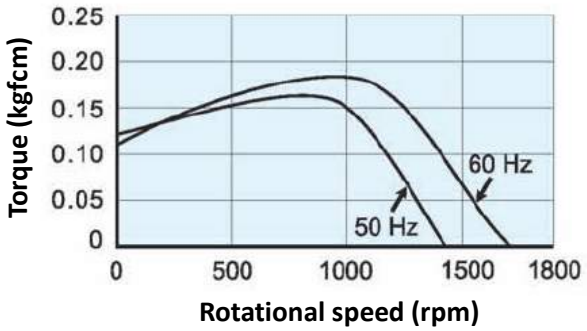
3 wires, UL3266
AWG20



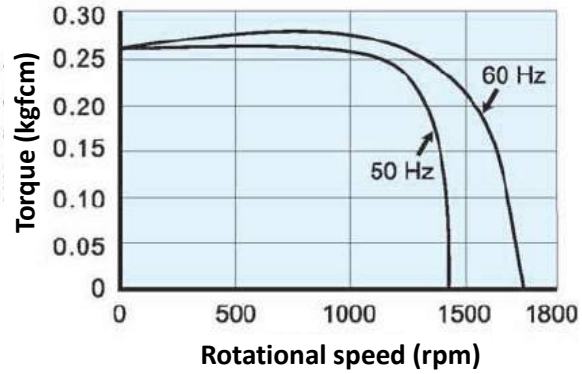
Weight: 0.5kg

Characteristics of Induction Motors

M-0IK1A-A



M-0IK3A-A



Specifications of Single-phase Induction Motors Continuous rating

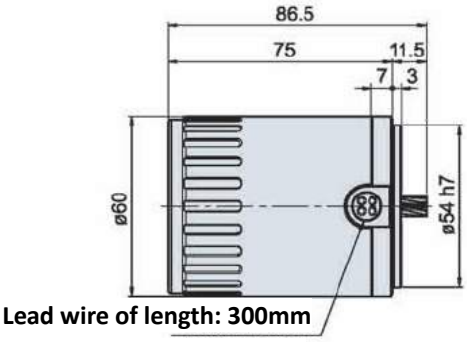
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-0IK1A-A	1	1Φ110	50	0.12	1175	0.09	0.14	0.12	1.2	-	-	-
			60	0.12	1400	0.07	0.14	0.11				
M-0IK3A-A	3	1Φ110	50	0.17	1225	0.25	0.22	0.26	2.0			
			60	0.18	1525	0.20	0.22	0.26				

AC Induction Motor 6W

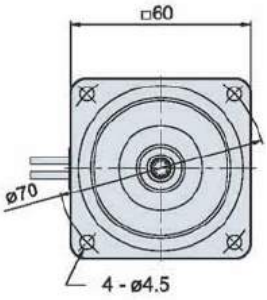
Induction Motors [Frame 2][6W]

Single-phase Induction Motor

M-2IK6N-□



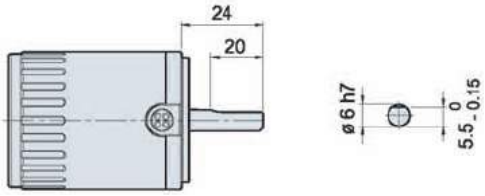
Lead wire of length: 300mm
4 wires, UL3266
AWG20



Weight: 0.75kg

Circular Shaft Specification

M-2IK6A-□□



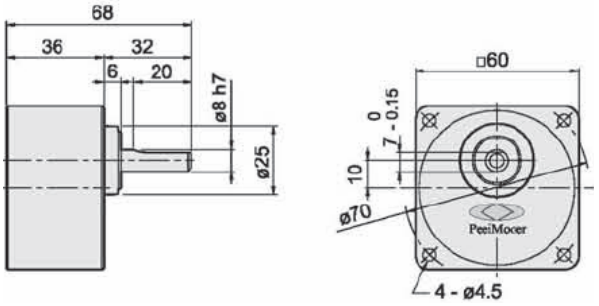
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Induction Motors Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-2IK6N-A M-2IK6A-A	6	1Φ100	50	0.19	1275	0.46	0.29	0.40	3.0	G-2N□-L	G-2N□-K	G-2N10X-K
			60	0.18	1650	0.36	0.29	0.40				
	6	1Φ110	50	0.20	1300	0.45	0.32	0.40	2.5			
			60	0.16	1675	0.35	0.31	0.40				
	6	1Φ115	50	0.22	1300	0.45	0.33	0.40	2.5			
			60	0.16	1675	0.35	0.32	0.40				
	6	1Φ120	50	0.24	1250	0.47	0.30	0.40	2.0			
			60	0.17	1675	0.35	0.33	0.40				
M-2IK6N-C M-2IK6A-C	6	1Φ200	50	0.10	1300	0.45	0.14	0.40	0.8			
			60	0.10	1625	0.36	0.14	0.40				
	6	1Φ220	50	0.10	1300	0.45	0.14	0.40	0.6			
			60	0.09	1625	0.36	0.14	0.40				
	6	1Φ230	50	0.10	1325	0.44	0.15	0.40	0.6			
			60	0.09	1625	0.36	0.15	0.40				
	6	1Φ240	50	0.11	1325	0.44	0.16	0.40	0.6			
			60	0.09	1650	0.36	0.16	0.40				

Gear Box

G-2N□-$^{K}_{L}$

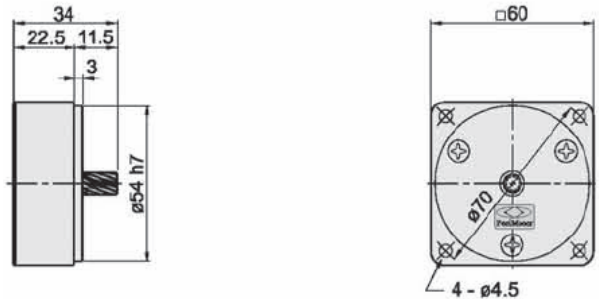


Weight List of Gear Boxes

Model	Weight (kg)
G-2N3-K / L~G-2N18-K / L	0.30
G-2N20-K / L~G-2N60-K / L	0.31
G-2N75-K / L~G-2N180-K / L	0.33
G-2N3-K / L~G-2N18-K / L	0.20

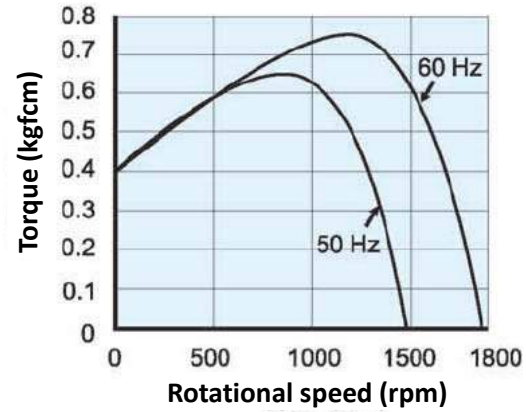
Intermediate Gear Box

G-2N10X-K

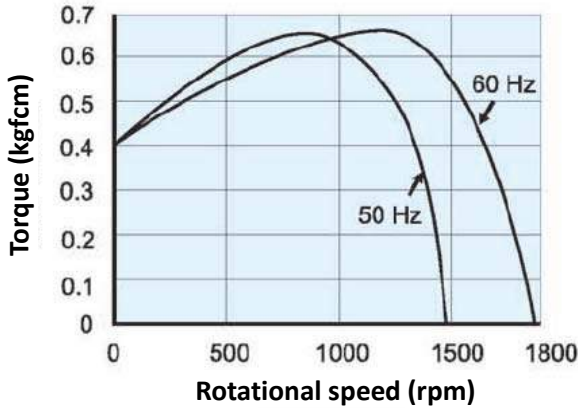


Characteristics of Induction Motors

M-2IK6N-A / M-2IK6A-A



M-2IK6N-C / M-2IK6A-C



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-2N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		1.0	1.6	2.5	2.7	3.4	4.1	5.0	5.4	6.7	8.1	9.7	16	23	25	25	25	25	25	25	25	25	25	25

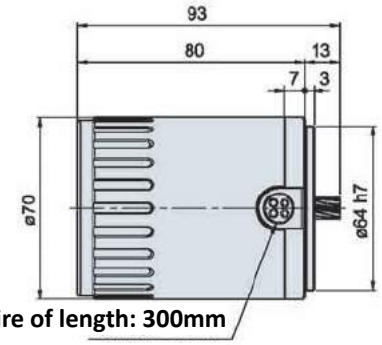
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

AC Induction Motor 15W

Induction Motors [Frame 3][15W]

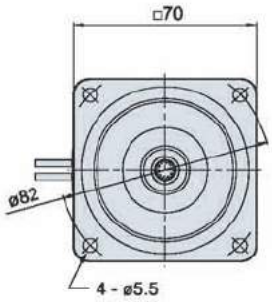
Single-phase Induction Motor

M-3IK15N-□



Lead wire of length: 300mm

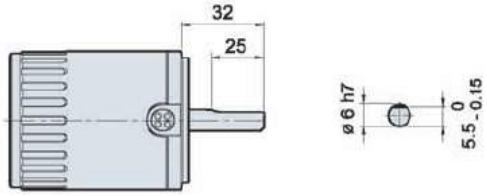
4 wires, UL3266
AWG20



Weight: 1.05kg

Circular Shaft Specification

M-3IK15A-□□



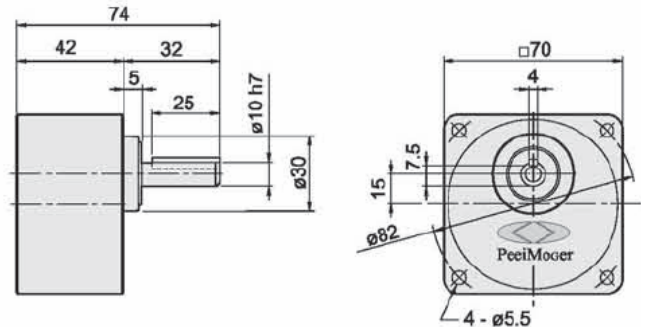
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Induction Motors Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-3IK15N-A M-3IK15A-A	15	1Φ100	50	0.32	1225	1.19	0.49	0.65	5.0	G-3N□-L	G-3N□-K	G-3N10X-K
			60	0.31	1575	0.93	0.47	0.65				
	15	1Φ110	50	0.34	1225	1.19	0.54	0.65	4.0			
			60	0.28	1575	0.93	0.50	0.65				
	15	1Φ115	50	0.34	1275	1.15	0.57	0.65	4.0			
			60	0.30	1600	0.92	0.55	0.65				
	15	1Φ120	50	0.38	1250	1.17	0.59	0.65	3.5			
			60	0.28	1600	0.92	0.54	0.65				
M-3IK15N-C M-3IK15A-C	15	1Φ200	50	0.17	1250	1.17	0.26	0.65	1.5			
			60	0.19	1575	0.93	0.26	0.65				
	15	1Φ220	50	0.17	1225	1.19	0.27	0.65	1.0			
			60	0.15	1550	0.95	0.26	0.65				
	15	1Φ230	50	0.18	1250	1.17	0.28	0.65	1.0			
			60	0.15	1575	0.93	0.27	0.65				
	15	1Φ240	50	0.20	1225	1.19	0.30	0.65	0.8			
			60	0.15	1550	0.95	0.27	0.65				

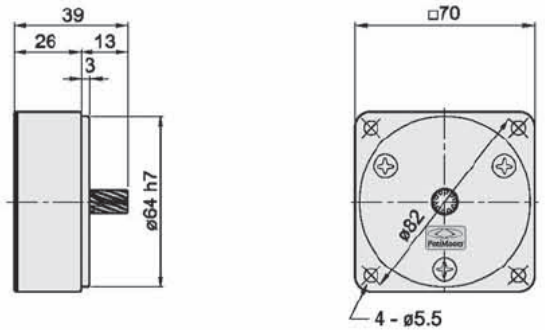
Gear Box

G-3N□-$^{K}_{L}$

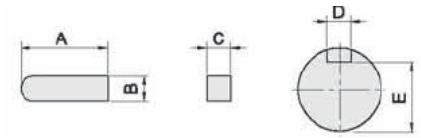


Intermediate Gear Box

G-3N10X-K



Gear Box: Key and Keyway Dimension



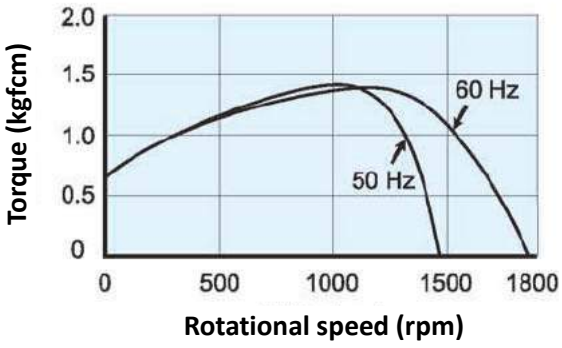
Model	A	B	C	D	E
G-3N□-$^{K}_{L}$	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{0}_{-0.15}$

Weight List of Gear Boxes

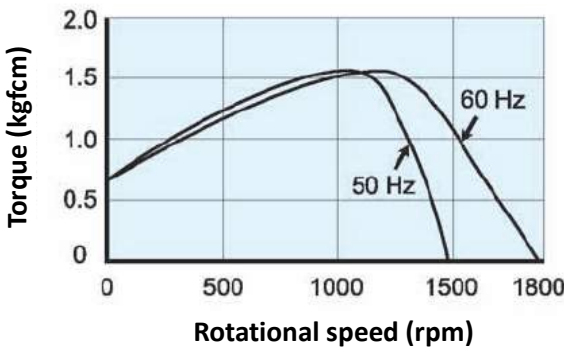
Model	Weight (kg)
G-3N3-K / L~G-3N18-K / L	0.44
G-3N20-K / L~G-3N60-K / L	0.48
G-3N75-K / L~G-3N180-K / L	0.53
G-3N10X-K	0.32

Characteristics of Induction Motors

M-3IK15N-A / M-3IK15A-A



M-3IK15N-C / M-3IK15A-C



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-3N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		2.4	4.0	6.0	6.7	8.2	10	12	13	16	19	23	39	50	50	50	50	50	50	50	50	50	50	50

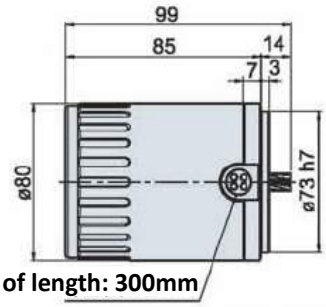
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

AC Induction Motor 25W

Induction Motors [Frame 4][25W]

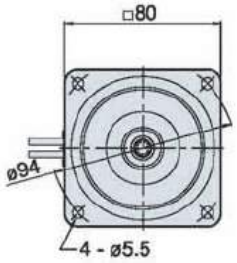
Single-phase/Tri-phase Induction Motor

M-4IK25N-☐



Lead wire of length: 300mm

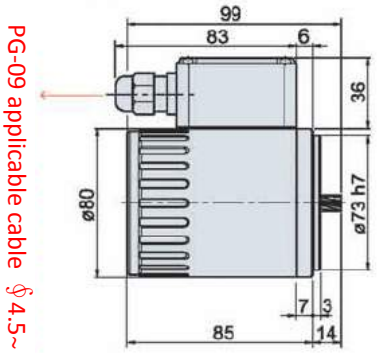
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20



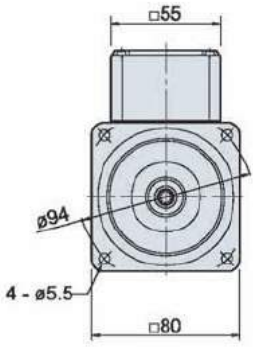
Weight: 1.6kg

Single-phase/Tri-phase Induction Motors with Connection Box

M-4IK25N-☐T



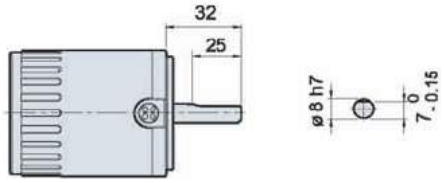
PG-09 applicable cable ∮4.5~∮8



Weight: 1.8kg

Circular Shaft Specification

M-4IK25A-☐

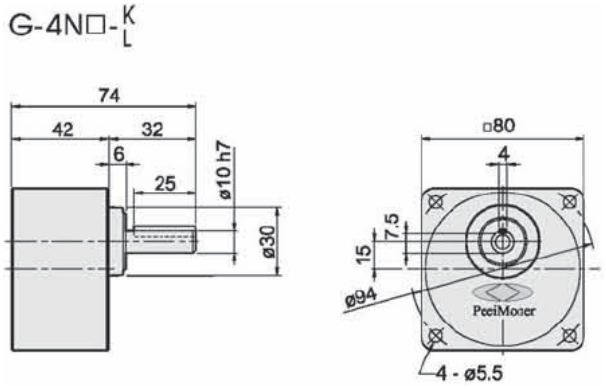


Note: For applicable machine types, please refer to the models. We also provide customized motors.

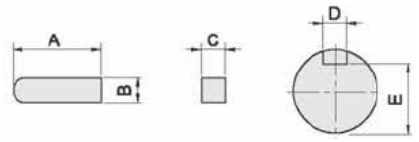
Specifications of Single-phase Induction Motors　　Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-4IK25N-A M-4IK25A-A	25	1Φ100	50	0.51	1275	1.91	0.96	1.20	7.0	G-4N☐-L	G-4N☐-K	G-4N10X-K
			60	0.50	1525	1.60	0.88	1.20				
	25	1Φ110	50	0.53	1300	1.88	1.05	1.20	6.0			
			60	0.43	1625	1.50	0.97	1.20				
	25	1Φ115	50	0.53	1325	1.84	1.10	1.20	6.0			
			60	0.44	1625	1.50	1.01	1.20				
	25	1Φ120	50	0.55	1325	1.84	1.14	1.20	5.0			
			60	0.46	1625	1.50	1.07	1.20				
M-4IK25N-C M-4IK25A-C	25	1Φ200	50	0.25	1275	1.91	0.47	1.20	2.0			
			60	0.27	1525	1.60	0.44	1.20				
	25	1Φ220	50	0.25	1300	1.88	0.51	1.20	1.5			
			60	0.23	1575	1.55	0.48	1.20				
	25	1Φ230	50	0.25	1325	1.84	0.54	1.20	1.5			
			60	0.23	1625	1.50	0.50	1.20				
	25	1Φ240	50	0.29	1300	1.88	0.56	1.20	1.2			
			60	0.24	1600	1.53	0.52	1.20				

Gear Box

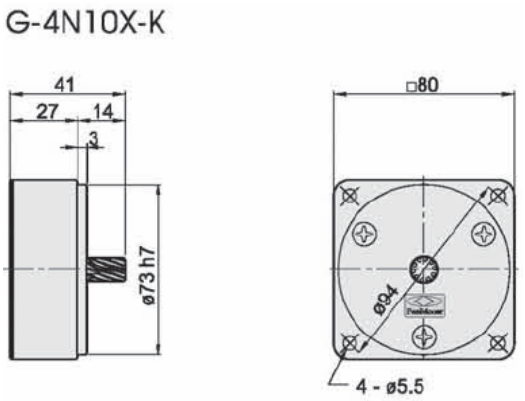


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-4N□-K/L	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{0}_{-0.15}$

Intermediate Gear Box



Weight List of Gear Boxes

Model	Weight (kg)
G-4N3-K / L~G-4N18-K / L	0.60
G-4N20-K / L~G-4N60-K / L	0.65
G-4N75-K / L~G-4N180-K / L	0.71
G-4N10X-K	0.41

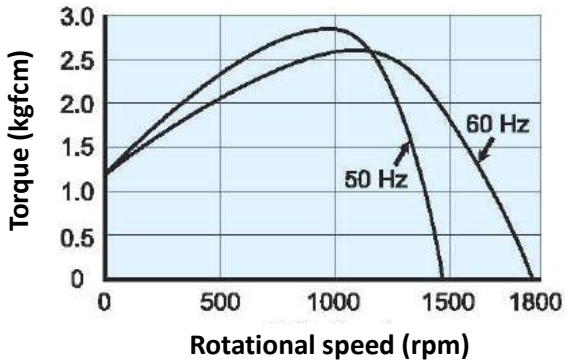
Specifications of Tri-phase Induction Motors Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-4IK25N-S M-4IK25A-S	25	1Φ200	50	0.26	1325	1.84	0.66	5.00	-	G-4N□-L	G-4N□-K	G-4N10X-K
			60	0.21	1575	1.55	0.61	5.00				
	25	1Φ220	50	0.29	1350	1.81	0.72	5.00	-			
			60	0.23	1625	1.50	0.68	5.00				
	25	1Φ230	50	0.31	1375	1.77	0.76	5.00	-			
			60	0.24	1625	1.50	0.71	5.00				
	25	1Φ380	50	0.16	1350	1.81	0.41	5.00	-			
M-4IK25N-U M-4IK25A-U	25	1Φ400	50	0.17	1375	1.77	0.43	5.00	-			
			60	0.13	1625	1.50	0.40	5.00				
	25	1Φ415	50	0.11	1325	1.84	0.31	5.00	-			
			60	0.10	1575	1.55	0.29	5.00				
	25	1Φ440	50	0.12	1350	1.81	0.32	5.00	-			
			60	0.10	1625	1.50	0.30	5.00				
	25	1Φ460	50	0.13	1375	1.77	0.34	5.00	-			
			60	0.10	1625	1.50	0.32	5.00				

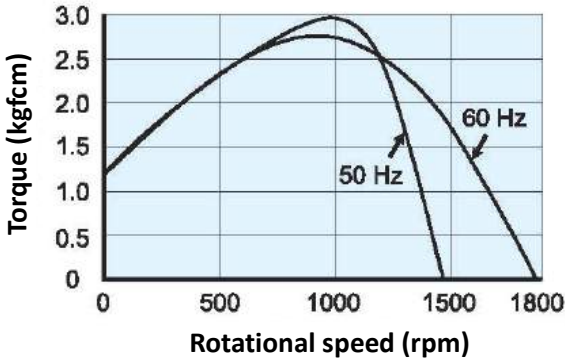
AC Induction Motor 25W

Characteristics of Single-phase Induction Motors

M-4IK25N-A / M-4IK25A-A

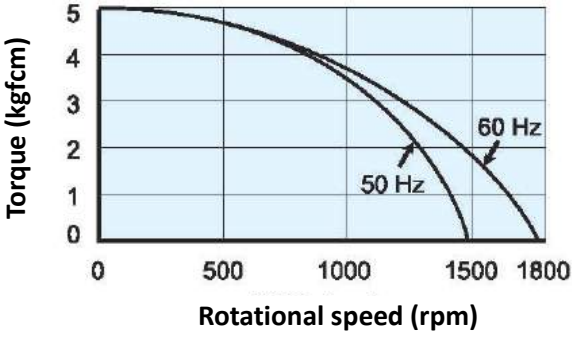


M-4IK25N-C / M-4IK25A-C

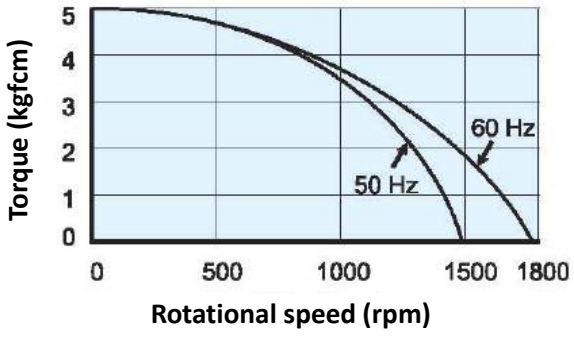


Characteristics of Tri-phase Induction Motors

M-4IK25N-S / M-4IK25A-S



M-4IK25N-U / M-4IK25A-U



Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-4N□-K/L	Max. allowable torque (kgfcm)		4.0	6.7	10	11	13	16	20	21	26	32	39	65	80	80	80	80	80	80	80	80	80	80	80

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Factory Environment

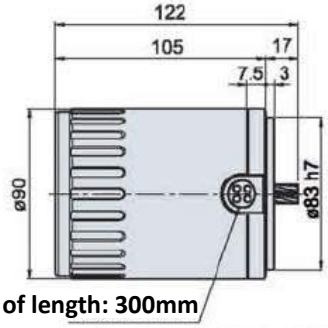
Do not be afraid of the shadow in front of you, because it means sunshine is behind you. Face the sunshine and the shadows will always be behind you.

AC Induction Motor 40W

Induction Motors [Frame 5][40W]

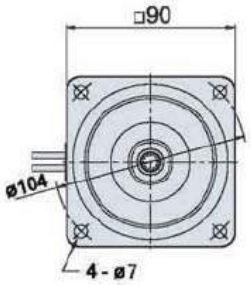
Single-phase/Tri-phase Induction Motor

M-5IK40N-□



Lead wire of length: 300mm

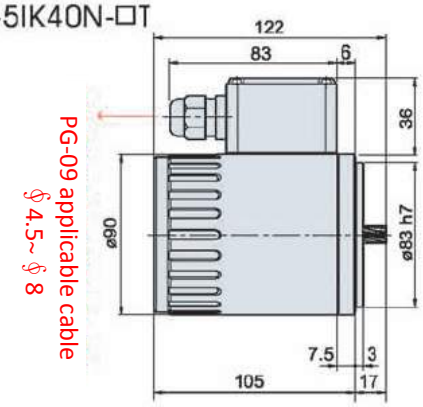
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20

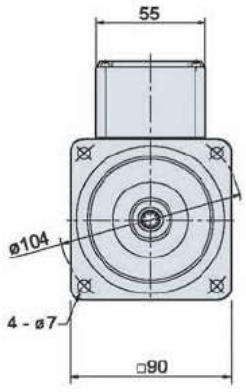


Weight: 2.45kg

Single-phase/Tri-phase Induction Motors with Connection Box

M-5IK40N-□T

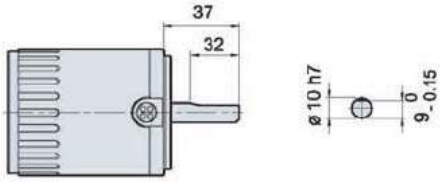




Weight: 2.65kg

Circular Shaft Specification

M-5IK40A-□

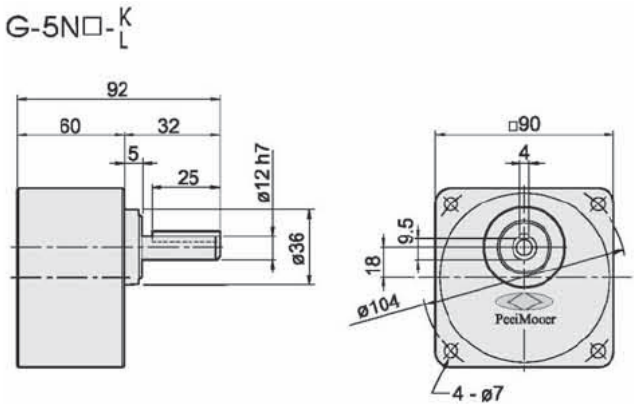


Note: For applicable machine types, please refer to the models. We also provide customized motors.

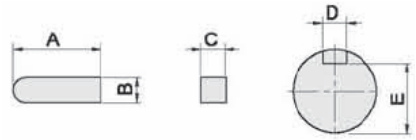
Specifications of Single-phase Induction Motors　　Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK40N-A M-5IK40A-A	40	1Φ100	50	0.78	1375	2.84	2.21	2.00	12.0	G-5N□-L	G-5N□-K	G-5N10X-K
			60	0.77	1675	2.33	2.03	2.00				
	40	1Φ110	50	0.81	1375	2.84	2.24	2.00	10.0			
			60	0.77	1675	2.33	2.18	2.00				
	40	1Φ115	50	0.78	1400	2.79	2.30	2.00	10.0			
			60	0.71	1700	2.29	2.26	2.00				
	40	1Φ120	50	0.88	1400	2.79	2.42	2.00	8.0			
			60	0.66	1700	2.29	2.34	2.00				
M-5IK40N-C M-5IK40A-C	40	1Φ200	50	0.31	1350	2.89	0.70	2.00	2.5			
			60	0.33	1650	2.36	0.64	2.00				
	40	1Φ220	50	0.30	1375	2.84	0.77	2.00	2.3			
			60	0.29	1675	2.33	0.70	2.00				
	40	1Φ230	50	0.32	1375	2.84	0.82	2.00	2.3			
			60	0.31	1675	2.33	0.74	2.00				
	40	1Φ240	50	0.29	1400	2.79	0.85	2.00	2.0			
			60	0.28	1675	2.33	0.78	2.00				

Gear Box



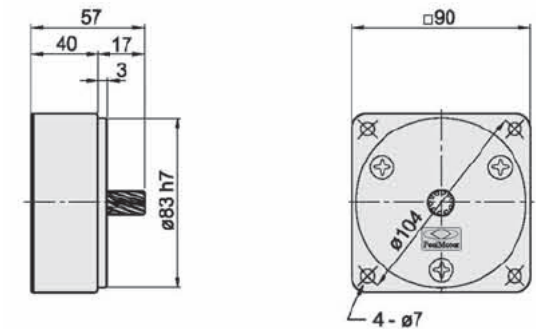
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-K/L	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{0}_{-0.15}$

Intermediate Gear Box

G-5N10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

Specifications of Tri-phase Induction Motors

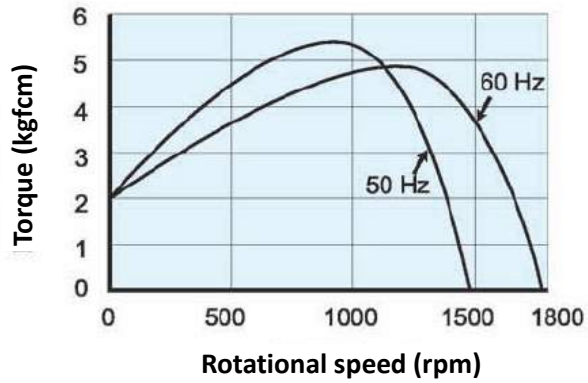
Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK40N-S M-5IK40A-S	40	3Φ200	50	0.28	1350	2.89	0.86	7.00	-	G-5N□-L	G-5N□-K	G-5N10X-K
			60	0.26	1600	2.44	0.80	7.00				
	40	3Φ220	50	0.30	1375	2.84	0.93	7.00	-			
			60	0.26	1650	2.36	0.67	7.00				
	40	3Φ230	50	0.30	1375	2.84	0.93	7.00	-			
			60	0.26	1675	2.33	0.91	7.00				
	40	3Φ380	50	0.17	1375	2.84	0.53	7.00	-			
M-5IK40N-U M-5IK40A-U	40	3Φ400	50	0.18	1375	2.84	0.57	7.00	-			
			60	0.16	1650	2.36	0.53	7.00				
	40	3Φ415	50	0.16	1375	2.84	0.48	7.00	-			
			60	0.14	1650	2.36	0.45	7.00				
	40	3Φ440	50	0.16	1400	2.78	0.51	7.00	-			
			60	0.14	1675	2.33	0.48	7.00				
	40	3Φ460	50	0.17	1400	2.78	0.53	7.00	-			
			60	0.14	1675	2.33	0.50	7.00				

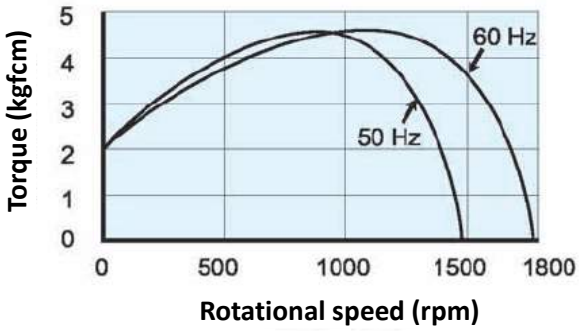
AC Induction Motor 40W

Characteristics of Single-phase Induction Motors

M-5IK40N-A / M-5IK40A-A

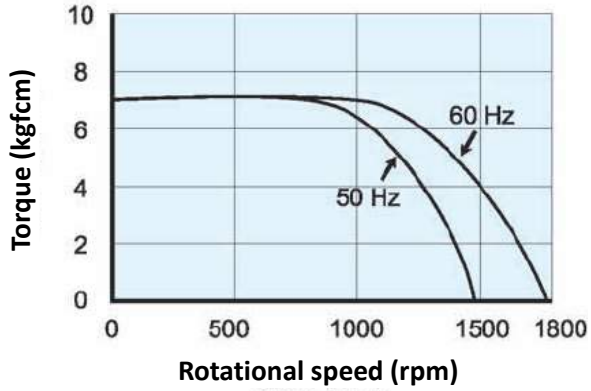


M-5IK40N-C / M-5IK40A-C

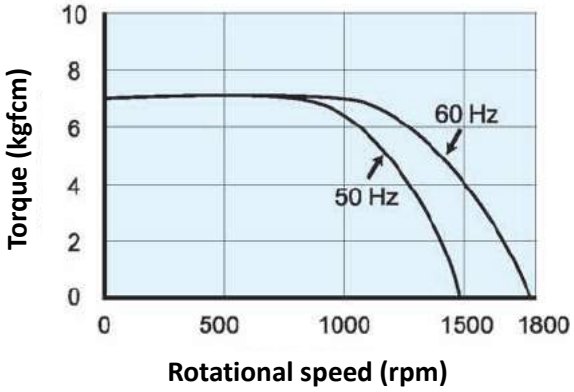


Characteristics of Tri-phase Induction Motors

M-5IK40N-S / M-5IK40A-S



M-5IK40N-U / M-5IK40A-U

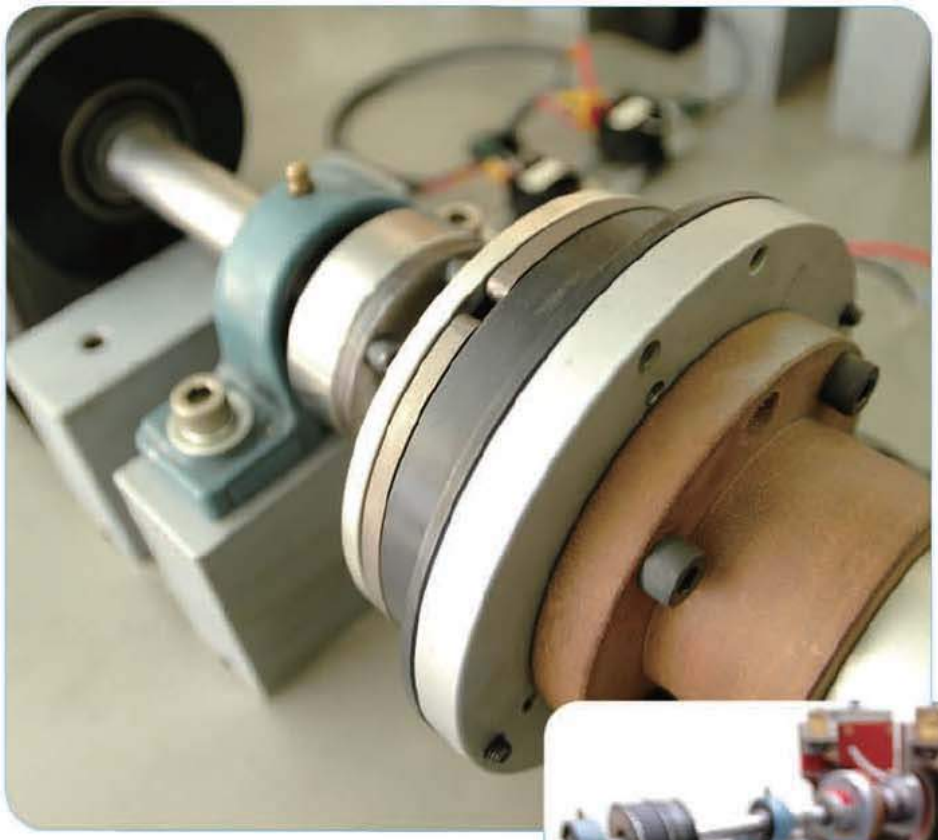


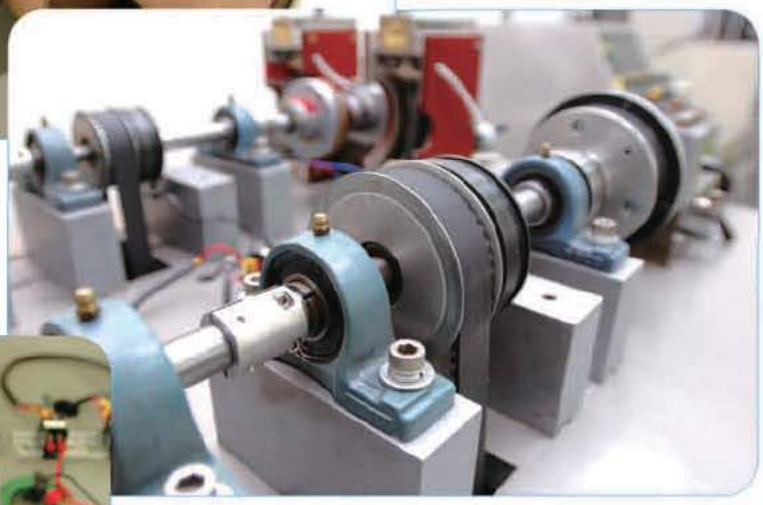
Maximum Allowable Torque of Gear Boxes

			Coupled intermediate gear box																					
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□$^{K}_{L}$	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Motor Testing Machine



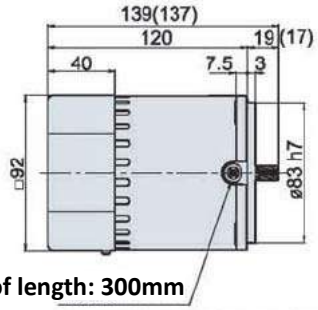


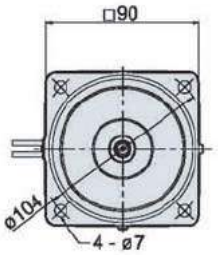
AC Induction Motor 60W

Induction Motors [Frame 5][60W]

Single-phase/Tri-phase Induction Motor

M-5IK60$^{N}_{U}$-□F





Lead wire of length: 300mm

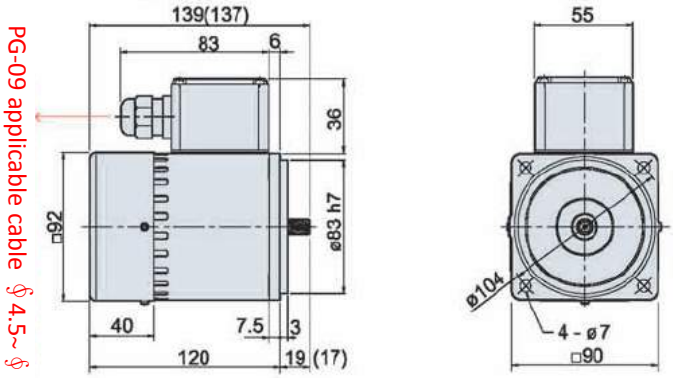
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20

Weight: 2.6kg

* The dimensions inside the brackets belong to N-type gear shafts, which are coupled to those of the gear box and the intermediate gear box, and should match with G-5N□-$^{K}_{L}$

Single-phase/Tri-phase Induction Motors with Connection Box

M-5IK60$^{N}_{U}$-□FT

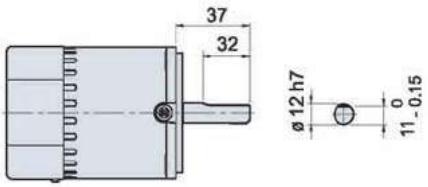


* The dimensions inside the brackets belong to N-type gear shafts, which are coupled to those of the gear box and the intermediate gear box, and should match with G-5N□-$^{K}_{L}$

Weight: 2.8 kg

Circular Shaft Specification

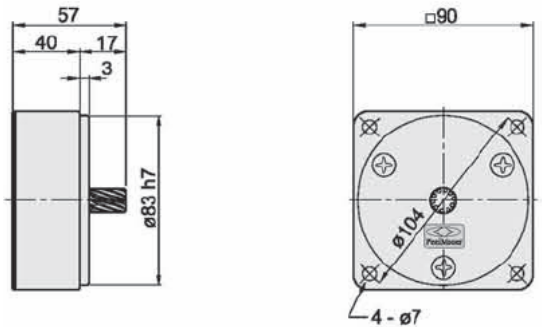
M-5IK60A-□F



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Intermediate Gear Box

G-5N10X-K

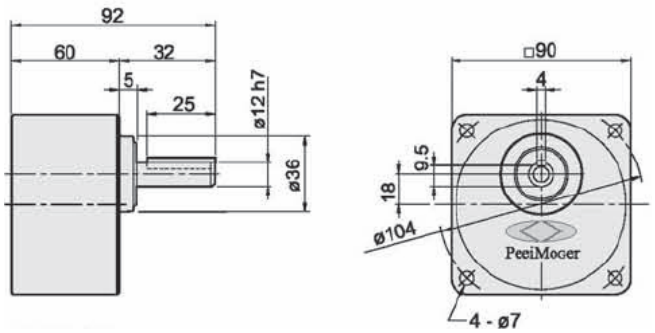


Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

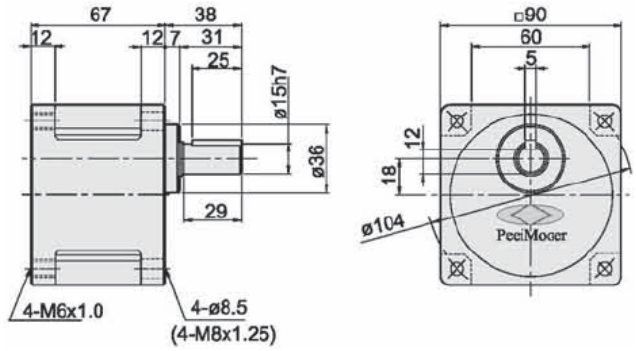
Gear Box

G-5N□-$^{K}_{L}$



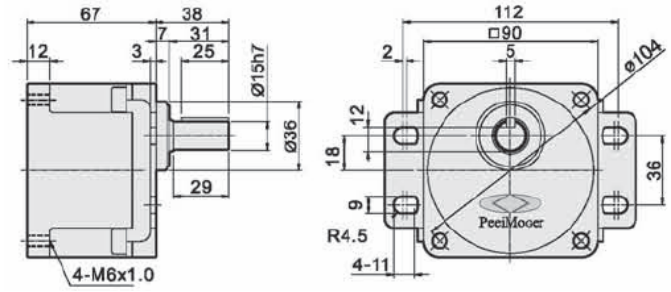
Gear Box

G-5U□-K



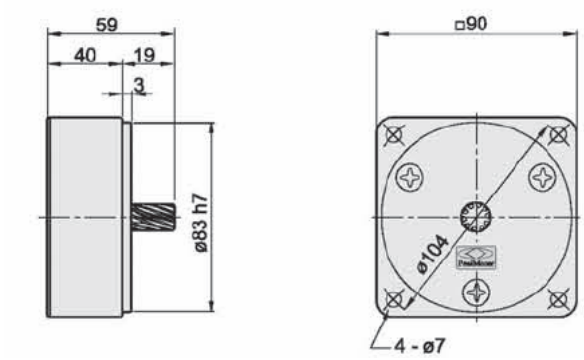
Gear Box with Foot Stand

G-5U□-KF

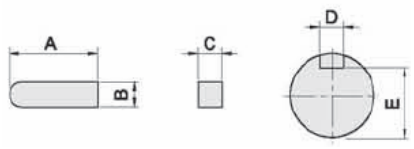


Intermediate Gear Box

G-5U10X-K

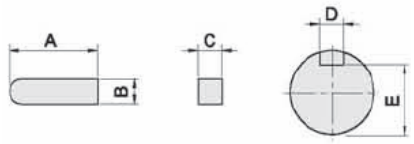


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{\ 0}_{-0.15}$

Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-K	25	$5^{\ 0}_{-0.03}$	$5^{\ 0}_{-0.03}$	$5^{+0.05}_{\ 0}$	$12^{\ 0}_{-0.15}$

Weight List of Gear Boxes

Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73
G-5U10X-K	0.64

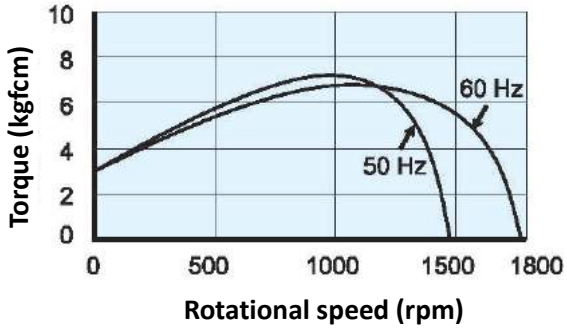
AC Induction Motor 60W

Specifications of Single-phase Induction Motors Continuous rating

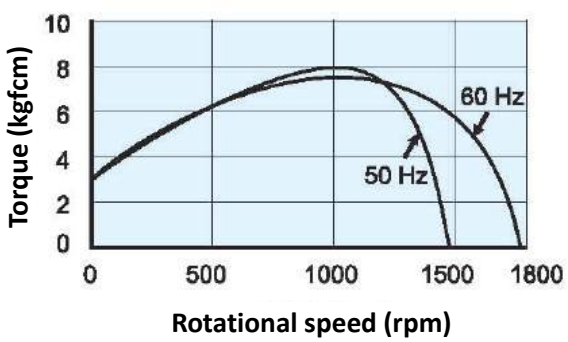
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK60$^{N}_{U}$-AF M-5IK60A-AF	60	1Φ100	50	1.08	1350	4.33	2.32	3.00	18.0	G-5N□-L -	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
			60	1.12	1650	3.54	2.15	3.00				
	60	1Φ110	50	1.04	1375	4.25	2.50	3.00	16.0			
			60	1.07	1675	3.49	2.38	3.00				
	60	1Φ115	50	1.08	1375	4.25	2.54	3.00	16.0			
			60	1.12	1675	3.49	2.52	3.00				
	60	1Φ120	50	1.18	1375	4.25	2.74	3.00	14.0			
			60	0.97	1700	3.44	2.65	3.00				
M-5IK60$^{N}_{U}$-CF M-5IK60A -CF	60	1Φ200	50	0.52	1375	4.25	1.12	3.00	5.0			
			60	0.57	1675	3.49	1.03	3.00				
	60	1Φ220	50	0.51	1375	4.25	1.22	3.00	4.0			
			60	0.49	1675	3.49	1.13	3.00				
	60	1Φ230	50	0.51	1400	4.18	1.24	3.00	4.0			
			60	0.49	1700	3.44	1.20	3.00				
	60	1Φ240	50	0.60	1375	4.25	1.30	3.00	3.0			
			60	0.45	1675	3.49	1.19	3.00				

Characteristics of Single-phase Induction Motors

M-5IK60$^{N}_{U}$-AF / M-5IK60A-AF



M-5IK60$^{N}_{U}$-CF / M-5IK60A-CF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

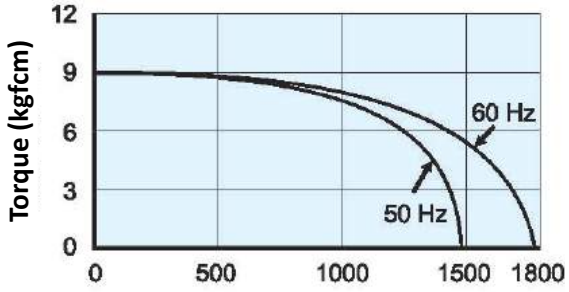
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Specifications of Tri-phase Induction Motors Continuous rating

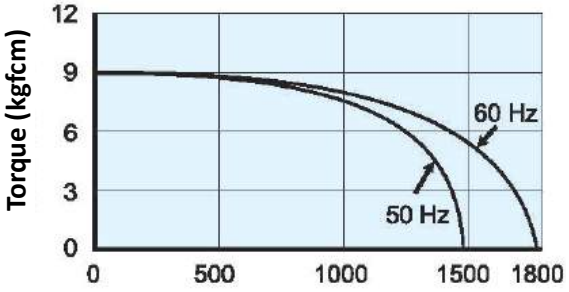
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK60$^{N}_{U}$-SF M-5IK60A-SF	60	3Φ200	50	0.45	1350	4.33	1.22	9.00	-	G-5N□-L -	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
			60	0.36	1625	3.60	1.12	9.00				
	60	3Φ220	50	0.49	1375	4.25	1.34	9.00	-			
			60	0.41	1650	3.54	1.27	9.00				
	60	3Φ230	50	0.50	1400	4.18	1.28	9.00	-			
			60	0.41	1675	3.49	1.31	9.00				
	60	3Φ380	50	0.27	1375	4.25	0.76	9.00	-			
M-5IK60$^{N}_{U}$-UF M-5IK60A-UF	60	3Φ400	50	0.28	1400	4.18	0.72	9.00	-			
			60	0.23	1675	3.49	0.75	9.00				
	60	3Φ415	50	0.25	1400	4.18	0.70	9.00	-			
			60	0.20	1675	3.49	0.70	9.00				
	60	3Φ440	50	0.28	1400	4.18	0.66	9.00	-			
			60	0.22	1675	3.49	0.76	9.00				
	60	3Φ460	50	0.31	1400	4.18	0.63	9.00	-			
			60	0.23	1700	3.44	0.73	9.00				

Characteristics of Tri-phase Induction Motors

M-5IK60$^{N}_{U}$-SF / M-5IK60A-SF



M-5IK60$^{N}_{U}$-UF / M-5IK60A-UF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		10	16	24	27	32	40	48	54	64	77	93	155	200	200	200	200	200	200	200	200	200	200	200

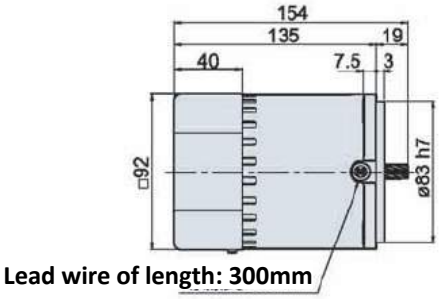
Note: In the above table, the1 deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

AC Induction Motor 90W

Induction Motors [Frame 5][90W]

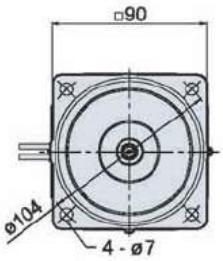
Single-phase/Tri-phase Induction Motor

M-5IK90U-□F



Lead wire of length: 300mm

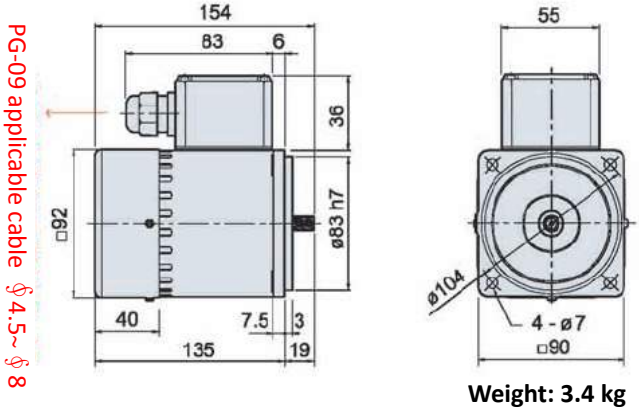
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20



Weight: 3.2kg

Single-phase/Tri-phase Induction Motors with Connection Box

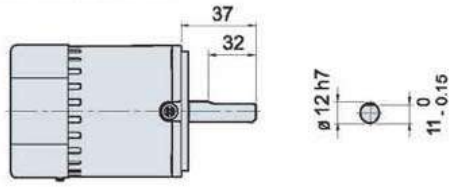
M-5IK90U-□FT



Weight: 3.4 kg

Circular Shaft Specification

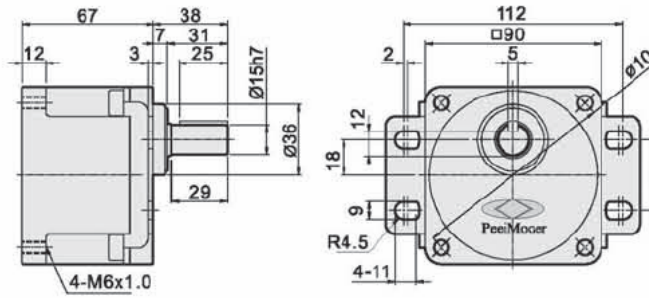
M-5IK90A-□F



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box with Foot Stand

G-5U□-KF

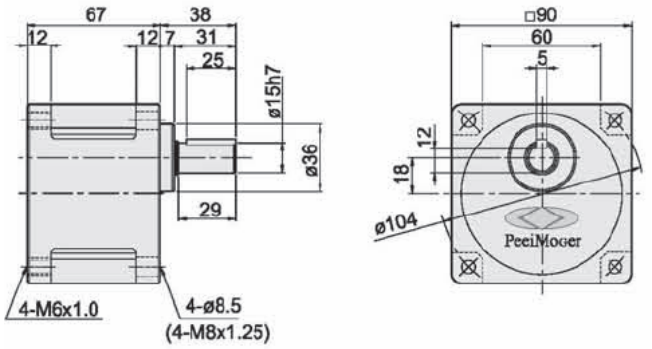


Weight List of Gear Boxes

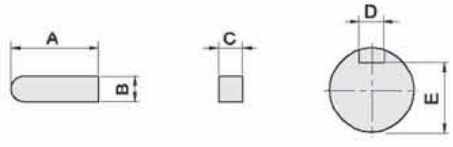
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



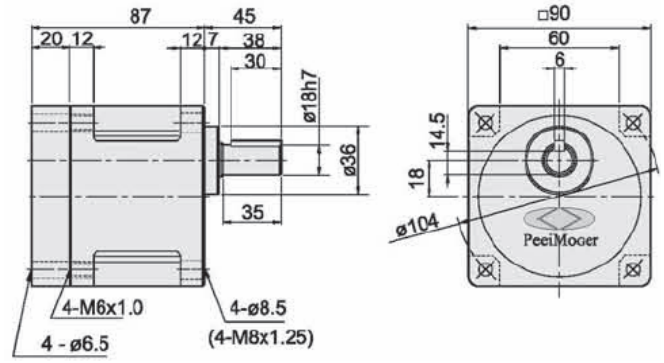
Gear Box: Key and Keyway Dimension



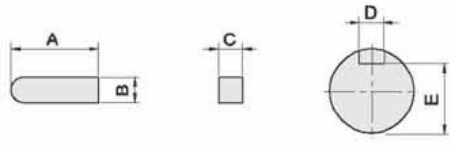
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



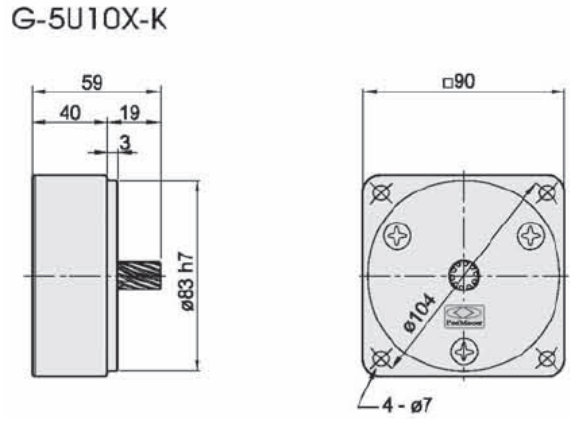
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

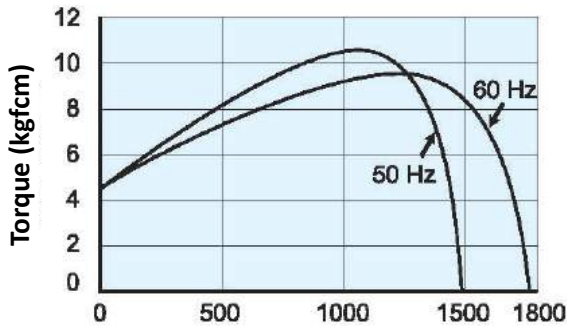
AC Induction Motor 90W

Specifications of Single-phase Induction Motors Continuous rating

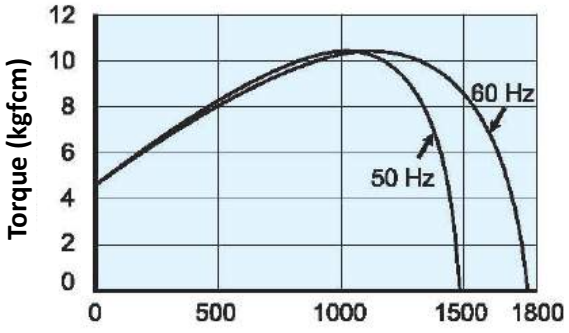
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK90U-AF M-5IK90A-AF	90	1Φ100	50	1.40	1350	6.49	3.24	4.50	25.0	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	1.54	1650	5.31	3.00	4.50				
	90	1Φ110	50	1.40	1375	6.37	3.63	4.50	20.0			
			60	1.37	1675	5.29	3.49	4.50				
	90	1Φ115	50	1.51	1375	6.37	3.79	4.50	20.0			
			60	1.29	1675	5.23	3.47	4.50				
	90	1Φ120	50	1.66	1375	6.37	3.88	4.50	18.0			
			60	1.41	1675	5.23	4.16	4.50				
M-5IK90U-CF M-5IK90A-CF	90	1Φ200	50	0.71	1350	6.49	1.75	4.50	6.0			
			60	0.75	1650	5.31	1.57	4.50				
	90	1Φ220	50	0.68	1375	6.37	1.91	4.50	5.0			
			60	0.69	1675	5.23	1.81	4.50				
	90	1Φ230	50	0.72	1375	6.37	1.94	4.50	5.0			
			60	0.71	1675	5.23	1.90	4.50				
	90	1Φ240	50	0.85	1375	6.37	2.11	4.50	4.0			
			60	0.60	1675	5.23	1.95	4.50				

Characteristics of Single-phase Induction Motors

M-5IK90U-AF / M-5IK90A-AF



M-5IK90U-CF / M-5IK90A-CF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

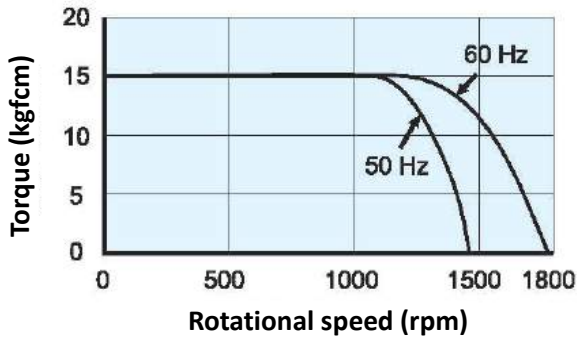
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Specifications of Tri-phase Induction Motors Continuous rating

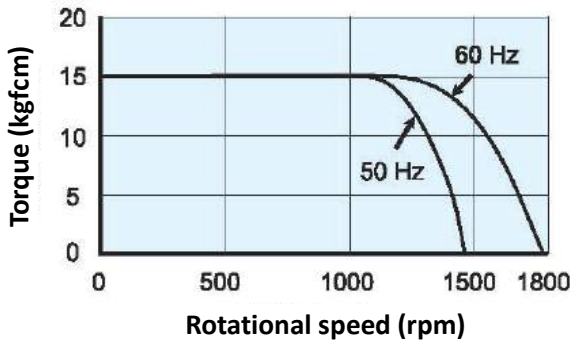
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK90U-SF M-5IK90A-SF	90	3Φ200	50	0.65	1375	6.37	2.59	15.00	-	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	0.55	1650	5.31	2.07	15.00				
	90	3Φ220	50	0.79	1375	6.37	2.35	15.00	-			
			60	0.58	1675	5.23	2.20	15.00				
	90	3Φ230	50	0.84	1400	6.26	2.25	15.00	-			
			60	0.61	1675	5.23	2.11	15.00				
	90	3Φ380	50	0.41	1400	6.26	1.36	15.00	-			
M-5IK90 -UF M-5IK90A-UF	90	3Φ400	50	0.46	1400	6.26	1.30	15.00	-			
			60	0.35	1675	5.23	1.21	15.00				
	90	3Φ415	50	0.31	1375	6.37	1.22	15.00	-			
			60	0.25	1650	5.31	1.09	15.00				
	90	3Φ440	50	0.34	1375	6.37	1.15	15.00	-			
			60	0.27	1650	5.31	1.03	15.00				
	90	3Φ460	50	0.36	1400	6.26	1.10	15.00	-			
			60	0.27	1675	5.23	0.99	15.00				

Characteristics of Tri-phase Induction Motors

M-5IK90U-SF / M-5IK90A-SF



M-5IK90U-UF / M-5IK90A-UF



Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

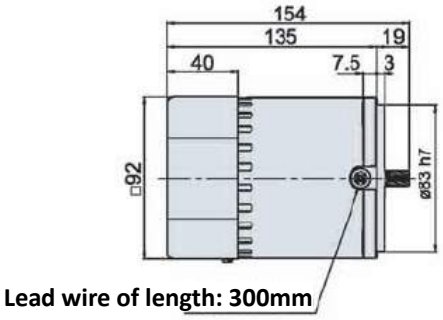
Note: In the above table, the1 deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

AC Induction Motor 120W

Induction Motors [Frame 5][120W]

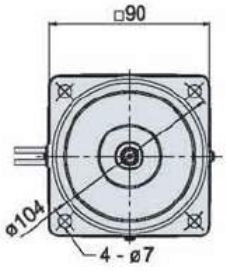
Single-phase/Tri-phase Induction Motor

M-5IK120U -□F



Lead wire of length: 300mm

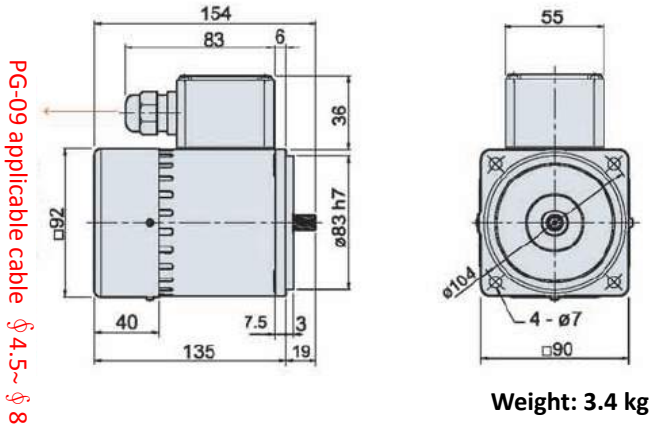
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20



Weight: 3.2kg

Single-phase/Tri-phase Induction Motors with Connection Box

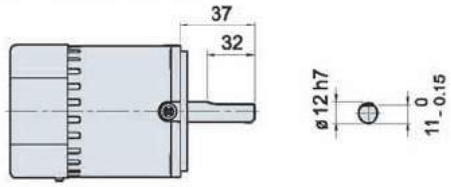
M-5IK120U-□FT



Weight: 3.4 kg

Circular Shaft Specification

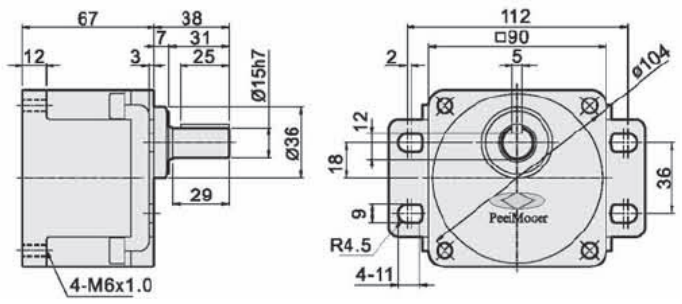
M-5IK120A-□F



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box with Foot Stand

G-5U□-KF

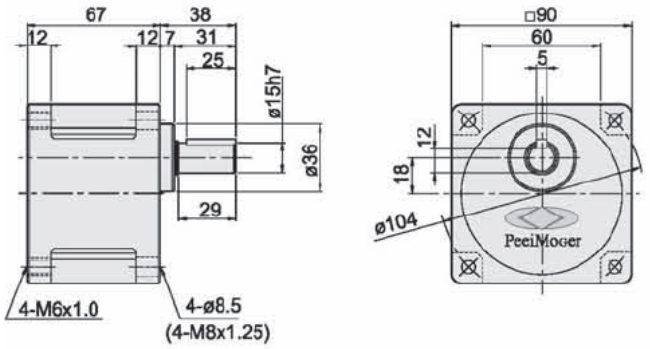


Weight List of Gear Boxes

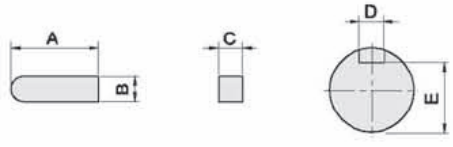
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



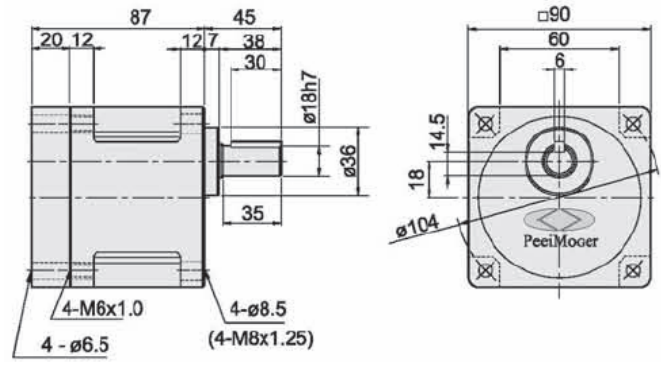
Gear Box: Key and Keyway Dimension



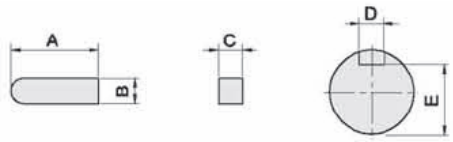
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



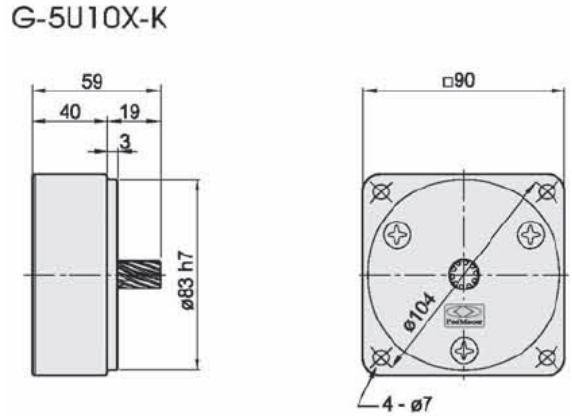
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

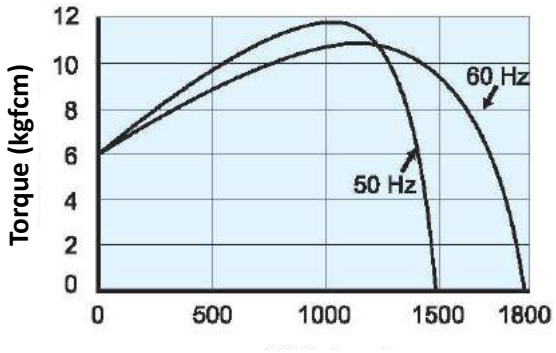
AC Induction Motor 120W

Specifications of Single-phase Induction Motors Continuous rating

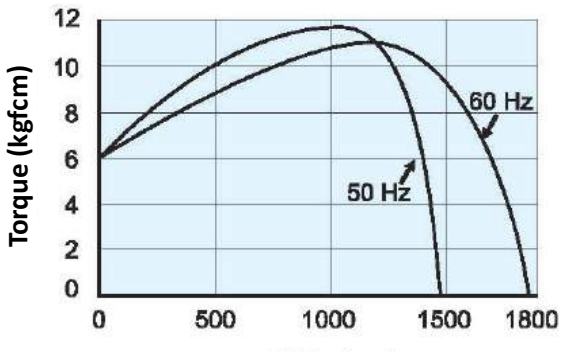
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK120U-AF M-5IK120A-AF	120	1Φ100	50	2.24	1300	8.99	4.01	6.00	30.0	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	1.98	1600	7.30	2.97	6.00				
	120	1Φ110	50	1.77	1325	8.82	3.51	6.00	28.0			
			60	1.78	1650	7.08	3.24	6.00				
	120	1Φ115	50	1.71	1350	8.66	3.77	6.00	28.0			
			60	1.74	1675	6.98	3.34	6.00				
	120	1Φ120	50	1.72	1350	8.66	3.85	6.00	25.0			
			60	1.66	1675	6.98	3.70	6.00				
M-5IK120U-CF M-5IK120A-CF	120	1Φ200	50	0.98	1275	9.17	1.73	6.00	7.0			
			60	0.94	1600	7.30	1.57	6.00				
	120	1Φ220	50	0.80	1325	8.82	1.85	6.00	6.0			
			60	0.89	1625	7.19	1.75	6.00				
	120	1Φ230	50	0.84	1325	8.82	1.90	6.00	6.0			
			60	0.91	1625	7.19	1.80	6.00				
	120	1Φ240	50	0.87	1325	8.82	2.00	6.00	5.0			
			60	0.79	1650	7.08	1.96	6.00				

Characteristics of Single-phase Induction Motors

M-5IK120U-AF / M-5IK120A-AF



M-5IK120U-CF / M-5IK120A-CF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

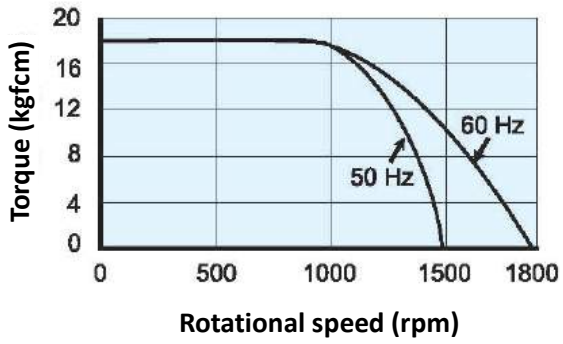
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Specifications of Tri-phase Induction Motors　　Continuous rating

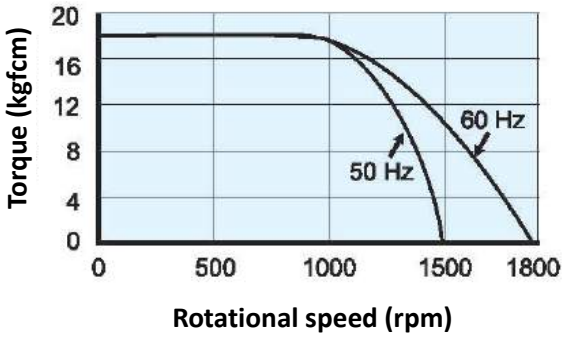
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK120U-SF M-5IK120A-SF	120	3Φ200	50	0.75	1300	8.99	2.59	18.00	-	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	0.67	1575	7.42	2.07	18.00				
	120	3Φ220	50	0.81	1350	8.66	2.35	18.00	-			
			60	0.68	1550	7.54	2.04	18.00				
	120	3Φ230	50	0.89	1350	8.66	2.25	18.00	-			
			60	0.65	1650	7.08	1.95	18.00				
	120	3Φ380	50	0.45	1350	8.66	1.36	18.00	-			
M-5IK120U-UF M-5IK120A-UF	120	3Φ400	50	0.48	1375	8.50	1.30	18.00	-			
			60	0.37	1650	7.08	1.12	18.00				
	120	3Φ415	50	0.35	1300	8.99	1.22	18.00	-			
			60	0.31	1575	7.42	1.09	18.00				
	120	3Φ440	50	0.38	1325	8.82	1.15	18.00	-			
			60	0.31	1600	7.30	1.03	18.00				
	120	3Φ460	50	0.38	1350	8.66	1.10	18.00	-			
			60	0.31	1625	7.19	0.99	18.00				

Characteristics of Tri-phase Induction Motors

M-5IK120U-SF / M-5IK120A-SF



M-5IK120U-UF / M-5IK120A-UF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

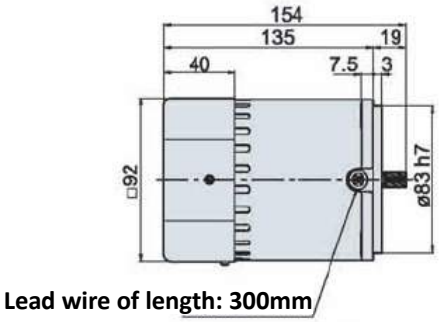
Note: In the above table, the1 deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

AC Induction Motor 150W

Induction Motors [Frame 5][150W]

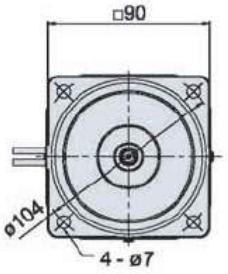
Single-phase/Tri-phase Induction Motor

M-5IK150U -□F



Lead wire of length: 300mm

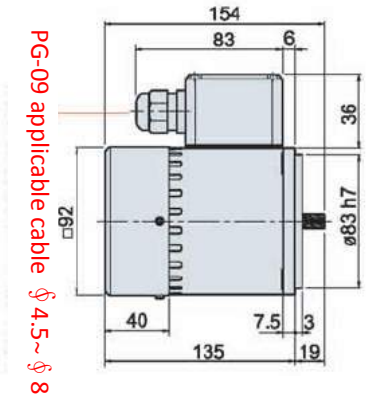
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20

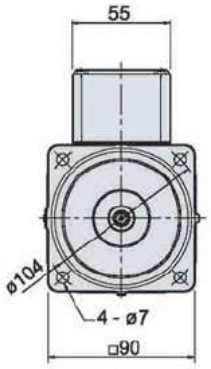


Weight: 3.2kg

Single-phase/Tri-phase Induction Motors with Connection Box

M-5IK150U-□FT

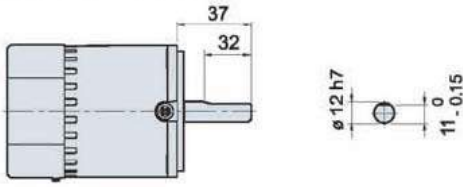




Weight: 3.4 kg

Circular Shaft Specification

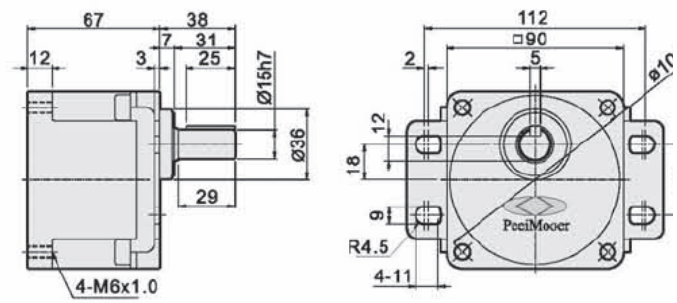
M-5IK150A-□F



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box with Foot Stand

G-5U□-KF

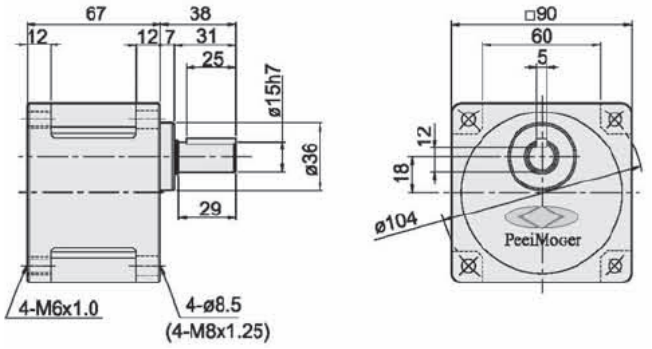


Weight List of Gear Boxes

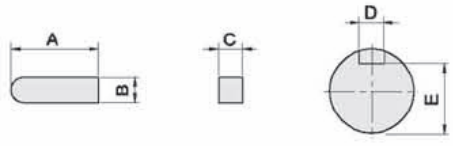
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



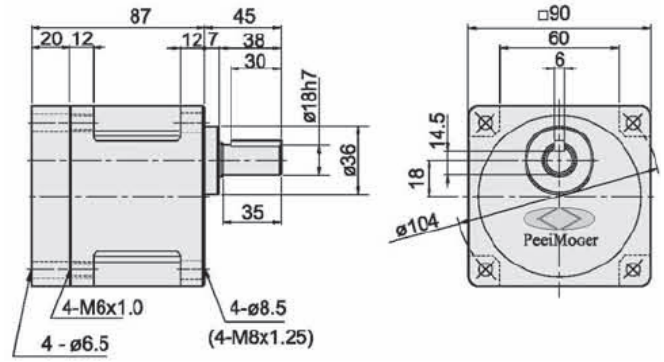
Gear Box: Key and Keyway Dimension



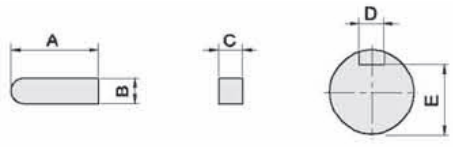
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



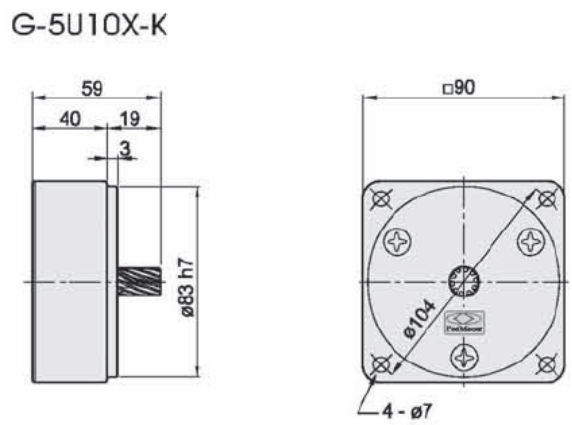
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

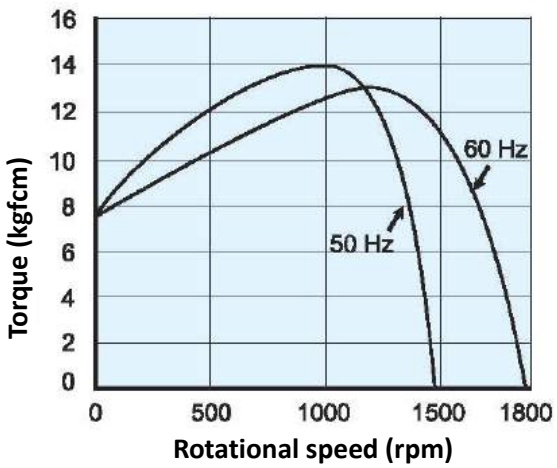
AC Induction Motor 150W

Specifications of Single-phase Induction Motors Continuous rating

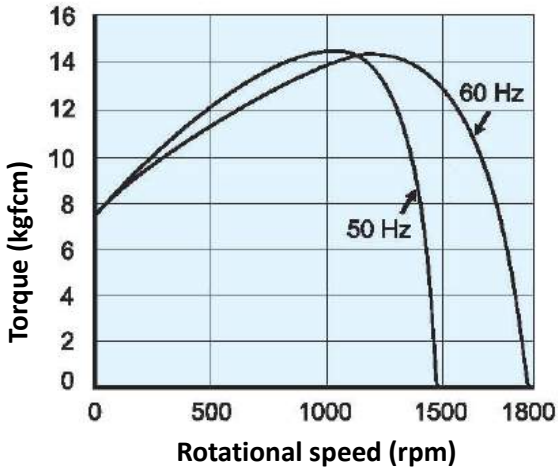
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK150U-AF M-5IK150A-AF	150	1Φ100	50	2.62	1275	11.46	4.51	7.50	36.0	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	2.45	1575	9.27	3.47	7.50				
	150	1Φ110	50	2.11	1300	11.24	4.26	7.50	32.0			
			60	2.14	1625	8.99	3.81	7.50				
	150	1Φ115	50	2.00	1325	11.02	4.46	7.50	32.0			
			60	2.25	1625	8.99	4.13	7.50				
	150	1Φ120	50	2.05	1325	11.02	4.27	7.50	28.0			
			60	2.28	1650	8.85	5.03	7.50				
M-5IK150U-CF M-5IK150A-CF	150	1Φ200	50	1.11	1300	11.24	2.35	7.50	9.0			
			60	1.18	1625	8.99	2.17	7.50				
	150	1Φ220	50	1.07	1325	11.02	2.42	7.50	8.0			
			60	1.31	1625	8.99	2.77	7.50				
	150	1Φ230	50	1.21	1325	11.02	2.59	7.50	7.0			
			60	1.09	1650	8.85	2.82	7.50				
	150	1Φ240	50	1.33	1325	11.02	2.59	7.50	6.0			
			60	0.94	1650	8.85	2.68	7.50				

Characteristics of Single-phase Induction Motors

M-5IK150U-AF / M-5IK150A-AF



M-5IK150U-CF / M-5IK150A-CF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

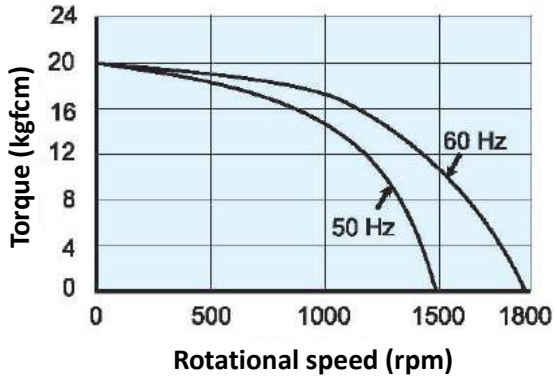
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Specifications of Tri-phase Induction Motors Continuous rating

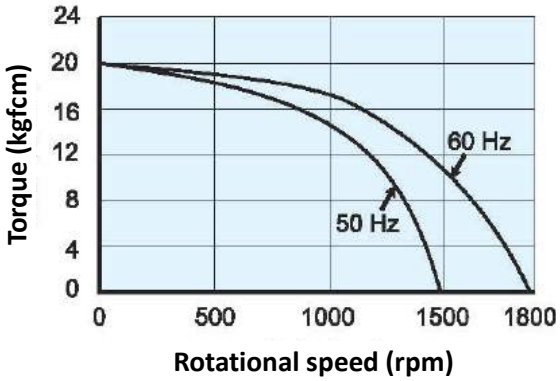
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK150U-SF M-5IK150A-SF	150	3Φ200	50	0.96	1275	11.46	2.54	20.00	-	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	0.86	1525	9.58	2.36	20.00				
	150	3Φ220	50	1.08	1325	11.02	2.80	20.00	-			
			60	0.82	1600	9.13	2.60	20.00				
	150	3Φ230	50	1.17	1350	10.82	2.88	20.00	-			
			60	0.83	1625	8.99	2.70	20.00				
	150	3Φ380	50	0.60	1325	11.02	1.70	20.00	-			
M-5IK150U-UF M-5IK150A-UF	150	3Φ400	50	0.65	1350	10.82	1.79	20.00	-			
			60	0.48	1625	8.99	1.65	20.00				
	150	3Φ415	50	0.41	1275	11.46	1.20	20.00	-			
			60	0.38	1525	9.58	1.12	20.00				
	150	3Φ440	50	0.43	1300	11.24	1.23	20.00	-			
			60	0.37	1575	9.27	1.18	20.00				
	150	3Φ460	50	0.45	1325	11.02	1.30	20.00	-			
			60	0.38	1575	9.27	1.25	20.00				

Characteristics of Tri-phase Induction Motors

M-5IK150U-SF / M-5IK150A-SF



M-5IK150U-UF / M-5IK150A-UF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

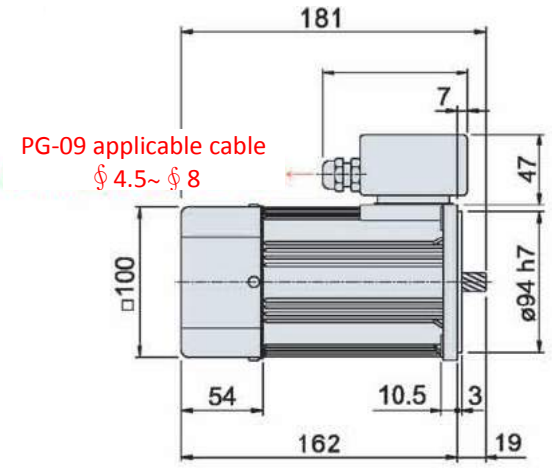
Note: In the above table, the1 deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

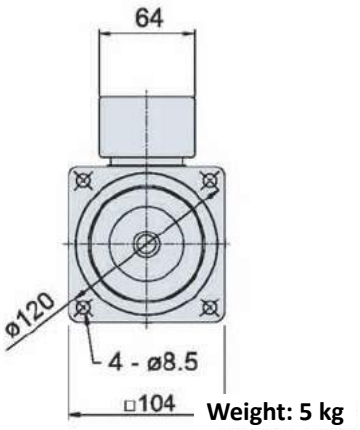
AC Induction Motor 200W

Induction Motors [Frame 6][200W]

Single-phase/Tri-phase Induction Motors with Connection Box

M-6IK200U -□FT

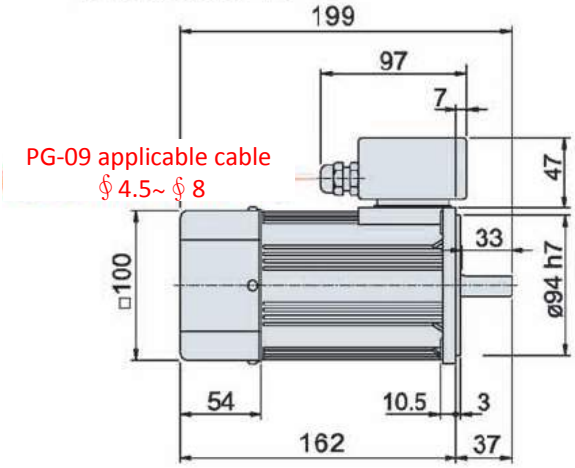


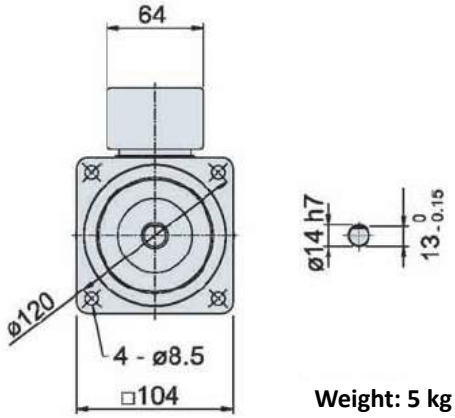


Weight: 5 kg

Circular Shaft Specification

M-6IK200A-□FT





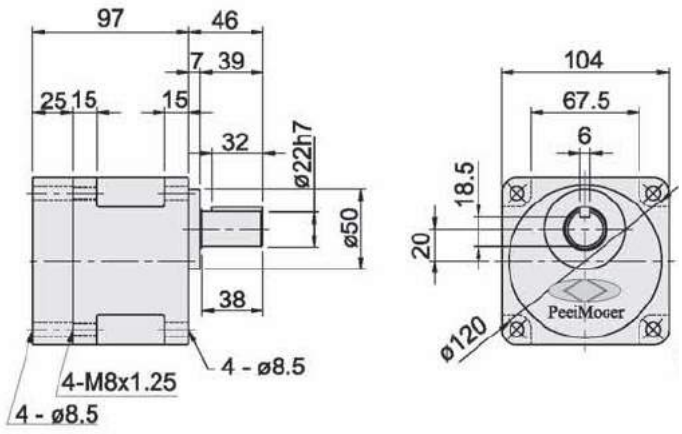
Weight: 5 kg

Specifications of Single-phase Induction Motors Continuous rating

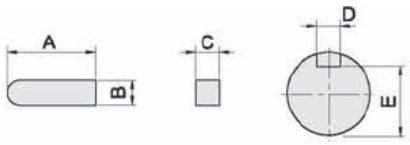
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-6IK200U-AFT M-6IK200A-AFT	200	1Φ100	50	3.14	1300	14.98	5.60	8.80	42.0	-	G-6U□-KH	-
			60	3.19	1600	12.17	5.40	8.80				
	200	1Φ110	50	3.18	1350	14.43	6.50	8.80	40.0			
			60	2.97	1650	11.80	6.10	8.80				
	200	1Φ115	50	3.14	1375	14.16	6.70	8.80	40.0			
			60	3.06	1650	11.80	6.30	8.80				
	200	1Φ120	50	2.86	1375	14.16	7.10	8.80	36.0			
			60	2.69	1675	11.63	6.80	8.80				
M-6IK200U-CFT M-6IK200A-CFT	200	1Φ200	50	1.52	1350	14.43	3.60	8.80	12.0			
			60	1.68	1650	11.80	3.30	8.80				
	200	1Φ220	50	1.41	1375	14.16	4.00	8.80	10.0			
			60	1.44	1675	11.63	3.70	8.80				
	200	1Φ230	50	1.26	1400	13.91	4.10	8.80	10.0			
			60	1.45	1675	11.63	3.80	8.80				
	200	1Φ240	50	1.26	1400	13.91	4.30	8.80	8.0			
			60	1.20	1700	11.46	4.00	8.80				

Gear Box

G-6U□-KH



Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-6U□-KH	32	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$18.5^{0}_{-0.15}$

Weight List of Gear Boxes

Model	Weight (kg)
G-6U3-KH~G-6U9-KH	2.35
G-6U12.5-KH~G-6U50-KH	2.50
G-6U60-KH~G-6U180-KH	2.63

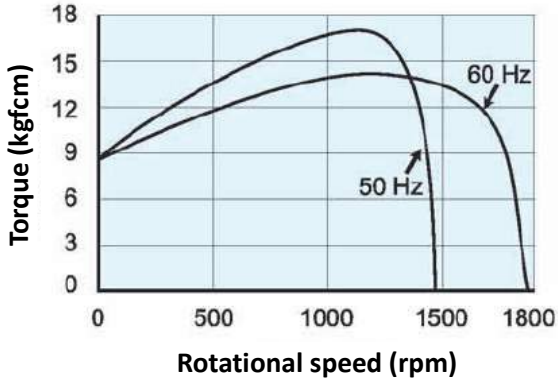
Specifications of Tri-phase Induction Motors Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-6IK200U-SFT M-6IK200A-SFT	200	3Φ200	50	1.10	1350	14.43	4.20	25.00	-	-	G-6N□-KH	-
			60	1.02	1625	11.98	3.90	25.00				
	200	3Φ220	50	1.16	1375	14.16	4.60	25.00	-			
			60	1.04	1650	11.80	4.40	25.00				
	200	3Φ230	50	1.24	1375	14.16	4.80	25.00	-			
			60	1.00	1675	11.63	4.50	25.00				
	200	3Φ380	50	0.66	1375	14.16	2.80	25.00	-			
	200	3Φ400	50	0.65	1400	13.91	3.00	25.00	-			
			60	0.57	1675	11.63	2.80	25.00				

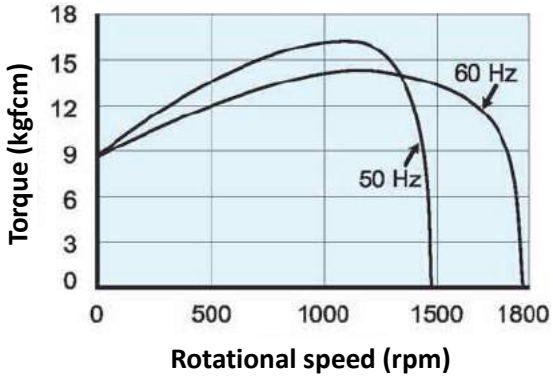
AC Induction Motor 200W

Characteristics of Single-phase Induction Motors

M-6IK200U-AFT / M-6IK200A-AFT

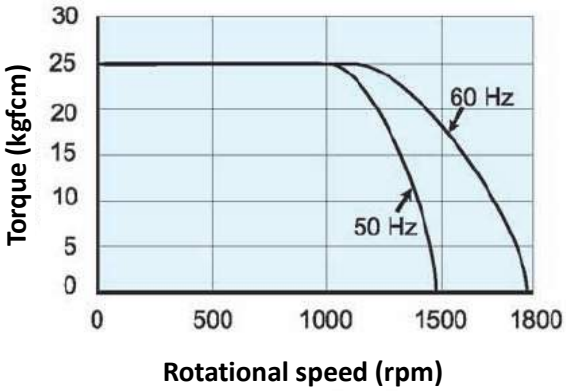


M-6IK200U-CFT / M-6IK200A-CFT



Characteristics of Tri-phase Induction Motors

M-6IK200U-SFT / M-6IK200A-SFT



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	120	100	60	50	30	20	15	10
	Gear ratio	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150
		60Hz	3.6	6	9	15	18	30	36	60	90	120	180
G-6U□-KH	Max. allowable torque (kgfcm)		32	53	79	118	142	237	284	426	600	600	600

Note: In the above table, the1 deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

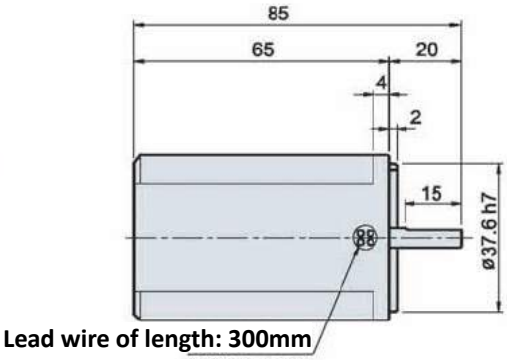
Office Environment

Reversible Induction Motor 1W, 3W

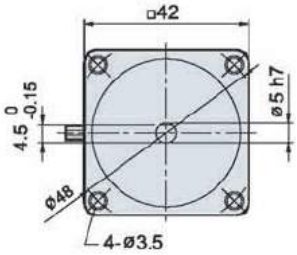
Reversible Motor [Frame 0][1W, 3W]

Single-phase Reversible Induction Motor

M-0RK1A-□ / M-0RK3A-□



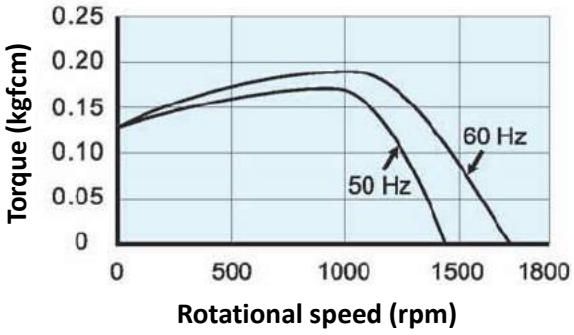
Lead wire of length: 300mm
3 wires, UL3266
AWG20



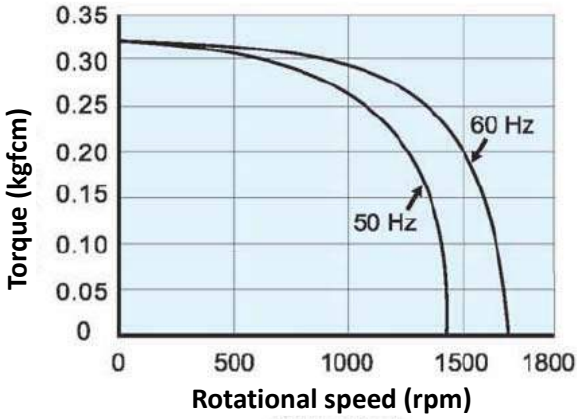
Weight: 0.5 kg

Characteristics of Single-phase Reversible Induction Motors

M-0RK1A-A



M-0RK3A-A



Specifications of Single-phase Reversible Induction Motors 30 min rating

Braking force: 50g

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-0RK1A-A	120	1Φ110	50	0.15	1160	0.09	0.18	0.13	1.5	-	-	-
			60	0.15	1400	0.07	0.18	0.13				
M-0RK3A-A	120	1Φ110	50	0.20	1200	0.25	0.27	0.32	2.5			
			60	0.21	1500	0.20	0.27	0.32				

Gear machining

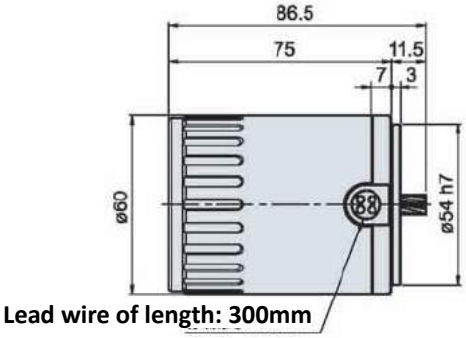
3 Dos of Talking: say please, thank you and sorry
3 Dos of Behaving: be modest, polite and never niggardly in praising others
3 Dos of Self-Cultivation: maintain quietness, kindness and calmness
3 Dos of Family: be joyful, humorous and considerate
3 Dos of Diet: balance, moderation and gratitude
3 Dos in Health: walk, desire less, and be placid

Reversible Induction Motor 6W

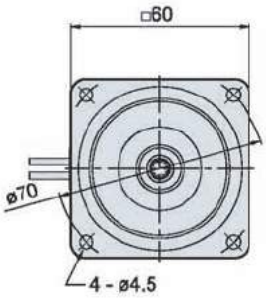
Reversible Motor [Frame 2][6W]

Single-phase Reversible Induction Motor

M-2RK6N-□



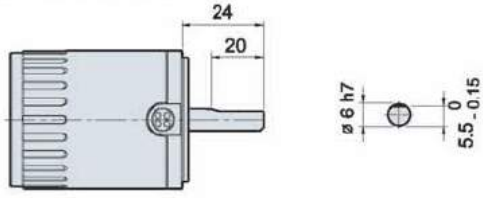
Lead wire of length: 300mm
3 wires, UL3266
AWG20



Weight: 0.75 kg

Circular Shaft Specification

M-2RK6A-□□



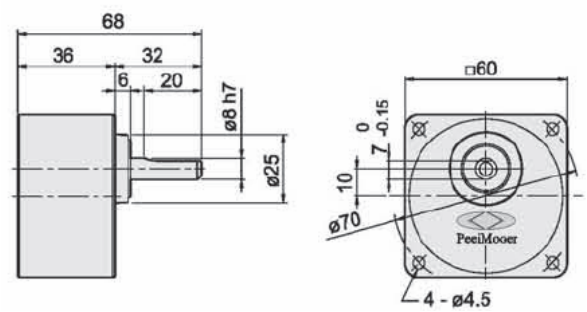
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Reversible Induction Motors 30 min rating
Braking force: 100g

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-2RK6N-A M-2RK6A-A	6	1Φ100	50	0.19	1350	0.43	0.31	0.50	3.5	G-2N□-L	G-2N□-K	G-2N10X-K
			60	0.20	1650	0.36	0.31	0.50				
	6	1Φ110	50	0.21	1300	0.45	0.33	0.50	3.0			
			60	0.20	1625	0.36	0.32	0.50				
	6	1Φ115	50	0.22	1325	0.44	0.34	0.50	3.0			
			60	0.20	1625	0.36	0.33	0.50				
	6	1Φ120	50	0.23	1300	0.45	0.35	0.50	2.5			
			60	0.19	1625	0.36	0.33	0.50				
M-2RK6N-C M-2RK6A-C	6	1Φ200	50	0.11	1300	0.45	0.15	0.50	1.0			
			60	0.13	1575	0.37	.16	0.50				
	6	1Φ220	50	0.11	1300	0.45	0.15	0.50	0.8			
			60	0.11	1625	0.36	0.16	0.50				
	6	1Φ230	50	0.11	1325	0.44	0.16	0.50	0.8			
			60	0.12	1625	0.36	0.17	0.50				
	6	1Φ240	50	0.11	1300	0.45	0.16	0.50	0.6			
			60	0.10	1625	0.36	0.15	0.50				

Gear Box

G-2N□-K/L

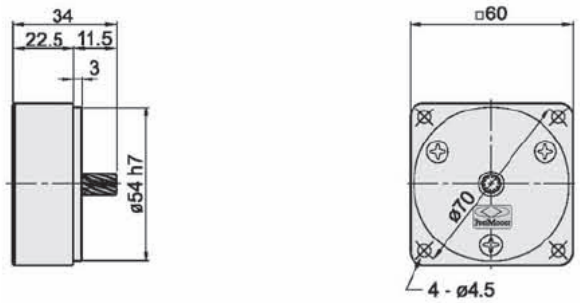


Weight List of Gear Boxes

Model	Weight (kg)
G-2N3-K / L~G-2N18-K / L	0.30
G-2N20-K / L~G-2N60-K / L	0.31
G-2N75-K / L~G-2N180-K / L	0.33
G-2N10X-K	0.20

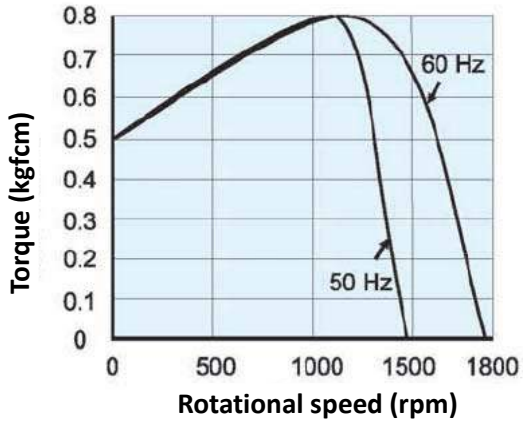
Intermediate Gear Box

G-2N10X-K

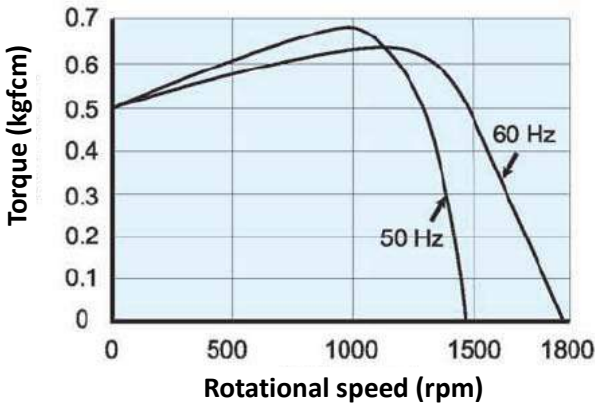


Characteristics of Single-phase Reversible Induction Motors

M-2RK6N-A / M-2RK6A-A



M-2RK6N-C / M-2RK6A-C



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-2N□-K/L	Max. allowable torque (kgfcm)		1.0	1.6	2.5	2.7	3.4	4.1	5.0	5.4	6.7	8.1	9.7	16	23	25	25	25	25	25	25	25	25	25	25

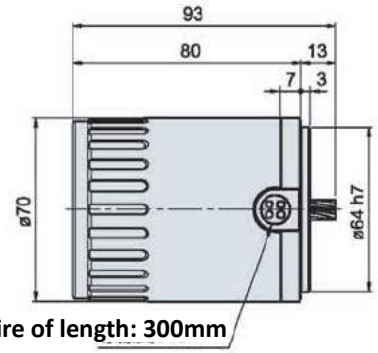
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Reversible Induction Motor 15W

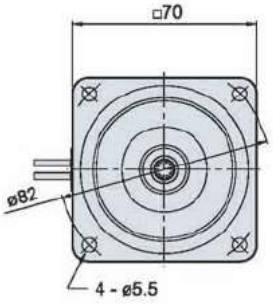
Reversible Motor [Frame 3][15W]

Single-phase Reversible Induction Motor

M-3RK15N-□



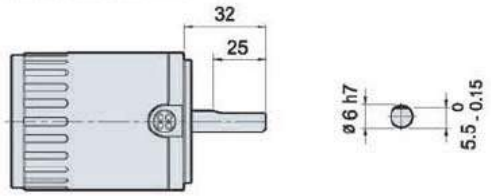
Lead wire of length: 300mm
3 wires, UL3266
AWG20



Weight: 1.05 kg

Circular Shaft Specification

M-3RK15A-□□



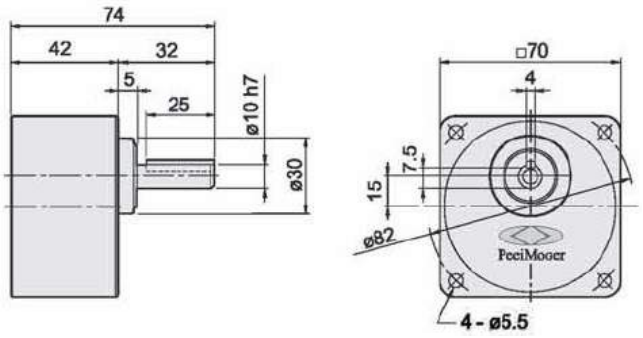
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Reversible Induction Motors 30 min rating
Braking force: 150g

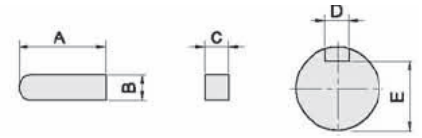
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-3RK15N-A M-3RK15A-A	15	1Φ100	50	0.37	1225	1.19	0.52	0.90	6.0	G-3N□-L	G-3N□-K	G-3N10X-K
			60	0.40	1525	0.96	0.51	0.90				
	15	1Φ110	50	0.34	1250	1.17	0.55	0.90	5.0			
			60	0.34	1575	0.93	0.52	0.90				
	15	1Φ115	50	0.35	1275	1.15	0.58	0.90	5.0			
			60	0.34	1600	0.92	0.55	0.90				
	15	1Φ120	50	0.38	1250	1.17	0.61	0.90	4.0			
			60	0.32	1600	0.92	0.57	0.90				
M-3RK15N-C M-3RK15A-C	15	1Φ200	50	0.18	1275	1.15	0.27	0.90	1.6			
			60	0.20	1575	0.93	0.26	0.90				
	15	1Φ220	50	0.17	1275	1.15	0.28	0.90	1.2			
			60	0.16	1600	0.92	0.26	0.90				
	15	1Φ230	50	0.17	1300	1.13	0.30	0.90	1.2			
			60	0.16	1625	0.90	0.28	0.90				
	15	1Φ240	50	0.19	1275	1.15	0.31	0.90	1.0			
			60	0.15	1600	0.92	0.28	0.90				

Gear Box

G-3N□-$^{K}_{L}$



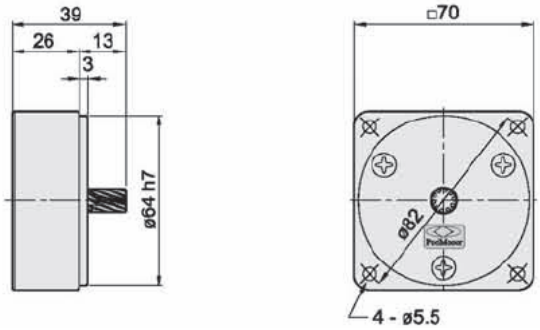
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-3N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-3N10X-K

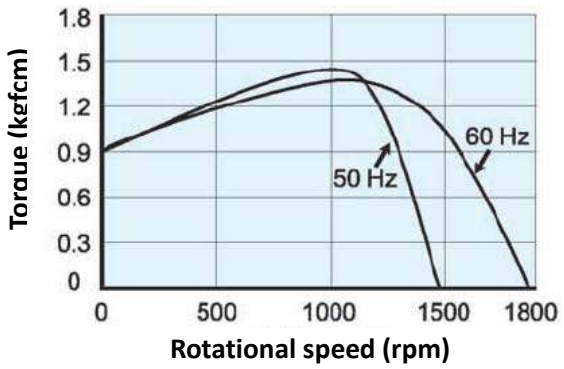


Weight List of Gear Boxes

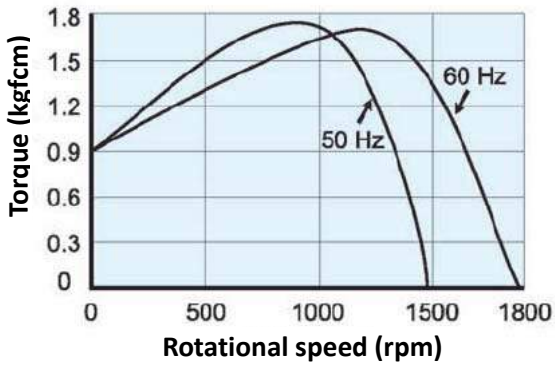
Model	Weight (kg)
G-3N3-K / L~G-3N18-K / L	0.44
G-3N20-K / L~G-3N60-K / L	0.48
G-3N75-K / L~G-3N180-K / L	0.53
G-3N10X-K	0.32

Characteristics of Single-phase Reversible Induction Motors

M-3RK15N-A / M-3RK15A-A



M-3RK15N-C / M-3RK15A-C



Maximum Allowable Torque of Gear Boxes

			Coupled intermediate gear box																					
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-3N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		2.4	4.0	6.0	6.7	8.2	10	12	13	16	19	23	39	50	50	50	50	50	50	50	50	50	50	50

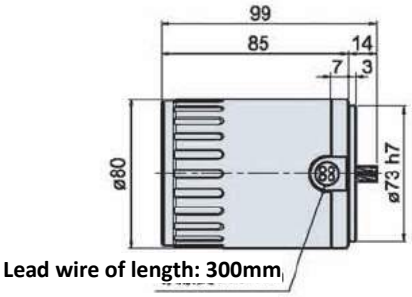
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Reversible Induction Motor 25W

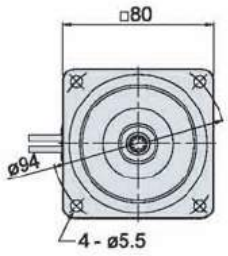
Reversible Motor [Frame 4][25W]

Single-phase Reversible Induction Motor

M-4RK25N-□



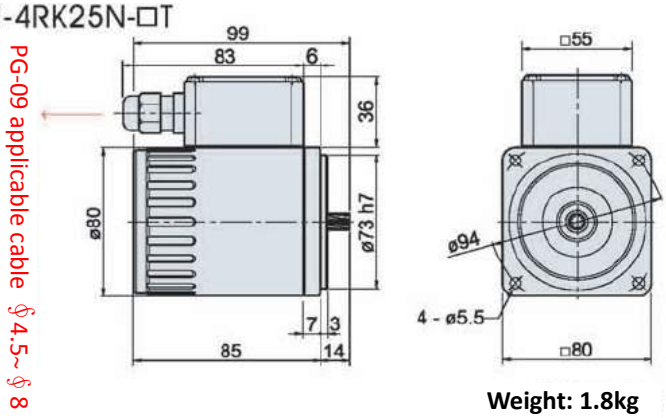
Lead wire of length: 300mm
3 wires, UL3266
AWG20



Weight: 1.6

Single-phase Reversible Induction Motors with Connection Box

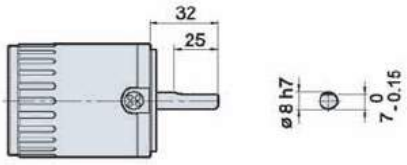
M-4RK25N-□T



Weight: 1.8kg

Circular Shaft Specification

M-4RK25A-□

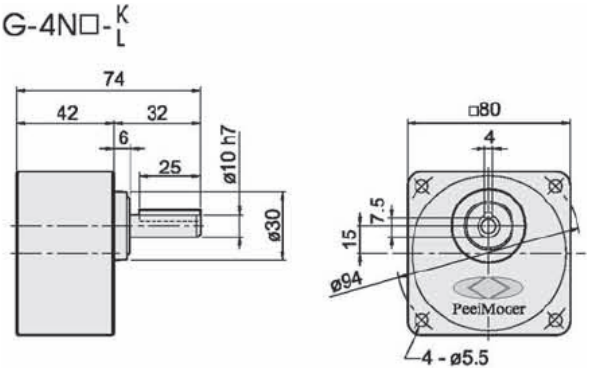


Note: For applicable machine types, please refer to the models. We also provide customized motors.

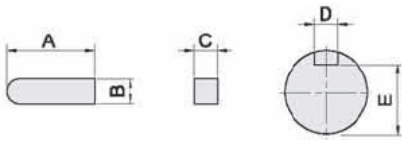
Specifications of Single-phase Reversible Induction Motors 30 min rating Braking force: 200g

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-4RK25N-A M-4RK25A-A	25	1Φ100	50	0.60	1225	1.99	0.98	1.50	8.0	G-4N□-L	G-4N□-K	G-4N10X-K
			60	0.59	1525	1.60	0.89	1.50				
	25	1Φ110	50	0.62	1225	1.99	1.03	1.50	7.0			
			60	0.60	1500	1.63	0.96	1.50				
	25	1Φ115	50	0.57	1300	1.88	1.08	1.50	7.0			
			60	0.56	1575	1.55	1.00	1.50				
	25	1Φ120	50	0.61	1275	1.91	1.11	1.50	6.0			
			60	0.63	1550	1.57	1.31	1.50				
M-4RK25N-C M-4RK25A-C	25	1Φ200	50	0.31	1250	1.95	0.49	1.50	2.5			
			60	0.36	1500	1.63	0.48	1.50				
	25	1Φ220	50	0.29	1275	1.91	0.53	1.50	2.0			
			60	0.29	1575	1.55	0.49	1.50				
	25	1Φ230	50	0.28	1300	1.88	0.55	1.50	2.0			
			60	0.31	1550	1.57	0.51	1.50				
	25	1Φ240	50	0.30	1275	1.91	0.56	1.50	1.5			
			60	0.25	1575	1.55	0.52	1.50				

Gear Box

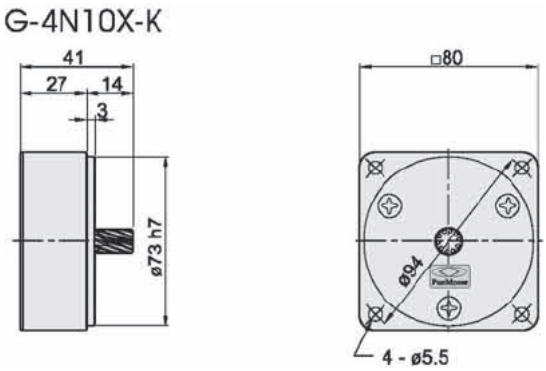


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-4N□-K/L	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{0}_{-0.15}$

Intermediate Gear Box

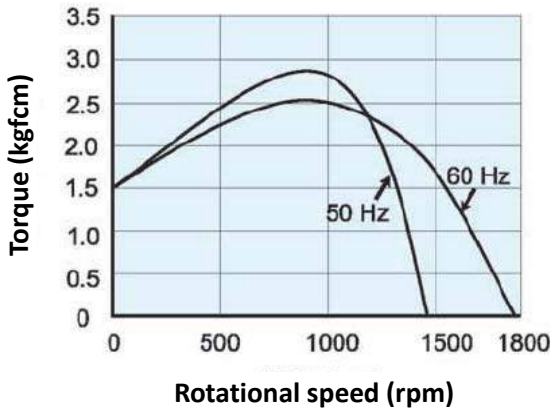


Weight List of Gear Boxes

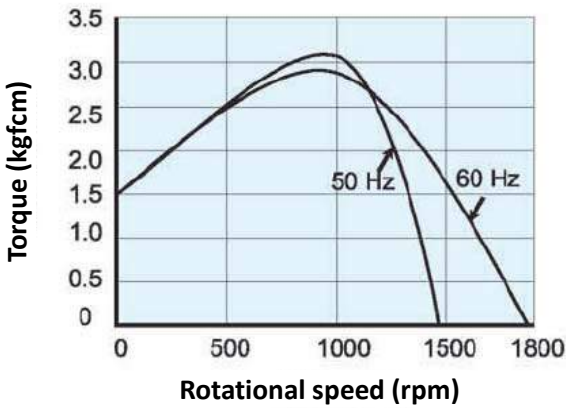
Model	Weight (kg)
G-4N3-K / L~G-4N18-K / L	0.60
G-4N20-K / L~G-4N60-K / L	0.65
G-4N75-K / L~G-4N180-K / L	0.71
G-4N10X-K	0.41

Characteristics of Single-phase Reversible Induction Motors

M-4RK25N-A / M-4RK25A-A



M-4RK25N-C / M-4RK25A-C



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-4N□-K/L	Max. allowable torque (kgfcm)		4.0	6.7	10	11	13	16	20	21	26	32	39	65	80	80	80	80	80	80	80	80	80	80	80

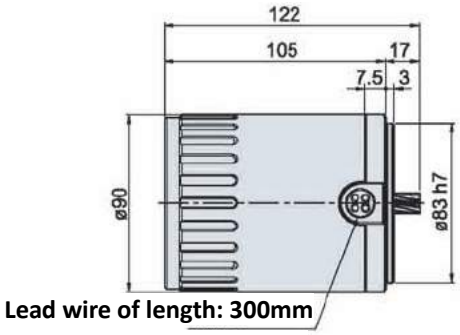
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Reversible Induction Motor 40W

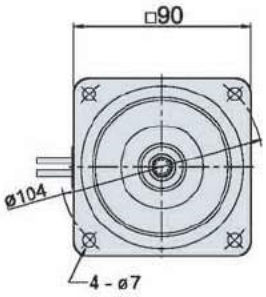
Reversible Motor [Frame 5][40W]

Single-phase Reversible Induction Motor

M-5RK40N-□



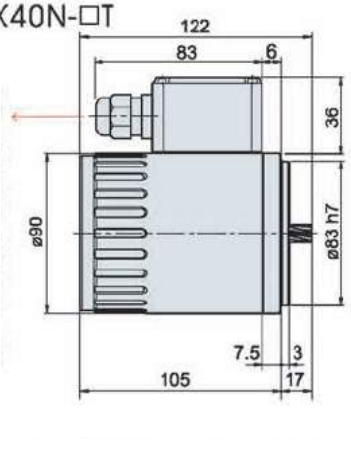
Lead wire of length: 300mm
3 wires, UL3266
AWG20

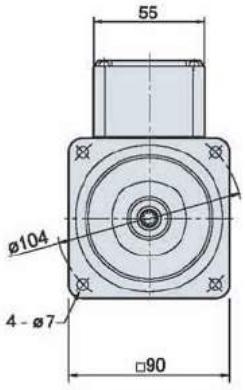


Weight: 2.45 kg

Single-phase Reversible Induction Motors with Connection Box

M-5RK40N-□T

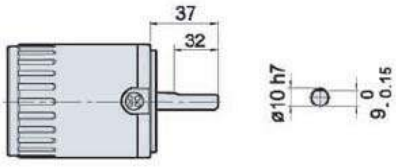




Weight: 2.65kg

Circular Shaft Specification

M-5RK40A-□



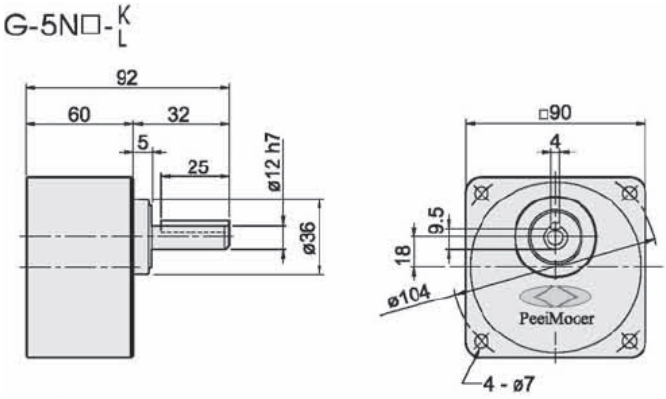
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Reversible Induction Motors 30 min rating
Braking force: 400g

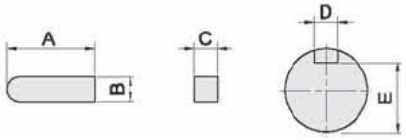
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK40N-A M-5RK40A-A	40	1Φ100	50	0.84	1375	2.84	2.05	2.60	14.0	G-5N□-L	G-5N□-K	G-5N10X-K
			60	0.89	1650	2.36	1.85	2.60				
	40	1Φ110	50	0.84	1375	2.84	2.19	2.60	12.0			
			60	0.83	1675	2.33	2.08	2.60				
	40	1Φ115	50	0.91	1375	2.84	2.29	2.60	12.0			
			60	0.86	1675	2.33	2.17	2.60				
	40	1Φ120	50	0.97	1375	2.84	2.25	2.60	10.0			
			60	0.75	1700	2.29	2.32	2.60				
M-5RK40N-C M-5RK40A-C	40	1Φ200	50	0.36	1350	2.89	0.72	2.60	3.5			
			60	0.45	1625	2.40	0.67	2.60				
	40	1Φ220	50	0.34	1375	2.84	0.80	2.60	3.0			
			60	0.38	1650	2.36	0.73	2.60				
	40	1Φ230	50	0.37	1375	2.84	0.85	2.60	3.0			
			60	0.36	1675	2.33	0.75	2.60				
	40	1Φ240	50	0.33	1375	2.84	0.87	2.60	2.5			
			60	0.32	1675	2.33	0.78	2.60				

Gear Box

G-5N□-$^{K}_{L}$



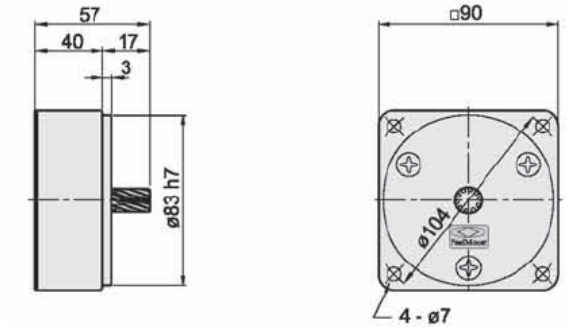
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-5N10X-K

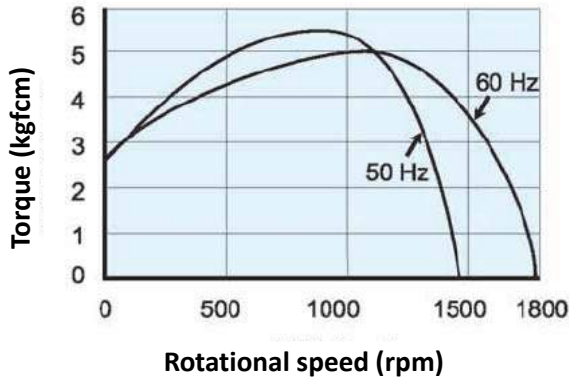


Weight List of Gear Boxes

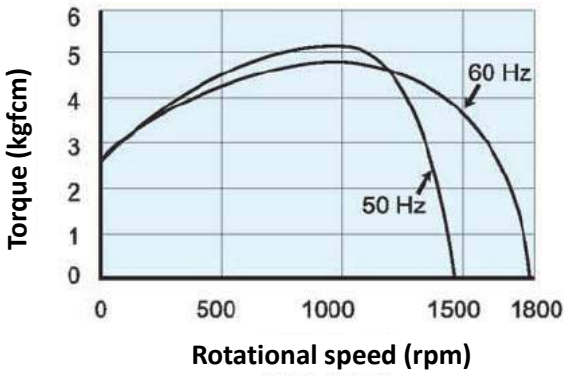
Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

Characteristics of Single-phase Reversible Induction Motors

M-5RK40N-A / M-5RK40A-A



M-5RK40N-C / M-5RK40A-C



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

Coupled intermediate gear box

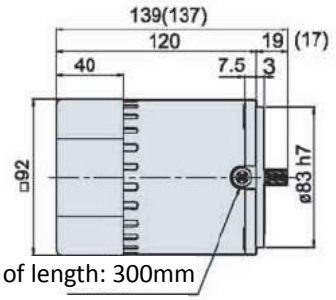
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

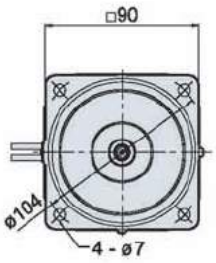
Reversible Induction Motor 60W

Reversible Motor [Frame 5][60W]

Single-phase Reversible Induction Motor

M-5RK60$^{N}_{U}$-□F





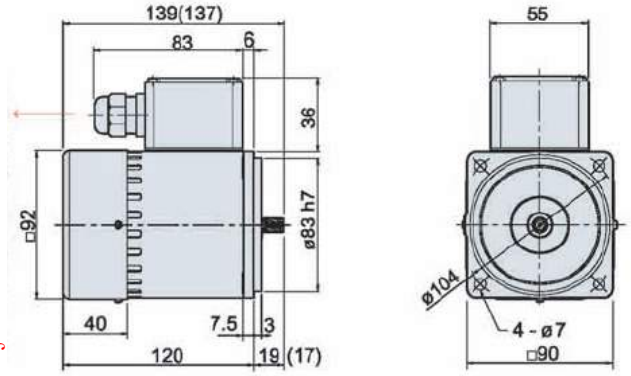
Lead wire of length: 300mm
3 wires, UL3266
AWG20

Weight: 2.6 kg

* The dimensions inside the brackets belong to N-type gear shafts, which are coupled to those of the gear box and the intermediate gear box, and should match with G-5N□-$^{K}_{L}$

Single-phase Reversible Induction Motors with Connection Box

M-5RK60$^{N}_{U}$-□FT



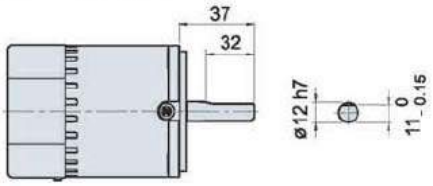
PG-09 applicable cable ϕ4.5~ϕ8

he dimensions inside the brackets belong to N-type gear shafts, which re coupled to those of the gear box and the intermediate gear box, and should match with G-5N□-$^{K}_{L}$

Weight: 2.8kg

Circular Shaft Specification

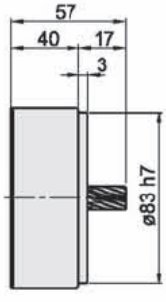
M-5RK60A-□F

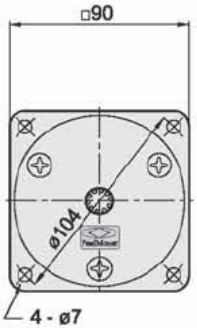


Note: For applicable machine types, please refer to the models. We also provide customized motors.

Intermediate Gear Box

G-5N10X-K



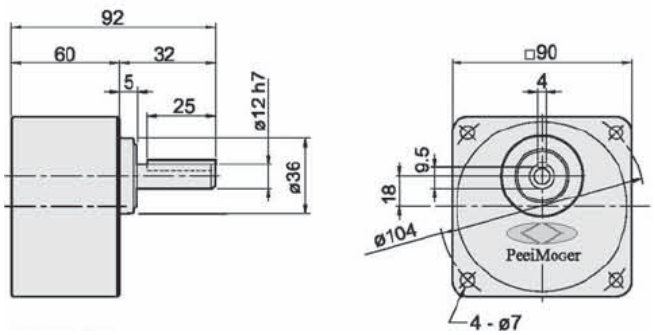


Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

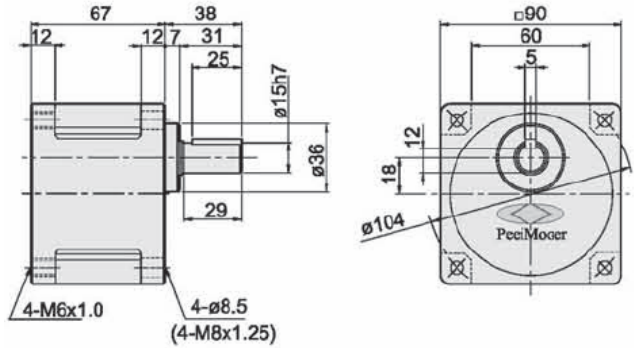
Gear Box

G-5N□-$^{K}_{L}$



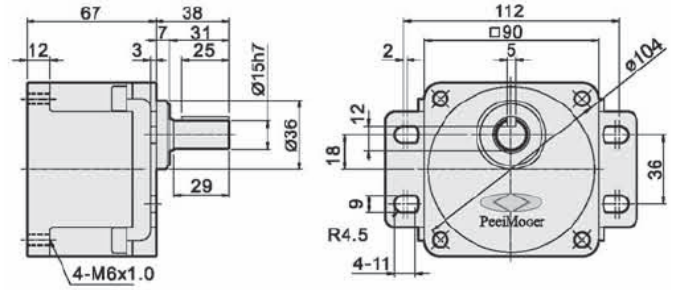
Gear Box

G-5U□-K



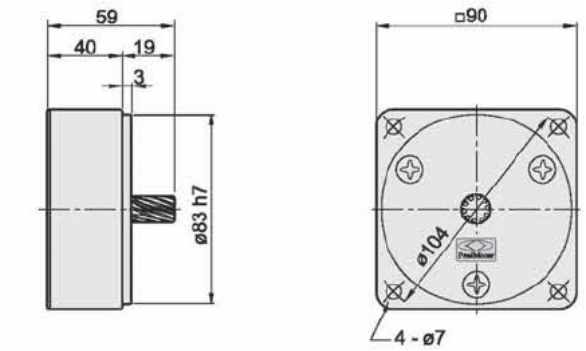
Gear Box with Foot Stand

G-5U□-KF

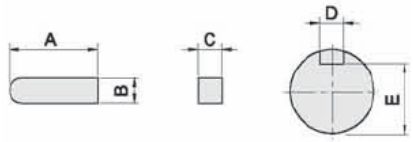


Intermediate Gear Box

G-5U10X-K

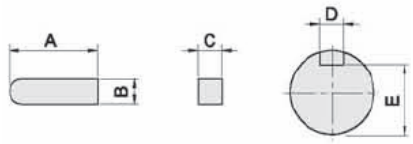


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{\ 0}_{-0.15}$

Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-K	25	$5^{\ 0}_{-0.03}$	$5^{\ 0}_{-0.03}$	$5^{+0.05}_{\ 0}$	$12^{\ 0}_{-0.15}$

Weight List of Gear Boxes

Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73
G-5U10X-K	0.64

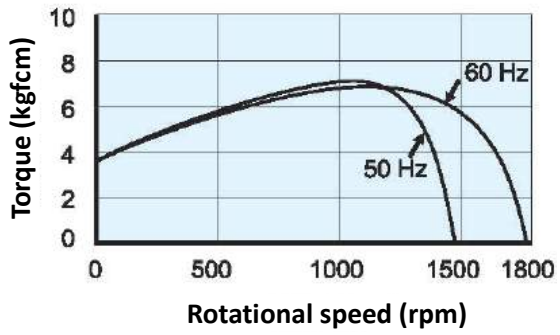
Reversible Induction Motor 60W

Specifications of Single-phase Reversible Induction Motors 30 min rating
Braking force: 400g

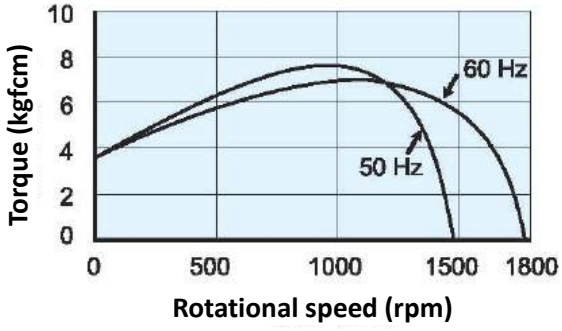
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK60$^{N}_{U}$-AF M-5RK60A-AF	60	1Φ100	50	1.12	1350	4.33	2.15	3.80	20.0	G-5N□-L -	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
			60	1.24	1650	3.54	2.14	3.80				
	60	1Φ110	50	1.08	1375	4.25	2.58	3.80	18.0			
			60	1.10	1675	3.49	2.18	3.80				
	60	1Φ115	50	1.11	1375	4.25	2.41	3.80	18.0			
			60	1.15	1675	3.49	2.29	3.80				
	60	1Φ120	50	1.15	1375	4.25	2.44	3.80	16.0			
			60	1.13	1675	3.49	2.39	3.80				
M-5RK60$^{N}_{U}$-CF M-5RK60A -CF	60	1Φ200	50	0.56	1350	4.33	1.12	3.80	5.0			
			60	0.59	1650	3.54	1.02	3.80				
	60	1Φ220	50	0.57	1375	4.25	1.26	3.80	5.0			
			60	0.60	1675	3.49	1.14	3.80				
	60	1Φ230	50	0.54	1375	4.25	1.23	3.80	4.0			
			60	0.52	1675	3.49	1.19	3.80				
	60	1Φ240	50	0.56	1375	4.25	1.28	3.80	4.0			
			60	0.50	1675	3.49	1.20	3.80				

Characteristics of Single-phase Reversible Induction Motors

M-5RK60$^{N}_{U}$-AF / M-5RK60A-AF



M-5RK60$^{N}_{U}$-CF / M-5RK60A-CF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□$^{K}_{L}$	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Office Environment

"He who promises too much means nothing." -- Lao Zi, founder of Taoism
"Those who believe themselves never suspect anyone and are trusted by everyone, while those who suspect themselves never trust anyone and are suspected by everyone." -- Shi Chi, the Records of the Grand Historian

◆ Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-K	Max. allowable torque (kgfcm)		10	16	24	27	32	40	48	54	64	77	93	155	200	200	200	200	200	200	200	200	200	200	200

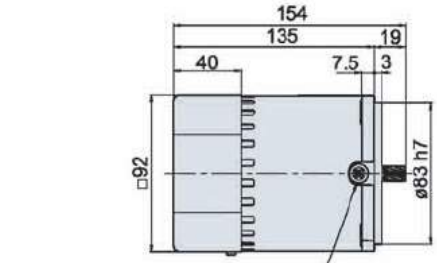
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Reversible Induction Motor 90W

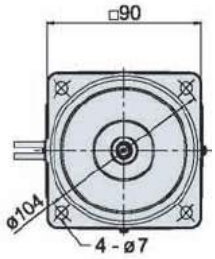
Reversible Motor [Frame 5][90W]

Single-phase Reversible Induction Motor

M-5RK90U-□F



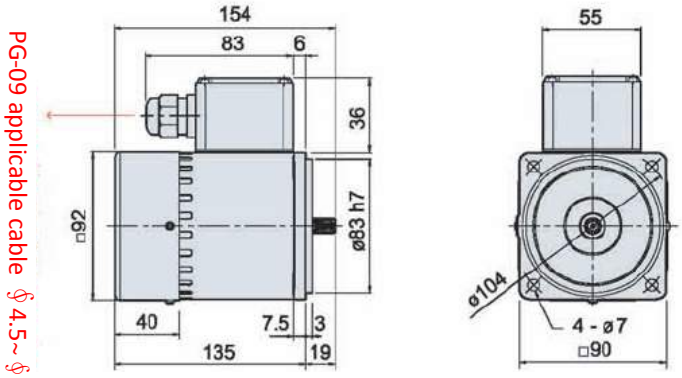
Lead wire of length: 300mm
3 wires, UL3266
AWG20



Weight: 3.2 kg

Single-phase Reversible Induction Motors with Connection Box

M-5RK90U-□FT

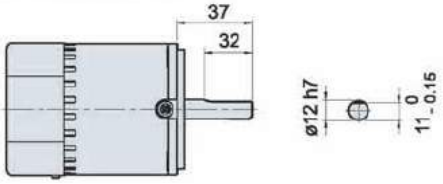


PG-09 applicable cable ϕ4.5~ϕ8

Weight: 3.4kg

Circular Shaft Specification

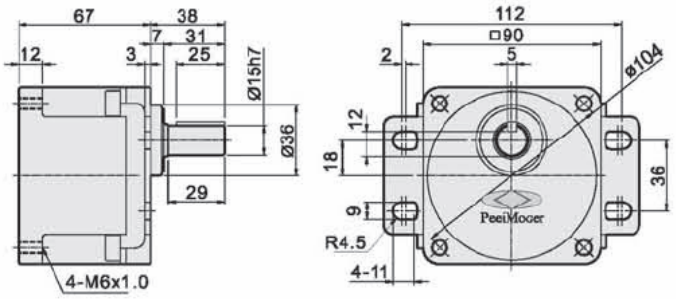
M-5RK90A-□F



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box with Foot Stand

G-5U□-KF

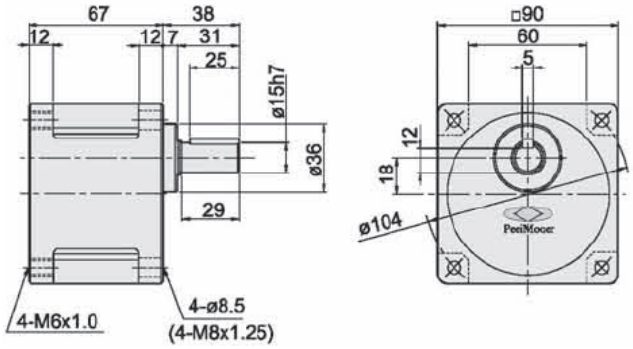


Weight List of Gear Boxes

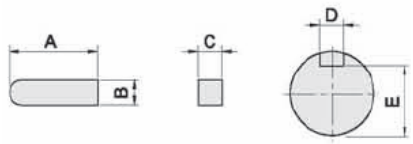
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



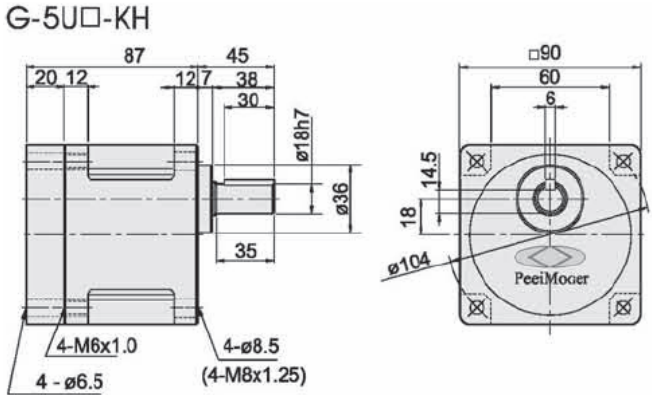
Gear Box: Key and Keyway Dimension



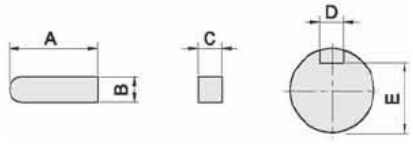
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



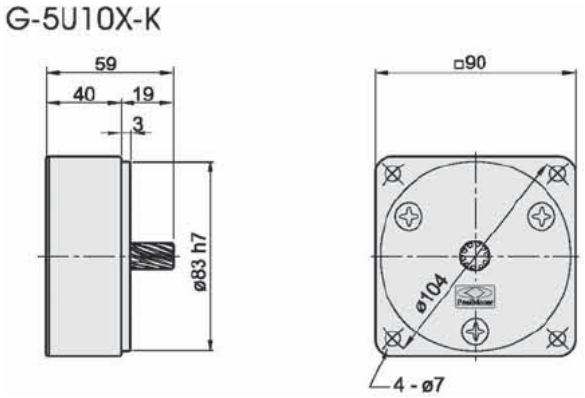
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

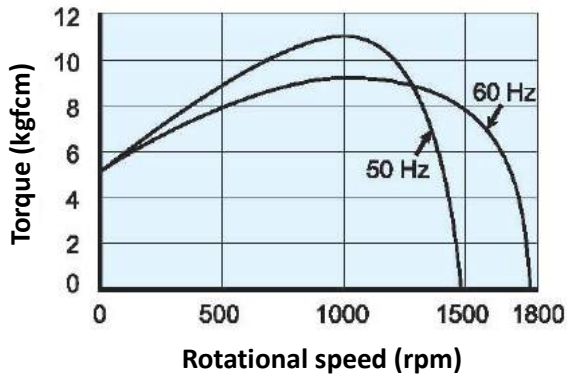
Reversible Induction Motor 90W

Specifications of Single-phase Reversible Induction Motors 30 min rating
Braking force: 400g

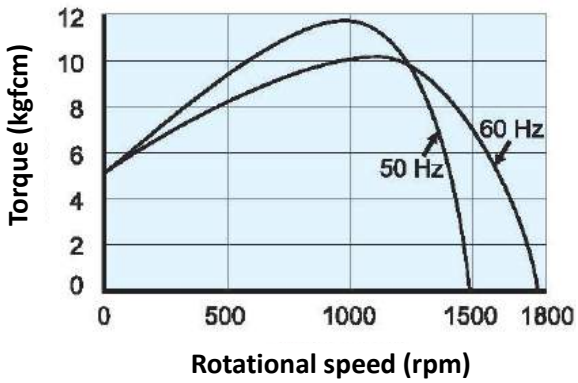
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK60U-AF M-5RK90A-AF	90	1Φ100	50	1.72	1350	6.49	3.86	5.20	28.0	-	G-5U□-K G-5U□-KH	G-5N10X-K G-5U10X-K
			60	1.70	1650	5.31	3.02	5.20				
	90	1Φ110	50	1.43	1375	6.37	3.83	5.20	25.0			
			60	1.58	1675	5.23	3.51	5.20				
	90	1Φ115	50	1.50	1375	6.37	3.94	5.20	25.0			
			60	1.63	1675	5.23	3.69	5.20				
	90	1Φ120	50	1.66	1375	6.37	3.97	5.20	20.0			
			60	1.64	1675	5.23	4.59	5.20				
M-5RK90U-CF M-5RK90A-CF	90	1Φ200	50	0.82	1350	6.49	1.83	5.20	7.0			
			60	0.87	1650	5.31	1.63	5.20				
	90	1Φ220	50	0.68	1375	6.37	1.93	5.20	6.0			
			60	0.75	1675	5.23	1.79	5.20				
	90	1Φ230	50	0.74	1375	6.37	2.06	5.20	6.0			
			60	0.80	1675	5.23	1.93	5.20				
	90	1Φ240	50	0.81	1375	6.37	2.10	5.20	5.0			
			60	0.81	1675	5.23	2.31	5.20				

Characteristics of Single-phase Reversible Induction Motors

M-5RK90U-AF / M-5RK90A-AF



M-5RK90U-CF / M-5RK90A-CF

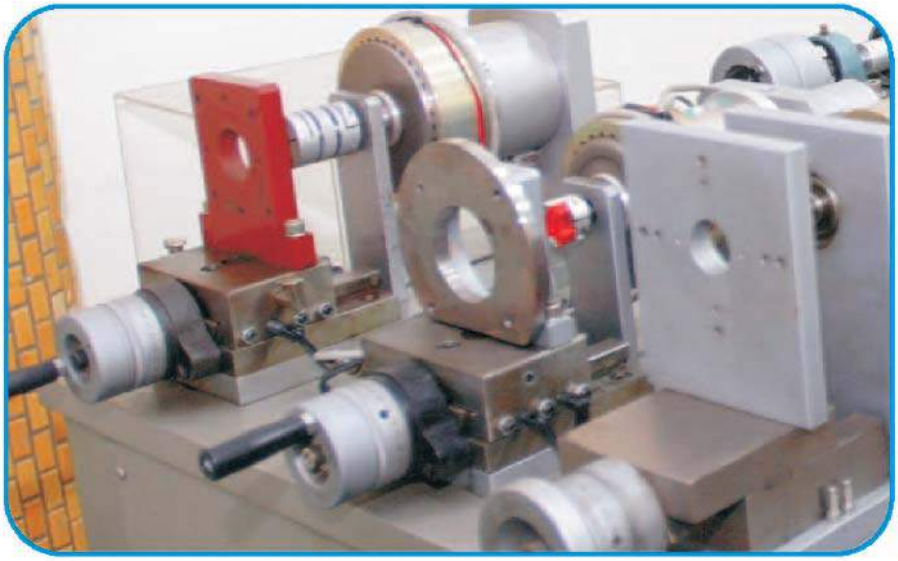


Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Motor Testing Machine



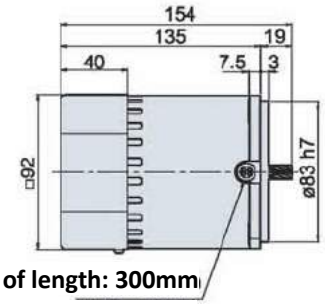
Five Motives for Success:
Keep your dreams
Lock your targets
Stick to your faith
Act affirmatively
Take the lead

Reversible Induction Motor 120W

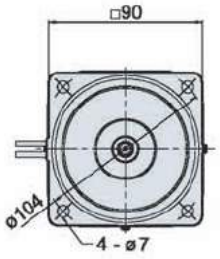
Reversible Motor [Frame 5][120W]

Single-phase Reversible Induction Motor

M-5RK120U -□F



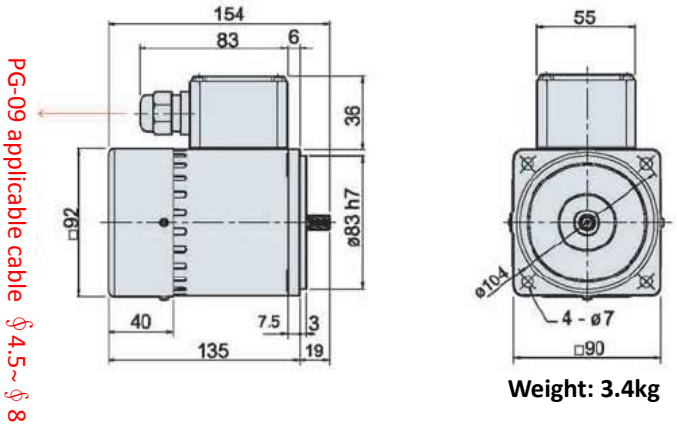
Lead wire of length: 300mm
3 wires, UL3266
AWG20



Weight: 3.2 kg

Single-phase Reversible Induction Motors with Connection Box

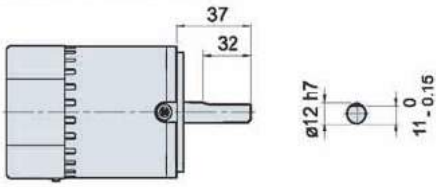
M-5RK120U-□FT



Weight: 3.4kg

Circular Shaft Specification

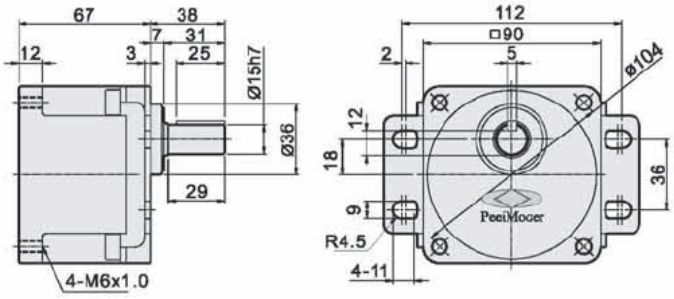
M-5RK120A-□F



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box with Foot Stand

G-5U□-KF

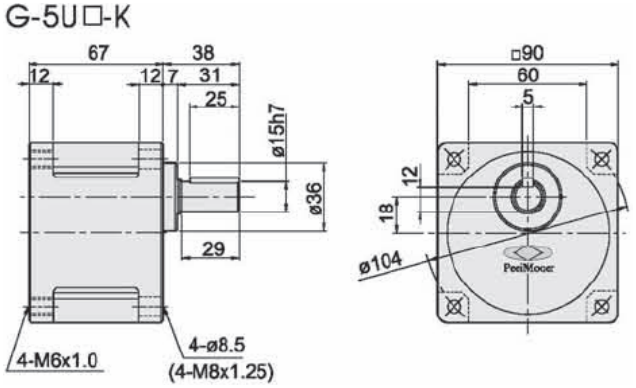


Weight List of Gear Boxes

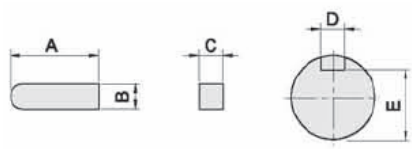
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



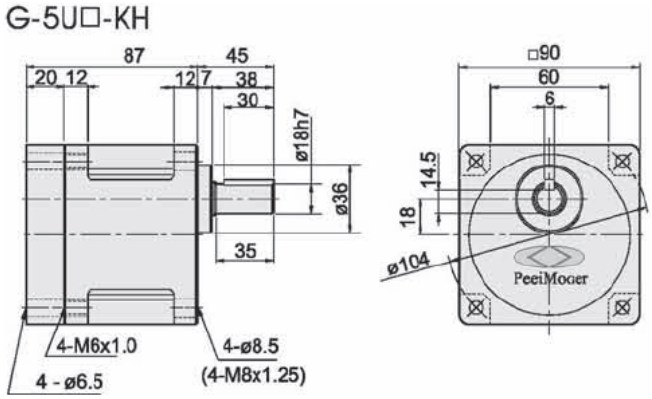
Gear Box: Key and Keyway Dimension



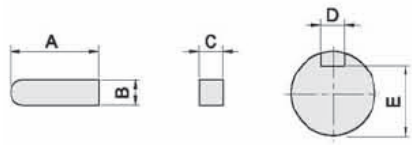
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



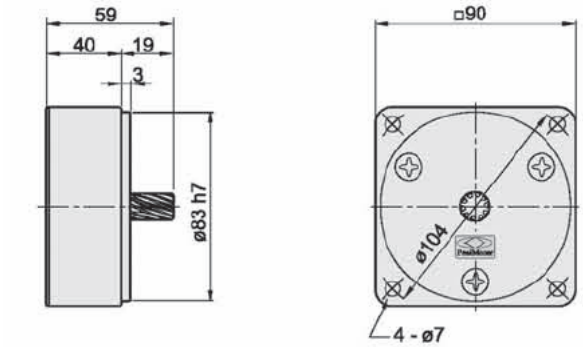
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

Maximum Allowable Torque of Gear Boxes

Model			Coupled intermediate gear box																						
	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

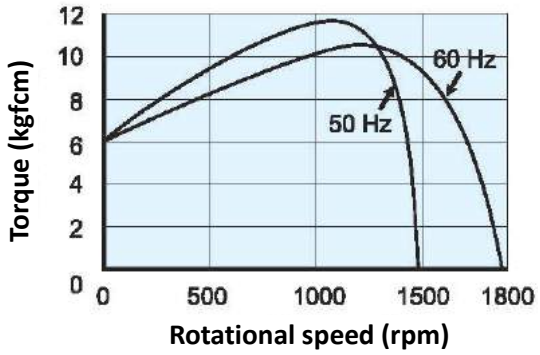
Reversible Induction Motor 120W

Specifications of Single-phase Reversible Induction Motors 30 min rating
Braking force: 400g

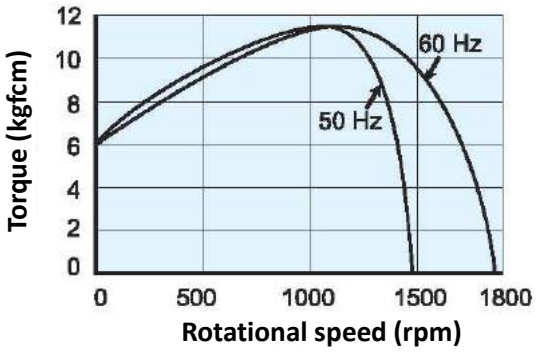
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK120U-AF M-5RK120A-AF	120	1Φ100	50	2.26	1300	8.99	4.07	6.00	30.0	-	G-5U□-K G-5U□-KH	G-5N10X-K G-5U10X-K
			60	2.00	1600	7.30	3.04	6.00				
	120	1Φ110	50	1.82	1325	8.82	3.68	6.00	28.0			
			60	1.83	1650	7.08	3.41	6.00				
	120	1Φ115	50	1.72	1350	8.66	3.89	6.00	28.0			
			60	1.88	1650	7.08	3.53	6.00				
	120	1Φ120	50	1.70	1350	8.66	3.90	6.00	25.0			
			60	1.93	1650	7.08	4.12	6.00				
M-5RK120U-CF M-5RK120A-CF	120	1Φ200	50	1.02	1300	8.99	1.80	6.00	8.0			
			60	1.09	1600	7.30	1.61	6.00				
	120	1Φ220	50	0.89	1325	8.82	1.91	6.00	7.0			
			60	0.96	1625	7.19	1.76	6.00				
	120	1Φ230	50	0.83	1350	8.66	2.04	6.00	7.0			
			60	0.93	1650	7.08	1.88	6.00				
	120	1Φ240	50	0.83	1350	8.66	2.04	6.00	6.0			
			60	0.99	1650	7.08	2.36	6.00				

Characteristics of Single-phase Reversible Induction Motors

M-5RK120U-AF / M-5RK120A-AF



M-5RK120U-CF / M-5RK120A-CF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Gear Honing Machine

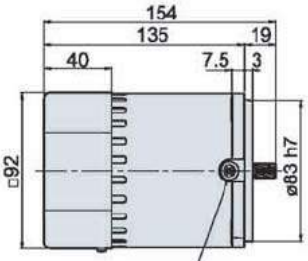
The most important thing in life is not the triumph but the struggle. Jiu Fiorentina, France
The pyramid is built with stones piece by piece.
Genius is one percent inspiration and ninety-nine percent perspiration. Shakespeare, Britain

Reversible Induction Motor 150W

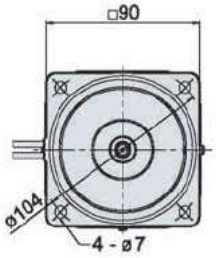
Reversible Motor [Frame 5][150W]

Single-phase Reversible Induction Motor

M-5RK150U -□F



Lead wire of length: 300mm
3 wires, UL3266
AWG20

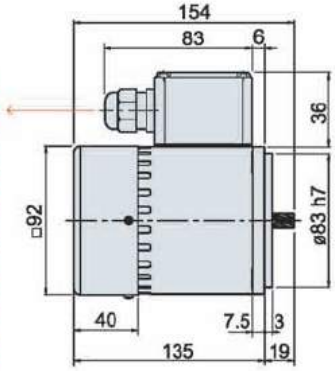


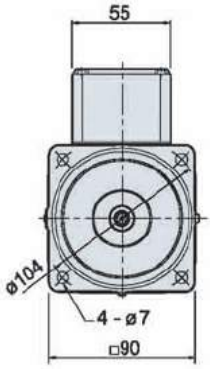
Weight: 3.2 kg

Single-phase Reversible Induction Motors with Connection Box

M-5RK150U-□FT

PG-09 applicable cable ϕ4.5~ϕ8

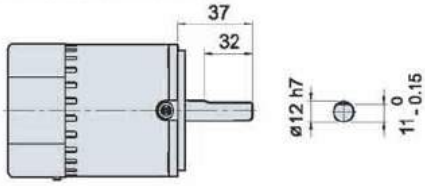




Weight: 3.4kg

Circular Shaft Specification

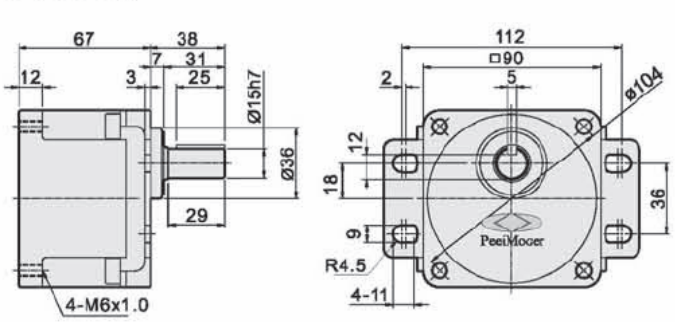
M-5RK150A-□F



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box with Foot Stand

G-5U□-KF

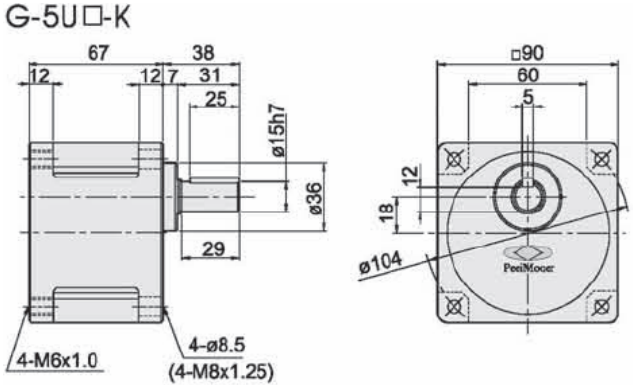


Weight List of Gear Boxes

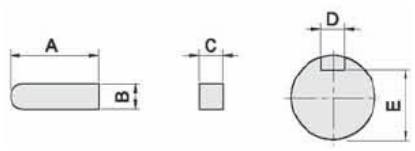
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



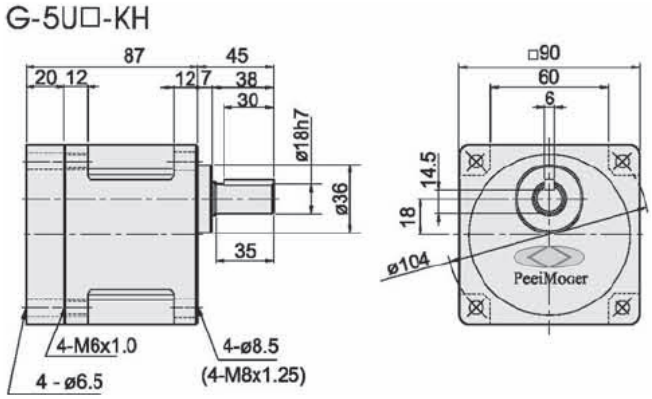
Gear Box: Key and Keyway Dimension



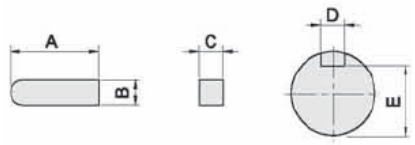
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



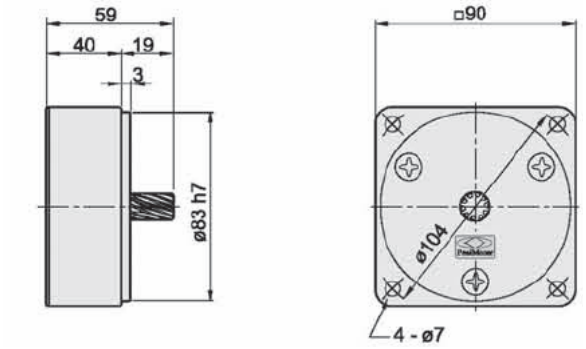
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

Maximum Allowable Torque of Gear Boxes

Model			Coupled intermediate gear box																						
	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

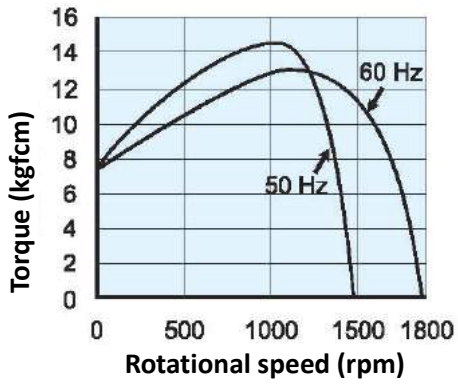
Reversible Induction Motor 150W

Specifications of Single-phase Reversible Induction Motors 30 min rating
Braking force: 400g

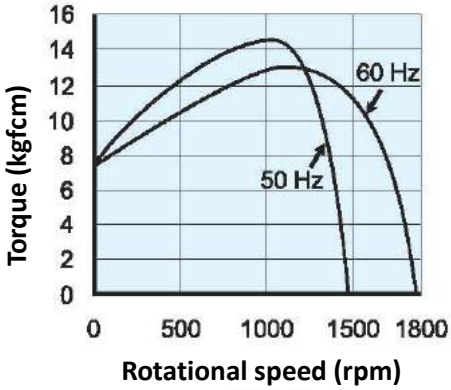
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK150U-AF M-5RK150A-AF	150	1Φ100	50	2.88	1250	11.68	4.64	7.50	36.0	-	G-5U□-K G-5U□-KH	G-5N10X-K G-5U10X-K
			60	2.56	1575	9.27	3.52	7.50				
	150	1Φ110	50	2.32	1300	11.24	4.42	7.50	32.0			
			60	2.47	1600	9.13	3.80	7.50				
	150	1Φ115	50	2.13	1325	11.02	4.44	7.50	32.0			
			60	2.34	1650	8.85	4.12	7.50				
	150	1Φ120	50	2.11	1325	11.02	4.26	7.50	28.0			
			60	2.13	1650	8.85	4.31	7.50				
M-5RK150U-CF M-5RK150A-CF	150	1Φ200	50	1.12	1300	11.24	2.38	7.50	9.0			
			60	1.23	1600	9.13	2.15	7.50				
	150	1Φ220	50	1.08	1325	11.02	2.43	7.50	8.0			
			60	1.26	1625	8.99	2.69	7.50				
	150	1Φ230	50	1.18	1325	11.02	2.32	7.50	7.0			
			60	1.23	1650	8.85	2.81	7.50				
	150	1Φ240	50	1.36	1300	11.24	2.59	7.50	6.0			
			60	1.00	1625	8.99	2.54	7.50				

Characteristics of Single-phase Reversible Induction Motors

M-5RK150U-AF / M-5RK150A-AF



M-5RK150U-CF / M-5RK150A-CF



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Production Line

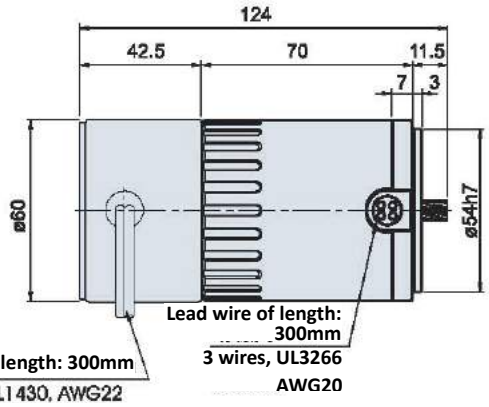
I know that I know nothing. Socrates
Since you are ignorant, do not be ashamed to learn. Washington

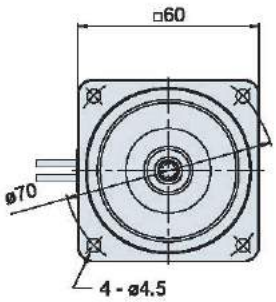
Electromagnetic Brake Motor 6W

Electromagnetic Brake Motor [Frame 2][6W]

Single-phase electromagnetic brake motor

M-2RK6N-□S

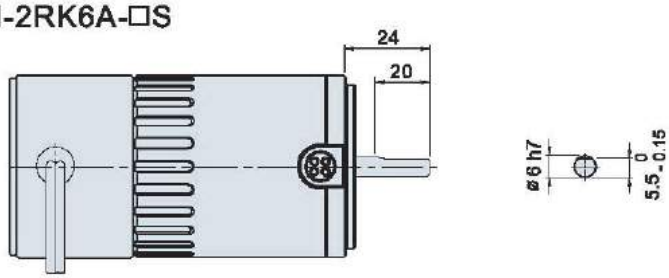




Weight: 1.15 kg

Circular Shaft Specification

M-2RK6A-□S



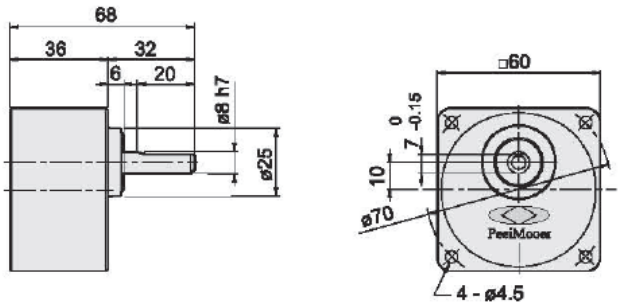
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Electromagnetic Brake Motors 30 min rating

Motor model	Voltage V	Freq-uency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-2RK6N-AS M-2RK6A-AS	1Φ100	50	0.19	1350	0.43	4.00	0.04	1.00	0.31	0.50	3.5	G-2N□-L	G-2N□-K	G-2N10X-K
		60	0.20	1650	0.36	4.00	0.04	1.00	0.31	0.50				
	1Φ110	50	0.21	1300	0.45	5.00	0.04	1.00	0.33	0.50	3.0			
		60	0.20	1625	0.36	5.00	0.04	1.00	0.32	0.50				
	1Φ115	50	0.22	1325	0.44	5.00	0.04	1.00	0.34	0.50	3.0			
		60	0.20	1625	0.36	5.00	0.04	1.00	0.33	0.50				
	1Φ120	50	0.23	1300	0.45	6.00	0.05	1.00	0.35	0.50	2.5			
		60	0.19	1625	0.36	6.00	0.05	1.00	0.33	0.50				
M-2RK6N-CS M-2RK6A-CS	1Φ200	50	0.11	1300	0.45	5.00	0.02	1.00	0.15	0.50	1.0			
		60	0.13	1575	0.37	5.00	0.02	1.00	.16	0.50				
	1Φ220	50	0.11	1300	0.45	7.00	0.03	1.00	0.15	0.50	0.8			
		60	0.11	1625	0.36	7.00	0.03	1.00	0.16	0.50				
	1Φ230	50	0.11	1325	0.44	8.00	0.03	1.00	0.16	0.50	0.8			
		60	0.12	1625	0.36	8.00	0.03	1.00	0.17	0.50				
	1Φ240	50	0.11	1300	0.45	8.00	0.03	1.00	0.16	0.50	0.6			
		60	0.10	1625	0.36	8.00	0.03	1.00	0.15	0.50				

Gear Box

G-2N□-$^{K}_{L}$

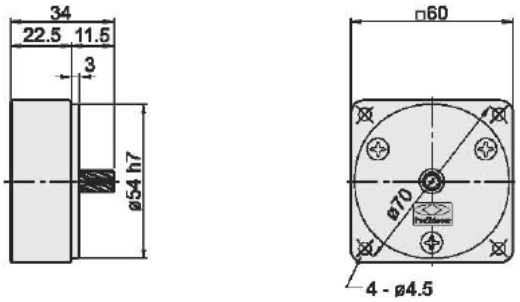


Weight List of Gear Boxes

Model	Weight (kg)
G-2N3-K / L~G-2N18-K / L	0.30
G-2N20-K / L~G-2N60-K / L	0.31
G-2N75-K / L~G-2N180-K / L	0.33
G-2N10X-K	0.20

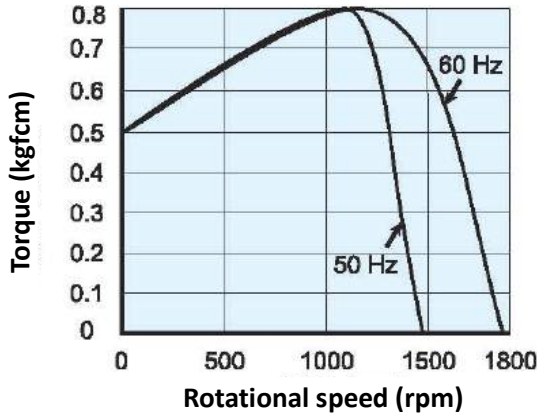
Intermediate Gear Box

G-2N10X-K

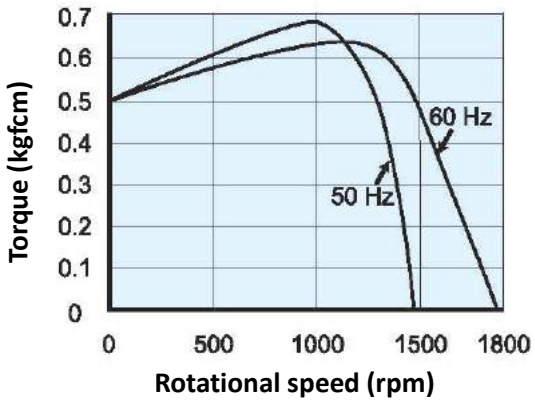


Characteristics of Single-phase Electromagnetic Brake Motors

M-2RK6N-AS / M-2RK6A-AS



M-2RK6N-CS / M-2RK6A-CS



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		1.0	1.6	2.5	2.7	3.4	4.1	5.0	5.4	6.7	8.1	9.7	16	23	25	25	25	25	25	25	25	25	25	25

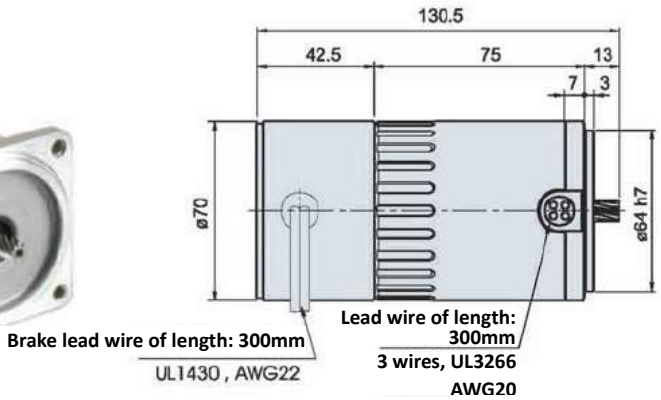
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

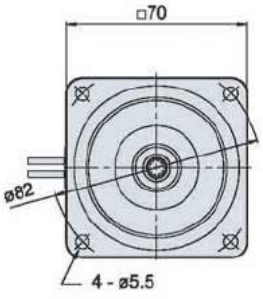
Electromagnetic Brake Motor 15W

Electromagnetic Brake Motor [Frame 3][15W]

Single-phase electromagnetic brake motor

M-3RK15N-□S

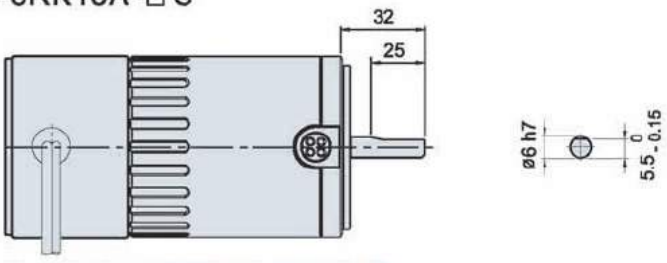




Weight: 1.50 kg

Circular Shaft Specification

M-3RK15A-□ S



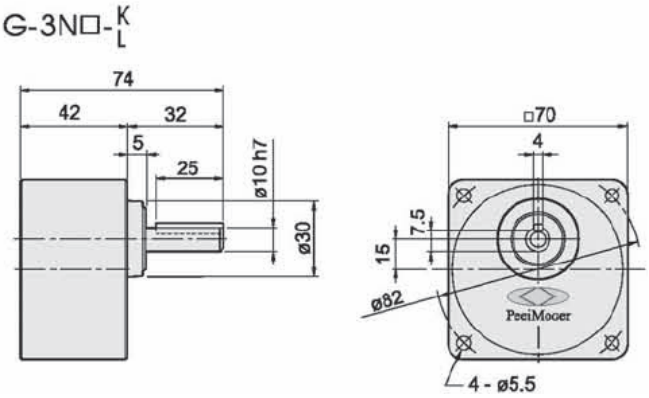
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Electromagnetic Brake Motors 30 min rating

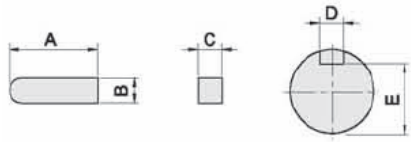
Motor model	Voltage V	Freq-uency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-3RK15N-AS M-3RK15A-AS	1Φ100	50	0.37	1225	1.19	4.00	0.04	1.00	0.52	0.90	6.0	G-3N□-L	G-3N□-K	G-3N10X-K
		60	0.40	1525	0.96	4.00	0.04	1.00	0.51	0.90				
	1Φ110	50	0.34	1250	1.17	5.00	0.04	1.00	0.55	0.90	5.0			
		60	0.34	1575	0.93	5.00	0.04	1.00	0.52	0.90				
	1Φ115	50	0.35	1275	1.15	5.00	0.04	1.00	0.58	0.90	5.0			
		60	0.34	1600	0.92	5.00	0.04	1.00	0.55	0.90				
	1Φ120	50	0.38	1250	1.17	6.00	0.05	1.00	0.61	0.90	4.0			
		60	0.32	1600	0.92	6.00	0.05	1.00	0.57	0.90				
M-3RK15N-CS M-3RK15A-CS	1Φ200	50	0.18	1275	1.15	5.00	0.02	1.00	0.27	0.90	1.6			
		60	0.20	1575	0.93	5.00	0.02	1.00	0.26	0.90				
	1Φ220	50	0.17	1275	1.15	7.00	0.03	1.00	0.28	0.90	1.2			
		60	0.16	1600	0.92	7.00	0.03	1.00	0.26	0.90				
	1Φ230	50	0.17	1300	1.13	8.00	0.03	1.00	0.30	0.90	1.2			
		60	0.16	1625	0.90	8.00	0.03	1.00	0.28	0.90				
	1Φ240	50	0.19	1275	1.15	8.00	0.03	1.00	0.31	0.90	1.0			
		60	0.15	1600	0.92	8.00	0.03	1.00	0.28	0.90				

Gear Box

G-3N□-$^{K}_{L}$



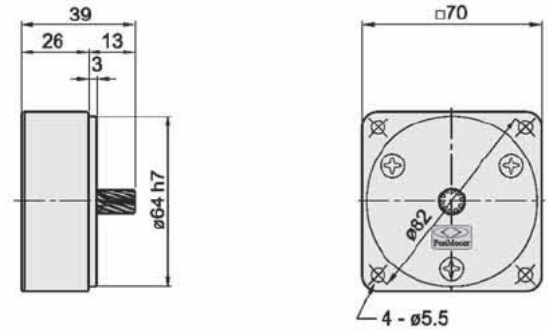
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-3N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-3N10X-K

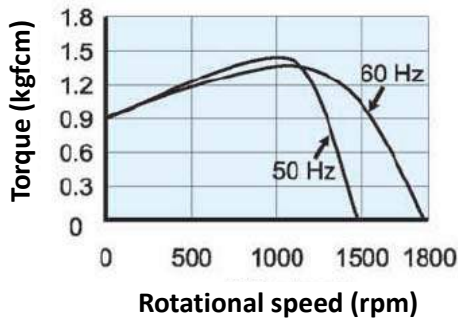


Weight List of Gear Boxes

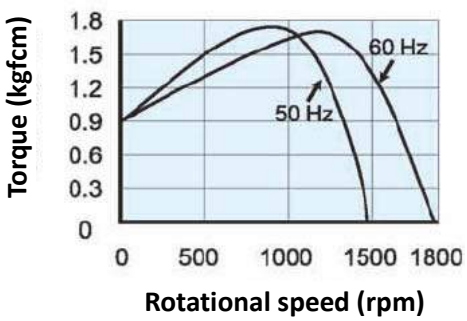
Model	Weight (kg)
G-3N3-K / L~G-3N18-K / L	0.44
G-3N20-K / L~G-3N60-K / L	0.48
G-3N75-K / L~G-3N180-K / L	0.53
G-3N10X-K	0.32

Characteristics of Single-phase Electromagnetic Brake Motors

M-3RK15N-AS / M-3RK15A-AS



M-3RK15N-CS / M-3RK15A-CS



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-3N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		2.4	4.0	6.0	6.7	8.2	10	12	13	16	19	23	39	50	50	50	50	50	50	50	50	50	50	50

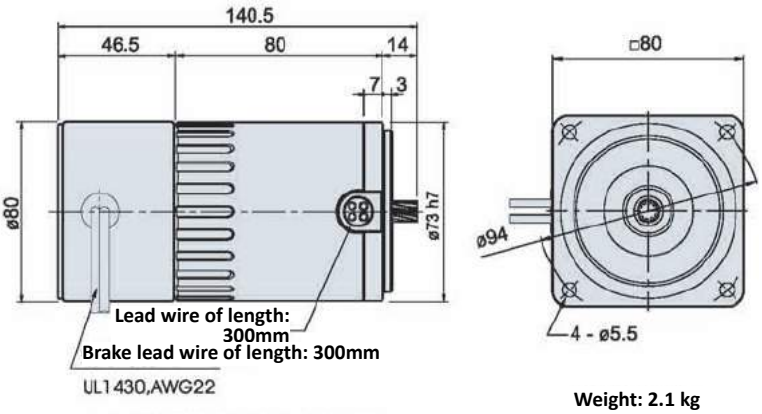
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Electromagnetic Brake Motor 25W

Electromagnetic Brake Motor [Frame 4][25W]

Single-phase/Tri-phase Electromagnetic Brake Motor

M-4RK25N-□S

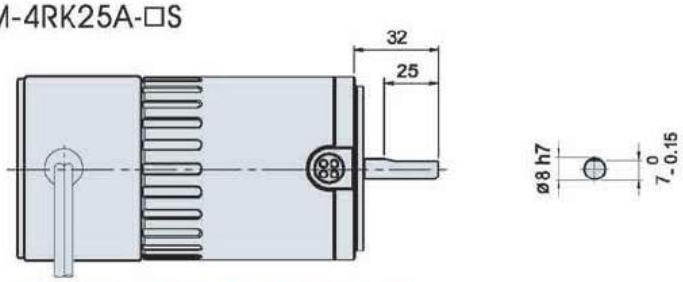


Weight: 2.1 kg

Single-phase: 3 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20

Circular Shaft Specification

M-4RK25A-□S



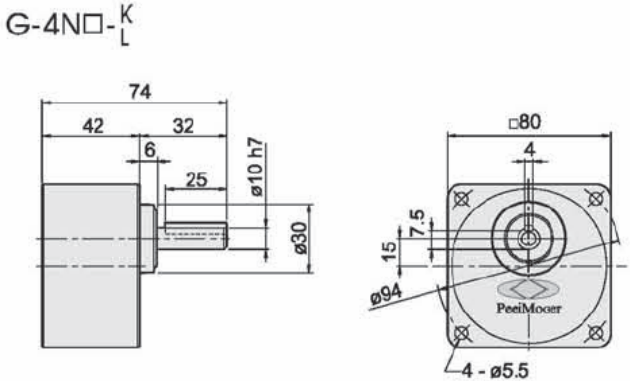
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Electromagnetic Brake Motors 30 min rating

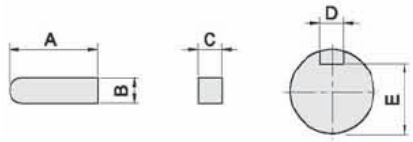
Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-4RK25N-AS M-4RK25A-AS	1Φ100	50	0.60	1225	1.99	4.00	0.04	2.00	0.98	1.50	8.0	G-4N□-L	G-4N□-K	G-4N10X-K
		60	0.59	1525	1.60	4.00	0.04	2.00	0.89	1.50				
	1Φ110	50	0.62	1225	1.99	5.00	0.04	2.00	1.03	1.50	7.0			
		60	0.60	1500	1.63	5.00	0.04	2.00	0.96	1.50				
	1Φ115	50	0.57	1300	1.88	5.00	0.04	2.00	1.08	1.50	7.0			
		60	0.56	1575	1.55	5.00	0.04	2.00	1.00	1.50				
	1Φ120	50	0.61	1275	1.91	6.00	0.05	2.00	1.11	1.50	6.0			
		60	0.63	1550	1.57	6.000	0.05	2.00	1.31	1.50				
M-4RK25N-CS M-4RK25A-CS	1Φ200	50	0.31	1250	1.95	6.00	0.03	2.00	0.49	1.50	2.5			
		60	0.36	1500	1.63	6.00	0.03	2.00	0.48	1.50				
	1Φ220	50	0.29	1275	1.91	7.00	.03	2.00	0.53	1.50	2.0			
		60	0.29	1575	1.55	7.00	0.03	2.00	0.49	1.50				
	1Φ230	50	0.28	1300	1.88	9.00	0.04	2.00	0.55	1.50	2.0			
		60	0.31	1550	1.57	9.00	0.04	2.00	0.51	1.50				
	1Φ240	50	0.30	1275	1.91	9.00	0.04	2.00	0.56	1.50	1.5			
		60	0.25	1575	1.55	9.00	0.04	2.00	0.52	1.50				

Gear Box

G-4N□-$^{K}_{L}$



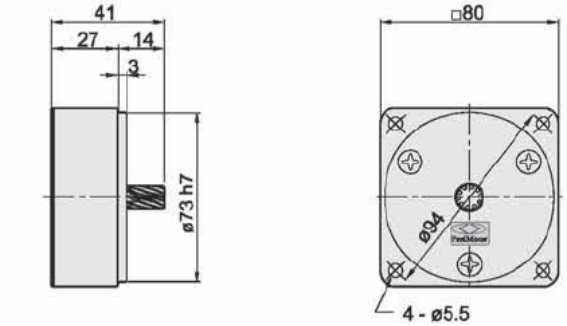
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-4N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-4N10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-4N3-K / L~G-4N18-K / L	0.60
G-4N20-K / L~G-4N60-K / L	0.65
G-4N75-K / L~G-4N180-K / L	0.71
G-4N10X-K	0.41

Specifications of Tri-phase Electromagnetic Brake Motors Continuous rating

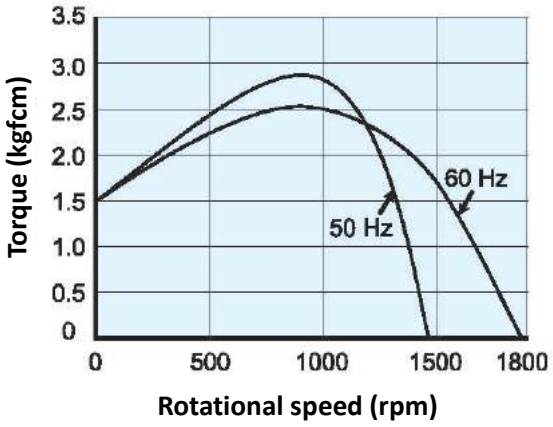
Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-4RK25N-SS M-4RK25A-SS	3Φ200	50	0.26	1325	1.84	6.00	0.03	2.00	0.66	5.00	-	G-4N□-L	G-4N□-K	G-4N10X-K
		60	0.21	1575	1.55	6.00	0.03	2.00	0.61	5.00				
	3Φ220	50	0.29	1350	1.81	7.00	0.03	2.00	0.72	5.00	-			
		60	0.23	1625	1.50	7.00	0.03	2.00	0.68	5.00				
	3Φ230	50	0.31	1375	1.77	9.00	0.04	2.00	0.76	5.00	-			
		60	0.24	1625	1.50	9.00	0.04	2.00	0.71	5.00				
	3Φ380	50	0.16	1350	1.81	7.00	0.03	2.00	0.41	5.00	-			
M-4RK25N-US M-4RK25A-US	3Φ400	50	0.17	1375	1.77	7.00	0.03	2.00	0.43	5.00	-			
		60	0.13	1625	1.50	7.00	0.03	2.00	0.40	5.00				
	3Φ415	50	0.11	1325	1.84	7.00	0.03	2.00	0.31	5.00	-			
		60	0.10	1575	1.55	7.00	0.03	2.00	0.29	5.00				
	3Φ440	50	0.12	1350	1.81	7.00	0.03	2.00	0.32	5.00	-			
		60	0.10	1625	1.50	7.00	0.03	2.00	0.30	5.00				
	3Φ460	50	0.13	1375	1.77	7.00	0.03	2.00	0.34	5.00	-			
		60	0.10	1625	1.50	7.00	0.03	2.00	0.32	5.00				

The brake service voltage is AC 220V.

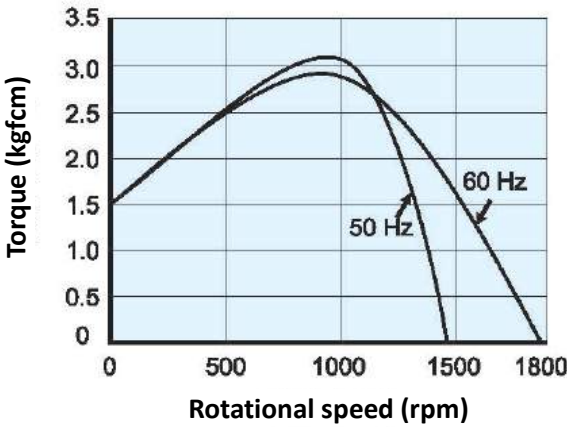
Electromagnetic Brake Motor 25W

Characteristics of Single-phase Electromagnetic Brake Motors

M-4RK25N-AS / M-4RK25A-AS

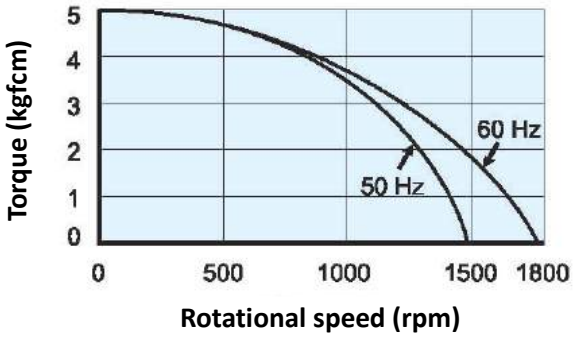


M-4RK25N-CS / M-4RK25A-CS

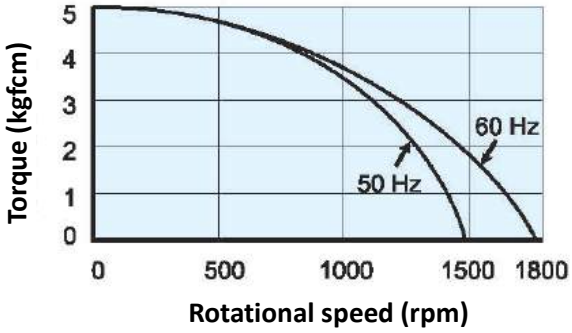


Characteristics of Tri-phase Electromagnetic Brake

M-4RK25N-SS / M-4RK25A-SS



M-4RK25N-US / M-4RK25A-US

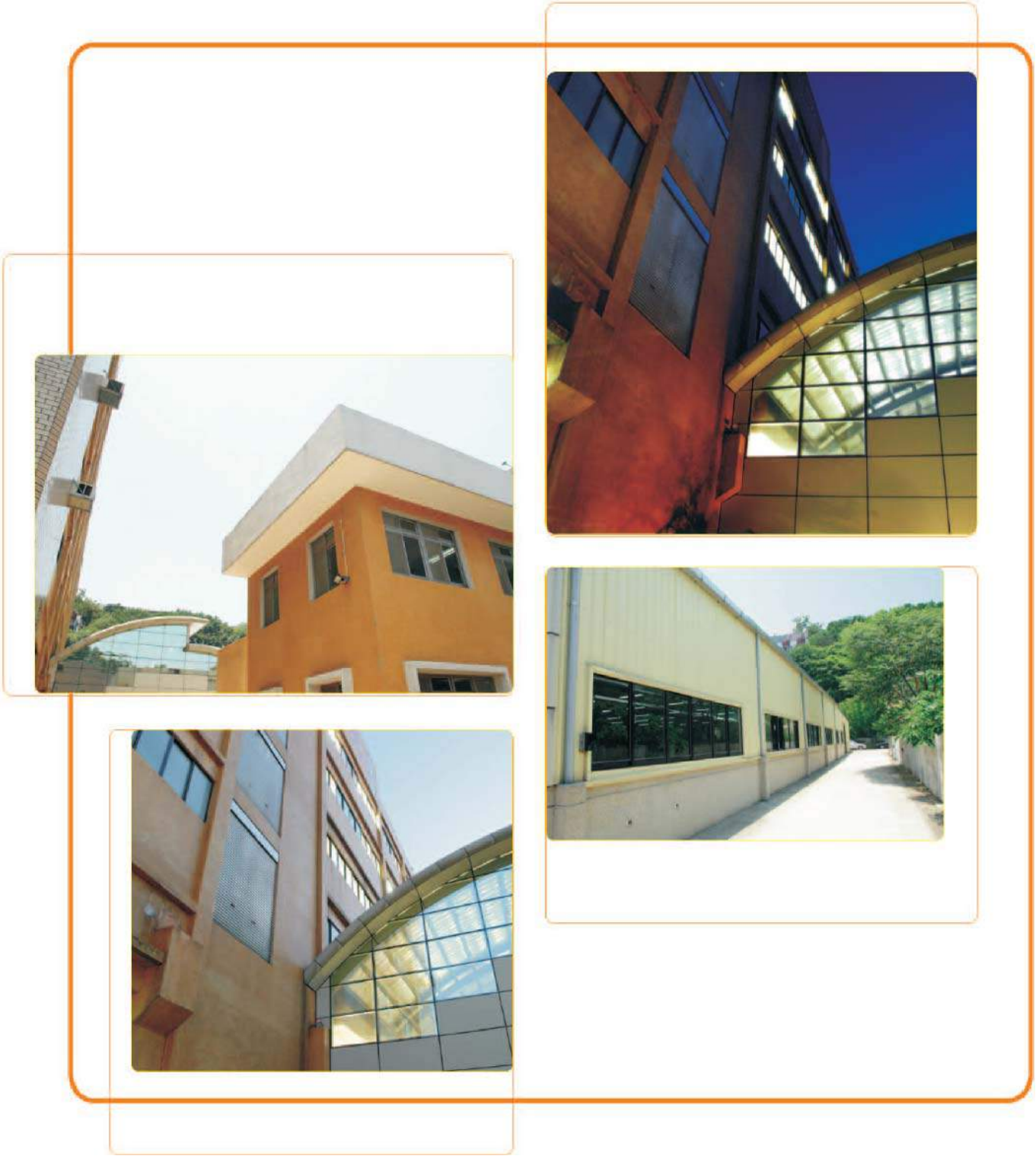


Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-4N□-K/L	Max. allowable torque (kgfcm)		4.0	6.7	10	11	13	16	20	21	26	32	39	65	80	80	80	80	80	80	80	80	80	80	80

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Workshop Scene at Day and Night



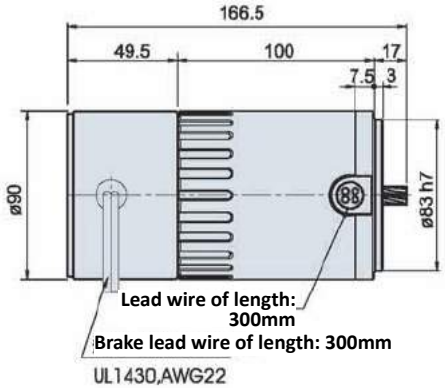
The optimistic see opportunity in disaster, while the pessimistic see disaster in opportunity.
Growing-up means that you say you know what things are and how they work, while mature means you don’t say you know, even if you do.

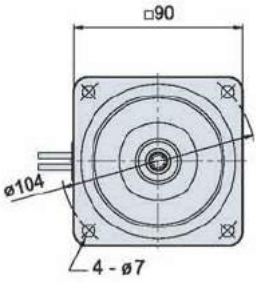
Electromagnetic Brake Motor 40W

Electromagnetic Brake Motor [Frame 5][40W]

Single-phase/Tri-phase Electromagnetic Brake Motor

M-5RK40N-□S



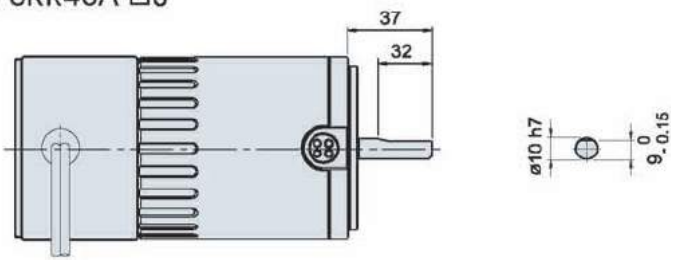


Weight: 3.05 kg

Single-phase: 3 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20

Circular Shaft Specification

M-5RK40A-□S



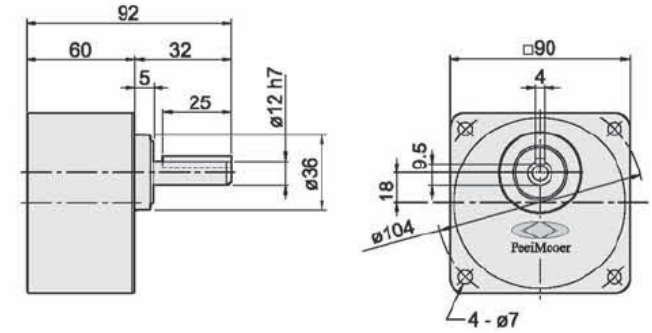
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Electromagnetic Brake Motors 30 min rating

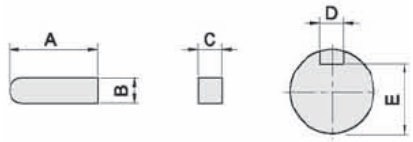
Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK40N-AS M-5RK40A-AS	1Φ100	50	0.84	1375	2.84	7.00	0.06	5.00	2.05	2.60	14.0	G-5N□-L	G-5N□-K	G-5N10X-K
		60	0.89	1650	2.36	7.00	0.06	5.00	1.85	2.60				
	1Φ110	50	0.84	1375	2.84	8.00	0.07	5.00	2.19	2.60	12.0			
		60	0.83	1675	2.33	8.00	0.07	5.00	2.08	2.60				
	1Φ115	50	0.91	1375	2.84	9.00	0.08	5.00	2.29	2.60	12.0			
		60	0.86	1675	2.33	9.00	0.08	5.00	2.17	2.60				
	1Φ120	50	0.97	1375	2.84	9.00	0.08	5.00	2.25	2.60	10.0			
		60	0.75	1700	2.29	9.00	0.08	5.00	2.32	2.60				
M-5RK40N-CS M-5RK40A-CS	1Φ200	50	0.36	1350	2.89	9.00	0.05	5.00	0.72	2.60	3.5			
		60	0.45	1625	2.40	9.00	0.05	5.00	0.67	2.60				
	1Φ220	50	0.34	1375	2.84	11.00	0.06	5.00	0.80	2.60	3.0			
		60	0.38	1650	2.36	11.00	0.06	5.00	0.73	2.60				
	1Φ230	50	0.37	1375	2.84	13.00	0.06	5.00	0.85	2.60	3.0			
		60	0.36	1675	2.33	13.00	0.06	5.00	0.75	2.60				
	1Φ240	50	0.33	1375	2.84	14.00	0.06	5.00	0.87	2.60	2.5			
		60	0.32	1675	2.33	14.00	0.06	5.00	0.78	2.60				

Gear Box

G-5N□-$^{K}_{L}$



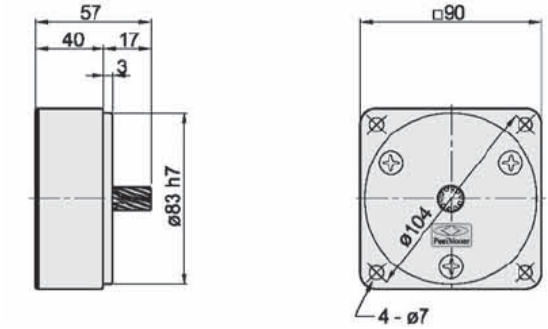
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-5N10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

Specifications of Tri-phase Electromagnetic Brake Motors Continuous rating

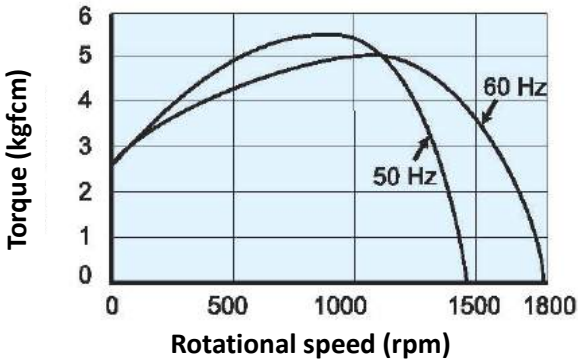
Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK40N-SS M-5RK40A-SS	3Φ200	50	0.28	1350	2.89	9.00	0.05	5.00	0.86	7.00	-	G-5N□-L	G-5N□-K	G-5N10X-K
		60	0.26	1600	2.44	9.00	0.05	5.00	0.80	7.00				
	3Φ220	50	0.30	1375	2.84	11.00	0.06	5.00	0.93	7.00	-			
		60	0.26	1650	2.36	11.00	0.06	5.00	0.67	7.00				
	3Φ230	50	0.30	1375	2.84	13.00	0.06	5.00	0.93	7.00	-			
		60	0.26	1675	2.33	13.00	0.06	5.00	0.91	7.00				
	3Φ380	50	0.17	1375	2.84	11.00	0.06	5.00	0.53	7.00	-			
M-5RK 0N-US M-5RK40A-US	3Φ400	50	0.18	1375	2.84	11.00	0.06	5.00	0.57	7.00	-			
		60	0.16	1650	2.36	11.00	0.06	5.00	0.53	7.00				
	3Φ415	50	0.16	1375	2.84	11.00	0.06	5.00	0.48	7.00	-			
		60	0.14	1650	2.36	11.00	0.06	5.00	0.45	7.00				
	3Φ440	50	0.16	1400	2.78	11.00	0.06	5.00	0.51	7.00	-			
		60	0.14	1675	2.33	11.00	0.06	5.00	0.48	7.00				
	3Φ460	50	0.17	1400	2.78	11.00	0.06	5.00	0.53	7.00	-			
		60	0.14	1675	2.33	11.00	0.06	5.00	0.50	7.00				

The brake service voltage is AC 220V.

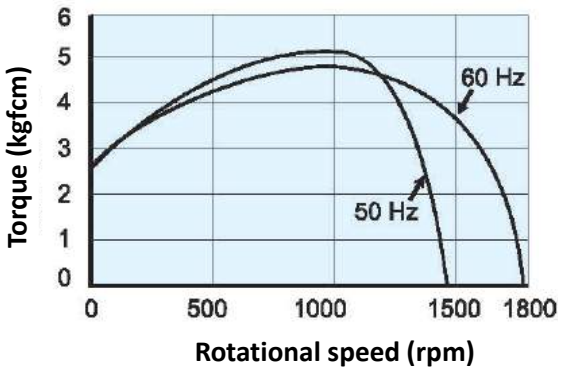
Electromagnetic Brake Motor 40W

Characteristics of Single-phase Electromagnetic Brake Motors

M-5RK40N-AS / M-5RK40A-AS

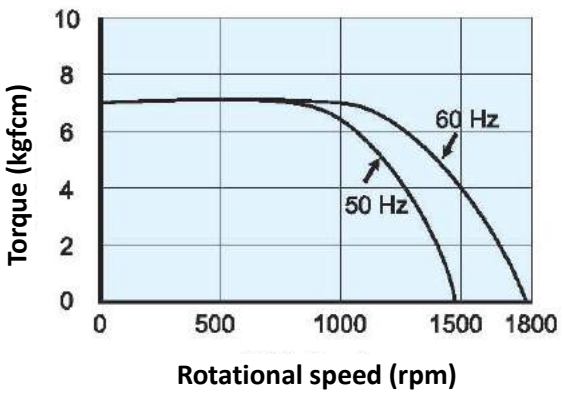


M-5RK40N-CS / M-5RK40A-CS

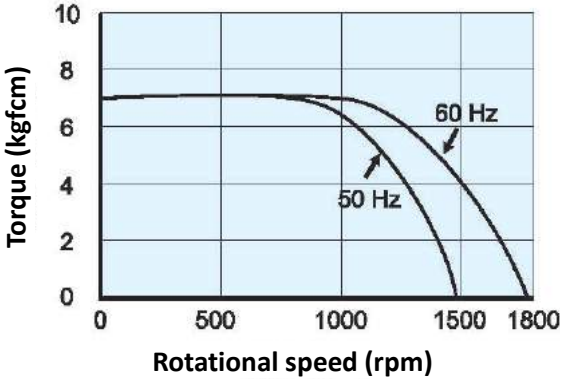


Characteristics of Tri-phase Electromagnetic Brake

M-5RK40N-SS / M-5RK40A-SS



M-5RK40N-US / M-5RK40A-US

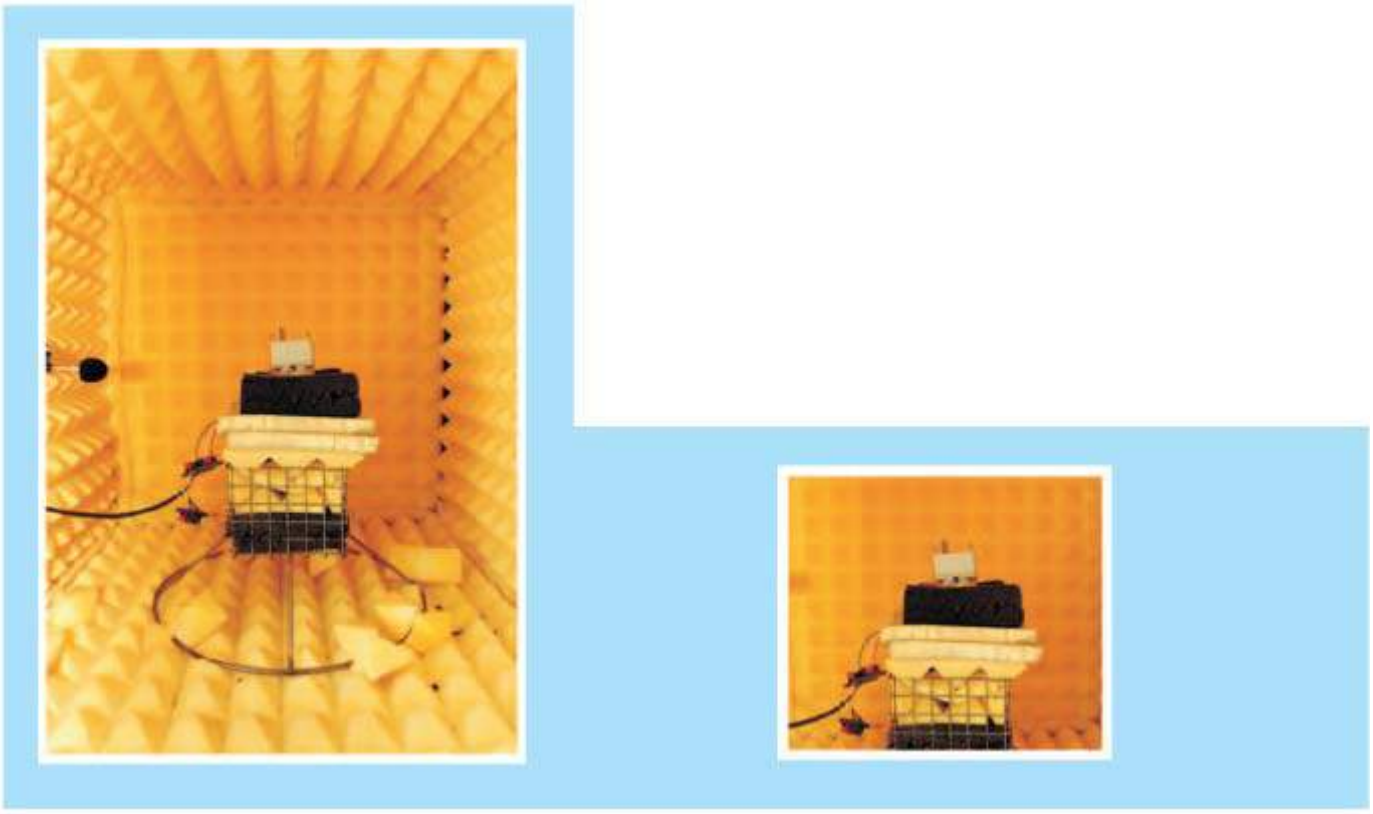


Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-K/L	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Mute Test



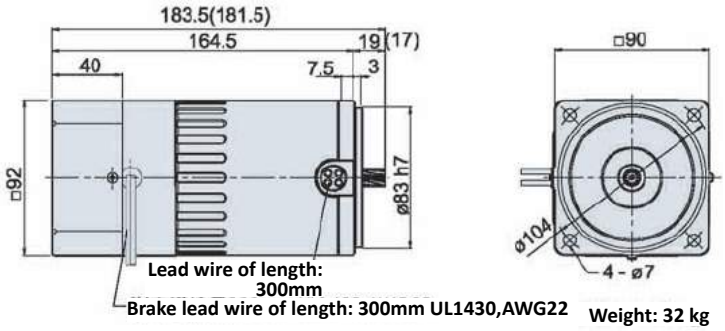
Those who know drinking get feelings
Those who are contented get joy
Those who can let go of the past get comfort
Those who know how to cherish get happiness
Those who set their mind at ease get relaxed
Those who can forget get freedom
Those who care get friends

Electromagnetic Brake Motor 60W

Electromagnetic Brake Motor [Frame 5][60W]

Single-phase/Tri-phase Electromagnetic Brake Motor

M-5RK60$^{N}_{U}$-□FS

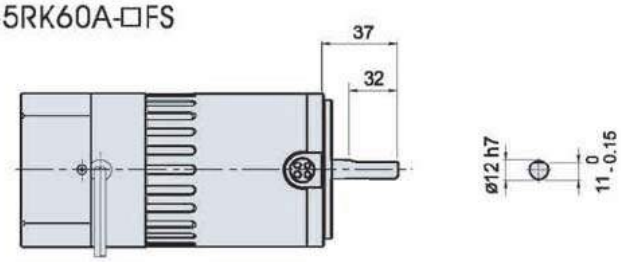


* The dimensions inside the brackets belong to N-type gear shafts, which are coupled to those of the gear box and the intermediate gear box, and should match with G-5N□-$^{K}_{L}$

Single-phase: 3 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20

Circular Shaft Specification

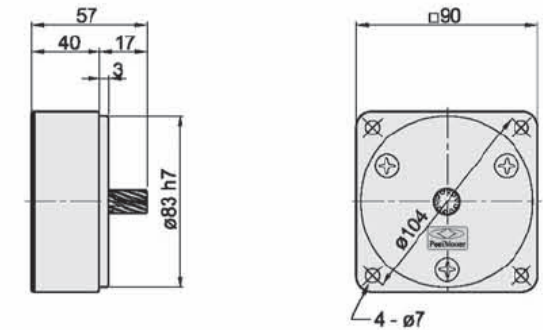
M-5RK60A-□FS



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Intermediate Gear Box

G-5N10X-K

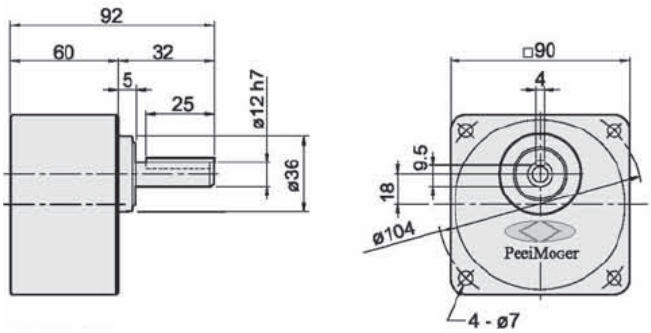


Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

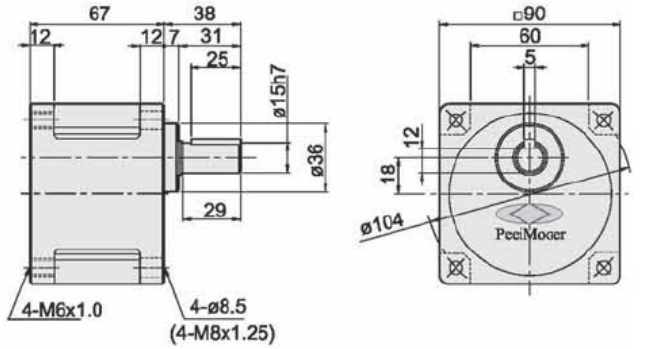
Gear Box

G-5N□-$^{K}_{L}$



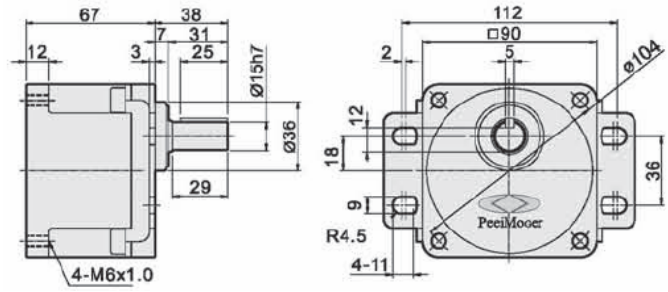
Gear Box

G-5U□-K



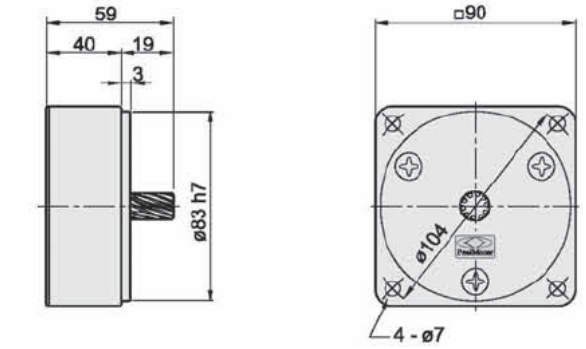
Gear Box with Foot Stand

G-5U□-KF

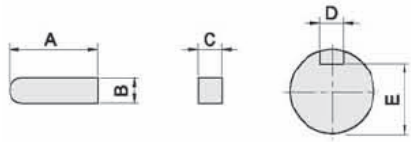


Intermediate Gear Box

G-5U10X-K

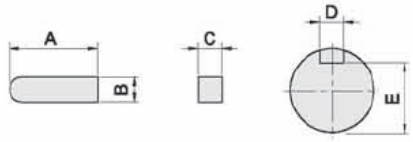


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{\ 0}_{-0.15}$

Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-K	25	$5^{\ 0}_{-0.03}$	$5^{\ 0}_{-0.03}$	$5^{+0.05}_{\ 0}$	$12^{\ 0}_{-0.15}$

Weight List of Gear Boxes

Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73
G-5U10X-K	0.64

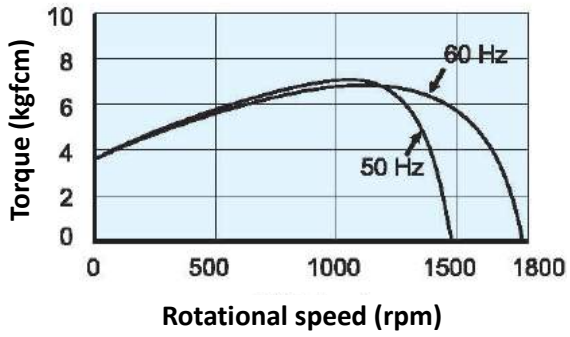
Electromagnetic Brake Motor 90W

Specifications of Single-phase Electromagnetic Brake Motors 30 min rating

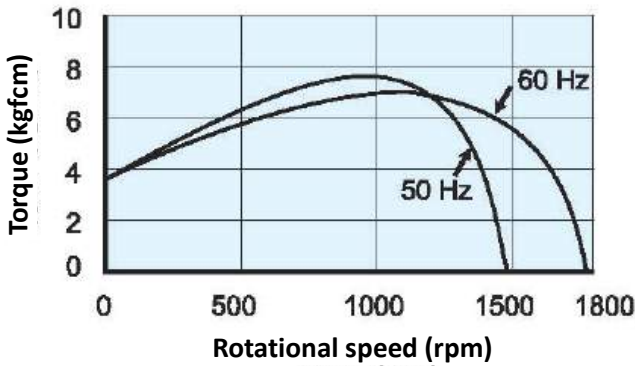
Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK60$^{N}_{U}$-AFS M-5RK60A-AFS	1Φ100	50	1.12	1350	4.33	7.00	0.06	5.00	2.15	3.80	20.0	G-5N□-L -	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
		60	1.24	1650	3.54	7.00	0.06	5.00	2.14	3.80				
	1Φ110	50	1.08	1375	4.25	8.00	0.07	5.00	2.58	3.80	18.0			
		60	1.10	1675	3.49	8.00	0.07	5.00	2.18	3.80				
	1Φ115	50	1.11	1375	4.25	9.00	0.08	5.00	2.41	3.80	18.0			
		60	1.15	1675	3.49	9.00	0.08	5.00	2.29	3.80				
	1Φ120	50	1.15	1375	4.25	9.00	0.08	5.00	2.44	3.80	16.0			
		60	1.13	1675	3.49	9.00	0.08	5.00	2.39	3.80				
M-5RK60$^{N}_{U}$-CFS M-5RK60A-CFS	1Φ200	50	0.56	1350	4.33	9.00	0.05	5.00	1.12	3.80	5.0			
		60	0.59	1650	3.54	9.00	0.05	5.00	1.02	3.80				
	1Φ220	50	0.57	1375	4.25	11.00	0.06	5.00	1.26	3.80	5.0			
		60	0.60	1675	3.49	11.00	0.06	5.00	1.14	3.80				
	1Φ230	50	0.54	1375	4.25	13.00	0.06	5.00	1.23	3.80	4.0			
		60	0.52	1675	3.49	13.00	0.06	5.00	1.19	3.80				
	1Φ240	50	0.56	1375	4.25	14.00	0.06	5.00	1.28	3.80	4.0			
		60	0.50	1675	3.49	14.00	0.06	5.00	1.20	3.80				

Characteristics of Single-phase Electromagnetic Brake Motors

M-5RK60$^{N}_{U}$-AFS / M-5RK60A-AFS



M-5RK60$^{N}_{U}$-CFS / M-5RK60A-CFS



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

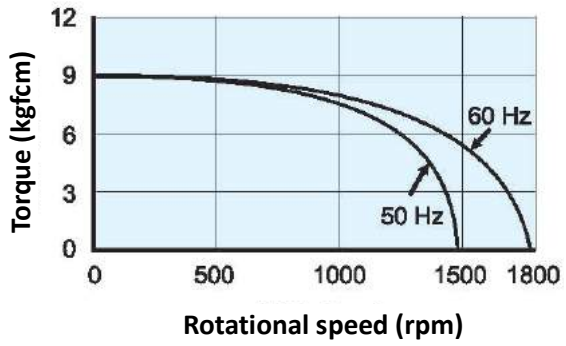
Specifications of Tri-phase Electromagnetic Brake Motors Continuous rating

Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK60$^{N}_{U}$-SFS M-5RK60A-SFS	3Φ200	50	0.45	1350	4.33	9.00	0.05	5.00	1.22	9.00	-	G-5N□-L -	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
		60	0.36	1625	3.60	9.00	0.05	5.00	1.12	9.00				
	3Φ220	50	0.49	1375	4.25	11.00	0.06	5.00	1.34	9.00	-			
		60	0.41	1650	3.54	11.00	0.06	5.00	1.27	9.00				
	3Φ230	50	0.50	1400	4.18	13.00	0.06	5.00	1.28	9.00	-			
		60	0.41	1675	3.49	13.00	0.06	5.00	1.31	9.00				
	3Φ380	50	0.27	1375	4.25	11.00	0.06	5.00	0.76	9.00	-			
M-5RK60$^{N}_{U}$-UFS M-5RK60A-UFS	3Φ400	50	0.28	1400	4.18	11.00	0.06	5.00	0.72	9.00	-			
		60	0.23	1675	3.49	11.00	0.06	5.00	0.75	9.00				
	3Φ415	50	0.25	1400	4.18	11.00	0.06	5.00	0.70	9.00	-			
		60	0.20	1675	3.49	11.00	0.06	5.00	0.70	9.00				
	3Φ440	50	0.28	1400	4.18	11.00	0.06	5.00	0.66	9.00	-			
		60	0.22	1675	3.49	11.00	0.06	5.00	0.76	9.00				
	3Φ460	50	0.31	1400	4.18	11.00	0.06	5.00	0.63	9.00	-			
		60	0.23	1700	3.44	11.00	0.06	5.00	0.73	9.00				

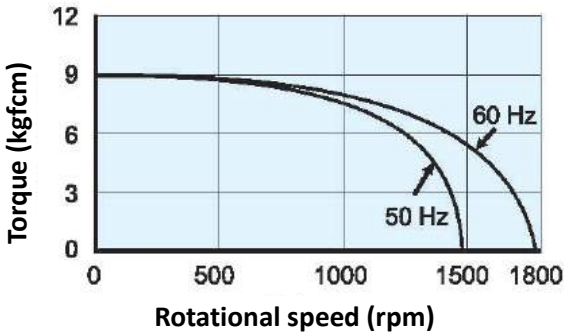
The brake service voltage is AC 220V.

Characteristics of Tri-phase Electromagnetic Brake

M-5RK60$^{N}_{U}$-SFS / M-5RK60A-SFS



M-5RK60$^{N}_{U}$-UFS / M-5RK60A-UFS



Maximum Allowable Torque of Gear Boxes

Model			Coupled intermediate gear box																						
	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		10	16	24	27	32	40	48	54	64	77	93	155	200	200	200	200	200	200	200	200	200	200	200

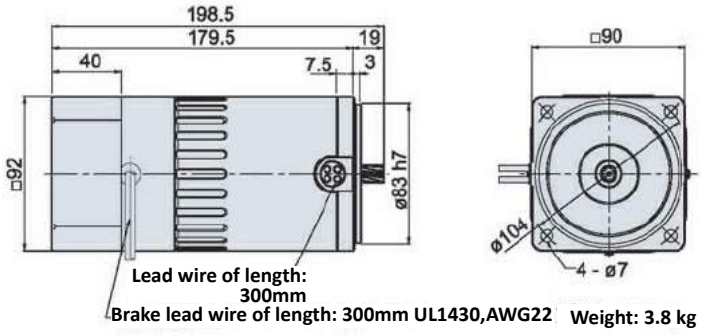
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Electromagnetic Brake Motor 90W

Electromagnetic Brake Motor [Frame 5][90W]

Single-phase/Tri-phase Electromagnetic Brake Motor

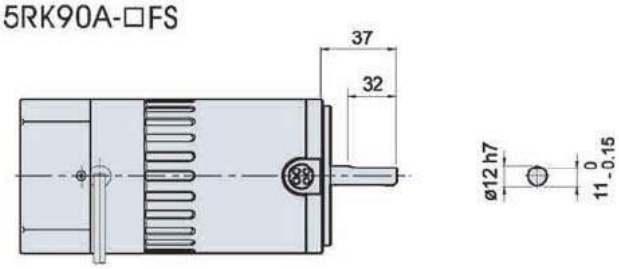
M-5RK90U-□FS



Single-phase: 3 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20

Circular Shaft Specification

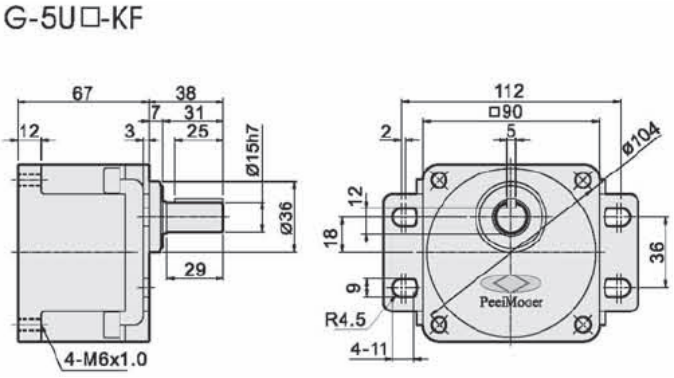
M-5RK90A-□FS



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box with Foot Stand

G-5U□-KF

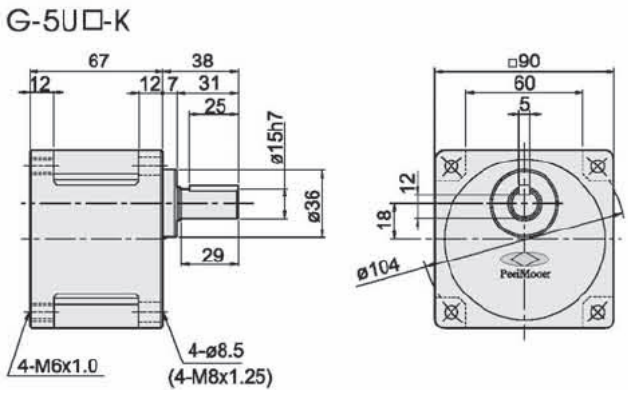


Weight List of Gear Boxes

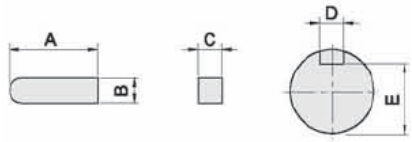
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



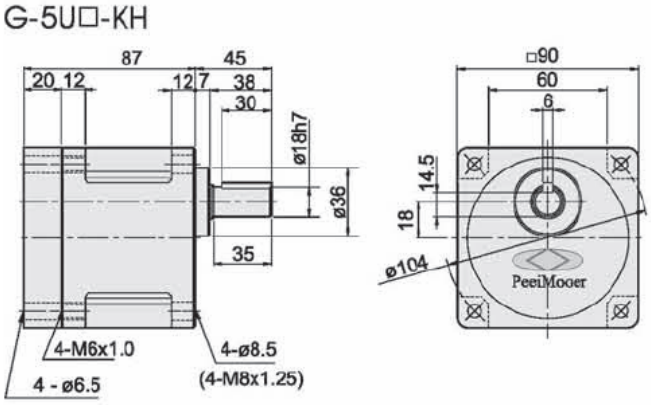
Gear Box: Key and Keyway Dimension



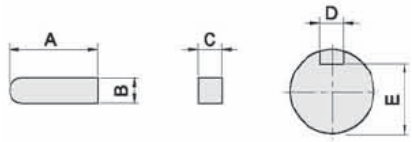
Model	A	B	C	D	E
G-5N□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



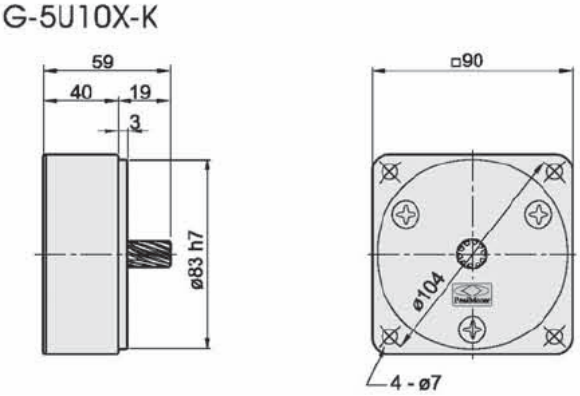
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

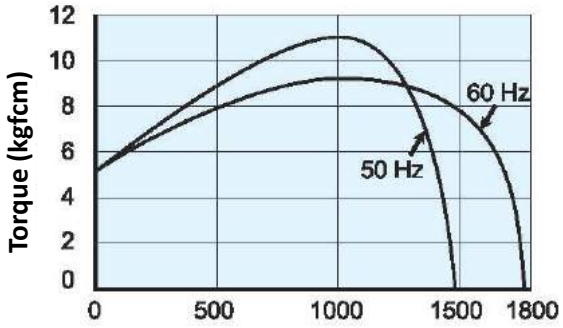
Electromagnetic Brake Motor 90W

Specifications of Single-phase Electromagnetic Brake Motors 30 min rating

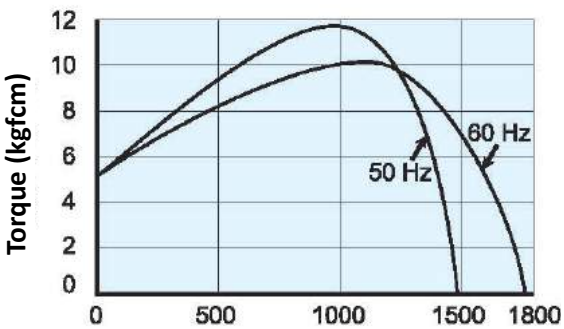
Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK90U-AFS M-5RK90A-AFS	1Φ100	50	1.72	1350	6.49	7.00	0.06	5.00	3.86	5.20	28.0	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
		60	1.70	1650	5.31	7.00	0.06	5.00	3.02	5.20				
	1Φ110	50	1.43	1375	6.37	8.00	0.07	5.00	3.83	5.20	25.0			
		60	1.58	1675	5.23	8.00	0.07	5.00	3.51	5.20				
	1Φ115	50	1.50	1375	6.37	9.00	0.08	5.00	3.94	5.20	25.0			
		60	1.63	1675	5.23	9.00	0.08	5.00	3.69	5.20				
	1Φ120	50	1.66	1375	6.37	9.00	0.08	5.00	3.97	5.20	20.0			
		60	1.64	1675	5.23	9.00	0.08	5.00	4.59	5.20				
M-5RK90U-CFS M-5RK90A-CFS	1Φ200	50	0.82	1350	6.49	9.00	0.05	5.00	1.83	5.20	7.0			
		60	0.87	1650	5.31	9.00	0.05	5.00	1.63	5.20				
	1Φ220	50	0.68	1375	6.37	11.00	0.06	5.00	1.93	5.20	6.0			
		60	0.75	1675	5.23	11.00	0.06	5.00	1.79	5.20				
	1Φ230	50	0.74	1375	6.37	13.00	0.06	5.00	2.06	5.20	6.0			
		60	0.80	1675	5.23	13.00	0.06	5.00	1.93	5.20				
	1Φ240	50	0.81	1375	6.37	14.00	0.06	5.00	2.10	5.20	5.0			
		60	0.81	1675	5.23	14.00	0.06	5.00	2.31	5.20				

Characteristics of Single-phase Electromagnetic Brake Motors

M-5RK90U-AFS / M-5RK90A-AFS



M-5RK90U-CFS / M-5RK90A-CFS



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

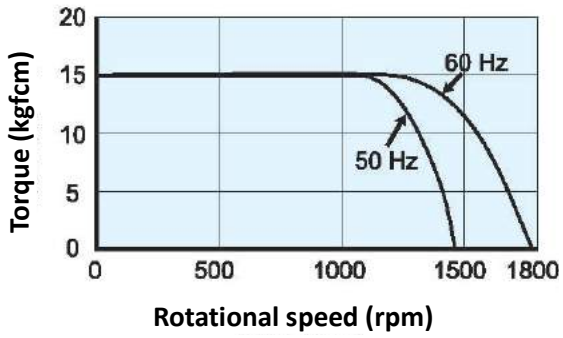
Specifications of Tri-phase Electromagnetic Brake Motors Continuous rating

Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK90U-SFS M-5RK90A-SFS	3Φ200	50	0.65	1375	6.37	9.00	0.05	5.00	2.59	15.00	-	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
		60	0.55	1650	5.31	9.00	0.05	5.00	2.07	15.00				
	3Φ220	50	0.79	1375	6.37	11.00	0.06	5.00	2.35	15.00	-			
		60	0.58	1675	5.23	11.00	0.06	5.00	2.20	15.00				
	3Φ230	50	0.84	1400	6.26	13.00	0.06	5.00	2.25	15.00	-			
		60	0.61	1675	5.23	13.00	0.06	5.00	2.11	15.00				
	3Φ380	50	0.41	1400	6.26	11.00	0.06	5.00	1.36	15.00	-			
M-5RK90U-UFS M-5RK90A-UFS	3Φ400	50	0.46	1400	6.26	11.00	0.06	5.00	1.30	15.00	-			
		60	0.35	1675	5.23	11.00	0.06	5.00	1.21	15.00				
	3Φ415	50	0.31	1375	6.37	11.00	0.06	5.00	1.22	15.00	-			
		60	0.25	1650	5.31	11.00	0.06	5.00	1.09	15.00				
	3Φ440	50	0.34	1375	6.37	11.00	0.06	5.00	1.15	15.00	-			
		60	0.27	1650	5.31	11.00	0.06	5.00	1.03	15.00				
	3Φ460	50	0.36	14001	6.26	11.00	0.06	5.00	1.10	15.00	-			
		60	0.27	1675	5.23	11.00	0.06	5.00	0.99	15.00				

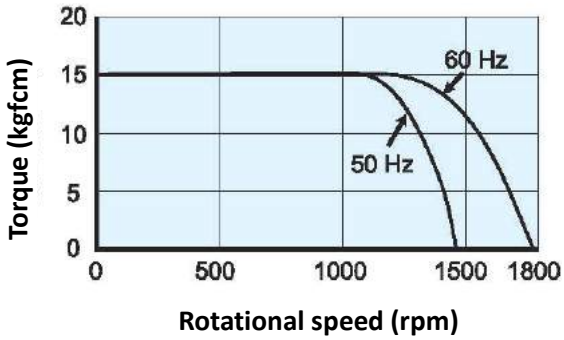
The brake service voltage is AC 220V.

Characteristics of Tri-phase Electromagnetic Brake

M-5RK90U-SFS / M-5RK90A-SFS



M-5RK90U-UFS / M-5RK90A-UFS



Maximum Allowable Torque of Gear Boxes

Model			Coupled intermediate gear box																					
	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

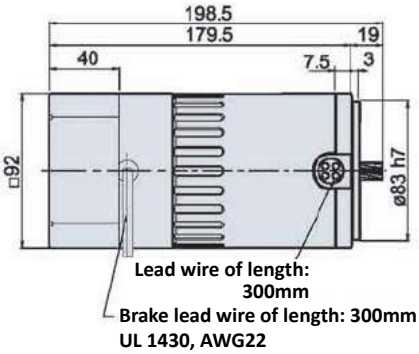
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

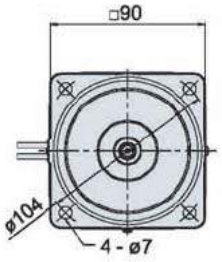
Electromagnetic Brake Motor 120W

Single-phase/Tri-phase Electromagnetic Brake Motor [Frame 5][120W]

Single-phase/Tri-phase Electromagnetic Brake Motor

M-5RK120U -□FS



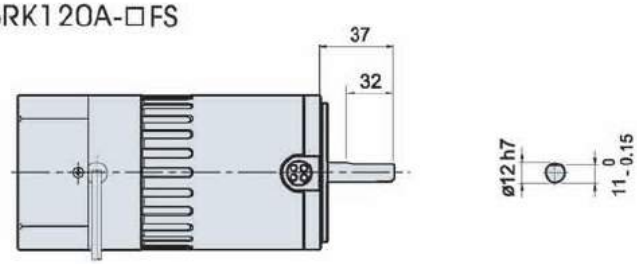


Weight: 3.8 kg

Single-phase: 3 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20

Circular Shaft Specification

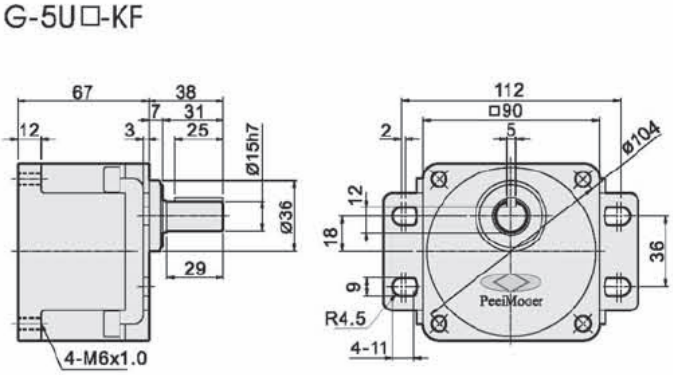
M-5RK120A-□FS



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box with Foot Stand

G-5U□-KF

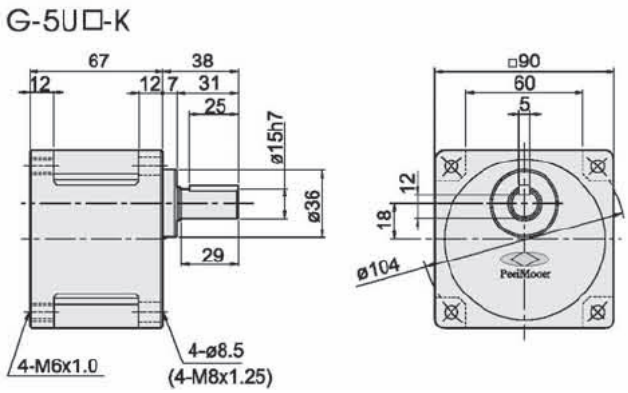


Weight List of Gear Boxes

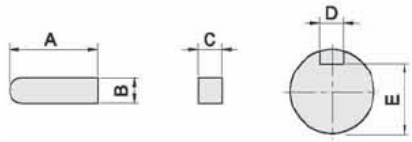
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



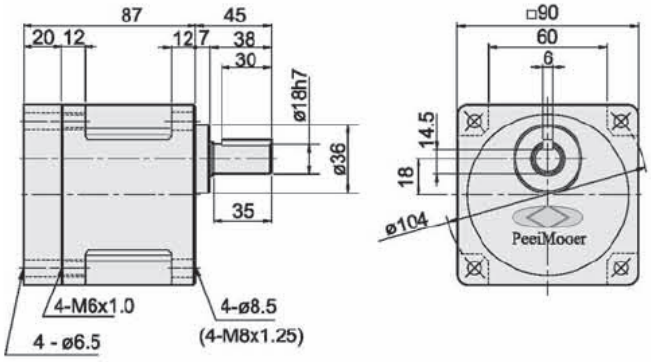
Gear Box: Key and Keyway Dimension



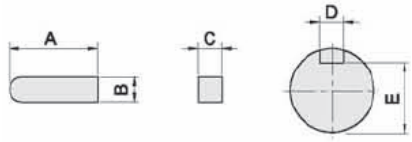
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



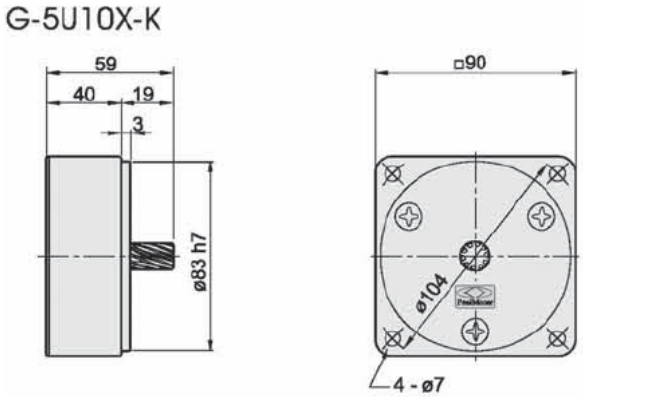
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

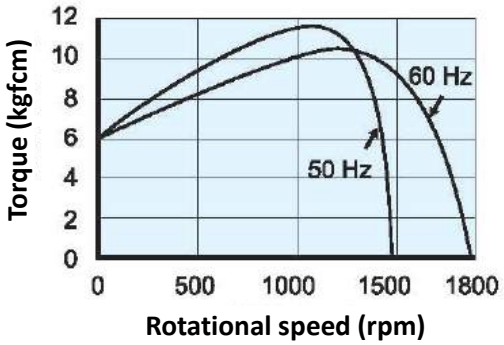
Electromagnetic Brake Motor 120W

Specifications of Single-phase Electromagnetic Brake Motors 30 min rating

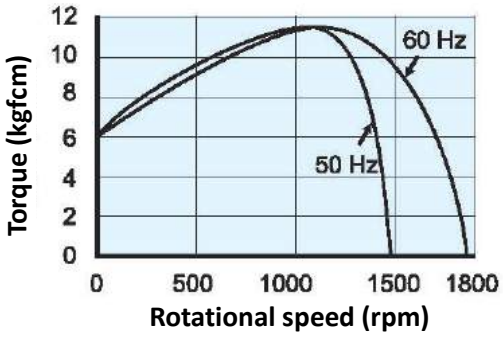
Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK120U-AFS M-5RK120A-AFS	1Φ100	50	2.26	1300	8.99	10.00	0.10	10.00	4.07	6.00	30.0	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
		60	2.00	1600	7.30	10.00	0.10	10.00	3.04	6.00				
	1Φ110	50	1.82	1325	8.82	12.00	0.11	10.00	3.68	6.00	28.0			
		60	1.83	1650	7.08	12.00	0.11	10.00	3.41	6.00				
	1Φ115	50	1.72	1350	8.66	14.00	0.12	10.00	3.89	6.00	28.0			
		60	1.88	1650	7.08	14.00	0.12	10.00	3.53	6.00				
	1Φ120	50	1.70	1350	8.66	15.00	0.12	10.00	3.90	6.00	25.0			
		60	1.93	1650	7.08	15.00	0.12	10.00	4.12	6.00				
M-5RK120U-CFS M-5RK120A-CFS	1Φ200	50	1.02	1300	8.99	15.00	0.08	10.00	1.80	6.00	8.0			
		60	1.09	1600	7.30	15.00	0.08	10.00	1.61	6.00				
	1Φ220	50	0.89	1325	8.82	18.00	0.09	10.00	1.91	6.00	7.0			
		60	0.96	1625	7.19	18.00	0.09	10.00	1.76	6.00				
	1Φ230	50	0.83	1350	8.66	21.00	0.10	10.00	2.04	6.00	7.0			
		60	0.93	1650	7.08	21.00	0.10	10.00	1.88	6.00				
	1Φ240	50	0.83	1350	8.66	23.00	0.10	10.00	2.04	6.00	6.0			
		60	0.99	1650	7.08	23.00	0.10	10.00	2.36	6.00				

Characteristics of Single-phase Electromagnetic Brake Motors

M-5RK120U-AFS / M-5RK120A-AFS



M-5RK120U-CFS / M-5RK120A-CFS



Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

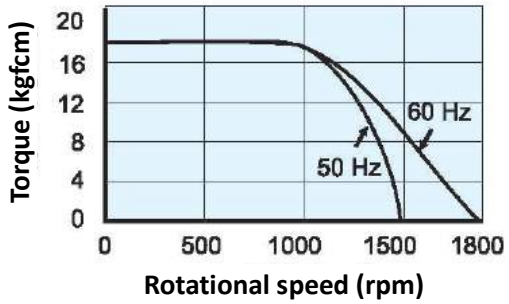
Specifications of Tri-phase Electromagnetic Brake Motors　　Continuous rating

Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK120U-SFS M-5RK120A-SFS	3Φ200	50	0.75	1300	8.99	15.00	0.08	10.00	2.59	18.00	-	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
		60	0.67	1575	7.42	15.00	0.08	10.00	2.07	18.00				
	3Φ220	50	0.81	1350	8.66	18.00	0.09	10.00	2.35	18.00	-			
		60	0.68	1550	7.54	18.00	0.09	10.00	2.04	18.00				
	3Φ230	50	0.89	1350	8.66	21.00	0.10	10.00	2.25	18.00	-			
		60	0.65	1650	7.08	21.00	0.10	10.00	1.95	18.00				
	3Φ380	50	0.45	1350	8.66	18.00	0.09	10.00	1.36	18.00	-			
M-5RK120U-UFS M-5RK120A-UFS	3Φ400	50	0.48	1375	8.50	18.00	0.09	10.00	1.30	18.00	-			
		60	0.37	1650	7.08	18.00	0.09	10.00	1.12	18.00				
	3Φ415	50	0.35	1300	8.99	18.00	0.09	10.00	1.22	18.00	-			
		60	0.31	1575	7.42	18.00	0.09	10.00	1.09	18.00				
	3Φ440	50	0.38	1325	8.82	18.00	0.09	10.00	1.15	18.00	-			
		60	0.31	1600	7.30	18.00	0.09	10.00	1.03	18.00				
	3Φ460	50	0.38	1350	8.66	18.00	0.09	10.00	1.10	18.00	-			
		60	0.31	1625	7.19	18.00	0.09	10.00	0.99	18.00				

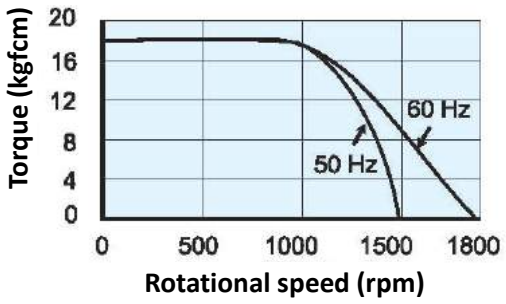
The brake service voltage is AC 220V.

Characteristics of Tri-phase Electromagnetic Brake

M-5RK120U-SFS / M-5RK120A-SFS



M-5RK120U-UFS / M-5RK120A-UFS



Maximum Allowable Torque of Gear Boxes

			Coupled intermediate gear box																					
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

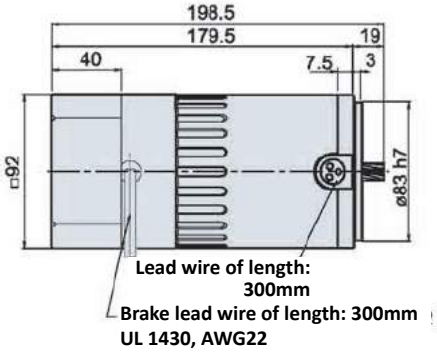
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

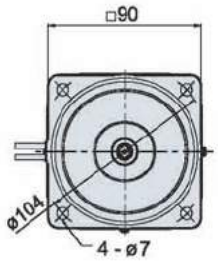
Electromagnetic Brake Motor 150W

Single-phase/Tri-phase Electromagnetic Brake Motor [Frame 5][150W]

Single-phase/Tri-phase Electromagnetic Brake Motor

M-5RK150U -□FS



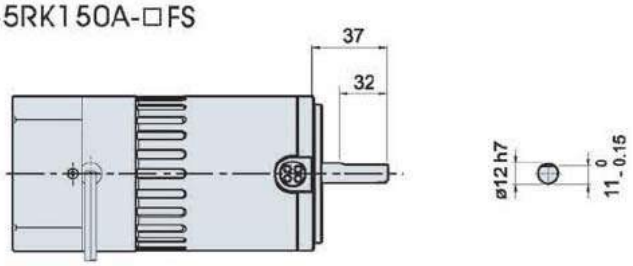


Weight: 3.8 kg

Single-phase: 3 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20

Circular Shaft Specification

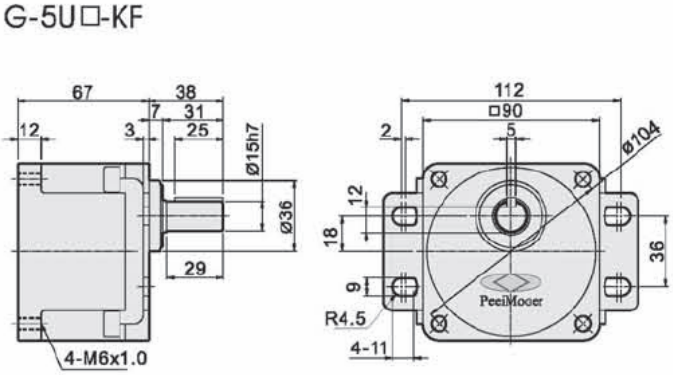
M-5RK150A-□FS



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box with Foot Stand

G-5U□-KF

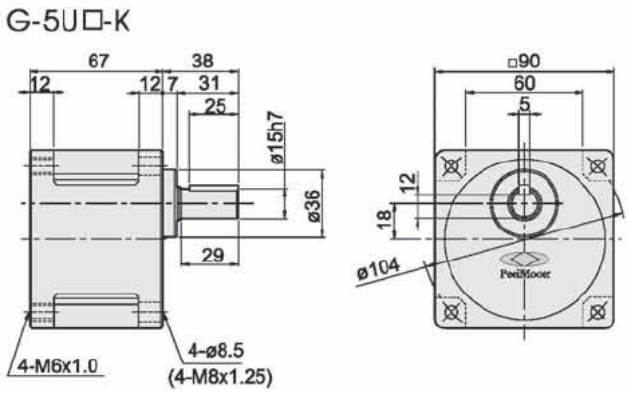


Weight List of Gear Boxes

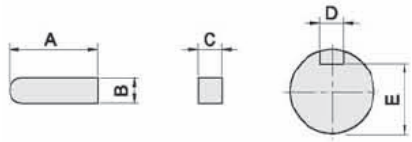
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



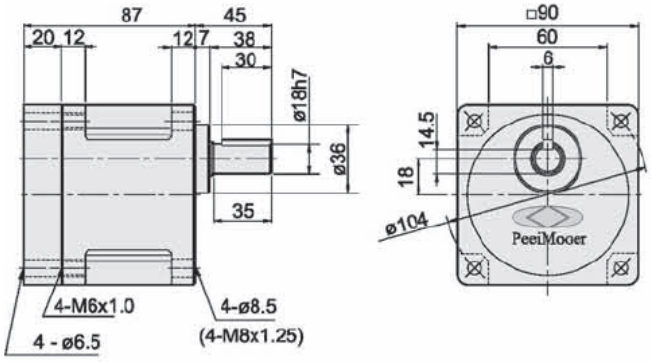
Gear Box: Key and Keyway Dimension



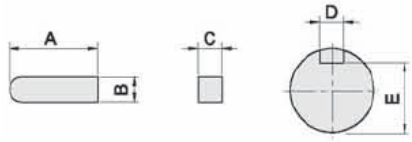
Model	A	B	C	D	E
G-5N□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



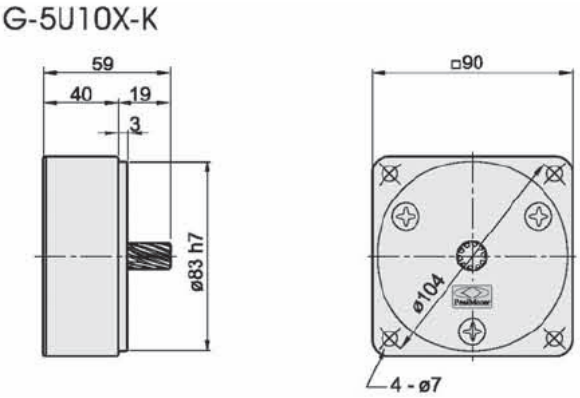
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

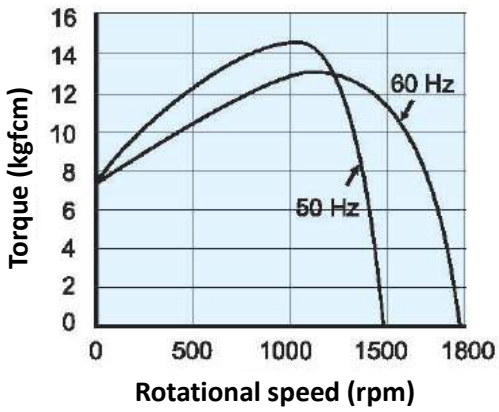
Electromagnetic Brake Motor 150W

Specifications of Single-phase Electromagnetic Brake Motors 30 min rating

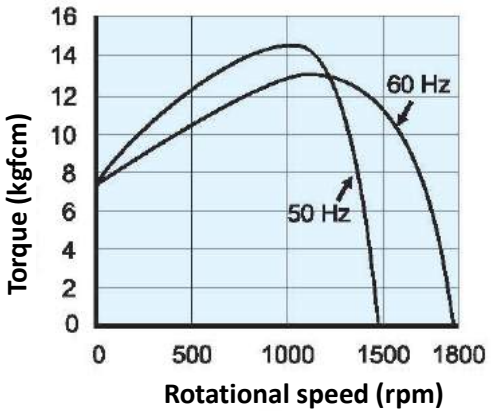
Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK150U-AFS M-5RK150A-AFS	1Φ100	50	2.88	1250	11.68	10.00	0.10	10.00	4.64	7.50	38.0	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
		60	2.56	1575	9.27	10.00	0.10	10.00	3.52	7.50				
	1Φ110	50	2.32	1300	11.24	12.00	0.11	10.00	4.42	7.50	36.0			
		60	2.47	1600	9.13	12.00	0.11	10.00	3.80	7.50				
	1Φ115	50	2.13	1325	11.02	14.00	0.12	10.00	4.44	7.50	36.0			
		60	2.34	1650	8.85	14.00	0.12	10.00	4.12	7.50				
	1Φ120	50	2.11	1325	11.02	15.00	0.12	10.00	4.26	7.50	30.0			
		60	2.13	1650	8.85	15.00	0.12	10.00	4.31	7.50				
M-5RK150U-CFS M-5RK150A-CFS	1Φ200	50	1.12	1300	11.24	15.00	0.08	10.00	2.38	7.50	9.0			
		60	1.23	1600	9.13	15.00	0.08	10.00	2.15	7.50				
	1Φ220	50	1.08	1325	11.02	18.00	0.09	10.00	2.43	7.50	8.0			
		60	1.26	1625	8.99	18.00	0.09	10.00	2.69	7.50				
	1Φ230	50	1.18	1325	11.02	21.00	0.10	10.00	2.32	7.50	7.0			
		60	1.23	1650	8.85	21.00	0.10	10.00	2.81	7.50				
	1Φ240	50	1.36	1300	11.24	23.00	0.10	10.00	2.59	7.50	6.0			
		60	1.00	1625	8.99	23.00	0.10	10.00	2.54	7.50				

Characteristics of Single-phase Electromagnetic Brake Motors

M-5RK150U-AFS / M-5RK150A-AFS



M-5RK150U-CFS / M-5RK150A-CFS



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

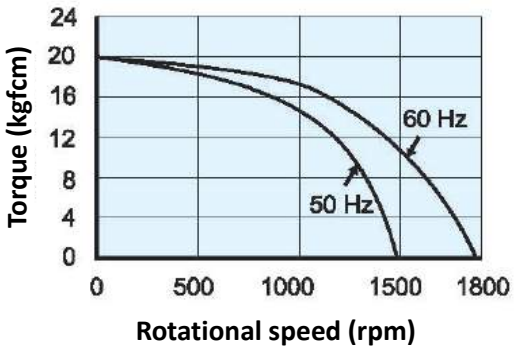
Specifications of Tri-phase Electromagnetic Brake Motors Continuous rating

Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5RK150U-SFS M-5RK150A-SFS	3Φ200	50	0.96	1275	11.46	15.00	0.08	10.00	2.54	20.00	-	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
		60	0.86	1525	9.58	15.00	0.08	10.00	2.36	20.00				
	3Φ220	50	1.08	1325	11.02	18.00	0.09	10.00	2.80	20.00	-			
		60	0.82	1600	9.13	18.00	0.09	10.00	2.60	20.00				
	3Φ230	50	1.17	1350	10.82	21.00	0.10	10.00	2.88	20.00	-			
		60	0.83	1625	8.99	21.00	0.10	10.00	2.70	20.00				
	3Φ380	50	0.60	1325	11.02	18.00	0.09	10.00	1.70	20.00	-			
M-5RK150U-UFS M-5RK150A-UFS	3Φ400	50	0.65	1350	10.82	18.00	0.09	10.00	1.79	20.00	-			
		60	0.48	1625	8.99	18.00	0.09	10.00	1.65	20.00				
	3Φ415	50	0.41	1275	11.46	18.00	0.09	10.00	1.20	20.00	-			
		60	0.38	1525	9.58	18.00	0.09	10.00	1.12	20.00				
	3Φ440	50	0.43	1300	11.24	18.00	0.09	10.00	1.23	20.00	-			
		60	0.37	1575	9.27	18.00	0.09	10.00	1.18	20.00				
	3Φ460	50	0.45	1325	11.02	18.00	0.09	10.00	1.30	20.00	-			
		60	0.38	1575	9.27	18.00	0.09	10.00	1.25	20.00				

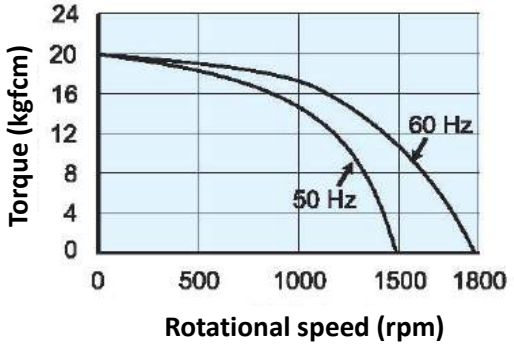
The brake service voltage is AC 220V.

Characteristics of Tri-phase Electromagnetic Brake

M-5RK150U-SFS / M-5RK150A-SFS



M-5RK150U-UFS / M-5RK150A-UFS



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

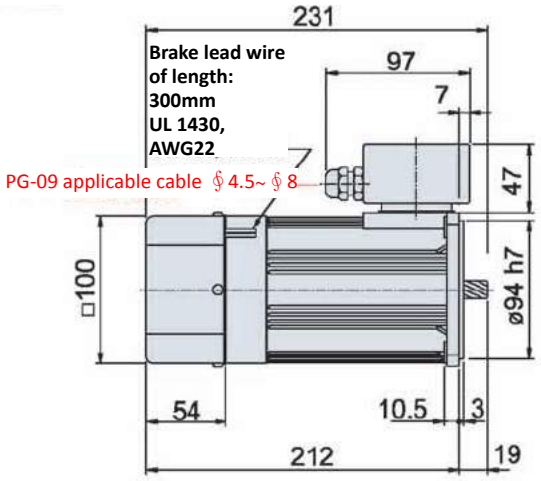
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

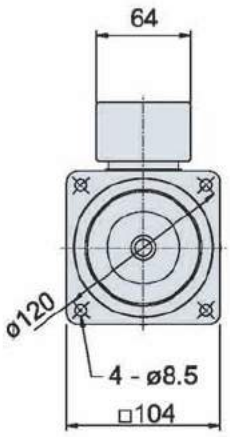
Electromagnetic Brake Motor 200W

Single-phase/Tri-phase Electromagnetic Brake Motor [Frame 6][200W]

Connection Box for Single-phase/Tri-phase Electromagnetic Brake Motors

M-6RK200U -□FTS

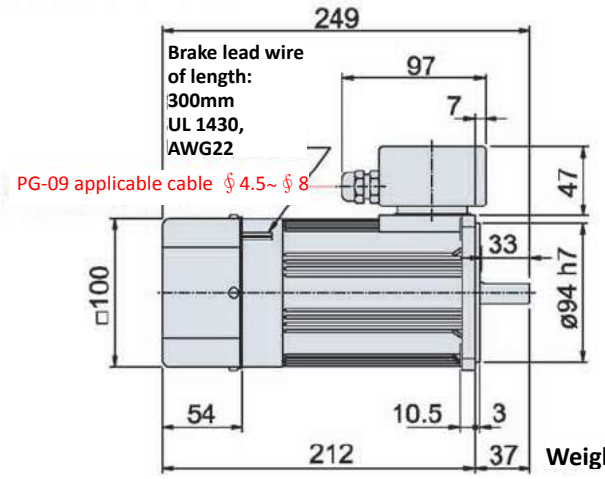


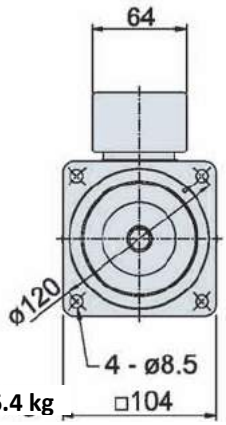


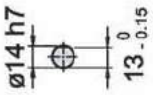
Weight: 6.4 kg

Circular Shaft Specification

M-6RK200A-□FTS







Weight: 6.4 kg

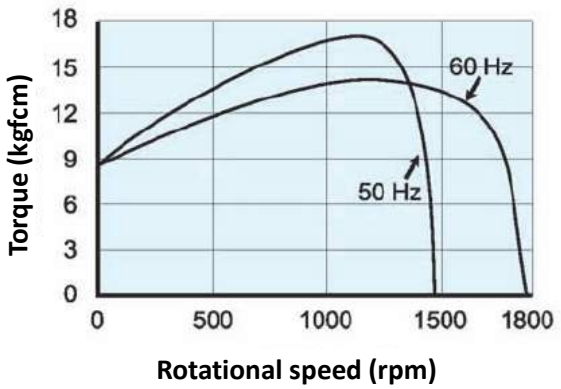
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Specifications of Single-phase Electromagnetic Brake Motors 30 min rating

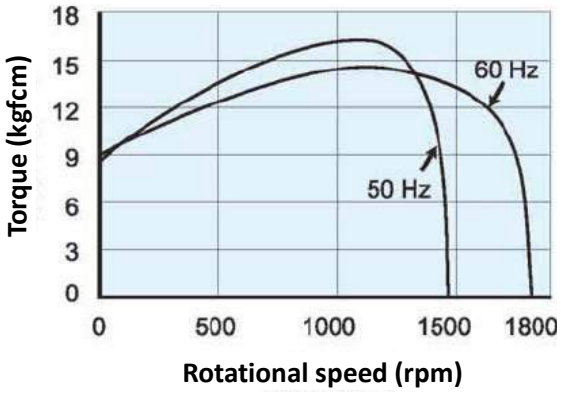
Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-6RK200U-AFTS M-6RK200A-AFTS	1Φ100	50	3.14	1300	14.98	13.00	0.13	20.00	5.60	8.80	42.0	-	-	-
		60	3.19	1600	12.17	13.00	0.13	20.00	5.40	8.80				
	1Φ110	50	3.18	1350	14.43	16.00	0.14	20.00	6.50	8.80	40.0			
		60	2.97	1650	11.80	16.00	0.14	20.00	6.10	8.80				
	1Φ115	50	3.14	1375	14.16	17.00	0.15	20.00	6.70	8.80	40.0			
		60	3.06	1650	11.80	17.00	0.15	20.00	6.30	8.80				
	1Φ120	50	2.86	1375	14.16	18.00	0.15	20.00	7.10	8.80	36.0			
		60	2.69	1675	11.63	18.00	0.15	20.00	6.80	8.80				
M-6RK200U-CFTS M-6RK200A-CFTS	1Φ200	50	1.52	1350	14.43	19.00	0.10	20.00	3.60	8.80	12.0			
		60	.68	1650	11.80	19.00	0.10	20.00	3.30	8.80				
	1Φ220	50	1.41	1375	14.16	23.00	0.10	20.00	4.00	8.80	10.0			
		60	1.44	1675	11.63	23.00	0.10	20.00	3.70	8.80				
	1Φ230	50	1.26	1400	13.91	25.00	0.12	20.00	4.10	8.80	10.0			
		60	1.45	1675	11.63	25.00	0.12	20.00	3.80	8.80				
	1Φ240	50	1.26	1400	13.91	28.00	0.13	20.00	4.30	8.80	8.0			
		60	1.00	1625	8.99	23.00	0.10	10.00	2.54	7.50				

Characteristics of Single-phase Electromagnetic Brake Motors

M-6RK200U-AFTS / M-6RK200A-AFTS

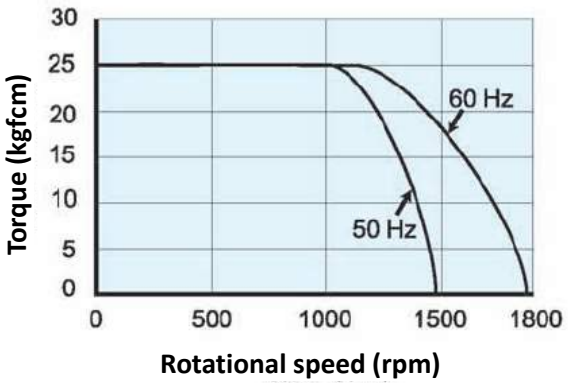


M-6RK200U-CFTS / M-6RK200A-CFTS



Characteristics of Tri-phase Electromagnetic Brake

M-6RK200U-SFTS / M-6RK200A-SFTS



Specifications of Tri-phase Electromagnetic Brake Motors

Continuous rating

Motor model	Voltage V	Frequency Hz	Rating			Braking			Starting		Capacitor uF	Coupled gear box model		
			Current A	Speed rpm	Torque kgfcm	Input W	Current A	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-6RK200U-SFTS M-6RK200A-SFTS	3Φ200	50	1.10	1350	14.43	19.00	0.10	20.00	4.20	25.00	-	-	-	-
		60	1.02	1625	11.98	19.00	0.10	20.00	3.90	25.00				
	3Φ220	50	1.16	1375	14.16	23.00	0.10	20.00	4.60	25.00	-			
		60	1.04	1650	11.80	23.00	0.10	20.00	4.40	25.00				
	3Φ230	50	1.24	1375	14.16	25.00	0.12	20.00	4.80	25.00	-			
		60	1.00	1675	11.63	25.00	0.12	20.00	4.50	25.00				
	3Φ380	50	0.66	1375	14.16	23.00	0.10	20.00	2.80	25.00	-			
	3Φ400	50	0.65	1400	13.91	23.00	0.10	20.00	3.00	25.00	-			
		60	0.57	1675	11.63	23.00	0.10	20.00	2.80	25.00				

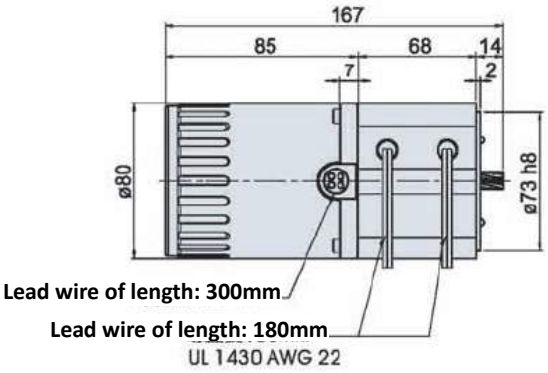
The brake service voltage is AC 220V.

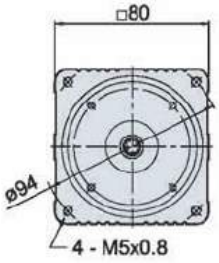
Electromagnetic Clutch Brake Motor 25W

Electromagnetic Clutch Brake Motor [Frame 4][25W]

Single-phase/Tri-phase Speed Adjusting Electromagnetic Clutch Brake Motor

M-4IK25N-□C/S-S24-A26-2





Weight: 2.8kg

Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20
Speed adjusting: 3 wires, UL 3266 AWG 20

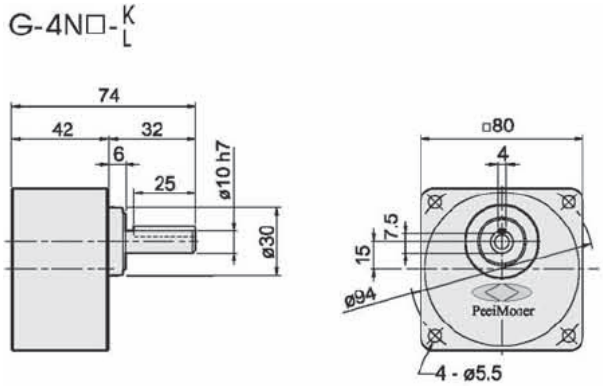
Specifications of Clutches and Brakes

Specification	Clutch	Brake	Specification	Clutch	Brake
Output power of motors (W)	25		Attracting time (msec)	15	15
DC rated voltage (V)	24		Torque set-up time (msec)	20	20
Friction torque (kgfcm)	17	17	Release time (msec)	25	25
Dynamical friction torque (kgfcm)	17	17	Motion frequency (cycle per second)	100	100
Power (W)	10	10	Lead wire (UL 1430, AWG22, L=180)	Blue	Black
Level of insulation	E	E	Brake pad	Non-asbestos semimetal	

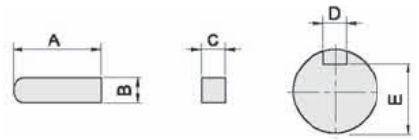
Specifications of Single-phase Electromagnetic Clutch Brakes Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-4IK25N-AC /S-S24-A26-2	25	1Φ100	50	0.51	1275	1.91	0.96	1.20	7.0	G-4N□-L	G-4N□-K	G-4N10X-K
			60	0.50	1525	1.60	0.88	1.20				
	25	1Φ110	50	0.53	1300	1.88	1.05	1.20	6.0			
			60	0.43	1625	1.50	0.97	1.20				
	25	1Φ115	50	0.53	1325	1.84	1.10	1.20	6.0			
			60	0.44	1625	1.50	1.01	1.20				
	25	1Φ120	50	0.55	1325	1.84	1.14	1.20	5.0			
			60	0.46	1625	1.50	1.07	1.20				
M-4IK25N-CC /S-S24-A26-2	25	1Φ200	50	0.25	1275	1.91	0.47	1.20	2.0			
			60	0.27	1525	1.60	0.44	1.20				
	25	1Φ220	50	0.25	1300	1.88	0.51	1.20	1.5			
			60	0.23	1575	1.55	0.48	1.20				
	25	1Φ230	50	0.25	1325	1.84	0.54	1.20	1.5			
			60	0.23	1625	1.50	0.50	1.20				
	25	1Φ240	50	0.29	1300	1.88	0.56	1.20	1.2			
			60	0.24	1600	1.53	0.52	1.20				

Gear Box

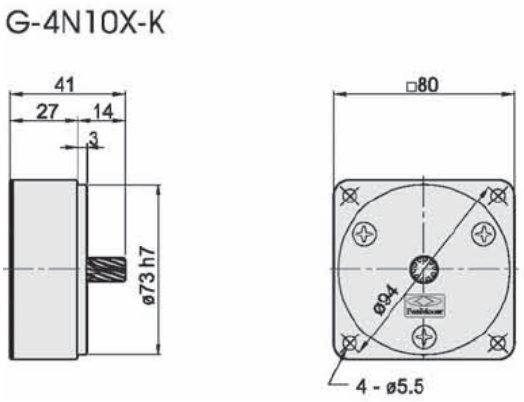


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-4N□-K/L	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{0}_{-0.15}$

Intermediate Gear Box



Weight List of Gear Boxes

Model	Weight (kg)
G-4N3-K / L~G-4N18-K / L	0.60
G-4N20-K / L~G-4N60-K / L	0.65
G-4N75-K / L~G-4N180-K / L	0.71
G-4N10X-K	0.41

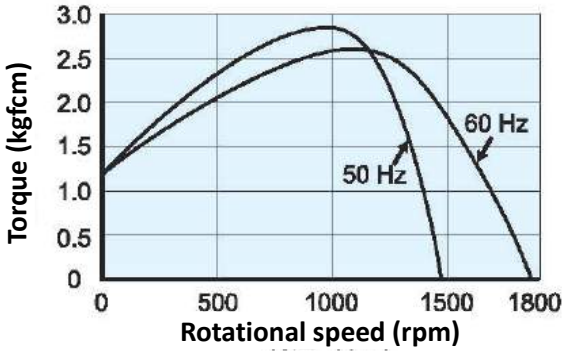
Specifications of Tri-phase Electromagnetic Clutch Brakes Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-4IK25N-SC /S-S24-A26-2	25	1Φ200	50	0.26	1325	1.84	0.66	5.00	-	G-4N□-L	G-4N□-K	G-4N10X-K
			60	0.21	1575	1.55	0.61	5.00				
	25	1Φ220	50	0.29	1350	1.81	0.72	5.00	-			
			60	0.23	1625	1.50	0.68	5.00				
	25	1Φ230	50	0.31	1375	1.77	0.76	5.00	-			
			60	0.24	1625	1.50	0.71	5.00				
	25	1Φ380	50	0.16	1350	1.81	0.41	5.00	-			
M-4IK25N-UC /S-S24-A26-2	25	1Φ400	50	0.17	1375	1.77	0.43	5.00	-			
			60	0.13	1625	1.50	0.40	5.00				
	25	1Φ415	50	0.11	1325	1.84	0.31	5.00	-			
			60	0.10	1575	1.55	0.29	5.00				
	25	1Φ440	50	0.12	1350	1.81	0.32	5.00	-			
			60	0.10	1625	1.50	0.30	5.00				
	25	1Φ460	50	0.13	1375	1.77	0.34	5.00	-			
			60	0.10	1625	1.50	0.32	5.00				

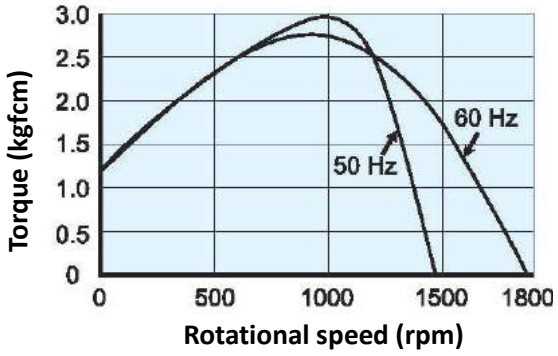
Electromagnetic Clutch Brake Motors 25W

Characteristics of Single-phase Electromagnetic Clutch Brake Motors

M-4IK25N-AC/S-S24-A26-2

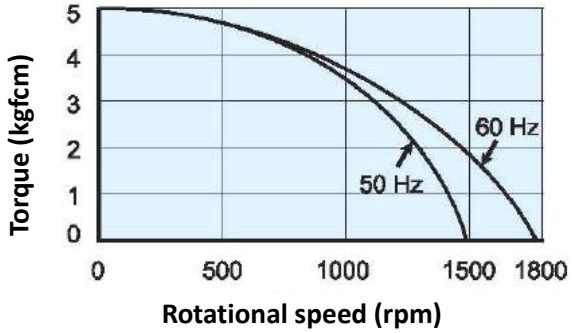


M-4IK25N-CC/S-S24-A26-2

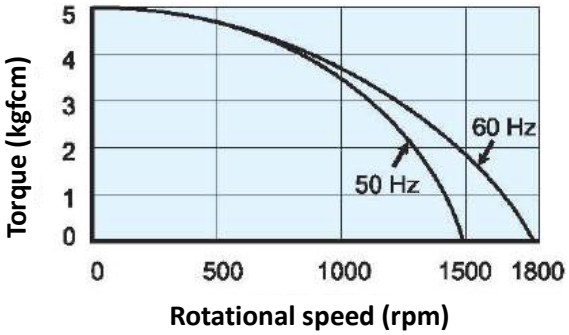


Characteristics of Tri-phase Electromagnetic Clutch Brake Motors

M-4IK25N-SC/S-S24-A26-2



M-4IK25N-UC/S-S24-A26-2



Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-4N□-K/L	Max. allowable torque (kgfcm)		4.0	6.7	10	11	13	16	20	21	26	32	39	65	80	80	80	80	80	80	80	80	80	80	80

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

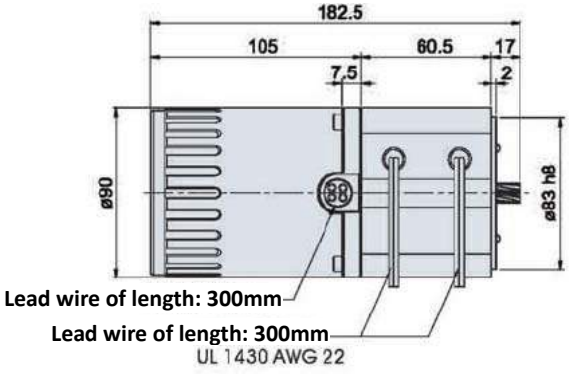
Motor Production Line

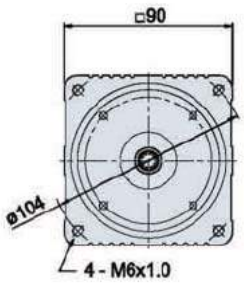
Electromagnetic Clutch Brake Motor 40W

Electromagnetic Clutch Brake Motor [Frame 5][40W]

Single-phase/Tri-phase Speed Adjusting Electromagnetic Clutch Brake Motor

M-5IK40N-□C/S-S50-A26-3





Weight: 3.95kg

Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20
Speed adjusting: 3 wires, UL 3266 AWG 20

Specifications of Clutches and Brakes

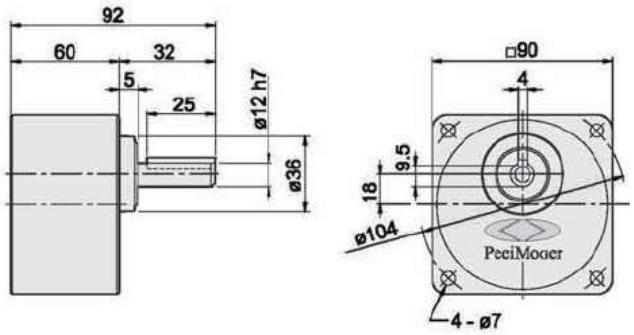
Specification	Clutch	Brake	Specification	Clutch	Brake
Output power of motors (W)	40		Attracting time (msec)	15	15
DC rated voltage (V)	24		Torque set-up time (msec)	20	20
Friction torque (kgfcm)	38	38	Release time (msec)	25	25
Dynamical friction torque (kgfcm)	35	35	Motion frequency (cycle per second)	100	100
Power (W)	11	11	Lead wire (UL 1430, AWG22, L=180)	Blue	Black
Level of insulation	E	E	Brake pad	Non-asbestos semimetal	

Specifications of Single-phase Electromagnetic Clutch Brakes Continuous rating

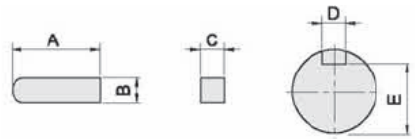
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK40N-AC /S-S50-A26-3	40	1Φ100	50	0.78	1375	2.84	2.21	2.00	12.0	G-5N□-L	G-5N□-K	G-5N10X-K
			60	0.77	1675	2.33	2.03	2.00				
	40	1Φ110	50	0.81	1375	2.84	2.24	2.00	10.0			
			60	0.77	1675	2.33	2.18	2.00				
	40	1Φ115	50	0.78	1400	2.79	2.30	2.00	10.0			
			60	0.71	1700	2.29	2.26	2.00				
	40	1Φ120	50	0.88	1400	2.79	2.42	2.00	8.0			
			60	0.66	1700	2.29	2.34	2.00				
M-5IK40N-CC /S-S50-A26-3	40	1Φ200	50	0.31	1350	2.89	0.70	2.00	2.5			
			60	0.33	1650	2.36	0.64	2.00				
	40	1Φ220	50	0.30	1375	2.84	0.77	2.00	2.3			
			60	0.29	1675	2.33	0.70	2.00				
	40	1Φ230	50	0.32	1375	2.84	0.82	2.00	2.3			
			60	0.31	1675	2.33	0.74	2.00				
	40	1Φ240	50	0.29	1400	2.79	0.85	2.00	2.0			
			60	0.28	1675	2.33	0.78	2.00				

Gear Box

G-5N□-$^{K}_{L}$



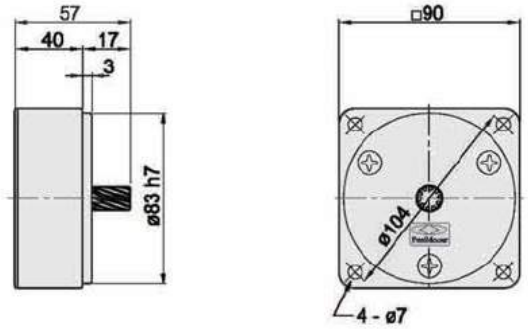
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{0}_{-0.15}$

Intermediate Gear Box

G-5N10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

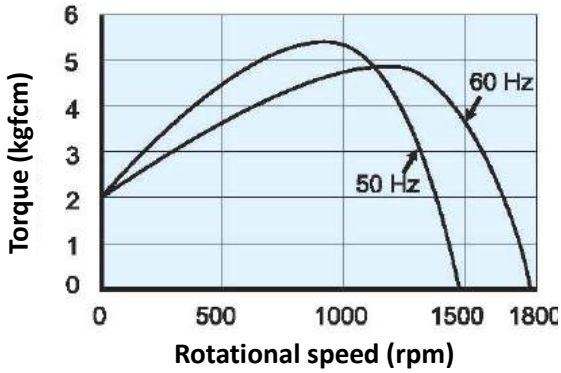
Specifications of Tri-phase Electromagnetic Clutch Brakes Continuous rating

Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK40N-SC /S-S50-A26-3	40	3Φ200	50	0.28	1350	2.89	0.86	7.00	-	G-5N□-L	G-5N□-K	G-5N10X-K
			60	0.26	1600	2.44	0.80	7.00				
	40	3Φ220	50	0.30	1375	2.84	0.93	7.00	-			
			60	0.26	1650	2.36	0.67	7.00				
	40	3Φ230	50	0.30	1375	2.84	0.93	7.00	-			
			60	0.26	1675	2.33	0.91	7.00				
	40	3Φ380	50	0.17	1375	2.84	0.53	7.00	-			
M-5IK40N-UC /S-S50-A26-3	40	3Φ400	50	0.18	1375	2.84	0.57	7.00	-			
			60	0.16	1650	2.36	0.53	7.00				
	40	3Φ415	50	0.16	1375	2.84	0.48	7.00	-			
			60	0.14	1650	2.36	0.45	7.00				
	40	3Φ440	50	0.16	1400	2.78	0.51	7.00	-			
			60	0.14	1675	2.33	0.48	7.00				
	40	3Φ460	50	0.17	1400	2.78	0.53	7.00	-			
			60	0.14	1675	2.33	0.50	7.00				

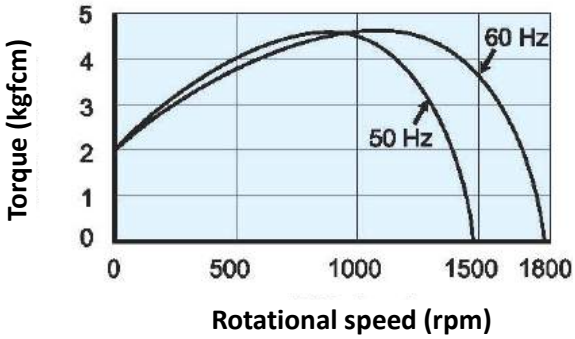
Electromagnetic Clutch Brake Motors 40W

Characteristics of Single-phase Electromagnetic Clutch Brake Motors

M-5IK40N-AC/S-S50-A26-3

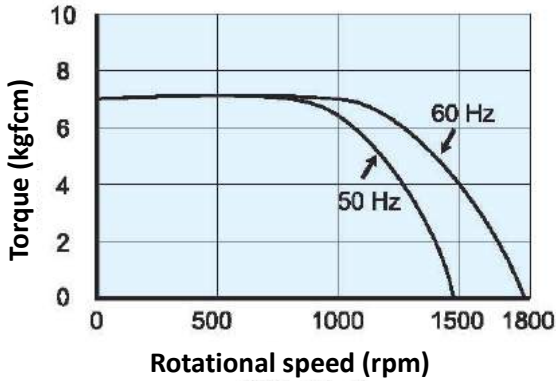


M-5IK40N-CC/S-S50-A26-3

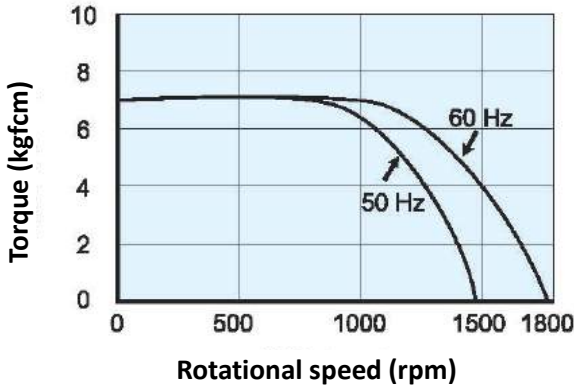


Characteristics of Tri-phase Electromagnetic Clutch Brake Motors

M-5IK40N-SC/S-S50-A26-3



M-5IK40N-UC/S-S50-A26-3



Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-K/L	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Coil Production Line

In the long process of human history, the truths, as heavy as gold, are always drowned in the riverbed and remain hard to discover. On the contrary, fallacies, like cow dung, always float to the surface, and are widespread unchecked. Bacon

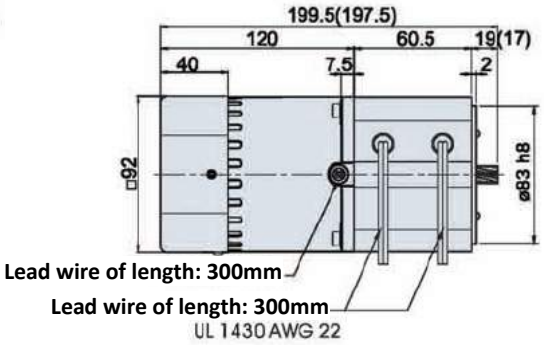
All great truths begin as blasphemies. George Bernard Shaw
Thousands of roads lead to fallacy, but only one leads to truth. Rousseau
It is truth that makes people great, not the other way around. Romain Rolland

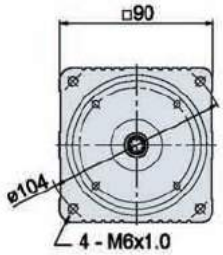
Electromagnetic Clutch Brake Motor 60W

Electromagnetic Clutch Brake Motor [Frame 5][40W]

Single-phase/Tri-phase Speed Adjusting Electromagnetic Clutch Brake Motor

M-5IK60N-□FC/S-S50-A26-3
M-5IK60U-□FC/S-S50-A26-4





Weight: 4.1kg

* **The dimensions inside the brackets belong to N-type gear shafts, which are coupled to those of the gear box and the intermediate gear box, and should match with G-5N□-$^{K}_{L}$**

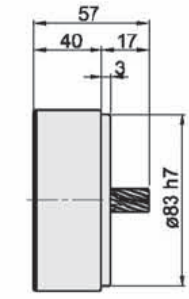
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20
Speed adjusting: 3 wires, UL 3266 AWG 20

Specifications of Clutches and Brakes

Specification	Clutch	Brake	Specification	Clutch	Brake
Output power of motors (W)	60		Attracting time (msec)	15	15
DC rated voltage (V)	24		Torque set-up time (msec)	20	20
Friction torque (kgfcm)	38	38	Release time (msec)	25	25
Dynamical friction torque (kgfcm)	35	35	Motion frequency (cycle per second)	100	100
Power (W)	11	11	Lead wire (UL 1430, AWG22, L=180)	Blue	Black
Level of insulation	E	E	Brake pad	Non-asbestos semimetal	

Intermediate Gear Box

G-5N10X-K

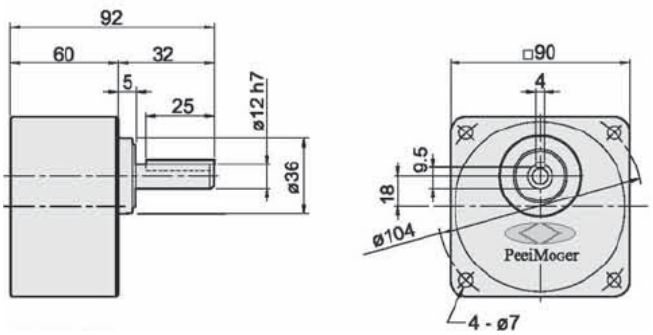


Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

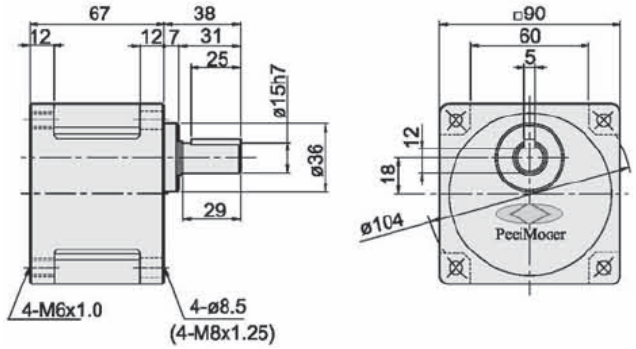
Gear Box

G-5N□-$^{K}_{L}$



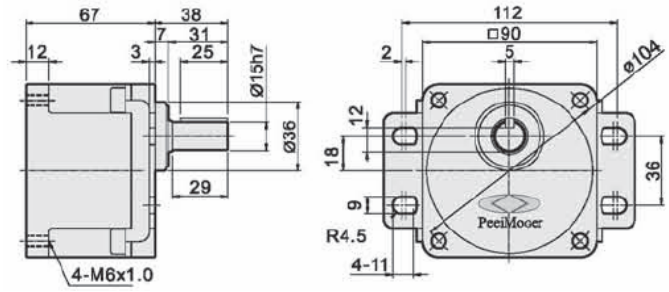
Gear Box

G-5U□-K



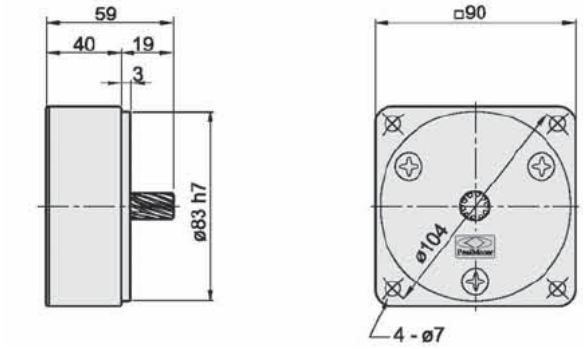
Gear Box with Foot Stand

G-5U□-KF

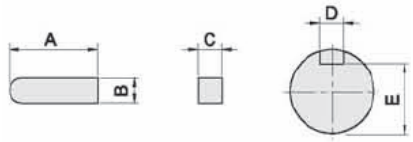


Intermediate Gear Box

G-5U10X-K

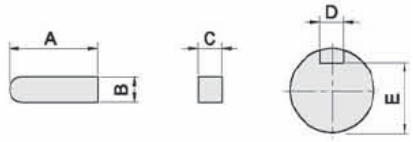


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{\ 0}_{-0.15}$

Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-K	25	$5^{\ 0}_{-0.03}$	$5^{\ 0}_{-0.03}$	$5^{+0.05}_{\ 0}$	$12^{\ 0}_{-0.15}$

Weight List of Gear Boxes

Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73
G-5U10X-K	0.64

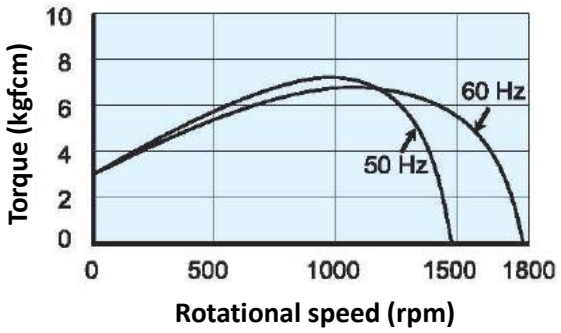
Electromagnetic Clutch Brake Motor 60W

Specifications of Single-phase Electromagnetic Clutch Brakes Continuous rating

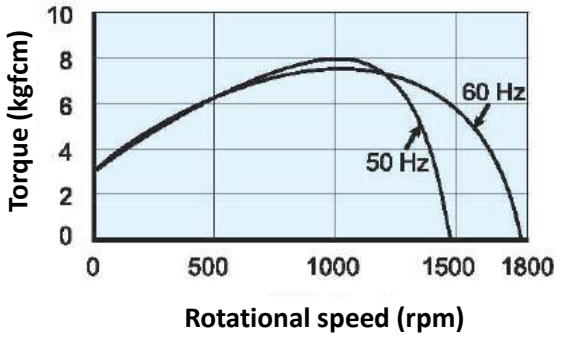
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK60N-AFC /S-S50-A26-3 M-5IK60U-AFC /S-S50-A26-4	60	1Φ100	50	1.08	1350	4.33	2.32	3.00	18.0	G-5N□-L -	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
			60	1.12	1650	3.54	2.15	3.00				
	60	1Φ110	50	1.04	1375	4.25	2.50	3.00	16.0			
			60	1.07	1675	3.49	2.38	3.00				
	60	1Φ115	50	1.08	1375	4.25	2.54	3.00	16.0			
			60	1.12	1675	3.49	2.52	3.00				
	60	1Φ120	50	1.18	1375	4.25	2.74	3.00	14.0			
			60	0.97	1700	3.44	2.65	3.00				
M-5IK60N-CFC /S-S50-A26-3 M-5IK60U-CFC /S-S50-A26-4	60	1Φ200	50	0.52	1375	4.25	1.12	3.00	5.0			
			60	0.57	1675	3.49	1.03	3.00				
	60	1Φ220	50	0.51	1375	4.25	1.22	3.00	4.0			
			60	0.49	1675	3.49	1.13	3.00				
	60	1Φ230	50	0.51	1400	4.18	1.24	3.00	4.0			
			60	0.49	1700	3.44	1.20	3.00				
	60	1Φ240	50	0.60	1375	4.25	1.30	3.00	3.0			
			60	0.45	1675	3.49	1.19	3.00				

Characteristics of Single-phase Electromagnetic Clutch Brake Motors

M-5IK60N-AFC/S-S50-A26-3
M-5IK60U-AFC/S-S50-A26-4



M-5IK60N-CFC/S-S50-A26-3
M-5IK60U-CFC/S-S50-A26-4



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-K L	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

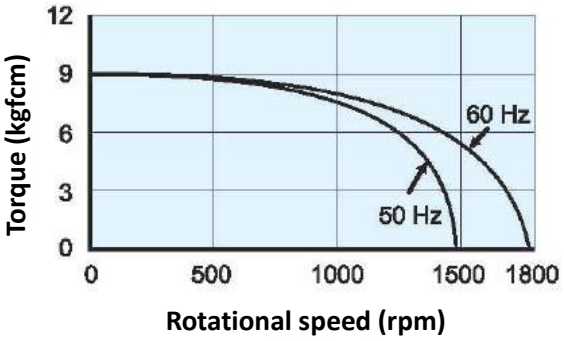
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Specifications of Tri-phase Electromagnetic Clutch Brakes Continuous rating

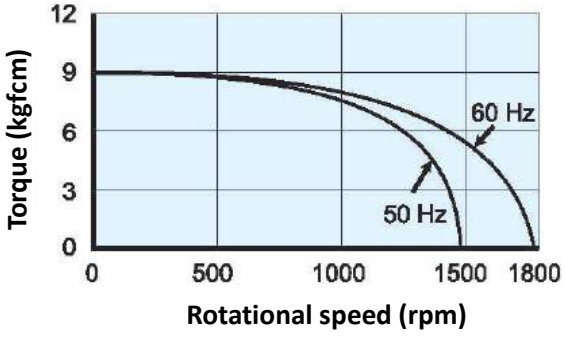
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK60N-SFC /S-S50-A26-3 M-5IK60U-SFC /S-S50-A26-4	60	3Φ200	50	0.45	1350	4.33	1.22	9.00	-	G-5N□-L -	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
			60	0.36	1625	3.60	1.12	9.00				
	60	3Φ220	50	0.49	1375	4.25	1.34	9.00	-			
			60	0.41	1650	3.54	1.27	9.00				
	60	3Φ230	50	0.50	1400	4.18	1.28	9.00	-			
			60	0.41	1675	3.49	1.31	9.00				
	60	3Φ380	50	0.27	1375	4.25	0.76	9.00	-			
M-5IK60N-UFC /S-S50-A26-3 M-5IK60U-UFC /S-S50-A26-4	60	3Φ400	50	0.28	1400	4.18	0.72	9.00	-			
			60	0.23	1675	3.49	0.75	9.00				
	60	3Φ415	50	0.25	1400	4.18	0.70	9.00	-			
			60	0.20	1675	3.49	0.70	9.00				
	60	3Φ440	50	0.28	1400	4.18	0.66	9.00	-			
			60	0.22	1675	3.49	0.76	9.00				
	60	3Φ460	50	0.31	1400	4.18	0.63	9.00	-			
			60	0.23	1700	3.44	0.73	9.00				

Characteristics of Tri-phase Electromagnetic Clutch Brake Motors

M-5IK60N-SFC/S-S50-A26-3
M-5IK60U-SFC/S-S50-A26-4



M-5IK60N-UFC/S-S50-A26-3
M-5IK60U-UFC/S-S50-A26-4



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		10	16	24	27	32	40	48	54	64	77	93	155	200	200	200	200	200	200	200	200	200	200	200

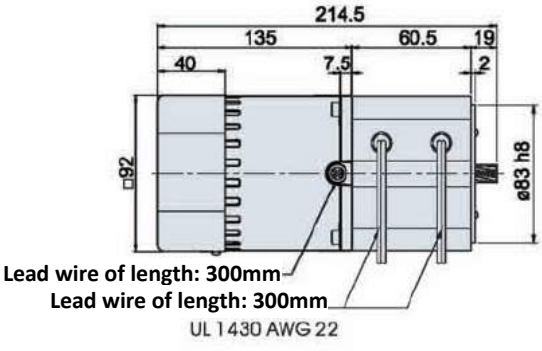
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

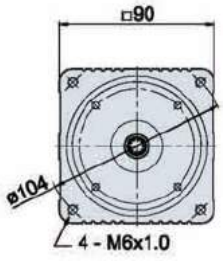
Electromagnetic Clutch Brake Motor 90W

Electromagnetic Clutch Brake Motor [Frame 5][90W]

Single-phase/Tri-phase Speed Adjusting Electromagnetic Clutch Brake Motor

M-5IK90U-□FC/S-S50-A26-4





Weight: 4.7kg

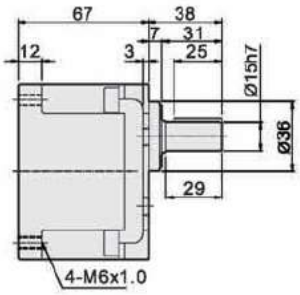
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20
Speed adjusting: 3 wires, UL 3266 AWG 20

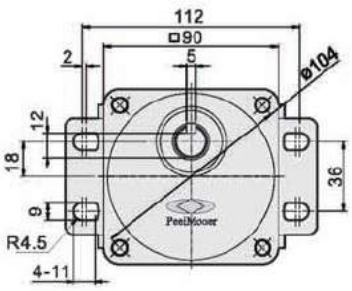
Specifications of Clutches and Brakes

Specification	Clutch	Brake	Specification	Clutch	Brake
Output power of motors (W)	90		Attracting time (msec)	15	15
DC rated voltage (V)	24		Torque set-up time (msec)	20	20
Friction torque (kgfcm)	38	38	Release time (msec)	25	25
Dynamical friction torque (kgfcm)	35	35	Motion frequency (cycle per second)	100	100
Power (W)	11	11	Lead wire (UL 1430, AWG22, L=180)	Blue	Black
Level of insulation	E	E	Brake pad	Non-asbestos semimetal	

Gear Box with Foot Stand

G-5U□-KF



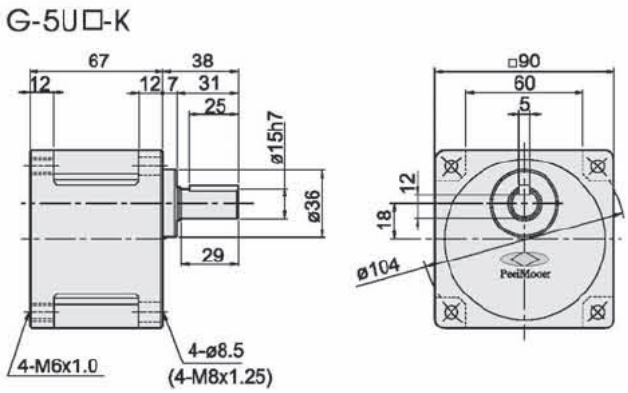


Weight List of Gear Boxes

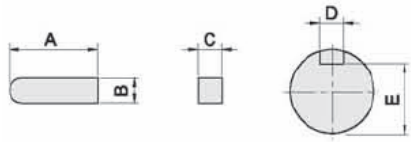
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



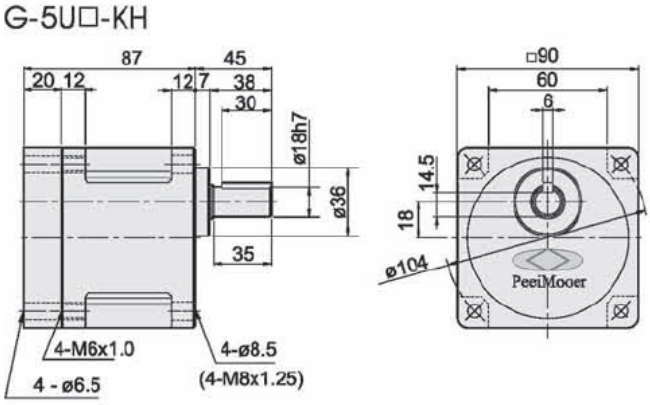
Gear Box: Key and Keyway Dimension



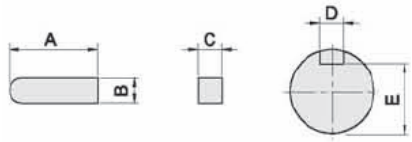
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



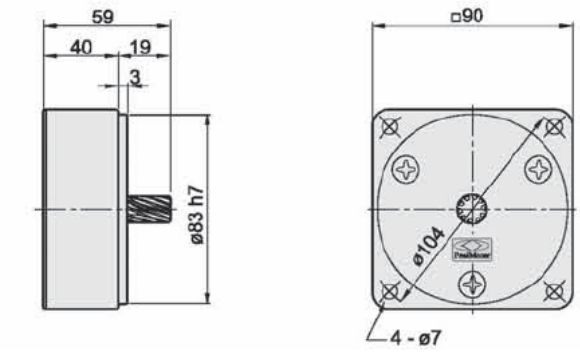
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

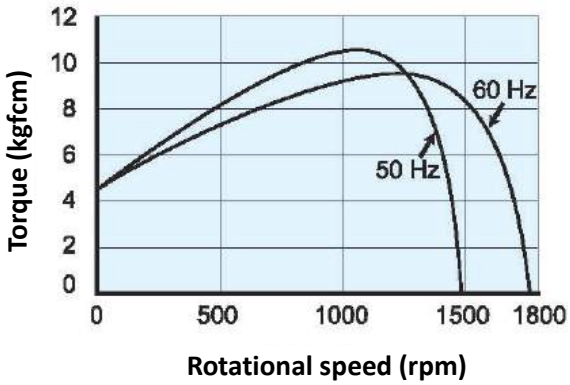
Electromagnetic Clutch Brake Motor 90W

Specifications of Single-phase Electromagnetic Clutch Brakes Continuous rating

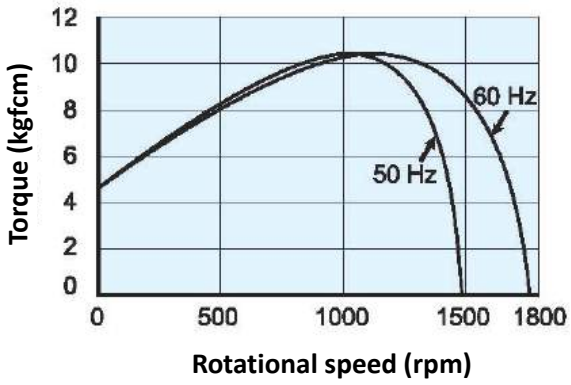
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK90U-AFC /S-S50-A26-4	90	1Φ100	50	1.40	1350	6.49	3.24	4.50	25.0	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	1.54	1650	5.31	3.00	4.50				
	90	1Φ110	50	1.40	1375	6.37	3.63	4.50	20.0			
			60	1.37	1675	5.29	3.49	4.50				
	90	1Φ115	50	1.51	1375	6.37	3.79	4.50	20.0			
			60	1.29	1675	5.23	3.47	4.50				
	90	1Φ120	50	1.66	1375	6.37	3.88	4.50	18.0			
			60	1.41	1675	5.23	4.16	4.50				
M-5IK90U-CFC /S-S50-A26-4	90	1Φ200	50	0.71	1350	6.49	1.75	4.50	6.0			
			60	0.75	1650	5.31	1.57	4.50				
	90	1Φ220	50	0.68	1375	6.37	1.91	4.50	5.0			
			60	0.69	1675	5.23	1.81	4.50				
	90	1Φ230	50	0.72	1375	6.37	1.94	4.50	5.0			
			60	0.71	1675	5.23	1.90	4.50				
	90	1Φ240	50	0.85	1375	6.37	2.11	4.50	4.0			
			60	0.60	1675	5.23	1.95	4.50				

Characteristics of Single-phase Electromagnetic Clutch Brake Motors

M-5IK90U-AFC/S-S50-A26-4



M-5IK90U-CFC/S-S50-A26-4



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

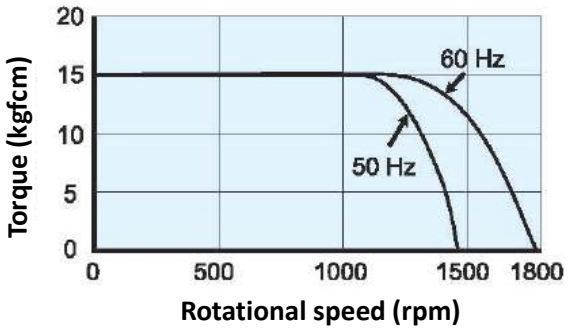
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Specifications of Tri-phase Electromagnetic Clutch Brakes Continuous rating

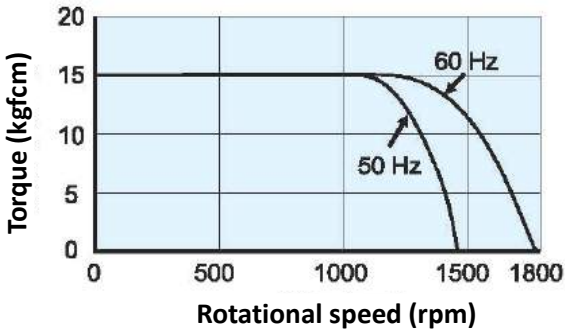
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK90U-SFC /S-S50-A26-4	90	3Φ200	50	0.65	1375	6.37	2.59	15.00	-	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	0.55	1650	5.31	2.07	15.00				
	90	3Φ220	50	0.79	1375	6.37	2.35	15.00	-			
			60	0.58	1675	5.23	2.20	15.00				
	90	3Φ230	50	0.84	1400	6.26	2.25	15.00	-			
			60	0.61	1675	5.23	2.11	15.00				
	90	3Φ380	50	0.41	1400	6.26	1.36	15.00	-			
M-5IK90U-UFC /S-S50-A26-4	90	3Φ400	50	0.46	1400	6.26	1.30	15.00	-			
			60	0.35	1675	5.23	1.21	15.00				
	90	3Φ415	50	0.31	1375	6.37	1.22	15.00	-			
			60	0.25	1650	5.31	1.09	15.00				
	90	3Φ440	50	0.34	1375	6.37	1.15	15.00	-			
			60	0.27	1650	5.31	1.03	15.00				
	90	3Φ460	50	0.36	1400	6.26	1.10	15.00	-			
			60	0.27	1675	5.23	0.99	15.00				

Characteristics of Tri-phase Electromagnetic Clutch Brake Motors

M-5IK90U-SFC/S-S50-A26-4



M-5IK90U-UFC/S-S50-A26-4



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

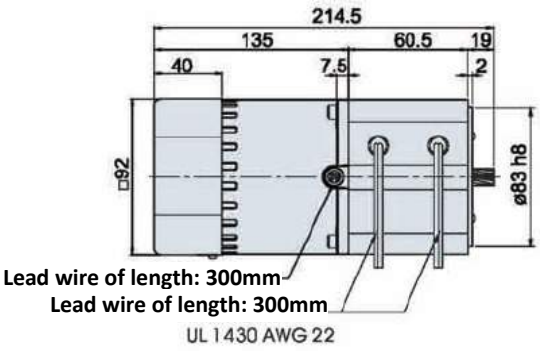
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

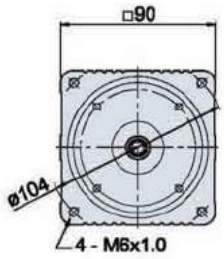
Electromagnetic Clutch Brake Motor 120W

Electromagnetic Clutch Brake Motor [Frame 5][120W]

Single-phase/Tri-phase Speed Adjusting Electromagnetic Clutch Brake Motor

M-5IK120U-□FC/S-S50-A26-4





Weight: 4.7kg

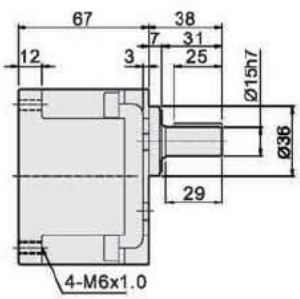
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20
Speed adjusting: 3 wires, UL 3266 AWG 20

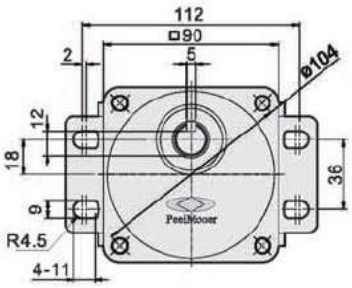
Specifications of Clutches and Brakes

Specification	Clutch	Brake	Specification	Clutch	Brake
Output power of motors (W)	120		Attracting time (msec)	15	15
DC rated voltage (V)	24		Torque set-up time (msec)	20	20
Friction torque (kgfcm)	38	38	Release time (msec)	25	25
Dynamical friction torque (kgfcm)	35	35	Motion frequency (cycle per second)	100	100
Power (W)	11	11	Lead wire (UL 1430, AWG22, L=180)	Blue	Black
Level of insulation	E	E	Brake pad	Non-asbestos semimetal	

Gear Box with Foot Stand

G-5U□-KF



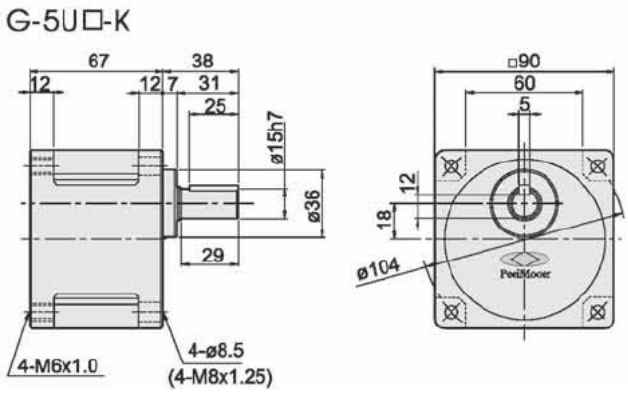


Weight List of Gear Boxes

Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

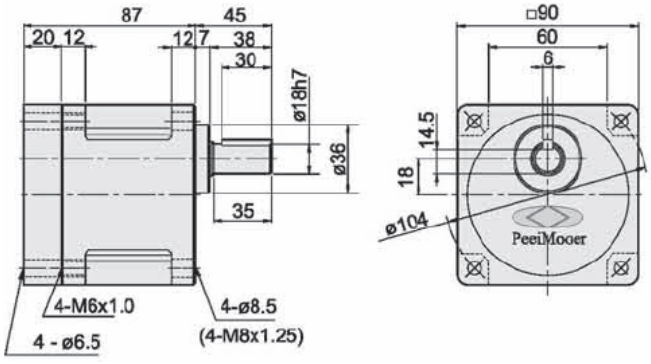
Gear Box

G-5U□-K



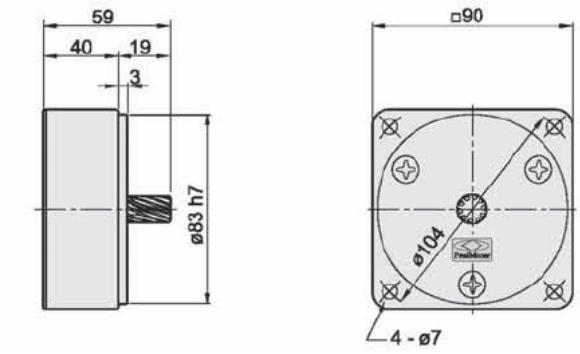
Gear Box

G-5U□-KH

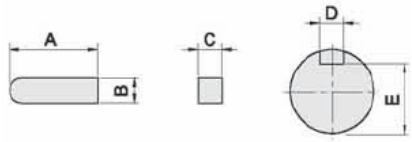


Intermediate Gear Box

G-5U10X-K

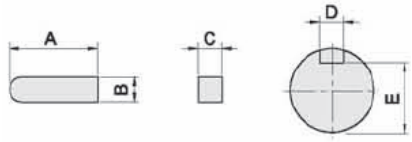


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

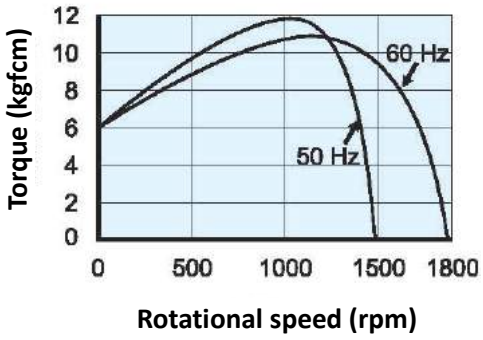
Electromagnetic Clutch Brake Motor 120W

Specifications of Single-phase Electromagnetic Clutch Brakes Continuous rating

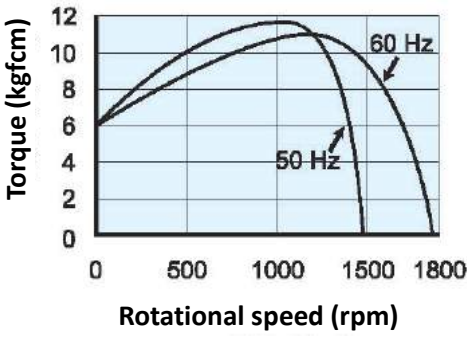
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK120U-AFC /S-S50-A26-4	120	1Φ100	50	2.24	1300	8.99	4.01	6.00	30.0	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	1.98	1600	7.30	2.97	6.00				
	120	1Φ110	50	1.77	1325	8.82	3.51	6.00	28.0			
			60	1.78	1650	7.08	3.24	6.00				
	120	1Φ115	50	1.71	1350	8.66	3.77	6.00	28.0			
			60	1.74	1675	6.98	3.34	6.00				
	120	1Φ120	50	1.72	1350	8.66	3.85	6.00	25.0			
			60	1.66	1675	6.98	3.70	6.00				
M-5IK120U-CFC /S-S50-A26-4	120	1Φ200	50	0.98	1275	9.17	1.73	6.00	7.0			
			60	0.94	1600	7.30	1.57	6.00				
	120	1Φ220	50	0.80	1325	8.82	1.85	6.00	6.0			
			60	0.89	1625	7.19	1.75	6.00				
	120	1Φ230	50	0.84	1325	8.82	1.90	6.00	6.0			
			60	0.91	1625	7.19	1.80	6.00				
	120	1Φ240	50	0.87	1325	8.82	2.00	6.00	5.0			
			60	0.79	1650	7.08	1.96	6.00				

Characteristics of Single-phase Electromagnetic Clutch Brake Motors

M-5IK120U-AFC/S-S50-A26-4



M-5IK120U-CFC/S-S50-A26-4



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

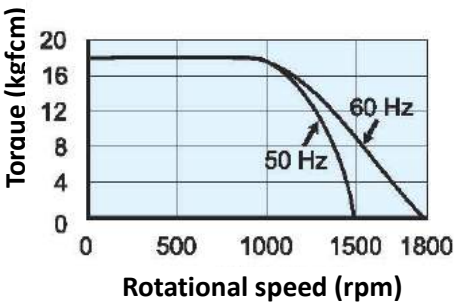
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Specifications of Tri-phase Electromagnetic Clutch Brakes Continuous rating

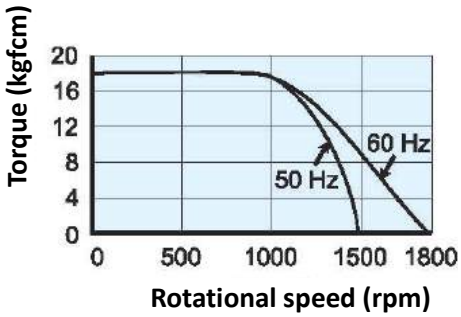
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK120U-SFC /S-S50-A26-4	120	3Φ200	50	0.75	1300	8.99	2.59	18.00	-	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	0.67	1575	7.42	2.07	18.00				
	120	3Φ220	50	0.81	1350	8.66	2.35	18.00	-			
			60	0.68	1550	7.54	2.04	18.00				
	120	3Φ230	50	0.89	1350	8.66	2.25	18.00	-			
			60	0.65	1650	7.08	1.95	18.00				
	120	3Φ380	50	0.45	1350	8.66	1.36	18.00	-			
M-5IK120U-UFC /S-S50-A26-4	120	3Φ400	50	0.48	1375	8.50	1.30	18.00	-			
			60	0.37	1650	7.08	1.12	18.00				
	120	3Φ415	50	0.35	1300	8.99	1.22	18.00	-			
			60	0.31	1575	7.42	1.09	18.00				
	120	3Φ440	50	0.38	1325	8.82	1.15	18.00	-			
			60	0.31	1600	7.30	1.03	18.00				
	120	3Φ460	50	0.38	1350	8.66	1.10	18.00	-			
			60	0.31	1625	7.19	0.99	18.00				

Characteristics of Tri-phase Electromagnetic Clutch Brake Motors

M-5IK120U-SFC/S-S50-A26-4



M-5IK120U-UFC/S-S50-A26-4



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

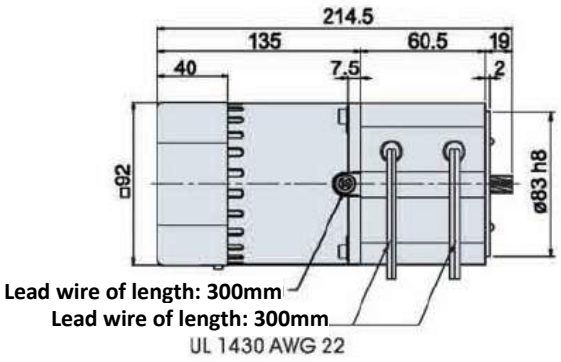
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

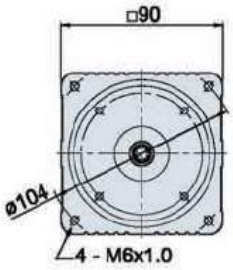
Electromagnetic Clutch Brake Motor 150W

Electromagnetic Clutch Brake Motor [Frame 5][150W]

Single-phase/Tri-phase Speed Adjusting Electromagnetic Clutch Brake Motor

M-5IK150U-□FC/S-S50-A26-4





Weight: 4.7kg

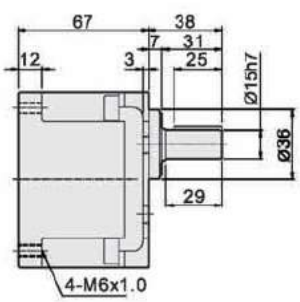
Single-phase: 4 wires, UL 3266 AWG 20
Tri-phase: 6 wires, UL 3266 AWG 20
Speed adjusting: 3 wires, UL 3266 AWG 20

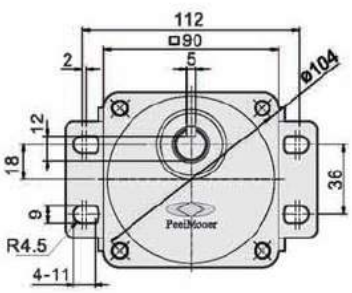
Specifications of Clutches and Brakes

Specification	Clutch	Brake	Specification	Clutch	Brake
Output power of motors (W)	150		Attracting time (msec)	15	15
DC rated voltage (V)	24		Torque set-up time (msec)	20	20
Static friction torque (kgfcm)	38	38	Release time (msec)	25	25
Kinetic friction torque (kgfcm)	35	35	Motion frequency (cycle per second)	100	100
Power (W)	11	11	Lead wire (UL 1430, AWG22, L=180)	Blue	Black
Level of insulation	E	E	Brake pad	Non-asbestos semimetal	

Gear Box with Foot Stand

G-5U□-KF



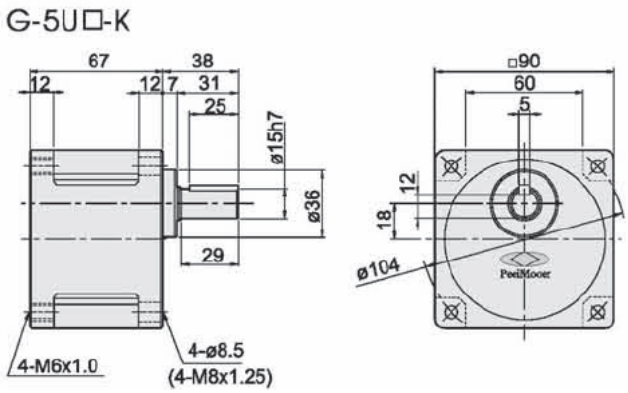


Weight List of Gear Boxes

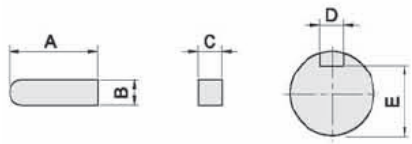
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



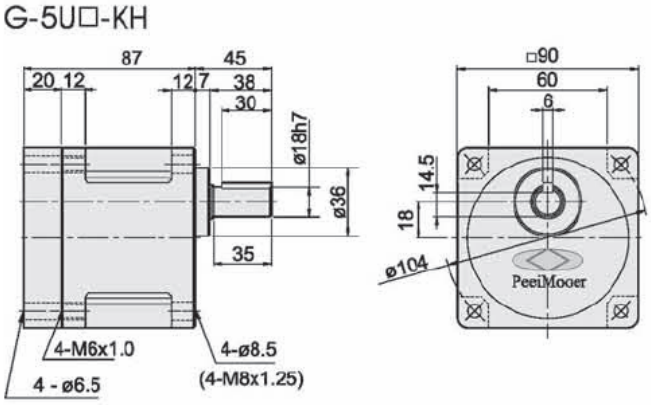
Gear Box: Key and Keyway Dimension



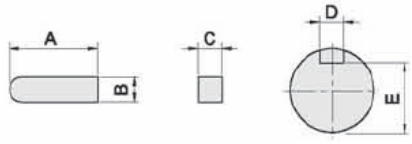
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



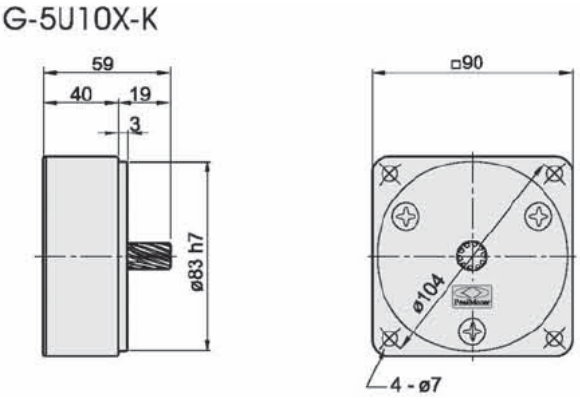
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

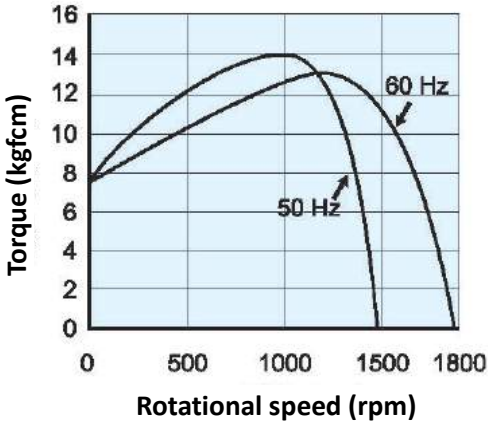
Electromagnetic Clutch Brake Motor 150W

Specifications of Single-phase Electromagnetic Clutch Brakes Continuous rating

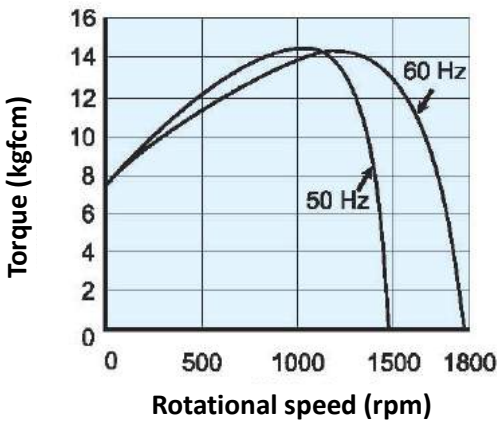
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK150U-AFC /S-S50-A26-4	150	1Φ100	50	2.62	1275	11.46	4.51	7.50	36.0	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	2.45	1575	9.27	3.47	7.50				
	150	1Φ110	50	2.11	1300	11.24	4.26	7.50	32.0			
			60	2.14	1625	8.99	3.81	7.50				
	150	1Φ115	50	2.00	1325	11.02	4.46	7.50	32.0			
			60	2.25	1625	8.99	4.13	7.50				
	150	1Φ120	50	2.05	1325	11.02	4.27	7.50	28.0			
			60	2.28	1650	8.85	5.03	7.50				
M-5IK150U-CFC /S-S50-A26-4	150	1Φ200	50	1.11	1300	11.24	2.35	7.50	9.0			
			60	1.18	1625	8.99	2.17	7.50				
	150	1Φ220	50	1.07	1325	11.02	2.42	7.50	8.0			
			60	1.31	1625	8.99	2.77	7.50				
	150	1Φ230	50	1.21	1325	11.02	2.59	7.50	7.0			
			60	1.09	1650	8.85	2.82	7.50				
	150	1Φ240	50	1.33	1325	11.02	2.59	7.50	6.0			
			60	0.94	1650	8.85	2.68	7.50				

Characteristics of Single-phase Electromagnetic Clutch Brake Motors

M-5IK150U-AFC/S-S50-A26-4



M-5IK150U-CFC/S-S50-A26-4



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

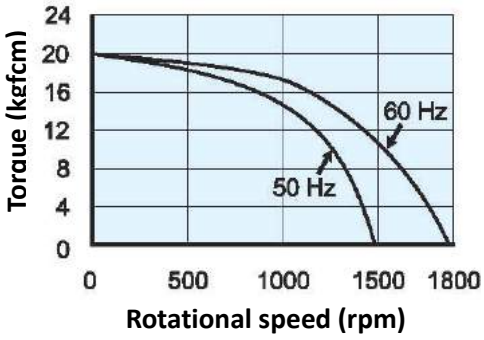
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Specifications of Tri-phase Electromagnetic Clutch Brakes Continuous rating

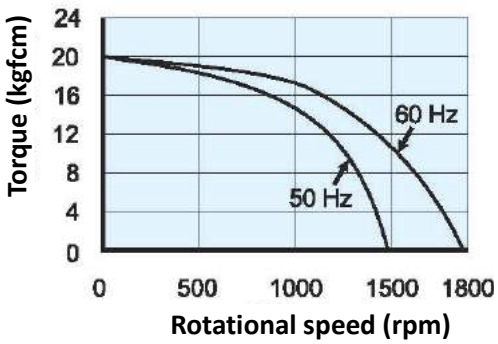
Motor model	Output power W	Voltage V	Frequency Hz	Rating			Starting		Capacitor uF	Coupled gear box model		
				Current A	Speed rpm	Torque kgfcm	Current A	Torque kgfcm		Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK150U-SFC /S-S50-A26-4	150	3Φ200	50	0.96	1275	11.46	2.54	20.00	-	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
			60	0.86	1525	9.58	2.36	20.00				
	150	3Φ220	50	1.08	1325	11.02	2.80	20.00	-			
			60	0.82	1600	9.13	2.60	20.00				
	150	3Φ230	50	1.17	1350	10.82	2.88	20.00	-			
			60	0.83	1625	8.99	2.70	20.00				
	150	3Φ380	50	0.60	1325	11.02	1.70	20.00	-			
M-5IK150U-UFC /S-S50-A26-4	150	3Φ400	50	0.65	1350	10.82	1.79	20.00	-			
			60	0.48	1625	8.99	1.65	20.00				
	150	3Φ415	50	0.41	1275	11.46	1.20	20.00	-			
			60	0.38	1525	9.58	1.12	20.00				
	150	3Φ440	50	0.43	1300	11.24	1.23	20.00	-			
			60	0.37	1575	9.27	1.18	20.00				
	150	3Φ460	50	0.45	1325	11.02	1.30	20.00	-			
			60	0.38	1575	9.27	1.25	20.00				

Characteristics of Tri-phase Electromagnetic Clutch Brake Motors

M-5IK150U-SFC/S-S50-A26-4



M-5IK150U-UFC/S-S50-A26-4



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

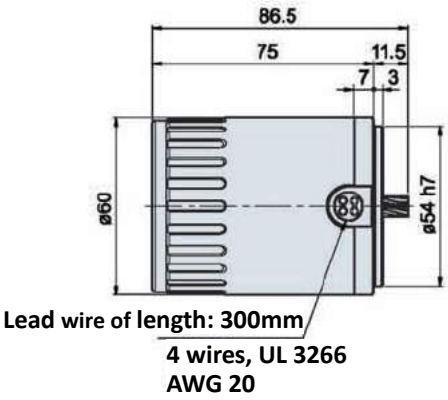
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Torque Induction Motors 3W

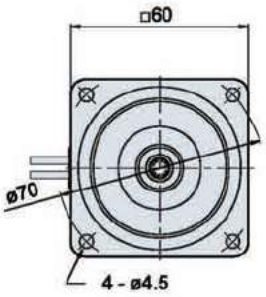
Torque Motors [Frame 2][3W]

Single-phase Torque Induction Motor

M-2TK3N-A



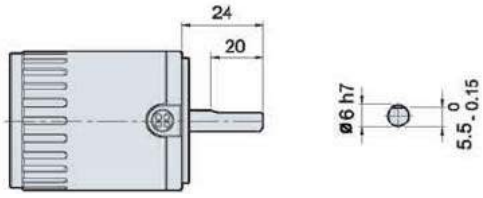
Lead wire of length: 300mm
4 wires, UL 3266
AWG 20



Weight: 0.75 kg

Circular Shaft Specification

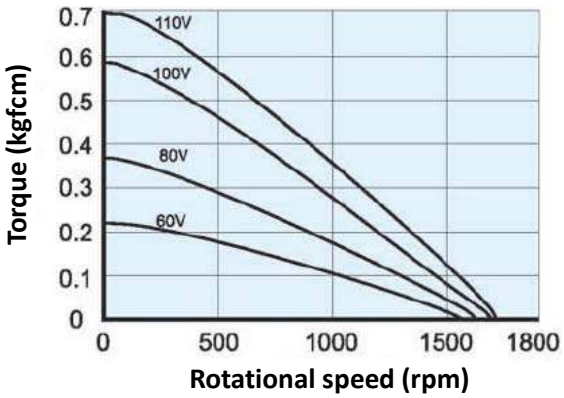
M-2TK3A-A



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Characteristics of Single-phase Torque Induction Motors

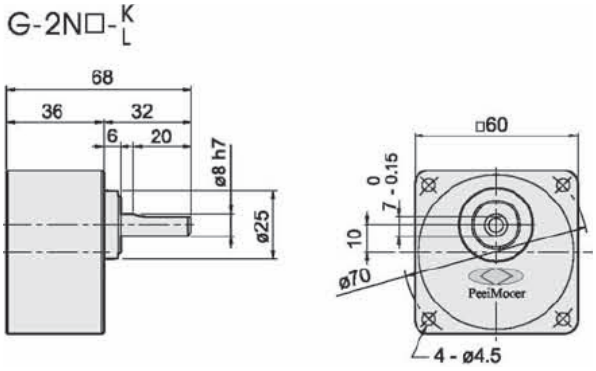
M-2TK3N-A / M-2TK3A-A



Specifications of Single-phase Torque Induction Motors

Motor model	Rated time	Voltage V	Frequency Hz	Starting torque kgfcm	Output power W	At max. output power				Capacitor uF	Coupled gear box model		
						Rotational speed (rpm)	Torque kgfcm	Current A	Input W		Oil bearing	Ball bearing	Intermediate speed ratio
M-2TK3N-A M-2TK3A-A	5min	110	60	0.70	3	900	0.39	0.28	26	40 (250)	G-2N□-L	G-2N□-L	G-2N10X-K
	CONT.	60	60	0.23	1	900	0.13	0.18	10	40 (250)			

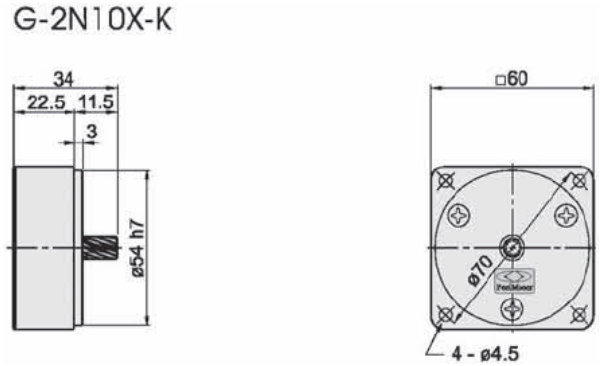
Gear Box



Weight List of Gear Boxes

Model	Weight (kg)
G-2N3-K / L~G-2N18-K / L	0.30
G-2N20-K / L~G-2N60-K / L	0.31
G-2N75-K / L~G-2N180-K / L	0.33
G-2N10X-K	0.20

Intermediate Gear Box



Maximum Allowable Torque of Gear Boxes

Model			Coupled intermediate gear box																						
	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-2N□-K/L	Max. allowable torque (kgfcm)		1.0	1.6	2.5	2.7	3.4	4.1	5.0	5.4	6.7	8.1	9.7	16	23	25	25	25	25	25	25	25	25	25	25

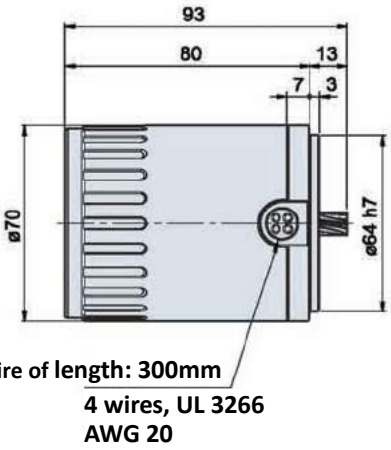
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Torque Induction Motors 6W

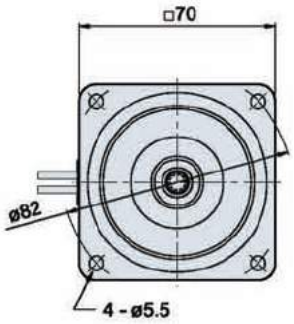
Torque Motors [Frame 3][6W]

Single-phase Torque Induction Motor

M-3TK6N-A



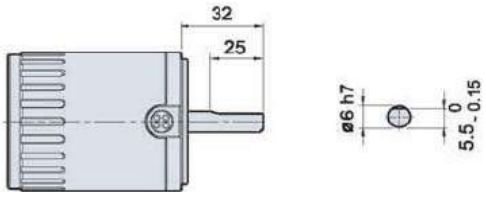
Lead wire of length: 300mm
4 wires, UL 3266
AWG 20



Weight: 1.05 kg

Circular Shaft Specification

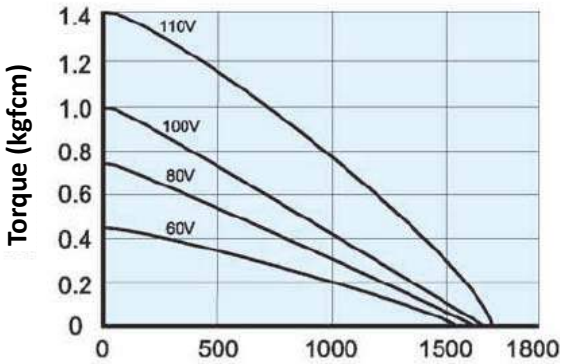
M-3TK6A-A



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Characteristics of Single-phase Torque Induction Motors

M-3TK6N-A / M-3TK6A-A

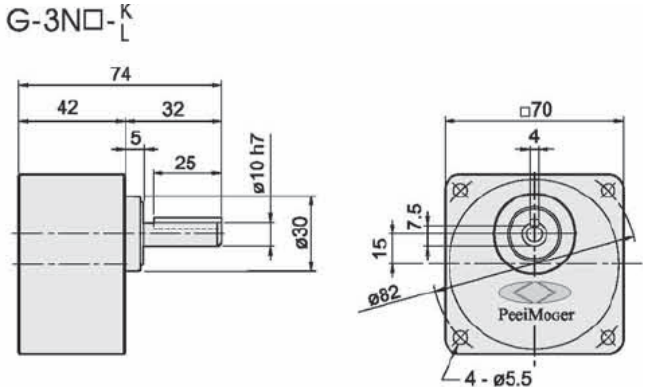


Specifications of Single-phase Torque Induction Motors

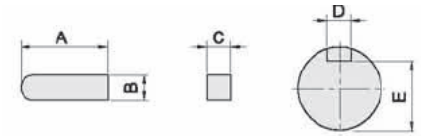
Motor model	Rated time	Voltage V	Frequency Hz	Starting torque kgfcm	Output power W	At max. output power				Capacitor uF	Coupled gear box model		
						Rotational speed (rpm)	Torque kgfcm	Current A	Input W		Oil bearing	Ball bearing	Intermediate speed ratio
M-3TK6N-A M-3TK6A-A	5min	110	60	1.40	7	900	0.78	0.59	61	8.0 (250)	G-3N□-L	G-3N□-L	G-3N10X-K
	CONT.	60	60	0.45	2.4	900	0.27	0.34	20	8.0 (250)			

Gear Box

G-3N□-$^{K}_{L}$



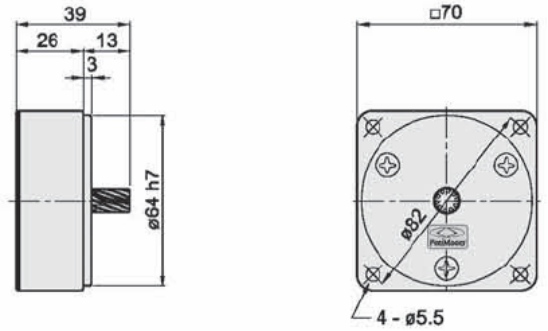
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-3N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-3N10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-3N3-K / L~G-3N18-K / L	0.44
G-3N20-K / L~G-3N60-K / L	0.48
G-3N75-K / L~G-3N180-K / L	0.53
G-3N10X-K	0.32

Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-3N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		2.4	4.0	6.0	6.7	8.2	10	12	13	16	19	23	39	50	50	50	50	50	50	50	50	50	50	50

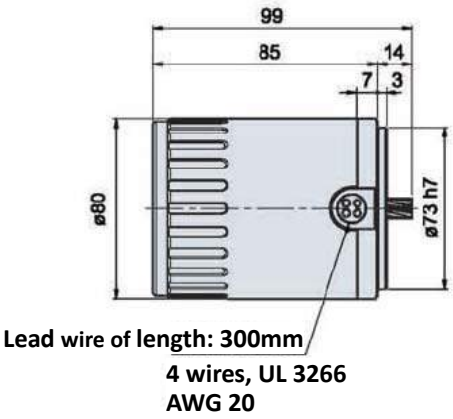
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Torque Induction Motors 10W

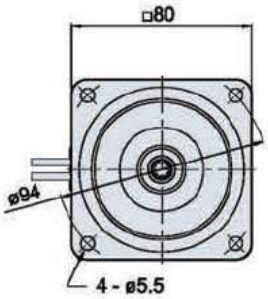
Torque Motors [Frame 4][10W]

Single-phase Torque Induction Motor

M-4TK10N-A



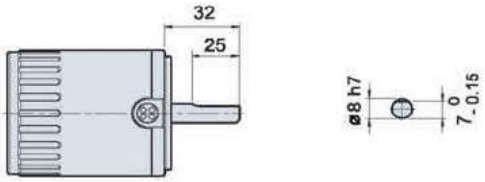
Lead wire of length: 300mm
4 wires, UL 3266
AWG 20



Weight: 1.6 kg

Circular Shaft Specification

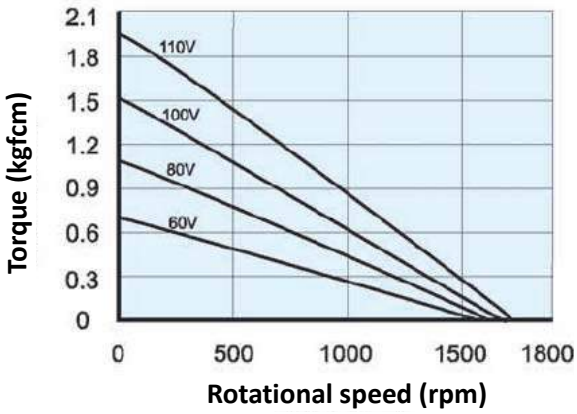
M-4TK10A-A



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Characteristics of Single-phase Torque Induction Motors

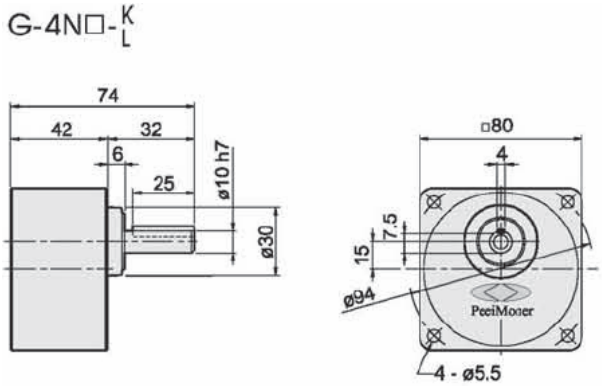
M-4TK10N-A / M-4TK10A-A



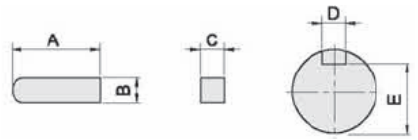
Specifications of Single-phase Torque Induction Motors

Motor model	Rated time	Voltage V	Frequency Hz	Starting torque kgfcm	Output power W	At max. output power				Capacitor uF	Coupled gear box model		
						Rotational speed (rpm)	Torque kgfcm	Current A	Input W		Oil bearing	Ball bearing	Intermediate speed ratio
M-4TK10N-A M-4TK10A-A	5min	110	60	2.00	9	900	1.00	0.61	64	8.0 (250)	G-4N□-L	G-4N□-L	G-4N10X-K
	CONT.	60	60	0.70	2.8	900	0.31	0.32	19	8.0 (250)			

Gear Box

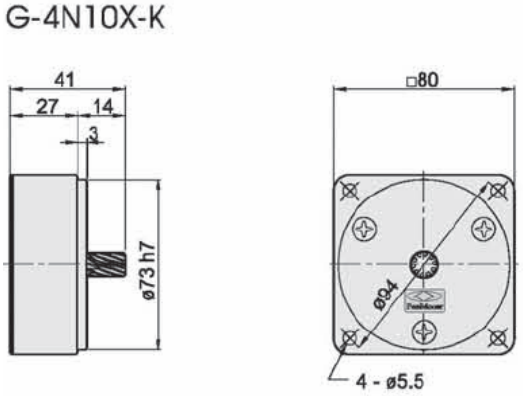


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-4N□-K/L	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{0}_{-0.15}$

Intermediate Gear Box



Weight List of Gear Boxes

Model	Weight (kg)
G-4N3-K / L~G-4N18-K / L	0.60
G-4N20-K / L~G-4N60-K / L	0.65
G-4N75-K / L~G-4N180-K / L	0.71
G-4N10X-K	0.41

Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-4N□-K/L	Max. allowable torque (kgfcm)		4.0	6.7	10	11	13	16	20	21	26	32	39	65	80	80	80	80	80	80	80	80	80	80	80

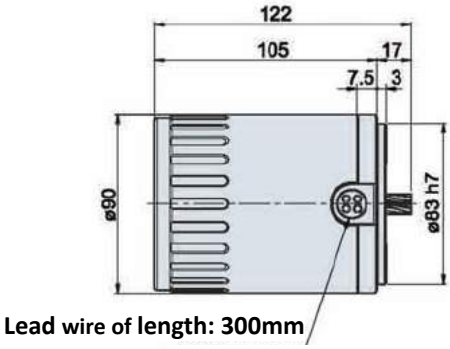
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Torque Induction Motors 20W

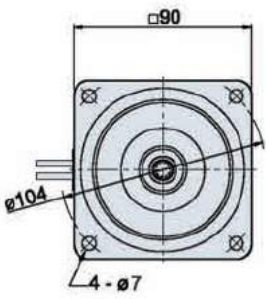
Torque Motors [Frame 5][20W]

Single-phase Torque Induction Motor

M-5TK20N-A



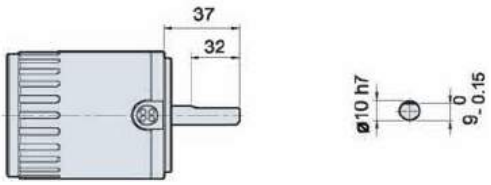
Lead wire of length: 300mm
4 wires, UL 3266
AWG 20



Weight: 2.45 kg

Circular Shaft Specification

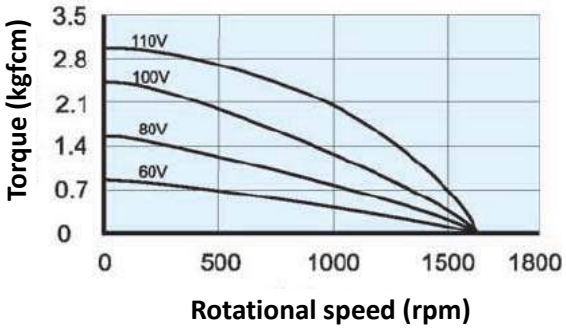
M-5TK20A-A



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Characteristics of Single-phase Torque Induction Motors

M-5TK20N-A / M-5TK20A-A

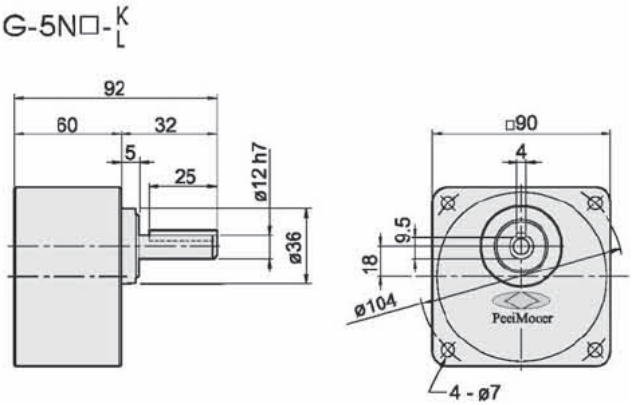


Specifications of Single-phase Torque Induction Motors

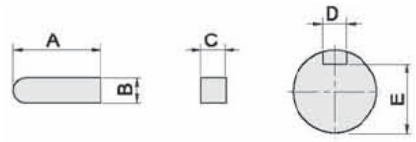
Motor model	Rated time	Voltage V	Frequency Hz	Starting torque kgfcm	Output power W	At max. output power				Capacitor uF	Coupled gear box model		
						Rotational speed (rpm)	Torque kgfcm	Current A	Input W		Oil bearing	Ball bearing	Intermediate speed ratio
M-5TK20N-A M-5TK20A-A	5min	110	60	3.20	22	900	2.30	1.00	108	12.0 (250)	G-5N□-L	G-5N□-L	G-5N10X-K
	CONT.	60	60	0.90	6	900	0.65	0.50	29	12.0 (250)			

Gear Box

G-5N□-$^{K}_{L}$



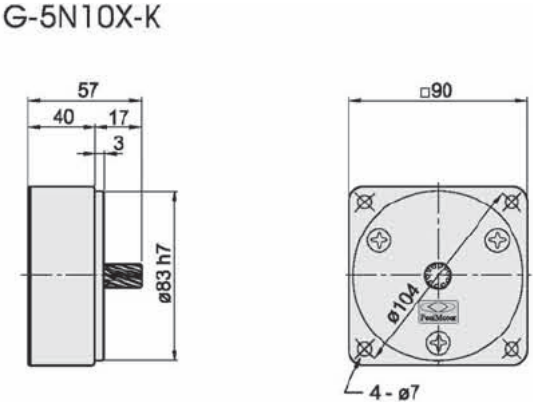
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-5N10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

Maximum Allowable Torque of Gear Boxes

																	Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

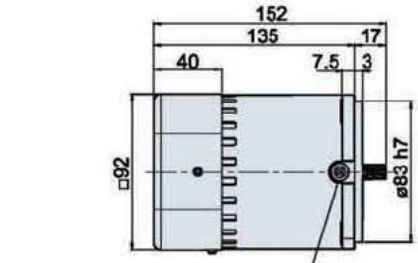
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Torque Induction Motors 40W

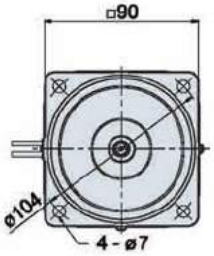
Torque Motors [Frame 5][40W]

Single-phase Torque Induction Motor

M-5TK40N-AF



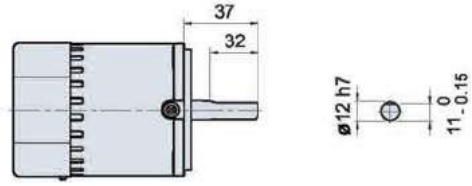
Lead wire of length: 300mm
4 wires, UL 3266
AWG 20



Weight: 3.2 kg

Circular Shaft Specification

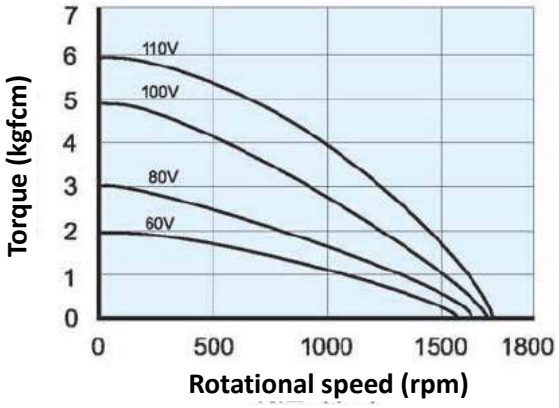
M-5TK40A-AF



Note: For applicable machine types, please refer to the models. We also provide customized motors.

Characteristics of Single-phase Torque Induction Motors

M-5TK40N-AF / M-5TK40A-AF

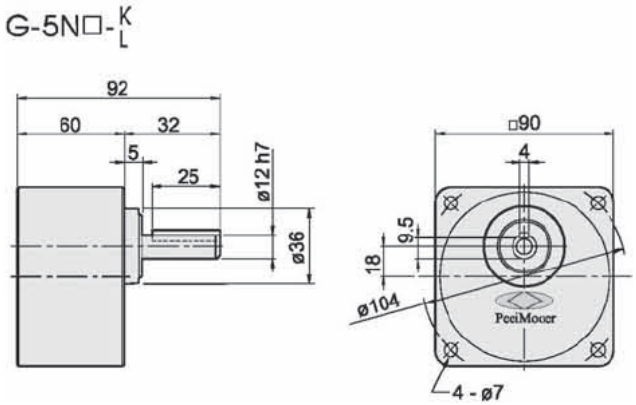


Specifications of Single-phase Torque Induction Motors

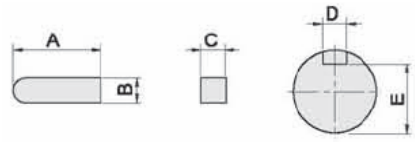
Motor model	Rated time	Voltage V	Frequency Hz	Starting torque kgfcm	Output power W	At max. output power				Capacitor uF	Coupled gear box model		
						Rotational speed (rpm)	Torque kgfcm	Current A	Input W		Oil bearing	Ball bearing	Intermediate speed ratio
M-5TK40N-AF M-5TK40A-AF	5min	110	60	5.90	39	900	4.30	1.70	165	25.0 (250)	G-5N□-L	G-5N□-L	G-5N10X-K
	CONT.	60	60	1.80	12	900	1.37	1.00	58	25.0 (250)			

Gear Box

G-5N□-$^{K}_{L}$



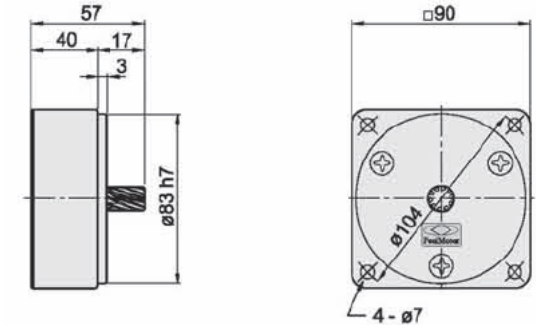
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□−$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-5N10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

Maximum Allowable Torque of Gear Boxes

			Coupled intermediate gear box																						
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□−$^{K}_{L}$	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

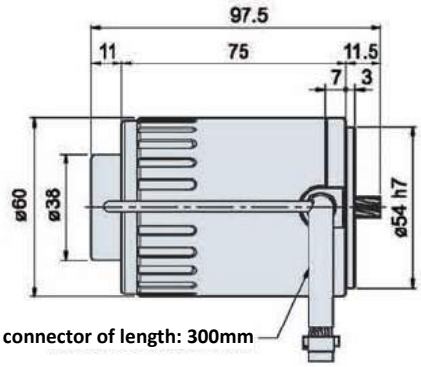
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Speed Control Motors 6W

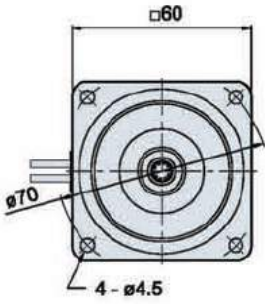
Speed Control Motors [Frame 2][6W]

Single-phase Speed Control Motor

M-2IK6N-□V / M-2IK6N- □VD



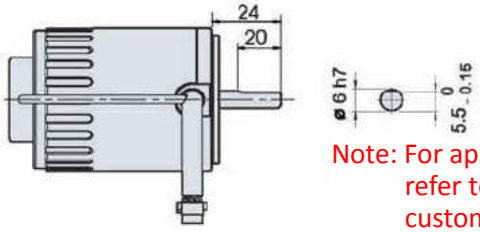
Lead wire with connector of length: 300mm



Weight: 0.77 kg

Circular Shaft Specification

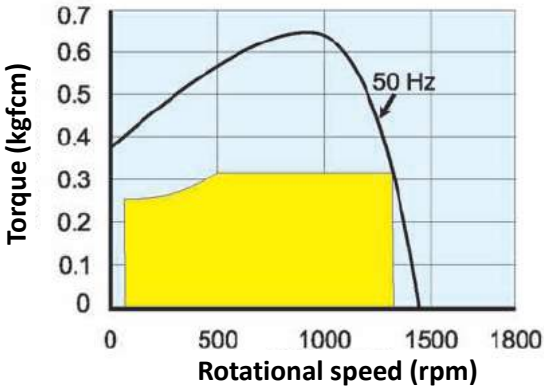
M-2IK6A-□V / M-2IK6A-□VD



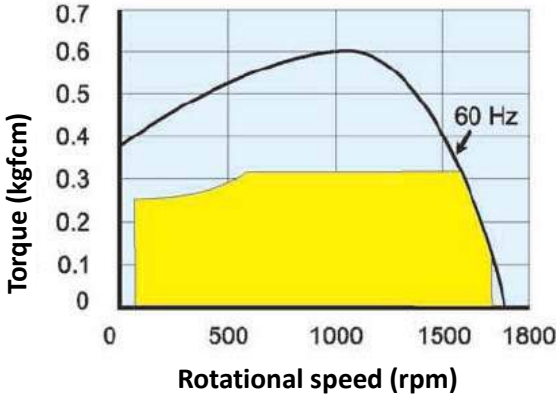
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Characteristics of Speed Control Motors

M-2IK6N-AV / M-2IK6N-AVD
M-2IK6A-AV / M-2IK6A-AVD



M-2IK6N-AV / M-2IK6N-AVD
M-2IK6A-AV / M-2IK6A-AVD

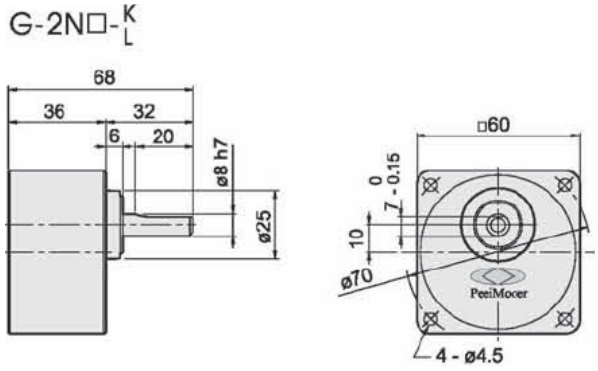


Specifications of Single-phase Speed Control Motors

Motor model	Pole	Output power W	Voltage V	Frequency Hz	Rated time	Variable range rpm	Allowable torque kgfcm		Starting current A	Starting torque kgfcm	Capacitor uF (V)	Speed controller	Coupled gear box model		
							1200	90					Oil bearing	Ball bearing	Intermediate speed ratio
M-2IK6N-AV M-2IK6N-AVD M-2IK6A-AV M-2IK6A-AVD	4	6	100~120	50	CONT.	90~1350	0.32	0.25	0.25	0.38	3.5 (250)	US-2I6A-A S□-2I6A-A□	G-2N□-L	G-2N□-K	G-2N10X-K
				60		90~1650	0.32	0.25	0.25	0.38					
M-2IK6N-CV M-2IK6N-CVD M-2IK6A-CV M-2IK6A-CVD	4	6	200~240	50	CONT.	90~1350	0.32	0.25	0.13	0.38	3.5 (250)	US-2I6A-C S□-2I6A-C□			
				60		90~1650	0.32	0.25	0.13	0.38					

Gear Box

G-2N□-K/L

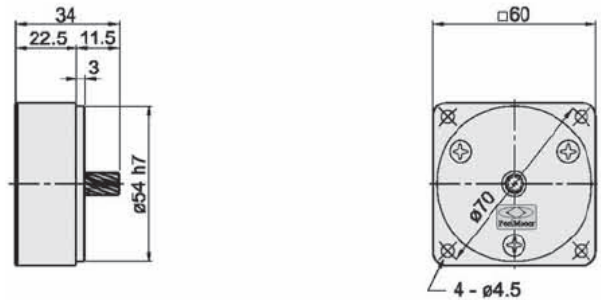


Weight List of Gear Boxes

Model	Weight (kg)
G-2N3-K / L~G-2N18-K / L	0.30
G-2N20-K / L~G-2N60-K / L	0.31
G-2N75-K / L~G-2N180-K / L	0.33
G-2N10X-K	0.20

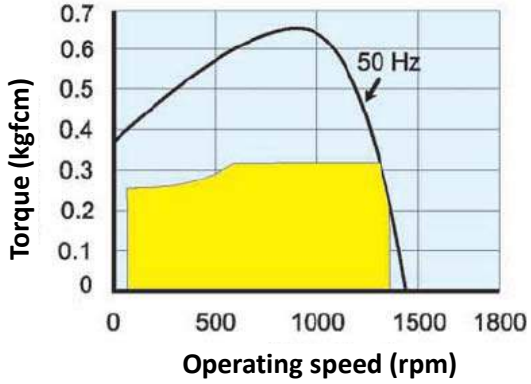
Intermediate Gear Box

G-2N10X-K

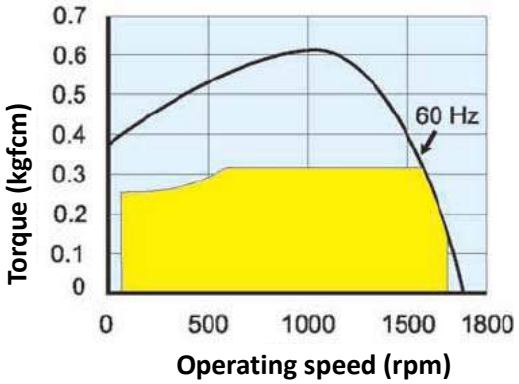


Characteristics of Speed Control Motors

M-2IK6N-CV / M-2IK6N-CVD
M-2IK6A-CV / M-2IK6A-CVD



M-2IK6N-CV / M-2IK6N-CVD
M-2IK6A-CV / M-2IK6A-CVD



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-2N□-K/L	Max. allowable torque (kgfcm)		1.0	1.6	2.5	2.7	3.4	4.1	5.0	5.4	6.7	8.1	9.7	16	23	25	25	25	25	25	25	25	25	25	25

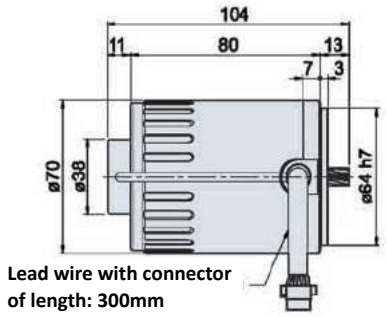
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Speed Control Motors 15W

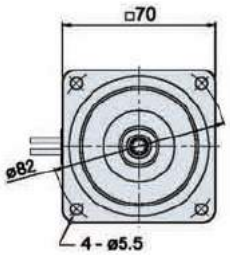
Speed Control Motors [Frame 3][15W]

Single-phase Speed Control Motor

M-3IK15N-□V / M-3IK15N-□VD



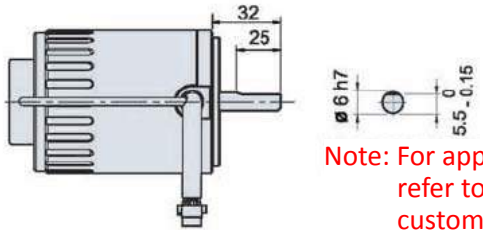
Lead wire with connector of length: 300mm



Weight: 1.07 kg

Circular Shaft Specification

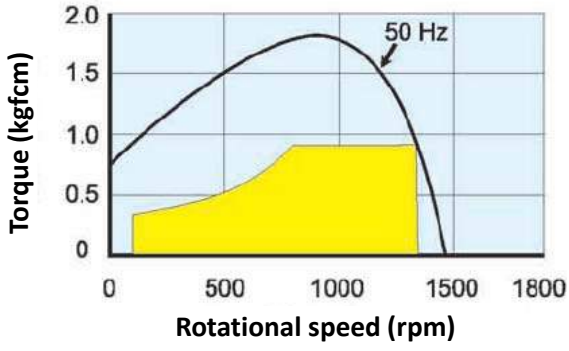
M-3IK15A-□V / M-3IK15A-□VD



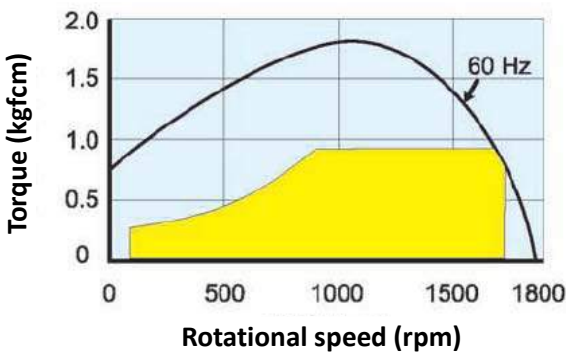
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Characteristics of Speed Control Motors

M-3IK15N-AV / M-3IK15N-AVD
M-3IK15A-AV / M-3IK15A-AVD



M-3IK15N-AV / M-3IK15N-AVD
M-3IK15A-AV / M-3IK15A-AVD

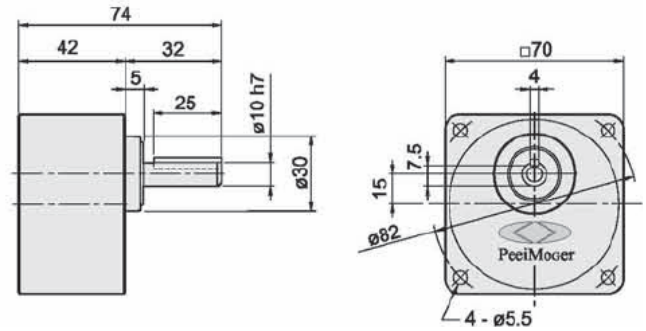


Specifications of Single-phase Speed Control Motors

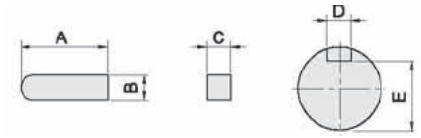
Motor model	Pole	Output power W	Voltage V	Frequency Hz	Rated time	Variable range rpm	Allowable torque kgfcm		Starting current A	Starting torque kgfcm	Capacitor uF (V)	Speed controller	Coupled gear box model		
							1200	90					Oil bearing	Ball bearing	Intermediate speed ratio
M-3IK15N-AV M-3IK15N-AVD M-3IK15A-AV M-3IK15A-AVD	4	15	100~120	50	CONT.	90~1350	0.90	0.29	0.60	0.60	6.0 (250)	US-3I15A-A S□-2I6A-A□	G-3N□-L	G-3N□-K	G-3N10X-K
				60		90~1650	0.90	0.29	0.57	0.57					
M-3IK15N-CV M-3IK15N-CVD M-3IK15A-CV M-3IK15A-CVD	4	15	200~240	50	CONT.	90~1350	0.90	0.29	0.30	0.30	1.6 (250)	US-3I15A-C S□-2I6A-C□			
				60		90~1650	0.90	0.29	0.28	0.28					

Gear Box

G-3N□-$^{K}_{L}$



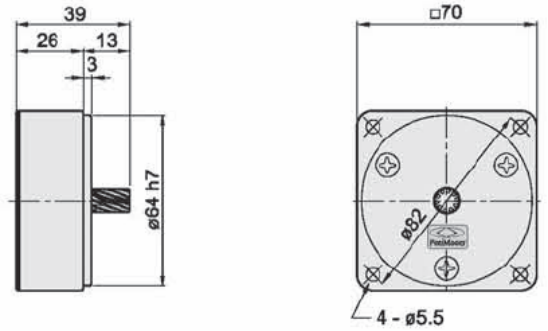
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-3N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-3N10X-K

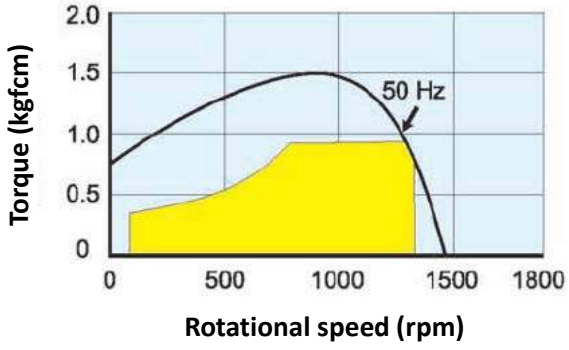


Weight List of Gear Boxes

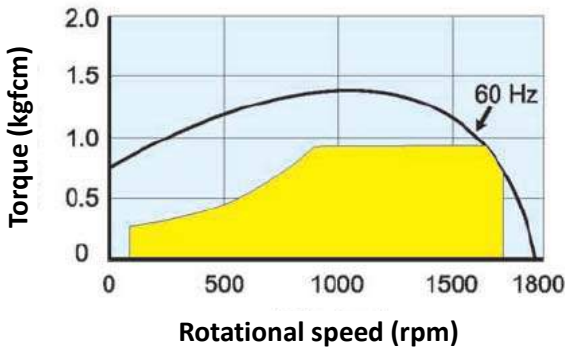
Model	Weight (kg)
G-3N3-K / L~G-3N18-K / L	0.44
G-3N20-K / L~G-3N60-K / L	0.48
G-3N75-K / L~G-3N180-K / L	0.53
G-3N10X-K	0.32

Characteristics of Speed Control Motors

M-3IK15N-CV / M-3IK15N-CVD
M-3IK15A-CV / M-3IK15A-CVD



M-3IK15N-CV / M-3IK15N-CVD
M-3IK15A-CV / M-3IK15A-CVD



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-3N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		2.4	4.0	6.0	6.7	8.2	10	12	13	16	19	23	39	50	50	50	50	50	50	50	50	50	50	50

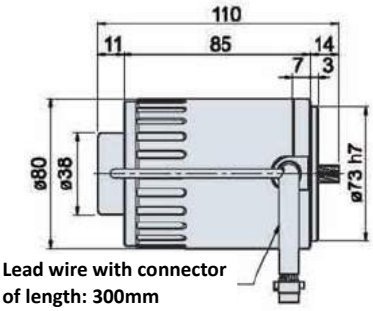
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Speed Control Motors 25W

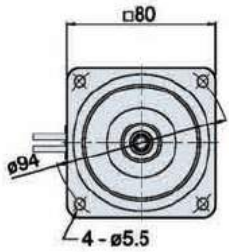
Speed Control Motors [Frame 4][25W]

Single-phase Speed Control Motor

M-4IK25N-□V / M-4IK25N-□VD



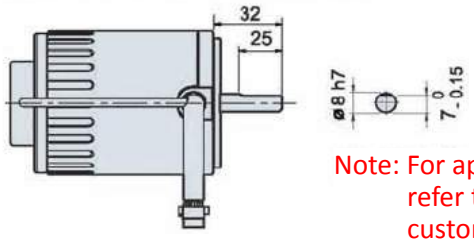
Lead wire with connector of length: 300mm



Weight: 1.62 kg

Circular Shaft Specification

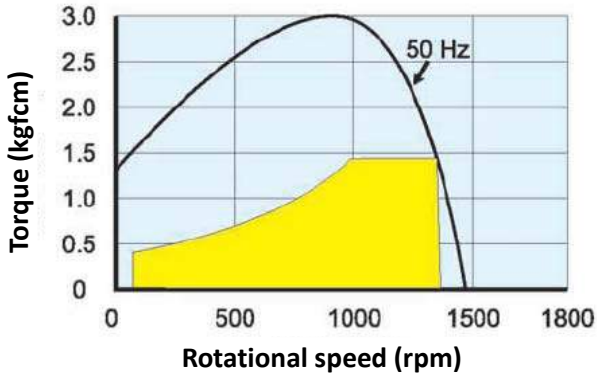
M-4IK25A-□V / M-4IK25A-□VD



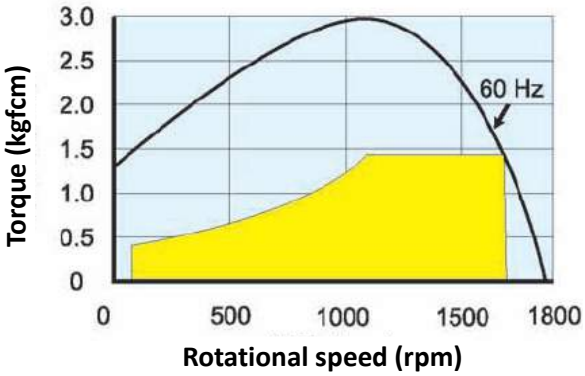
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Characteristics of Speed Control Motors

M-4IK25N-AV / M-4IK25N-AVD
M-4IK25A-AV / M-4IK25A-AVD



M-4IK25N-AV / M-4IK25N-AVD
M-4IK25A-AV / M-4IK25A-AVD

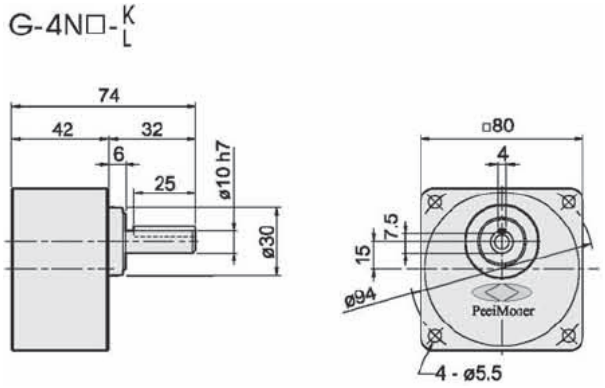


Specifications of Single-phase Speed Control Motors

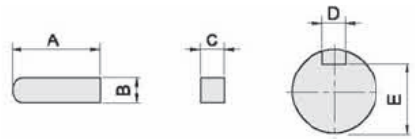
Motor model	Pole	Output power W	Voltage V	Frequency Hz	Rated time	Variable range rpm	Allowable torque kgfcm		Starting current A	Starting torque kgfcm	Capacitor uF (V)	Speed controller	Coupled gear box model		
							1200	90					Oil bearing	Ball bearing	Intermediate speed ratio
M-4IK25N-AV M-4IK25N-AVD M-4IK25A-AV M-4IK25A-AVD	4	25	100~120	50	CONT.	90~1350	1.40	0.42	1.10	1.30	8.0 (250)	US-4I25A-A S□-2I6A-A□	G-4N□-L	G-4N□-K	G-4N10X-K
				60		90~1650	1.40	0.42	1.10	1.30					
M-4IK25N-CV M-4IK25N-CVD M-4IK25A-CV M-4IK25A-CVD	4	25	200~240	50	CONT.	90~1350	1.40	0.42	0.55	1.30	2.5 (250)	US-4I25A-C S□-2I6A-C□			
				60		90~1650	1.40	0.42	0.55	1.30					

Gear Box

G-4N□-$^{K}_{L}$



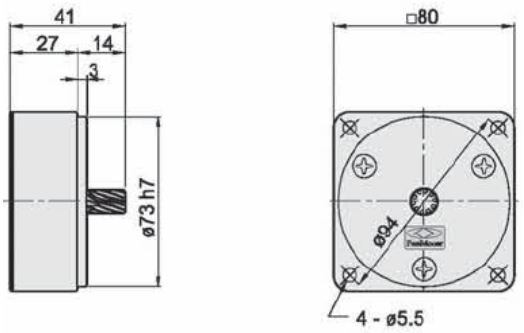
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-4N□−$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-4N10X-K

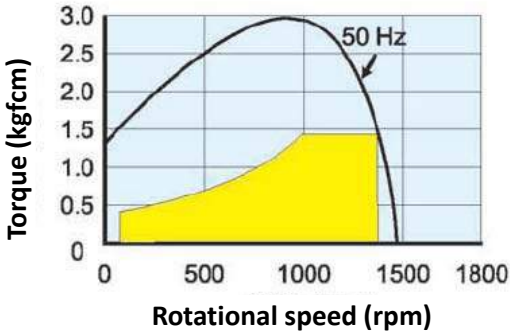


Weight List of Gear Boxes

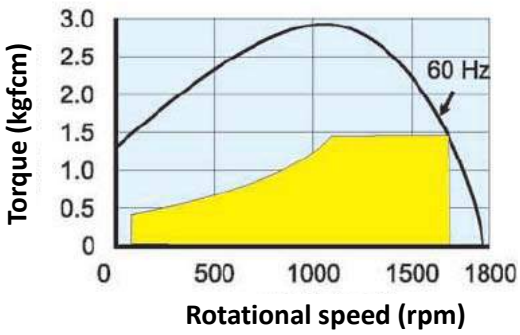
Model	Weight (kg)
G-4N3-K / L~G-4N18-K / L	0.60
G-4N20-K / L~G-4N60-K / L	0.65
G-4N75-K / L~G-4N180-K / L	0.71
G-4N10X-K	0.41

Characteristics of Speed Control Motors

M-4IK25N-CV / M-4IK25N-CVD
M-4IK25A-CV / M-4IK25A-CVD



M-4IK25N-CV / M-4IK25N-CVD
M-4IK25A-CV / M-4IK25A-CVD



Maximum Allowable Torque of Gear Boxes

Model		Speed (rpm)	500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-4N□−$^{K}_{L}$	Max. allowable torque (kgfcm)		4.0	6.7	10	11	13	16	20	21	26	32	39	65	80	80	80	80	80	80	80	80	80	80	80

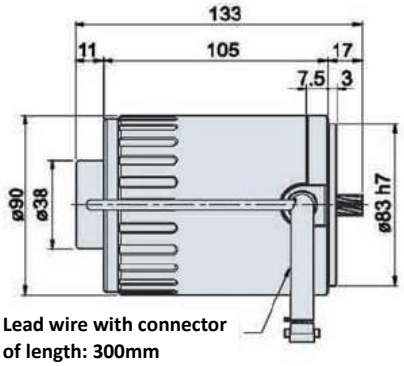
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Speed Control Motors 40W

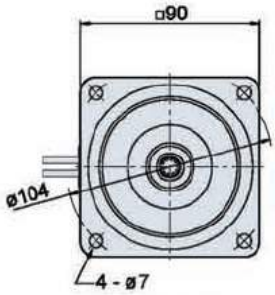
Speed Control Motors [Frame 5][40W]

Single-phase Speed Control Motor

M-5IK40N-□V / M-5IK40N-□VD



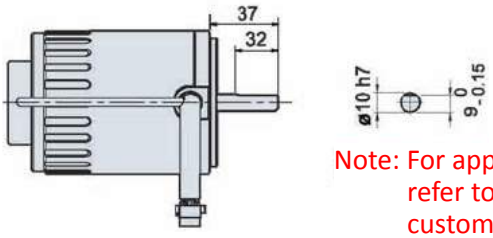
Lead wire with connector of length: 300mm



Weight: 2.47 kg

Circular Shaft Specification

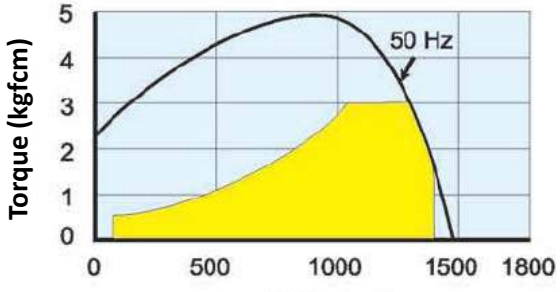
M-5IK40A-□V / M-5IK40A-□VD



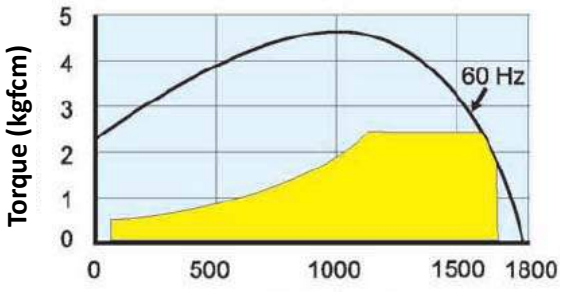
Note: For applicable machine types, please refer to the models. We also provide customized motors.

Characteristics of Speed Control Motors

M-5IK40N-AV / M-5IK40N-AVD
M-5IK40A-AV / M-5IK40A-AVD



M-5IK40N-AV / M-5IK40N-AVD
M-5IK40A-AV / M-5IK40A-AVD

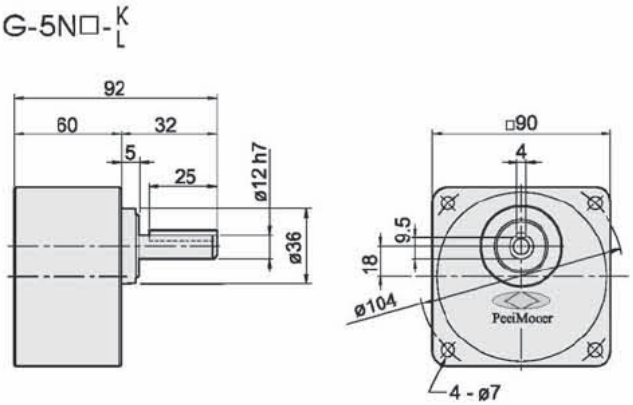


Specifications of Single-phase Speed Control Motors

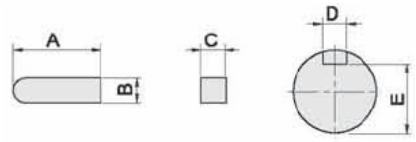
Motor model	Pole	Output power W	Voltage V	Frequency Hz	Rated time	Variable range rpm	Allowable torque kgfcm		Starting current A	Starting torque, kgfcm	Capacitor uF (V)	Speed controller	Coupled gear box model		
							1200	90					Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK40N-AV M-5IK40N-AVD M-5IK40A-AV M-5IK40A-AVD	4	40	100~120	50	CONT.	90~1350	3.00	0.50	1.60	2.30	14.0 (250)	US-5I40A-A S□-2I6A-A□	G-5N□-L	G-5N□-K	G-5N10X-K
				60		90~1650	2.40	0.50	1.60	2.30					
M-5IK40N-CV M-5IK40N-CVD M-5IK40A-CV M-5IK40A-CVD	4	40	200~240	50	CONT.	90~1350	3.00	0.50	0.80	2.30	3.5 (250)	US-5I40A-C S□-2I6A-C□			
				60		90~1650	2.40	0.50	0.80	2.30					

Gear Box

G-5N□-$^{K}_{L}$



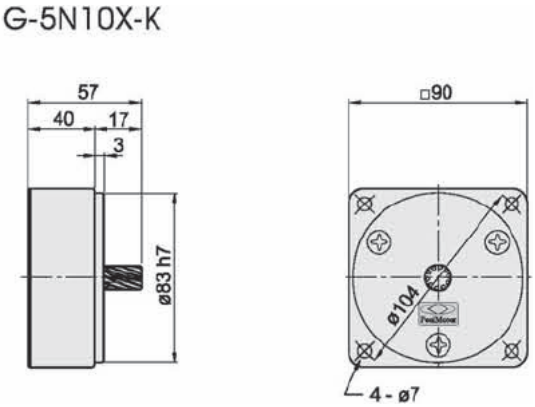
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{\ 0}_{-0.03}$	$4^{\ 0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{\ 0}_{-0.15}$

Intermediate Gear Box

G-5N10X-K

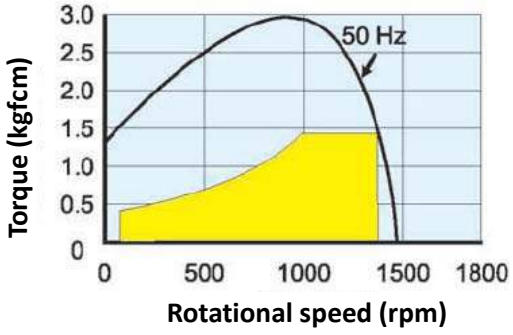


Weight List of Gear Boxes

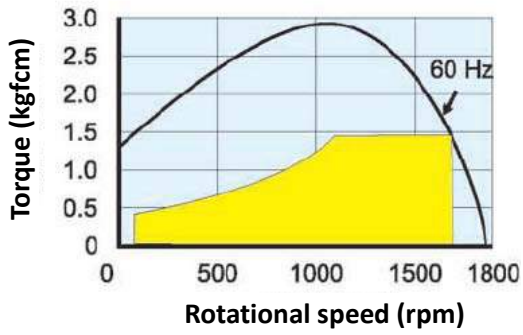
Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

Characteristics of Speed Control Motors

M-4IK25N-CV / M-4IK25N-CVD
M-4IK25A-CV / M-4IK25A-CVD



M-4IK25N-CV / M-4IK25N-CVD
M-4IK25A-CV / M-4IK25A-CVD



Maximum Allowable Torque of Gear Boxes

			Coupled intermediate gear box																					
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

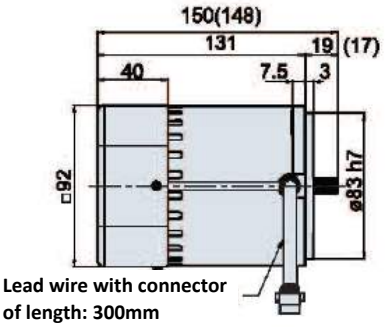
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Speed Control Motors 60W

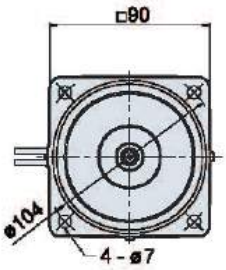
Speed Control Motors [Frame 5][60W]

Single-phase Speed Control Motor

M-5IK60$^{N}_{U}$-□FV / M-5IK60$^{N}_{U}$-□FVD



Lead wire with connector of length: 300mm



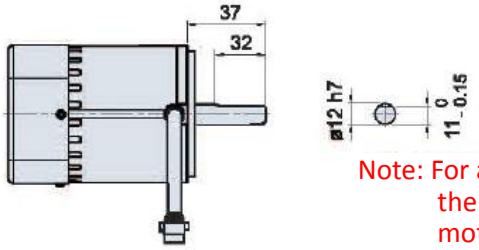
Weight: 2.62 kg

* The dimensions inside the brackets belong to N-type gear shafts, which are coupled to those of the gear box and the intermediate gear box, and should match with G-5N□-$^{K}_{L}$

* When forced cooling fan is used, total length increased by 20mm

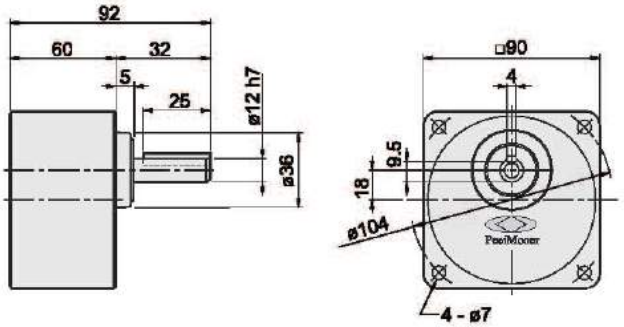
Circular Shaft Specification

M-5IK60A-□FV / M-5IK60A-□FVD

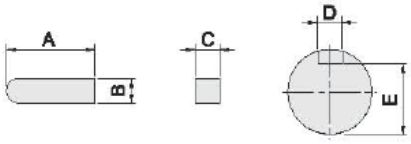


Note: For applicable machine types, please refer to the models. We also provide customized motors.

Gear Box



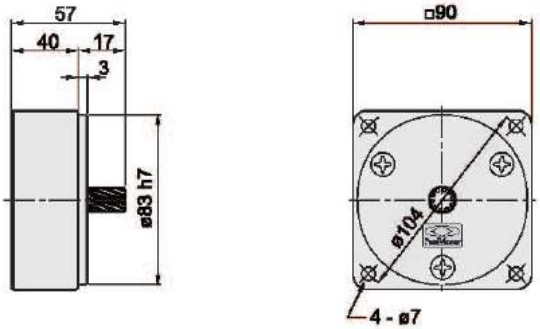
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-$^{K}_{L}$	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{0}_{-0.15}$

Intermediate Gear Box

G-5N10X-K

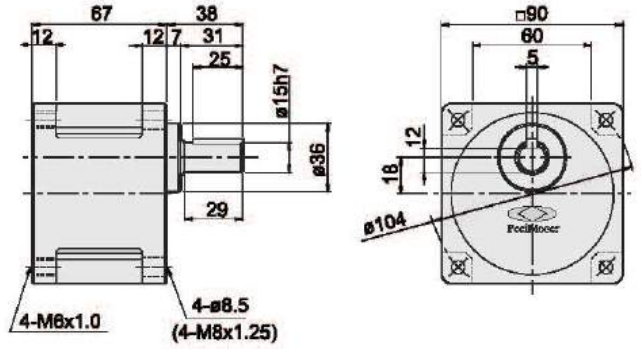


Weight List of Gear Boxes

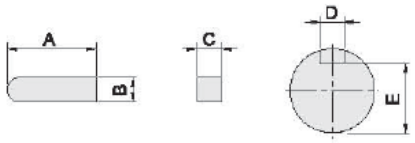
Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

Gear Box

G-5U□-K



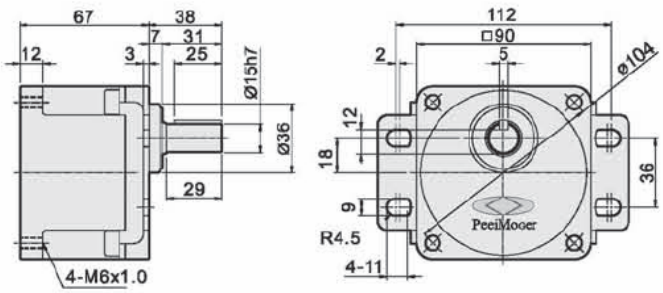
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-K	25	$5^{\ 0}_{-0.03}$	$5^{\ 0}_{-0.03}$	$5^{+0.05}_{\ 0}$	$12^{\ 0}_{-0.15}$

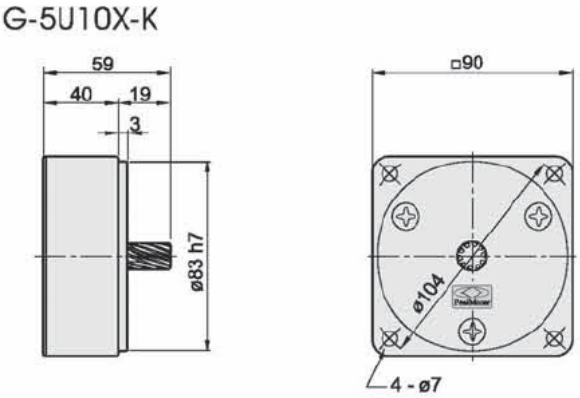
Gear Box with Foot Stand

G-5U□-KF



Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73
G-5U10X-K	0.64

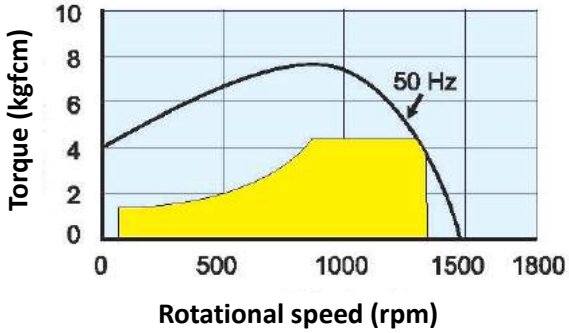
Specifications of Motors

Motor model	Pole	Output power W	Voltage V	Frequency Hz	Rated time	Variable range rpm	Allowable torque kgfcm		Starting current A	Starting torque kgfcm	Capacitor uF (V)	Speed controller	Coupled gear box model		
							1200	90					Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK60 N U -AFV	4	6	100~120	50	CONT.	90~1350	4.30	1.20	2.60	4.00	20.0 (250)	US-5I60A-A S□-2I6A-A□	G-5N□-L	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
M-5IK60 N U -AFVD M-5IK60A-AFV M-5IK60A-AFVD				60		90~1650	3.60	1.20	2.50	4.00					
M-5IK60 N U -CFV	4	6	200~240	50	CONT.	90~1350	4.30	1.20	1.30	4.00	5.0 (450)	US-5I60A-C S□-2I6A-C□			
M-5IK60 N U -CFVD M-5IK60A-CFV M-5IK60A-CFVD				60		90~1650	3.60	1.20	1.20	4.00					

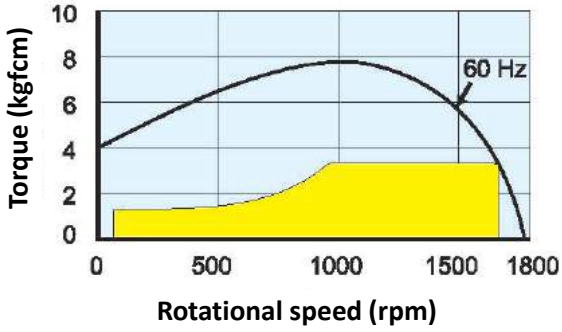
Speed Control Motors 60W

Characteristics of Speed Control Motors

M-5IK60$^{N}_{U}$-AFV / M-5IK60$^{N}_{U}$-AFVD
M-5IK60A-AFV / M-5IK60A-AFVD

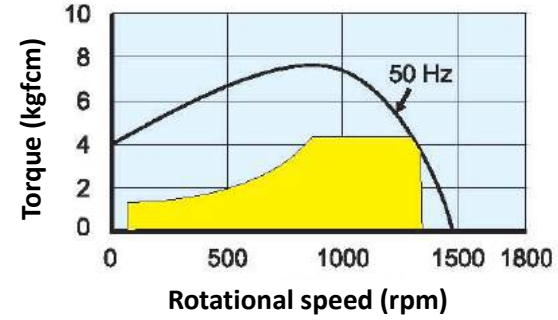


M-5IK60$^{N}_{U}$-AFV / M-5IK60$^{N}_{U}$-AFVD
M-5IK60A-AFV / M-5IK60A-AFVD

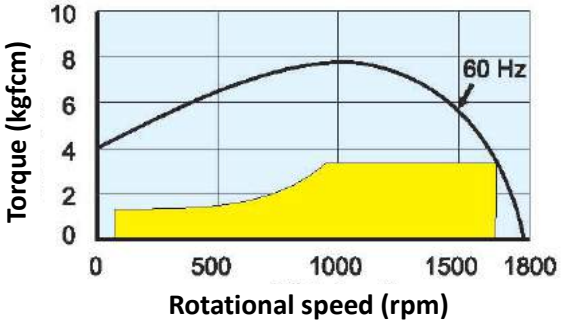


Characteristics of Speed Control Motors

M-5IK60$^{N}_{U}$-CFV / M-5IK60$^{N}_{U}$-CFVD
M-5IK60A-CFV / M-5IK60A-CFVD



M-5IK60$^{N}_{U}$-CFV / M-5IK60$^{N}_{U}$-CFVD
M-5IK60A-CFV / M-5IK60A-CFVD



Maximum Allowable Torque of Gear Boxes

			Coupled intermediate gear box																							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-$^{K}_{L}$	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Maximum Allowable Torque of Gear Boxes

			Coupled intermediate gear box																							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		10	16	24	27	32	40	48	54	64	77	93	155	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

CNC Tooth-type Inspecting Machine

Education is a progressive discovery of our own ignorance. W. Durant
Education is not to teach youth to make a living, but to make a life. W.A. White

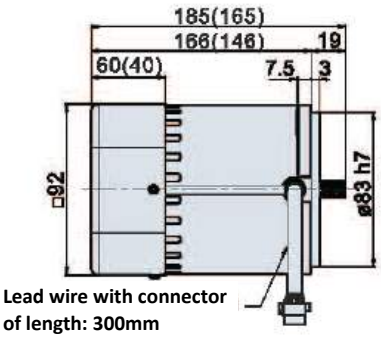
What matters is not the thought itself, but the depth of it. Ezra Pound
The reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to him. Bernard

Speed Control Motors 90W

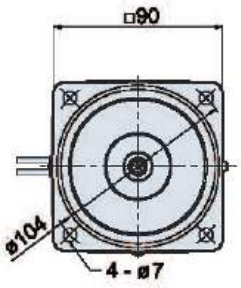
Speed Control Motors [Frame 5][90W]

Single-phase Speed Control Motor

M-5IK90U-□RV / M-5IK90U-□RVD



Lead wire with connector of length: 300mm

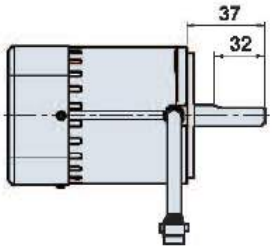


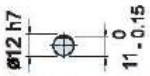
Weight: 3.22kg

* The size inside brackets is for general fan, non-standard product

Circular Shaft Specification

M-5IK90A-□RV / M-5IK90A-□RVD

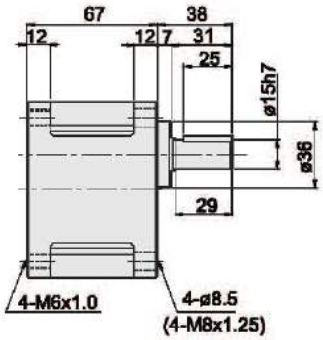


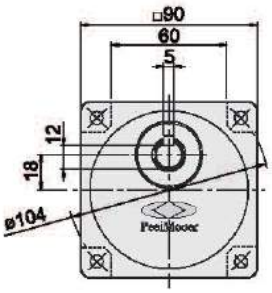


Note: For applicable machine types, please refer to the models. We also provide customized motors.

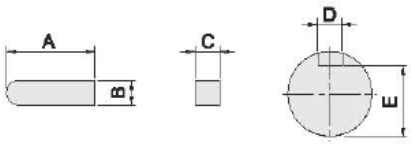
Gear Box

G-5U□-K





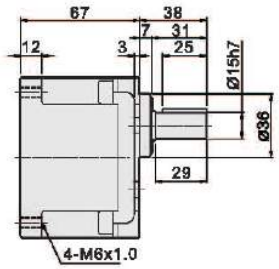
Gear Box: Key and Keyway Dimension

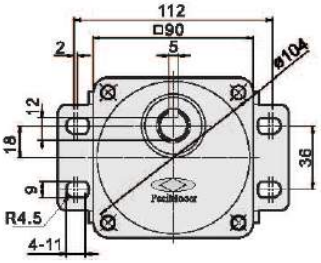


Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box with Foot Stand

G-5U□-KF



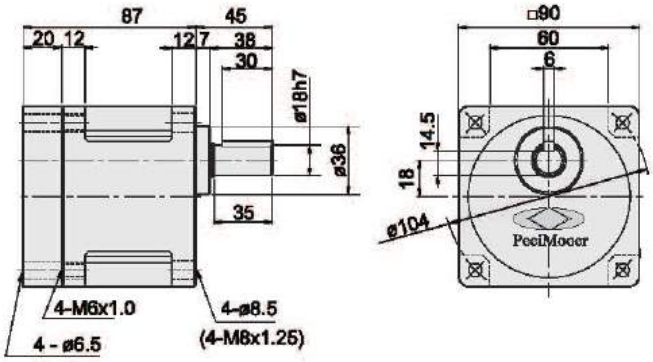


Weight List of Gear Boxes

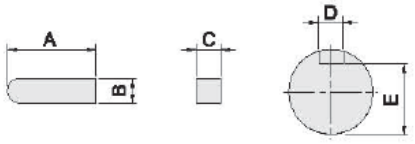
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-KH



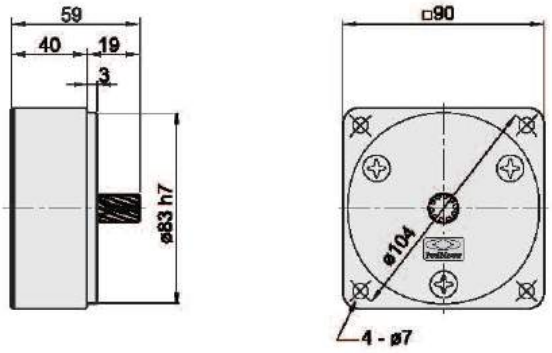
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

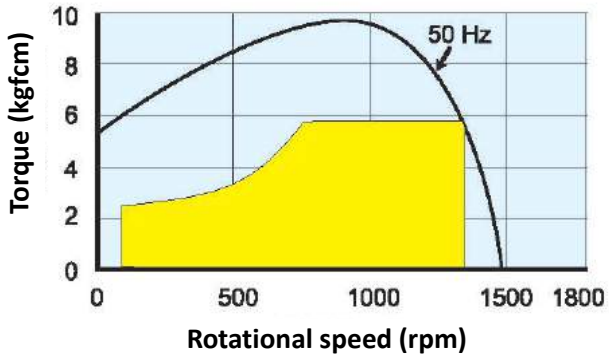
Specifications of Single-phase Speed Control Motors

Motor model	Pole	Output power W	Voltage V	Frequency Hz	Rated time	Variable range rpm	Allowable torque kgfcm		Starting current A	Starting torque kgfcm	Capacitor uF (V)	Speed controller	Coupled gear box model		
							1200	90					Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK90U-ARV M-5IK90U-ARVD M-5IK90A-ARV M-5IK90A-ARVD	4	90	100~120	50	CONT.	90~1350	5.80	2.40	3.00	5.30	28.0 (250)	US-5190A-A S□-2I6A-A□	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
				60		90~1650	5.30	2.40	3.00	5.30					
M-5IK90U-CRV M-5IK90U-CRVD M-5IK90A-CRV M-5IK90A-CRVD	4	90	200~240	50	CONT.	90~1350	5.80	2.40	1.50	5.30	7.0 (450)	US-5190A-C S□-2I6A-C□			
				60		90~1650	5.30	2.40	1.50	5.30					

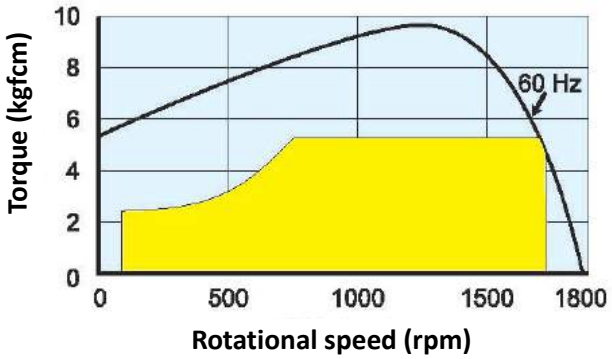
Speed Control Motors 90W

Characteristics of Speed Control Motors

M-5IK90U-ARV / M-5IK90U-ARVD
M-5IK90A-ARV / M-5IK90A-ARVD

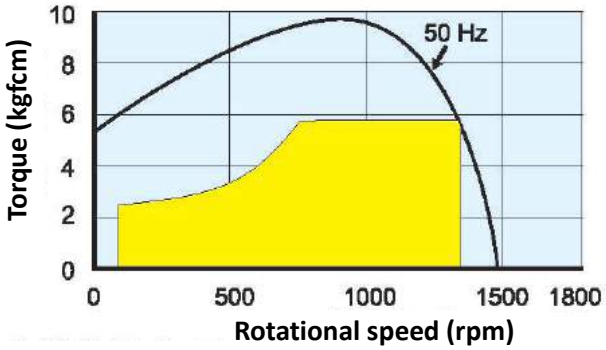


M-5IK90U-ARV / M-5IK90U-ARVD
M-5IK90A-ARV / M-5IK90A-ARVD

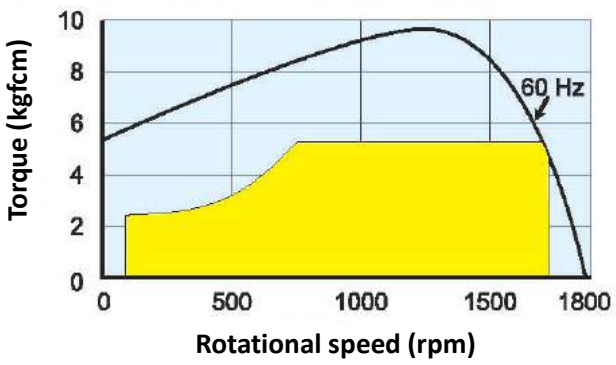


Characteristics of Speed Control Motors

M-5IK90U-CRV / M-5IK90U-CRVD
M-5IK90A-CRV / M-5IK90A-CRVD



M-5IK90U-CRV / M-5IK90U-CRVD
M-5IK90A-CRV / M-5IK90A-CRVD



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	Coupled intermediate gear box 9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Gear Assembly Line

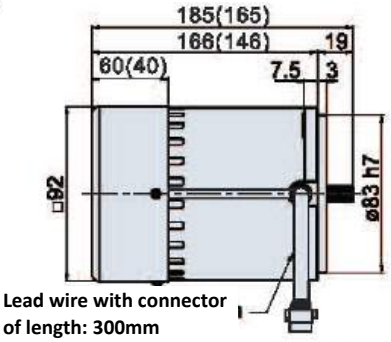
There is a type of silence called courage; there is a type of modesty called personality; there is a type of simplicity called profound; and there is a type of disdain called ego.
God gave us flesh and blood, and we turned them into sex and violence.

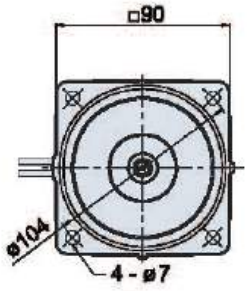
Speed Control Motors 120W

Speed Control Motors [Frame 5][120W]

Single-phase Speed Control Motor

M-5IK120U-□RV / M-5IK120U-□RVD



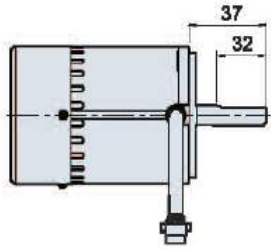


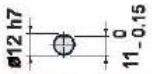
Weight: 3.22kg

* The size inside brackets is for general fan, non-standard product

Circular Shaft Specification

M-5IK120A-□RV / M-5IK120A-□RVD

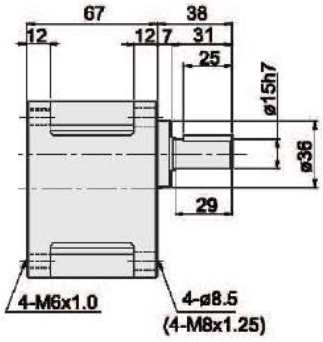


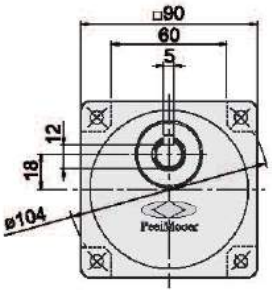


Note: For applicable machine types, please refer to the models. We also provide customized motors.

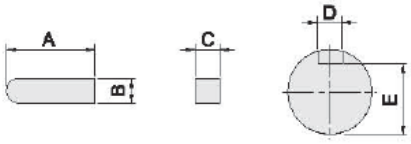
Gear Box

G-5U□-K





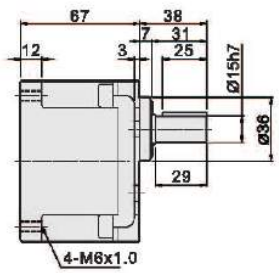
Gear Box: Key and Keyway Dimension

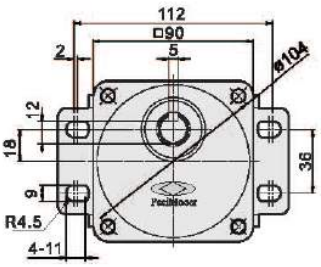


Model	A	B	C	D	E
G-5U□-K	25	$5^{\ 0}_{-0.03}$	$5^{\ 0}_{-0.03}$	$5^{+0.05}_{\ 0}$	$12^{\ 0}_{-0.15}$

Gear Box with Foot Stand

G-5U□-KF



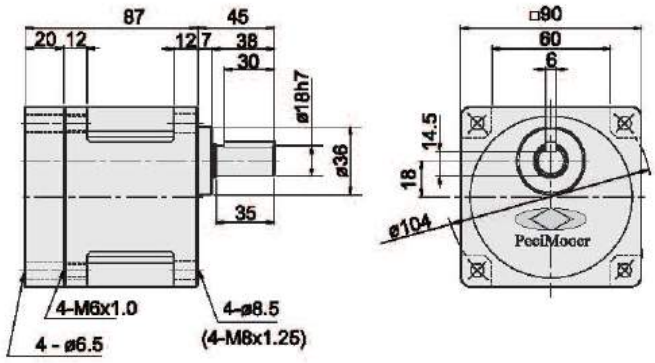


Weight List of Gear Boxes

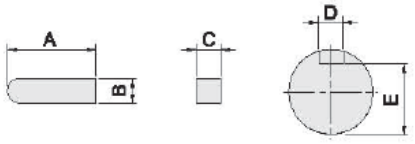
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-KH



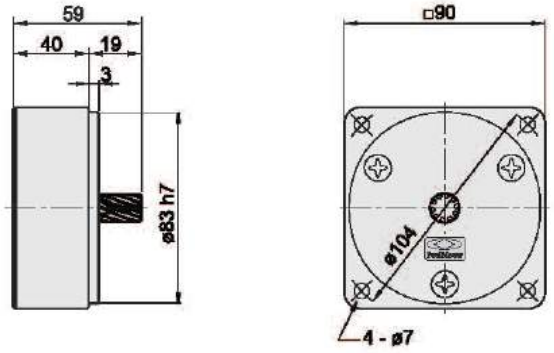
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

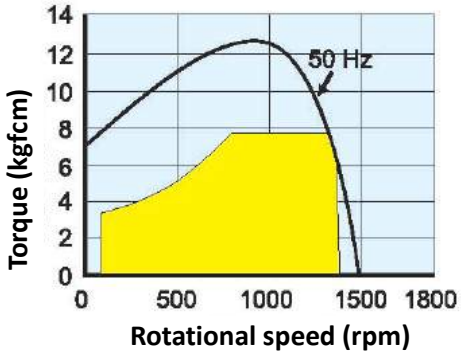
Specifications of Single-phase Speed Control Motors

Motor model	Pole	Output power W	Voltage V	Frequency Hz	Rated time	Variable range rpm	Allowable torque kgfcm		Starting current A	Starting torque kgfcm	Capacitor uF (V)	Speed controller	Coupled gear box model		
							1200	90					Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK120U-ARV M-5IK120U-ARVD M-5IK120A-ARV M-5IK120A-ARVD	4	120	100~120	50	CONT.	90~1350	7.70	3.20	4.00	7.00	30.0 (250)	US-51120A-AS□-2I6A-A□	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
				60		90~1650	7.30	3.20	4.00	7.00					
M-5IK120U-CRV M-5IK120U-CRVD M-5IK120A-CRV M-5IK120A-CRVD	4	120	200~240	50	CONT.	90~1350	7.70	3.20	2.00	7.00	8.0 (450)	US-51120A-CS□-2I6A-C□			
				60		90~1650	7.30	3.20	2.00	7.00					

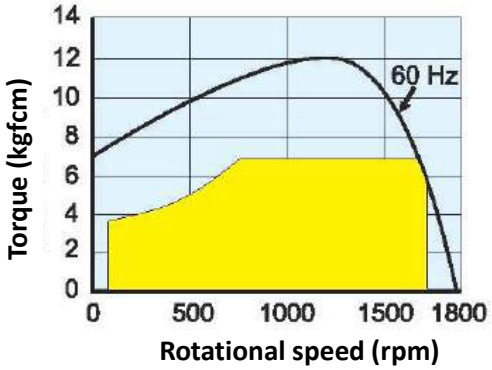
Speed Control Motors 120W

Characteristics of Speed Control Motors

M-5IK120U-ARV / M-5IK120U-ARVD
M-5IK120A-ARV / M-5IK120A-ARVD

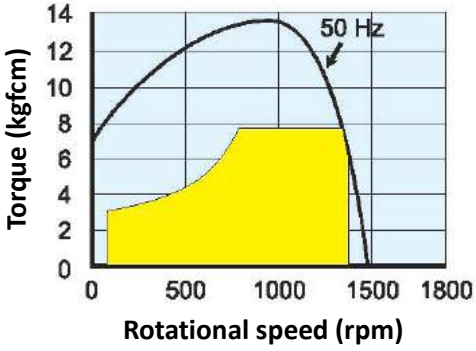


M-5IK120U-ARV / M-5IK120U-ARVD
M-5IK120A-ARV / M-5IK120A-ARVD

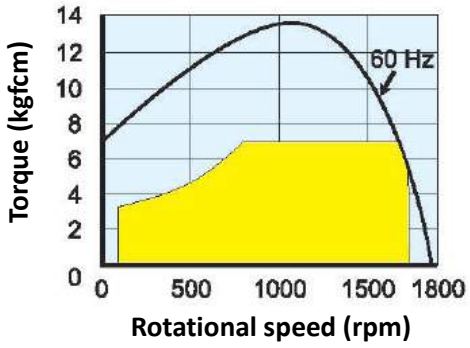


Characteristics of Speed Control Motors

M-5IK120U-CRV / M-5IK120U-CRVD
M-5IK120A-CRV / M-5IK120A-CRVD



M-5IK120U-CRV / M-5IK120U-CRVD
M-5IK120A-CRV / M-5IK120A-CRVD



Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Marketing Department

No one has the right to be the only happy person. Flero
Life is a novel, and what matters is not its length, but its quality. Seneca
Genius is nothing but the biggest endurance. Bligh
To despise others is to despise yourself. Whitman

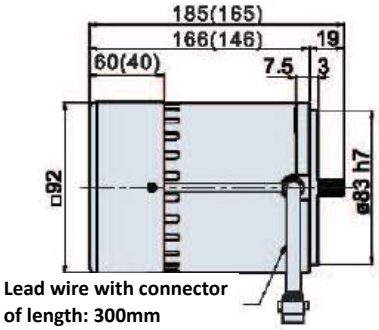
The purpose of life is in action rather than thought. Carlyle
What matters is how to survive, not how to die. Johnson

Speed Control Motors 150W

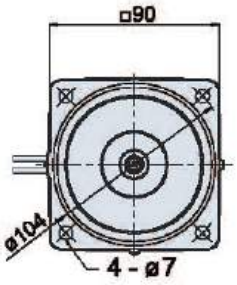
Speed Control Motors [Frame 5][150W]

Single-phase Speed Control Motor

M-5IK150U-□RV / M-5IK150U-□RVD



Lead wire with connector of length: 300mm

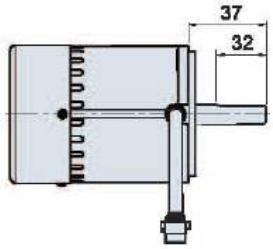


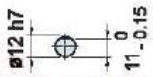
Weight: 3.22kg

* The size inside brackets is for general fan, non-standard product

Circular Shaft Specification

M-5IK150A-□RV / M-5IK150A-□RVD

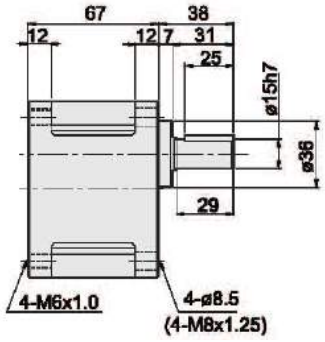


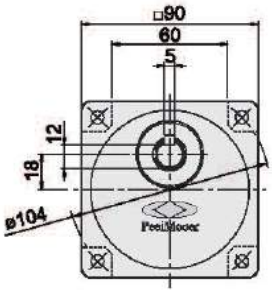


Note: For applicable machine types, please refer to the models. We also provide customized motors.

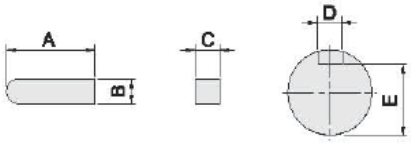
Gear Box

G-5U□-K





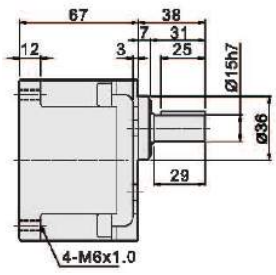
Gear Box: Key and Keyway Dimension

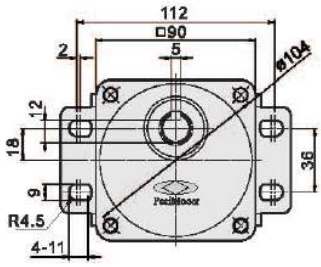


Model	A	B	C	D	E
G-5U□-K	25	$5^{\ 0}_{-0.03}$	$5^{\ 0}_{-0.03}$	$5^{+0.05}_{\ 0}$	$12^{\ 0}_{-0.15}$

Gear Box with Foot Stand

G-5U□-KF



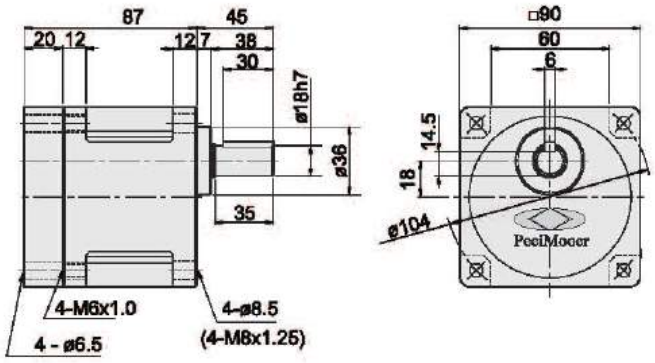


Weight List of Gear Boxes

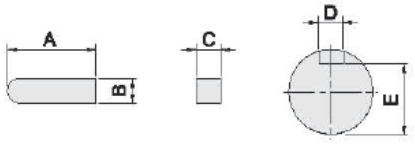
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-KH



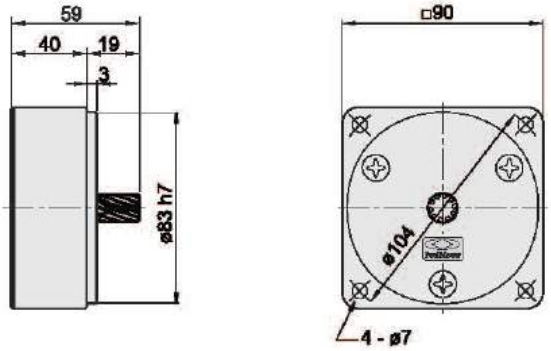
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

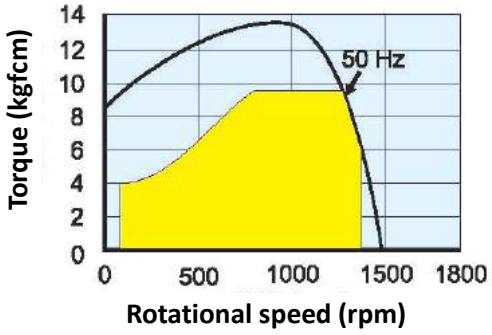
Specifications of Single-phase Speed Control Motors

Motor model	Pole	Output power W	Voltage V	Frequency Hz	Rated time	Variable range rpm	Allowable torque kgfcm		Starting current A	Starting torque kgfcm	Capacitor uF (V)	Speed controller	Coupled gear box model		
							1200	90					Oil bearing	Ball bearing	Intermediate speed ratio
M-5IK150U-ARV M-5IK150U-ARVD M-5IK150A-ARV M-5IK150A-ARVD	4	150	100~120	50	CONT.	90~1350	9.50	4.00	5.00	8.50	38.0 (250)	US-51150A-AS□-2I6A-A□	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
				60		90~1650	9.10	4.00	5.00	8.50					
M-5IK150U-CRV M-5IK150U-CRVD M-5IK150A-CRV M-5IK150A-CRVD	4	150	200~240	50	CONT.	90~1350	9.50	4.00	2.50	8.50	9.0 (450)	US-51150A-CS□-2I6A-C□			
				60		90~1650	9.10	4.00	2.50	8.50					

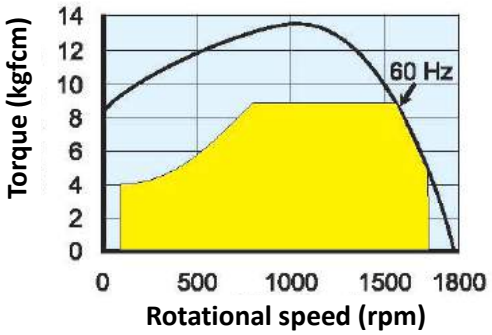
Speed Control Motors 150W

Characteristics of Speed Control Motors

M-5IK150U-ARV / M-5IK150U-ARVD
M-5IK150A-ARV / M-5IK150A-ARVD

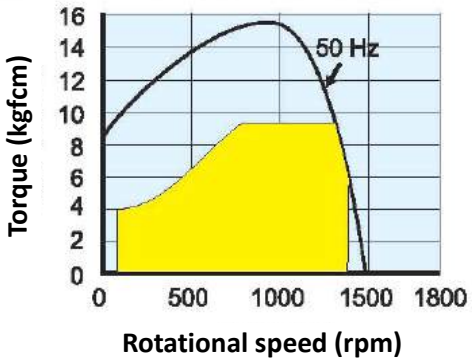


M-5IK150U-ARV / M-5IK150U-ARVD
M-5IK150A-ARV / M-5IK150A-ARVD

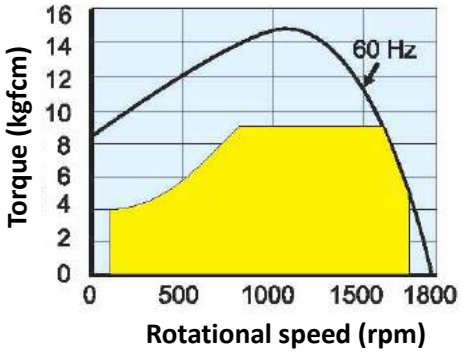


Characteristics of Speed Control Motors

M-5IK150U-CRV / M-5IK150U-CRVD
M-5IK150A-CRV / M-5IK150A-CRVD



M-5IK150U-CRV / M-5IK150U-CRVD
M-5IK150A-CRV / M-5IK150A-CRVD



Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

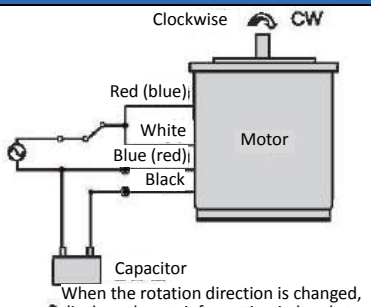
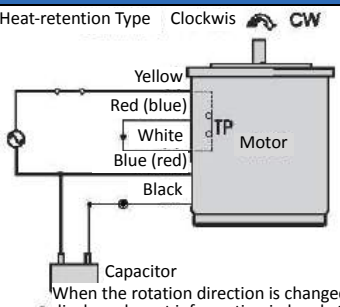
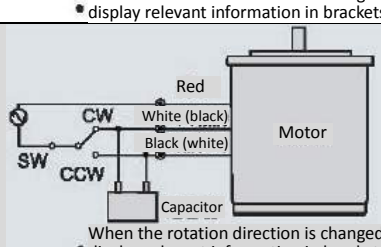
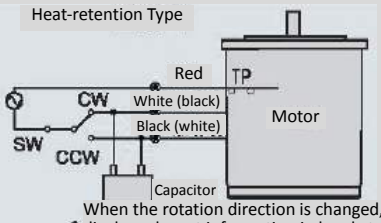
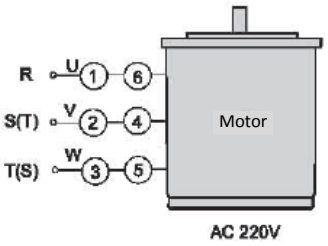
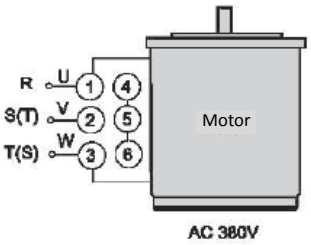
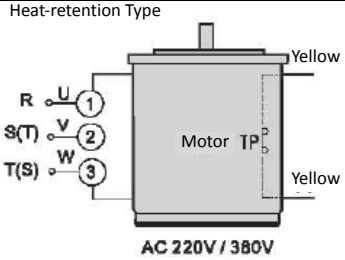
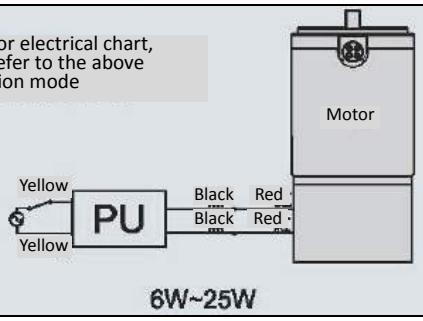
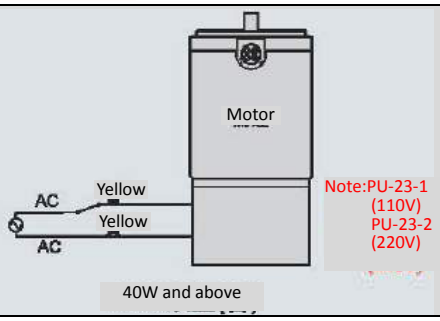
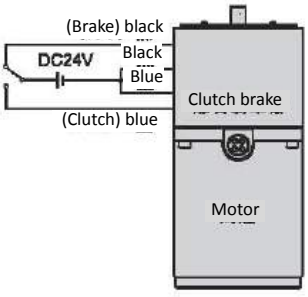
Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

General Motor Electric Wiring Diagrams

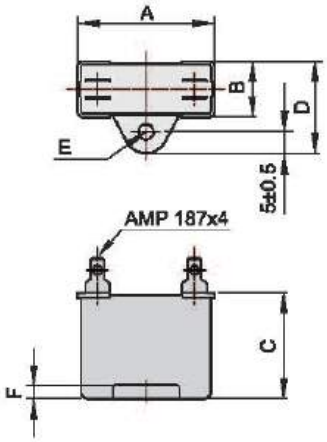
General Motor Electric Wiring Diagrams

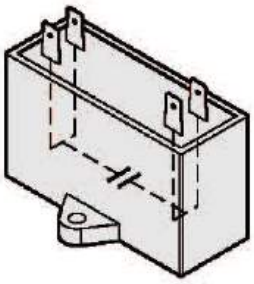
Specification	Electric Wiring Diagrams
Single-phase induction motor Single-phase torque induction motor	 When the rotation direction is changed, display relevant information in brackets.  When the rotation direction is changed, display relevant information in brackets.
Single-phase reversible induction motor (1W, 3W mono-phase induction motor)	 When the rotation direction is changed, display relevant information in brackets.  When the rotation direction is changed, display relevant information in brackets.
Tri-phase induction motor	 When the rotation direction is changed, display relevant information in brackets.  When the rotation direction is changed, display relevant information in brackets. Heat-retention Type  When the rotation direction is changed, display relevant information in brackets.
Electromagnetic brake motor (single-phase/ tri-phase)	For motor electrical chart, please refer to the above connection mode  
Electromagnetic clutch brake motor	
Speed control motor	For the electrical chart of speed control motors, please refer to page 172
Induction motors with connection box	Motors with Connection box include the above types.

Note: Due to their size, machines 1W and 3W of Frame 0 have three output wires.

Dimension Table of Capacitors

Dimension Table of Capacitors

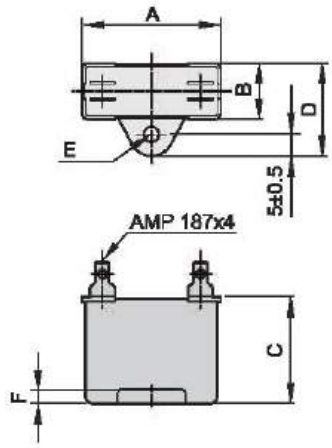


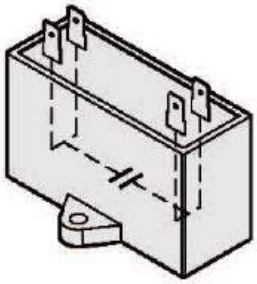


Internal connection diagram of capacitors with 4 terminals
The connection mode inside the capacitor terminal is as shown.
Connect the lead wire to the terminal by one-to-one.

Unit: mm

Number uF (V)	Standard Specifications					
	Length A	Width B	Height C	Total width D	Aperture E	Thickness F
2.5(250)	37	14	23	24	4.5	5
3(250)	37	13	24	23	4.5	5
3.5(250)	37	14	24	24	4.5	5
4(250)	37	13	24	23	4.5	5
5(250)	39	17	26	27	4.5	5
6(250)	39	17	26	27	4.5	5
7(250)	39	20	29	30	4.5	5
8(250)	39	20	29	30	4.5	5
10(250)	39	22	32	32	4.5	5
12(250)	50	20	30	31	4.5	5
14(250)	51	22	35	33	4.5	5
16(250)	51	22	35	33	4.5	5
18(250)	59	23	40	33	4.5	5
20(250)	59	23	40	33	4.5	5
25(250)	59	23	40	33	4.5	5
28(250)	58	25	39	35	4.5	5
30(250)	58	25	39	35	4.5	5
36(250)	59	30	40	40	4.5	5
40(250)	59	40	40	50	4.5	5
42(250)	59	40	40	50	4.5	5





Internal connection diagram of capacitors with 4 terminals
The connection mode inside the capacitor terminal is as shown.
Connect the lead wire to the terminal by one-to-one.

Unit: mm

Number uF (V)	Standard Specifications					
	Length A	Width B	Height C	Total width D	Aperture E	Thickness F
0.6(450)	37	13	24	23	4.5	5
0.8(450)	37	13	24	23	4.5	5
1(450)	37	13	24	23	4.5	5
1.2(450)	39	15	25	25	4.5	5
1.5(450)	39	17	26	27	4.5	5
1.6(450)	39	17	26	27	4.5	5
2(450)	39	19	29	30	4.5	5
2.3(450)	39	20	29	30	4.5	5
2.5(450)	39	20	29	30	4.5	5
3(450)	39	20	29	30	4.5	5
3.5(450)	50	20	30	31	4.5	5
4(450)	51	22	32	33	4.5	5
5(450)	51	22	32	33	4.5	5
6(450)	51	22	35	33	4.5	5
7(450)	59	30	40	41	4.5	5
8(450)	59	30	40	41	4.5	5
9(450)	58	25	39	35	4.5	5
10(450)	59	30	40	40	4.5	5
12(450)	59	40	40	50	4.5	5

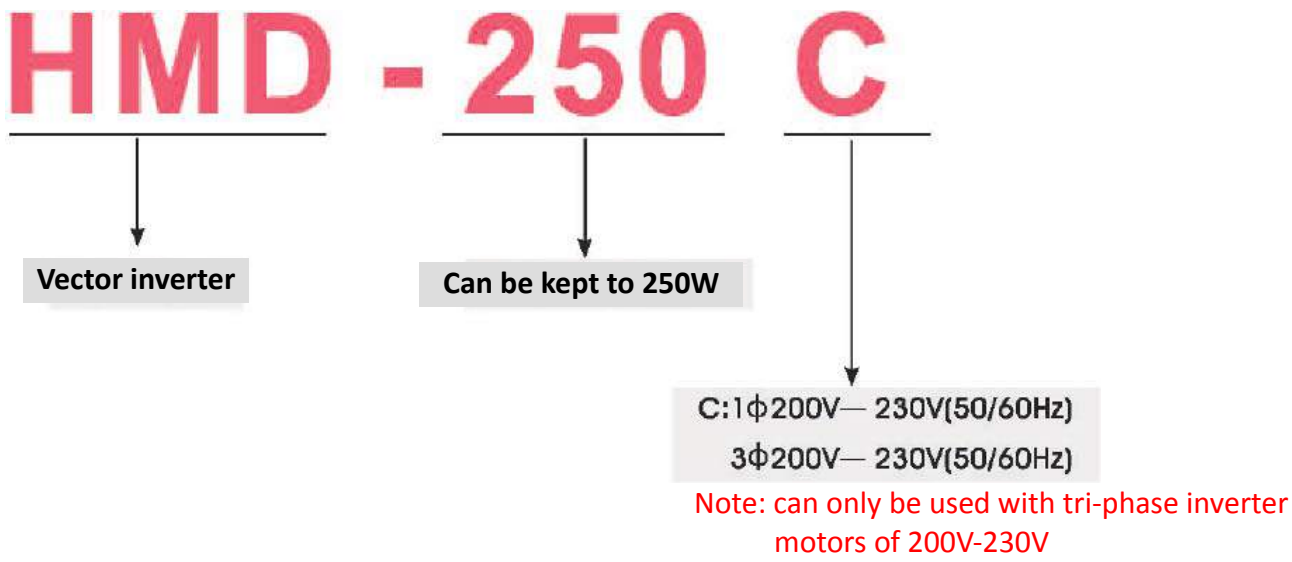
Inverter

Product Features

- **Performance**
  1) Low rotational speed, high torsion
  2) CNC speed control
  3) CNC torque control
  4) Controllable via PC-connection
  5) Compatible with single-phase power input

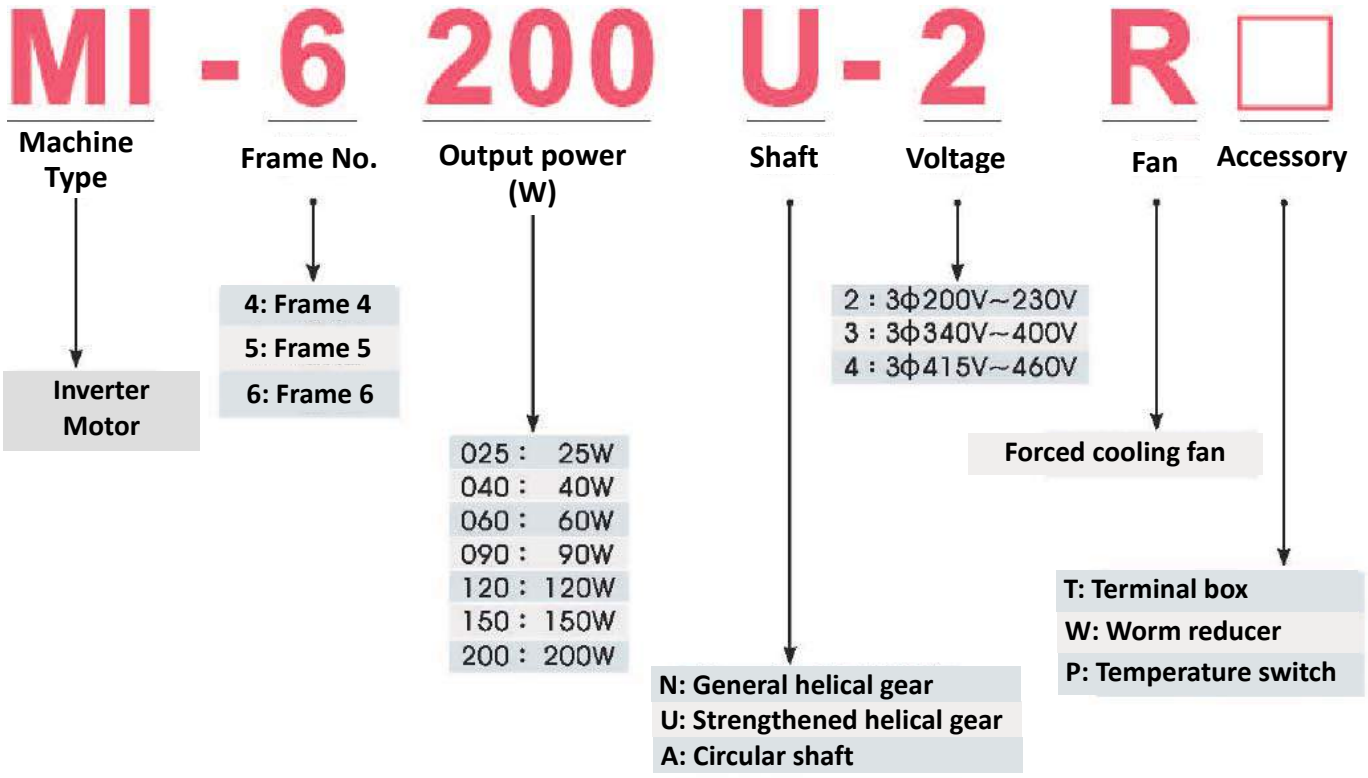
- **Functions**
  1) Touch panel: Replaces the traditional mechanical buttons and enables shuttle adjustment.
  2) Digital speed control: Direct RPM setting according to the required motor speed. (The speed of traditional converters can only be controlled via frequency.)
  3) Adjustable torque: Torque can be adjusted according to the actual torsion required; VR control is available via external connection.
  4) Adjustable brake stop-time: Motor stop time can be modified via the drive (e.g. emergency stop, buffer stop, and brake stop times).
  5) Multi-phase speed settings: Built-in 8-contact speed control.

Specifications of Inverter



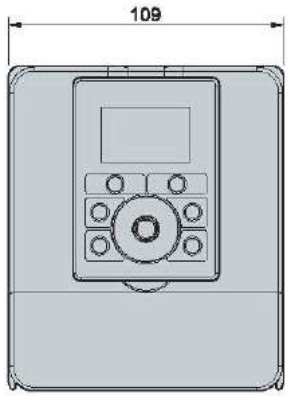
Note: can only be used with tri-phase inverter motors of 200V-230V

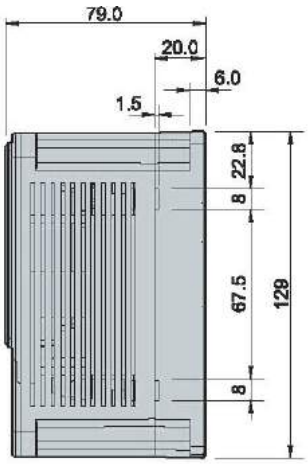
Specifications of Inverter Motor Models

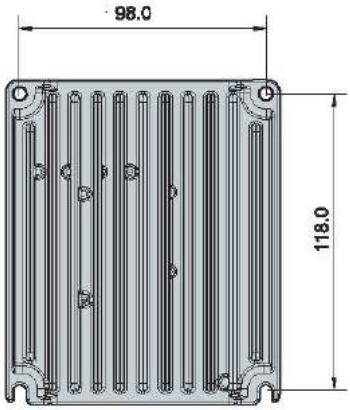


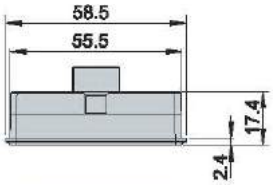
Inverter

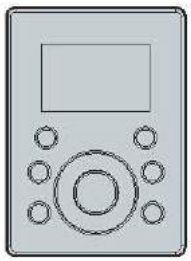
Dimensions of Inverter (HMD-250C)

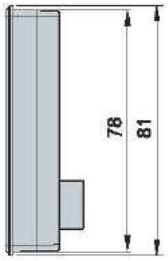




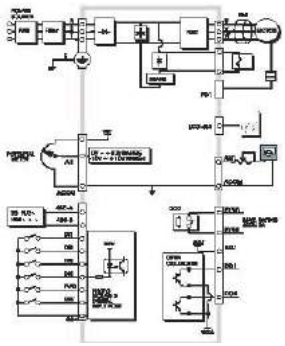








Wiring Diagram of Inverter



For detailed enlarged drawing, please refer to page 249.

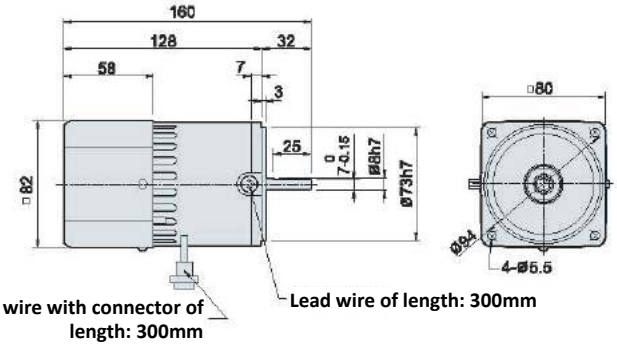
Characteristics of Inverter Motors

Frame No.	4	5	5	5	5	5	6
Rated output, W	25	40	60	90	120	150	200
Starting torque, Kgfcm	2.30	3.70	5.6	8.4	11.0	14.0	18.0
Starting current A (single-phase)	0.10	0.18	0.26	0.40	0.55	0.65	0.88
Starting current A (tri-phase)	0.07	0.12	0.15	0.22	0.30	0.35	0.50
Maximum instant torque, kgfcm	5.80	9.00	14.0	21.0	28.0	35.0	45.0
Maximum instant current A (single-phase)	0.80	1.20	1.80	2.70	3.60	4.50	5.80
Maximum instant current A (tri-phase)	0.35	0.50	0.85	1.25	1.68	2.10	2.80
Protection mode	Full cut-off, enforced cooling IP22						
Applicable humidity	20-90% RH (no condensation)						
Class of insulation	B 130℃						
Heat protection	Thermal protector (optional)						
Speed range, rpm	0-3600						
Cooling method	Forced cooling fan						
Weight, kg	1.8	2.9	2.9	3.5	3.5	3.5	5.3

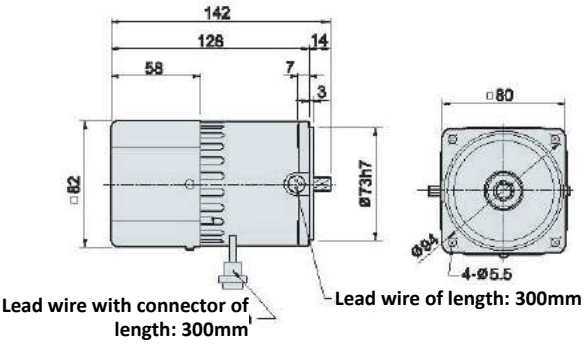
Dimensions of Inverter Motors

Inverter Motor Frame 4, 25W

MI-4025A-□R□

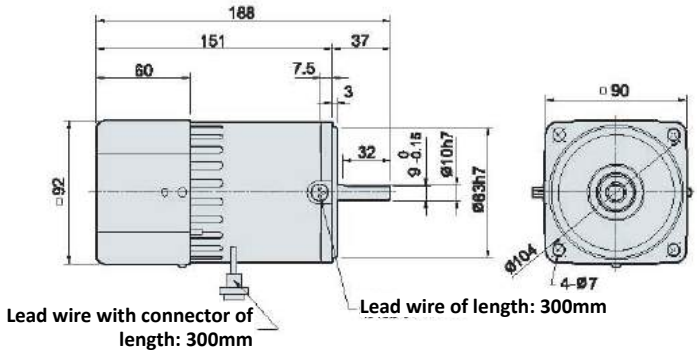


MI-4025N-□R□

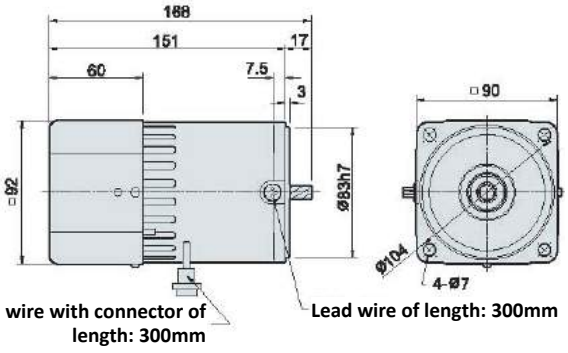


Inverter Motor Frame 5, 25W

MI-5040A-□R□

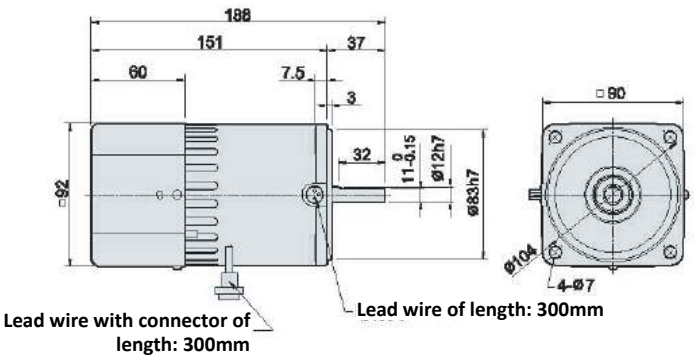


MI-5040N-□R□

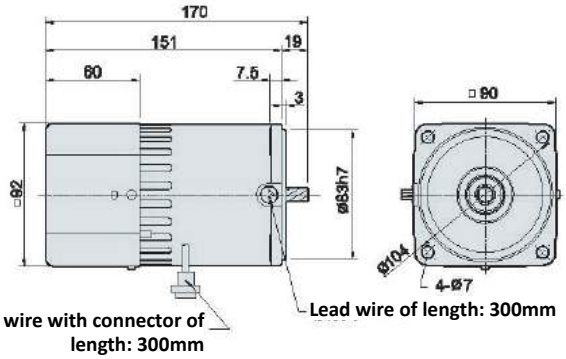


Inverter Motor Frame 5, 60W

MI-5060A-□R□



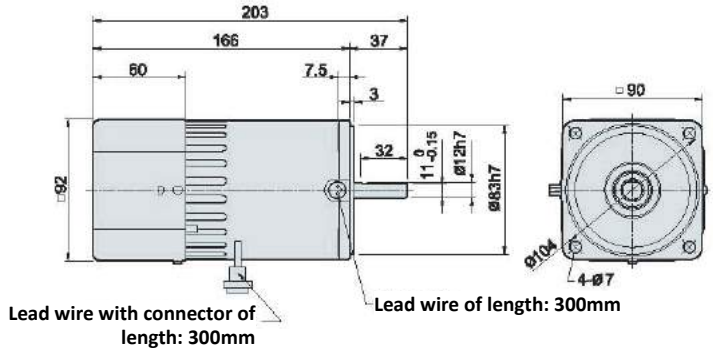
MI-5060$^{N}_{U}$-□R□



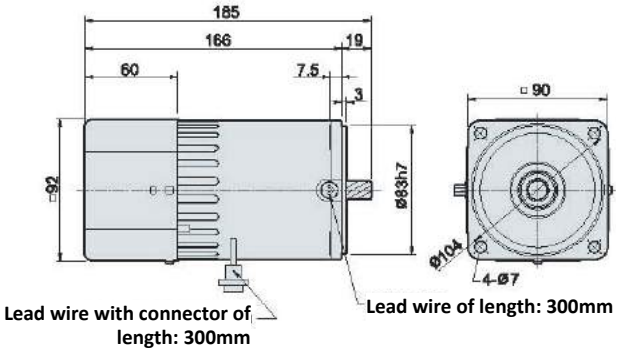
Inverter

Inverter Motor Frame 5, 90W~150W

MI-5090A-□R□~MI-5150A-□R□

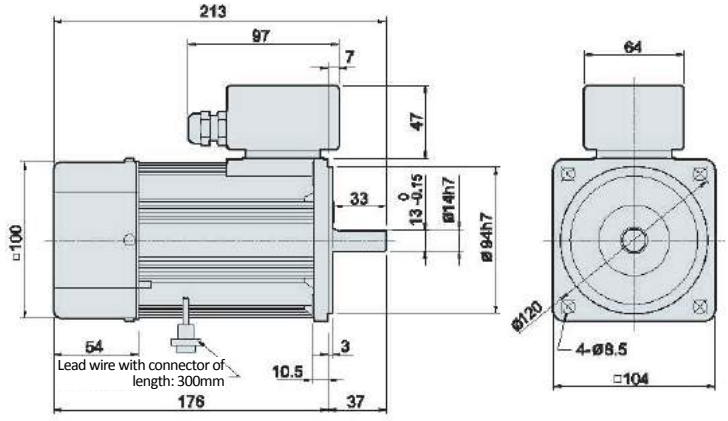


MI-5090U-□R□~MI-5150U-□R□

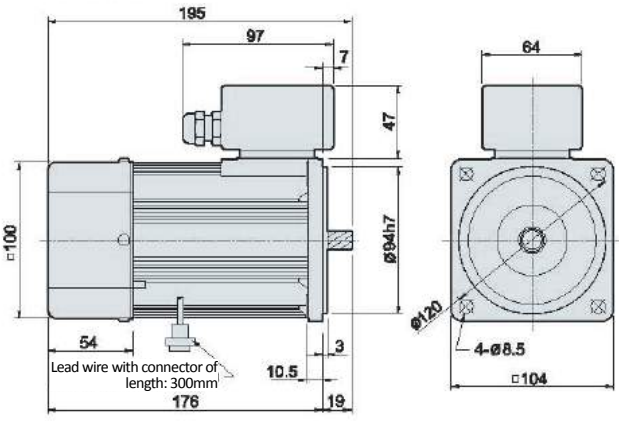


Inverter Motor Frame 6, 200W

MI-6200A-□R□



MI-6200U-□R□



List of Inverter Motors/Gear Boxes with Inverter (HMD-250C)

Outer Frame Size	Phase	Voltage	Output power	Gear Box		
				Oil bearing	Ball bearing	Intermediate speed ratio
Frame 4, 80mm	Tri-phase	200V~230V	25W	G-4N□-L	G-4N□-K	G-4N10X-K
Frame 5, 90mm	Tri-phase	200V~230V	40W	G-5N□-L	G-5N□-K	G-5N10X-K
Frame 5, 90mm	Tri-phase	200V~230V	60W	G-5N□-L	G-5N□-K G-5U□-K G-5U□-KF	G-5N10X-K G-5U10X-K
Frame 5, 90mm	Tri-phase	200V~230V	90W		G-5U□-K G-5U□-KF G-5U□-KH	G-5U10X-K G-5U10X-K
Frame 5, 90mm	Tri-phase	200V~230V	120W		G-5U□-K G-5U□-KF G-5U□-KH	G-5U10X-K G-5U10X-K
Frame 5, 90mm	Tri-phase	200V~230V	150W		G-5U□-K G-5U□-KF G-5U□-KH	G-5U10X-K G-5U10X-K
Frame 6, 104mm	Tri-phase	200V~230V	200W		G-6U□-KH	

Specifications of Vector Inverter

Item		Specifications
Power source	Input voltage	Single-phase power source: 200V-230V 50/60Hz Tri-phase power source: 200V-230V 50/60Hz
	Allowable voltage fluctuation	±5%
	Allowable frequency fluctuation	±5%
Output	Maximum output frequency	400Hz (based on motor characteristics)
	Rated output current	5.0 (Amp) maximum
Displayer	Operation panel	User-friendly design with colored backlight controller
Control features	Control modes	a. Closed loop magnetic feedback detector b. Closed loop U, V, W phase change signal c. Open loop sensorless
	Frequency range	0.01-400Hz
	Frequency accuracy (temperature fluctuation)	Within ±0.025% of the maximum output frequency (25℃±10℃)
	Frequency setting resolution	Digital input: 0.01Hz Simulated input: 1/4000 of the maximum output frequency (12bit)
Control features	Starting torque	Coupled with electromagnetic angle feedback detector 200% Hold Torque
	Speed control range	Coupled with magnetic angle feedback detector 1:3000
	Speed control accuracy	0.1% (no PG vector control)
	Torque limit	Coupled with magnetic angle feedback detector (parameter setting)
	Acceleration/deceleration time	0.00-6000.0 sec (acceleration and deceleration are set separately)
	Brake loop	Including brake crystal (optional brake resistance)
	Main control functions	Instant restarting after power-cut, speed search, over-torque detection, torque restriction, 17-speed operation, acceleration/deceleration setting (4-speed switch), individual setting for S-curve 4 turning points, 2/3 wire sequence control, auto tuning, Stall/Dwell function selection, two sets of RS-485 (MOD-BUS communication format), failure retry function selection, AVR, PID control
Protection functions	Instant over-current protection	200% of the rated output current, 1 sec
	Overload protection	150% of the rated output current, 60 sec, including electronic thermal resistance
	Over-voltage protection	Can be adjusted according to customer requirements (parameter adjustment)
	Under-voltage protection	Can be adjusted according to customer requirements (parameter adjustment)





Variable Speed Controller

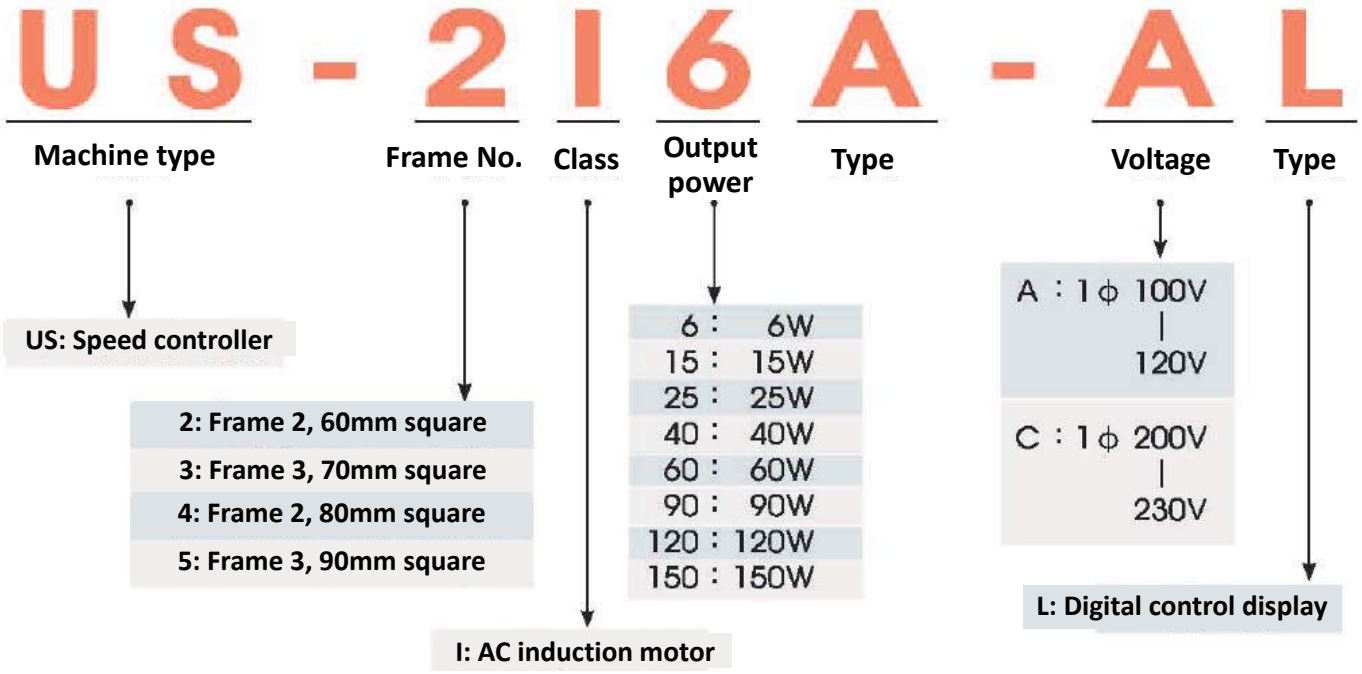
Product Feature

- **Performance**
  1) High stability of motor speed control
  2) Electronic brake system with stepless variable speed
  3) Diverse choices according to different transmission characteristics

- **Structure**
  AC induction motor is suitable for a variety of transmission speeds requires combined and split type
  Combined Type: unilateral speed control
  Split Type: can be used for speed, time and other aspects of the control application.

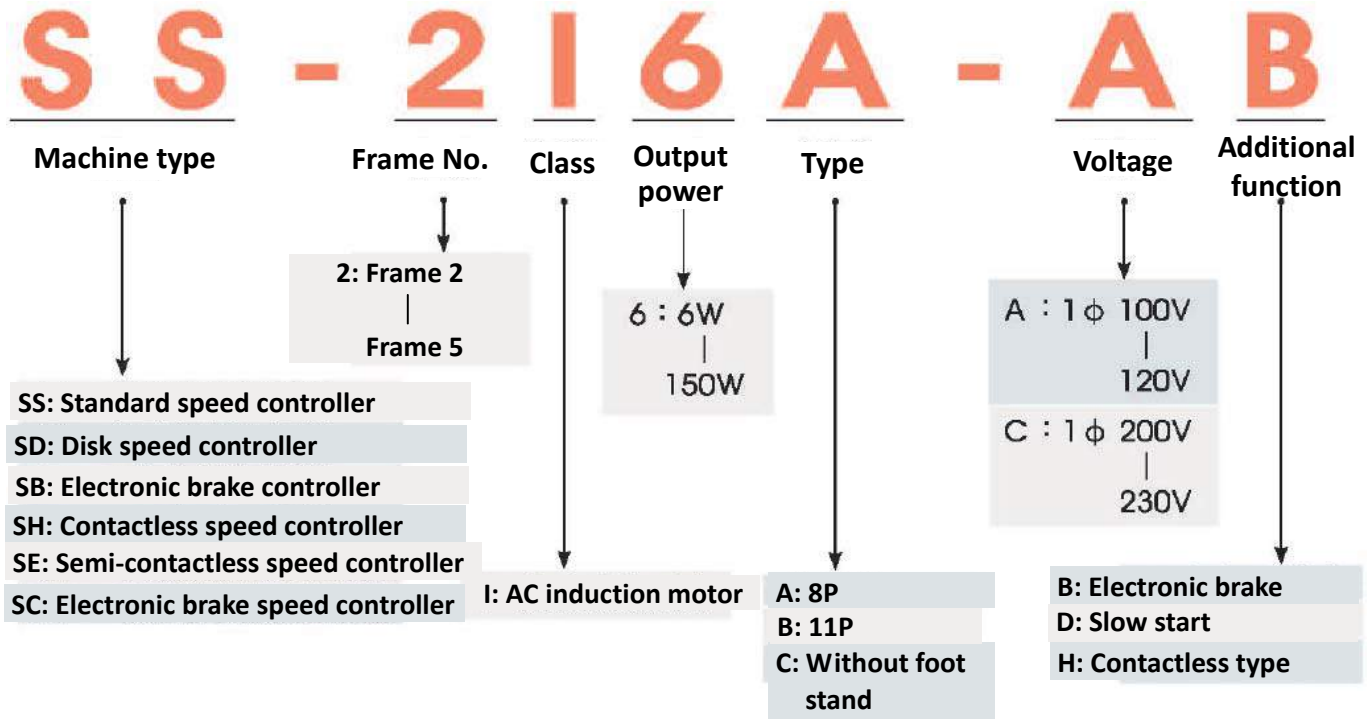
Variable Speed Controller

Combined Speed Controller Models



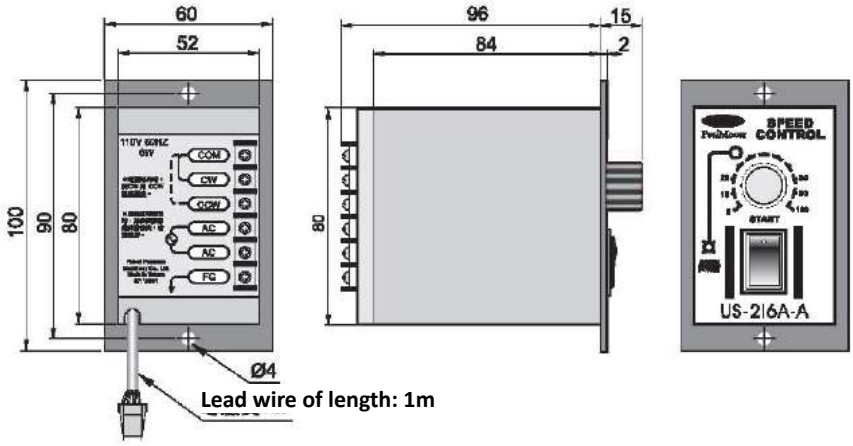
Note: 1. Capacitors of 90W or above, and with digital control display, are external-connection type.
2. Settings and adjustments are required for 50Hz and 60Hz types, so specifications are needed.

Split-type Speed Controller Model



Combined Speed Controller

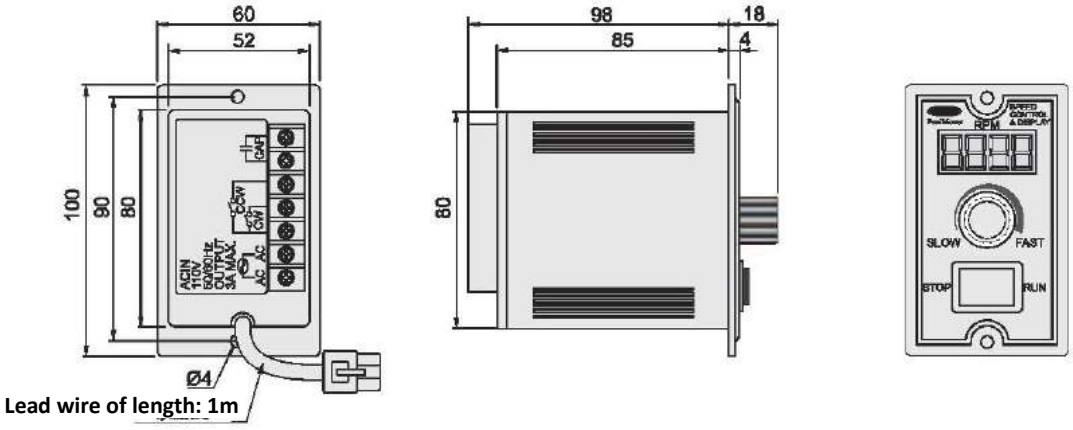
US-2I6A-A(C)~US-5I150A-A(C)



Specifications of extension wires

Extension wire specifications	
984-2205006-X6	0.5M
984-2210006-X6	1M
984-2220006-X6	2M
984-2230006-X6	3M

US-2I6A-A(C)L~US-5I150A-A(C)L



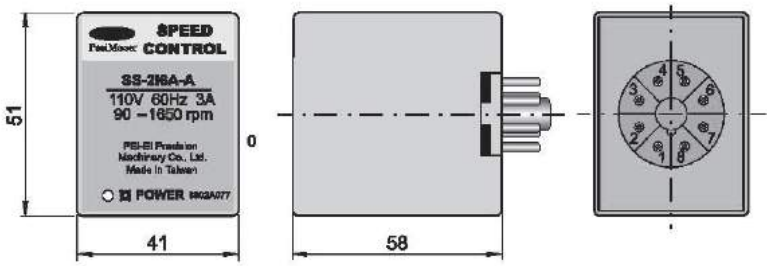
When the product malfunctions, please follow the troubleshooting steps below to eliminate the errors:

Error Code	Failure	Cause	Solution
1	Motors all operate at full speed, which cannot be adjusted	Abnormal wiring in the speed feedback of the motor speed generator	Check whether the wire connecting the speed generator and the speed controller has fallen off.
2	Motors do not start	Abnormal wiring	Check whether the wire connecting the motor and the speed controller has fallen off or has poor contact.
3	Overload	Motor is overloaded or stuck	1. Check whether something got stuck inside. 2. Check whether the capacity of the motor is too small.

Split-type Speed Controller

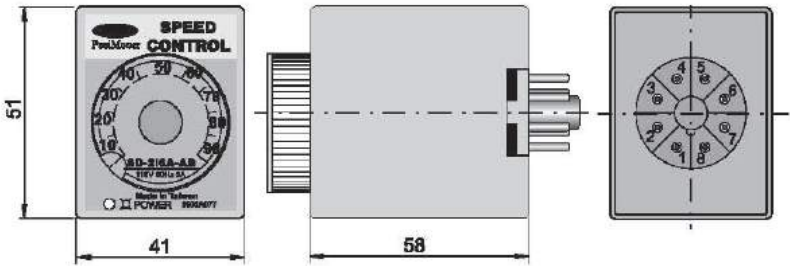
SS-type Specifications

SS-2I6A-A(C)
SS-2I6A-A(C)B



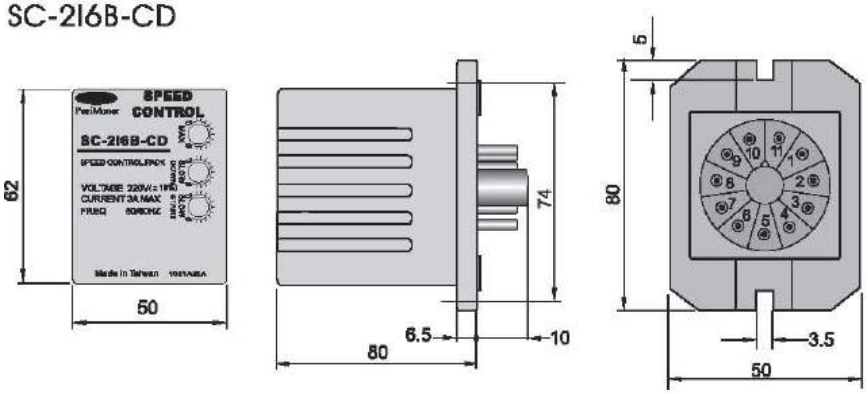
SD-type Specifications

SD-2I6A-A(C)
SD-2I6A-A(C)B

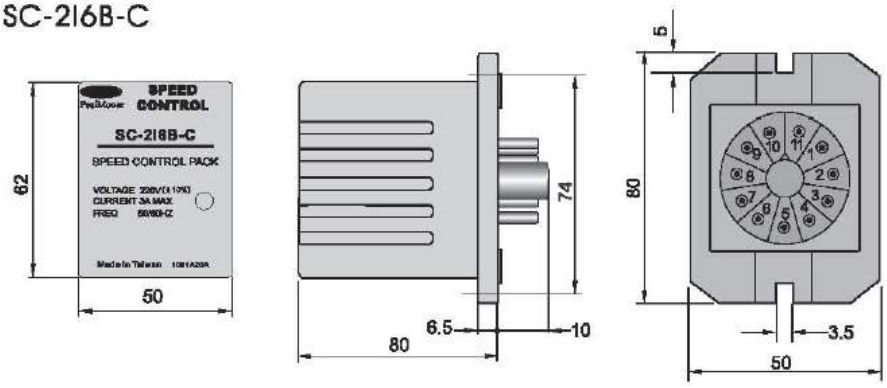


SC-type Specifications

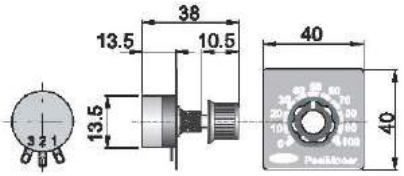
SC-2I6B-AD
SC-2I6B-CD



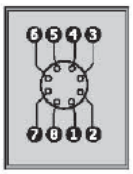
SC-2I6B-A
SC-2I6B-C



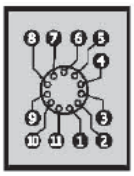
Speed-adjusting Variable Resistance Specifications



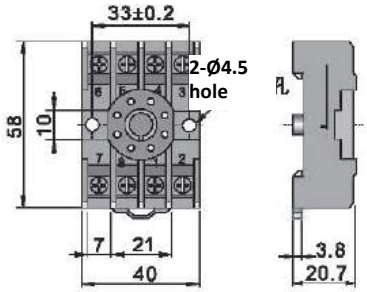
8P Foot Stand



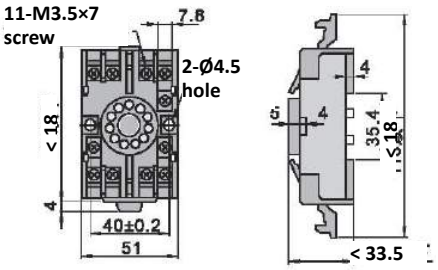
11P Foot Stand



Controller Foot Stand Specifications, 8P



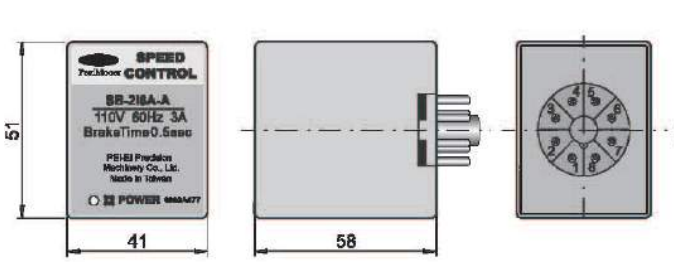
Controller Foot Stand Specifications, 11P



Split-type Speed Controller

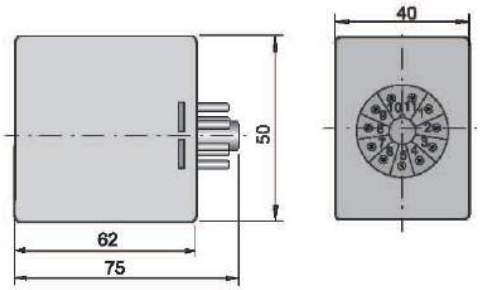
SB-type Specifications

SB-216A-A
SB-216A-C



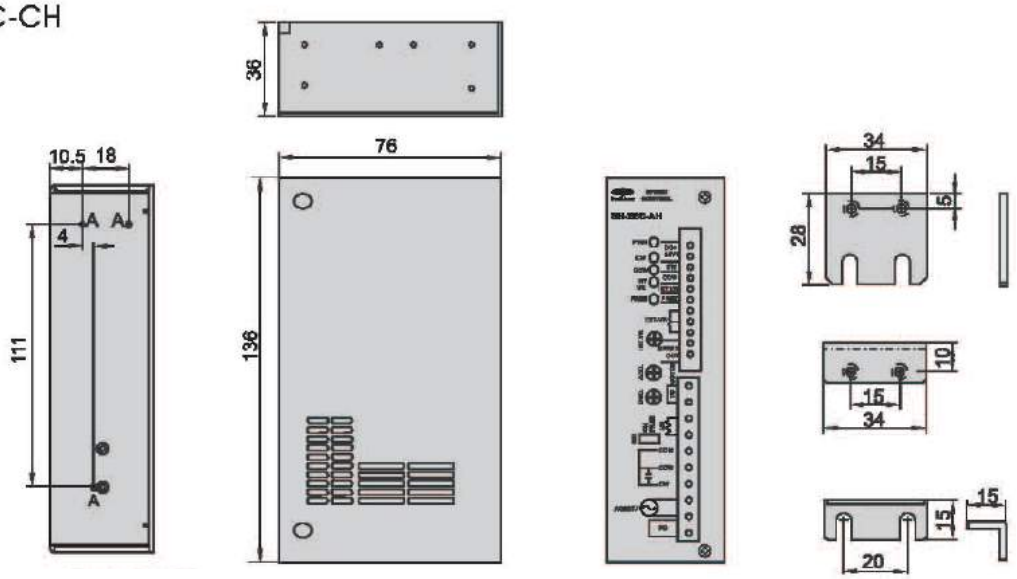
SB-H-type Specifications

SB-216B-AH
SB-216B-CH



SH-type Specifications

SH-216C-AH
SH-216C-CH



- A indicated a fixed orifice

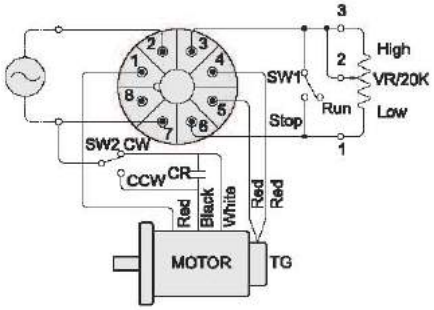
When the product malfunctions, please following the troubleshooting steps below to eliminate the errors:

Error Code	Failure	Cause	Solution
1	Motors all operate at full speed, which cannot be adjusted	Abnormal wiring in the speed feedback of the motor speed generator	Check whether the wire connecting the speed generator and the speed controller has fallen off.
2	Motors do not start	Abnormal wiring	Check whether the wire connecting the motor and the speed controller has fallen off or has poor contact.
3	Motor is overheating	Electric capacity does not match or has connection error	1. Check if the wiring colors match that in the wiring diagram. 2. Install the correct electric capacity according to the motor specification label.
4	Overload	Motor is overloaded or stuck	3. Check whether something got stuck inside. 4. Check whether the capacity of the motor is too small.

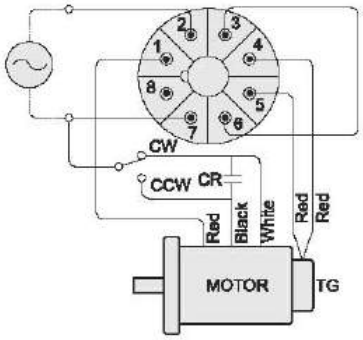
Note: This table is applicable for eliminating the errors of split-type speed controller.

Split-type Speed Controller Wiring Diagram

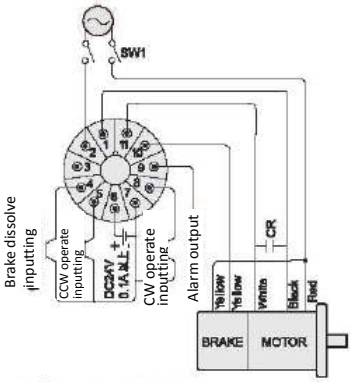
SS-2I6A-A(C)



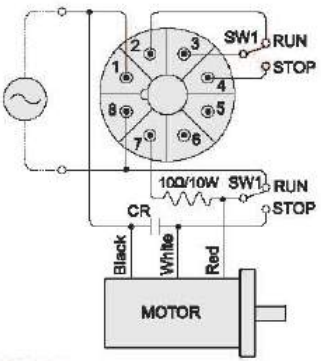
SD-2I6A-A(C)



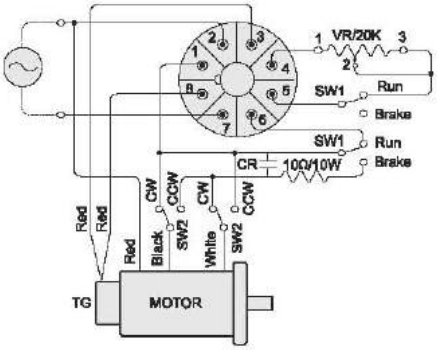
SB-2I6B-A(C)H



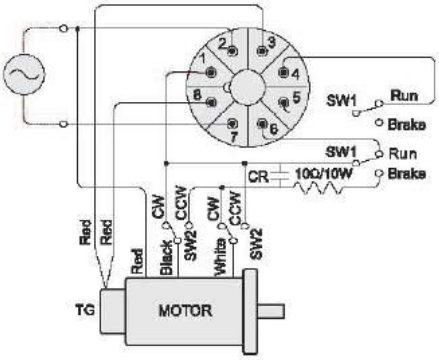
SB-2I6A-A(C)



SS-2I6A-A(C)B

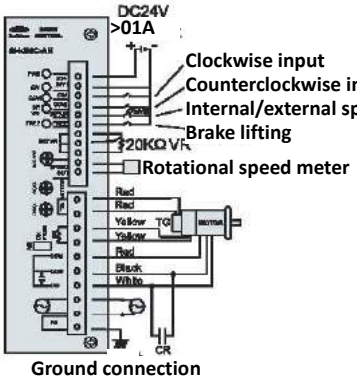


SD-2I6A-A(C)B



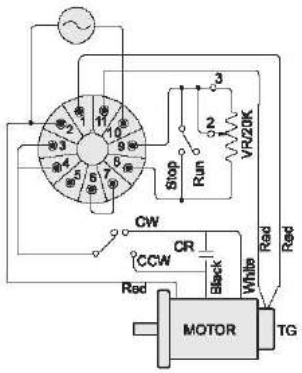
SH-2I6C-A(C)H

For detailed enlarged drawing, please refer to Page 249.



Ground connection

SC-2I6B-A(C)D



Notes:

1. Confirm whether the controller conforms to the output specifications of motors before wiring.
2. The outgoing line of the overheating protection switch and the motor control circuit should be connected in series.
3. To install forced cooling fan into speed adjusting motors, the former should be connected to the input power supply.
4. To install safety brake into speed adjusting motors, the input side of the power supplier of the former should be connected to the starting power source of the latter. Thus, the former can come off when motors are started.
5. For speed-adjusting motors with electronic brake, clock/counterclockwise rotation is disabled within 0.5 second after using the electronic brake to stop the motor.
6. The capacity of the switch contact should be above AC 125V 5A or AC 250V 5A.
7. The electronic brake is used for operation within 0.5 seconds and stops within 0.5 seconds. The temperature of the motors will rise, so please use them under operating temperature below 90℃.

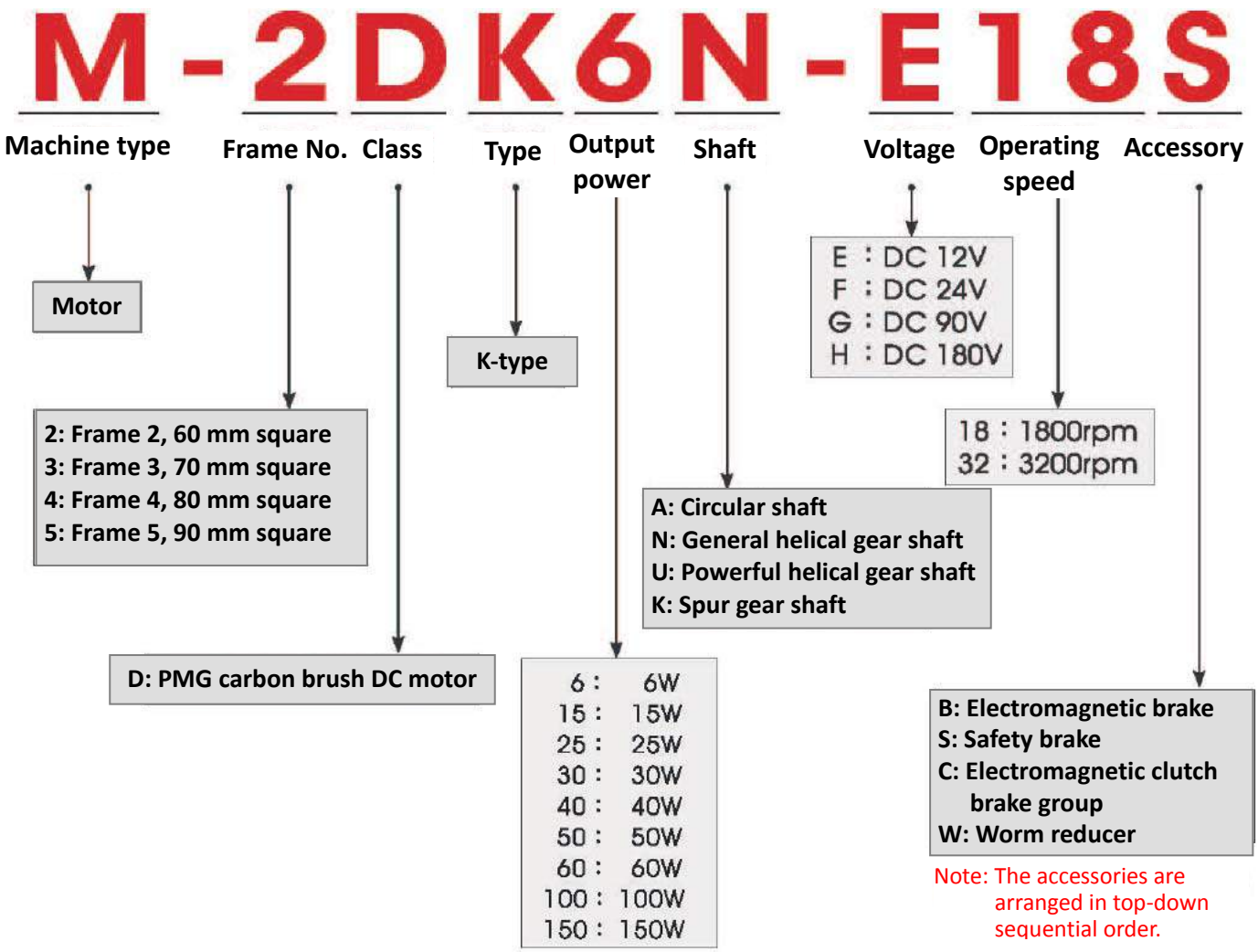
DC Permanent Magnet Motor

Product Feature

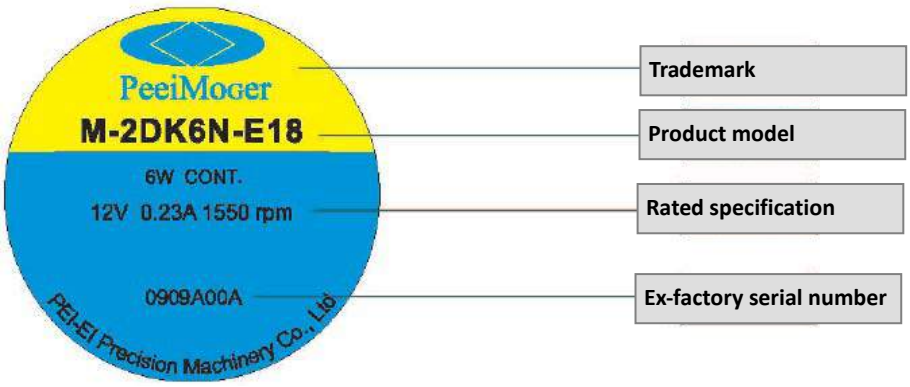
- **Outstanding Performance**
  1) Excellent start-up performance
  2) Simple structure
  3) High efficiency
  4) Good heat dissipation
  5) High transmission power

- **Product Applications**
  The motor is mainly used on small-scale transmission machinery, such as: various machine tools, transportation machinery, packaging machinery, food machinery, textile machinery, printing machinery, electronic devices, sports equipment, etc.

PMG DC Motors Models



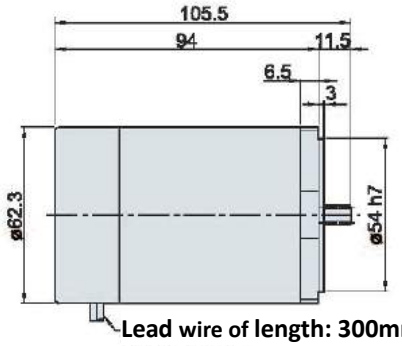
PMG DC Motor Label

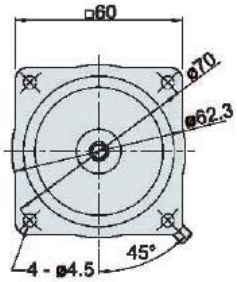


PMG DC Motor, Frame 2

Dimension Drawing of PMG DC Motors

M-2DK6N-□18 / M-2DK15N-□32

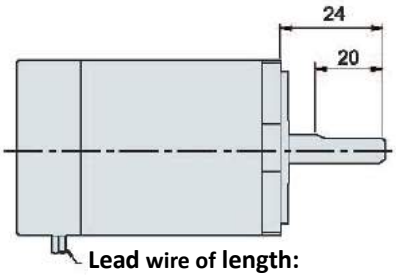


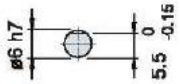


Weight: 0.8 kg

Specifications of Circular Shaft

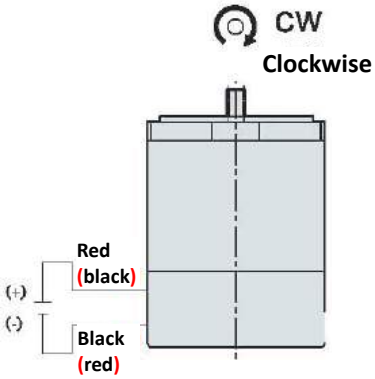
M-2DK6A-□18 / M-2DK15A-□32





Weight: 0.8 kg

PMG DC Motor, Frame 2 Wiring Diagram



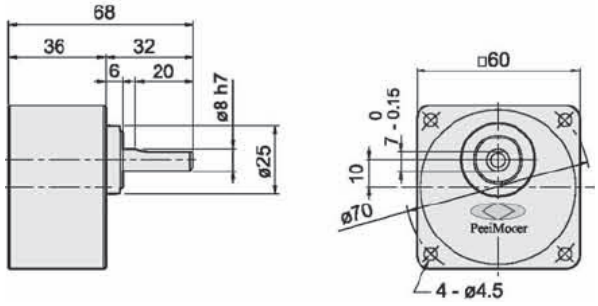
* When the rotation direction changes, use the wiring color indicated in the brackets.

6W, Specifications of PMG DC Motors

Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque, kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-2DK6N-E18 M-2DK6A-E18	6	12	CONT.	1980	0.38	3.7	0.95	1790	0.34	G-2N□-L	G-2N□-K	G-2N10X-K
M-2DK6N-F18 M-2DK6A-F18	6	24	CONT.	2030	0.23	4.1	0.49	1890	0.31			
M-2DK6N-G18 M-2DK6A-G18	6	90	CONT.	2020	0.08	4.3	0.15	1860	0.32			
M-2DK6N-H18 M-2DK6A-H18	6	180	CONT.	2050	0.04	4.2	0.08	1830	0.33			

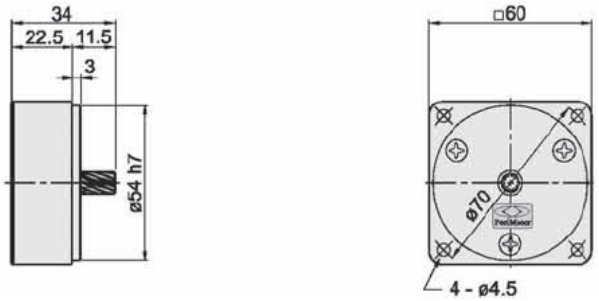
Gear Box

G-2N□-$^{K}_{L}$



Intermediate Gear Box

G-2N10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-2N3-K / L~G-2N18-K / L	0.30
G-2N20-K / L~G-2N60-K / L	0.31
G-2N75-K / L~G-2N180-K / L	0.33
G-2N10X-K	0.20

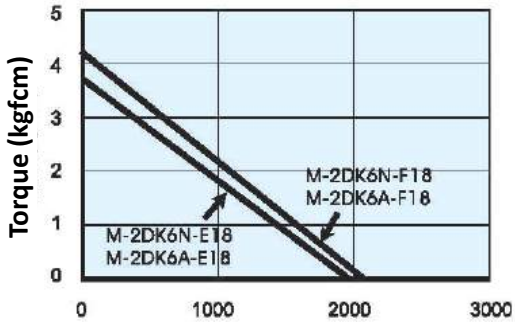
15W, Specifications of PMG DC Motors

Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-2DK15N-E32 M-2DK15A-E32	6	12	30 min	3110	0.77	4.2	2.39	2570	0.58	G-2N□-L	G-2N□-K	G-2N10X-K
M-2DK15N-F32 M-2DK15A-F32	6	24	30 min	3110	0.36	6.0	1.10	2780	0.55			
M-2DK15N-G32 M-2DK15A-G32	6	90	30 min	3220	0.12	6.3	0.30	2950	0.50			
M-2DK15N-H32 M-2DK15A-H32	6	180	30 min	3190	0.06	6.4	0.15	2820	0.52			

PMG DC Motor, Frame 2

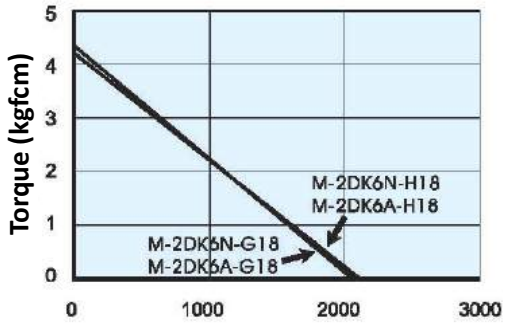
6W, Characteristics of PMG DC Motors

M-2DK6N-E18 / M-2DK6N-F18
M-2DK6A-E18 / M-2DK6A-F18



Rotational speed (rpm)

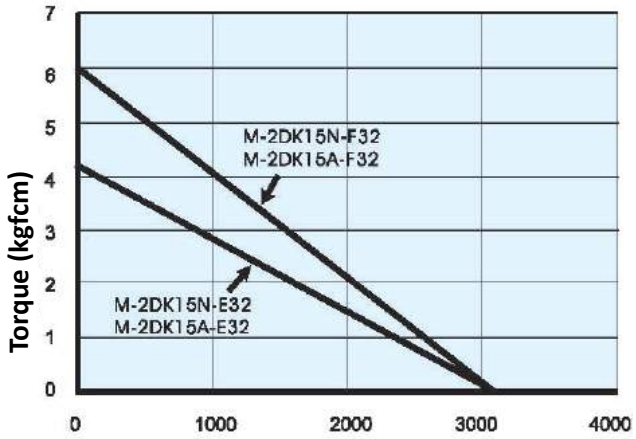
M-2DK6N-G18 / M-2DK6N-H18
M-2DK6A-G18 / M-2DK6A-H18



Rotational speed (rpm)

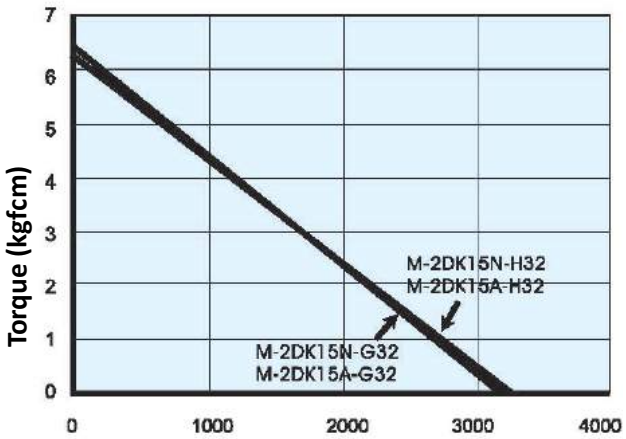
15W, Characteristics of PMG DC Motors

M-2DK15N-E32 / M-2DK15N-F32
M-2DK15A-E32 / M-2DK15A-F32



Rotational speed (rpm)

M-2DK15N-G32 / M-2DK15N-H32
M-2DK15A-G32 / M-2DK15A-H32



Rotational speed (rpm)

Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-2N□-K/L	Max. allowable torque (kgfcm)		1.0	1.6	2.5	2.7	3.4	4.1	5.0	5.4	6.7	8.1	9.7	16	23	25	25	25	25	25	25	25	25	25	25

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

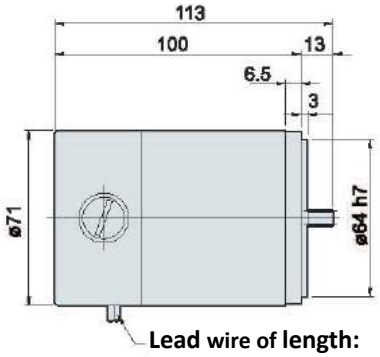
Factory Environment

You can tell whether a man is clever or not by his answers; you can tell whether a man is wise or not by his questions. Naguib Mahfouz

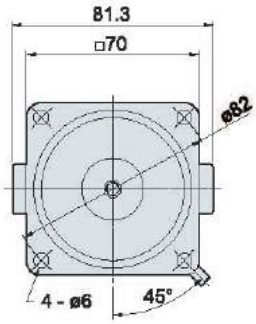
PMG DC Motor, Frame 3

Dimension Drawing of PMG DC Motors

M-3DK15N-□18 / M-3DK25N-□32



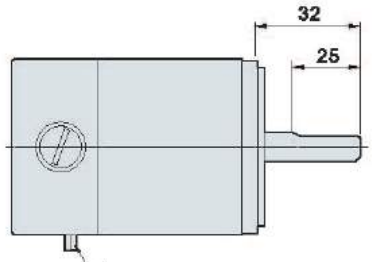
Lead wire of length:
300mm



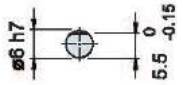
Weight:1.1 kg

Specifications of Circular Shaft

M-3DK15A-□18 / M-3DK25A-□32

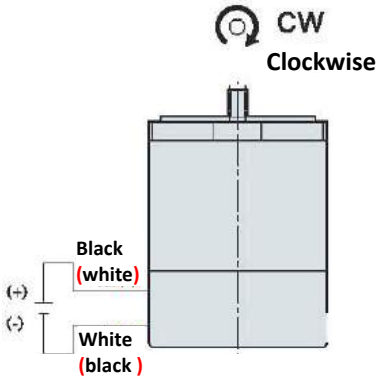


Lead wire of length:
300mm



Weight: 1.1 kg

PMG DC Motor, Frame 3 Wiring Diagram



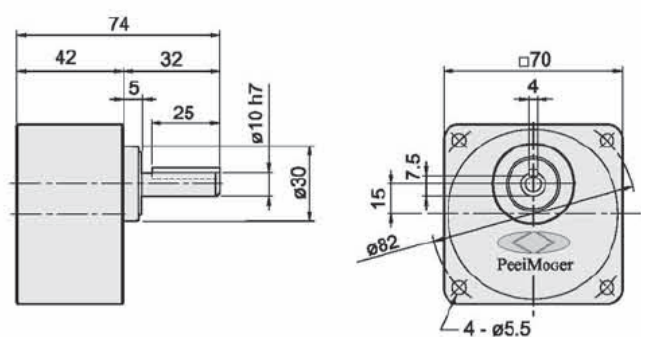
* When the rotation direction changes, use the wiring color indicated in the brackets.

15W, Specifications of PMG DC Motors

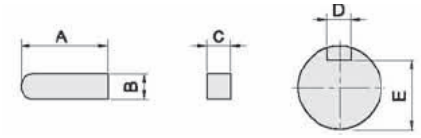
Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-3DK15N-E18 M-3DK15A-E18	15	12	CONT.	2080	0.65	5.5	1.91	1850	0.82	G-3N□-L	G-3N□-K	G-3N10X-K
M-3DK15N-F18 M-3DK15A-F18	15	24	CONT.	1870	0.30	6.5	1.00	1600	0.93			
M-3DK15N-G18 M-3DK15A-G18	15	90	CONT.	2180	0.08	7.3	0.23	1980	0.74			
M-3DK15N-H18 M-3DK15A-H18	15	180	CONT.	2064	0.04	7.3	0.12	1860	0.79			

Gear Box

G-3N□-$^{K}_{L}$



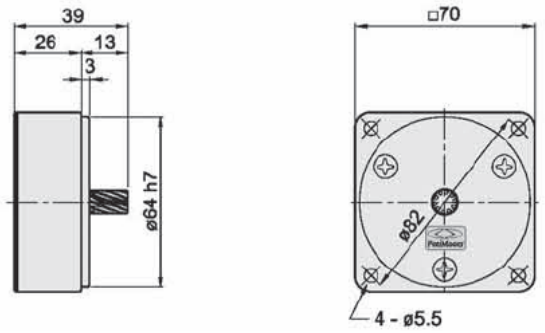
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-3N□-$^{K}_{L}$	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{0}_{-0.15}$

Intermediate Gear Box

G-3N10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-3N3-K / L~G-3N18-K / L	0.44
G-3N20-K / L~G-3N60-K / L	0.48
G-3N75-K / L~G-3N180-K / L	0.53
G-3N10X-K	0.32

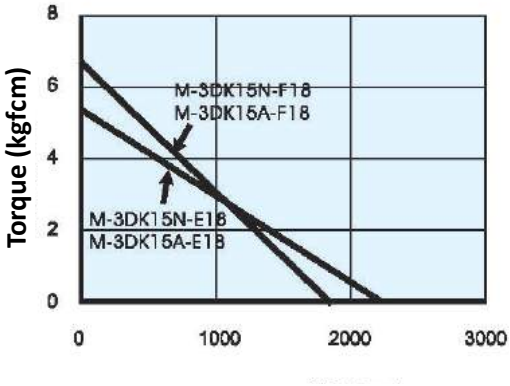
25W, Specifications of PMG DC Motors

Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-3DK25N-E32 M-3DK25A-E32	25	12	30 min	3370	1.10	8.0	3.37	3020	0.82	G-3N□-L	G-3N□-K	G-3N10X-K
M-3DK25N-F32 M-3DK25A-F32	25	24	30 min	3340	0.50	11.1	1.56	3110	0.86			
M-3DK25N-G32 M-3DK25A-G32	25	90	30 min	3250	0.10	12.7	0.38	3040	0.84			
M-3DK25N-H32 M-3DK25A-H32	25	180	30 min	3208	0.05	12.4	0.19	3020	0.86			

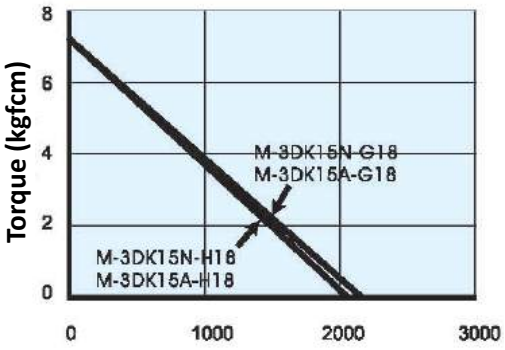
PMG DC Motor, Frame 3

15W, Characteristics of PMG DC Motors

M-3DK15N-E18 / M-3DK15N-F18
M-3DK15A-E18 / M-3DK15A-F18

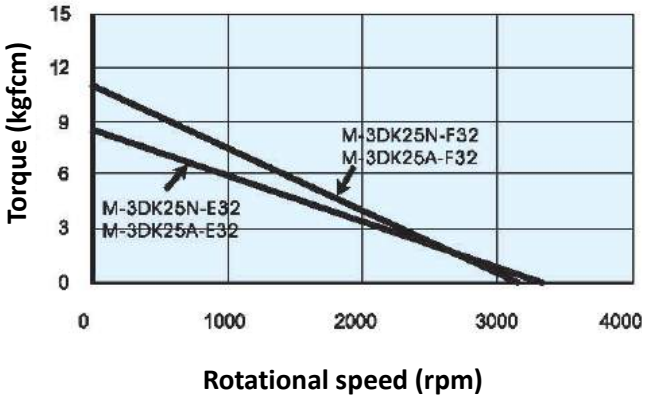


M-3DK15N-G18 / M-3DK15N-H18
M-3DK15A-G18 / M-3DK15A-H18

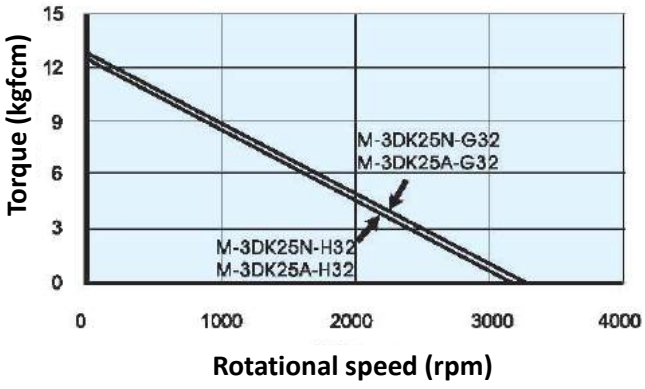


25W, Characteristics of PMG DC Motors

M-3DK25N-E32 / M-3DK25N-F32
M-3DK25A-E32 / M-3DK25A-F32



M-3DK25N-G32 / M-3DK25N-H32
M-3DK25A-G32 / M-3DK25A-H32



Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-3N□−K/L	Max. allowable torque (kgfcm)		2.4	4.0	6.0	6.7	8.2	10	12	13	16	19	23	39	50	50	50	50	50	50	50	50	50	50	50

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

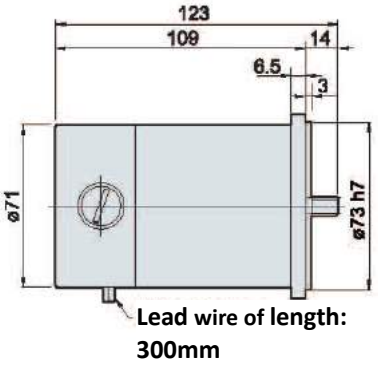
Production Line

The pessimistic may still exist, but cease to live, while the optimistic never age. Byron
Pleasant personality is the soul of success. Mathis
The reason why the sea can hold so much water is because it has the lowest base - keep a low profile.
Three principles for work: change what can be changed with courage, accept what cannot be changed with heart, and know the difference with wisdom. Li Kai-fu

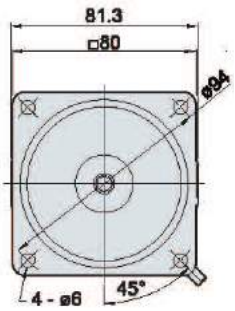
PMG DC Motor, Frame 4

Dimension Drawing of PMG DC Motors

M-4DK25N-□18 / M-4DK40N-□32



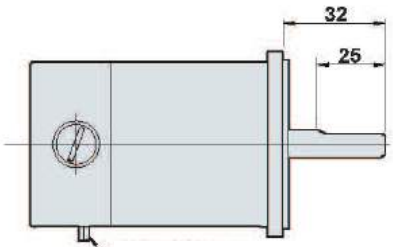
Lead wire of length: 300mm



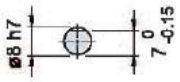
Weight:1.25 kg

Specifications of Circular Shaft

M-4DK25A-□18 / M-4DK40A-□32

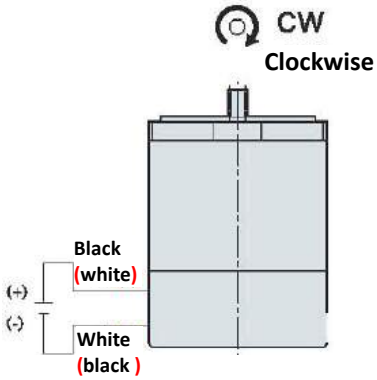


Lead wire of length: 300mm



Weight: 1.25 kg

PMG DC Motor, Frame 4 Wiring Diagram

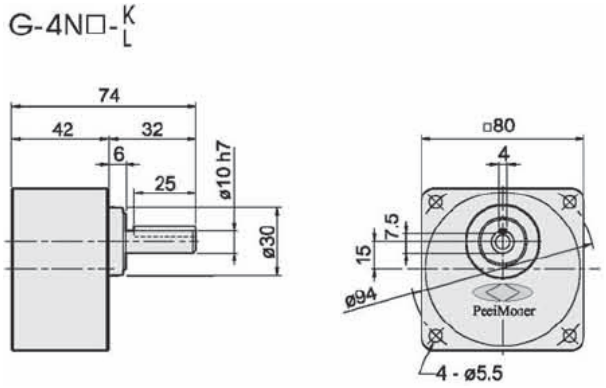


* When the rotation direction changes, use the wiring color indicated in the brackets.

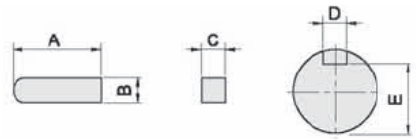
25W, Specifications of PMG DC Motors

Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-4DK25N-E18 M-4DK25A-E18	25	12	CONT.	1970	0.61	8.6	3.36	1570	1.60	G-4N□-L	G-4N□-K	G-4N10X-K
M-4DK25N-F18 M-4DK25A-F18	25	24	CONT.	1950	0.40	9.7	1.84	1630	1.50			
M-4DK25N-G18 M-4DK25A-G18	25	90	CONT.	1900	0.08	10.3	0.43	1624	1.54			
M-4DK25N-H18 M-4DK25A-H18	25	180	CONT.	1980	0.04	10.3	0.21	1840	1.55			

Gear Box

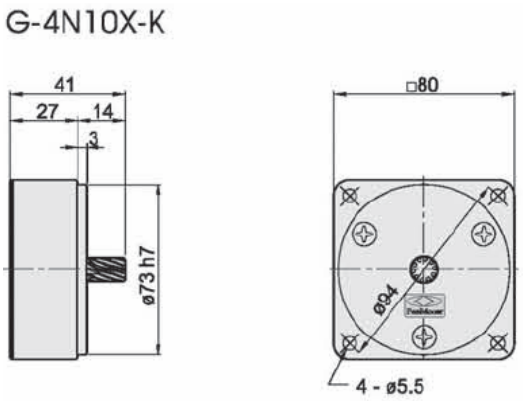


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-4N□-K/L	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$7.5^{0}_{-0.15}$

Intermediate Gear Box



Weight List of Gear Boxes

Model	Weight (kg)
G-4N3-K / L~G-4N18-K / L	0.60
G-4N20-K / L~G-4N60-K / L	0.65
G-4N75-K / L~G-4N180-K / L	0.71
G-4N10X-K	0.41

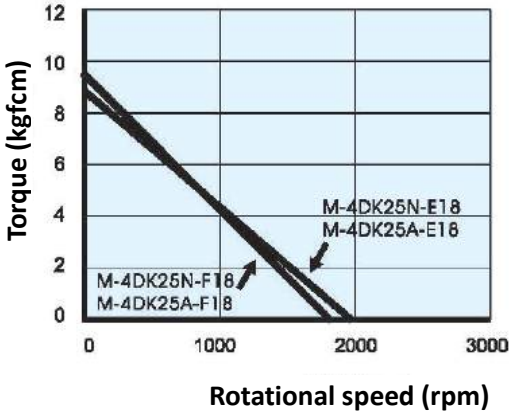
40W, Specifications of PMG DC Motors

Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-4DK40N-E32 M-4DK40A-E32	40	12	30min	3370	1.20	10.7	5.10	2870	1.40	G-4N□-L	G-4N□-K	G-4N10X-K
M-4DK40N-F32 M-4DK40A-F32	40	24	30min	3310	0.60	10.9	2.15	2830	1.38			
M-4DK40N-G32 M-4DK40A-G32	40	90	30min	3200	0.12	14.5	0.56	2940	1.36			
M-4DK40N-H32 M-4DK40A-H32	40	180	30min	3210	0.06	14.5	0.28	2840	1.38			

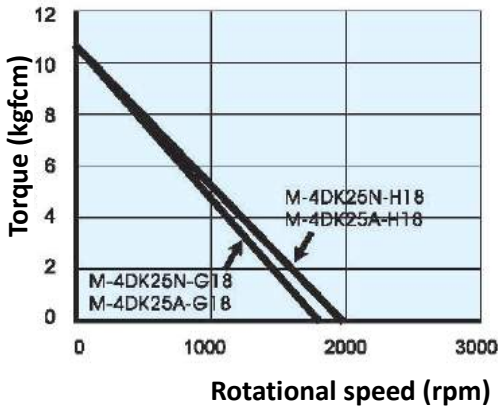
PMG DC Motor, Frame 4

25W, Characteristics of PMG DC Motors

M-4DK25N-E18 / M-4DK25N-F18
M-4DK25A-E18 / M-4DK25A-F18

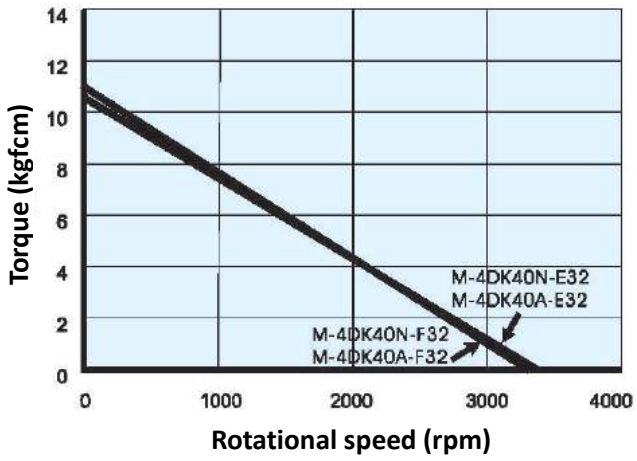


M-4DK25N-G18 / M-4DK25N-H18
M-4DK25A-G18 / M-4DK25A-H18

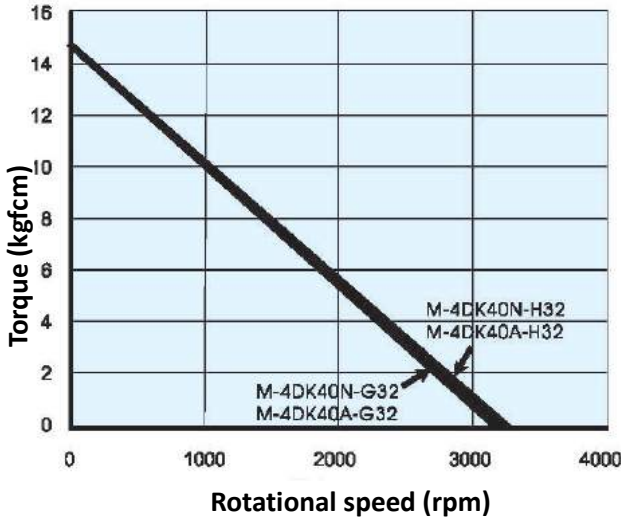


40W, Characteristics of PMG DC Motors

M-4DK40N-E32 / M-4DK40N-F32
M-4DK40A-E32 / M-4DK40A-F32



M-4DK40N-G32 / M-4DK40N-H32
M-4DK40A-G32 / M-4DK40A-H32



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-4N□–$^{K}_{L}$	Max. allowable torque (kgfcm)		4.0	6.7	10	11	13	16	20	21	26	32	39	65	80	80	80	80	80	80	80	80	80	80	80

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Production Line

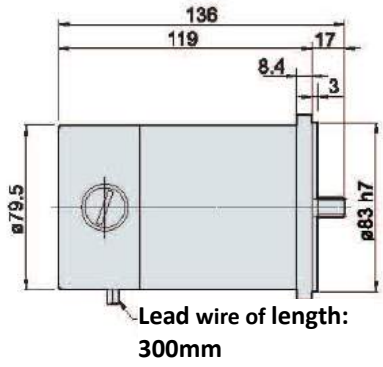
Gentlemen make friends with those like-minded, while villains make friends with those who have the same interests. Ouyang Xiu

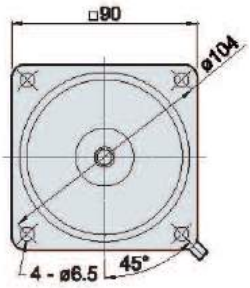
Success can attract friends, while failure can test friends. Encinas

PMG DC Motor, Frame 5

Dimension Drawing of PMG DC Motors

M-5DK30N-□18 / M-5DK50N-□32

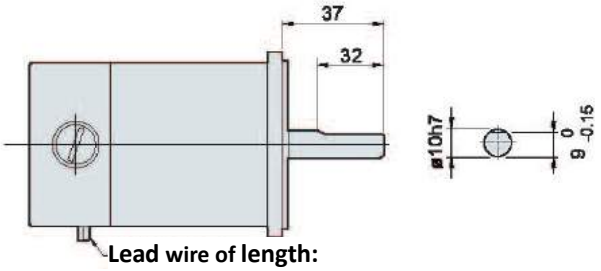




Weight:1.7 kg

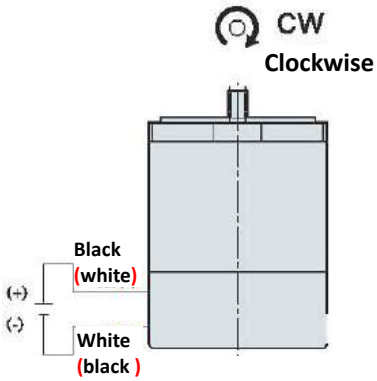
Specifications of Circular Shaft

M-5DK30A-□18 / M-5DK50A-□32



Weight: 1.7 kg

PMG DC Motor, Frame 5 Wiring Diagram

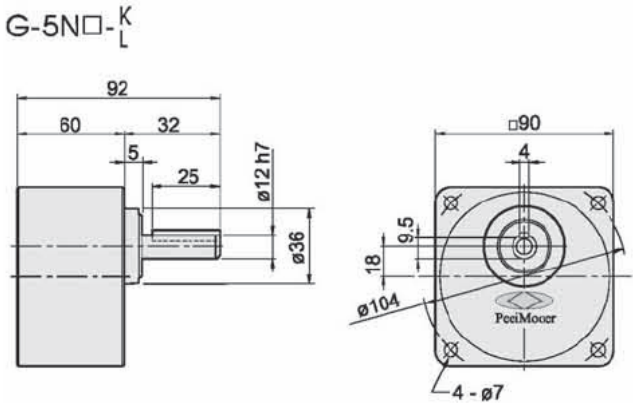


* When the rotation direction changes, use the wiring color indicated in the brackets.

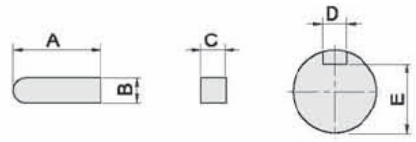
30W, Specifications of PMG DC Motors

Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-5DK30N-E18 M-5DK30A-E18	30	12	CONT.	2070	0.93	12.3	3.60	1790	1.64	G-5N□-L	G-5N□-K	G-5N10X-K
M-5DK30N-F18 M-5DK30A-F18	30	24	CONT.	1930	0.35	13.2	1.70	1680	1.78			
M-5DK30N-G18 M-5DK30A-G18	30	90	CONT.	2020	0.08	13.6	0.45	1790	1.66			
M-5DK30N-H18 M-5DK30A-H18	30	180	CONT.	2030	0.04	13.8	0.23	1720	1.71			

Gear Box

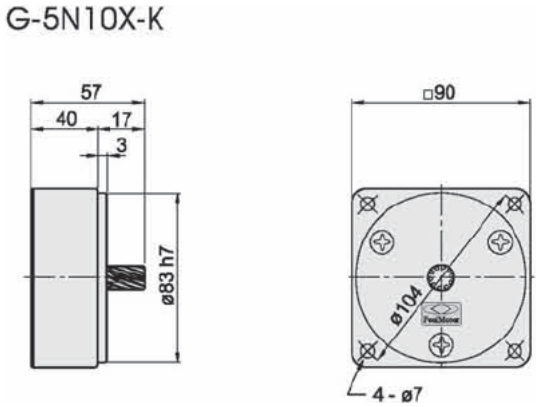


Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5N□-K/L	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{0}_{-0.15}$

Intermediate Gear Box



Weight List of Gear Boxes

Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

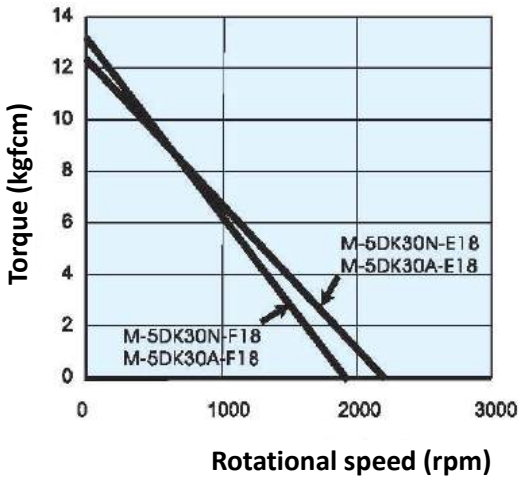
40W, Specifications of PMG DC Motors

Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-5DK50N-E32 M-5DK50A-E32	50	12	30min	3240	2.00	14.7	7.37	2870	2.00	G-5N□-L	G-5N□-K	G-5N10X-K
M-5DK50N-F32 M-5DK50A-F32	50	24	30min	3270	0.75	15.4	3.40	2830	1.87			
M-5DK50N-G32 M-5DK50A-G32	50	90	30min	3190	0.16	16.7	0.90	2900	1.83			
M-5DK50N-H32 M-5DK50A-H32	50	180	30min	3200	0.08	16.7	0.45	2920	1.85			

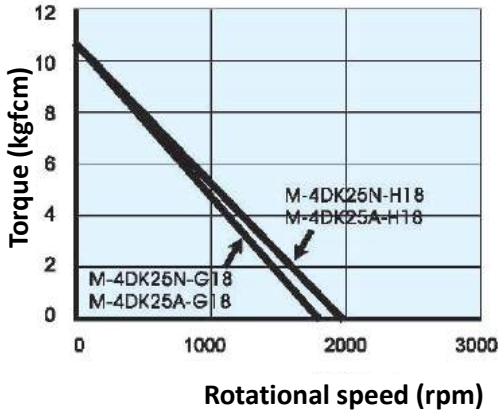
PMG DC Motor, Frame 5

30W, Characteristics of PMG DC Motors

M-5DK30N-E18 / M-5DK30N-F18
M-5DK30A-E18 / M-5DK30A-F18

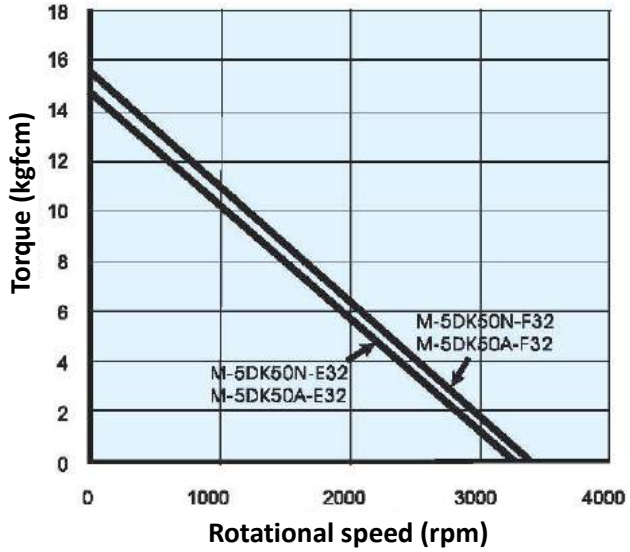


M-4DK25N-G18 / M-4DK25N-H18
M-4DK25A-G18 / M-4DK25A-H18

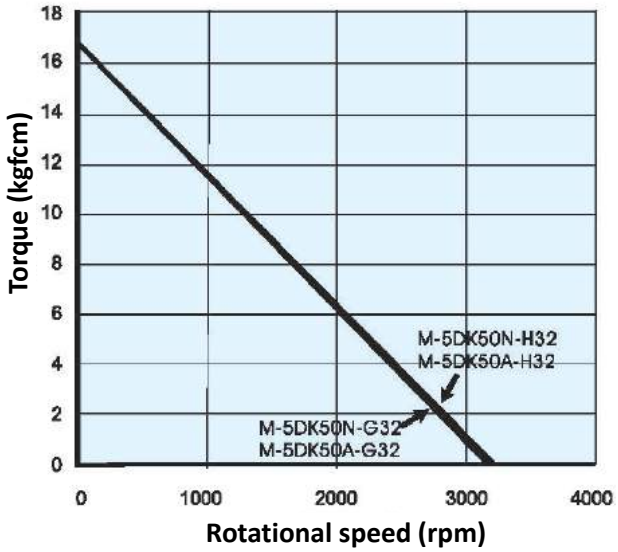


50W, Characteristics of PMG DC Motors

M-5DK50N-E32 / M-5DK50N-F32
M-5DK50A-E32 / M-5DK50A-F32



M-5DK50N-G32 / M-5DK50N-H32
M-5DK50A-G32 / M-5DK50A-H32

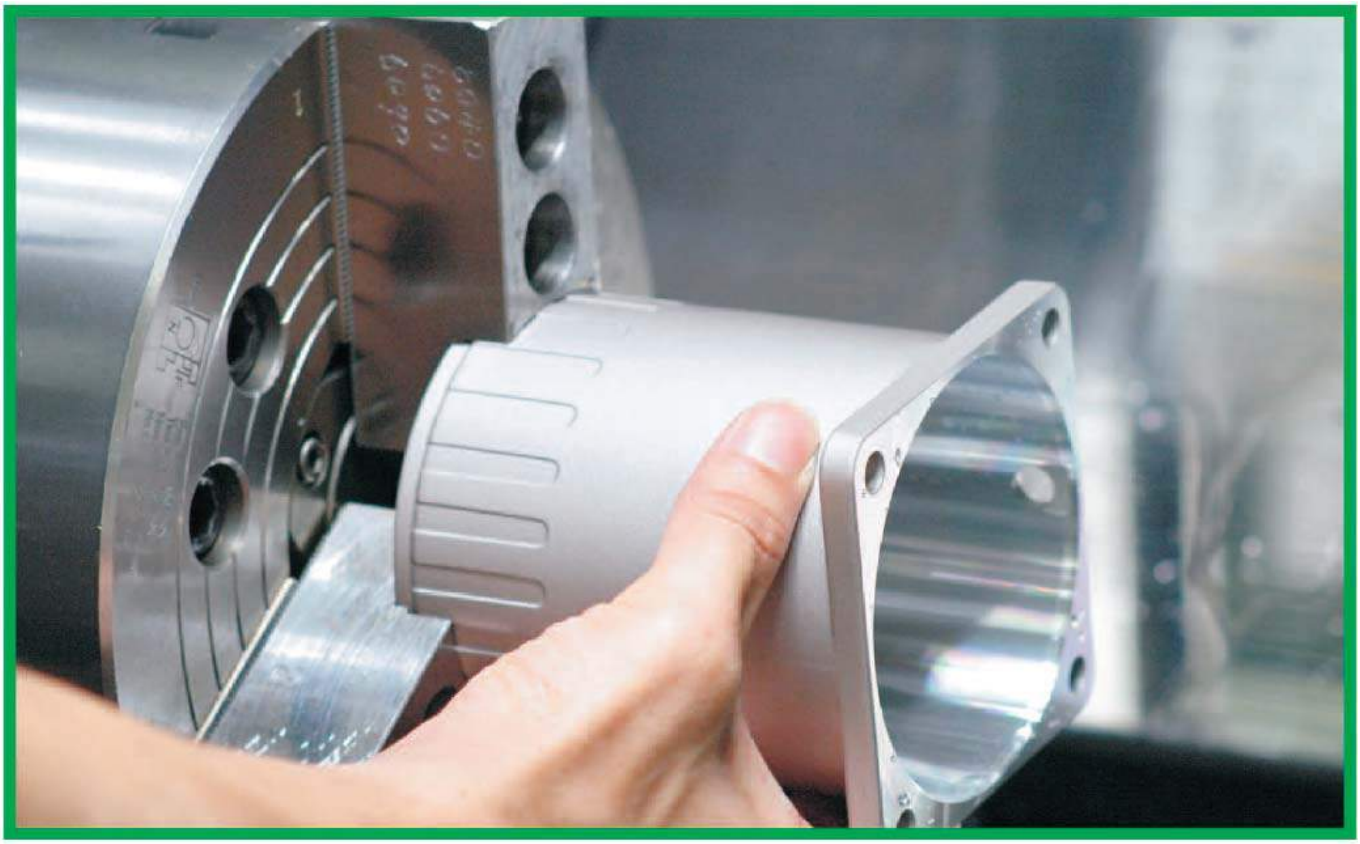


Maximum Allowable Torque of Gear Boxes

			Coupled intermediate gear box																					
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□-K/L	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

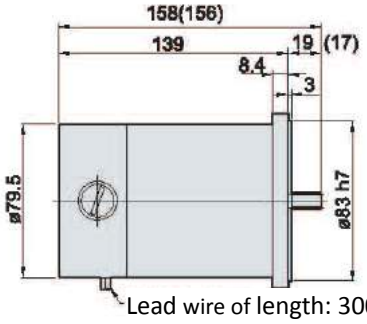
Production Line

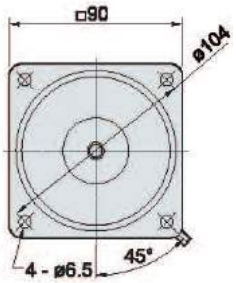


PMG DC Motor, Frame 5

Dimension Drawing of PMG DC Motors

M-5DK60$^{N}_{U}$-□18 / M-5DK100$^{N}_{U}$-□32



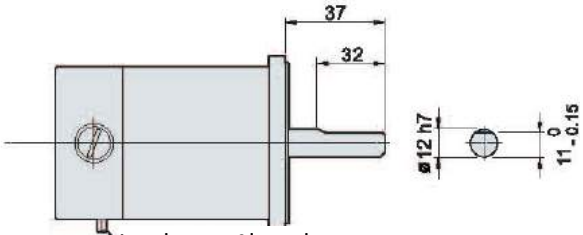


* The dimensions inside the brackets belong to N-type gear shafts, which are coupled to those of the gear box and the intermediate gear box, and should match with G-5N□-$^{K}_{L}$

Weight: 2.2 kg

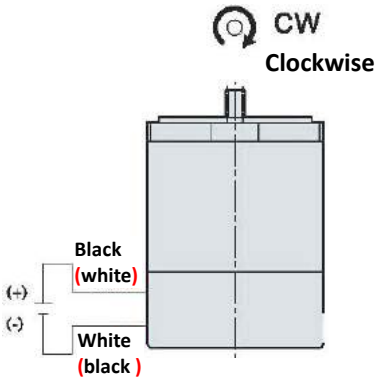
Specifications of Circular Shaft

M-5DK60A-□18 / M-5DK100A -□32



Weight: 2.2 kg

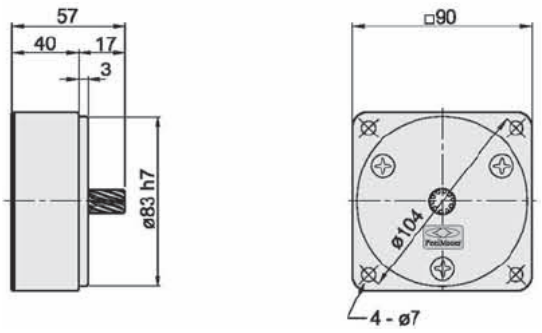
PMG DC Motor, Frame 5 Wiring Diagram



* When the rotation direction changes, use the wiring color indicated in the brackets.

Intermediate Gear Box

G-5N10X-K

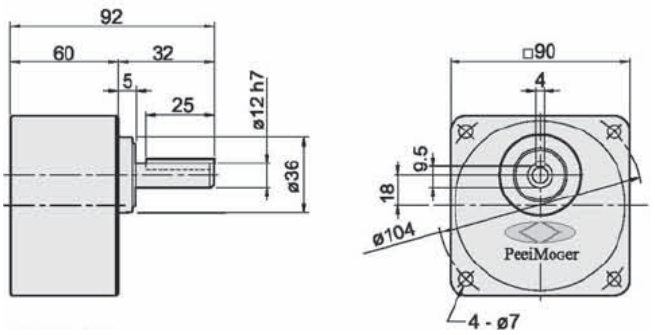


Weight List of Gear Boxes

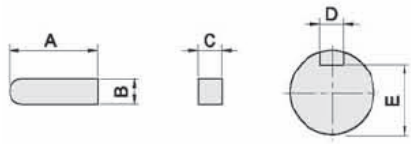
Model	Weight (kg)
G-5N3-K / L~G-5N18-K / L	1.02
G-5N20-K / L~G-5N60-K / L	1.11
G-5N75-K / L~G-5N180-K / L	1.22
G-5N10X-K	0.65

Gear Box

G-5N□-$^{K}_{L}$



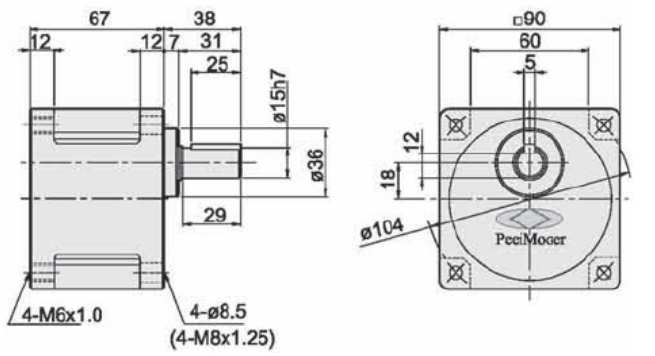
Gear Box: Key and Keyway Dimension



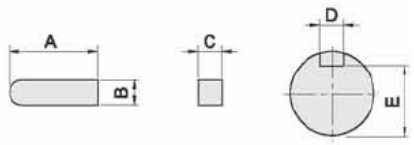
Model	A	B	C	D	E
G-5N□−$^{K}_{L}$	25	$4^{0}_{-0.03}$	$4^{0}_{-0.03}$	$4^{+0.06}_{+0.01}$	$9.5^{0}_{-0.15}$

Gear Box

G-5U□-K



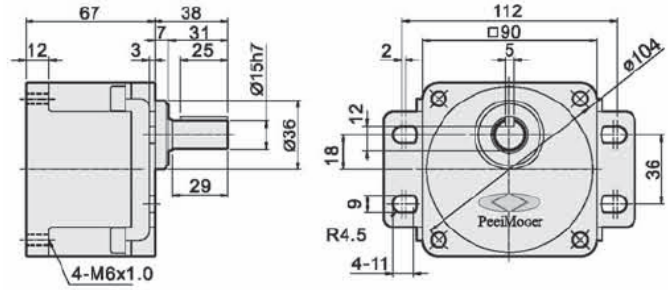
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□−K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

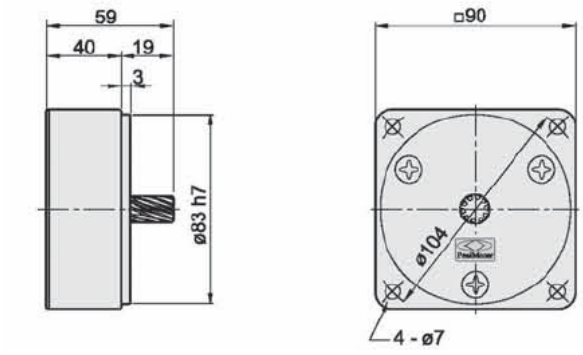
Gear Box with Foot Stand

G-5U□-KF



Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73
G-5U10X-K	0.64

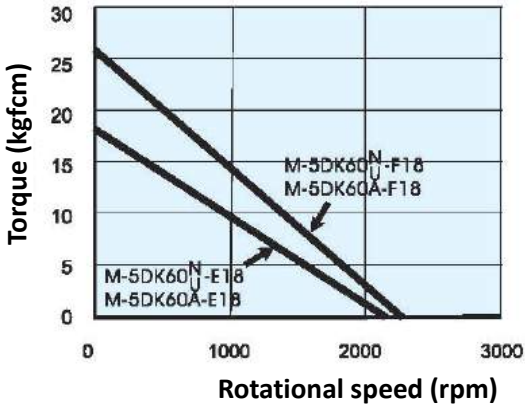
PMG DC Motor, Frame 5

60W, Specifications of PMG DC Motors

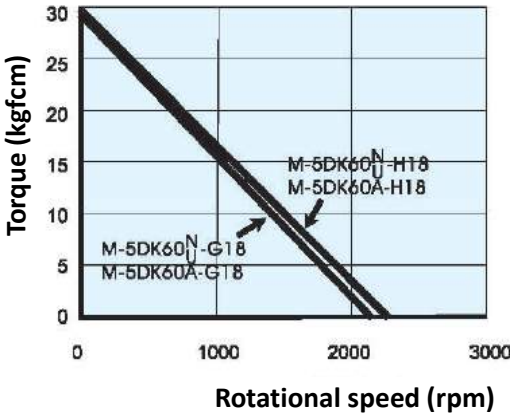
Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-5DK60 N/U -E18 M-5DK60A-E18	60	12	CONT.	2020	1.18	18.8	6.90	1650	3.60	G-5N□-L -	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
M-5DK60 N/U -F18 M-5DK60A-F18	60	24	CONT.	2060	0.65	25.7	3.50	1800	3.42			
M-5DK60 N/U -G18 M-5DK60A-G18	60	90	CONT.	2030	0.11	29.6	0.87	1780	3.29			
M-5DK60 N/U -H18 M-5DK60A-H18	60	180	CONT.	2050	0.05	29.8	0.51	1760	3.41			

60W, Characteristics of PMG DC Motors

M-5DK60 N/U -E18 / M-5DK60 N/U -F18
M-5DK60A-E18 / M-5DK60A-F18



M-5DK60 N/U -G18 / M-5DK60 N/U -H18
M-5DK60A-G18 / M-5DK60A-H18



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5N□- K/L	Max. allowable torque (kgfcm)		6.7	11	16	18	23	28	33	36	45	54	65	100	100	100	100	100	100	100	100	100	100	100	100

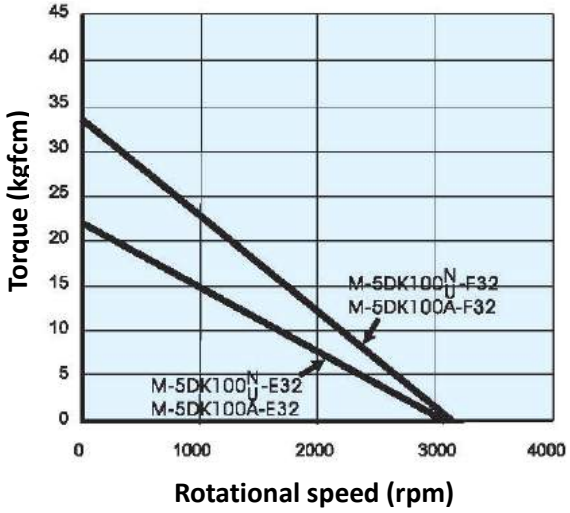
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

100W, Specifications of PMG DC Motors

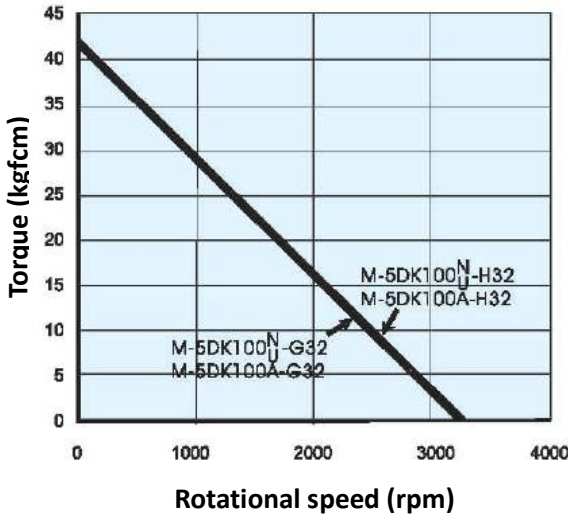
Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-5DK100$^{N}_{U}$-E32 M-5DK100A-E32	100	12	30min	3030	1.90	21.7	10.10	2540	3.87	G-5N□-L -	G-5N□-K G-5U□-K	G-5N10X-K G-5U10X-K
M-5DK100$^{N}_{U}$-F32 M-5DK100A-F32	100	24	30min	3130	0.75	33.5	33.5	2830	3.62			
M-5DK100$^{N}_{U}$-G32 M-5DK100A-G32	100	90	30min	3200	0.18	41.9	41.9	2930	3.34			
M-5DK100$^{N}_{U}$-H32 M-5DK100A-H32	100	180	30min	3220	0.09	42.3	42.3	2870	3.42			

100W, Characteristics of PMG DC Motors

M-5DK100$^{N}_{U}$-E32 / M-5DK100$^{N}_{U}$-F32
M-5DK100A-E32 / M-5DK100A-F32



M-5DK100$^{N}_{U}$-G32 / M-5DK100$^{N}_{U}$-G32
M-5DK100A-H32 / M-5DK100A-H32



Maximum Allowable Torque of Gear Boxes

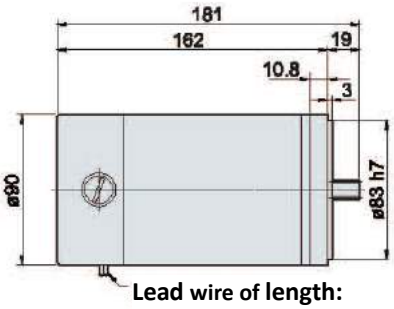
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-K	Max. allowable torque (kgfcm)		10	16	24	27	32	40	48	54	64	77	93	155	200	200	200	200	200	200	200	200	200	200	200

Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

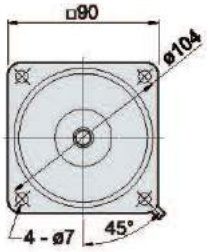
PMG DC Motor, Frame 5

Dimension Drawing of PMG DC Motors

M-5DK100U-□18 / M-5DK150U-□32



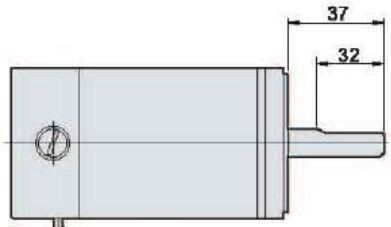
Lead wire of length:
300mm



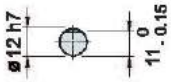
Weight: 3.2 kg

Specifications of Circular Shaft

M-5DK100A-□18 / M-5DK150A-□32

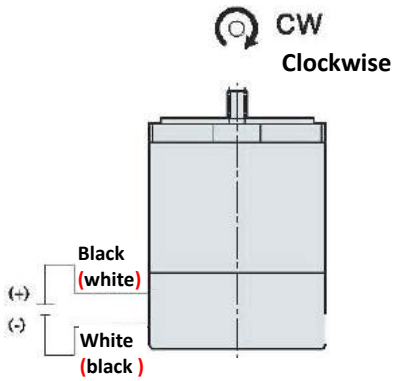


Lead wire of length:
300mm



Weight: 3.2 kg

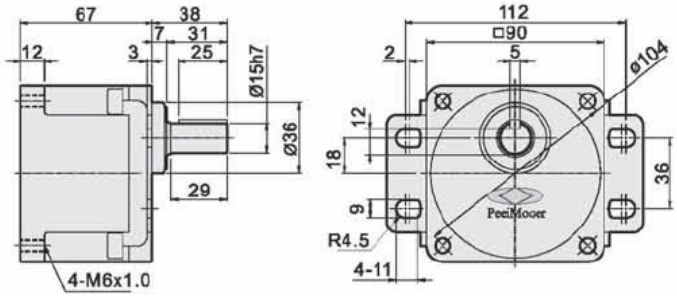
PMG DC Motor, Frame 5 Wiring Diagram



* When the rotation direction changes, use the wiring color indicated in the brackets.

Gear Box with Foot Stand

G-5U□-KF

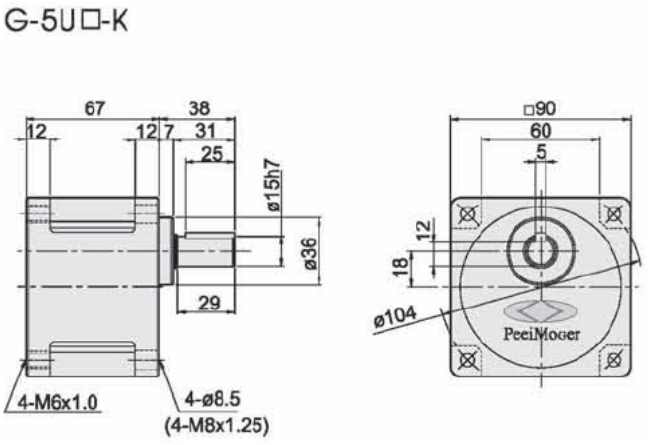


Weight List of Gear Boxes

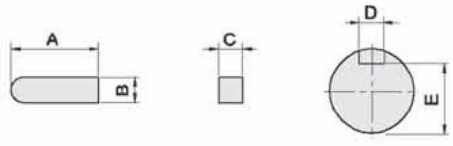
Model	Weight (kg)
G-5U3-K~G-5U9-K	1.23
G-5U10-K~G-5U18-K	1.31
G-5U20-K~G-5U60-K	1.41
G-5U75-K~G-5U180-K	1.46
G-5U3-KF~G-5U9-KF	1.44
G-5U10-KF~G-5U18-KF	1.55
G-5U20-KF~G-5U60-KF	1.67
G-5U75-KF~G-5U180-KF	1.73

Gear Box

G-5U□-K



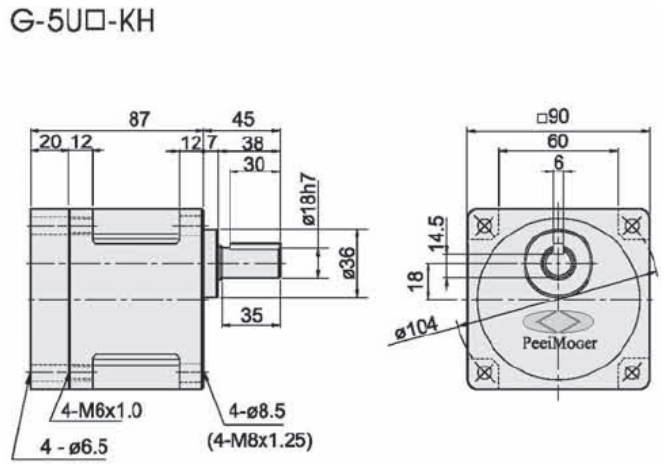
Gear Box: Key and Keyway Dimension



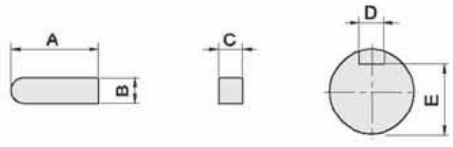
Model	A	B	C	D	E
G-5U□-K	25	$5^{0}_{-0.03}$	$5^{0}_{-0.03}$	$5^{+0.05}_{0}$	$12^{0}_{-0.15}$

Gear Box

G-5U□-KH



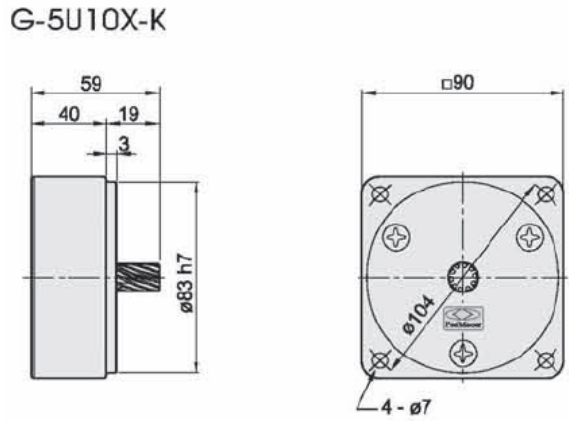
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

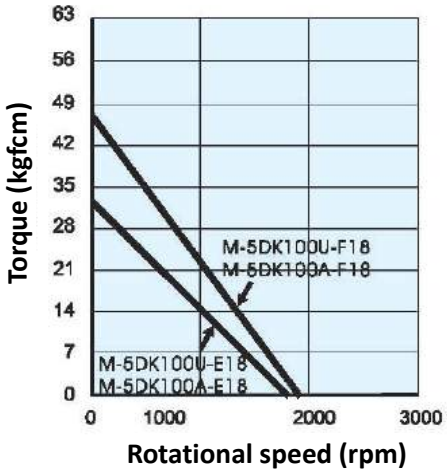
PMG DC Motor, Frame 5

100W, Specifications of PMG DC Motors

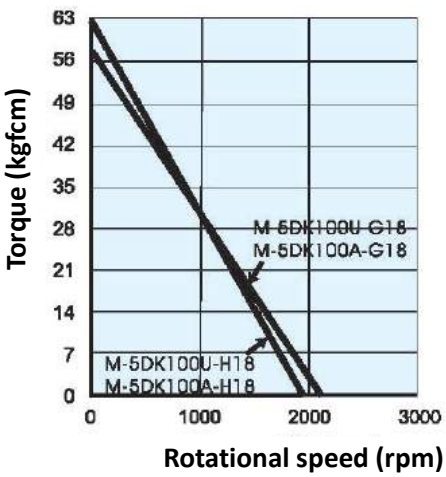
Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-5DK100U-E18 M-5DK100A-E18	100	12	CONT.	1850	1.20	33.3	12.70	1740	7.36	-	G-5U☐-K G-5U☐-KH	G-5U10X-K G-5U10X-K
M-5DK100U-F18 M-5DK100A-F18	100	24	CONT.	1930	1.01	47.4	5.64	1710	5.88			
M-5DK100U-G18 M-5DK100A-G18	100	90	CONT.	2150	0.24	58.1	4.43	1940	5.08			
M-5DK100U-H18 M-5DK100A-H18	100	180	CONT.	1940	0.10	62.3	0.70	1760	5.68			

100W, Characteristics of PMG DC Motors

M-5DK100U-E18 / M-5DK100U-F18
M-5DK100A-E18 / M-5DK100A-F18



M-5DK100U-G18 / M-5DK100U-H18
M-5DK100A-G18 / M-5DK100A-H18



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		Coupled intermediate gear box																							
	Gear ratio	50Hz	500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
		60Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
G-5U☐-K	Max. allowable torque (kgfcm)		3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
			14	23	35	38	46	58	69	77	92	111	133	200	200	200	200	200	200	200	200	200	200	200	200

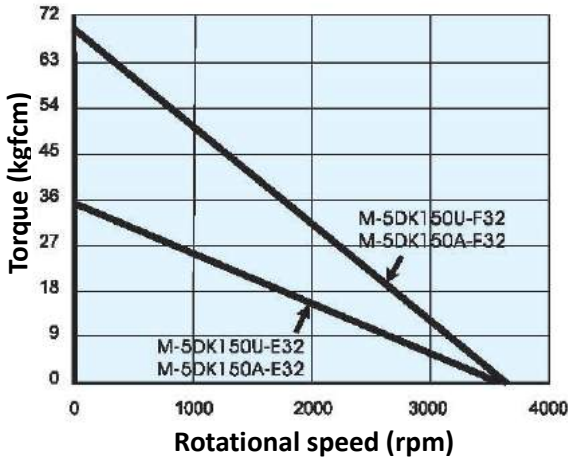
Note: In the above table, the deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

150W, Specifications of PMG DC Motors

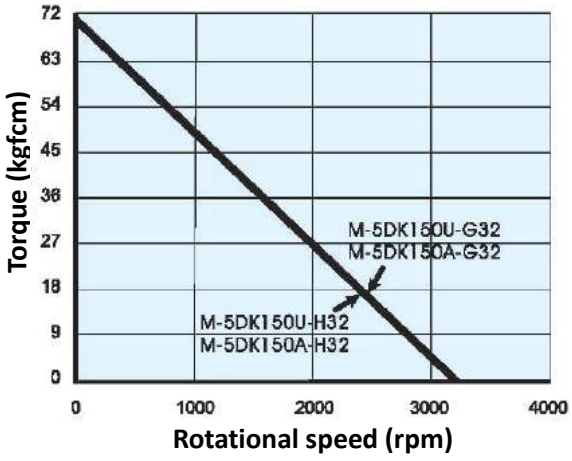
Motor model	Output power W	Voltage V	Rated time	No-load revolution rpm	No-load current A	Starting torque kgfcm	Rating			Coupled gear box model		
							Current A	Revolution rpm	Torque kgfcm	Oil bearing	Ball bearing	Intermediate speed ratio
M-5DK150U-E32 M-5DK150A-E32	150	12	CONT.	3790	2.40	35.7	17.45	2850	3.84	-	G-5U□-K G-5U□-KH	G-5U10X-K G-5U10X-K
M-5DK150U-F32 M-5DK150A-F32	150	24	CONT.	3680	1.85	67.9	8.00	3450	4.26			
M-5DK150U-G32 M-5DK150A-G32	150	90	CONT.	3200	0.18	71.2	2.20	2820	5.20			
M-5DK150U-H32 M-5DK150A-H32	150	180	CONT.	3190	0.09	71.0	1.10	2850	5.30			

150W, Characteristics of PMG DC Motors

M-5DK150U-E32 / M-5DK150U-F32
M-5DK150A-E32 / M-5DK150A-F32



M-5DK150U-G32 / M-5DK150U-H32
M-5DK150A-G32 / M-5DK150A-H32



Maximum Allowable Torque of Gear Boxes

Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
			Coupled intermediate gear box																						
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

Note: In the above table, the1 deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

BLDC Motors

Product Feature

- **Performance**

  1) High Torque
  2) Low Noise
  3) Small
  4) Long life
  5) Low speed high torque

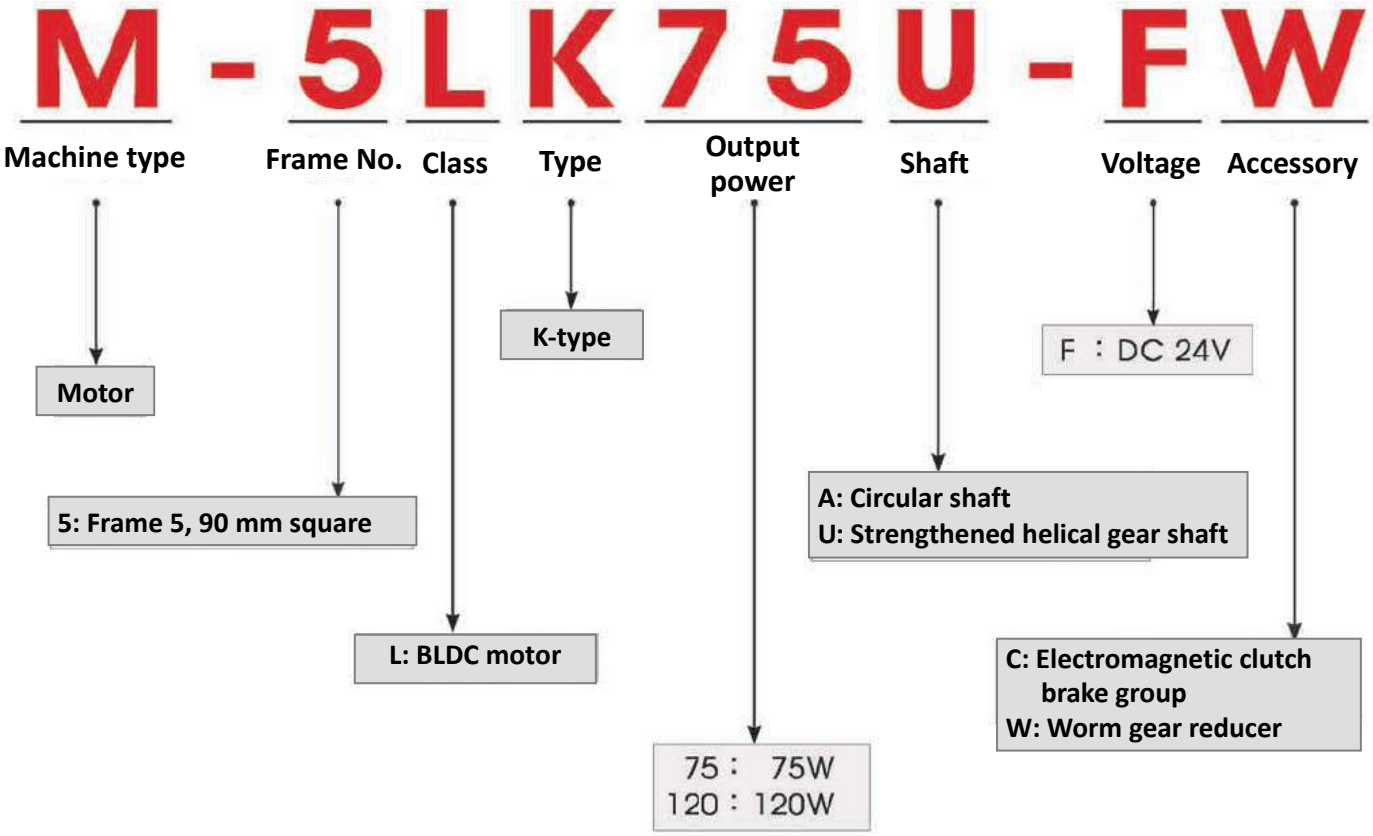
- **Structure**

  The motor is mainly used for small-scale machinery and equipment above the transmission. Such as: Machine tools. Transportation machinery. Packaging machinery. Food machinery. Textile machinery. Printing machinery, etc.

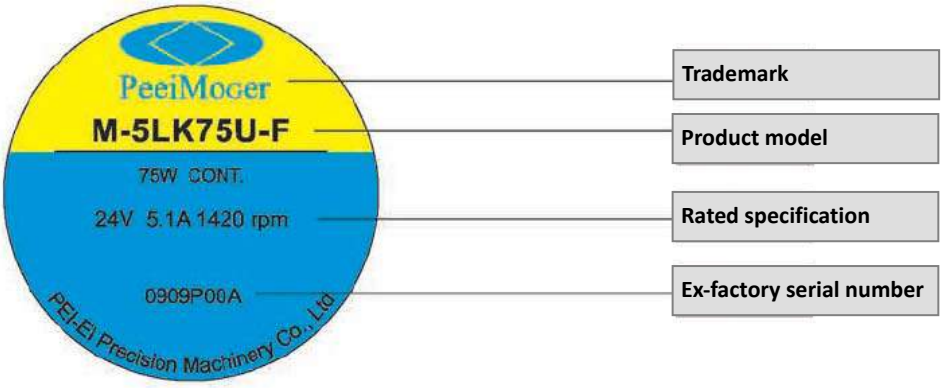
- **Customer Satisfaction**

  In accordance with the required speed can be used with a variety of gear

BLDC Motor Models



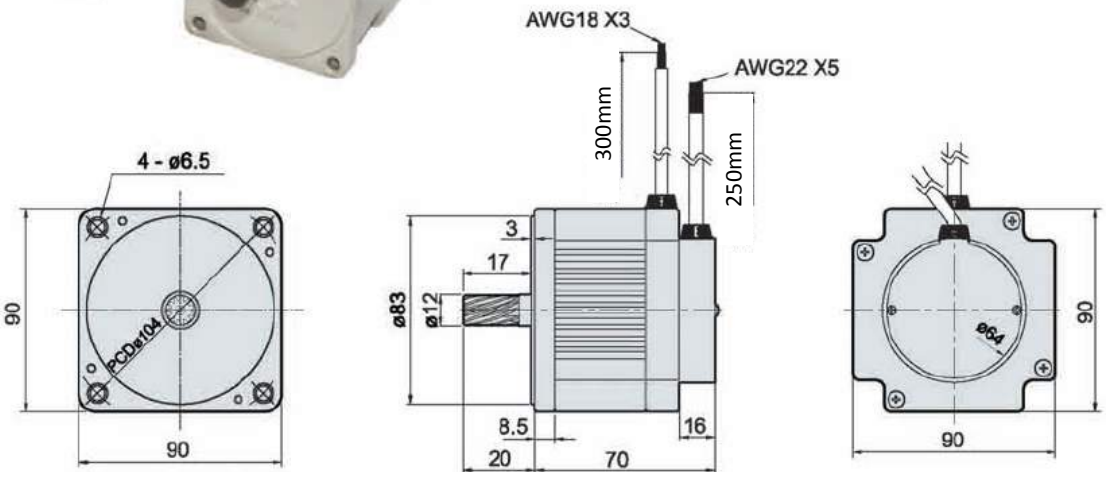
BLDC Motor Label



BLDC Motor, 75W

75W, Dimension Drawing of BLDC Motors

M-5LK75U-□□

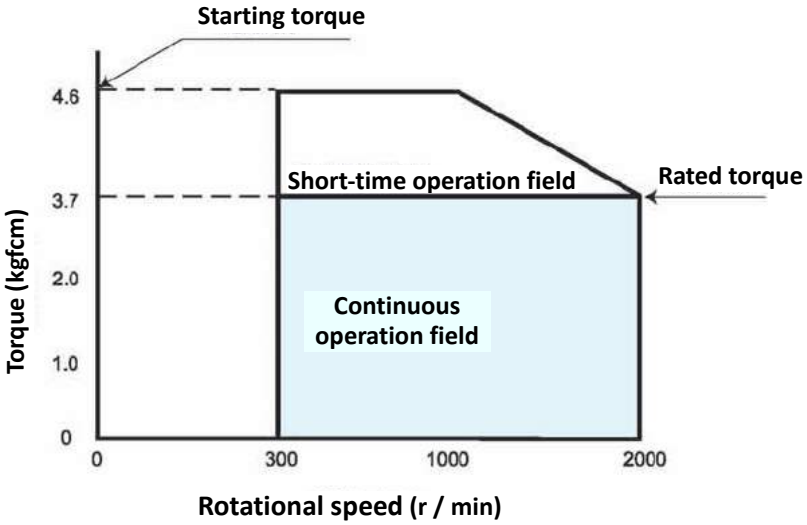


Weight: 1.4 kg

Specifications of 75W Motors

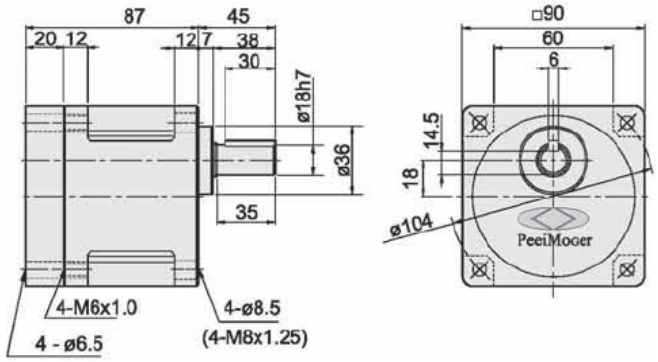
Type	Model	Output power W	Voltage V	Rated time	Rated output		Max Current A	Starting Torque kgfcm	Coupled bearing		
					Current A	Torque kgfcm			Oil bearing	Ball bearing	Intermediate speed ratio
BLDC Motor	M-5LK75U-F	75	DC24V	CONT.	6	3.7	9	4.6	-	G-5U□-KH	G-5U10X-K

Characteristics of 75W-BLDC Motors

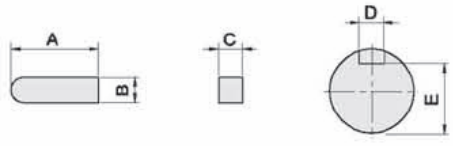


Gear Box

G-5U□-KH



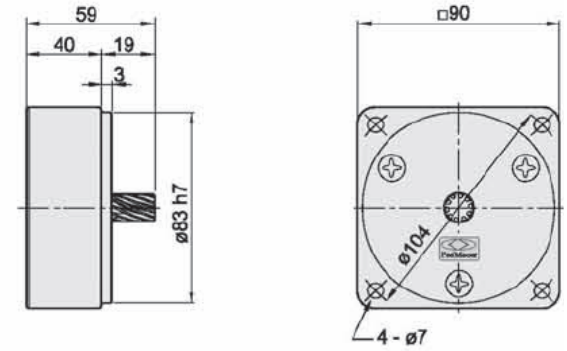
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

Maximum Allowable Torque of Gear Boxes

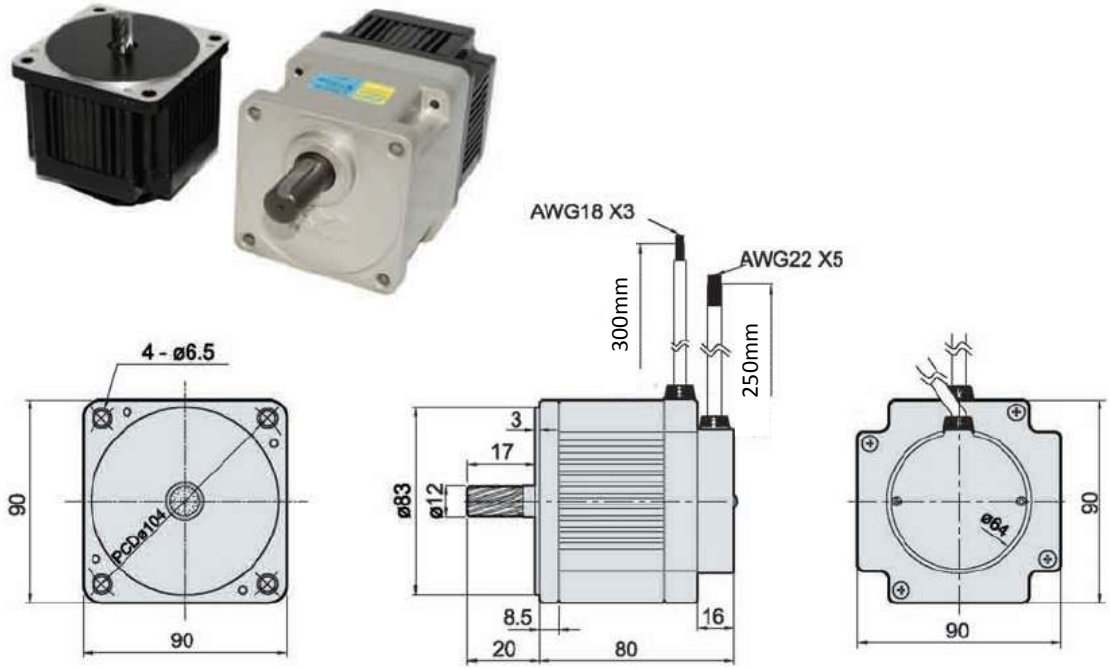
			Coupled intermediate gear box																						
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

Note: In the above table, the1 deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

BLDC Motor, 120W

120W, Dimension Drawing of BLDC Motors

M-5LK120U-□□

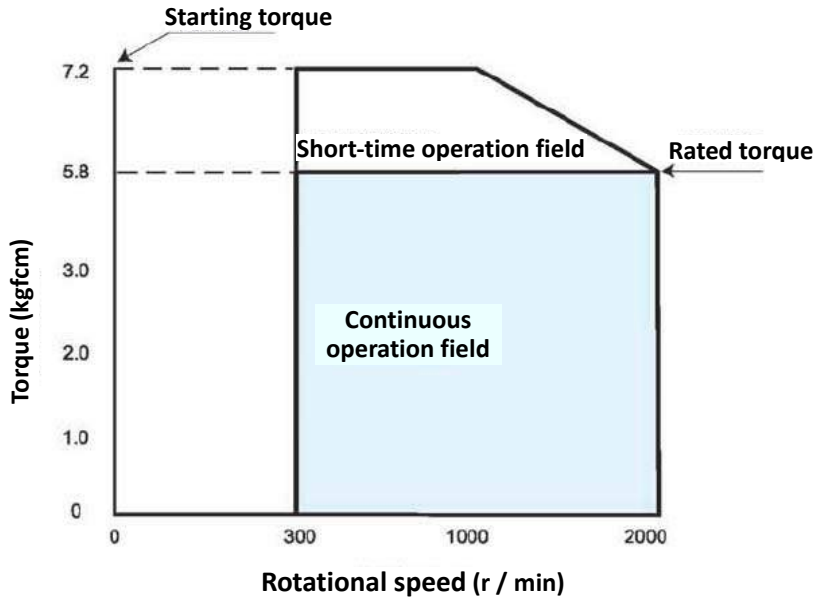


Weight: 1.7 kg

Specifications of 120W Motors

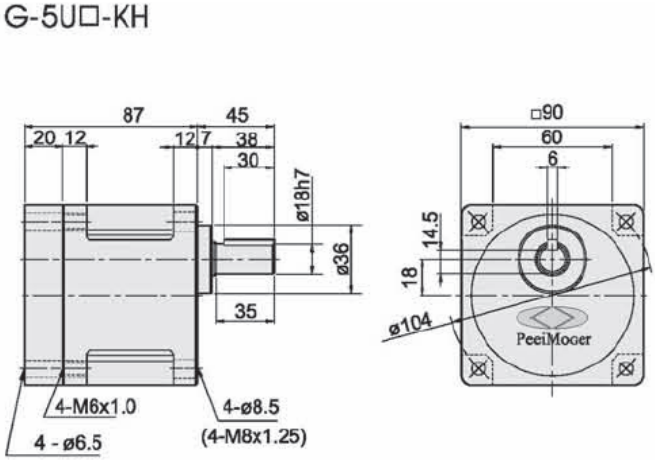
Type	Model	Output power W	Voltage V	Rated time	Rated output		Max Current A	Starting Torque kgfcm	Coupled bearing		
					Current A	Torque kgfcm			Oil bearing	Ball bearing	Intermediate speed ratio
BLDC Motor	M-5LK120U-F	120	DC24V	CONT.	9	5.8	14	7.2	-	G-5U□-KH	G-5U10X-K

Characteristics of 120W-BLDC Motors

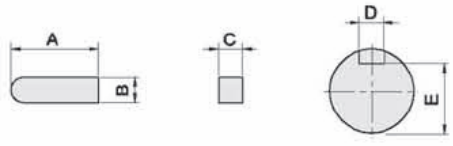


Gear Box

G-5U□-KH



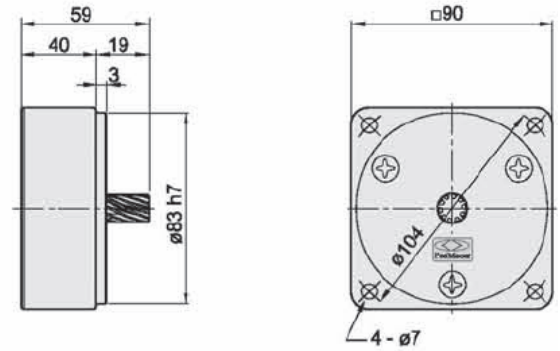
Gear Box: Key and Keyway Dimension



Model	A	B	C	D	E
G-5U□-KH	30	$6^{0}_{-0.03}$	$6^{0}_{-0.03}$	$6^{+0.05}_{0}$	$14.5^{0}_{-0.15}$

Intermediate Gear Box

G-5U10X-K



Weight List of Gear Boxes

Model	Weight (kg)
G-5U50-KH~G-5U60-KH	1.85
G-5U75-KH~G-5U180-KH	2.00
G-5U10X-K	0.64

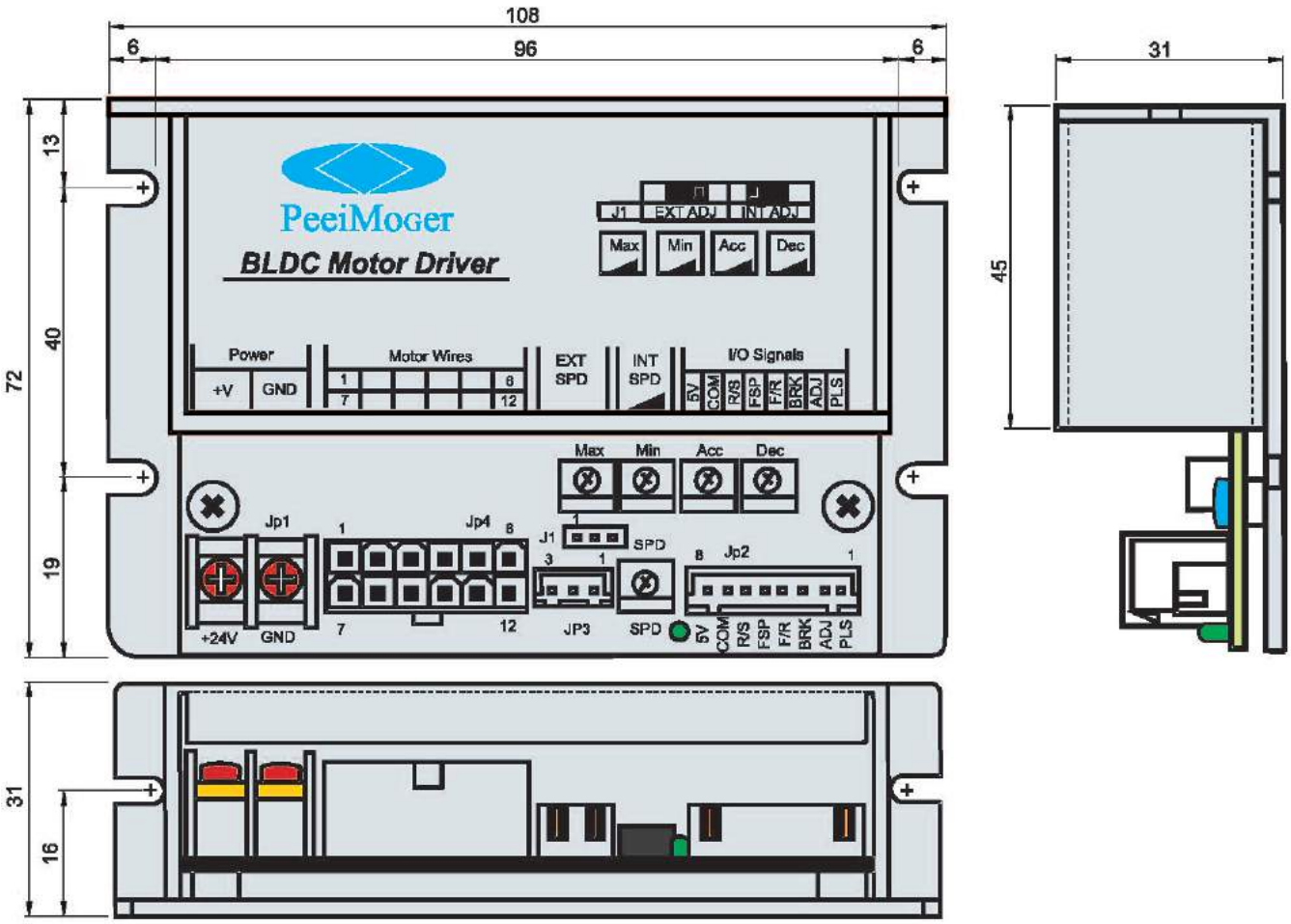
Maximum Allowable Torque of Gear Boxes

																		Coupled intermediate gear box							
Model	Speed (rpm)		500	300	200	180	150	120	100	90	75	60	50	30	20	15	10	9	7.5	6	5	3	2	1.5	1
	Gear ratio	50Hz	3	5	7.5	-	10	12.5	15	-	20	25	30	50	75	100	150	-	200	250	300	500	750	1000	1500
		60Hz	3.6	6	9	10	-	15	18	20	-	30	36	60	90	120	180	200	-	300	360	600	900	1200	1800
G-5U□-KH	Max. allowable torque (kgfcm)		-	-	-	-	-	-	-	-	-	-	-	216	300	300	300	300	300	-	-	300	300	300	300

Note: In the above table, the1 deep-color fields indicate that the output shaft of the gear box and the motor shaft are in the same direction; the light-color fields indicate that they are in opposite directions.

Dimension Drawing of the Driver

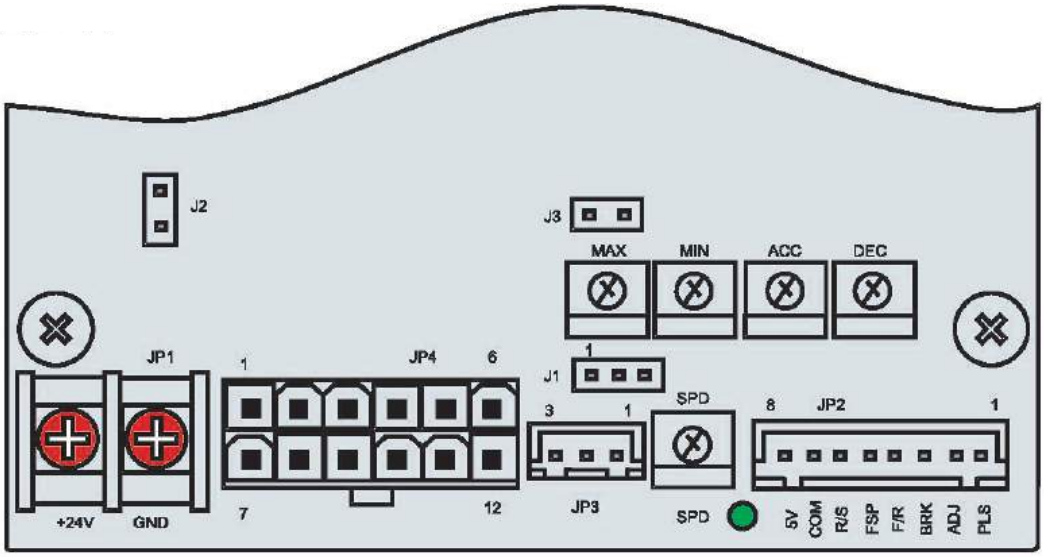
DL-E10



Specifications of the Driver

Name/Model	BLDC Motor Driver
Applicable current	DC12V / DC 24V (set via the internal jumper)
Output current	10A (continuous), 20A (instant)
Applicable motor power	<300W
Speed control range	40:1
Operating functions	Motor instant clock/counterclockwise rotation, internal/external speed selection, slow acceleration/deceleration, brake/emergency stop selection
Rotational speed setting	Internal rotational speed control External rotational speed control (VR or 0~5V speed adjustment)
Output/input signal	Clock/counterclockwise rotation, operating/stop, full speed, pulse output, speed adjustment by voltage
Environmental temperature / humidity	0-+60℃ / 85%RH
Dimension/weight	72 (L) × 108 (W) × 31 (H) + 0.5mm / 230g

Wiring Diagram of the Driver



Speed Adjusting Knobs (parameter settings, 5 items)

Label	Name	Description
SPD	Internal speed	Adjusting knob for setting the internal speed (clockwise: higher speed; counterclockwise: lower speed)
MAX	Maximum speed	Defines the upper limit of the adjustable rotational speed (clockwise: higher speed; counterclockwise: lower speed)
MIN	Minimum speed	Defines the lower limit of the adjustable rotational speed (clockwise: higher speed; counterclockwise: lower speed)
ACC	Slow acceleration	Defines the acceleration time, 0.5~10 sec (clockwise: higher speed; counterclockwise: lower speed)
DEC	Slow deceleration	Defines the deceleration time, 0.5~10 sec (clockwise: higher speed; counterclockwise: lower speed)

J1 Contact (internal/external speed selection setting, 3 pin)

Setting	Name	Description
	EXT	To adjust the rotational speed of motors via external VR or voltage
	INT	To adjust the rotational speed of motors via internal VR

J2 Contact (12V/24V selection setting, 3 pin)

Setting	Name	Description
Short	12V	Sets the power source of motors/drivers to DC 12V
Open	24V	Sets the power source of motors/drivers to DC 24V

JP1 Contact (input end of the power source, 2 pin)

Marking	Description
+24V	Power DC 24V+(linked with JP4 Pin2)
GND	Power GND (linked with JP4 Pin3)

JP2 Contact (terminals controlling signals, 8 Pin)

Pin-out	Name	Description	Color
1	PLS	12 pulse signals are sent when the motor rotates once Specification: 5V, 100uS (Fixture)	Yellow
2	ADJ	Positive adjustment input signals during speed adjustment by voltage (0-5V)	Green
3	BRK	Controls the instant stoppage of the motor; the motor will stop suddenly when this terminal short circuit with COM. For an open circuit, the motor stops slowly under the control of the deceleration knob.	Gray
4	F/R	Controls the motor rotation direction: controls the rotation direction of the motor via this terminal and COM short circuit or open circuit.	Blue
5	FSP	Controls motors to run at full speed via this terminal and COM short circuit; this is not controlled by the maximum speed and internal/external speed adjusting knobs. For open circuit, motors operate under general control.	Orange
6	R/S	Controls the start and stop of motors: motors starts via this terminal and COM short circuit, and close in open circuit.	White
7	COM	Common terminal of input/output signals (0V)	Black
8	5V	DC 5V/0.1A output for the use of external components	Red

JP3 Contact (input end controlling external rotational speed, 3 pin)

Pin-out	Name	Description	Color
1	L V	Knob contact for external speed adjusting (MIN Speed)	Black
2	Wiper	Knob contact for external speed adjusting (adjusting point)	Green
3	H V	Knob contact for external speed adjusting (MAX Speed)	Red

Note: When using the variable resistance to adjust speed, please adopt 5Ω to 20Ω.

Hollow Worm Gear Reducer

Product Feature

- **Performance**

  1) Structure of small lightweight
  2) The superior level of protection
  3) Superior safety performance
  4) Installation options diversified

- **Structure**

  The motor is mainly used for small-scale machinery and equipment above the transmission. Such as: Machine tools. Transportation machinery. Packaging machinery. Food machinery. Textile machinery. Printing machinery, etc.

- **Customer Satisfaction**

  Including structural, electrical properties and other special needs

Hollow Worm Gear Reducer Models

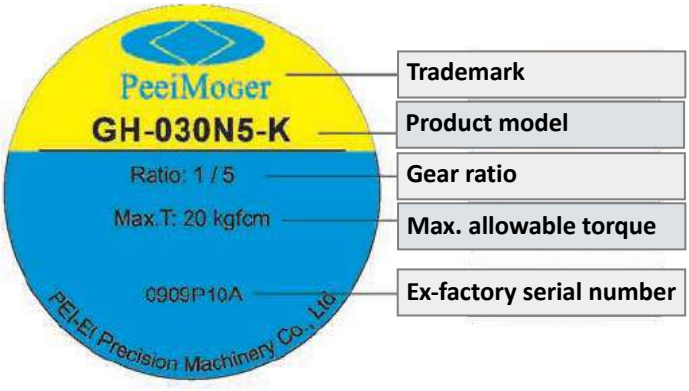
GH-030N 5-K

GH-	030	N	5	-K
Machine type	Frame No.	Input type	Gear ratio	Note

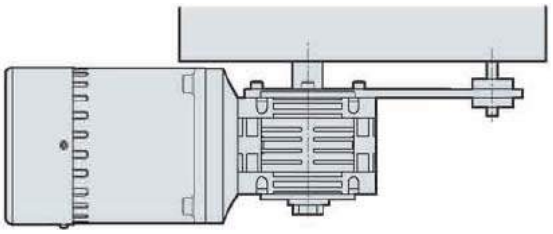
- **Machine type**: Hollow worm gear reducer
- **Frame No.**:
  - 025: Center distance of reducers 25mm
  - 030: Center distance of reducers 30mm
  - 040: Center distance of reducers 40mm
  - 050: Center distance of reducers 50mm
- **Input type**:
  - N: Caliber input
  - U: Shaft input
- **Gear ratio**
- **Note**: K: Standard

Frame No.	Gear ratio											
025	5	7.5	10	15	20	30	40	50	60			
030	5	7.5	10	15	20	25	30	40	50	60	80	
040	5	7.5	10	15	20	25	30	40	50	60	80	100
050	5	7.5	10	15	20	25	30	40	50	60	80	100

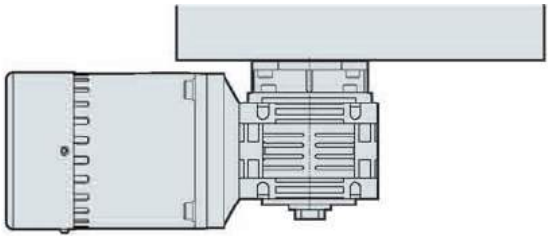
Hollow Worm Gear Reducer Label



Example of fixed mount installation



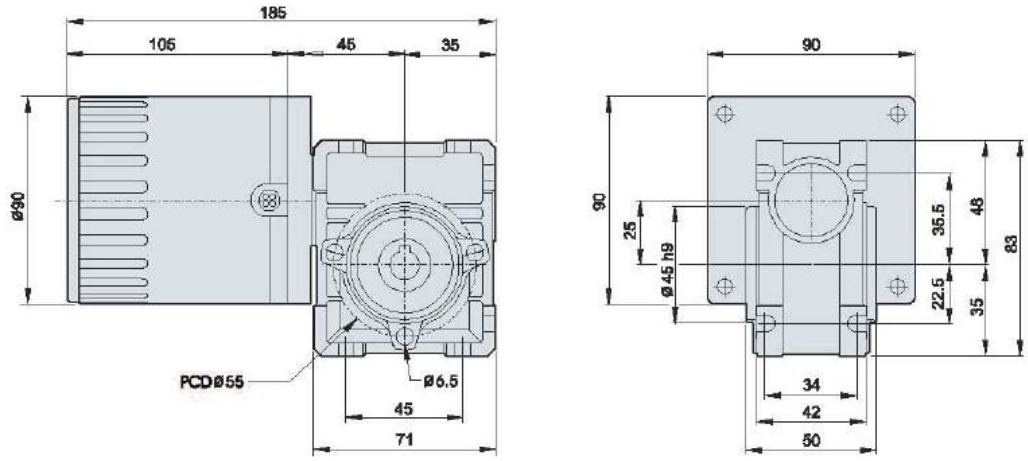
Example of output flange installation



Hollow Worm Gear Reducer, Frame 25

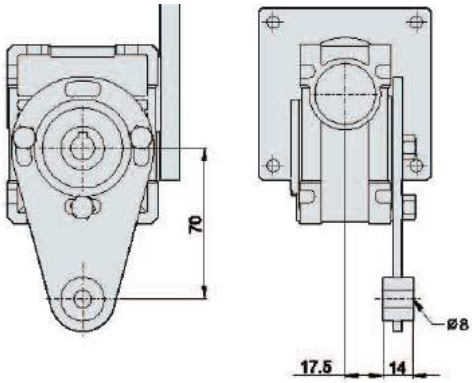
40W Single/Tri-phase Induction Motor with Hollow Worm Gear Reducer

GH-025N□-K

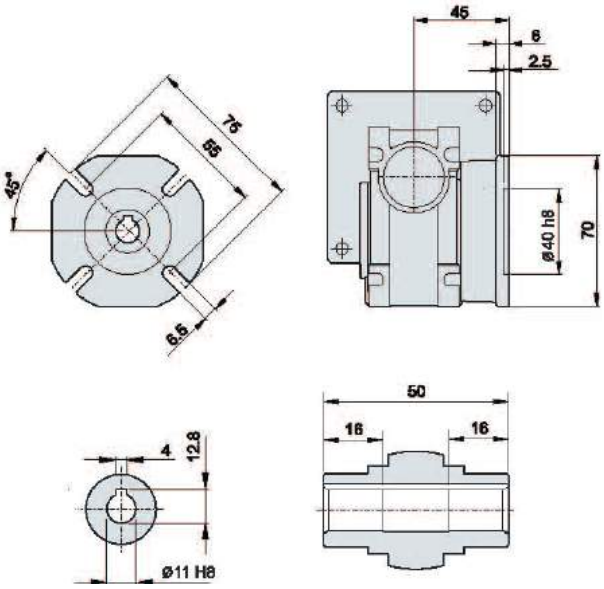


Weight: 0.7kg without the motor, 3.15kg with the motor

Example of Toggle Installation



Dimension of the Output Flange and the Hollow Shaft Keyway



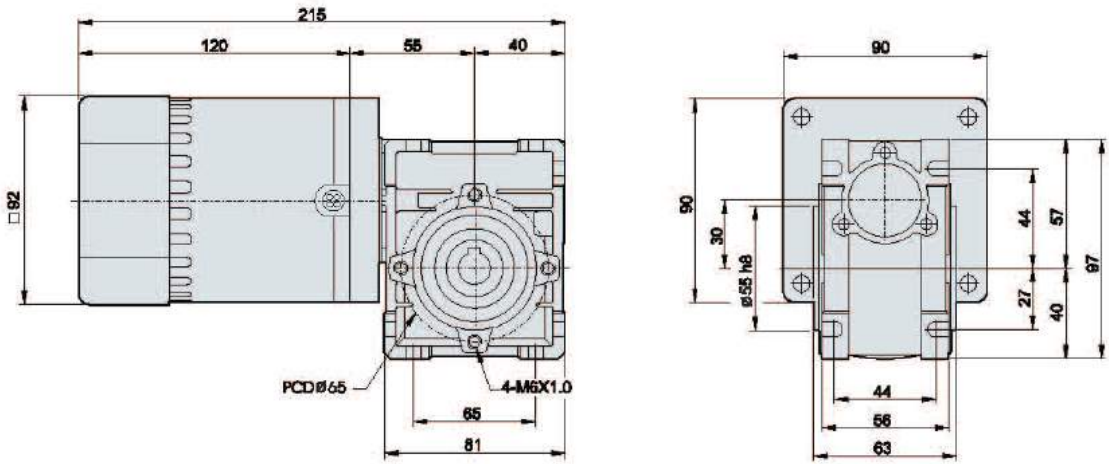
Specifications of Hollow Worm Gear Reducer

Hollow worm gear reducer	Frequency Hz	Motor torsion	Gear ratio & max. output torque (50Hz/60Hz kgfcm)												Coupled motor
			5	7.5	10	15	20	25	30	40	50	60	80	100	
GH-025N□-K	50	3.1	13.3	19.5	25.4	36.3	45.9	-	61.4	75.6	88.4	100.4	-	-	40W Induction Motor
	60	2.4	10.3	15.1	19.7	28.1	35.5	-	47.5	58.6	68.4	77.8	-	-	

Hollow Worm Gear Reducer, Frame 30

60W Single/Tri-phase Induction Motor with Hollow Worm Gear Reducer

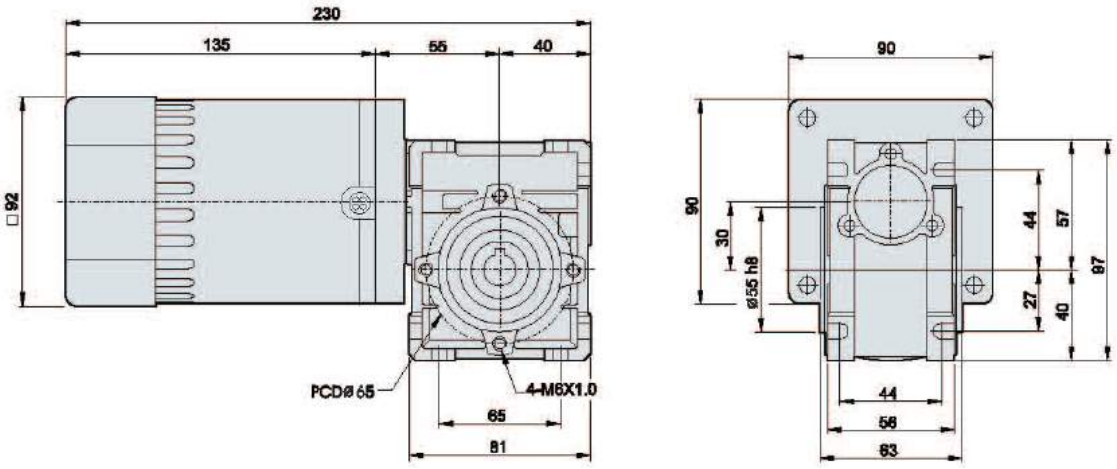
GH-030N□-K



Weight: 1.2kg without the motor, 3.8kg with the motor

90W Single/Tri-phase Induction Motor with Hollow Worm Gear Reducer

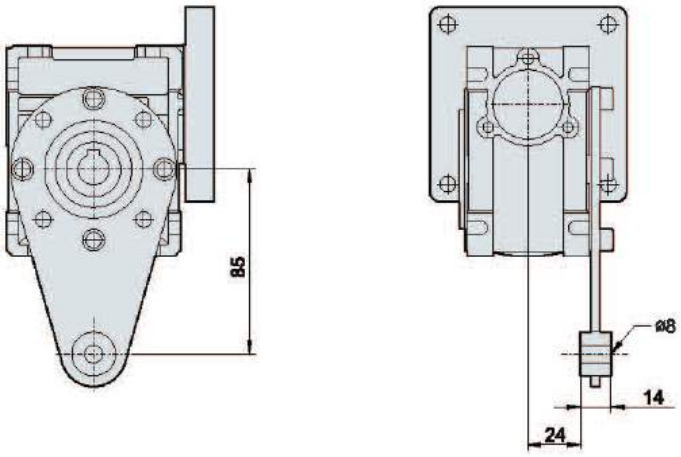
GH-030N□-K



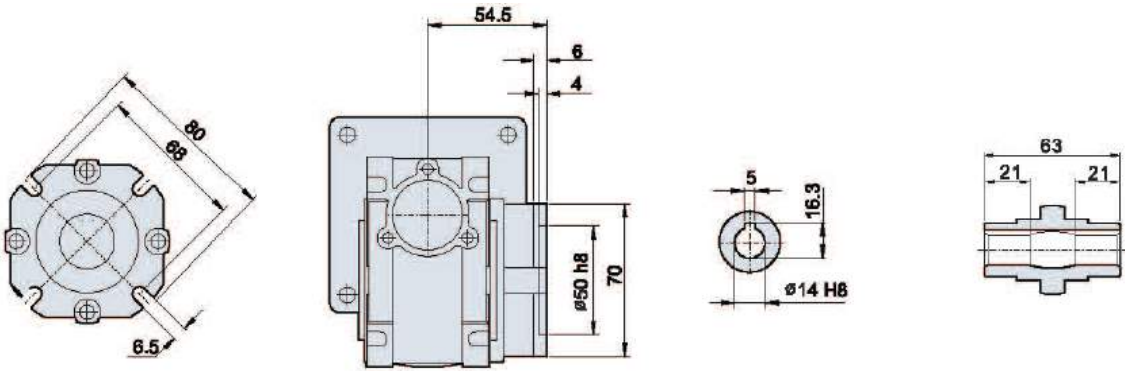
Weight: 1.2kg without the motor, 5.5kg with the motor

Hollow Worm Gear Reducer, Frame 30

Example of Toggle Installation



Dimension of the Output Flange and the Hollow Shaft Keyway



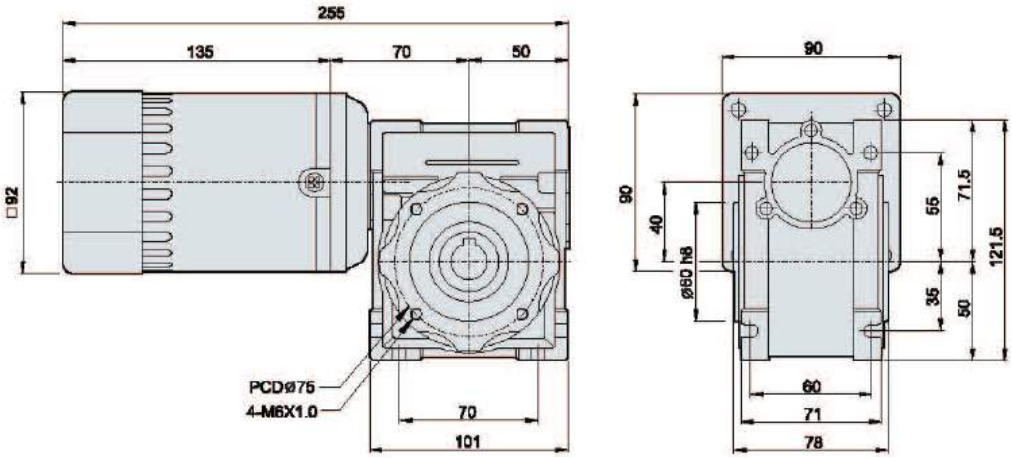
Specifications of Hollow Worm Gear Reducer

Hollow worm gear reducer	Frequency Hz	Motor torsion	Gear ratio & max. output torque (50Hz/60Hz kgfcm)											Coupled motor
			5	7.5	10	15	20	25	30	40	50	60	80	100	
GH-030N□-K	50	4.6	19.8	29.0	37.3	52.4	66.2	77.1	88.3	106.7	124.2	138.0	161.9	-	60W Induction Motor
	60	3.5	15.1	22.1	28.4	39.9	50.4	58.6	67.2	81.2	94.5	105.0	123.2	-	
	50	6.9	29.7	43.5	55.9	78.7	99.4	115.6	132.5	106.1	186.3	207.0	242.9	-	90W Induction Motor
	60	5.3	22.8	33.4	42.9	60.4	76.3	88.8	101.8	123.0	143.1	159.0	186.6	-	

Hollow Worm Gear Reducer, Frame 40

120W Single/Tri-phase Induction Motor with Hollow Worm Gear Reducer

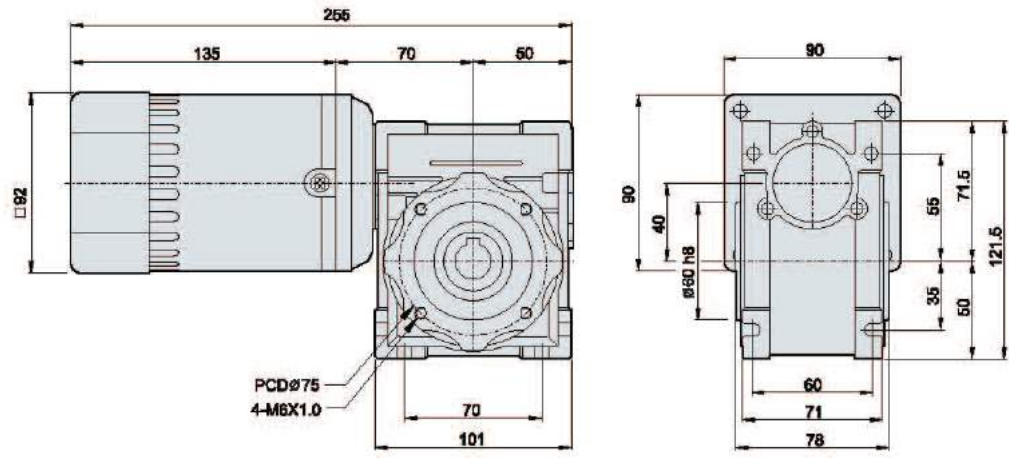
GH-040N□-K



Weight: 2.3kg without the motor, 5.5kg with the motor

150W Single/Tri-phase Induction Motor with Hollow Worm Gear Reducer

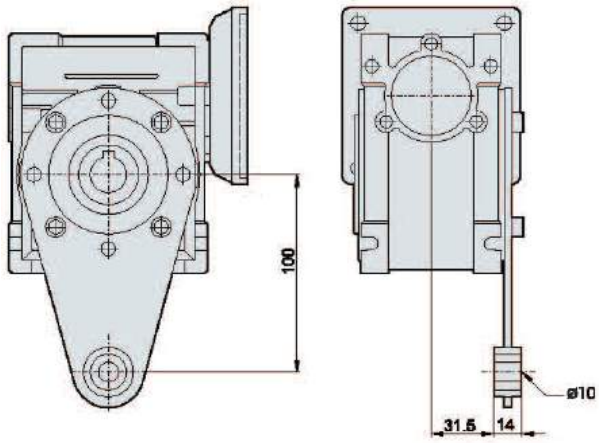
GH-040N□-K



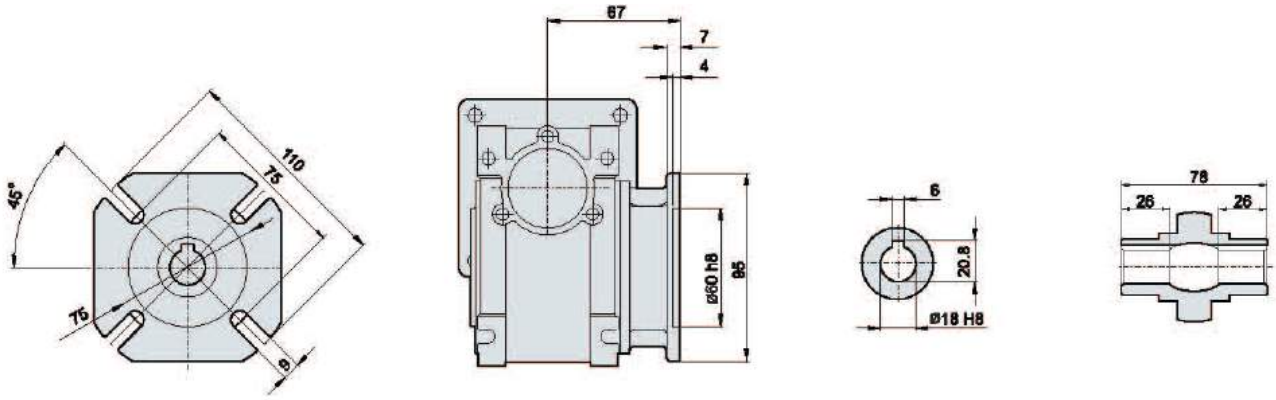
Weight: 2.3kg without the motor, 5.5kg with the motor

Hollow Worm Gear Reducer, Frame 40

Example of Toggle Installation



Dimension of the Output Flange and the Hollow Shaft Keyway



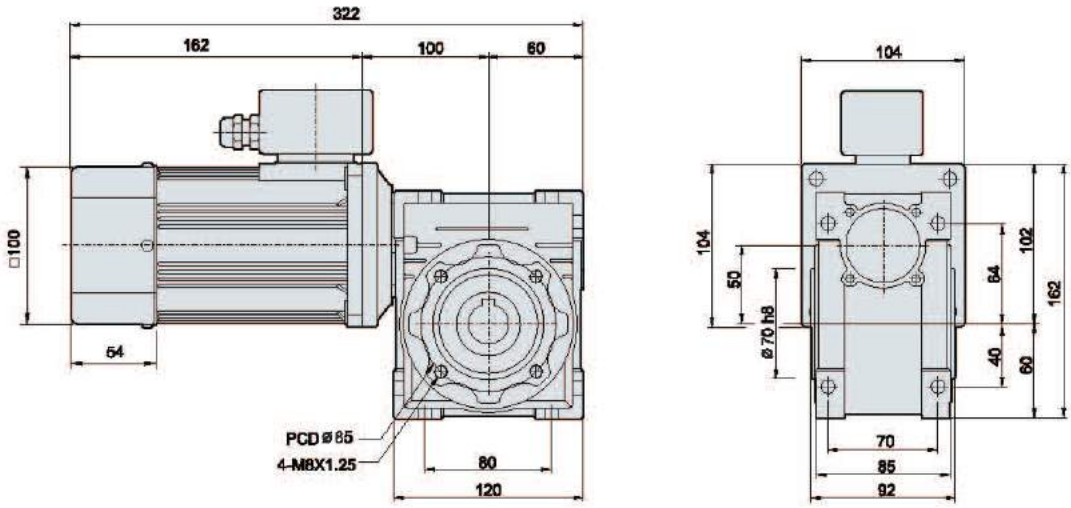
Specifications of Hollow Worm Gear Reducer

Hollow worm gear reducer	Frequency Hz	Motor torsion	Gear ratio & max. output torque (50Hz/60Hz kgfcm)												Coupled motor
			5	7.5	10	15	20	25	30	40	50	60	80	100	
GH-040N□-K	50	8.7	38.3	56.1	74.0	105.7	134.0	161.0	180.1	222.7	265.4	297.5	355.0	408.9	120W Induction Motor
	60	7.1	31.2	45.8	60.4	86.3	109.3	131.4	147.0	181.8	216.6	242.8	289.7	333.7	
	50	10.8	47.5	69.7	91.8	131.2	166.3	199.8	223.6	276.5	329.4	369.4	440.6	507.6	150W Induction Motor
	60	8.7	40.9	60.0	79.1	113.0	143.2	172.1	192.5	238.1	283.7	318.1	379.4	437.1	

Hollow Worm Gear Reducer, Frame 50

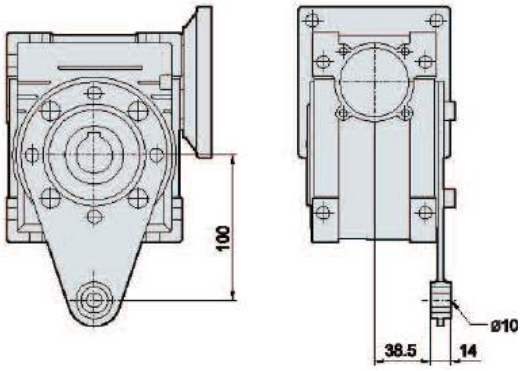
200W Single/Tri-phase Induction Motor with Hollow Worm Gear Reducer

GH-050N□-K

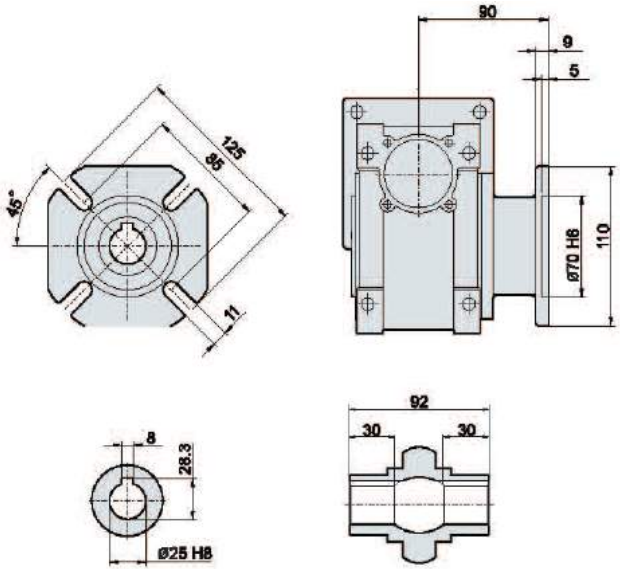


Weight: 3.5kg without the motor, 8.4kg with the motor

Example of Toggle Installation



Dimension of the Output Flange and the Hollow Shaft Keyway



Specifications of Hollow Worm Gear Reducer

Hollow worm gear reducer	Frequency Hz	Motor torsion	Gear ratio & max. output torque (50Hz/60Hz kgfcm)											Coupled motor
			5	7.5	10	15	20	25	30	40	50	60	80	100	
GH-050N□-K	50	16.3	70.9	105.1	136.9	195.6	251.0	301.5	342.3	423.8	497.1	557.4	665.0	798.7	20W Induction Motor
	60	12.2	53.0	78.6	102.4	146.4	187.8	225.7	256.2	317.2	372.1	417.2	497.7	597.8	

Linear Reducer

Product Feature

- **Performance**

  1) Transmission efficiency
  2) Low Noise
  3) Structural appearance
  4) Vertically and move around

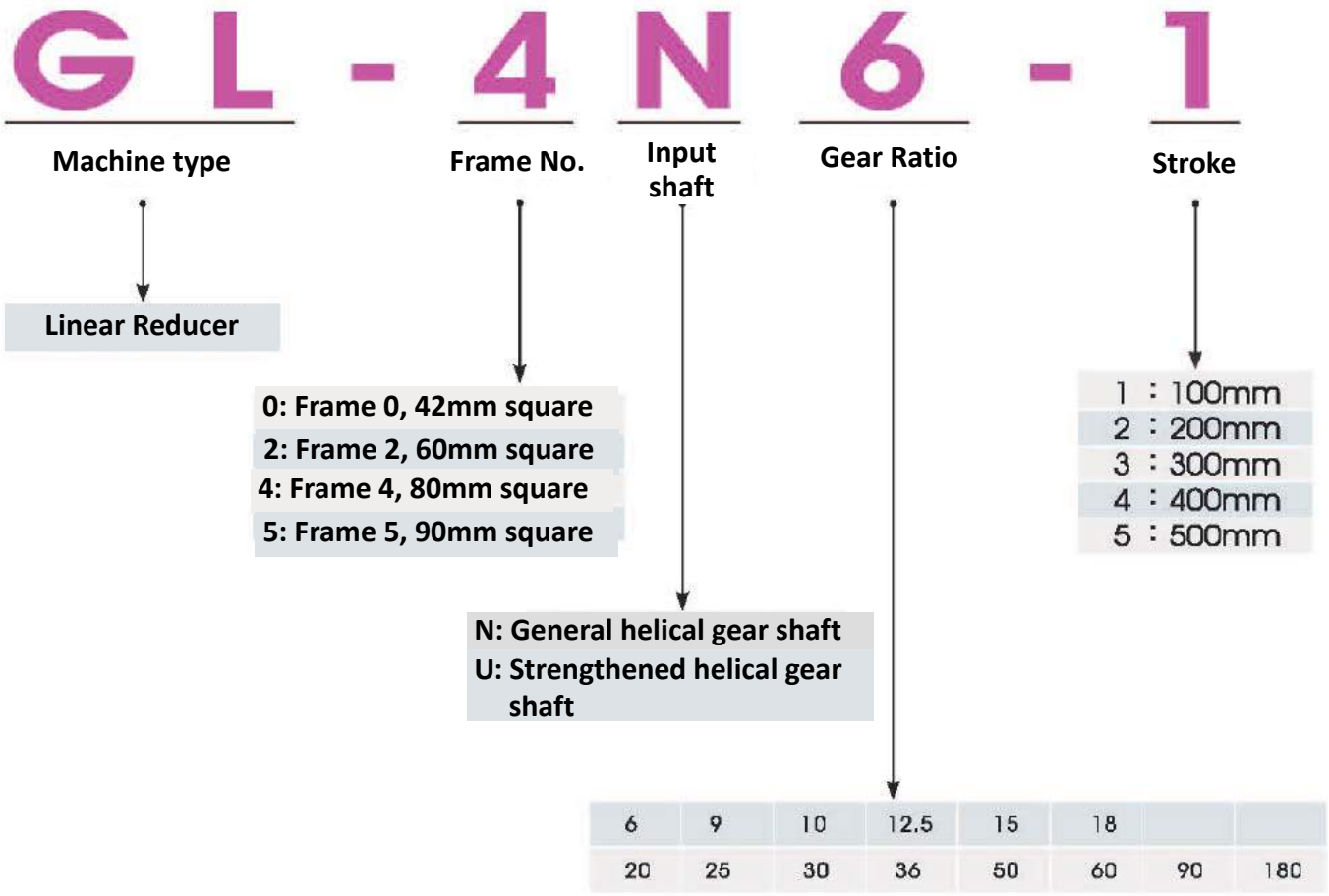
- **Structure**

  The motor is mainly used for small-scale machinery and equipment above the transmission. Such as: Machine tools. Transportation machinery. Packaging machinery. Food machinery. Textile machinery. Printing machinery, etc.

- **Customer Satisfaction**

  Per customer's speed of travel configuration

Linear Reducer Models

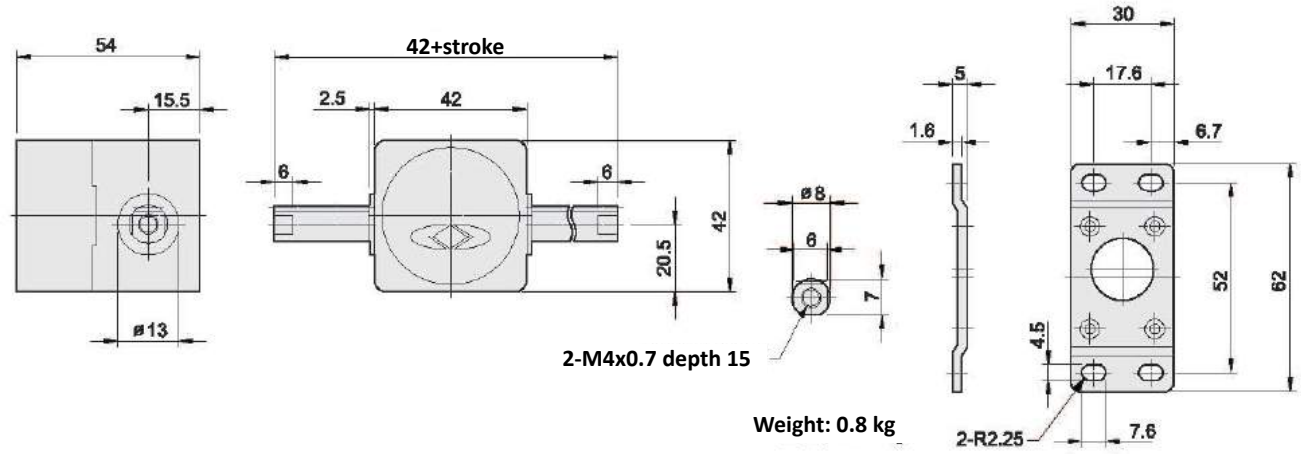


Linear Reducer Label

Linear Reducer, Frame 0 / Frame 2

Linear Reducer: Outline Dimension Drawing of Frame 0 (under development)

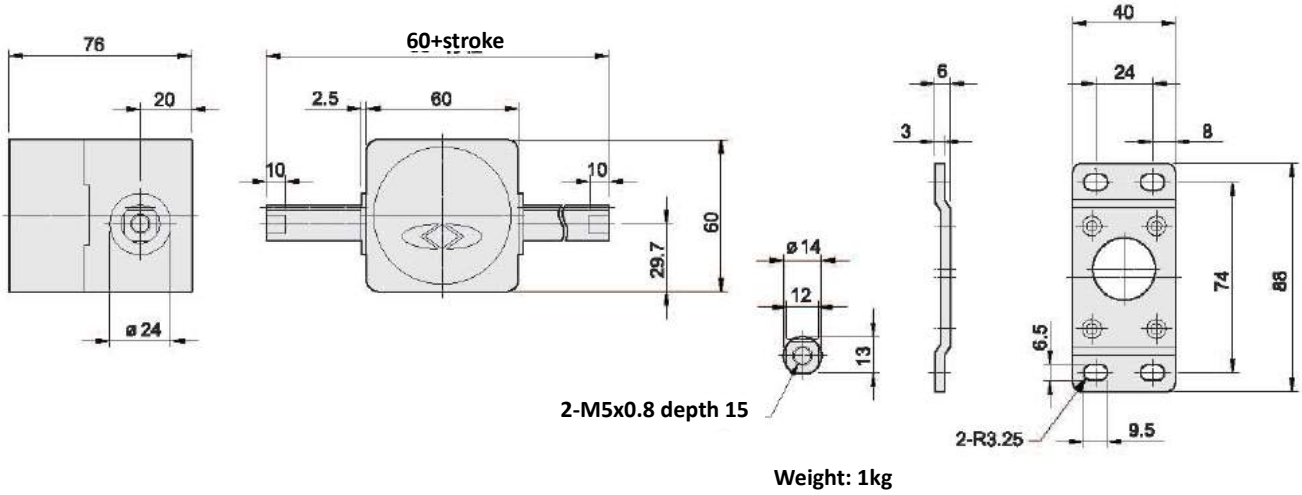
GL-0N□-□



Gear ratio		6	9	12.5	15	18	25	30	36	50	60	90
Moving speed, mm/s	220V 50Hz	104.5	70	50	42	35	25	21	17.5	12.5	10.5	7
	220V 60Hz	131	87	63	52.5	43.5	31.5	26	22	15.5	13	9
Max. moveable weight (kg)		0.7	1	1.5	1.8	1.8	3.2	5.6	5.6	7.6	7.6	9

Linear Reducer: Outline Dimension Drawing of Frame 2 (under development)

GL-2N□-□

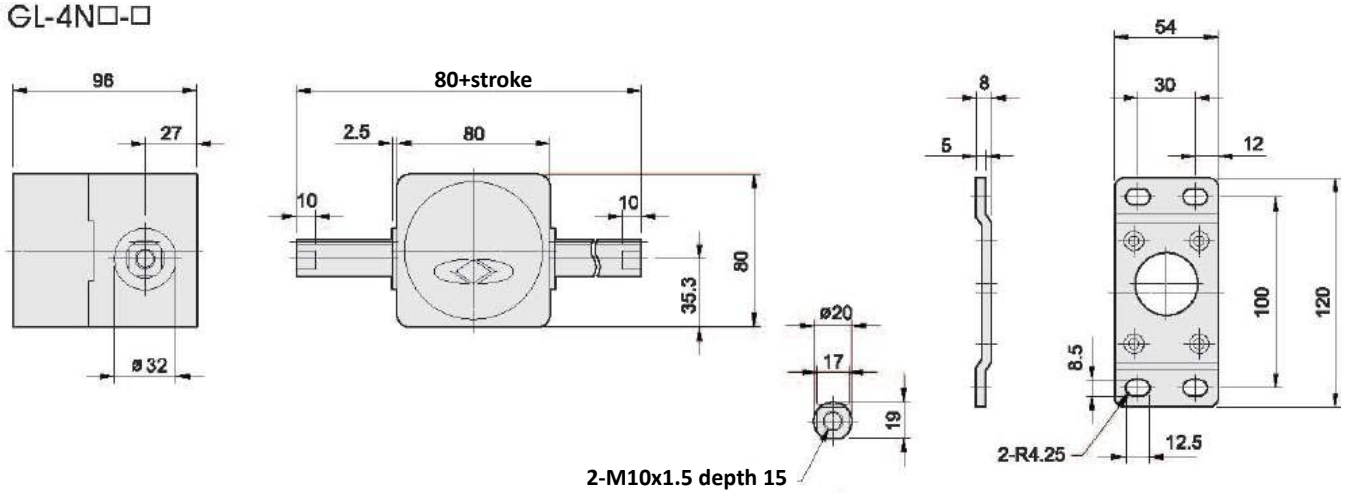


Gear ratio		6	9	10	12.5	15	18	20	25	30	50	60	90	180
Moving speed, mm/s	220V 50Hz	84	56	50	40	33.5	28	25	20	16.5	8.7	10	5.5	3
	220V 60Hz	105	70	63	50	42	35	31.5	25	21	10.5	12.5	7	3.5
Max. moveable weight (kg)		3.5	5.4	7.4	8.9	10.8	10.8	14.5	17.5	21	34.7	34.7	50	54

Linear Reducer, Frame 4 / Frame 5

Linear Reducer: Outline Dimension Drawing of Frame 4 (under development)

GL-4N□-□

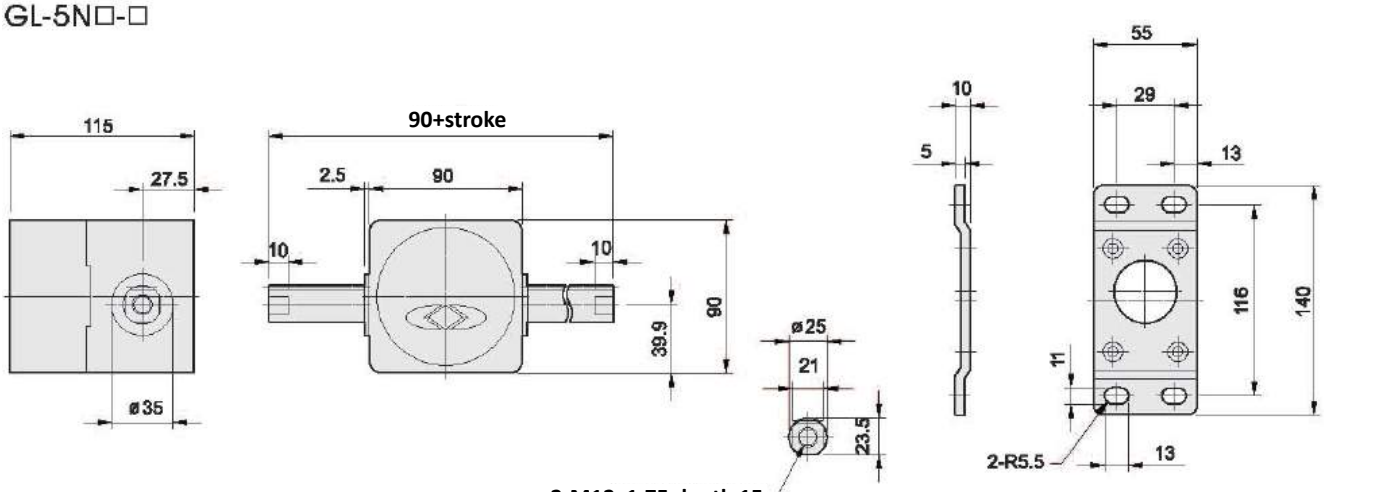


Weight: 1.7kg

Gear ratio		6	9	10	12.5	15	18	20	25	30	36	50	60	90	180
Moving speed, mm/s	220V 50Hz	222	148	133	107	89	74	67	53.5	44.5	37	26.5	22	15	7.5
	220V 60Hz	278	185	167	133	111	93.5	83.5	66.5	55.5	46	33.5	28	18.5	9
Max. moveable weight (kg)		5.6	8.4	10.8	13.4	16.7	16.9	21.7	26.7	32.5	32.5	54	54	66.8	66.8

Linear Reducer: Outline Dimension Drawing of Frame 5 (under development)

GL-5N□-□



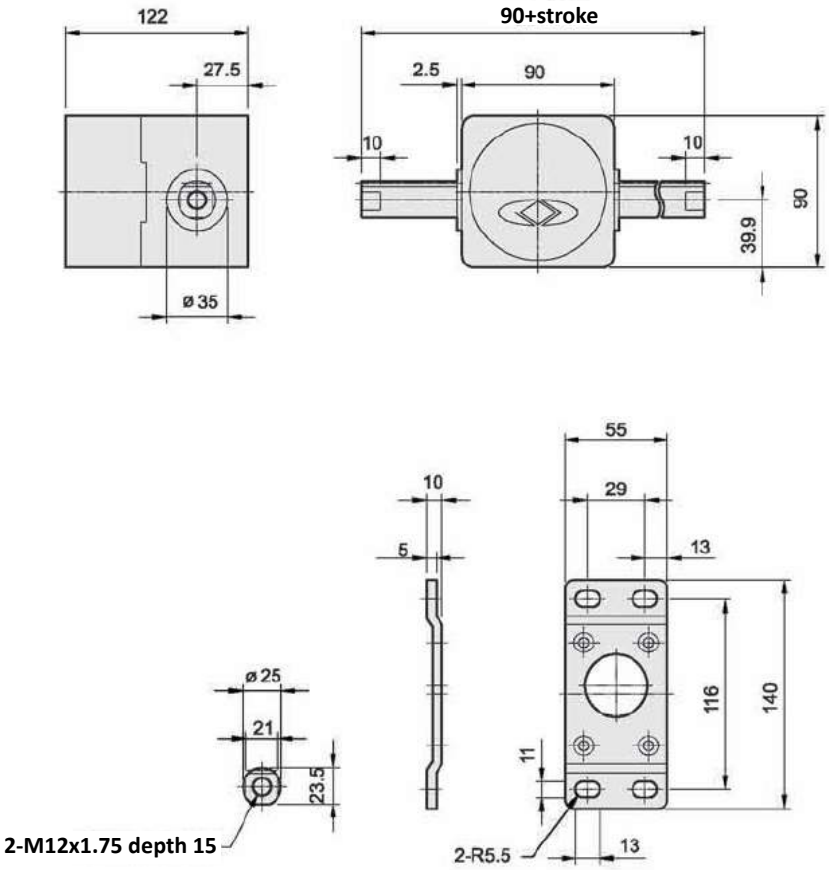
Weight: 2.7kg

Gear ratio		6	9	10	12.5	15	18	20	25	30	36	50	60	90	180
Moving speed, mm/s	220V 50Hz	251.5	167.5	151	120.5	100.5	84	75.5	60.5	50	42	30	25	16.5	8.5
	220V 60Hz	314	209.5	188.5	151	125.5	104.5	94	75.5	63	52.5	37.5	31.5	21	10.5
Max. moveable weight (kg)		8.21	11.9	17.1	20.9	24.6	24.6	33.6	40.3	48.5	48.5	74.6	74.6	74.6	74.6

Linear Reducer, Frame 5

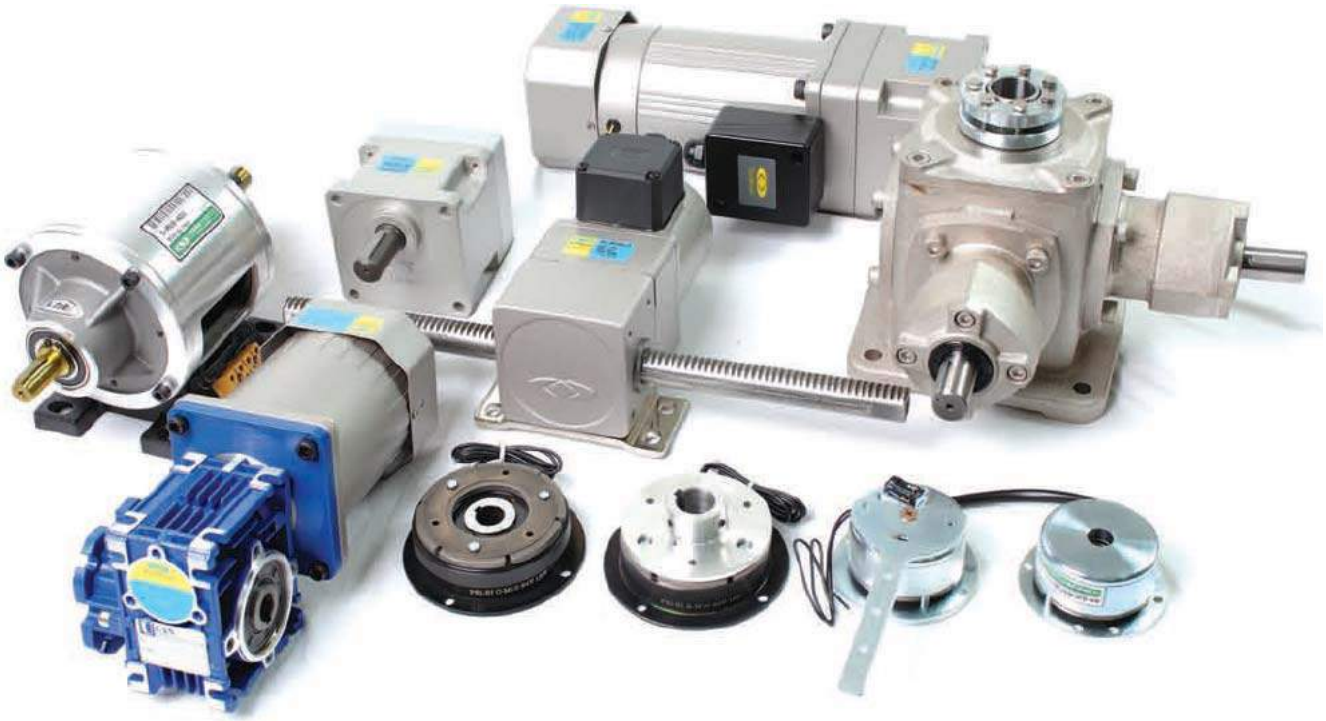
Linear Reducer: Outline Dimension Drawing of Frame 5

GL-5U□-□



Weight: 3kg

Gear ratio		6	9	10	12.5	15	18	20	25	30	36	50	60	90	180
Moving speed, mm/s	220V 50Hz	251.5	167.5	151	120.5	100.5	84	75.5	60.5	50	42	30	25	16.5	8.5
	220V 60Hz	314	209.5	188.5	151	125.5	104.5	94	75.5	63	52.5	37.5	31.5	21	10.5
Max. moveable weight (kg)		11.9	17.9	23.9	29.8	35.8	35.8	57.5	57.5	69.4	69.4	115.7	115.7	115.7	115.7



公司外觀 Appearance

Technical Data

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How to Select an AC Induction Motor

Motor Selection

Selecting a fully functional motor of required specifications is a key factor for increasing the durability and economic benefic of the equipment.

The following introduces the selecting steps, examples, calculation formulas and key points related to PeeiMoGer Compact Gear Motor.

Steps:

❶ After the structure and rough dimension of the driver are determined, define the weight and the moving speed of the objects to be conveyed.

❷ Calculate the rotational speed and the load: work out the load torque, load inertial torque, rotational speed, etc, on the drive shaft of the motor.

❸ Define the required specifications: define the specifications of the driving part and the machine, stop accuracy, position fixation, speed range, environmental resistance, etc.

❹ Select motor: select the most applicable one according to the required specifications.

❺ Decide on the motor and the gear box: based on the rotational speed, load torque and load inertial torque of the selected motor to decide on the motor and gear boxes.

❻ Confirm the selected motor: based on the mechanical strength or the acceleration time, confirm whether the specifications of the motor and the gear boxes are up to the requirements for final confirmation and selection.

Machine selection list

Motor Type	Induction motor M-☐IK☐☐-A☐ (AF☐) M-☐IK☐☐-C☐ (CF☐) M-☐IK☐☐-S☐ (SF☐) M-☐IK☐☐-ST (SFT) M-☐IK☐☐-U☐ (UF☐) M-☐IK☐☐-UT (UFT)	Reversible induction motor M-☐RK☐☐-A☐ (AF☐) M-☐RK☐☐-C☐ (CF☐)	Single-phase electromagnetic brake motor M-☐RK☐☐-AS (AFS) M-☐RK☐☐-CS (CFS)	Tri-phase electromagnetic brake motor M-☐RK☐☐-SS (SFS) M-☐RK☐☐-US (UFS)	Electromagnetic clutch brake induction motor M-☐IK☐☐-AC (AFC) M-☐IK☐☐-CC (CFC) M-☐IK☐☐-SC (SFC) M-☐IK☐☐-UC (UFC)	Single-phase torque motor M-☐TK☐☐-AT		Speed control motor M-☐IK☐☐-AV (AVD) M-☐IK☐☐-CV (CVD)
Strength	Applicable to single-phase motors of continuous operation	Motors capable of instant clock/ counterclockwise rotation	Motors capable of instant clock/ counterclockwise rotation	Motors which can keep high brake and load duration, with built-in safety brake	Type with direct single-/tri-phase induction motors and DC (24V) clutch brakes combined type	There is a near linear proportion by inversion between the torque and the rotational speed, so this is especially applicable to fixed tension batching		Motors which can be coupled with speed controllers and are capable of CVT
Voltage	Single-phase: 100V~120V 200V~240V Tri-phase: 200V~230V 380V~400V 415V~460V	Single-phase: 100V~120V 200V~240V	Single-phase: 100V~120V 200V~240V	Tri-phase: 200V~230V 380V~400V 415V~460V	Single-phase: 100V~120V 200V~240V Tri-phase: 200V~230V 380V~400V 415V~460V	Single-phase: 60V	Single-phase: 110V	Single-phase: 100V~120V 200V~240V
Continuous operation	○	×	×	○	○	○	×	○
Instant clock/counterclockwise rotation	×	○	○	○	×	×		×
Variable speed	×	×	×	×	×	○		○
Load duration	×	○	○	○	○	×		×

Examples of AC Motor Selection

Usage: to drive the conveyor
Operation condition: continuous
Voltage: 110V
Frequency: 60Hz
Rotational speed: 26r/min
For calculation, refer to the conveyor driving machine on page 229.

❶ Select the motor:
Select a single-phase induction motor according to the above table by usage, operation condition, operating environment, and voltage.

❷ Decide on the gear ratio of the gear box:
Based on the example, it is known that when the speed of the conveyor is 140mm per sec, the output rotational speed is 26.7rpm. Supposing the rated output rotational speed corresponding to 60Hz is 1550 rpm before the motors are decided, the gear ratio is 1550rpm÷26rmp, which equals 60.
(The rated output rotational speed of the induction motors is generally 1550±100rpm)

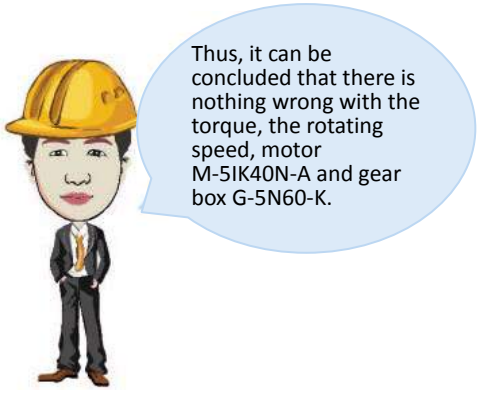
❸ Calculate the required torque:
Based on the examples from clients, it is calculated that the necessary torque is 3.27 N·m, which belongs to the output shaft of the gear box. Please refer to the allowable torque with a gear ratio of 60 (the maximum allowable torque of the gear box). Select motors (M-5IK40N-A) with an output power of 40W in consideration of double security coefficient, and gear boxes (G-5N60-K) with a gear ratio of 60.

❹ Confirm the capacity of motors according to the actual test:
The maximum torque of the conveyor occurs when it is started. Therefore, measure the lowest starting voltage corresponding to the torque on startup and the current to confirm the following items.

a. The starting torque of the motors > the necessary torque on startup
(= the minimum starting torque)
b. Actual rotational speed > rated rotational speed

Torque:
Measure with the ampere-meter, only to find that the starting current < the rated output current
For example: the rated output current of M-5IK40N-A is 0.55A corresponding to 110V and 60Hz.

Rotational speed:
Use the revolution meter or the measuring machine to calculate the rotational speed of motors, the actual value > the rated output rotational speed (r/min).



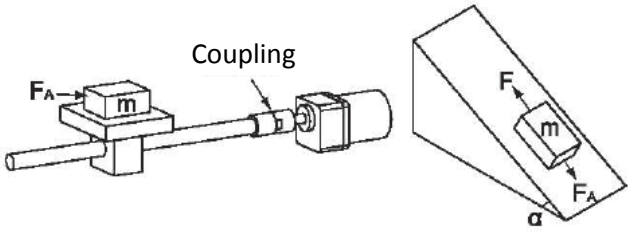
Calculation formula of the load torque:

Calculate the friction torque of different drivers.

Ball screw drive

$$T_L = \left(\frac{FPB}{2\pi\eta} + \frac{\mu 0 F 0 PB}{2\pi}\right) \times \frac{1}{i} \ [N \cdot m]$$

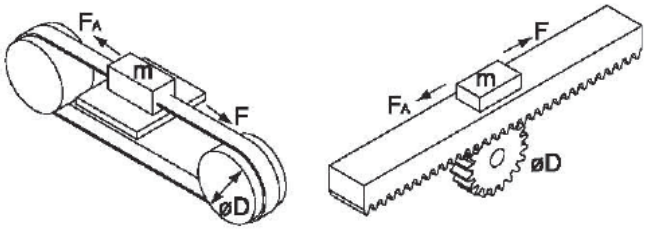
$$F = F_A + mg(\sin\alpha + \mu\cos\alpha)[N]$$



Line/pulley drive/rack/gear drive/

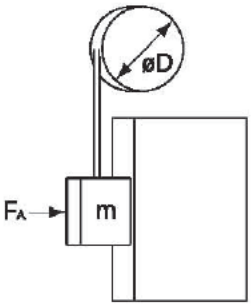
$$T_L = \frac{F}{2\pi\eta} \cdot \frac{\pi D}{i} = \frac{FD}{2i\eta} \ [N \cdot m]$$

$$F = F_A + mg(\sin\alpha + \mu\cos\alpha)[N]$$



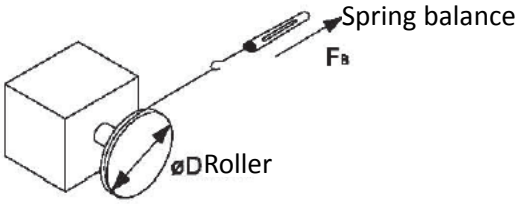
Roller driver

$$T_L = \frac{\mu F_A + mg}{2\pi} \cdot \frac{\pi D}{i} = \frac{(\mu F_A + mg)D}{2i} \ [N \cdot m]$$



Actual measurement calculation

$$T_L = \frac{F_B D}{2} \ [N \cdot m]$$



F= load in the shaft direction [N]
F0= preloading load [N] (=1⁄3F)
μ0 = internal friction coefficient of the preloading nut (0.1-0.3)
η =efficiency (0.85-0.95)
I= gear ratio
(This is the gear ratio of the machine, not that of the reducer of the Company)
PB= ball screw pitch [m/rev]
F_A= external force [N]
F_B = force when the main shaft begins to rotate [N]
(F_B = [the value of the spring balance] (kg) × g [m/s^2]
m= the total weight of the working substance and the workbench [kg]
μ= the friction coefficient of the sliding surface [0.05]
α= inclination angel [°]
D= roller diameter at the final section [m]
g= acceleration of gravity [m/s^2] (9.807)

Unit conversion: take 40W M-5IK40A-A for example:

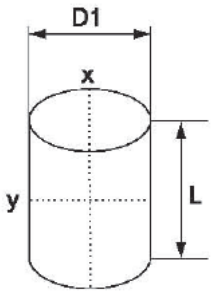
	Kgfcm	N • m	mN • m	gfcm
Starting torqu	1.9	0.19	190	1900
Rated torque	2.3	0.23	230	2300
Force	kg	N	N	g

Calculation Formula of the Inertia

Inertia of the cylinder

$$Jx=\frac{1}{8}mD1^2=\frac{\pi}{32}\rho LD1^4[\,kg\cdot m^2]$$

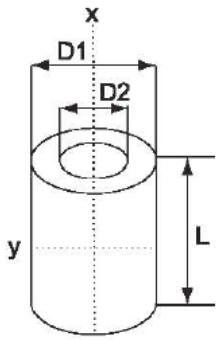
$$Jy=\frac{1}{4}m\left(\frac{D1^2}{4}+\frac{L^2}{3}\right)[kg\cdot m^2]$$



Inertia of the hollow cylinder

$$Jx=\frac{1}{8}m(D1^2+D2^2)=\frac{\pi}{32}\rho L(D1^4-D2^4)[kg\cdot m^2]$$

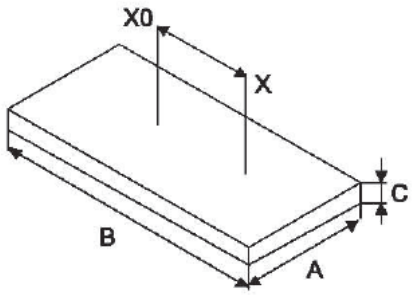
$$Jy=\frac{1}{4}m\left(\frac{D1^2+D2^2}{4}+\frac{L^2}{3}\right)[kg\cdot m^2]$$



Inertia when the center of gravity is not at the center

$$Jx=Jx0+m\ell^2=\frac{1}{12}m(A^2+B^2+12\ell^2)=[kg\cdot m^2]$$

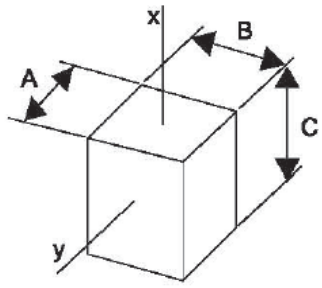
ℓ= **distance from X axis to X0 axis [m]**



Inertia of the cube

$$Jx=\frac{1}{12}m(A^2+B^2)=\frac{1}{12}\rho ABC(A^2+B^2)=[kg\cdot m^2]$$

$$Jy=\frac{1}{12}m(B^2+C^2)=\frac{1}{12}\rho ABC(B^2+C^2)=[kg\cdot m^2]$$



Inertia of objects in linear motion

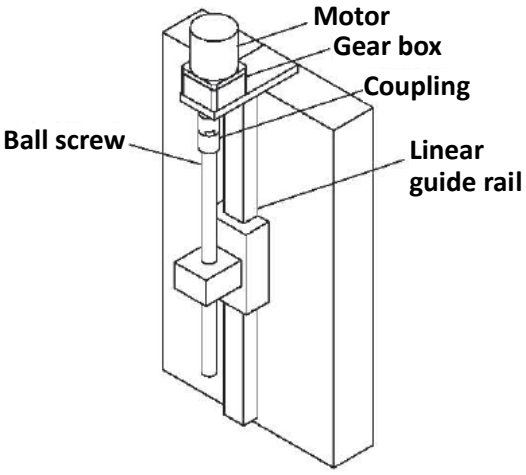
$$J=m(\frac{A}{2\pi})^2[kg\cdot m^2]$$

A= unit displacement [m/rev]

Iron $\rho = 7.9\times10^3[kg/m^3]$
Aluminum $\rho = 2.8\times10^3[kg/m^3]$
Yellow brass $\rho = 8.5\times10^3[kg/m^3]$
Nylon $\rho = 1.1\times10^3[kg/m^3]$
Jx = inertia of X axis [kg・m^2]
Jy= inertia of Y axis [kg・m^2]
J0= inertia of X0 axis (via the center of gravity) [kg・m^2]
m = weight [kg]
D1 = outer diameter [m]
D2 =inner diameter [m]
ρ = density [kg/m^3]
L = length [m]

Examples of Calculation Related to AC Motors

The following is an example of using electromagnetic brake motors on the workbench of ball screw facility and the motors must be selected according to the following specifications.



Required Specifications and Machine Specifications

Total weight of the workbench and the working substance m=30 [kg]

Moving speed of the workbench v=15±2 [mm/s]

External force F_A=0 [N]

Inclination angle of the ball screw α=90 [degree]

Length of the ball screw LB=800 [mm]

Shaft diameter of the ball screw DB=20 [mm]

Ball screw pitch P_B=5 [mm]

Displacement of the ball screw for each rotation A=5 [mm]

Efficiency of the ball screw η=0.9

Material of the ball screw: iron (density $\rho=7.9\times10^3$ [kg/m^3]

Internal friction coefficient of preloading nuts μ0=0.3

Friction coefficient of the sliding surface μ0=0.05

Motor power source: single-phase 110V 60Hz

Working time: un-continuous operation for five hours a day

Repeated start-stop

Load duration is necessary.

Define the gear ratio of the gear box

Rotational speed of the output shaft of the gear box

$$N_G=\frac{V60}{P_B}=\frac{(15\pm2)\times60}{5}$$

$$=180\pm24[r/min]$$

Generally, the rated rotational speed of motors is 1551r/min corresponding to 60Hz 4-pole, so the gear ratio should be within this range (i=9).

Gear ratio of the gear box

$$i=\frac{1550}{N_G}=\frac{1550}{180\pm24}=7.6\sim9.9$$

Calculate the necessary torque

Load of the ball screw:

$$F=F_A+mg(\sin\alpha+\mu\cos\alpha)$$
$$=0+30\times9.807(\sin90^\circ+0.05\cos90^\circ)$$
$$=294[N]$$

Preloading load of the ball screw:

$$F0=\frac{F}{3}=98[N]$$

Load torque:

$$T_L=\frac{FxP_B}{2\pi\eta}+\frac{\mu0xF0xP_B}{2\pi}$$

$$=\frac{294x5x10^{-3}}{2\pi\eta}+\frac{0.3x98x5x10^{-3}}{2\pi}$$

$$=0.283[N.m]$$

This load torque belongs to the output shaft of the gear box, so it has to be adapted to the output shaft of the motors.

Necessary torque T_M of the output shaft of the motors

$$T_M=\frac{T_L}{i\eta G}=\frac{0.283}{9x0.81}=0.0388[N.m]=38.8[mN.m]$$

(Transmitting efficiency of the gear box ηG=0.81)

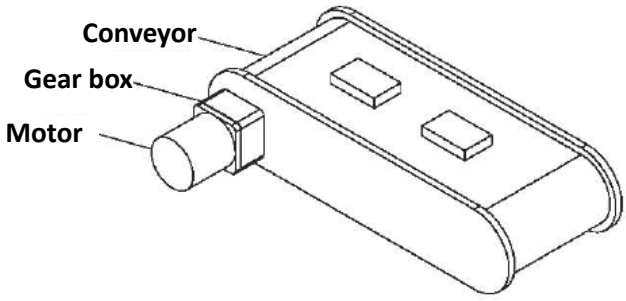
Security factor is set as 2 times.

$$38.8\times2=77.6\,[mN\cdot m]$$

For motors with a starting torque over 77.6mN·m (0.776kgfcm), select according to the specification table of AC induction motors.

Select M-3RK15N-AS motors (0.90kgfcm) with electromagnetic brake for load duration and coupled G-3N9-K gear box with a gear ratio of 9.

The following is an example of using induction motors in conveyor driving facility, which must conform to the required specifications.



Total weight of the conveyor and the working substance m1=20kg

Friction coefficient of the sliding surface μ=0.3

Diameter of the roller D=100mm

Weight of the roller m2=1kg

Efficiency of the conveyor and the roller η=0.9

Speed of the conveyor v=140mm/s±10%

Motor power source: single-phase 110V 60Hz

Working time: 16 hours per day

Define the gear ratio of the gear box

Rotational speed of the output shaft of the gear box

$$N_G = \frac{V60}{\pi \cdot D} = \frac{(140 \pm 14) \times 60}{\pi \cdot 100} = 26.7 \pm 2.7 [r/min]$$

Since the rated rotational speed of the motors is 1550rpm corresponding to 60Hz, the corresponding gear ratio should be i=60.

The gear ratio of the gear box is as follows:

$$i = \frac{1550}{N_G} = \frac{1550}{26.7 \pm 2.7} = 52.7 \sim 64.5$$

Calculate the necessary torque

The torque reaches the highest when the conveyor is started, which has to be calculated first.

Frictional force of the sliding part is F.

$$F = \mu mg = 0.3 \times 20 \times 9.807 = 58.8 [N]$$

Load torque $T_L = \frac{F \cdot D}{2 \cdot \eta} = \frac{58.8 \times 100 \times 10^{-3}}{2 \times 0.9} = 3.27 [N.m]$

This load torque belongs to the output shaft of the gear box, so it has to be adapted to the output shaft of the motors.

Necessary torque of the output shaft of motors: T_M.

$$T_M = \frac{T_L}{i \cdot \eta G} = \frac{3.27}{60 \times 0.75} = 0.0726 [N.m] = 72.6 [mN.m]$$

(transmitting efficiency of gear box ηG=0.75)

Given the variation of voltage for commercial use (110±10%), the security factor should be doubled.

$$72.6 \times 2 = 145.2 [mN \cdot m] \fallingdotseq 1.45 (kgfcm)$$

For selection of motors with a starting torque over 1.45 (kgfcm), refer to the specification table of AC induction motors.

Select M-5IK40N-A motors (1.9kgfcm) and coupled M-5IK40N-A gear box with a gear ratio of 60.

Types and Characteristics of Motors

	Characteristic	Type	Retention	Over-rotation amount	Frequency
Induction motor	Applicable single-phase motors of continuous operation	Single-phase induction motor			
	Applicable to single-phase motors of continuous operation	Tri-phase induction motor			
	Motors capable of instant clock/counterclockwise rotation	Reversible motor	Simple brake 70-500gcm	4-6 turns	
Electromagnetic brake	Retentive Safety brake Suitable for emergency (safety brake)	Single-phase electromagnetic brake motor	Safety brake 1-10kgcm	2-3 turns	The safety brake motors can stop six times per minute (the stop time must be over 3 sec) To stop 7~20 times per minute, use electromagnetic brake motors. To stop 20~100 times per minute, use electromagnetic clutch brake motors
		Tri-phase electromagnetic brake motor	Safety brake 1-10kgcm	2-3 turns	
		Electromagnetic clutch brake induction motor	24 and 50kgcm	1 turn	
	For motor brakes, select DC 24V MM brake (optional)	Motors with electromagnetic brake	Electromagnetic 24 and 50kgcm	2-3 turns	
		Single-phase torque motor	Single-phase: 110V 60Hz		There is an almost linear proportion by inversion between the torque and the rotational speed, so they are especially applicable to fixed tension batching.
		Speed control motor			
		PMG DC motor			
Electric brake	Irretentive It can move freely after stop	Electronic brake		0.5-1 turn	To realize un-continuous operation through electronic brakes, it is necessary to ensure the surface temperature of the motors are below 90 degrees
Used together	Mechanical and electric brake		Same as electromagnetic brake	0.5-1 turn	Refer to the information on electromagnetic brake

Service Life of Motors and Gear Boxes

Service Life of Motors

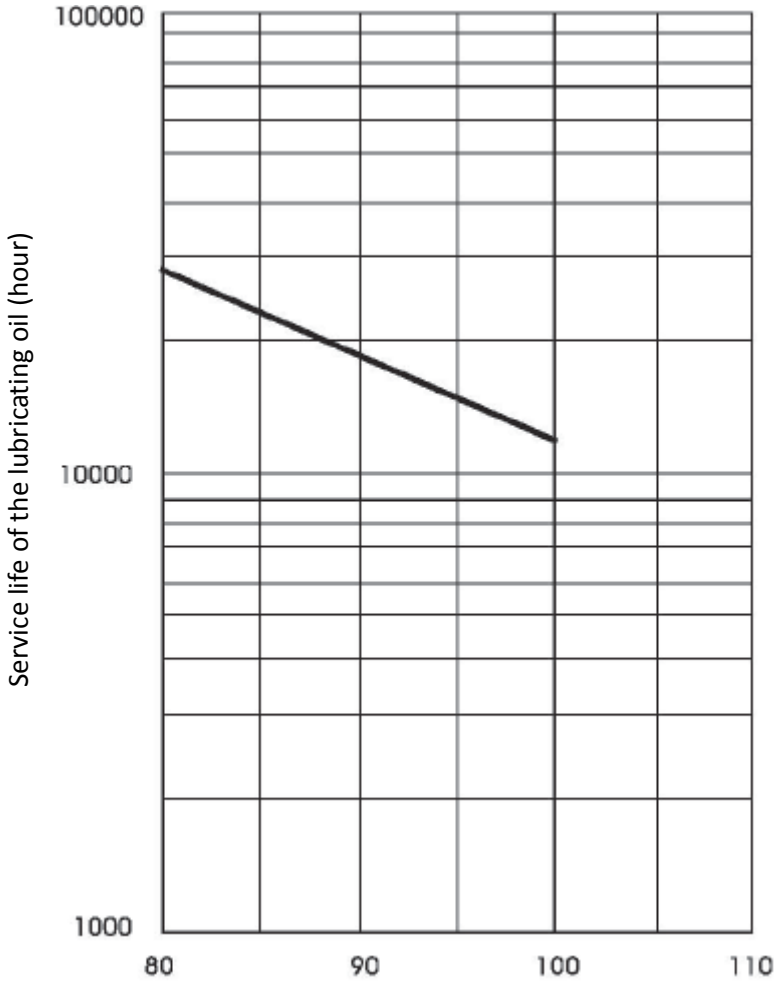
The service life of motors relies on the bearing quality, the abrasion of the transmission facility, the dysfunction resulting from the maintenance by customers, and the inspection time. The service life provided by the Company is not a guaranteed value, but to be used for reference only. Also, the service life depends to a great extent on the bearing condition.

The service life of the bearing depends on two factors:

Service life of the lubricating oil: the oil can degrade due to temperature rise.

Service life of the facility: continuous fatigue.

The influence of heat from motors on the service life of the lubricating oil is greater than that of the load the bearing bears on the service life of the facility. Therefore, the service life of motors can be worked out according to that of the lubricating oil.



Relationship between the surface temperature of the motor and the lubricating oil

AC small standard motor, DC motor

Make sure the surface temperature of the motor is below 90 degrees during use. As a result from the operating environment or the operating efficiency, the lower the surface temperature is, the longer the service life is. In addition, if over-loaded, the service life of the bearing may be shorter than that of the lubricating oil.

The guaranteed service life of the motor is as follows:

Motor type	Guaranteed service life
AC motor	5000 hours
DC motor	3000 hours

The actual service life is affected by the load, the way to apply load and the rotational speed, which can be calculated through the following formula.

L (service life): L1/f

L1: guaranteed service life

f: coefficient of the service life

Coefficient table of the service life

Load type	5 hr/day	8 hr/day	24 hr/day
Fixed	1.0	1.0	1.5
Variable: light	1.25	1.5	2.25
Variable: middle	1.75	2.0	3.0
Variable: heavy	2.25	3.0	4.5

Service Life of the Gear Box (Reducer)

The actual service life is affected by the load, the load applying method, and the rotational speed. To calculate this, please refer to the relationship between the rated service life and the actual service life.

The condition for the guaranteed service life of the gear box defined by PeeiMoGer is as follows:
Torque: allowable torque
Load type: fixed-8 hours per day
Input rotational speed: standard input rotational speed
Thrust load: allowable shaft-direction thrust and load.

Guaranteed service life of all gear boxes

Motor type	Gear box type	Standard input rotational speed	Guaranteed service life
AC induction motor	Ball bearing	1500r/min	5000 hours
DC motor	Oil bearing		2000 hours

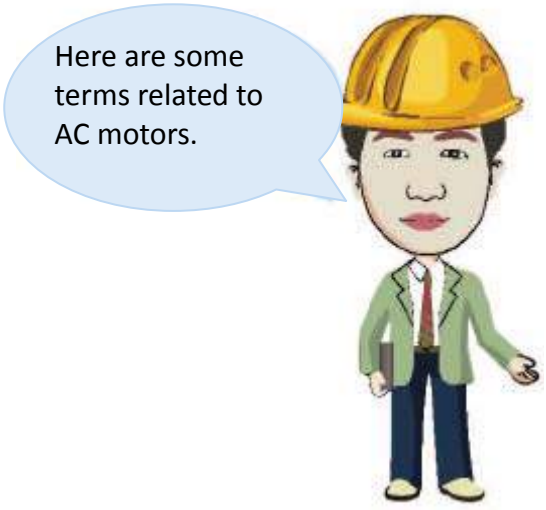
The actual service life is affected by the load, the load applying method, and the rotational speed, which can be calculated using the following formula.
L (service life) = (L1×K1) / [$(K2)^3$×f (h)]
L1: guaranteed service life L1
K1: coefficient of the rotational speed=standard input rotational speed/actual input rotational speed
K2: load factor=actual torque/allowable torque (Referring to the specification value recorded in the catalog)
f: life factor

Notes

When gear motors are driven out of the specified specification, or are experiencing random failure, unexpected failure, or irresistible external force during the service life, which may be hard to resolve via technological resolutions, it is then necessary to take preventive measures.

About AC Induction Motors

Definitions and Characteristics



A. Rating

- Rated output
  It refers to the output power of motors under basic setting. For example: the rotational speed, current and torque of standard 25W motors are their rated output data, data with full-load.

- Rated time
  It refers to the time motors can operate with normal load. Generally, if the operating time exceeds the rated time, motors will get over-heated.

- Continuous rating and short-time rating
  Under rated output, the normal continuous operating time is the rated time, and the continuous service life is the continuous rating, and specified operating time is called short-time rating.

B. Output

The relationship between the output rotational speed, torque and the output power is as follows:

$$T(N.m) = 9540 \times \frac{P}{N}$$

$$T(kgfm) = 973.5 \times \frac{P}{N}$$

$$T(kgfcm) = 97.35 \times \frac{W}{N}$$

Formula:
T: torque
P: output power [kW] {w=watts}
N: revolution times (r/min)
9540 [973.5] (97.35): constant
(1HP=746Watts)

Input the rated rotational speed and output power into the above formula to figure out the rated torque, namely, full-load torque. For example, for standard 25W motors, factor rated rotational speed 1625 rpm (60Hz), T (kgfcm)=97.35×25W/1625 (rpm)=1.5 (kgfcm) is derived.

C: Torque

- Starting torque
  It is the torque instantaneously produced when the motor is started. The starting torque for three-phase motors generally refers to the pull-out torque.

- Stopping torque (pull-out torque)
  It is the maximum torque the motor can output under certain voltage and frequency. Once the load exceeds the torque range, the motor will stop. Stopping torque is also called maximum torque or pull-out torque.

- Rated torque
  It is the torque when the motor produces rated output under rated voltage and frequency, namely, the torque at rated revolving speed.
  Static friction torque
  It is the torque outputted for maintaining load when the electromagnetic brake or electromagnetic clutch brake is applied.

- Allowable torque
  It is the maximum torque allowable during motor operation, and is limited by the rated torque, temperature rise and integrated reducer strength of the motor.

D: Revolving Speed

- Synchronous revolving speed
  It is the revolving speed of the motor's stator magnetic field, determined by the motor pole and power frequency.
  The formula is as follows:

$$Ns = \frac{120f}{P} (r/min)$$

  Formula
  Ns: synchronous revolving speed (r/min)
  P: motor pole
  f: frequency (Hz)
  120: constant

- No load speed
  No load speed is 20~50rpm behind the synchronous revolving speed, because the armature of the motor cannot rotate until it is inducted in the stator magnetic field and has built up a magnetic field.
  For example: for 4-pole, 60Hz, 1800rpm, the no load speed is 1750~1780rpm.

- Rated revolving speed
  It is the revolving speed corresponding to the motor's rated output, the speed under full load.

- Sliding rate (%)
  One of the expressions of the motor's revolving speed. The formula is as follows:

$$S(\%) = \frac{Ns - N}{Ns}$$

  Ns: synchronous revolving speed (r/min)
  N: revolving speed under arbitrary load

- Over-rotation amount
  It refers to the excess rotation from the moment the power is cut off to when the motor has stopped, expressed by angles (rpm).

Terms related to the gear box (reducer)

- Gear ratio
  It refers to the proportion between the rotational speed after deceleration and the original speed. The rotational speed of the output shaft of the gear box (reducer) equals to the quotient between the synchronous rotational speed of motors (50Hz : 1500r/min, 60Hz : 1800r/min) and the gear ratio. The actual rotational speed is 2-20% smaller due to the influence of the load.

For example:
For Model G-5N3-K
50Hz : 1500r/min, gear ratio: 1⁄3,
The rotational speed of the output shaft of the gear box=
1500r/min× (1⁄3) =500rpm.
60Hz: 1800r/min,
where gear ratio: 1⁄3,
the rotational speed of the output shaft of the gear box=1800r/min× (1⁄3) =600rpm.

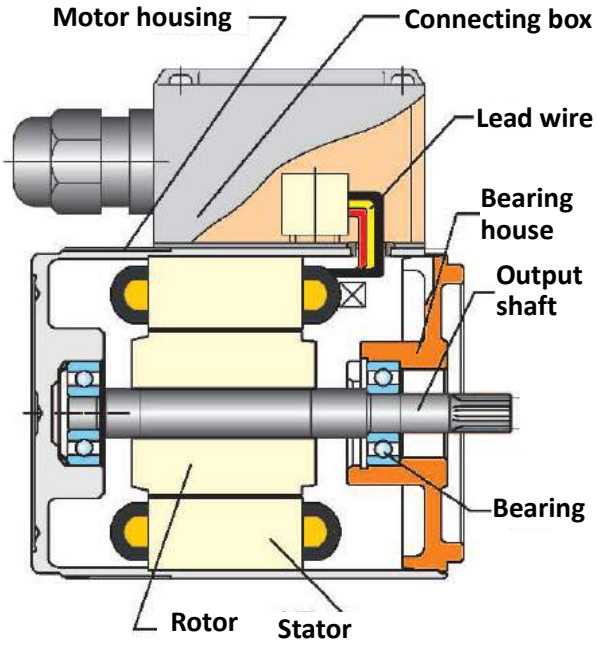
- Maximum allowable torque
  It refers to the maximum load torque gear box can bear, depending on the gear of the gear box, bearing quality and size, and other mechanical characteristics and strength. This is different for different gear box and gear ratio.

- CW, CCW
  It refers to the operation direction of motors. CW means clockwise from the direction of the output shaft, and CCW means counterclockwise.

Structure and usage of AC motors

The basic structure of AC small motors is as follows:

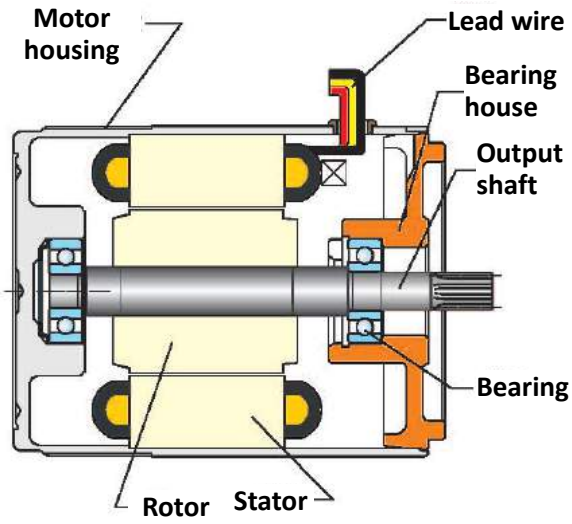
❶ Motor housing: machining with aluminum die-casting materials.
❷ Stator: composed of a cascaded silicon steel core twined with copper varnished wires and insulating thin film.
❸ Rotor: composed of silicon steel cascade and conductors of aluminum die-casting
❹ Output shaft: circular shaft or gear shaft, material S45C.
❺ Bearing: ball bearing.
❻ Bearing house: machining with aluminum die-casting materials.
❼ Lead: high quality heat-resistance lead.



■ Structure of a standard motor

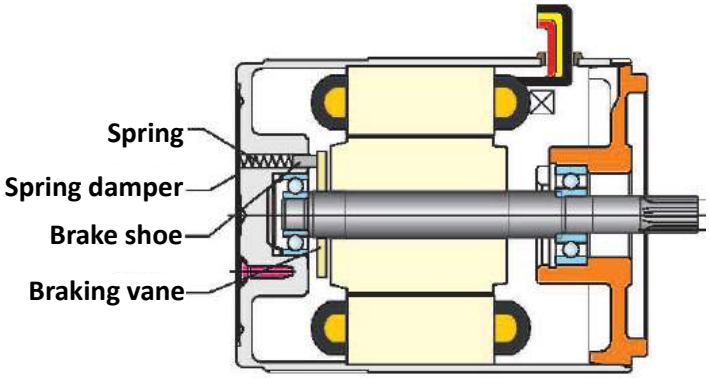
The structure of a standard motor (IK type) is as follows.

For general continuous operation.



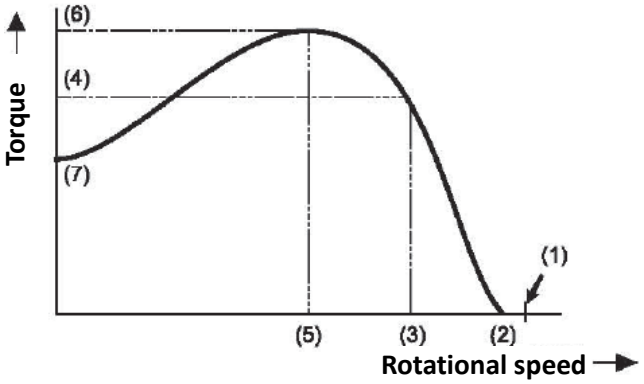
■ Structure of a reversible motor

The structure of a reversible motor (RK type) is as follows.



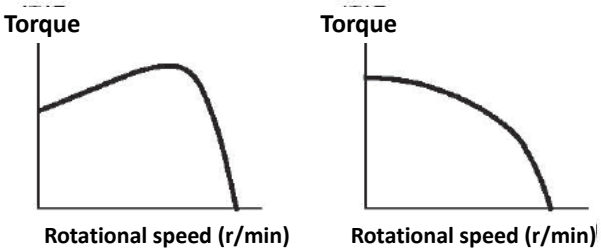
It is used when rapid reversal rotation is necessary after clockwise rotation. When the motor operates for 30 minutes (rated time), its surface temperature approaches 90℃, so it has to be stopped to prevent overheating. PeeiMoGer has set the torque for simple brake to approx. 10% of the output torque.

■ Relationship between the rotational speed and the torque of induction motors



1. synchronous rotational speed
2. no-load rotational speed
3. rated rotational speed
4. rated torque
5. pull-out rotational speed
6. pull-out torque
7. starting torque

Induction motors include capacitor single-phase induction motors and tri-phase induction motors. For single-phase motors, the starting torque is usually smaller than the operating torque, while for tri-phase motors, the starting torque is usually equal to the pull-out torque (maximum torque).

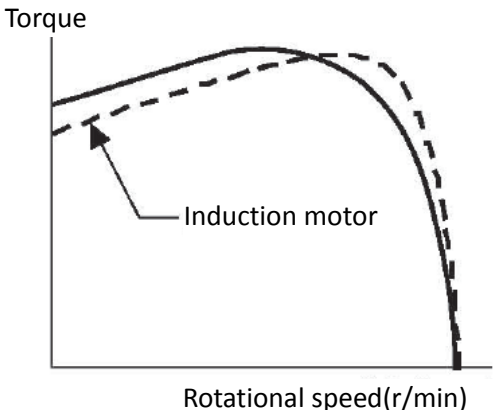


Single-phase induction motor

Tri-phase induction motor

■ Relationship between the rotational speed and the torque of reversible motors

Both reversible motors and single-phase induction motors are capacitor induction motors, with the relationship between the rotational speed and the torque being the same. However, the starting torque of reversible motors is bigger in order to increase the instant reversibility.

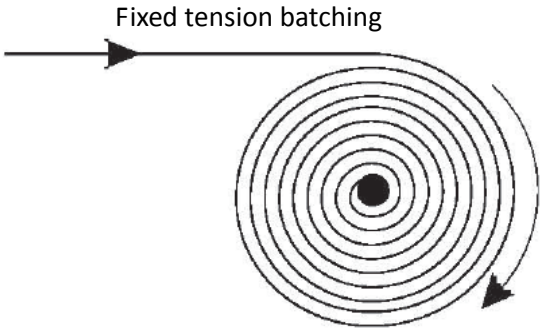


■ Relationship between the rotational speed and the torque of torque motors

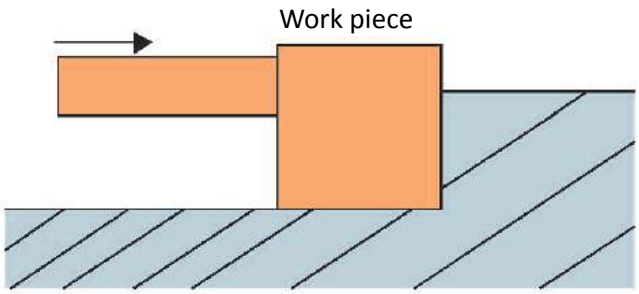
Torque motor

Its structure is similar to that of standard motors, with such main features: there is an almost linear proportion by inversion between the torque and the rotational speed, thus they are especially applicable to fixed tension batching.

To batch objects operating at fixed speed continuously with fixed tension, if the batching diameter is doubled, the output torque of the motors is also doubled, but the rotational speed is reduced by half. Therefore, it is necessary to maintain certain proportion during operation.



Under locked state, torque motors can still operate and will not get over-heated, especially applicable to work-piece positioning and holding. In addition, the torque is the square of the voltage, the locking output torque of the motors can be adjusted through voltage (do not exceed the allowable torque of the gear box when they are used together)



■ Speed controlling method of the speed control motors

The basic steps are as follows.

The AC speed control motors adopt closed loop speed control method.

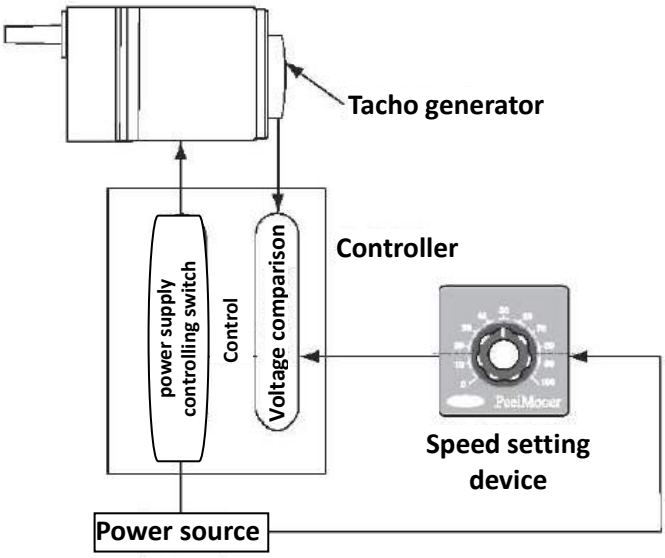
AC speed control motor (control method)

❶ The speed setting device provides the velocity voltage for setting.

❷ Tacho generator provides the voltage corresponding to the rotational speed.

❸ Compare the above two voltages of difference.

❹ In order to reach the setting speed, you can base on a sliding scale to supply power to motors.



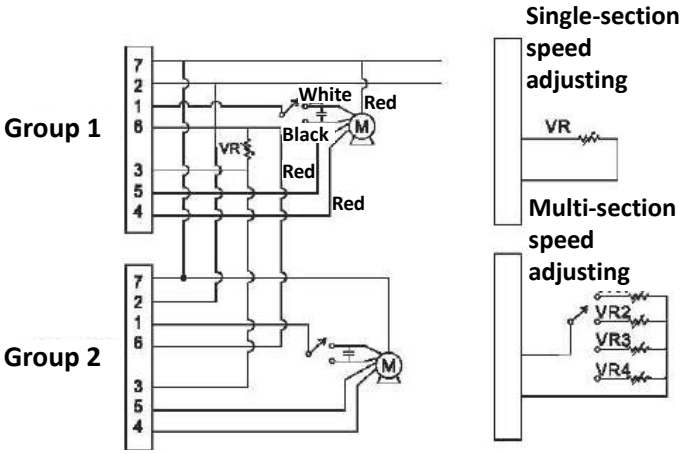


Fig. 1

Fig. 2

❶ The maximum variable resistance coupled with the speed setting device of the Company is 20Ω.

❷ When the resistance reaches the maximum (20Ω), the rotational speed is 1650 rpm for 60Hz and 1350 rpm for 50Hz.

❸ The rotational speed is proportional to the resistance. When the resistance is zero, motors stop.

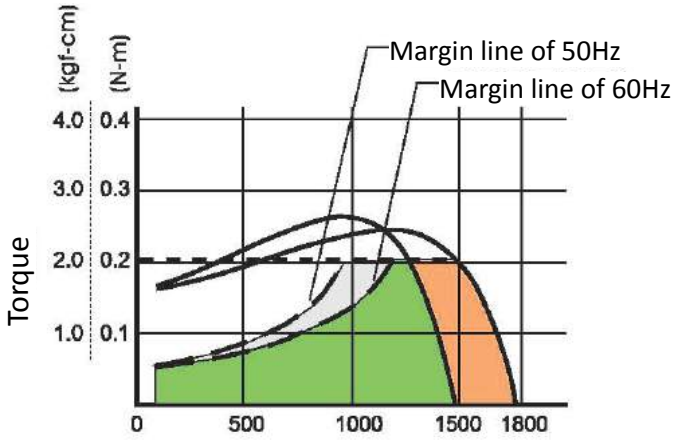
❹ In order to reach synchronous speed adjusting in the two groups, the variable resistance in the wiring diagram, as is shown in Fig. 1, is 10KΩ.

❺ For multi-section variable speed application, refer to Fig. 2. Speed can be changed rapidly by changing the variable resistance.

■ Relationship between the rotational speed and the torque of speed control motors controlling method of the speed control motors

The relationship between the rotational speed and the torque of speed control motors is as follows.

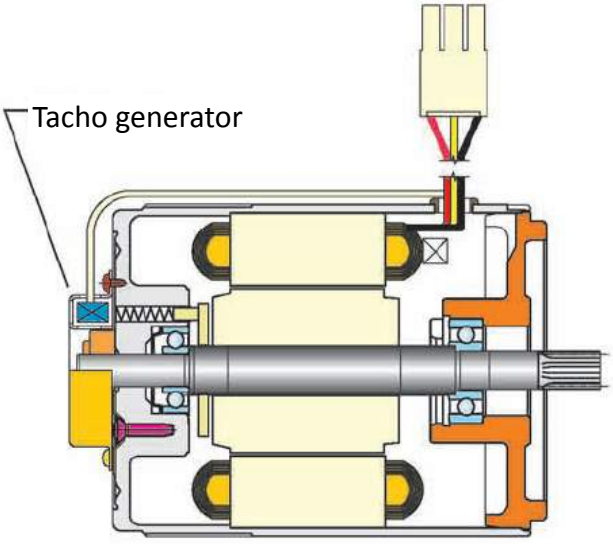
Rotational Speed vs. Torque M-4IK25N-AV



Rotational speed

Structure of speed control motors

The structure of AC speed control motors is as follows.

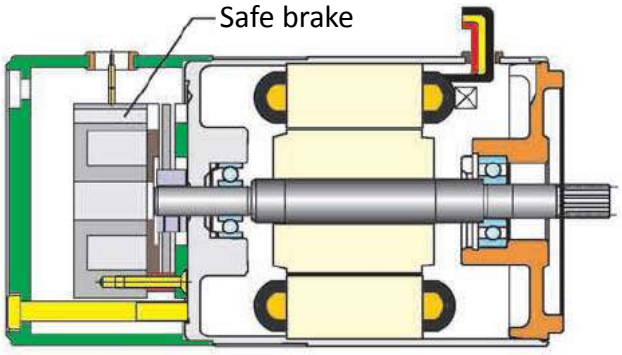


They are mainly used on the occasion when speed needs to be adjusted. It is also necessary to note that the load that speed adjusting motors can bear varies with the rotational speed, with a general adjustment range of 10% to 50%, and increases with the increase of the rotational speed. Within 50%~100%, motors can bear full-load torque (rated load) together with the compensation of the torque of the speed controllers. Generally, speed adjusting motors cannot bear full-load toque with a 50% rotational speed. *Speed adjusting principle: please refer to the method to control the rotational speed.

Structure of electromagnetic brakes

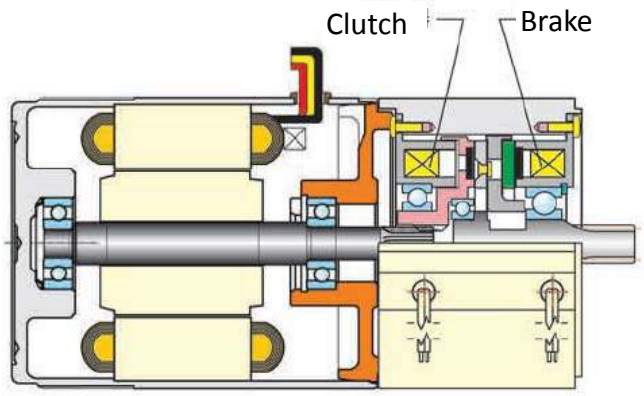
Such motors adopt safety brakes.

The construction is as follows. When there is voltage on magnetic coils, the armature is attracted and presses the spring to lift the brake, and the output shaft of motors can rotate freely. On the contrary, without voltage, electrode is pressed onto the brake pad and the fixed plate by the spring, with such results: the output shaft is fixed and it's a state of brake movement.



Structure of electromagnetic clutch brake motors

Such motors use DC 24V electromagnetic clutch brake, with the structure as follows. Generally, motors operate continuously (normal load within 8 hours), and clutches work when brakes are lifted. Motors drive the output shaft to operate, and brakes work when clutches are lifted. Clutches and brakes cycle, with an action frequency of 100 per min.



Others

Temperature rise of AC small standard motors

During operation, all kinds of losses (copper loss, core loss and mechanical loss) inside the motors turn into heat, so the temperature will get higher.

2-3 hours after induction motors begin to operate (continuous operation); the temperature reaches saturation, and will not change for a while.

30 minutes after reversible motors begin to operate (30 min rating); the temperature reaches the specified value, and will continue to increase when it keep going to operate.

Ways to measure temperature rise

A. thermometer

Fix the thermometer in the center of the motor shell to measure the temperature, and take difference between the measured value and the environmental temperature as the temperature rise.

B. resistance

The coil temperature varies with different resistances. Measure it with insulation resistance meter and thermometers to calculate the temperature rise of the coil..

Temperature protection switch (optional)

Over-heating protection device uses bimetallic strips and silver contacts, since the resistance of silver is the lowest and its heat transmission is second to that of copper.

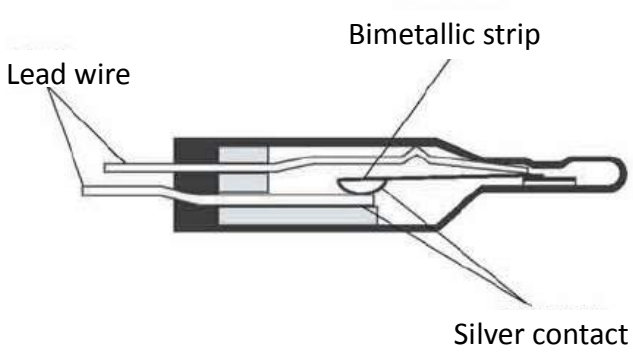
Operating temperature of the temperature protection switch

Open: 125℃±5℃

(There are also machines with different operating temperatures, please consult for relevant information)

Close: 75℃ (reference value)

(There are also machines with different operating temperatures, please consult for relevant information)



Capacitor

The AC motors of single-phase power source are capacitor motors. Capacitors are connected in series to the auxiliary coils to promote the current phase of the latter to outstrip.

The main coils and the auxiliary coils produce different helical magnetic fields to make motors operate. Generally, if capacitors are damaged or connected appropriately, motors cannot start automatically, resulting in the so-called “open phase”.

Capacity and rated voltage

Wrong capacity of capacitors may cause motors to vibrate and get heated, or result in torque decrease, which will make operation unstable. The unit of capacity is uF. Wrong rated voltage may cause capacitors to discharge smoke or sparks. The unit of the rated voltage of capacitors is V, marked on the surface of the capacitor and different from the rated voltage of motors. Do use capacitors matched with motors.

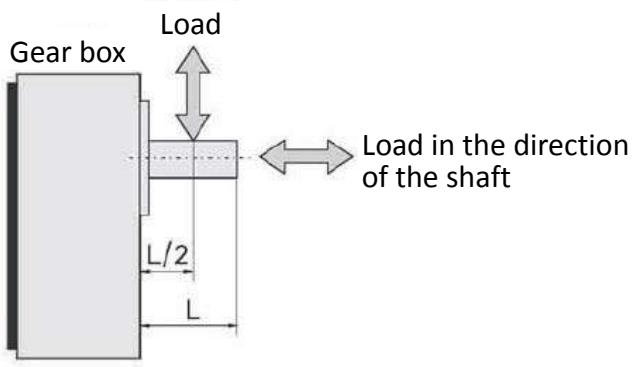
Rated electrified time

It refers to the service life corresponding to the rated load, rated voltage, rated temperature and rated power of capacitors, with 25000 hours as the standard. Capacitor damage can result in smoke or sparks.

Gear box

Load

It refers to the load borne in the vertical direction of the output shaft of gear box. The maximum load that gear box bear is the allowable load, variable with different gear box and different distances from the front end of the output shaft. The tension under belt drive belongs to such kind of load.



Thrust load

It refers to the load borne in the direction of the output shaft of gear box. The maximum thrust load gear box bear is the allowable thrust load, variable with different gear box.

Gear box	Load (KG)	Load in the direction of the shaft
G-2N☐-L G-2N☐-K	5 10	3
G-3N☐-L G-3N☐-K	10 20	4
G-4N☐-L G-4N☐-K	20 30	5
G-5N☐-L G-5N☐-K	30 40	10
G-5U☐-KF G-5U☐-KH	60 70	15
G-6U☐-KH	80	20

Transmission efficiency

It refers to the efficiency of torque increase through combining motors with gear box, expressed in percentage (%), and decided by the bearing of gear box, friction of gear box and the impedance of the lubricating oil.

Transmission efficiency of gear boxes

Bearing	Gear box/ Ratio (i)	3~9	10~18	20~60	75~180	Intermediate gear box
Ball	G-2N☐-K G-3N☐-K G-4N☐-K G-5N☐-K	81%		75%	70%	56%
	G-5U☐-K	81%	75%	70%	65%	58%
	G-5U☐-K G-6U☐-KH	-		70%	65%	58%
Metal	G-2N☐-L G-3N☐-L G-4N☐-L G-5N☐-L	68%		63%	58%	46%

Class of insulation and temperature rise

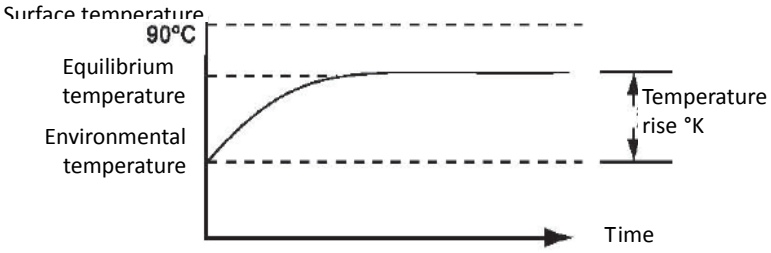
Insulation class:

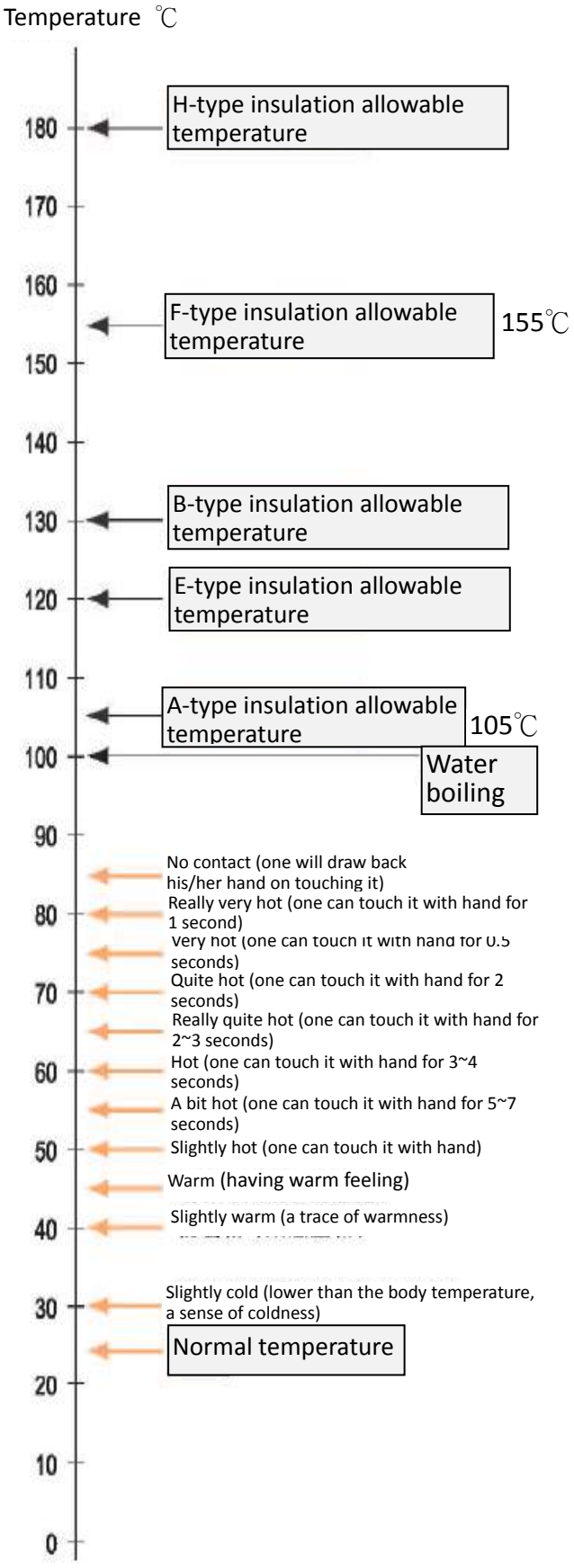
According to the following chart, the insulation class of the induction motors in the Company is B.

Class of insulation	Max. allowable temp.	Environmental temp. 40℃, and internal winding allowable temp. (JIS 4004)
A	105℃	60℃
E	120℃	75℃
B	130℃	80℃
F	155℃	100℃
H	180℃	125℃

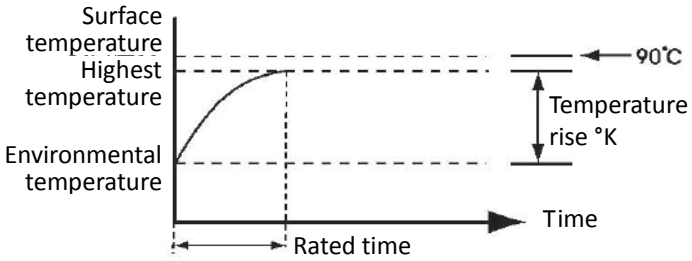
Motor temperature rises (standard environment temp. is -10℃~40℃)

See the figure below for continuous rated motors.

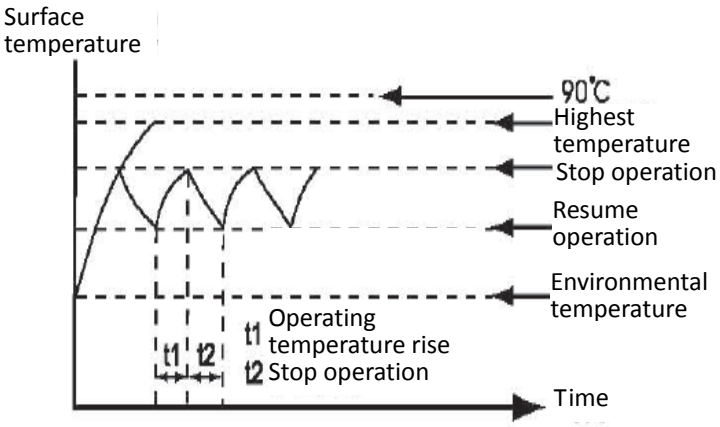




Short-time rated motor

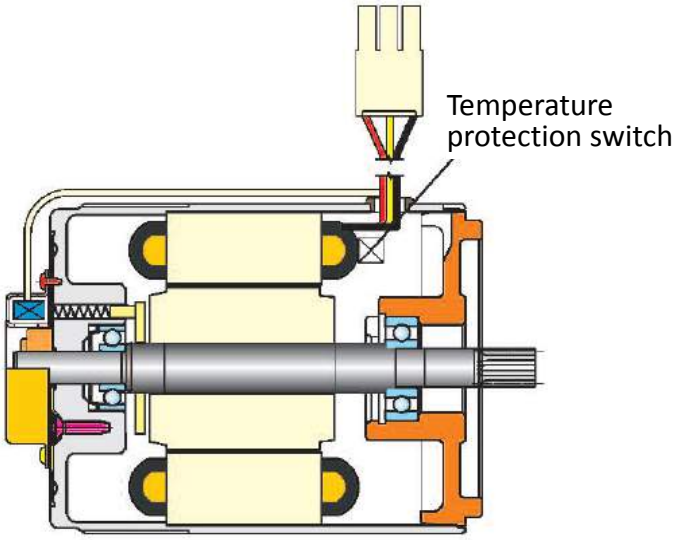


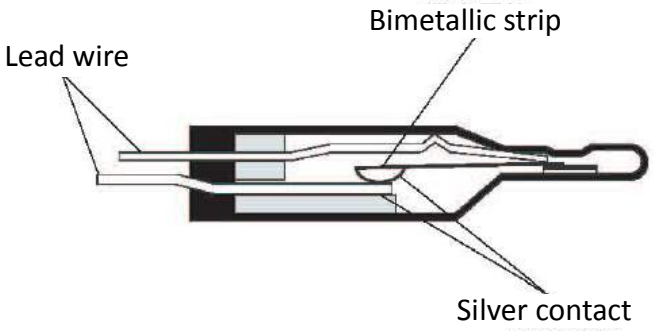
RK motors can reach long-time operation through un-continuous operation or forced cooling. The following figure shows how to operate un-continuously with the temperature switch.



Short-time rated motors are easy to get heated, so the temperature when long-time un-continuous operation stops should be lower than the highest temperature to ensure the coil insulation does not deteriorate untimely and prevent the bearing from lacking oil and stuck prematurely.

When the temperature of the motors get too high (exceeding 90℃), the coil insulation will deteriorate and the bearing will lack oil and get stuck.





Troubleshooting

1. Motors do not operate

a. First, confirm whether there is something wrong with the main and auxiliary coils, and measure their resistance value. If the outgoing lines of motors are of four colors, the red-blue line is the main coil, while the black-white is auxiliary. If they are of three colors, the red-white line is the main coil, while the red-black is auxiliary. When the resistance of the main coil is close to that of the auxiliary coil (both resistances exist), it means the coils are normal.
(The difference between the resistance value of the main coil and that of the auxiliary coil is less than 14%)

b. If motors still do not operate even if the power is on, but begin to operate when rotated with hand and stop when the output shaft is held by hand, it means the capacitor does not work, perhaps due to wrong wiring or capacitor damage (such probability is quite low).

2. Motors rotate too slowly or get over-loaded

Confirm the operating current of motors with the amperemeter. If it exceeds the rated current, it means over-load (when the coils of motors are normal). When motors are over-loaded,

a. The rotational speed is lower than the rated speed.
b. The current exceeds the rated current.
c. The surface temperature of motors exceed 90 ℃ (the room temperature is below 40 ℃)

3. Leakage of electricity

Adjust the avometer to AC voltage gear, with one end connected to the motor, and the other end connected to the ground (ensure the motor is connected to the ground). If the ammeter still displays voltage, it means there is leakage of electricity.

When the motor is not connected to the ground, measure the 220V AC motors operating with the power on, and the voltage of 80V AC will be measured out.

Notes: ground connection method: pressing the grounding lines in ring form and pressure-welding terminals, and then fixing them to one of the four screw holes on the frame of the motors with bolts. Before fixation, scraping the stoving varnish around the screw holes to ensure the motors and the grounding lines are conductive.

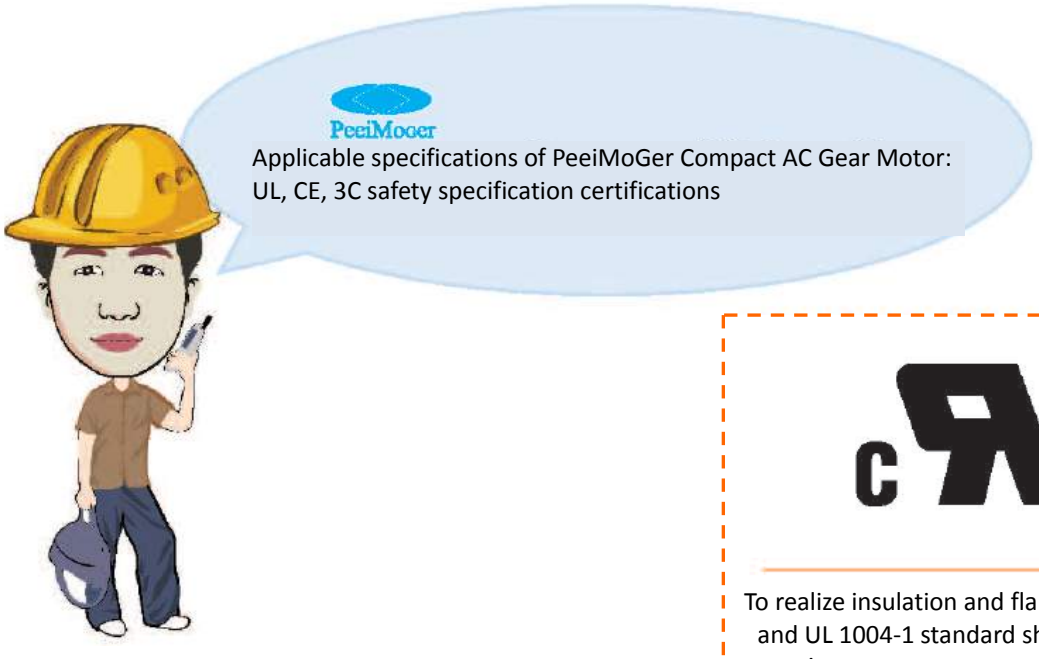
IP Code

Protection grade and testing conditions of electrical equipment shields

The first figure in the IP code represents the protection grade for solid foreign matters		
The first figure	Protection grade	
	Summary	Definition
0	No protection	No protection
1	Protect solid foreign matters with a diameter greater than or equal to 50mm	Spheroidal detectors with a diameter of 50mm cannot be passed through completely
2	Protect solid foreign matters with a diameter greater than or equal to 12.5mm	Spheroidal detectors with a diameter of 12.5mm cannot be passed through completely
3	Protect solid foreign matters with a diameter greater than or equal to 2.5mm	Spheroidal detectors with a diameter of 2.5mm cannot be passed through completely
4	Protect solid foreign matters with a diameter greater than or equal to 1.0mm	Spheroidal detectors with a diameter of 1.0mm cannot be passed through completely
5	Dustproof	Dust is not complete isolate, but the total amount of the dust passing through cannot affect the normal operation of electrical machines or ruin the safety.
6	Airtight dustproof	Complete dustproof

The second figure in the IP code represents the protection grade against water		
The second figure	Protection grade	
	Summary	Definition
0	No protection	No protection
1	Protect against water dropping vertically	To ensure water dropping vertically will not cause damage
2	Protect against water dropping vertically when the shield inclines 15 degrees	To ensure water dropping vertically from any angle will not cause damage as long as the inclination angle of the shield does not exceed 15 degrees
3	Protect against leaked water	To ensure leaked water will not cause damage
4	Protect against sprayed water	To ensure water sprayed from any direction will not cause damage
5	Protect against injected water	To ensure water injected from any direction will not cause damage
6	Protect against water column of crush injection	To ensure water column of crush injection will not cause damage
7	Protect against short-time soaking	Within normative pressure and time, the water infiltrating during short-time soaking (30 min) will not cause damage
8	Protect against continuous soaking	With the approval of the manufacturer and the user, under stricter conditions than the seventh, ensure the water infiltrating during continuous soaking will not cause damage

Safety specifications



Based on the LVD in EU, besides insulation and flame resistance, it is required that the coils will not get over-heated and burned up when there is something wrong with motors. The main exceptions include:
4.2.1 Motor locking
4.2.2 Short-circuit and open-circuit of capacitors
4.2.3 Under-phase of tri-phase motors
In order to meet the above requirements, temperature protection switch is indispensible to motors of other specifications other than 6W 220V, which has impedance protection. CE products are declared to conform to CE requirements when exiting the factory, as is shown in the above figure.

To realize insulation and flame resistance, motors of UL and UL 1004-1 standard should meet the following requirements.
4.1.1 The flame resistance and insulation property of motors should conform to UL 1004-1 requirements and certified by UL.
4.1.2 The voltage resistance, insulating ability, construction and dimension should meet UL 1004-1 requirements.
4.1.3 UL construction is shown in the above figure.
4.1.4 The product model on the label of motors of UL specification is composed of the construction number of motors (refer to page 11). If the label includes other numbers (such as serial code), it means the motors are not of UL specification.

The manufacturing process, components (coils, insulating materials, insulating varnish, outgoing lines etc) are required to conform to CQCCNCA-01-013 specification. Certified motors should be equipped with ground screws and be labeled with 3C certification, which is shown in the above figure.

Preparation before assembly

1. Take down the sealed cap of the gear box and erase the oil content on the end face (refer to Fig. 1)
2. Take down the O-ring on the sealed cap and flatten it to the motor flange, without any floating (refer to Fig. 2).
3. Place the motor upward and take down the protection sleeve of the gear shaft (refer to Fig. 2).
4. The motor and the gear box should be vertical to each other, and prevent left and right rotation to avoid damage to the gear shaft and the gear set (refer to Fig. 3).
5. After assembling the motor and the gear box together, lock them with specialized bolts.

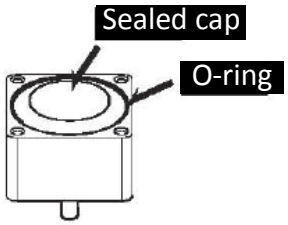


Fig. 1

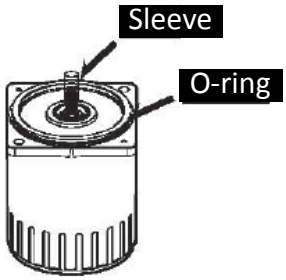


Fig. 2

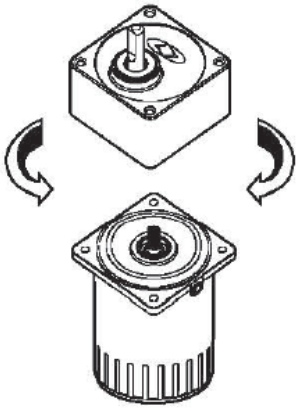


Fig. 3

Notes:

1. When the gear box falls flat for a long time or the output shaft is placed upward, some oil content will leak out (please refer to Fig. 4).
2. When the gear box is not in use, the O-ring should be nested in the sealed cap, which then covers the mating face of the gear box. The output shaft of the gear box should be placed downward to avoid oil leakage (refer to Fig. 4).
3. Incorrect assembly of the motor and the gear box will damage the gear shaft and the gear group, resulting in abnormal noisy and shorter service life.
4. To assemble the motor and the gear box together, the bolts should be crossed and fixed (refer to Fig. 5).

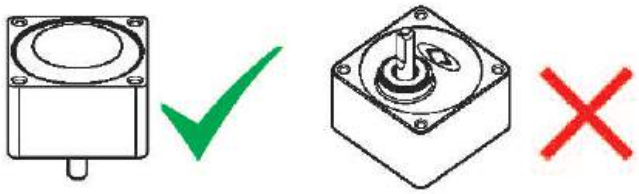
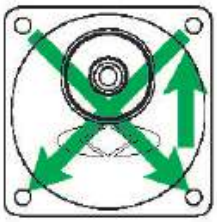


Fig. 4

The correct way to fix bolts



The wrong way to fix bolts

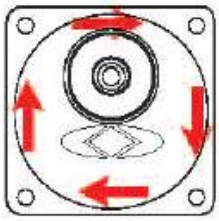
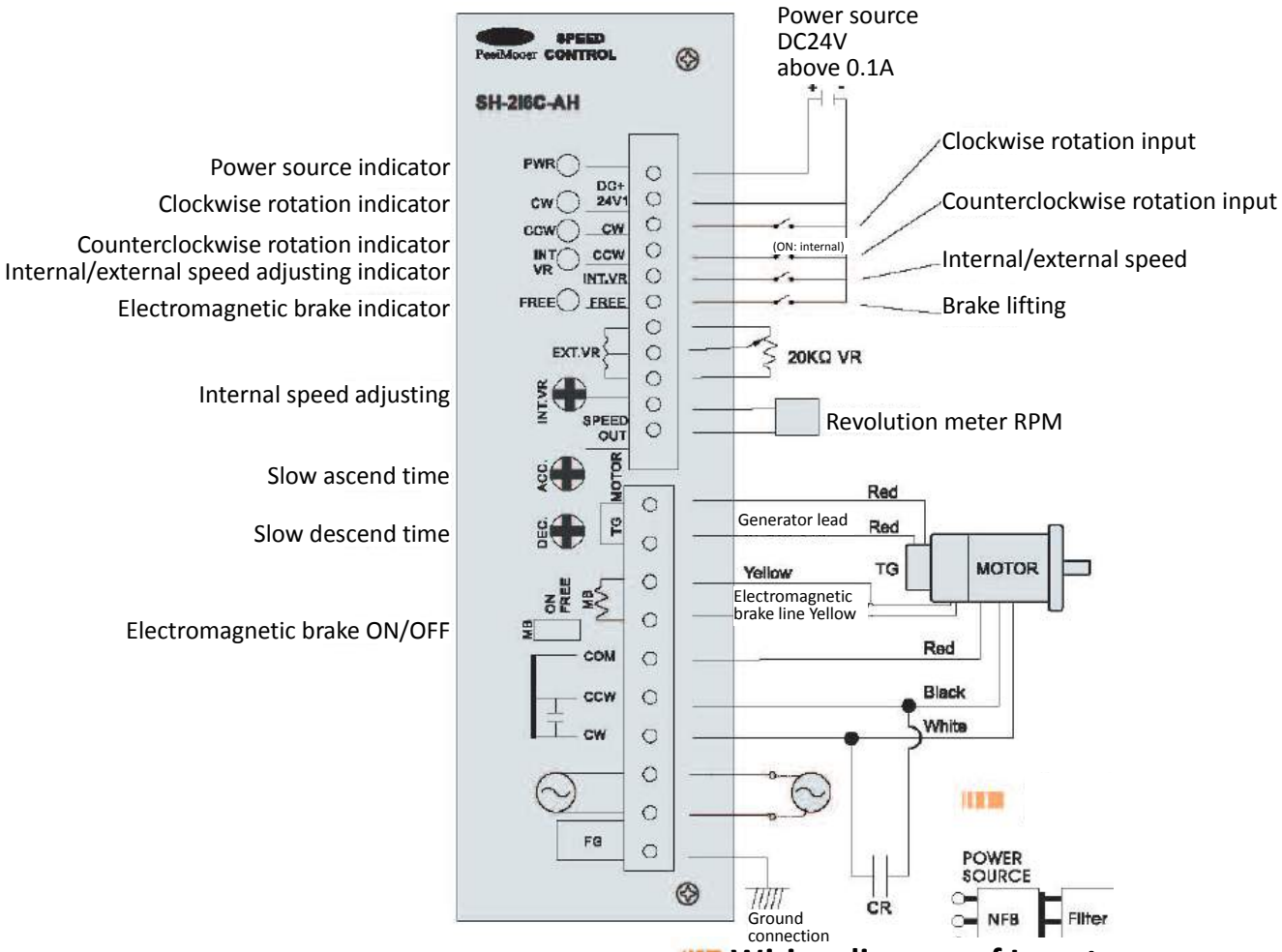


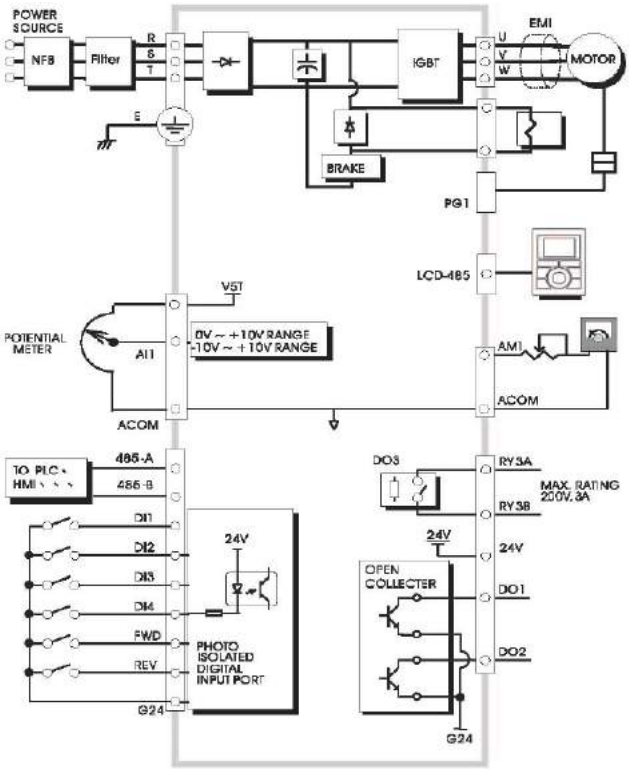
Fig. 5

Frame dimension of the gear box	Bolt specification	Lock torque
60mmsq	M4	20kg.cm
70mmsq	M5	25kg.cm
80mmsq	M5	25kg.cm
90mmsq	M6	30kg.cm
104mmsq	M8	40kg.cm

SH-216C-A (H) wiring diagram



Wiring diagram of Inverter



Introduction of electromagnetic clutch brake motors and gear boxes

Table of comparison between the output shaft of the clutch brake and the gear box

S24

Output shaft	No. of teeth	Tooth type	Product model	Coupled gear box
5S24-81119-2	11	helical N type	S-S24-A26-2	Peei 4 N gear box

S50

Output shaft	No. of teeth	Tooth type	Product model	Coupled gear box
5S50-81119-2	11	helical N type	S-S50-A26-3	Peei 5 N gear box
5S50-81119-3	11	helical N type	S-S50-A26-4	Peei 5 U gear box

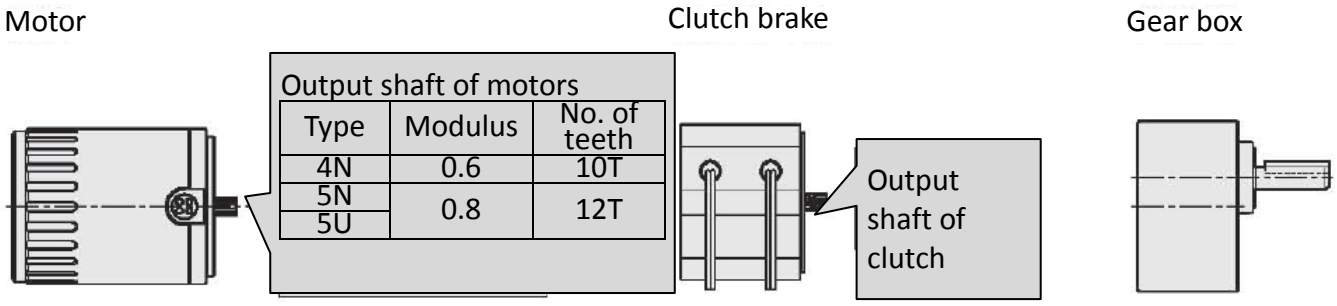
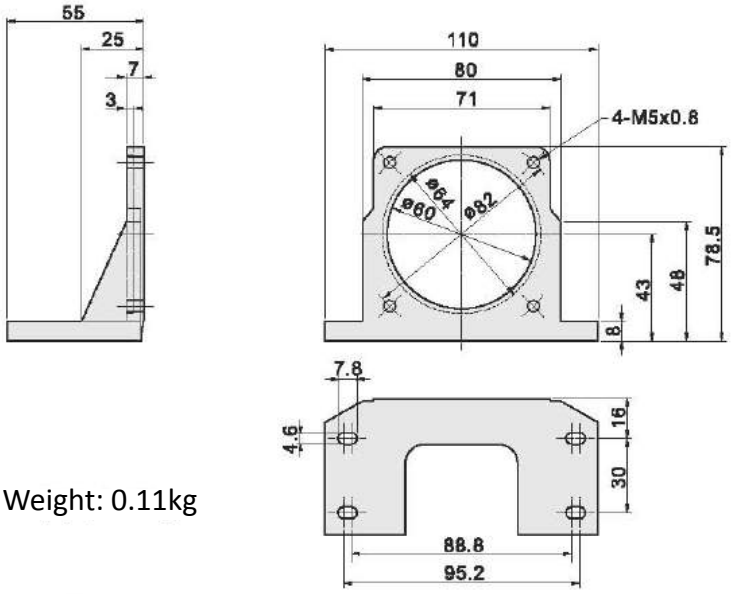


Table of comparison between the motor and the gear box

Frame No.	Output power	Type	Coupled gear box
4	25W	M-4IK25N-☐☐	Peei 4 N gear box
5	40W	M-5IK40N-☐☐	Peei 5 N gear box
	60W	M-5IK60N-☐☐	
		M-5IK60U-☐☐	Peei 5 U gear box
	90W	M-5IK90U-☐☐	
	120W	M-5IK120U-☐☐	
	150W	M-5IK150U-☐☐	

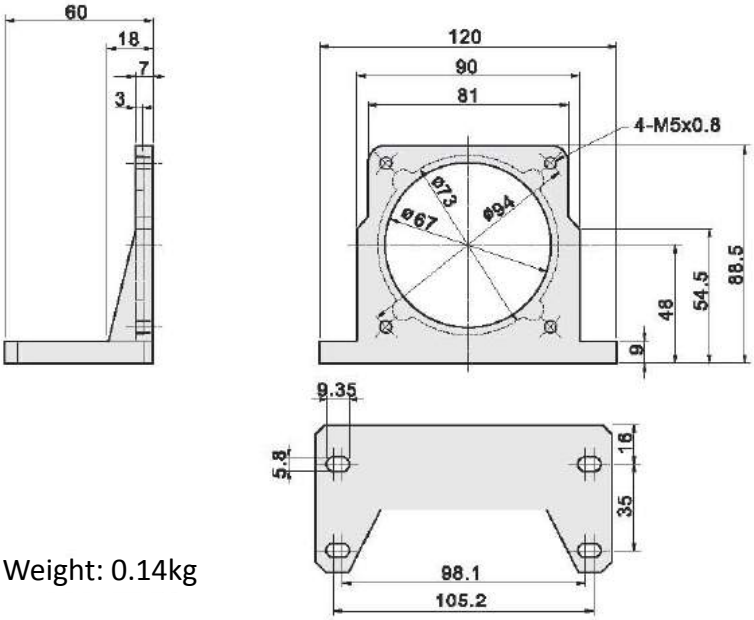
Dimension drawing of motor foot stands

- **Frame 3 15W**
  6015-91119



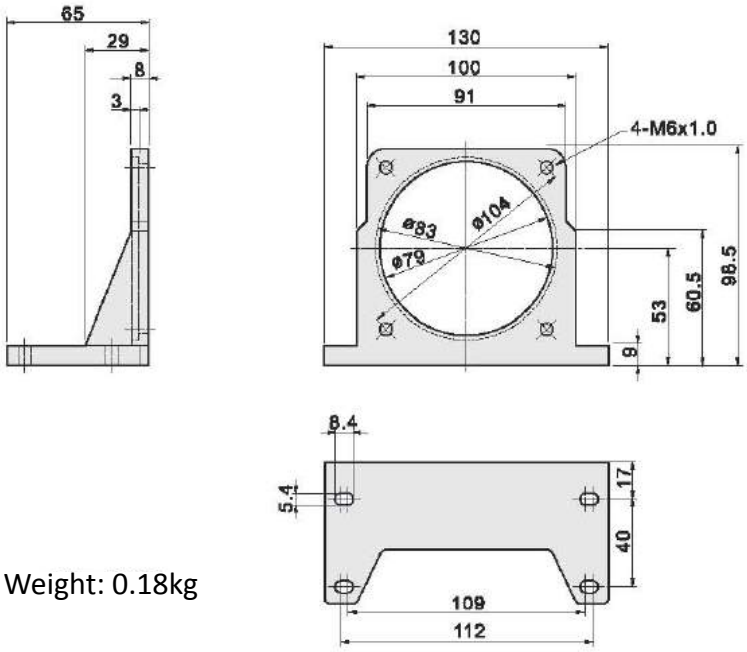
Weight: 0.11kg

- **Frame 4 25W**
  6025-91119



Weight: 0.14kg

- **Frame 5 40W~150W**
  6040-91119



Weight: 0.18kg

Specification discussion

For AC, DC small motors, gear box, customized products, OEM, please exchange views with customers for necessary items and fill in the following table.

Customer name			Date: year/ month/ day		
Contacting person					
Customer address			Department:		
Tel: FAX:	Filled in by:		Department:		
Motor					
General specification and appearance					
Motor specification and type	Output: ( )W	☐ AC ☐ DC	Voltage: ( ) phase ( ) V	☐ brush ☐ brushless	Rotational speed ( ) rpm Number of poles: ( ) p
	☐ induction motor	☐reversible motor	☐electromagnetic brake motor	☐ torque motor	☐ speed control motor
	☐ PMG DC motor		Squirrel-cage motor		Start/stop: (times)/ min
IP code	☐ IP 20 (lead type) ☐ IP 54 (terminal box type) ☐ IP67 (waterproof and dustproof)				Environmental temperature( ) ℃
	Class of insulation: ☐ B ☐ F				
Temperature switch	☐ necessary ☐ unnecessary (the skipping temperature of TP is 135℃) (optional)				Motor temperature: ( ) ℃
Safety specification	☐ necessary ☐ unnecessary (☐ 3C ☐ CE ☐ UL)				Motor noise: ( )dB
RoHs requirement	☐ necessary ☐ unnecessary				Motor vibration: ( )m/s^2
Surface treatment	☐ stoving varnish (standard) ☐ epithelium after abrasive blasting ☐ others ( )				Operating time: ( ) h/ day
Expected budget		Mode of packing: ( )			Date required: year month day
Gear box					
General specification and appearance					
Frame number	☐ Frame 2	☐ Frame 3	☐ Frame 4	☐ Frame 5	☐ Frame 6 ☐ others
Gear ratio		Bearing: ☐ ball bearing ☐ oil bearing			RoHs requirement ☐ necessary ☐ unnecessary
Output end	Output shaft diameter: ( )mm, torque requirement: ( ) kgfcm				
Input end	Input tooth: ☐ N shaft ☐ U shaft ☐ other types			Input rotational speed	( )rpm
Environmental temperature	☐ normal temperature and humidity (with the temperature between -10 ℃ to 40 ℃, and the humidity below RH 85% (no condensation) ☐ operating temperature and humidity (with the temperature between ( ) ℃ to ( ) ℃, and the humidity ☐ below or ☐ above RH 85%)				
Technical information	Modulus ___	No. of teeth___	Pressure angle ___	Helical angle___	Direction of rotation___ Other requirements ___
	Shift coefficient ___	Spanned tooth count ___	Spanned tooth thickness___	Heat treatment ___	Accuracy ___
Remarks					

Specification discussion

For AC, DC small motors, gear box, customized products, OEM, please exchange views with customers for necessary items and fill in the following table.

<table>
<tr><td colspan="3">Customer name</td><td colspan="4">Date: year/ month/ day</td></tr>
<tr><td>Contacting person</td><td colspan="6"></td></tr>
<tr><td>Customer address</td><td colspan="3"></td><td colspan="3">Department:</td></tr>
<tr><td colspan="2">Tel:
FAX:</td><td colspan="2">Filled in by:</td><td colspan="3">Department:</td></tr>
<tr><td colspan="7">Motor</td></tr>
<tr><td>General specification and appearance</td><td colspan="6"></td></tr>
<tr><td rowspan="3">Motor specification and type</td><td>Output:
( )W</td><td>☐ AC
☐ DC</td><td>Voltage:
( ) phase ( ) V</td><td>☐ brush
☐ brushless</td><td colspan="2">Rotational speed ( ) rpm
Number of poles: ( ) p</td></tr>
<tr><td>☐ induction motor</td><td>☐reversible motor</td><td>☐electromagnetic brake motor</td><td>☐ torque motor</td><td colspan="2">☐ speed control motor</td></tr>
<tr><td colspan="2">☐ PMG DC motor</td><td colspan="2">Squirrel-cage motor</td><td colspan="2">Start/stop: (times)/ min</td></tr>
<tr><td rowspan="2">IP code</td><td colspan="4">☐ IP 20 (lead type) ☐ IP 54 (terminal box type)
☐ IP67 (waterproof and dustproof)</td><td colspan="2">Environmental temperature( ) ℃</td></tr>
<tr><td colspan="6">Class of insulation: ☐ B ☐ F</td></tr>
<tr><td>Temperature switch</td><td colspan="3">☐ necessary
☐ unnecessary (the skipping temperature of TP is 135℃) (optional)</td><td colspan="3">Motor temperature: ( ) ℃</td></tr>
<tr><td>Safety specification</td><td colspan="3">☐ necessary
☐ unnecessary (☐ 3C ☐ CE ☐ UL)</td><td colspan="3">Motor noise: ( )dB</td></tr>
<tr><td>RoHs requirement</td><td colspan="3">☐ necessary ☐ unnecessary</td><td colspan="3">Motor vibration: ( )m/s^2</td></tr>
<tr><td>Surface treatment</td><td colspan="3">☐ stoving varnish (standard) ☐ epithelium after abrasive blasting ☐ others ( )</td><td colspan="3">Operating time: ( ) h/ day</td></tr>
<tr><td>Expected budget</td><td></td><td colspan="2">Mode of packing: ( )</td><td colspan="3">Date required: year month day</td></tr>
<tr><td colspan="7">Gear box</td></tr>
<tr><td>General specification and appearance</td><td colspan="6"></td></tr>
<tr><td>Frame number</td><td>☐ Frame 2</td><td>☐ Frame 3</td><td>☐ Frame 4</td><td>☐ Frame 5</td><td>☐ Frame 6</td><td>☐ others</td></tr>
<tr><td>Gear ratio</td><td></td><td colspan="3">Bearing: ☐ ball bearing ☐ oil bearing</td><td>RoHs requirement</td><td>☐ necessary ☐ unnecessary</td></tr>
<tr><td>Output end</td><td colspan="6">Output shaft diameter: ( )mm, torque requirement: ( ) kgfcm</td></tr>
<tr><td>Input end</td><td colspan="4">Input tooth: ☐ N shaft ☐ U shaft ☐ other types</td><td>Input rotational speed</td><td>( )rpm</td></tr>
<tr><td>Environmental temperature</td><td colspan="6">☐ normal temperature and humidity (with the temperature between -10 ℃ to 40 ℃, and the humidity below RH 85% (no condensation) ☐ operating temperature and humidity (with the temperature between ( ) ℃ to ( ) ℃, and the humidity ☐ below or ☐ above RH 85%)</td></tr>
<tr><td rowspan="2">Technical information</td><td>Modulus
___</td><td>No. of teeth___</td><td>Pressure angle
___</td><td>Helical angle___</td><td>Direction of rotation___</td><td>Other requirements
___</td></tr>
<tr><td>Shift coefficient
___</td><td>Spanned tooth count
___</td><td>Spanned tooth thickness___</td><td>Heat treatment
___</td><td>Accuracy
___</td><td></td></tr>
<tr><td>Remarks</td><td colspan="6"></td></tr>
</table>

Memorandum

Memorandum

Memorandum

PeeiMoger **PEI-EI Precision Machinery Co.,Ltd.**

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  Website: http://www.peei.com.tw

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