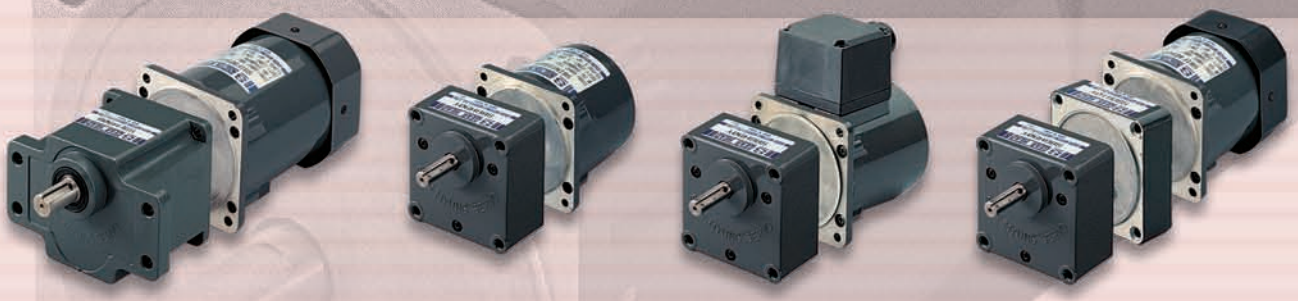
www.gearmotor.co.kr
www.smservo.co.kr

SMS

AC & DC STANDARD GEAR MOTOR



SHINMYUNG SERVO CO., LTD.

OUTLINE

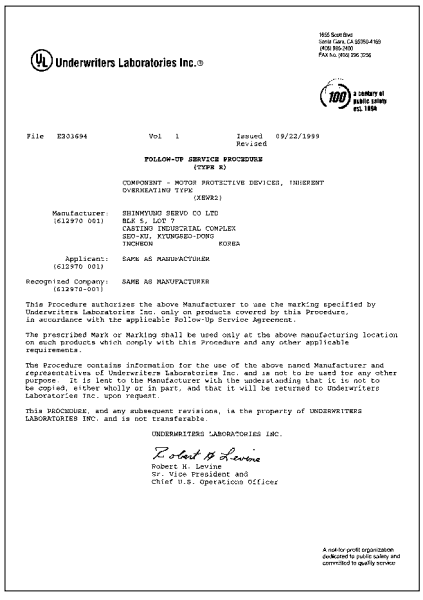
The MOTORS supplied by *SHINMYUNG SERVO CO.,LTD.* are widely utilized as AC & DC STANDARD SMALL MOTORS, which are standardized with all kinds of gear heads to meet diversified customer's demands.

These motors are designed and manufactured for high accuracy, stability and durability by the support of SHINMYUNG ELECTRIC Mfg Co., Ltd. high-level design capability, mass porduction technology and 40 year's experience. From now our company can supply the motors with resonable price and high quality to the customers as quickly as possible and acquire CE U.L. CSA and VDE mark by your demands.

FEATURES

1. INDUCTION motors are used for continuous duty applications to the same direction in the long time, but as reversible motors is used for frequent starting and stopping characteristics, these motors are designed specially for high starting torque.Therefore, REVERSIBLE motors are applied for normal rotation, stop, reverse rotation alternately in the short time.
2. The customer can select all kinds of gear heads that suit with each motor. Standard gear ratios are divided into 20 steps in the range from 1/3 to 1/180. Depend on the demand, the ratio can be available from 1/30 to 1/1800 with a decimal gearhead.
3. As the strength of gear heads are designed optimally for motors output, these motors can be stably available for wide range of gear ratio.
4. As the motors are assembled by using standard parts, whose quality is stable and also these motors are designed and manufactured for low noise, low vibration and long life expectancy.

UL, CE Certificates



Underwriters Laboratories Inc.®

File E303694 Vol 1 Issued 09/22/1999 Revised

FOLLOW-UP SERVICE PROCEDURE (TYPE 3)

COMPONENT - MOTOR PROTECTIVE DEVICES, INHERENT OVERHEATING TYPE (XEWR2)

Manufacturer: (612970 001) SHINMYUNG SERVO CO LTD
BLK 5, LOT 7
CASTING INDUSTRIAL COMPLEX
SEO-KU, KYUNGSEO-DONG
INCHEON KOREA

Applicant: (612970 001) SAME AS MANUFACTURER

Recognized Company: (612970-001) SAME AS MANUFACTURER

This Procedure authorizes the above Manufacturer to use the marking specified by Underwriters Laboratories Inc. only on products covered by this Procedure, in accordance with the applicable Follow-Up Service Agreement.

The prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

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Sr. Vice President and
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ZERTIFIKAT ◆ CERTIFICATE ◆ CERTIFICADO ◆ CERTIFICAT ◆ СЕРТИФИКАТ

EC Attestation of Conformity

No.: N8 99 04 34847 004

TÜV PRODUCT SERVICE

Shinmyung Servo Co., Ltd.
SBI. 7Lot Casting Industrial Complex,
Kyungseo-Dong, Seo-Ku,
Incheon, Korea

Product: Electrical Equipment acc. to the Low Voltage Directive (Induction Motors)

Models: 8IN15G4C, 8IN25G4C, 8IF35G4C, 9IN40P4C, 9IF60P4C, 9IF90E4C, 9IF120E4C

Parameters:
Rated input voltage: 220-240 Va.c.
Rated frequency: 50 Hz
Number of phases: 1 phase
Thermal classification: Class E

The equipment complies with the principal protection requirements of the Low Voltage Directive (Directive 73/23/EEC relating to electrical equipment designed for use within certain voltage limits) based on a voluntary test.

This attestation applies only to the particular sample of the product provided for testing and certification. The detailed test results and all standards used as well as the operation mode are listed in

Test report no. 63.113.8.040.01

Test standards: EN 60034-1/A1:1996

This attestation is released with the above mentioned attestation number by the Certification Body of TÜV PRODUCT SERVICE. It does not permit the use of a TÜV PRODUCT SERVICE certification mark.

After preparation of the necessary technical documentation as well as the conformity declaration the CE marking as shown below can be affixed on the equipment. Other relevant Directives have to be observed.

CE

Department: KORELS / cji
Date: 04-14-1999

11/96

TÜV PRODUCT SERVICE GMBH · Zertifizierstelle · Ridlerstrasse 31 · D-80339 München

ZERTIFIKAT ◆ CERTIFICATE ◆ CERTIFICADO ◆ CERTIFICAT ◆ СЕРТИФИКАТ

EC Attestation of Conformity

No.: N8 99 04 34847 005

TÜV PRODUCT SERVICE

Shinmyung Servo Co., Ltd.
SBI. 7Lot Casting Industrial Complex,
Kyungseo-Dong, Seo-Ku,
Incheon, Korea

Product: Electrical Equipment acc. to the Low Voltage Directive (Induction Motors)

Models: 8IN15G4C-T, 8IN25G4C-T, 8IF35G4C-T, 9IN40P4C-T, 9IF60P4C-T, 9IF90E4C-T, 9IF120E4C-T

Parameters:
Rated input voltage: 220-240 Va.c.
Rated frequency: 50 Hz
Number of phases: 1 phase
Thermal classification: Class E

The equipment complies with the principal protection requirements of the Low Voltage Directive (Directive 73/23/EEC relating to electrical equipment designed for use within certain voltage limits) based on a voluntary test.

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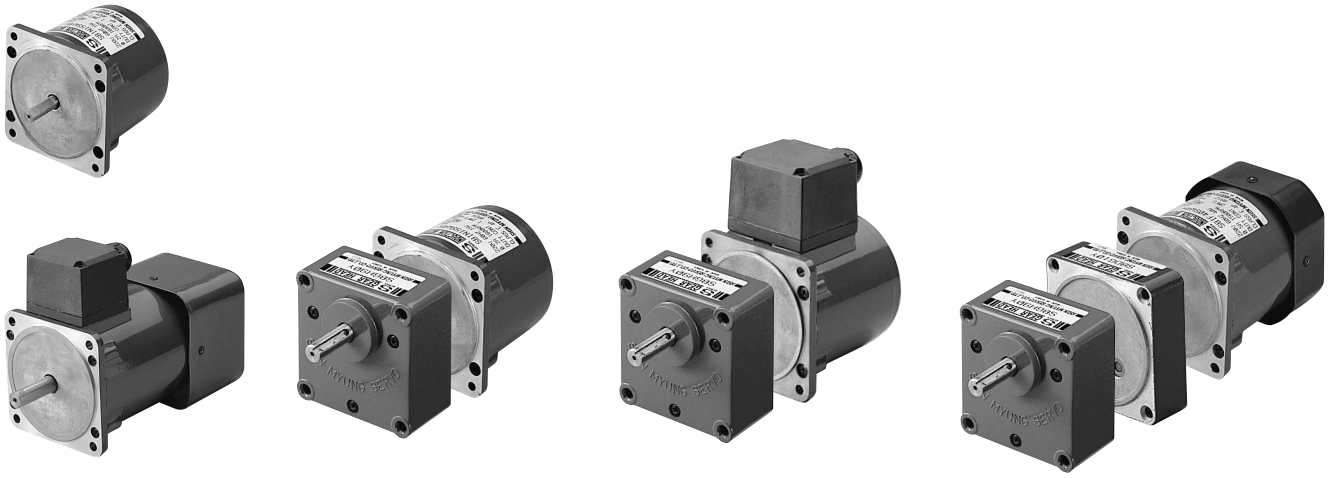
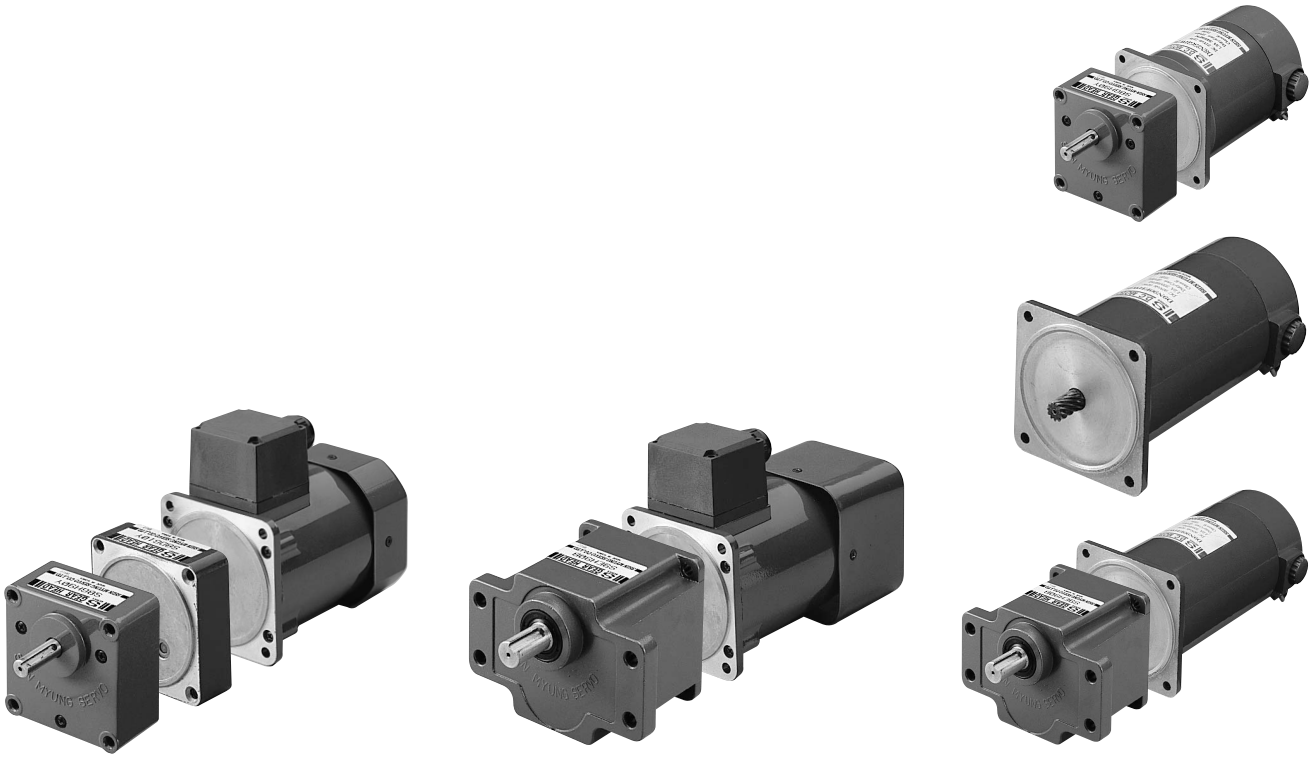


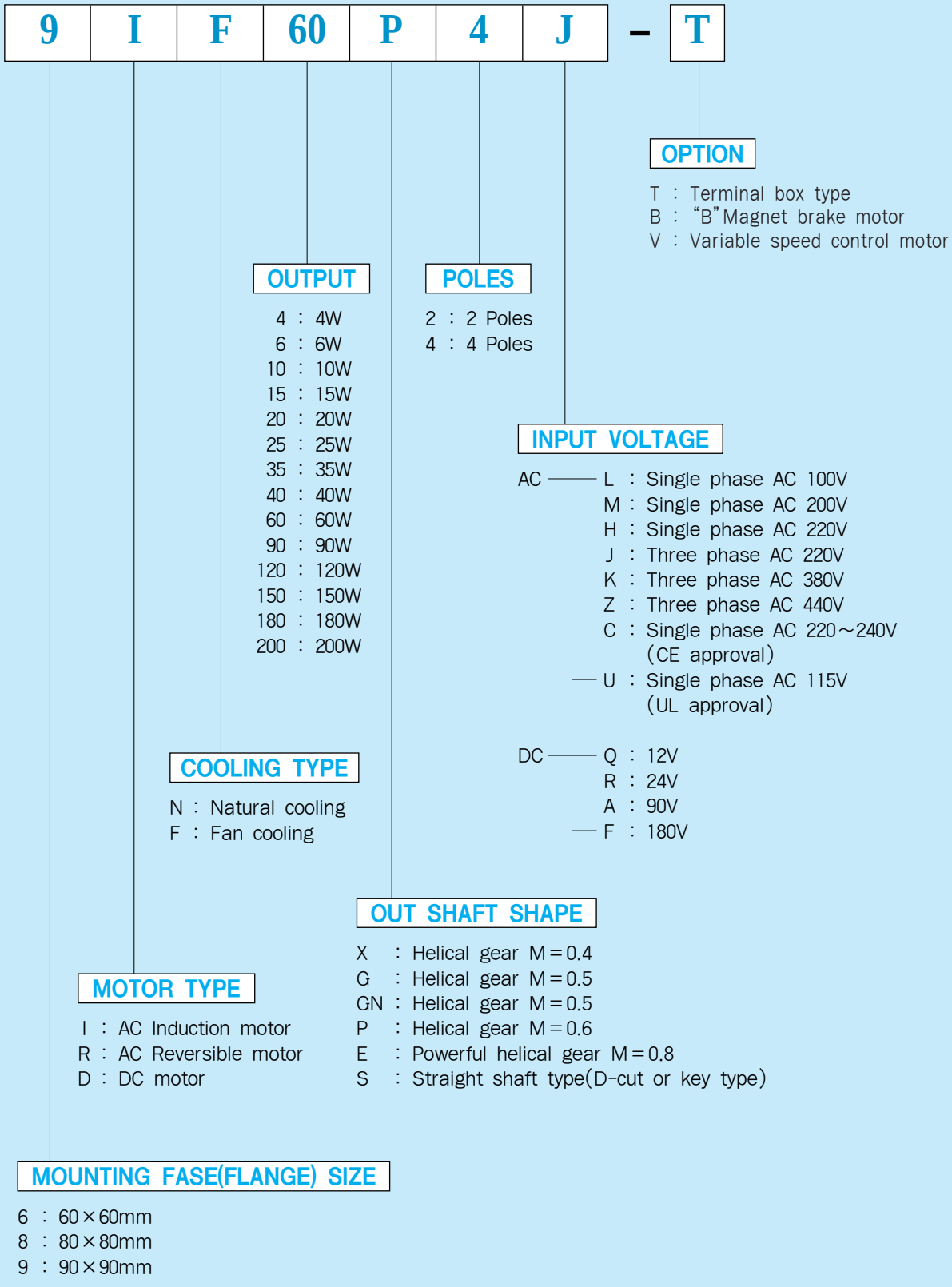
CONTENTS



CODING SYSTEM

AC MOTOR & DC MOTOR

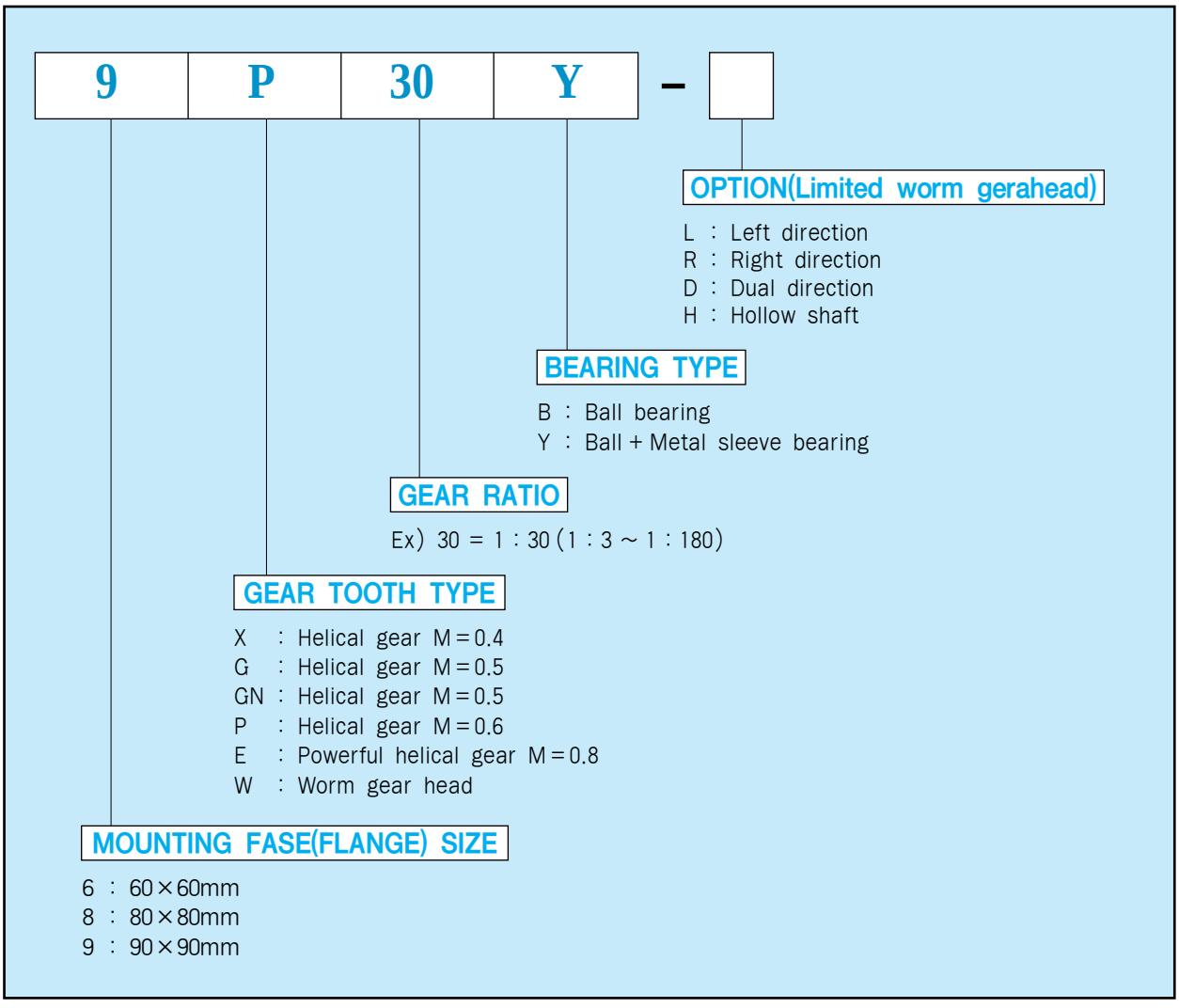
▣ MODEL



CODING SYSTEM

GEARHEAD

▣ MODEL



◈ DECIMAL GEAR HEAD

Decimal gearhead is a mediate gearbox which is assembled between a motor and a gearhead to get the transmission ratio 1:250~1:1800.

There are two kinds of decimal gearboxes as follows:

MODEL	REDUCTION	MOUNTING FASE(FLANGE) SIZE
6DG10Y	1:10	60×60mm
8DGN10Y	1:10	80×80mm
9DP10Y	1:10	90×90mm

HOW TO HANDLE

AC MOTOR

■CHECK BEFORE OPERATION

1)Confirm the name of model, voltage, output, etc.

2)In case of single phase motors, an attached condenser must be used. Connect firmly condenser terminal and the lead wires of motor with a pressing terminal or soldering.

3)Be careful. There are twice times of voltage of input voltage between the terminals of condenser.

4)Do not disassemble and modify.

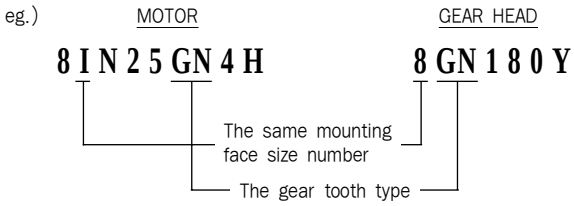
■WARNING

1)Use the motor at ambient temperature between-10~40℃ and humidity at 85%.

2)Avoid the following places where ;

- The sun shines directly.
- Damp or oily place
- The places are being vibrated
- The place is dusty
- There are flammable materials.

3)Make sure that surface temperature of the motor case should not be exceeded 90℃. A same type of gear tooth must be connected between mortor and gearhead.



1) Motors and gear head should be connected as belows.

MOTOR	GEAR HEAD	MODULE
X	X	0.4
GN	GN	0.5
P	P	0.6
E	E	0.8

2) Make sure that same model name and number can only be connected.

■REVERSIBLE MOTORS ARE MADE

For short-time revolution, so that temperature rapidly rises in 30 minutes compared to induction motors.

But the temperatures of the motor case remains cool under 90℃, if the motor dose not work continuously.

■HOW TO CONNECT THE LEADWIRES

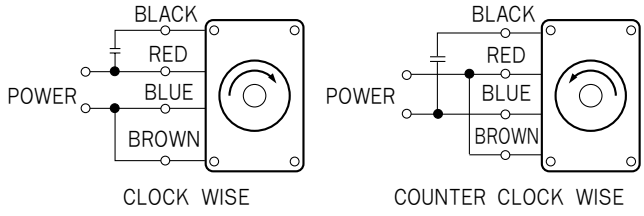
Try again to connect the leadwires when the following troubles are occurred.

1)Motor does not start.
2)Torque is less powerful.
3)When it turns to the wrong direction.
Contact us when the cause is unknown.

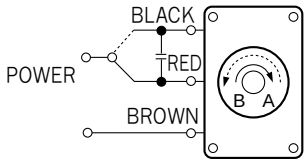
‼ CAUTION

As the rotation direction of output shaft of an gearhead depends on the ratio. Please confirm the ratio. Only after motor stops, reconnect it to reverse the direction of an induction motor.

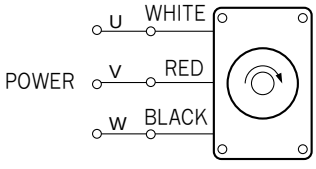
‼ INDUCTION MOTOR



‼ REVERSIBLE MOTOR



‼ 3-phase INDUCTION MOTOR



The rotation will be changed to opposite direction, if the 2wires of 3 are changed.

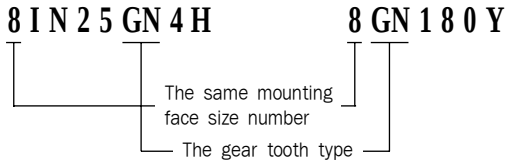
HOW TO HANDLE

GEAR HEAD

AVAILABLE MOTOR

Check the motor and gear head before connect them.
The following motor and gear head can be connected.

eg.) MOTOR GEAR HEAD

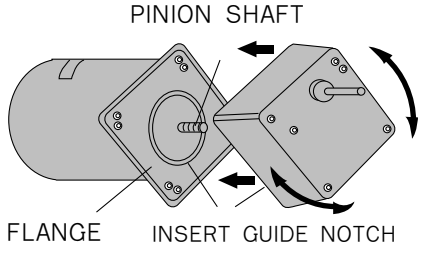


1) Connectable motor and gear tooth type

MOTOR	DECIMAL	GEAR TOOTH	MODULE
X	DX	X	0.4
GN	DGN	GN	0.5
P	DP	P	0.6
E	-	E	0.8

2) Connection can not be done when the gear head types of motor and gearhead types & sizes are differents.

ASSEMBLING OF MOTOR AND GEARHEAD



A motor and gearhead must be connected as shown above by turning the gearhead right and left a little repeatedly using the inside guide line with enough care that the pinion does not hit the base-plate or gearhead heavily.

GEAR HEAD OUTPUT SHAFT TURNING DIRECTION

GEAR HEAD	SAME DIRECTION WITH MOTOR	REVERSE DIRECTION WITH MOTOR
6G□Y	3~18, 50~180	25~50
8GN□Y	3~18, 50~180	25~36
9P□Y	3~18, 50~180	25~36
9E□Y	3~9, 25~60	12.5~18, 75~180

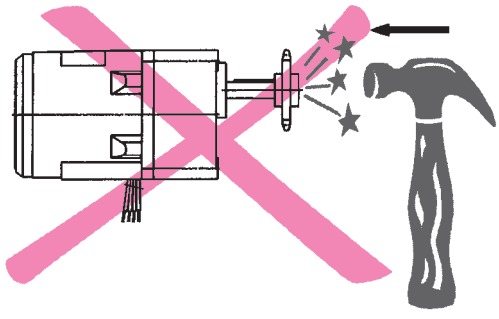
ACCESSORIES

- Mounting screw, hex. nut and plain washer
  • • • 4 pcs. each
- Parallel key (Only for key-grooved shaft)
  • • • 1 pc.

GEAR HEAD	SCREW	KEY SIZE
6G3Y~6G18Y	M4 0.7×50	-
6G25Y~6G180Y	M4 0.7×60	-
8GN3Y~8GN18Y	M5 0.8×50	4×4×25
8GN25Y~8GN180Y	M5 0.8×60	4×4×25
9P3Y~9P18Y	M6 1.0×65	4×4×25
9P25Y~9P180Y	M6 1.0×80	4×4×25
9E3B~6G180B	M6 1.0×25	5×5×25
6DG10Y	M4 0.7×90	-
8DGN10Y	M5 0.8×90	-
9DP10Y	M6 1.0×110	-

Caution in mounting transmission parts

When you mount a pulley, gear or other power transmissin part to a Gear Head, take care not to give shock to the output shaft which will affect bearings badly.
In key insertion, especially, never hit with hammer or similar tool.



HOW TO HANDLE

GEAR HEAD

THE LIFE OF GEAR HEAD

Generally, the life of the gearhead is determined by the bearing mostly. The bearing life of gearhead is reflected by the friction load transmitted from gearshaft and overhung load and thrust load.

The life of ball bearing type is about 5000 hours in the conditions of the permissible overhung loads and thrust loads with the following operation conditions:

- ✷ Torque : Permissible torque
- ✷ Loads : Continued
- ✷ Hours : 8 hours / day
- ✷ Case temperature : 80℃ (Ballbearing Type)

But, generally use the coefficient, which is called the service factor(see table 1) as the loads are changeable a lot of times.

Table 1 service factor

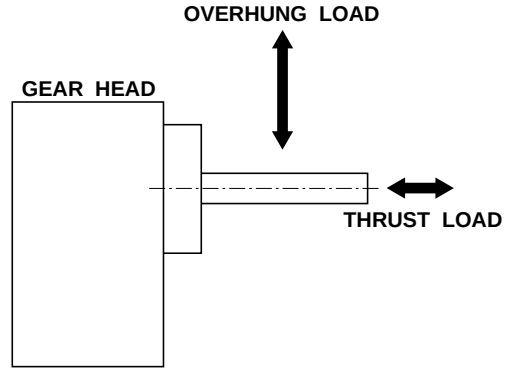
Load class	Service factor(f)		
	5hrs / day	8hrs / day	24hrs / day
Uniform	0.8	1.0	1.5
Moderate shock	1.2	1.5	2.5
Heavy shock	1.5	2.0	2.5

〈Load examples〉

Uniform	- Velt conveyor - Operation in the same direction continued - Film winding
Moderate shock	- Frequent starting. stopping - CAM running
Heavy shock	- The frequent convertion of reversible motor - The frequent short stop by the brake pack - the convertion of reversible motor (Speed control pack)

PERMISSIBLE OVERHUNG & THRUST LOAD OF GEAR HEAD

Model	Ratio	Allowable Max. Torque		Allowable overhung load		Allowable thrust load	
		Kg-cm	N-m	Kg	N	Kg	N
6G□Y	3~18	30	3	5	50	3	30
6G□B	25~180			15	150		
8GN□Y	3~18	100	10	10	100	5	50
8GN□B	25~180			20	200		
9P□Y	3~18	120	12	25	250	10	100
9P□B	25~180			30	300		
9E□B	3~9	300	30	40	400	15	150
	12.5~36			45	450		
	50~180			50	500		



✷ Overhung load $W = \frac{K \times T \times f}{r}$

W : Overhung load
K : Load connection of gearhead shaft(Kg-cm)
T : Service factor(see Table 2)
f : Service factor(see table 2)
r : The diameter of gear or pully etc.

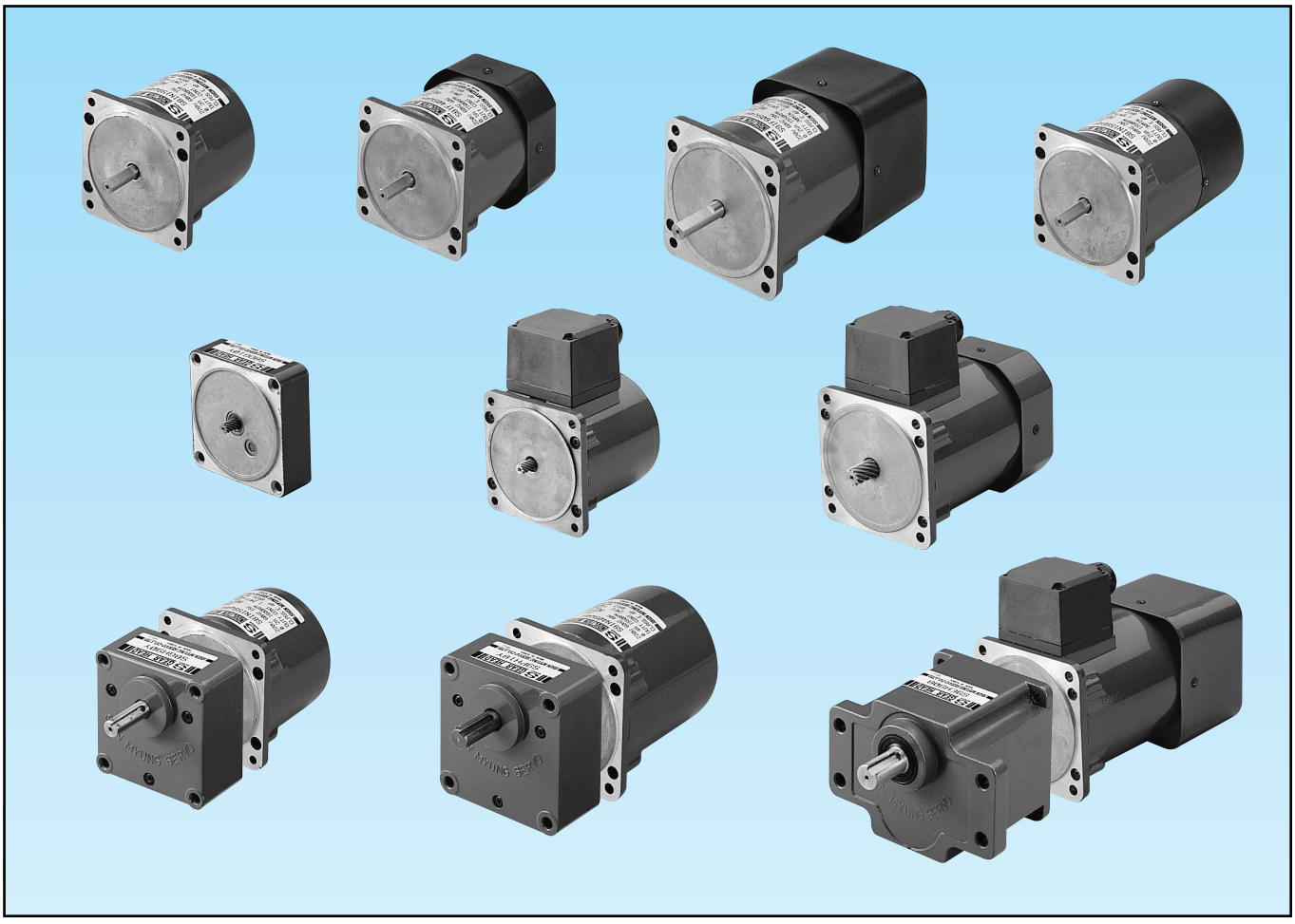
Table 2 Load connection factor

Connection method	Factor(K)
Chain sprocket	1
Gear, Pinion	1.25
V-belt	1.5
Flat-belt	2.5

The above listed ratings are the maximum permissible overhung and thrust loads.

Calculate the actual overhungload from the formular and then do not exceed the permissible loads to avoid a failure or a deformation of the shaft.

AC MOTOR & GEAR HEAD



PRODUCTS

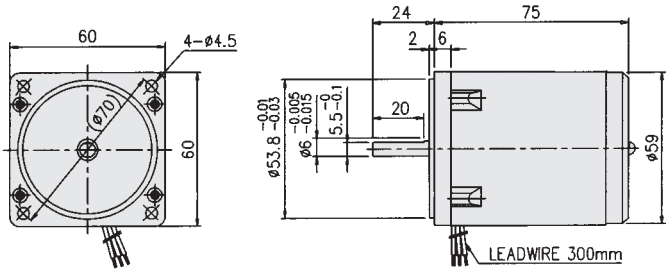
1. INDUCTION MOTOR	6W~120W
2. REVERSIBLE MOTOR	6W~120W
3. SPEED CONTROL INDUCTION MOTOR & CONTROLLER	15W~120W
4. SPEED CONTROL REVERSIBLE MOTOR & CONTROLLER	20W~120W
5. MAGNETIC BRAKE INDUCTION MOTOR	15W~120W
6. MAGNETIC BRAKE REVERSIBLE MOTOR	20W~120W

INDUCTION MOTOR(CE approved)

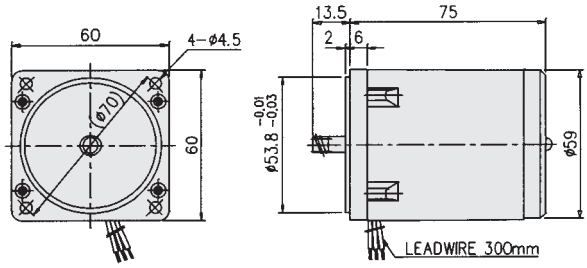
6W □60mm LEAD WIRE TYPE

MOTOR DIMENSIONS

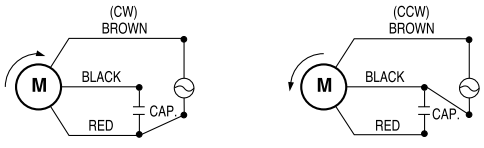
6IN6S4H(L) WEIGHT 0.7kg



6IN6G4H(L) WEIGHT 0.7kg



WIRING DIAGRAM



◈ ELECTRICAL PERFORMANCES

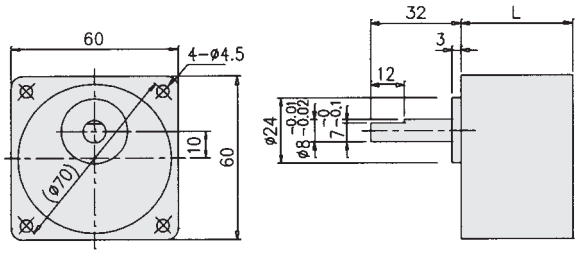
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
					SPEED	INPUT	CURRENT	TORQUE						
STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA	μF	
6IN6S4L	6IN6G4L	6	100	50	1250	28	280	0.5	0.05	0.55	0.055	400	4	
				60	1550	28	280	0.4	0.04	0.55	0.055	400	4	
6IN6S4H	6IN6G4H	6	220	50	1250	40	180	0.5	0.05	0.55	0.055	220	0.8	
				60	1550	40	180	0.4	0.04	0.55	0.055	220	0.8	
6IN6S4C	6IN6G4C	6	220~240	50	1250	45	190	0.4	0.04	0.55	0.055	240	0.8	

GEAR HEAD

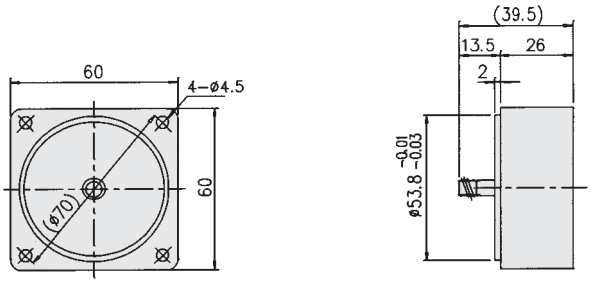
MOTOR DIMENSIONS

GEARHEAD
6G□Y(B)



GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	30	0.25	M4×50
1/25~1/180	40	0.35	M4×60

DECIMAL GEARHEAD
6DG10Y(B)



- □ OF GEAR HEAD MODEL NAME INDICATE THE DEDUCTION RATIO.
- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
  THE NORMAL TORQUE(kg·cm) IS 30kg·cm IN CASE THE DECIMAL GEARHEAD OF THE DEDUCTION RATIO 1/10 IS CONNECTED.
- THE ROTATION DIRECTION OF OUTPUT SHAFT FOR THE GEARHEAD INDICATED ■ ROTATES WITH MOTOR ON THE CONTRARY.
- THE ACTUAL ROTATION SPEED IS 2-20% LESS THAN SYNCHRONOUS SPEED ACCORDING TO THE SIZE OF THE LOAD.

50HZ

	MODEL																						
		rpm	500	416	300	250	200	166	120	100	83	75	60	50	42	30	25	20	16	15	12	10	8
		Ratio	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
	6G□Y 6G□B	kg-cm	1.3	1.5	2.1	2.6	3.2	3.9	5.4	6.4	7.7	8.5	9.7	11.6	13.9	17.5	21.0	26.2	30	30	30	20	30
		N-m	0.13	0.15	0.21	0.26	0.31	0.38	0.53	0.63	0.75	0.83	0.95	1.14	1.36	1.72	2.06	2.57	2.94	2.94	2.94	2.94	2.94

60HZ

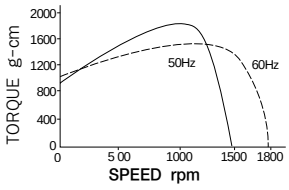
	MODEL																						
		rpm	600	500	360	300	240	200	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
		Ratio	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
	6G□Y 6G□B	kg-cm	1.0	1.3	1.7	2.1	2.6	3.1	4.4	5.2	6.3	6.6	8.2	9.8	11.8	16.4	18.2	22.5	26.5	29.5	30	30	30
		N-m	0.10	0.13	0.17	0.21	0.25	0.30	0.43	0.51	0.62	0.65	0.84	0.96	1.16	1.60	1.78	2.20	2.59	2.89	2.94	2.94	2.94

INDUCTION MOTOR

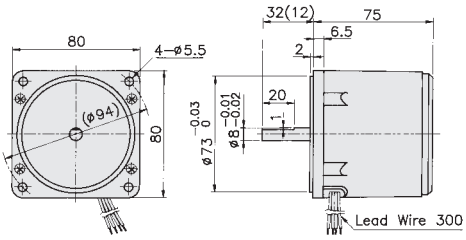
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

① 8IN15S4□
8IN15GN4□

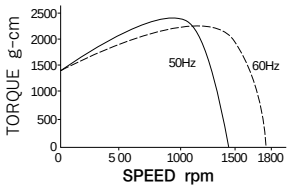


WEIGHT 1.5kg

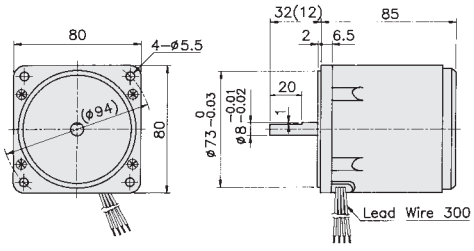


MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER ϕ7.2mm
LENGTH 12mm

② 8IN25S4□
8IN25GN4□

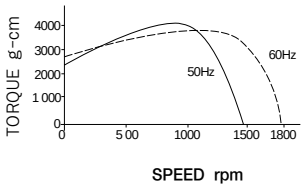


WEIGHT 1.6kg

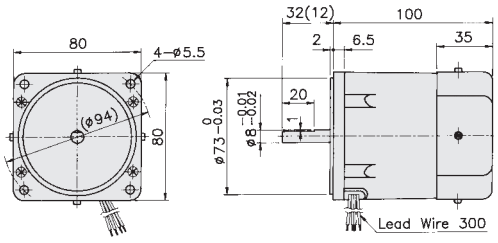


MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER ϕ7.2mm
LENGTH 12mm

③ 8IF35S4□
8IF35GN4□



WEIGHT 1.7kg



MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER ϕ7.2mm
LENGTH 12mm

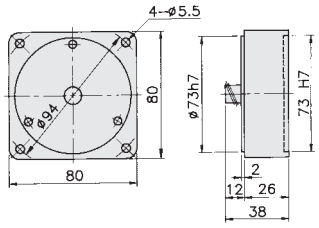
◈ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

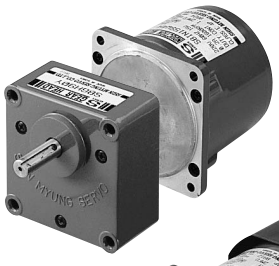
FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
						SPEED	INPUT	CURRENT	TORQUE						
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA	μF	
①	8IN15S4L	8IN15GN4L	15	100	50 60	1250 1550	45 45	400 400	1.10 0.90	0.108 0.088	0.68 0.68	0.067 0.067	800 750	3	
①	8IN15S4H	8IN15GN4H	15	220	50 60	1250 1550	45 45	200 200	1.10 0.90	0.108 0.088	0.68 0.68	0.067 0.067	400 400	1.2	
②	8IN25S4L	8IN25GN4L	25	100	50 60	1250 1550	60 60	600 600	1.75 1.40	0.172 0.137	1.00 1.00	0.098 0.098	1100 1000	6	
②	8IN25S4H	8IN25GN4H	25	220	50 60	1250 1550	60 60	290 290	1.75 1.40	0.172 0.137	1.00 1.00	0.098 0.098	500 500	1.5	
③	8IF35S4L	8IF35GN4L	35	100	50 60	1200 1500	100 100	1000 1000	3.10 2.60	0.304 0.255	1.90 1.90	0.186 0.186	1300 1300	10	
③	8IF35S4H	8IF35GN4H	35	220	50 60	1200 1500	100 100	500 500	3.10 2.60	0.304 0.255	1.90 1.90	0.186 0.186	650 650	2	

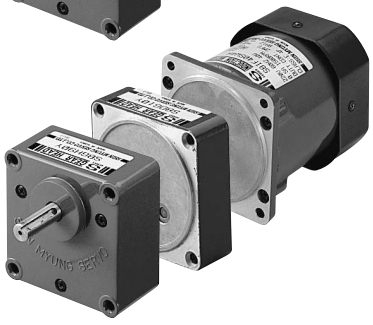
GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

② 8DGN10Y WEIGHT 0.3kg

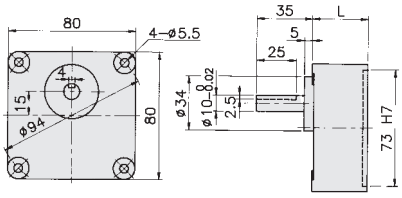






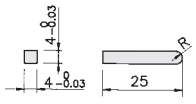
GEAR HEAD (RATIO 1/3~1/180)

① 8GN□B
8GN□Y

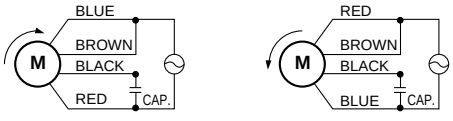


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
		DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
			60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
② 8DGN10Y	① 8GN□Y, 8GN□B			2.6	4.4	6.6	11	13	20	24	35	53	71	100	D35	D35	D65	D80	D100
② 8DGN10Y	① 8GN□Y, 8GN□B			2.6	4.4	6.6	11	13	20	24	35	53	71	100	D35	D35	D65	D80	D100
② 8DGN10Y	① 8GN□Y, 8GN□B			4.1	6.8	10	17	20	31	37	55	83	100	100	D35	D35	D65	D80	D100
② 8DGN10Y	① 8GN□Y, 8GN□B			4.1	6.8	10	17	20	31	37	55	83	100	100	D35	D35	D65	D80	D100
② 8DGN10Y	① 8GN□Y, 8GN□B			7.6	13	19	32	38	57	68	100	100	100	100	D35	D35	D65	D80	D100
② 8DGN10Y	① 8GN□Y, 8GN□B			7.6	13	19	32	38	57	68	100	100	100	100	D35	D35	D65	D80	D100

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

INDUCTION MOTOR

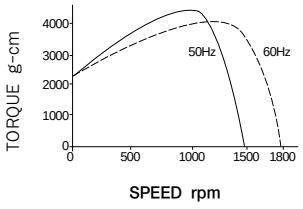
MOTOR

N - T CURVE

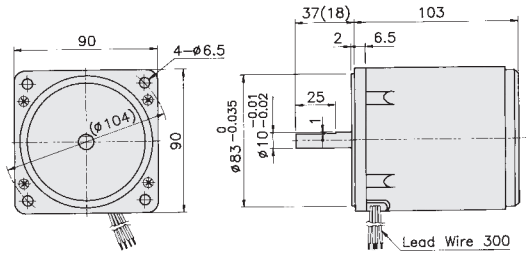
MOTOR DIMENSIONS

PINION SHAFT

④ 9IN40S4□
9IN40P4□

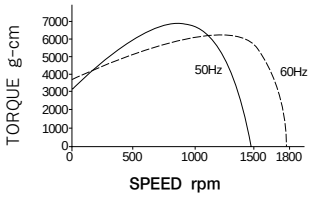


WEIGHT 2.5kg

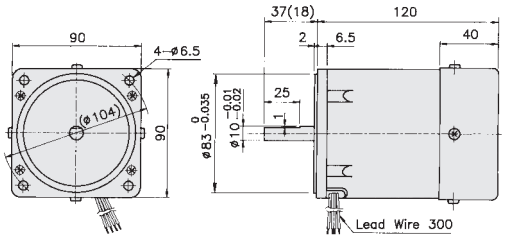


MODULE 0.6
PRESSURE ANGLE 20°
TEETH No. 12
DIAMETER ϕ9.63mm
LENGTH 18mm

⑤ 9IF60S4□
9IF60P4□

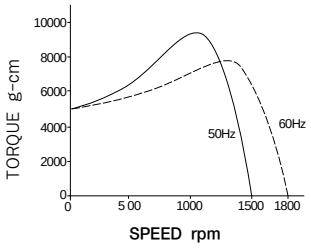


WEIGHT 2.6kg

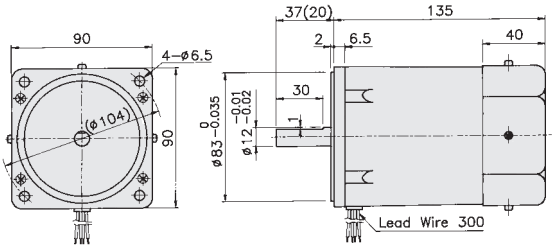


MODULE 0.6
PRESSURE ANGLE 20°
TEETH No. 12
DIAMETER ϕ9.63mm
LENGTH 18mm

⑥ 9IF90S4□
9IF90E4□

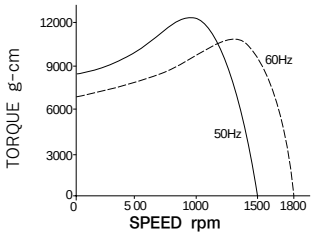


WEIGHT 3.2kg

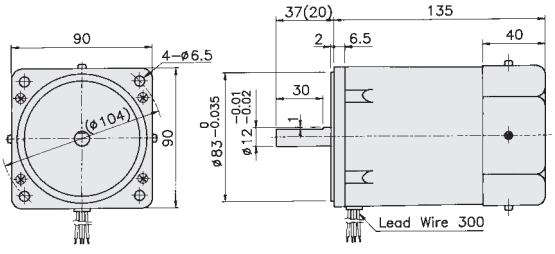


MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ϕ11.55mm
LENGTH 20mm

⑦ 9IF120S4□
9IF120E4□



WEIGHT 3.2kg



MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ϕ11.55mm
LENGTH 20mm

ELECTRICAL PERFORMANCES

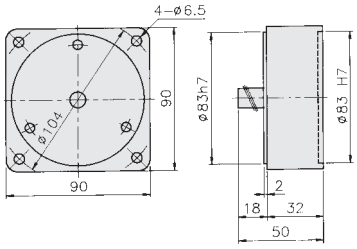
- SINGLE PHASE, 4POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE N-m	kg-cm	N-m	mA	μF	
④	9IN40S4L	9IN40P4L	40	100	50 60	1250 1550	110 110	1100 1100	3.00 2.50	0.294 0.245	1.80 1.80	0.176 0.176	1700 1600	10	
④	9IN40S4H	9IN40P4H	40	220	50 60	1250 1550	110 110	520 520	3.00 2.50	0.294 0.245	1.80 1.80	0.176 0.176	1100 1100	2	
⑤	9IF60S4L	9IF60P4L	60	100	50 60	1250 1550	150 150	1300 1300	4.50 3.80	0.441 0.372	3.00 3.00	0.294 0.294	2200 2200	16	
⑤	9IF60S4H	9IF60P4H	60	220	50 60	1250 1550	150 150	700 700	4.50 3.80	0.441 0.372	3.00 3.00	0.294 0.294	1300 1300	3.5	
⑥	9IF90S4L	9IF90E4L	90	100	50 60	1250 1550	200 200	2000 2000	6.80 5.70	0.666 0.559	4.20 4.20	0.412 0.412	3200 3000	25	
⑥	9IF90S4H	9IF90E4H	90	220	50 60	1250 1550	200 200	1000 1000	6.80 5.70	0.666 0.559	4.20 4.20	0.412 0.412	1600 1500	5	
⑦	9IF120S4L	9IF120E4L	120	100	50 60	1350 1600	240 240	2400 2400	8.70 7.30	0.853 0.715	5.40 5.40	0.540 0.540	4800 4600	35	
⑦	9IF120S4H	9IF120E4H	120	220	50 60	1350 1600	350 350	1600 1600	8.70 7.30	0.853 0.715	5.40 5.40	0.540 0.540	3200 3200	6	

GEAR HEAD

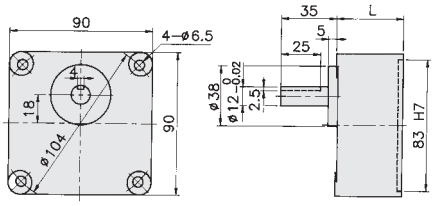
DECIMAL GEAR HEAD (RATIO 1/10)

④ 9DP10Y WEIGHT 0.6kg

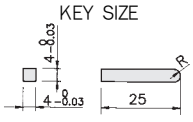


GEAR HEAD (RATIO 1/3~1/180)

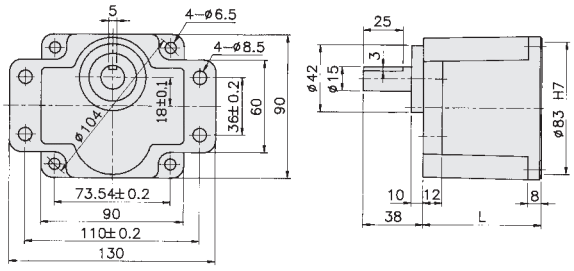
③ 9P□B
9P□Y



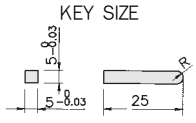
GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80



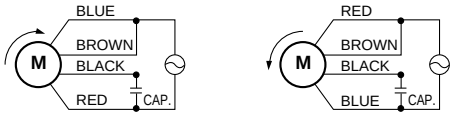
⑤ 9E□B



GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
		DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
			60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
④9DP10Y	③9P□Y, 9P□B			7.3	12	18	30	36	55	66	98	120	120	120	D 120	D 120	D 120	D 120	D 120
④9DP10Y	③9P□Y, 9P□B			7.3	12	18	30	36	55	66	98	120	120	120	D 120	D 120	D 120	D 120	D 120
④9DP10Y	③9P□Y, 9P□B			11	18	28	46	55	83	100	120	120	120	120	D 120	D 120	D 120	D 120	D 120
④9DP10Y	③9P□Y, 9P□B			11	18	28	46	55	83	100	120	120	120	120	D 120	D 120	D 120	D 120	D 120
—	⑤9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
—	⑤9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
—	⑤9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-
—	⑤9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

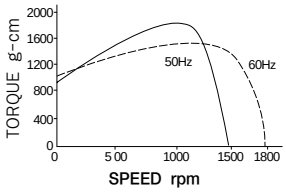
INDUCTION MOTOR(CE approved)

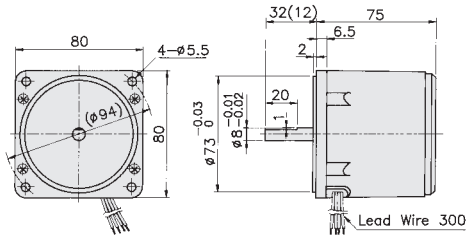
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

⑧ 8IN15S4C
8IN15GN4C

WEIGHT 1.5kg

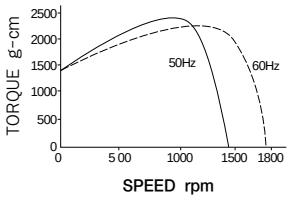


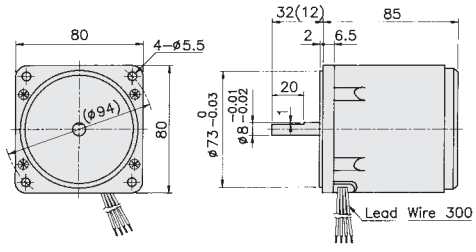


MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETER	ϕ7.2mm
LENGTH	12mm

⑨ 8IN25S4C
8IN25GN4C

WEIGHT 1.6kg

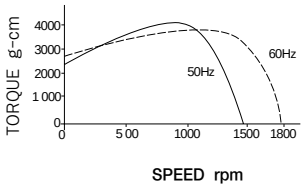


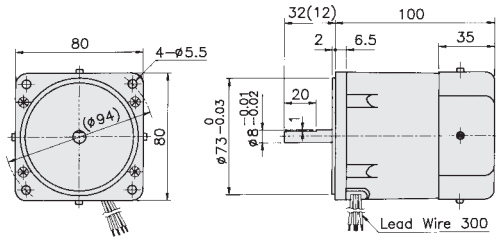


MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETER	ϕ7.2mm
LENGTH	12mm

⑩ 8IF35S4C
8IF35GN4C

WEIGHT 1.7kg





MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETER	ϕ7.2mm
LENGTH	12mm

◈ ELECTRICAL PERFORMANCES

- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

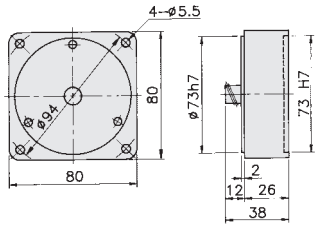
FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED	INPUT	CURRENT	TORQUE						
						rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA	μF	
⑧	8IN15S4C	8IN15GN4C	15	220~240	50	1300	55	260	1.10	0.100	0.68	0.067	400	1.2	
⑨	8IN25S4C	8IN25GN4C	25	220~240	50	1250	65	300	1.75	0.170	1.00	0.098	450	1.5	
⑩	8IF35S4C	8IF35GN4C	35	220~240	50	1200	90	360	2.72	0.260	0.19	0.186	510	2.0	

GEAR HEAD

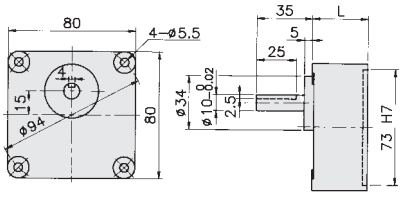
DECIMAL GEAR HEAD

GEAR HEAD (RATIO 1/3~1/180)

② 8DGN10Y WEIGHT 0.3kg

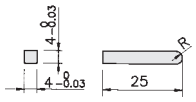


① 8GN□B
8GN□Y

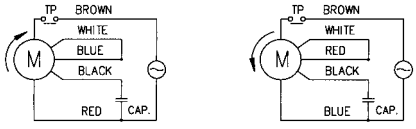


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
		DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
			60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	②8DGN10Y	①8GN□Y, 8GN□B		2.6	4.4	6.6	11	13	20	24	35	53	71	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B		4.1	6.8	10	17	20	31	37	55	83	100	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B		7.6	13	19	32	38	57	68	100	100	100	100	D35	D35	D65	D80	D100

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

INDUCTION MOTOR(CE approved)

MOTOR

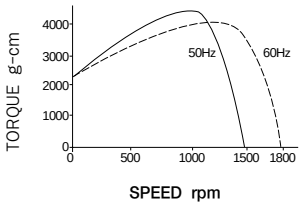
N - T CURVE

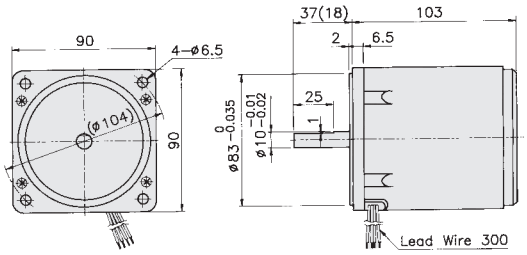
MOTOR DIMENSIONS

PINION SHAFT

⑪ **9IN40S4C**
9IN40P4C

WEIGHT 2.5kg

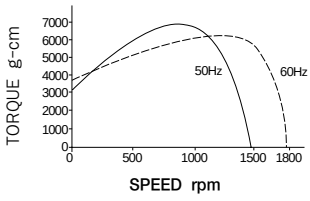


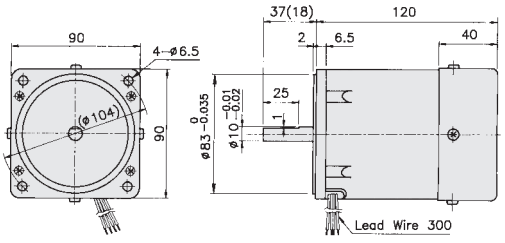


MODULE 0.6
PRESSURE ANGLE 20°
TEETH No. 12
DIAMETER ø9.63mm
LENGTH 18mm

⑫ **9IF60S4C**
9IF60P4C

WEIGHT 2.6kg

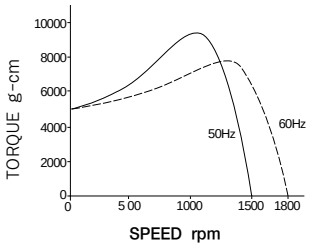


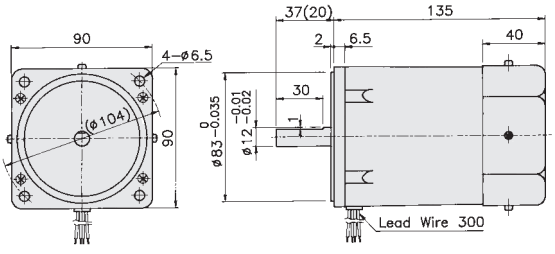


MODULE 0.6
PRESSURE ANGLE 20°
TEETH No. 12
DIAMETER ø9.63mm
LENGTH 18mm

⑬ **9IF90S4C**
9IF90E4C

WEIGHT 3.2kg

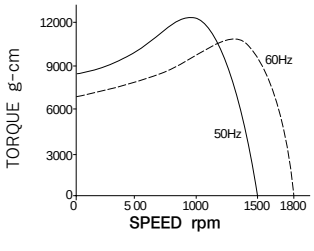


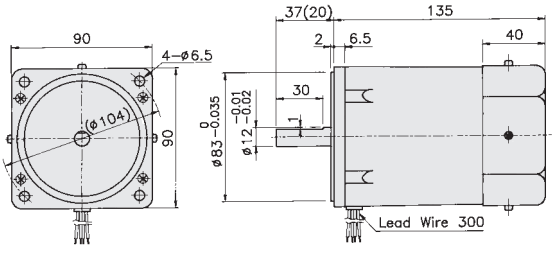


MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ø11.55mm
LENGTH 20mm

⑭ **9IF120S4C**
9IF120E4C

WEIGHT 3.2kg





MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ø11.55mm
LENGTH 20mm

⊕ ELECTRICAL PERFORMANCES

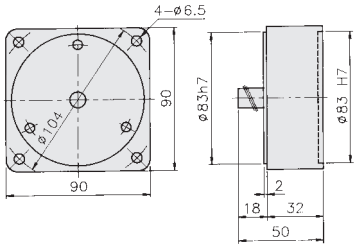
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED	INPUT	CURRENT	TORQUE						
						rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA	μF	
⑪	**9IN40S4C**	**9IN40P4C**	40	220~240	50	1300	100	490	3.00	0.294	1.79	0.176	900	2.0	
⑫	**9IF60S4C**	**9IF60P4C**	60	220~240	50	1300	160	700	4.50	0.441	3.00	0.294	1140	3.5	
⑬	**9IF90S4C**	**9IF90E4C**	90	220~240	50	1300	200	1000	6.79	0.666	4.19	0.411	1480	5.0	
⑭	**9IF120S4C**	**9IF120E4C**	120	220~240	50	1250	400	1800	8.70	0.853	5.61	0.550	2800	7.0	

GEAR HEAD

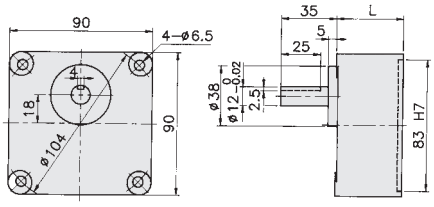
DECIMAL GEAR HEAD

④ 9DP10Y WEIGHT 0.6kg

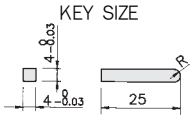


GEAR HEAD (RATIO 1/3~1/180)

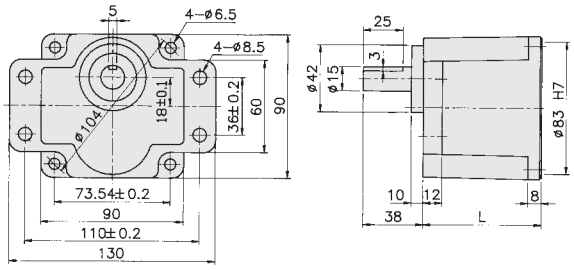
③ 9P□B
③ 9P□Y



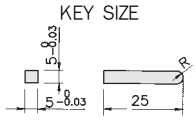
GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80



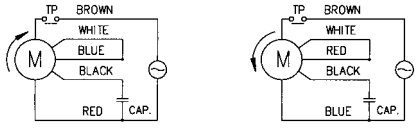
⑤ 9E□B



GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25



WIRING(SINGLE PHASE MOTOR)



*Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
			DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
				60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	④9DP10Y	③9P□Y, 9P□B			7.3	12	18	30	36	55	66	98	120	120	120	D 120	D 120	D 120	D 120	D 120
	④9DP10Y	③9P□Y, 9P□B			11	18	28	46	55	83	100	120	120	120	120	D 120	D 120	D 120	D 120	D 120
	–	⑤9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
	–	⑤9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

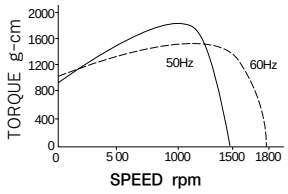
INDUCTION MOTOR(CE approved)

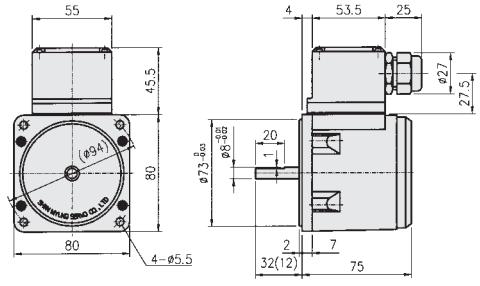
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

⑮ 8IN15S4C-T
8IN15GN4C-T

WEIGHT 1.7kg

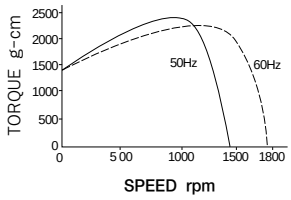


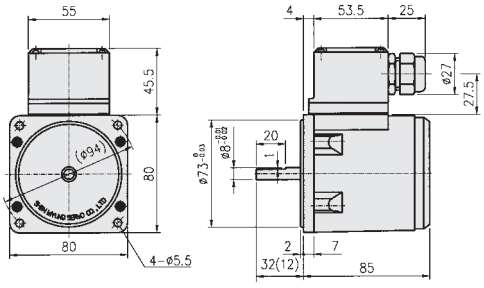


MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER φ7.2mm
LENGTH 12mm

⑯ 8IN25S4C-T
8IN25GN4C-T

WEIGHT 1.8kg

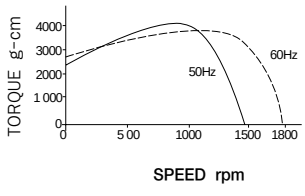


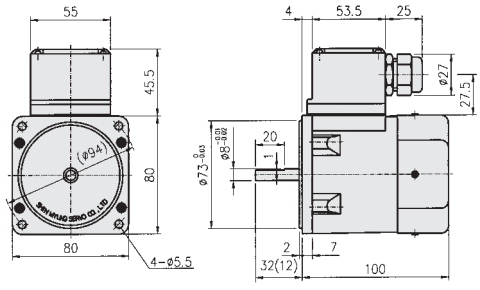


MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER φ7.2mm
LENGTH 12mm

⑰ 8IF35S4C-T
8IF35GN4C-T

WEIGHT 1.9kg





MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER φ7.2mm
LENGTH 12mm

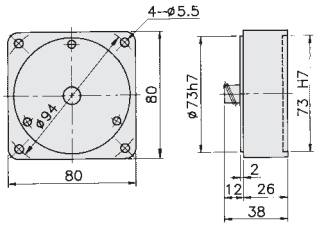
⊕ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE N-m	kg-cm	N-m	mA	μF	
⑮	8IN15S4C-T	8IN15GN4C-T	15	220~240	50	1300	55	260	1.10	0.100	0.68	0.067	400	1.2	
⑯	8IN25S4C-T	8IN25GN4C-T	25	220~240	50	1250	65	300	1.75	0.170	1.00	0.098	450	1.5	
⑰	8IF35S4C-T	8IF35GN4C-T	35	220~240	50	1200	90	360	2.72	0.260	0.19	0.186	510	2.0	

GEAR HEAD

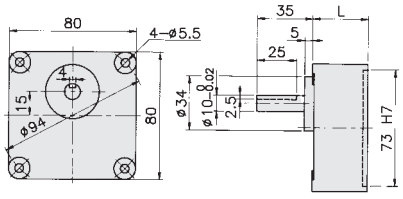
DECIMAL GEAR HEAD (RATIO 1/10)

② 8DGN10Y WEIGHT 0.3kg

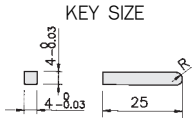


GEAR HEAD (RATIO 1/3~1/180)

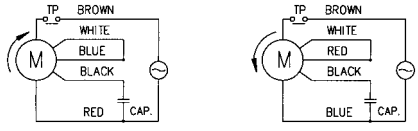
① 8GN□B
8GN□Y



GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
		DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
			60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	②8DGN10Y	①8GN□Y, 8GN□B		2.6	4.4	6.6	11	13	20	24	35	53	71	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B		4.1	6.8	10	17	20	31	37	55	83	100	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B		7.6	13	19	32	38	57	68	100	100	100	100	D35	D35	D65	D80	D100

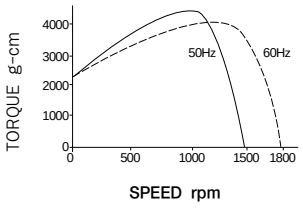
■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

INDUCTION MOTOR(CE approved)

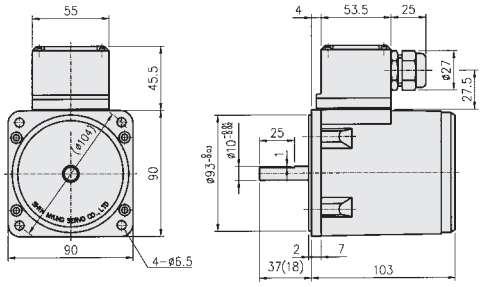
MOTOR

N - T CURVE	MOTOR DIMENSIONS	PINION SHAFT

⑱ 9IN40S4C-T
9IN40P4C-T

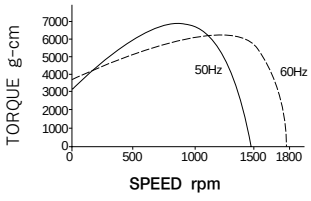


WEIGHT 2.7kg

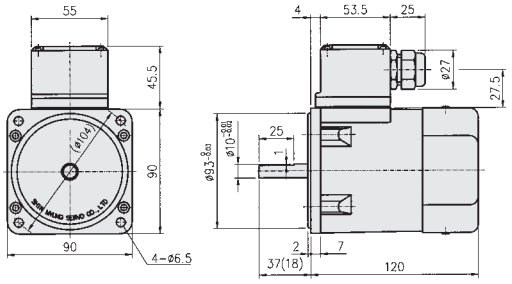


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETER	ϕ9.63mm
LENGTH	18mm

⑲ 9IF60S4C-T
9IF60P4C-T

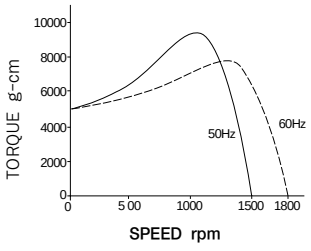


WEIGHT 2.8kg

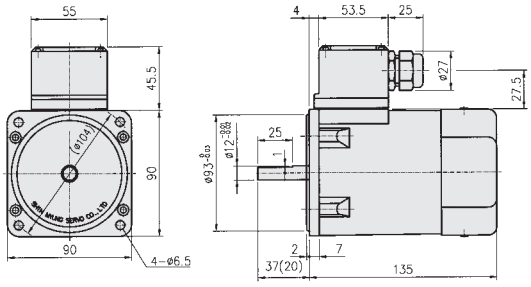


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETER	ϕ9.63mm
LENGTH	18mm

⑳ 9IF90S4C-T
9IF90E4C-T

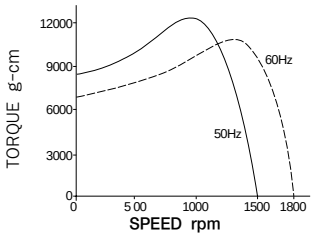


WEIGHT 3.4kg

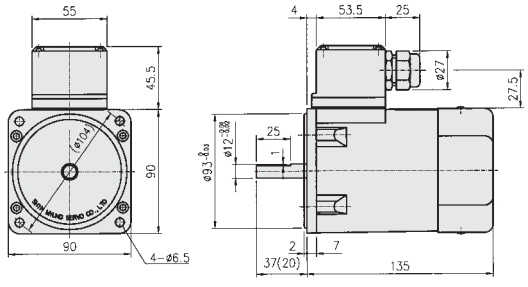


MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETER	ϕ11.55mm
LENGTH	20mm

㉑ 9IF120S4C-T
9IF120E4C-T



WEIGHT 3.4kg



MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETER	ϕ11.55mm
LENGTH	20mm

⊕ ELECTRICAL PERFORMANCES

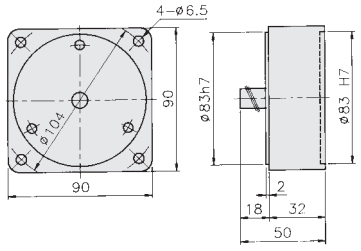
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

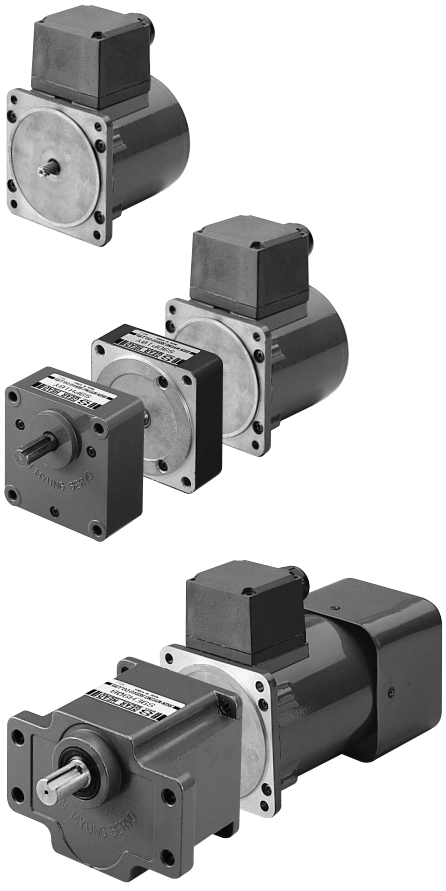
FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED	INPUT	CURRENT	TORQUE						
						rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA	μF	
⑱	9IN40S4C-T	9IN40P4C-T	40	220~240	50	1300	100	490	3.00	0.294	1.79	0.176	900	2.0	
⑲	9IF60S4C-T	9IF60P4C-T	60	220~240	50	1300	160	700	4.50	0.441	3.00	0.294	1140	3.5	
⑳	9IF90S4C-T	9IF90E4C-T	90	220~240	50	1300	200	1000	6.79	0.666	4.19	0.411	1480	5.0	
㉑	9IF120S4C-T	9IF120E4C-T	120	220~240	50	1250	400	1800	8.70	0.853	5.61	0.550	2800	7.0	

GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

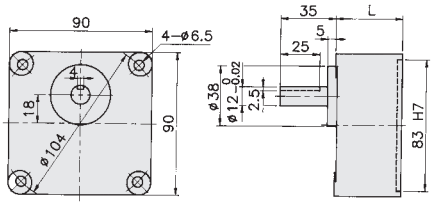
④ 9DP10Y WEIGHT 0.6kg





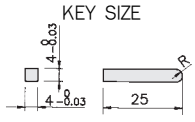
GEAR HEAD (RATIO 1/3~1/180)

③ 9P□B
9P□Y

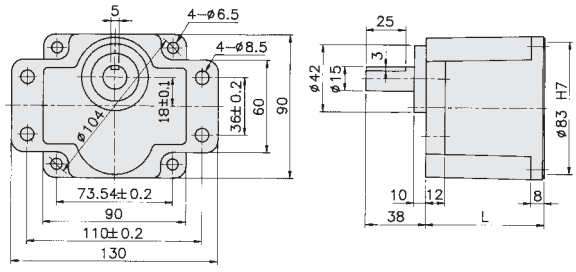


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE

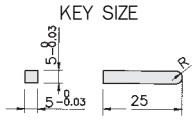


⑤ 9E□B

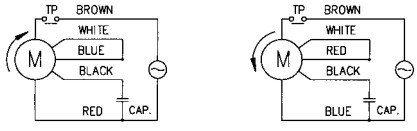


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
			DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
				60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	④9DP10Y	③9P□Y, 9P□B			7.3	12	18	30	36	55	66	98	120	120	120	D 120	D 120	D 120	D 120	D 120
	④9DP10Y	③9P□Y, 9P□B			11	18	28	46	55	83	100	120	120	120	120	D 120	D 120	D 120	D 120	D 120
	–	⑤9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
	–	⑤9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

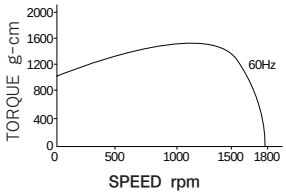
INDUCTION MOTOR(us approved)

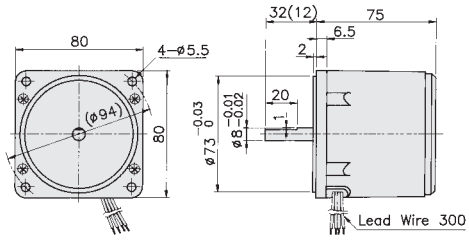
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

㉒ 8IN15S4U
8IN15GN4U

WEIGHT 1.5kg

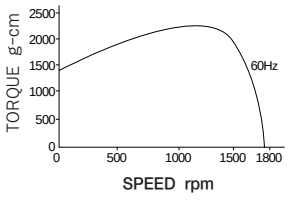


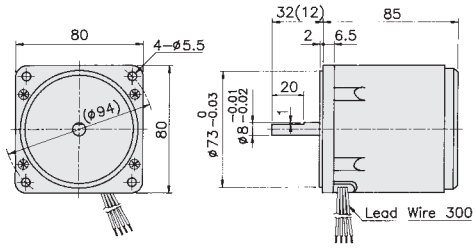


MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETER	ϕ7.2mm
LENGTH	12mm

㉓ 8IN25S4U
8IN25GN4U

WEIGHT 1.6kg





MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETER	ϕ7.2mm
LENGTH	12mm

◈ ELECTRICAL PERFORMANCES

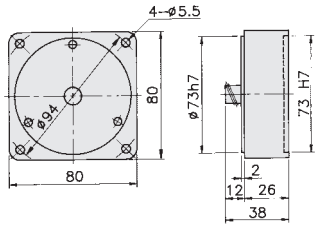
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "A"

FIG NO.	MODEL		OUTPUT W	VOLTAGE V	FREQUENCY Hz	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT				SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE N-m	kg-cm	N-m	mA	μF	
㉒	8IN15S4U	8IN15GN4U	15	115	60	1600	46	400	0.90	0.088	0.68	0.067	750	2.0	
㉓	8IN25S4U	8IN25GN4U	25	115	60	1550	69	600	1.4	0.137	1.0	0.098	1000	4.0	

GEAR HEAD

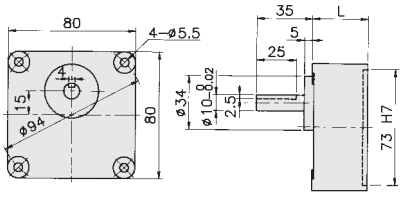
DECIMAL GEAR HEAD (RATIO 1/10)

② 8DGN10Y WEIGHT 0.3kg



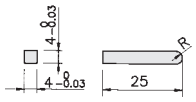
GEAR HEAD (RATIO 1/3~1/180)

① 8GN□B
8GN□Y

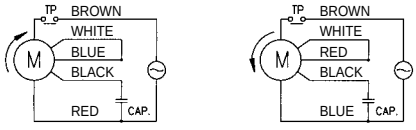


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)	600	360	240	144	100	60	36	24	18	12	7.2	5	3	2	1
			500	300	200	120	72	50	30	20	15	10	6	3.6	2.4	1.2	
		DENOMINATOR OF REDUCTION RATIO (60Hz)	3	5	7.5	12.5	18	30	50	75	100	150	250	360	600	900	1800
			3.6	6	9	15	25	36	60	90	120	180	300	500	750	1500	
	②8DGN10Y	①8GN□Y, 8GN□B	2	3	5	9	13	16	29	44	59	88	D35	D35	D65	D80	D100
			2	4	6	10	16	19	35	53	70	100	D35	D65	D80	D100	
	②8DGN10Y	①8GN□Y, 8GN□B	3	5	8	14	20	30	45	68	91	100	D35	D35	D65	D80	D100
			4	6	10	17	25	36	55	82	100	100	D35	D65	D80	D100	

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

INDUCTION MOTOR(us approved)

MOTOR

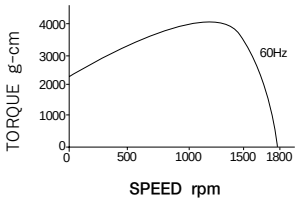
N - T CURVE

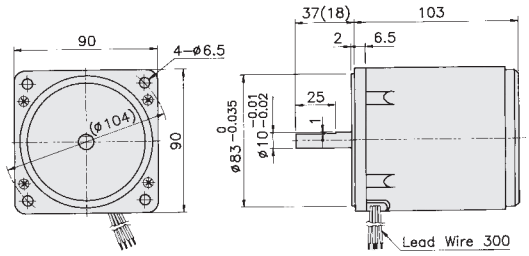
MOTOR DIMENSIONS

PINION SHAFT

㉔ 9IN40S4U
9IN40P4U

WEIGHT 2.5kg

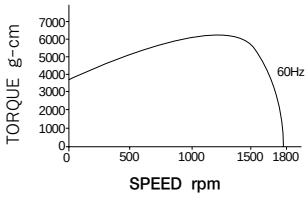


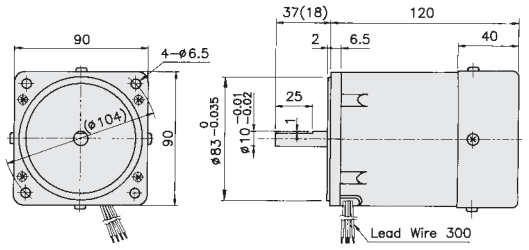


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETER	∮9.63mm
LENGTH	18mm

㉕ 9IF60S4U
9IF60P4U

WEIGHT 2.6kg

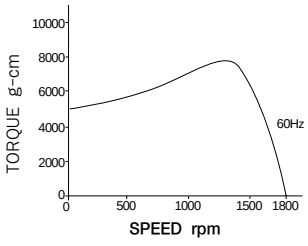


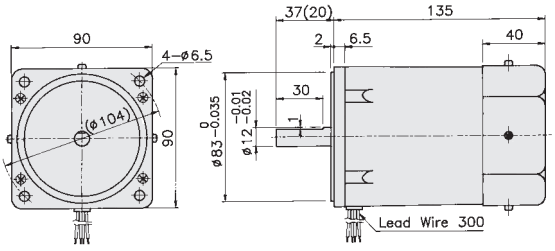


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETER	∮9.63mm
LENGTH	18mm

㉖ 9IF90S4U
9IF90E4U

WEIGHT 3.2kg





MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETER	∮11.55mm
LENGTH	20mm

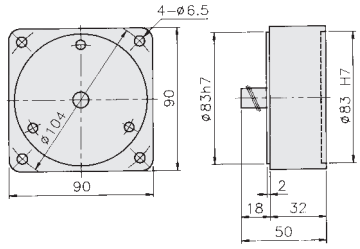
⊕ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "A"

FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE N-m	kg-cm	N-m	mA	μF	
㉔	9IN40S4U	9IN40P4U	40	115	60	1600	97	850	2.5	0.245	1.8	1.176	1600	8.0	
㉕	9IF60S4U	9IF60P4U	60	115	60	1600	149	1300	3.8	0.372	3.0	0.294	2200	12.0	
㉖	9IF90S4U	9IF90E4U	90	115	60	1600	230	2000	5.7	0.559	4.2	0.412	3000	20.0	

GEAR HEAD

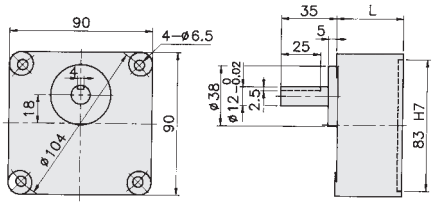
DECIMAL GEAR HEAD (RATIO 1/10)

④ 9DP10Y WEIGHT 0.6kg



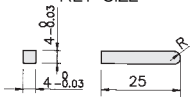
GEAR HEAD (RATIO 1/3~1/180)

③ 9P□B
9P□Y

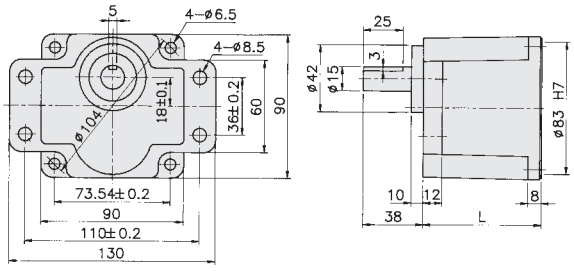


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE

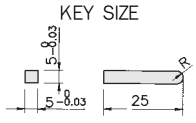


⑤ 9E□B

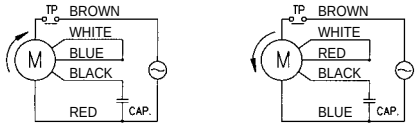


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)	600	360	240	144	100	60	36	24	18	12	7.2	5	3	2	1
				500	300	200	120	72	50	30	20	15	10	6	3.6	2.4	1.2	
			DENOMINATOR OF REDUCTION RATIO (60Hz)	3	5	7.5	12.5	18	30	50	75	100	150	250	360	600	900	1800
				3.6	6	9	15	25	36	60	90	120	180	300	500	750	1500	
	④9DP10Y	③9P□Y, 9P□B		6	10	15	25	36	54	82	120	120	120	D120	D120	D120	D120	D120
				7	12	18	30	45	65	98	120	120	120	D120	D120	D120	D120	
	④9DP10Y	③9P□Y, 9P□B		9	15	23	38	55	83	120	120	120	120	D120	D120	D120	D120	D120
				11	18	27	46	69	99	120	120	120	120	D120	D120	D120	D120	
	–	⑤9E□B		13	23	34	57	83	124	186	280	300	300					
				16	27	41	69	103	149	224	300	300	300					

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

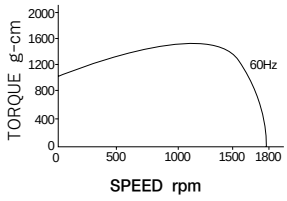
INDUCTION MOTOR(us approved)

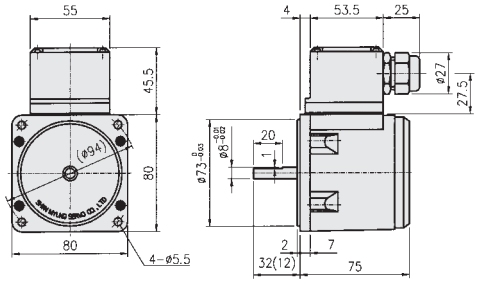
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

㉗ 8IN15S4U -T
8IN15GN4U -T

WEIGHT 1.7kg

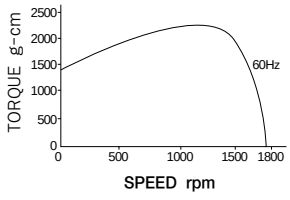


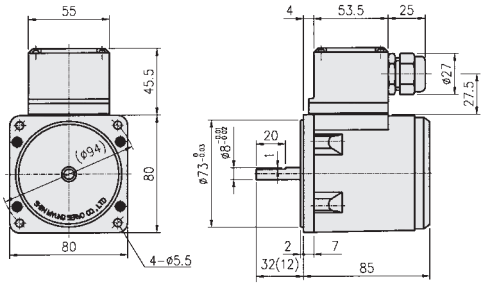


MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER ϕ7.2mm
LENGTH 12mm

㉘ 8IN25S4U -T
8IN25GN4U -T

WEIGHT 1.8kg





MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER ϕ7.2mm
LENGTH 12mm

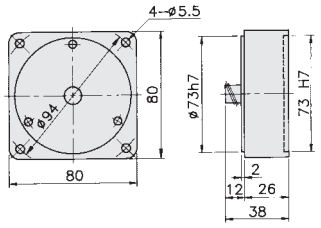
◈ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "A"

FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE N-m	kg-cm	N-m	mA	μF	
㉗	8IN15S4U-T	8IN15GN4U-T	15	115	60	1600	46	400	0.9	0.088	0.68	0.067	750	2.0	
㉘	8IN25S4U-T	8IN25GN4U-T	25	115	60	1550	69	600	1.4	0.137	1.0	0.098	1000	4.0	

GEAR HEAD

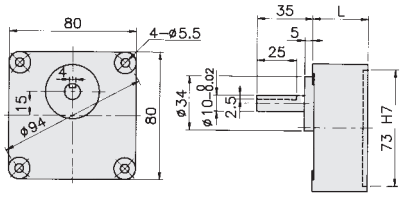
DECIMAL GEAR HEAD (RATIO 1/10)

② 8DGN10Y WEIGHT 0.3kg

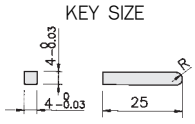


GEAR HEAD (RATIO 1/3~1/180)

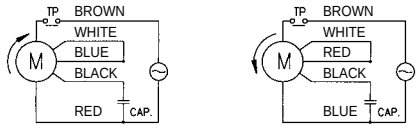
① 8GN□B
8GN□Y



GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)	600	360	240	144	100	60	36	24	18	12	7.2	5	3	2	1
			500	300	200	120	72	50	30	20	15	10	6	3.6	2.4	1.2	
		DENOMINATOR OF REDUCTION RATIO (60Hz)	3	5	7.5	12.5	18	30	50	75	100	150	250	360	600	900	1800
			3.6	6	9	15	25	36	60	90	120	180	300	500	750	1500	
②8DGN10Y	①8GN□Y, 8GN□B		2	3	5	9	13	16	29	44	59	88	D35	D35	D65	D80	D100
			2	4	6	10	16	19	35	53	70	100	D35	D65	D80	D100	
②8DGN10Y	①8GN□Y, 8GN□B		3	5	8	14	20	30	45	68	91	100	D35	D35	D65	D80	D100
			4	6	10	17	25	36	55	82	100	100	D35	D65	D80	D100	

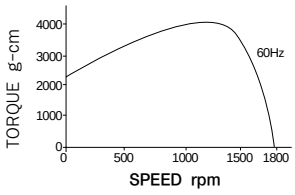
■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

INDUCTION MOTOR(us approved)

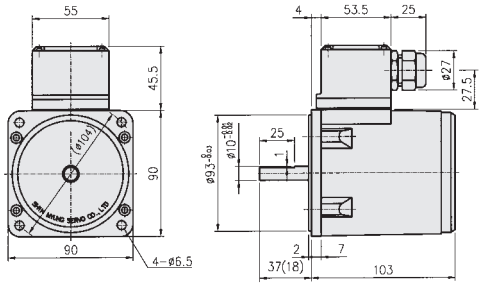
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

㉙ 9IN40S4U -T
9IN40P4U -T

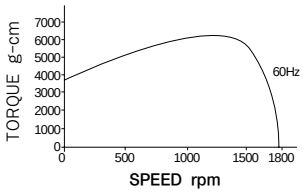


WEIGHT 2.7kg

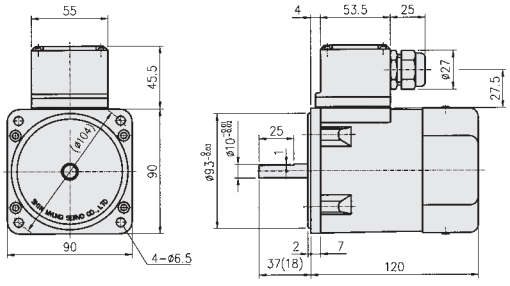


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETER	ø9.63mm
LENGTH	18mm

㉚ 9IF60S4U -T
9IF60P4U -T

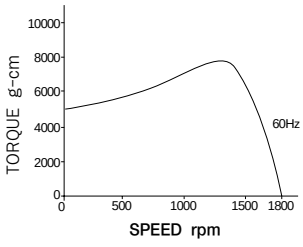


WEIGHT 2.8kg

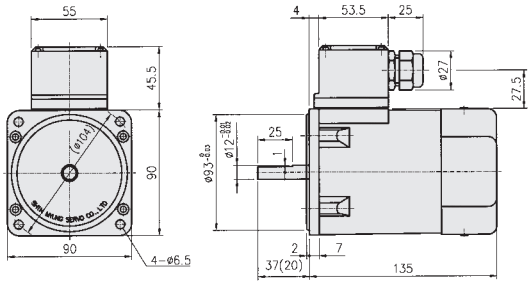


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETER	ø9.63mm
LENGTH	18mm

㉛ 9IF90S4U -T
9IF90E4U -T



WEIGHT 3.4kg



MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETER	ø11.55mm
LENGTH	20mm

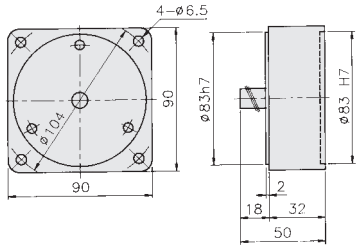
◈ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "A"

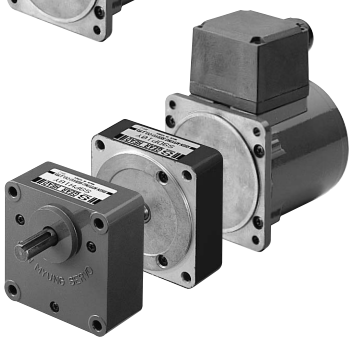
FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE N-m	kg-cm	N-m	mA	μF	
㉙	9IN40S4U-T	9IN40P4U-T	40	115	60	1600	97	850	2.5	0.245	1.8	1.176	1600	8.0	
㉚	9IF60S4U-T	9IF60P4U-T	60	115	60	1600	149	1300	3.8	0.372	3.0	0.294	2200	12.0	
㉛	9IF90S4U-T	9IF90E4U-T	90	115	60	1600	230	2000	5.7	0.559	4.2	0.412	3000	20.0	

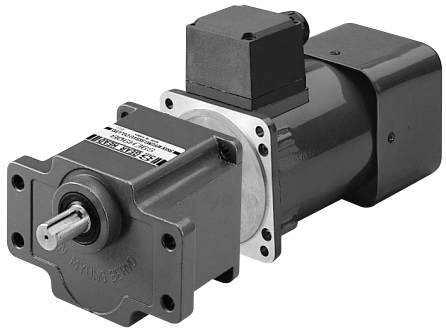
GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

④ 9DP10Y WEIGHT 0.6kg

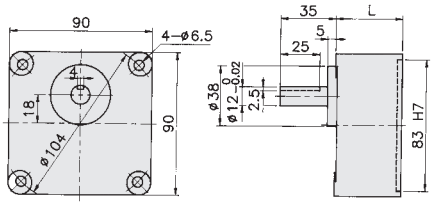






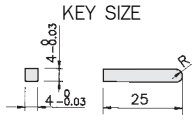
GEAR HEAD (RATIO 1/3~1/180)

③ 9P□B
9P□Y

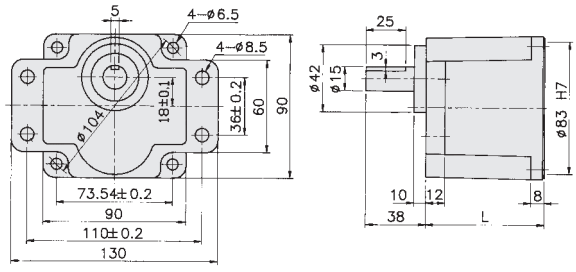


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE

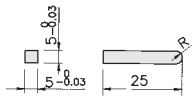


⑤ 9E□B

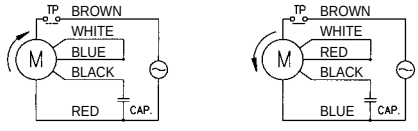


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



*Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)	600	360	240	144	100	60	36	24	18	12	7.2	5	3	2	1
			500	300	200	120	72	50	30	20	15	10	6	3.6	2.4	1.2	
		DENOMINATOR OF REDUCTION RATIO (60Hz)	3	5	7.5	12.5	18	30	50	75	100	150	250	360	600	900	1800
			3.6	6	9	15	25	36	60	90	120	180	300	500	750	1500	
④9DP10Y	③9P□Y, 9P□B		6	10	15	25	36	54	82	120	120	120	D120	D120	D120	D120	D120
			7	12	18	30	45	65	98	120	120	120	D120	D120	D120	D120	
④9DP10Y	③9P□Y, 9P□B		9	15	23	38	55	83	120	120	120	120	D120	D120	D120	D120	D120
			11	18	27	46	69	99	120	120	120	120	D120	D120	D120	D120	
–	⑤9E□B		13	23	34	57	83	124	186	280	300	300					
			16	27	41	69	103	149	224	300	300	300					

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

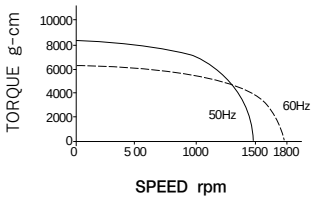
INDUCTION MOTOR

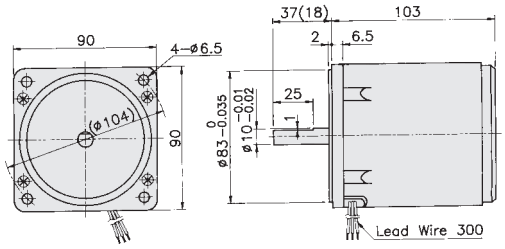
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

㉜ **9IN40S4□**
9IN40P4□

WEIGHT 2.5kg

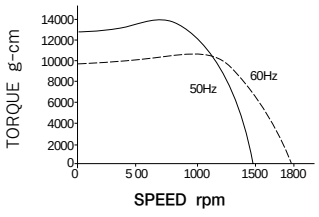


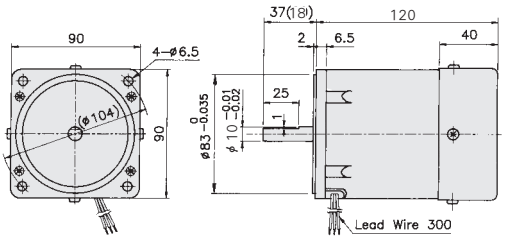


MODULE	0.6
PRESSURE	20°
TEETH No.	12
DIAMETER	ø9.63mm
LENGTH	18mm

㉝ **9IF60S4□**
9IF60P4□

WEIGHT 2.6kg





MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETER	ø9.63mm
LENGTH	18mm

◈ ELECTRICAL PERFORMANCES

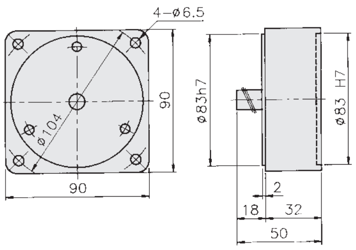
- THREE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

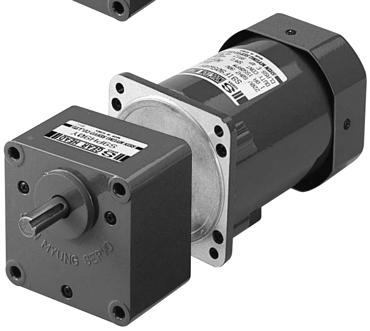
FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE				
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE N-m	kg-cm	N-m			
㉜	**9IN40S4J**	**9IN40P4J**	40	220	50 60	1300 1550	90 90	400 400	3.00 2.60	0.294 0.255	6.50 5.00	0.637 0.490			
㉜	**9IN40S4K**	**9IN40P4K**	40	380	50 60	1300 1550	90 90	230 230	3.00 2.60	0.294 0.255	6.50 5.00	0.637 0.490			
㉜	**9IN40S4Z**	**9IN40P4Z**	40	440	50 60	1300 1550	90 90	200 200	3.00 2.60	0.294 0.255	6.50 5.00	0.637 0.490			
㉝	**9IF60S4J**	**9IF60P4J**	60	220	50 60	1300 1550	135 135	600 600	4.50 3.80	0.441 0.372	7.50 6.00	0.735 0.588			
㉝	**9IF60S4K**	**9IF60P4K**	60	380	50 60	1300 1550	135 135	350 350	4.50 3.80	0.441 0.372	7.50 7.50	0.735 0.588			
㉝	**9IF60S4Z**	**9IF60P4Z**	60	440	50 60	1300 1550	135 135	300 300	4.50 3.80	0.441 0.372	7.50 6.00	0.735 0.588			

GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

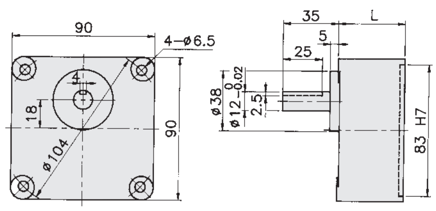
[4] 9DP10Y   WEIGHT 0.6kg





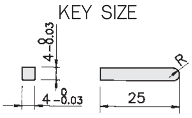
GEAR HEAD (RATIO 1/3~1/180)

[3] 9P□B
9P□Y

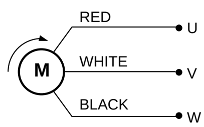


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE



WIRING(THREE PHASE MOTOR)



*Facing output shaft

As for CCW rotation, change the 2wires among U.V.W shown above.

◈ THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
◈ INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
◈ ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
			DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
				60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	[4]S9DP10Y	[3]9P□Y, 9P□B			7.6	13	19	32	38	57	68	102	120	120	120	D 120	D 120	D 120	D 120	D 120
	[4]S9DP10Y	[3]9P□Y, 9P□B			7.6	13	19	32	38	57	68	102	120	120	120	D 120	D 120	D 120	D 120	D 120
	[4]S9DP10Y	[3]9P□Y, 9P□B			7.6	13	19	32	38	57	68	102	120	120	120	D 120	D 120	D 120	D 120	D 120
	[4]S9DP10Y	[3]9P□Y, 9P□B			11	18	28	46	55	83	100	120	120	120	120	D 120	D 120	D 120	D 120	D 120
	[4]S9DP10Y	[3]9P□Y, 9P□B			11	18	28	46	55	83	100	120	120	120	120	D 120	D 120	D 120	D 120	D 120
	[4]S9DP10Y	[3]9P□Y, 9P□B			11	18	28	46	55	83	100	120	120	120	120	D 120	D 120	D 120	D 120	D 120

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

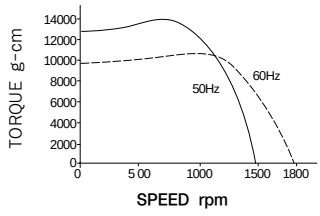
INDUCTION MOTOR

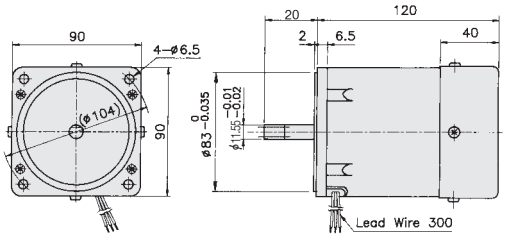
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

㉞ 9IF60E4□

WEIGHT 2.6kg

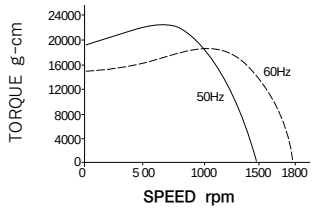


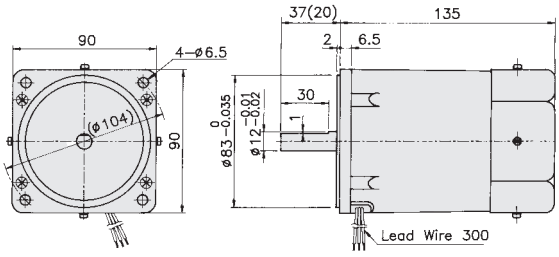


MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETER	ϕ11.55mm
LENGTH	20mm

㉟ 9IF90S4□
9IF90E4□

WEIGHT 3.2kg

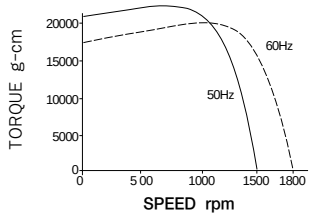


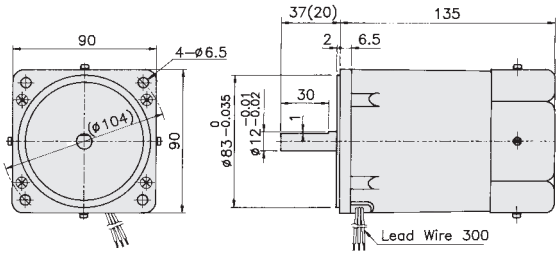


MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETER	ϕ11.55mm
LENGTH	20mm

㊱ 9IF120S4□
9IF120E4□

WEIGHT 3.2kg





MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETER	ϕ11.55mm
LENGTH	20mm

◈ ELECTRICAL PERFORMANCES

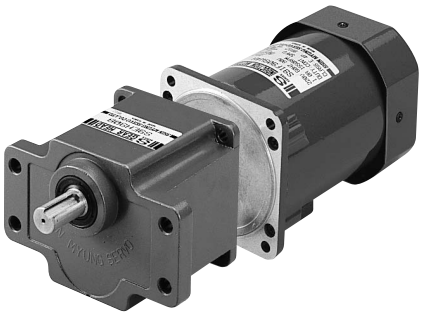
- THREE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE				
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE N-m	kg-cm	N-m			
㉞	-	9IF60E4J	60	220	50 60	1300 1550	135 135	600 600	4.50 3.80	0.441 0.372	7.50 6.00	0.735 0.588			
㉞	-	9IF60E4K	60	380	50 60	1300 1550	135 135	350 350	4.50 3.80	0.441 0.372	7.50 6.00	0.735 0.588			
㉞	-	9IF60E4Z	60	440	50 60	1300 1550	135 135	300 300	4.50 3.80	0.441 0.372	7.50 6.00	0.735 0.588			
㉟	9IF90S4J	9IF90E4J	90	220	50 60	1250 1500	180 180	800 800	6.80 5.70	0.666 0.559	8.50 7.00	0.833 0.686			
㉟	9IF90S4K	9IF90E4K	90	380	50 60	1250 1500	180 180	450 450	6.80 5.70	0.666 0.559	8.50 7.00	0.833 0.686			
㉟	9IF90S4Z	9IF90E4Z	90	440	50 60	1250 1500	180 180	400 400	6.80 5.70	0.666 0.559	8.50 7.00	0.833 0.686			
㊱	9IF120S4J	9IF120E4J	120	220	50 60	1300 1550	240 240	1000 1000	9.00 7.60	0.882 0.745	16.00 14.00	1.568 1.372			
㊱	9IF120S4K	9IF120E4K	120	380	50 60	1300 1550	240 240	600 600	9.00 7.60	0.882 0.745	16.00 14.00	1.568 1.372			
㊱	9IF120S4Z	9IF120E4Z	120	440	50 60	1300 1550	240 240	500 500	9.00 7.60	0.882 0.745	16.00 14.00	1.568 1.372			

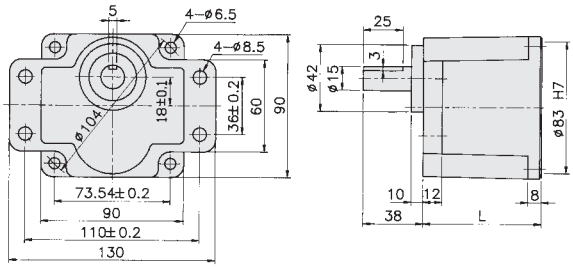
GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

GEAR HEAD (RATIO 1/3~1/180)

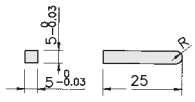


5 9E□B

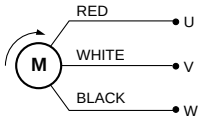


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25

KEY SIZE



WIRING(THREE PHASE MOTOR)



*Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
		DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
			60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
-	5 9E□B			11	18	28	42	50	75	90	150	202	269	300	–	–	–	–	–
-	5 9E□B			11	18	28	42	50	75	90	150	202	269	300	–	–	–	–	–
-	5 9E□B			11	18	28	42	50	75	90	150	202	269	300	–	–	–	–	–
-	5 9E□B			17	28	42	62	75	112	135	224	300	300	300	–	–	–	–	–
-	5 9E□B			17	28	42	62	75	112	135	224	300	300	300	–	–	–	–	–
-	5 9E□B			17	28	42	62	75	112	135	224	300	300	300	–	–	–	–	–
-	5 9E□B			22	37	55	83	100	150	180	299	300	300	300	–	–	–	–	–
-	5 9E□B			22	37	55	83	100	150	180	299	300	300	300	–	–	–	–	–
-	5 9E□B			22	37	55	83	100	150	180	299	300	300	300	–	–	–	–	–

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR

INDUCTION MOTOR (2 POLES)

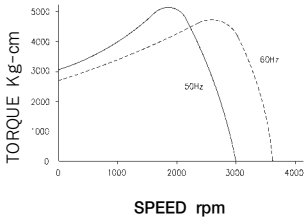
MOTOR

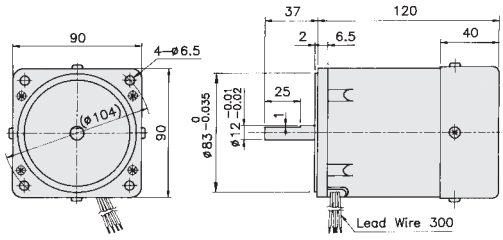
N - T CURVE

MOTOR DIMENSIONS

㊲ **9IF90S2L**
9IF90S2H

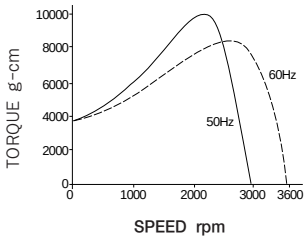
WEIGHT 2.6kg

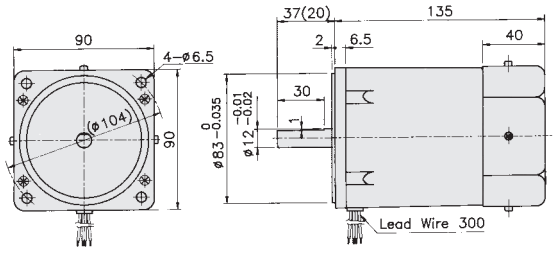




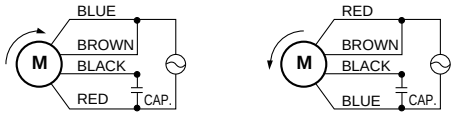
㊳ **9IF150S2L**
9IF150S2H

WEIGHT 3.2kg





WIRING



∗Facing output shaft

◈ ELECTRICAL PERFORMANCES

- SINGLE PHASE, 2 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

FIG NO.	MODEL	OUTPUT W	VOLTAGE V	FREQUENCY Hz	RATED SPEED rpm	RATED INPUT W	RATED CURRENT mA	RATED TORQUE kg-cm	RATED TORQUE Nm	STARTING TORQUE kg-cm	STARTING TORQUE Nm	STARTING CURRENT mA	CAPACITOR μF	
㊲	**9IF90S2L**	90	100	50 60	2600 3150	190 190	1800 2000	3.40 2.80	0.333 0.274	2.30 2.30	0.225 0.225	1400 1500	16	
㊲	**9IF90S2H**	90	220	50 60	2600 3200	280 250	1500 1200	3.40 2.80	0.333 0.274	2.30 2.30	0.225 0.225	2400 2400	5.0	
㊳	**9IF150S2L**	150	100	50 60	2650 3200	300 300	2800 3200	5.60 4.60	0.549 0.451	3.80 3.80	0.372 0.372	6800 6600	40	
㊳	**9IF150S2H**	150	220	50 60	2650 3200	300 300	1400 1600	5.60 4.60	0.549 0.451	3.80 3.80	0.372 0.372	3400 3300	8	

REVERSIBLE MOTOR

A condenser driven type single-phase reversible motor has both 100V and 220V models.
Designed to operate in alternative repetition such as opening and closing gate, normal and the reversible movement of lift, starting and halting operation with the following features.

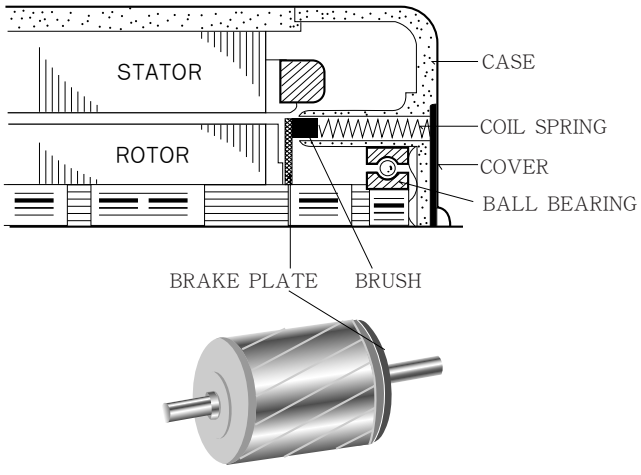
1. RATED HOUR

Suitable for using in operation where starting torque is necessary to be large and a short time is needed to reach loading torque, as continuous operation should be limited within 30 minutes. When normal and reversible operation or start and stop repetition is continued, the motor can be operated long within the temperature of the motor case at 90℃ or below keeping an interval between the stops long.

2. CONTROLLER AND CONTROLLING TORQUE

Motor's responding speed is required to be quick at the operation of nomal and reversible revolution, braking and stoping.
The reversible motor with built-in controller works the mechanical controlling torque all the time as shown in the picture below. So the motor is designed to make an easy alternation from nomal to reverse motions and the like while in operation.

* The life length of the controlling brush is about 5000 hours.



3. OVER RUN & BRAKE TORQUE

1) OVER RUN

When the motor runs in no-load condition at the rated voltage, the rotor continues to run by an inertia after electricity is off.

* The following indicates motor's control characteristics.

MODEL	BRAKE TORQUE (g-cm)	OVER RUN	OVER RUN WITHOUT SOFT BRAKE
6RN6S	100	3-4	30～50
8RN20S	150	3-4	40～60
8RN25S	220	3-4	50～70
9RN40S	600	4-5	80～100
9RN60S	600	5-6	80～100
9RF90S	600	5-6	80～100
9RF120S	600	5-6	80～100

2) BRAKE TORQUE

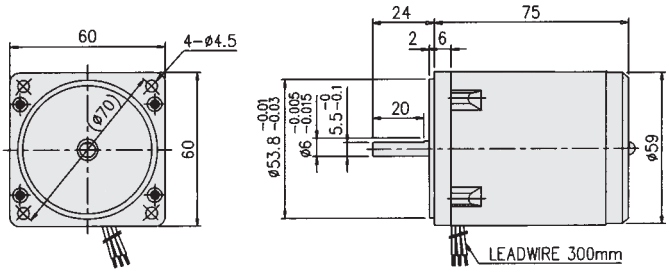
The motor with controller makes resistance as brake torque when the motor axle is tumed by outside force at the stop condition.

REVERSIBLE MOTOR(CE approved)

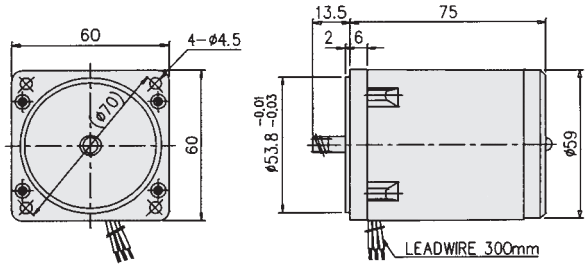
6W □60mm LEAD WIRE TYPE

MOTOR DIMENSIONS

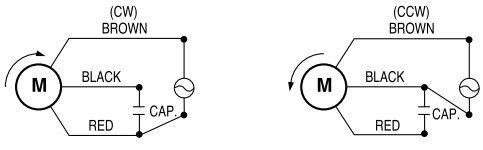
6RN6S4H(L) WEIGHT 0.7kg



6RN6G4H(L) WEIGHT 0.7kg



WIRING DIAGRAM



◈ ELECTRICAL PERFORMANCES

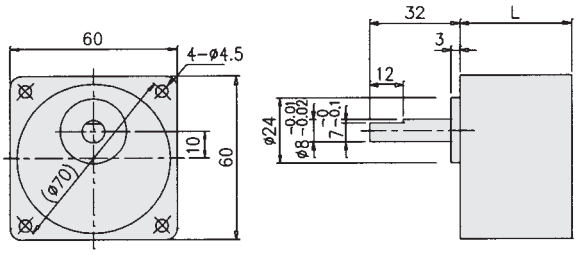
- SINGLE PHASE, 4 POLES, 30MIN DUTY, INSULATION CLASS "E"

MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
					SPEED	INPUT	CURRENT	TORQUE						
STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA	μF	
6RN6S4L	6RN6G4L	6	100	50	1250	28	280	0.5	0.05	0.55	0.055	400	4	
				60	1550	28	280	0.4	0.04	0.55	0.055	400	4	
6RN6S4H	6RN6G4H	6	220	50	1250	36	160	0.5	0.05	0.68	0.069	200	1	
				60	1550	36	160	0.4	0.04	0.68	0.069	200	1	
6RN6S4C	6RN6G4C	6	220~240	50	1250	40	180	0.4	0.04	0.68	0.069	220	1	

GEAR HEAD

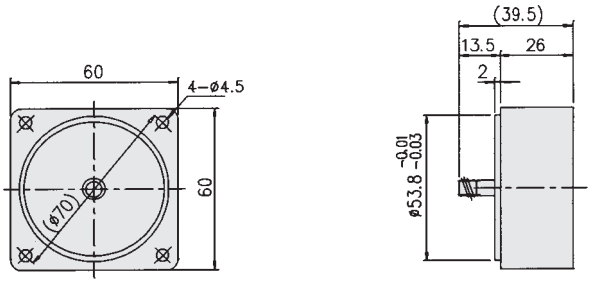
MOTOR DIMENSIONS

GEARHEAD
6G□Y(B)



GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	30	0.25	M4×50
1/25~1/180	40	0.35	M4×60

DECIMAL GEARHEAD
6DG10Y(B)



- □ OF GEAR HEAD MODEL NAME INDICATE THE DEDUCTION RATIO.
- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
  THE NORMAL TORQUE(kg·cm) IS 30kg·cm IN CASE THE DECIMAL GEARHEAD OF THE DEDUCTION RATIO 1/10 IS CONNECTED.
- THE ROTATION DIRECTION OF OUTPUT SHAFT FOR THE GEARHEAD INDICATED ■ ROTATES WITH MOTOR ON THE CONTRARY.
- THE ACTUAL ROTATION SPEED IS 2-20% LESS THAN SYNCHRONOUS SPEED ACCORDING TO THE SIZE OF THE LOAD.

50HZ

	MODEL																						
		rpm	500	416	300	250	200	166	120	100	83	75	60	50	42	30	25	20	16	15	12	10	8
		Ratio	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
	6G□Y 6G□B	kg-cm	1.3	1.5	2.1	2.6	3.2	3.9	5.4	6.4	7.7	8.5	9.7	11.6	13.9	17.5	21.0	26.2	30	30	30	20	30
		N-m	0.13	0.15	0.21	0.26	0.31	0.38	0.53	0.63	0.75	0.83	0.95	1.14	1.36	1.72	2.06	2.57	2.94	2.94	2.94	2.94	2.94

60HZ

	MODEL																						
		rpm	600	500	360	300	240	200	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
		Ratio	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
	6G□Y 6G□B	kg-cm	1.0	1.3	1.7	2.1	2.6	3.1	4.4	5.2	6.3	6.6	8.2	9.8	11.8	16.4	18.2	22.5	26.5	29.5	30	30	30
		N-m	0.10	0.13	0.17	0.21	0.25	0.30	0.43	0.51	0.62	0.65	0.84	0.96	1.16	1.60	1.78	2.20	2.59	2.89	2.94	2.94	2.94

REVERSIBLE MOTOR

MOTOR

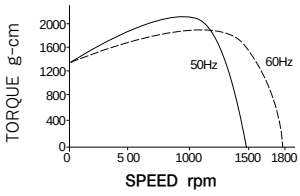
N - T CURVE

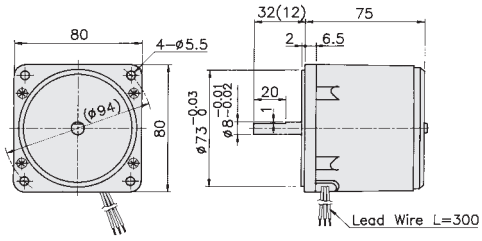
MOTOR DIMENSIONS

PINION SHAFT

① 8RN20S4□
8RN20GN4□

WEIGHT 1.5kg

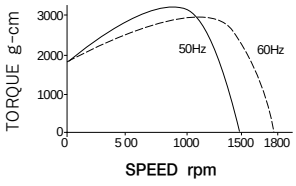


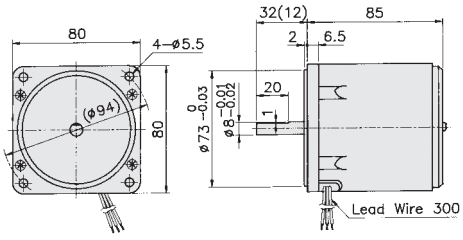


MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER ϕ7.2mm
LENGTH 12mm

② 8RN25S4□
8RN25GN4□

WEIGHT 1.6kg





MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER ϕ7.2mm
LENGTH 12mm

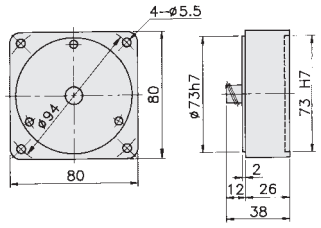
◈ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4 POLES, 30MIN DUTY, INSULATION CLASS "E"

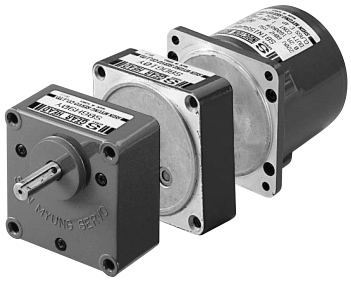
FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE Nm	kg-cm	Nm	mA	μF	
①	8RN20S4L	8RN20GN4L	20	100	50 60	1250 1550	50 50	500 500	1.50 1.17	0.147 0.115	1.04 1.04	0.102 0.102	900 850	8	
①	8RN20S4H	8RN20GN4H	20	220	50 60	1250 1550	60 60	280 280	1.50 1.17	0.147 0.115	1.04 1.04	0.102 0.102	430 430	1.5	
②	8RN25S4L	8RN25GN4L	25	100	50 60	1300 1600	65 65	650 650	1.80 1.37	0.176 0.134	1.28 1.28	0.125 0.125	1250 1200	10	
②	8RN25S4H	8RN25GN4H	25	220	50 60	1300 1600	70 70	330 330	1.80 1.37	0.176 0.134	1.28 1.28	0.125 0.125	600 550	2	

GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

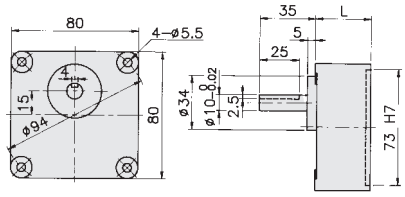
② 8DGN10Y WEIGHT 0.3kg





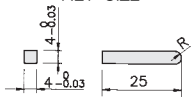
GEAR HEAD (RATIO 1/3~1/180)

① 8GN□B
8GN□Y

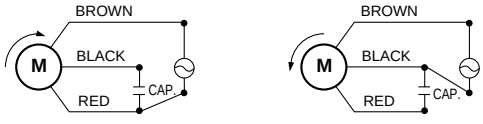


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
		DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
			60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	②8DGN10Y	①8GN□Y, 8GN□B		3.4	5.7	8.5	14	17	26	31	46	69	92	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B		3.4	5.7	8.5	14	17	26	31	46	69	92	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B		4.0	6.7	10	17	20	30	36	54	81	100	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B		4.0	6.7	10	17	20	30	36	54	81	100	100	D35	D35	D65	D80	D100

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

REVERSIBLE MOTOR

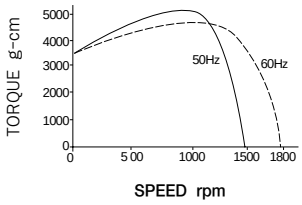
MOTOR

N - T CURVE

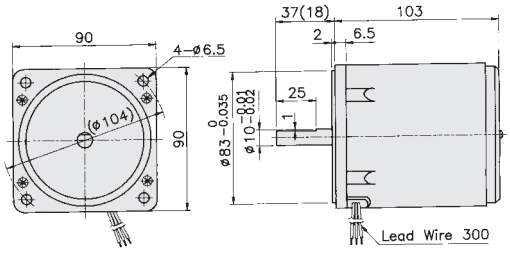
MOTOR DIMENSIONS

PINION SHAFT

③ 9RN40S4□
9RN40P4□

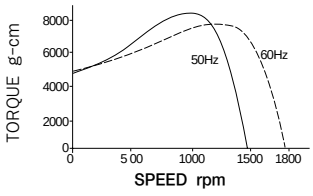


WEIGHT 2.5kg

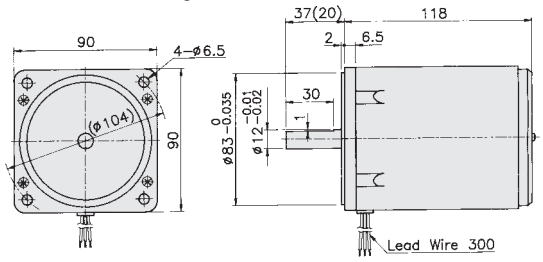


MODULE 0.6
PRESSURE ANGLE 20°
TEETH No. 12
DIAMETER ø9.63mm
LENGTH 18mm

④ 9RN60S4□
9RN60E4□

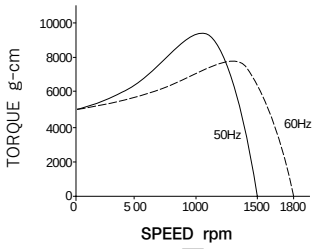


WEIGHT 2.6kg

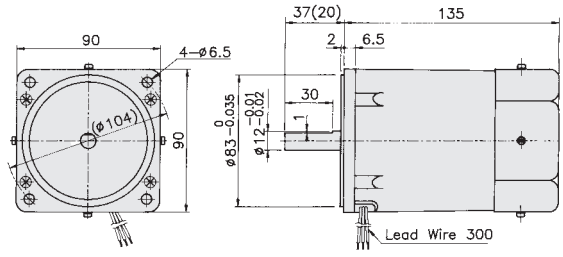


MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ø11.55mm
LENGTH 20mm

⑤ 9RF90S4□
9RF90E4□

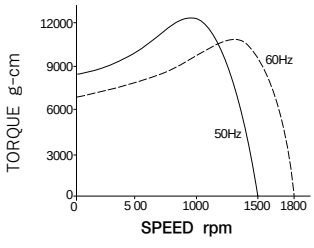


WEIGHT 2.6kg

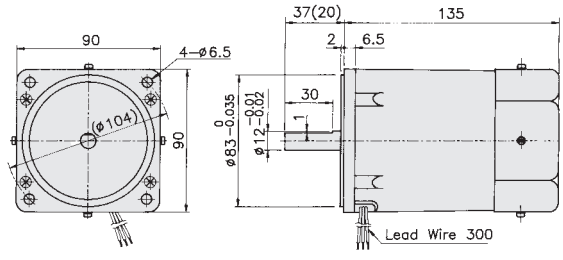


MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ø11.55mm
LENGTH 20mm

⑥ 9RF120S4□
9RF120E4□



WEIGHT 2.6kg



MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ø11.55mm
LENGTH 20mm

⊕ ELECTRICAL PERFORMANCES

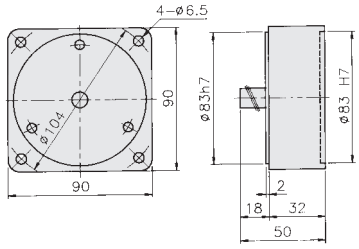
- SINGLE PHASE, 4 POLES, 30MIN DUTY, INSULATION CLASS "E"

FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED rpm	INPUT W	CURRENT mA	TORQUE kg-cm	TORQUE Nm	kg-cm	Nm	mA	μF	
③	9RN40S4L	9RN40P4L	40	100	50 60	1200 1500	115 115	1150 1150	3.20 2.60	0.314 0.255	2.60 2.60	0.255 0.255	1850 1850	16	
③	9RN40S4H	9RN40P4H	40	220	50 60	1200 1500	140 140	650 650	3.20 2.60	0.314 0.255	2.60 2.60	0.255 0.255	900 900	3.5	
④	9RN60S4L	9RN60E4L	60	100	50 60	1300 1600	180 180	1800 1800	4.50 3.80	0.441 0.372	3.50 3.50	0.343 0.343	3000 3000	25	
④	9RN60S4H	9RN60E4H	60	220	50 60	1300 1600	220 220	1000 1000	4.50 3.80	0.441 0.372	3.50 3.50	0.343 0.343	1700 1700	5	
⑤	9RF90S4L	9RF90E4L	90	100	50 60	1250 1550	200 200	2000 2000	6.80 5.70	0.666 0.559	4.20 4.20	0.412 0.412	3200 3000	25	
⑤	9RF90S4H	9RF90E4H	90	220	50 60	1250 1550	200 200	1000 1000	6.80 5.70	0.666 0.559	4.20 4.20	0.412 0.412	1600 1500	5	
⑥	9RF120S4L	9RF120E4L	120	100	50 60	1350 1600	240 240	2400 2400	8.70 7.30	0.853 0.715	6.00 6.00	0.588 0.588	4800 4600	35	
⑥	9RF120S4H	9RF120E4H	120	220	50 60	1300 1600	320 320	1400 1400	8.70 7.30	0.853 0.715	6.00 6.00	0.588 0.588	2200 2200	7	

GEAR HEAD

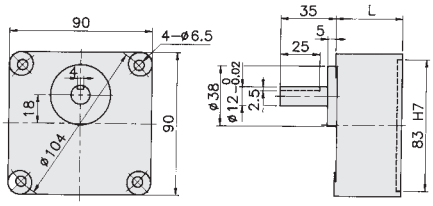
DECIMAL GEAR HEAD (RATIO 1/10)

④ 9DP10Y WEIGHT 0.6kg



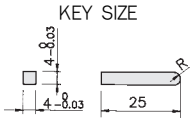
GEAR HEAD (RATIO 1/3~1/180)

③ 9P□B
9P□Y

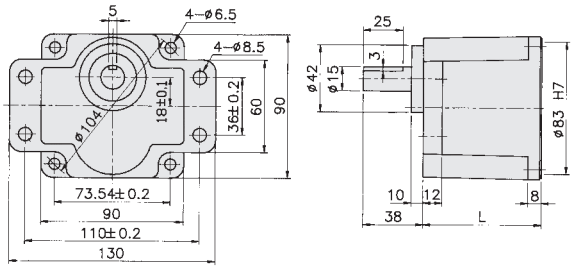


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE

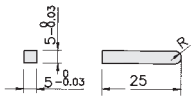


⑤ 9E□B

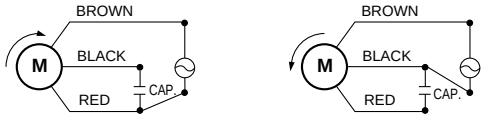


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
			DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
				60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	④9DP10Y	③9P□Y 9P□B			7.6	13	19	32	38	57	68	102	120	120	120	D 120	D 120	D 120	D 120	D 120
	④9DP10Y	③9P□Y S9P□B			7.6	13	19	32	38	57	68	102	120	120	120	D 120	D 120	D 120	D 120	D 120
	—	⑤9E□B			11	18	28	42	50	75	90	150	202	269	300	-	-	-	-	-
	—	⑤9E□B			11	18	28	42	50	75	90	150	202	269	300	-	-	-	-	-
	—	⑤9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
	—	⑤9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
	—	⑤9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-
	—	⑤9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

SPEED CONTROL INDUCTION MOTOR

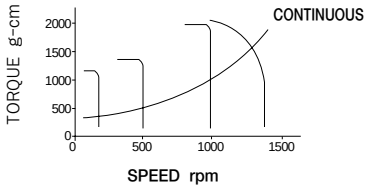
MOTOR

N - T CURVE

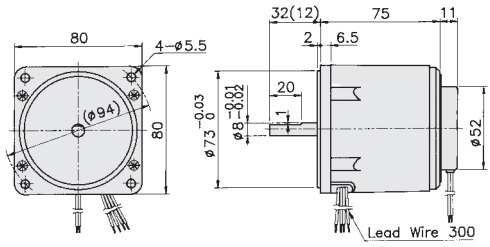
MOTOR DIMENSIONS

PINION SHAFT

① 8IN15S4□-V
8IN15GN4□-V

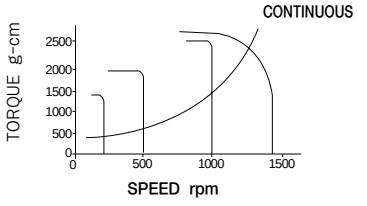


WEIGHT 1.6kg

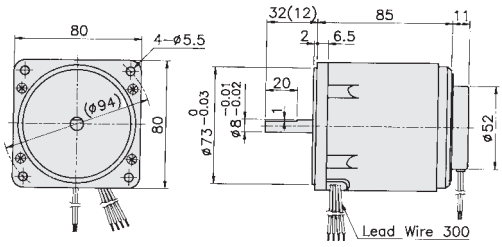


MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER ϕ7.2mm
LENGTH 12mm

② 8IN25S4□-V
8IN25GN4□-V



WEIGHT 1.7kg



MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETER ϕ7.2mm
LENGTH 12mm

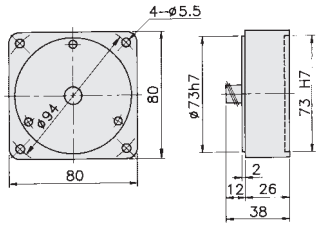
⊕ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

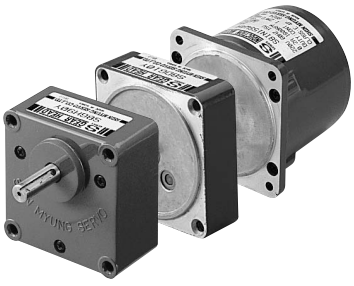
FIG NO.	MODEL		MAXIMUM OUTPUT	VOLTAGE	FREQUENCY	VARIABLE SPEED RANGE	MAXIMUM CURRENT	STARTING TORQUE		ALLOWABLE TORQUE		CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	rpm	mA	kg-cm	N-m	kg-cm	N-m	μF	
①	8IN15S4L-V	8IN15GN4L-V	15	100	50 / 60	70~1400	460	0.68	0.067	0.30~1.6	0.029~0.157	3	
①	8IN15S4H-V	8IN15GN4H-V	15	220	50 / 60	70~1400	250	0.68	0.067	0.30~1.6	0.029~0.157	1.2	
②	8IN25S4L-V	8IN25GN4L-V	25	100	50 / 60	70~1400	600	1.00	0.098	0.35~1.9	0.034~0.186	6	
②	8IN25S4H-V	8IN25GN4H-V	25	220	50 / 60	70~1400	320	1.00	0.098	0.35~1.10	0.034~0.186	1.5	

GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

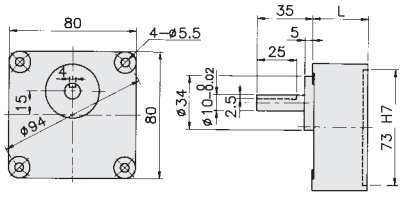
② 8DGN10Y WEIGHT 0.6kg





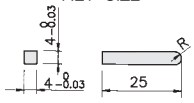
GEAR HEAD (RATIO 1/3~1/180)

① 8GN□B
8GN□Y

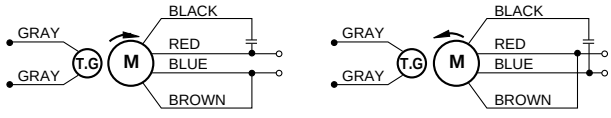


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SPEED RANGE											
			L.SPEED 70rpm	95	11.7	7.8	4.7	3.9	2.3	1.9	1.2	0.8	0.6	0.4
			H.SPEED 1400rpm	389	233	156	93	79	47	39	23	16	12	8
		DENOMINATOR OF REDUCTION 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
	②8DGN10Y	①8GN□Y, S8GN□B	Low speed	0.9	1.5	2.2	3.6	4.4	6.6	7.9	12	18	24	100
			High speed	4.7	7.8	11.7	19	23	35	42	63	94	100	100
	②8DGN10Y	①8GN□Y, S8GN□B	Low speed	0.9	1.5	2.2	3.6	4.4	6.6	7.9	12	18	24	100
			High speed	4.7	7.8	11.7	19	23	35	42	63	94	100	100
	②8DGN10Y	①8GN□Y, S8GN□B	Low speed	1.0	1.7	2.6	4.3	5.1	7.7	9.2	100	100	100	100
			High speed	5.5	9.2	14	23	28	42	50	100	100	100	100
	②8DGN10Y	①8GN□Y, S8GN□B	Low speed	1.0	1.7	2.6	4.3	5.1	7.7	9.2	100	100	100	100
			High speed	5.5	9.2	14	23	28	42	50	100	100	100	100

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

SPEED CONTROL INDUCTION MOTOR

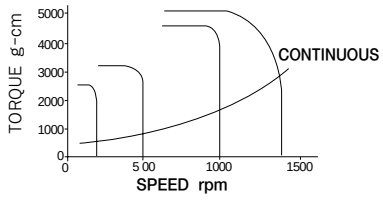
MOTOR

N - T CURVE

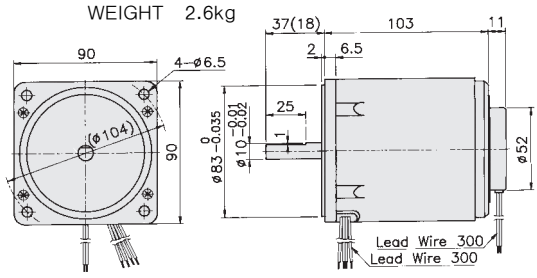
MOTOR DIMENSIONS

PINION SHAFT

③ 9IN40S4□-V
9IN40P4□-V

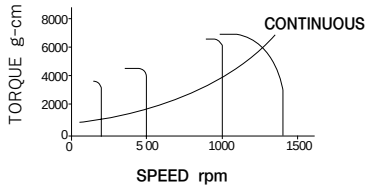


WEIGHT 2.6kg

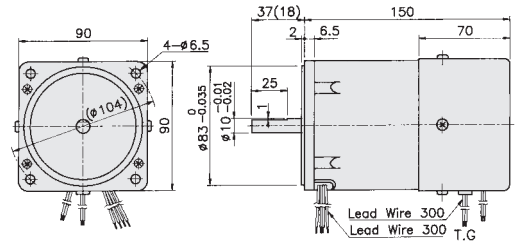


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETER	ϕ9.63mm
LENGTH	18mm

④ 9IF60S4□-V
9IF60P4□-V

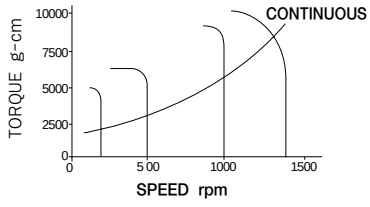


WEIGHT 2.9kg

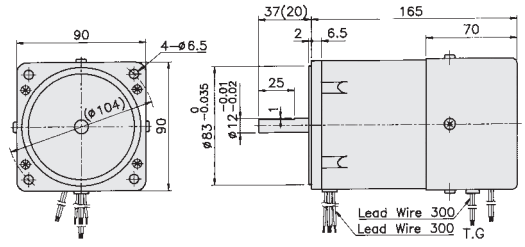


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETER	ϕ9.63mm
LENGTH	18mm

⑤ 9IF90S4□-V
9IF90E4□-V

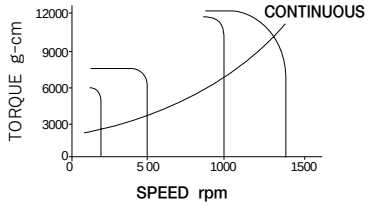


WEIGHT 3.5kg

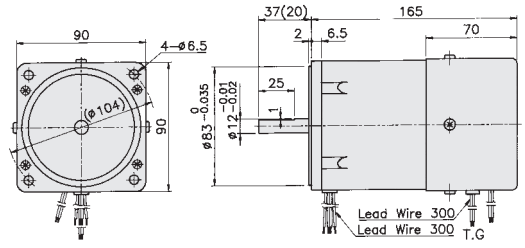


MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETER	ϕ11.55mm
LENGTH	20mm

⑥ 9IF120S4□-V
9IF120E4□-V



WEIGHT 3.5kg



MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETER	ϕ11.55mm
LENGTH	20mm

! Attention : As the model no. 9IF60S(P)4L(H)-V, 9IF90S(E)4L(H)-V, 9IF120S(E)4L(H)-V each has a fan motor inside, the black lead wire should be connected to the wire no. 1 and 2 of the controller (Refer to use only the controller model no.2290G)

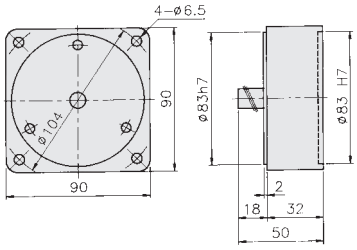
⊕ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

FIG NO.	MODEL		MAXIMUM OUTPUT	VOLTAGE	FREQUENCY	VARIABLE SPEED RANGE	MAXIMUM CURRENT	STARTING TORQUE		ALLOWABLE TORQUE		CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	rpm	mA	kg-cm	N-m	kg-cm	N-m	μF	
③	9IN40S4L-V	9IN40P4L-V	40	100	50 / 60	70~1400	1100	1.80	0.176	0.60~2.80	0.059~0.274	10	
③	9IN40S4H-V	9IN40P4H-V	40	220	50 / 60	70~1400	600	1.80	0.176	0.60~2.80	0.059~0.274	2.0	
④	9IF60S4L-V	9IF60P4L-V	60	100	50 / 60	70~1400	1300	3.00	0.294	1.20~3.70	0.118~0.363	16	
④	9IF60S4H-V	9IF60P4H-V	60	220	50 / 60	70~1400	650	3.00	0.294	1.20~3.70	0.118~0.363	3.5	
⑤	9IF90S4L-V	9IF90E4L-V	90	100	50 / 60	70~1400	2000	4.20	0.412	2.50~5.50	0.245~0.539	25	
⑤	9IF90S4H-V	9IF90E4H-V	90	220	50 / 60	70~1400	1000	4.20	0.412	2.50~5.50	0.245~0.539	5	
⑥	9IF120S4L-V	9IF120E4L-V	120	100	50 / 60	70~1400	2200	6.00	0.588	3.00~6.50	0.294~0.637	35	
⑥	9IF120S4H-V	9IF120E4H-V	120	220	50 / 60	70~1400	1100	6.00	0.588	3.00~6.50	0.294~0.637	6	

GEAR HEAD

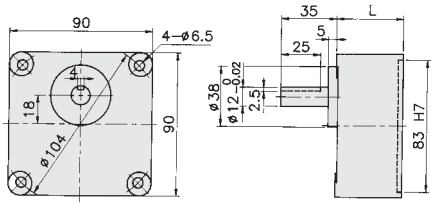
DECIMAL GEAR HEAD (RATIO 1/10)

④ 9DP10Y WEIGHT 0.6kg



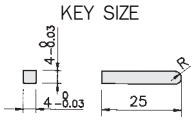
GEAR HEAD (RATIO 1/3~1/180)

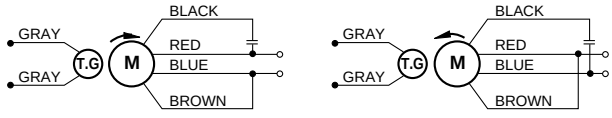
③ 9P□B
9P□Y



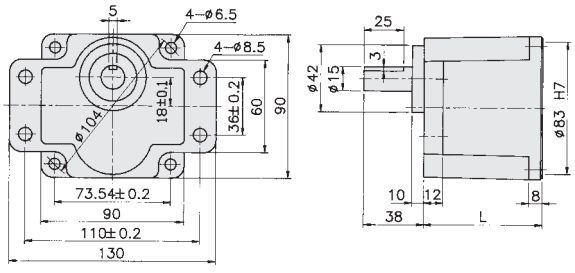
GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE



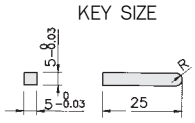


⑤ 9E□B

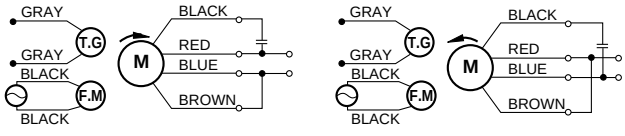


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	80	2.0	M6×25

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft (60W~120W)

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SPEED RANGE											
				L.SPEED 70rpm	95	11.7	7.8	4.7	3.9	2.3	1.9	1.2	0.8	0.6	0.4
				H.SPEED 1400rpm	389	233	156	93	78	47	39	23	16	12	8
			DENOMINATOR OF REDUCTION 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
	④9DP10Y	③9P□Y, 9P□B		Low speed	1.7	2.9	4.4	7.3	8.7	13	16	24	35	47	71
				High speed	8.2	14	20	34	41	61	73	110	120	120	120
	④9DP10Y	③9P□Y, 9P□B		Low speed	1.7	2.9	4.4	7.3	8.7	13	16	24	35	47	71
				High speed	8.2	14	20	34	41	61	73	110	120	120	120
	④9DP10Y	③9P□Y, 9P□B		Low speed	3.5	5.8	8.7	15	17	26	31	47	71	94	120
				High speed	11	18	27	45	54	81	97	120	120	120	120
	④9DP10Y	③9P□Y, 9P□B		Low speed	3.5	5.8	8.7	15	17	26	31	47	120	120	120
				High speed	11	18	27	45	54	81	97	120	120	120	120
		⑤9E□B		Low speed	7.3	12	18	27	33	49	59	98	133	177	266
				High speed	16	27	40	60	72	108	130	217	292	300	300
		⑤9E□B		Low speed	7.3	12	18	27	33	49	59	98	133	177	266
				High speed	16	27	40	60	72	108	130	217	292	300	300
		⑤9E□B		Low speed	8.7	15	22	33	39	59	71	118	159	213	300
				High speed	19	32	47	71	85	128	154	256	300	300	300
		⑤9E□B		Low speed	8.7	15	22	33	39	59	71	118	159	213	300
				High speed	19	32	47	71	85	128	154	256	300	300	300

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

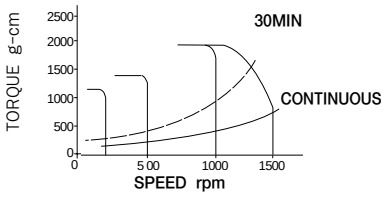
SPEED CONTROL REVERSIBLE MOTOR

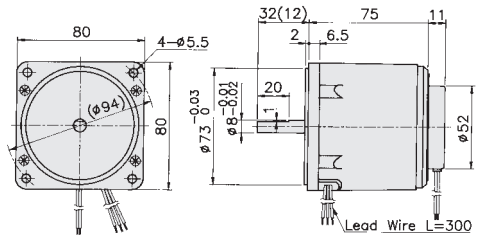
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

⑦ 8RN20S4□-V
8RN20GN4□-V

WEIGHT 1.6kg

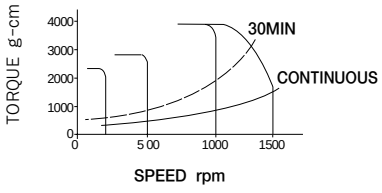


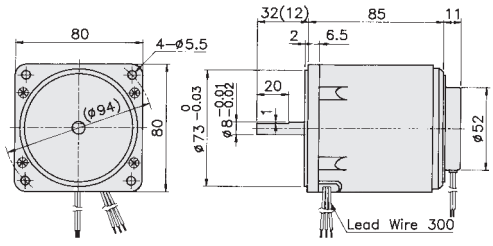


MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETER	ϕ7.2mm
LENGTH	12mm

⑧ 8RN25S4□-V
8RN25GN4□-V

WEIGHT 1.7kg





MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETER	ϕ7.2mm
LENGTH	12mm

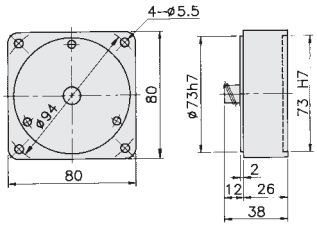
◈ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4POLES, 30MIN, DUTY, INSULATION CLASS "E"

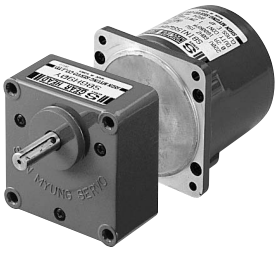
FIG NO.	MODEL		MAXIMUM OUTPUT	VOLTAGE	FREQUENCY	VARIABLE SPEED RANGE	MAXIMUN CURRENT	STARTING TORQUE		ALLOWABLE TORQUE		CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	rpm	mA	kg-cm	N-m	kg-cm	N-m	μF	
⑦	8RN20S4L-V	8RN20GN4L-V	20	100	50 / 60	70~1400	550	1.04	0.102	0.30~1.6	0.039~0.176	8	
⑦	8RN20S4H-V	8RN20GN4H-V	20	220	50 / 60	70~1400	270	1.04	0.102	0.30~1.6	0.039~0.176	1.5	
⑧	8RN25S4L-V	8RN25GN4L-V	25	100	50 / 60	70~1400	800	1.28	0.125	0.35~1.9	0.059~0.255	10	
⑧	8RN25S4H-V	8RN25GN4H-V	25	220	50 / 60	70~1400	410	1.28	0.125	0.35~1.9	0.059~0.255	2	

GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

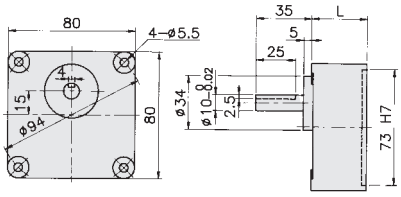
② 8DGN10Y WEIGHT 0.3kg





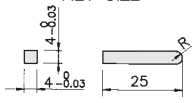
GEAR HEAD (RATIO 1/3~1/180)

① 8GN□B
8GN□Y

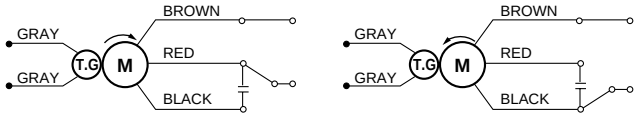


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



✻Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SPEED RANGE											
				L.SPEED 70rpm	95	11.7	7.8	4.7	3.9	2.3	1.9	1.2	0.8	0.6	0.4
				H.SPEED 1400rpm	389	233	156	93	78	47	39	23	16	12	8
			DENOMINATOR OF REDUCTION 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
	②8DGN10Y	①8GN□Y, 8GN□B		Low speed	1.2	1.9	2.9	4.9	5.8	8.7	10	16	24	31	47
				High speed	5.2	8.7	13	22	26	39	47	71	100	100	100
	②8DGN10Y	①8GN□Y, 8GN□B		Low speed	1.2	1.9	2.9	4.9	5.8	8.7	10	16	24	31	47
				High speed	5.2	8.7	13	22	26	39	47	71	100	100	100
	②8DGN10Y	①8GN□Y, 8GN□B		Low speed	1.7	2.9	4.4	7.3	8.7	13	16	24	35	47	71
				High speed	7.6	13	19	32	38	57	68	100	100	100	100
	②8DGN10Y	①8GN□Y, 8GN□B		Low speed	1.7	2.9	4.4	7.3	8.7	13	16	24	35	47	71
				High speed	7.6	13	19	32	38	57	68	100	100	100	100

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

SPEED CONTROL REVERSIBLE MOTOR

MOTOR

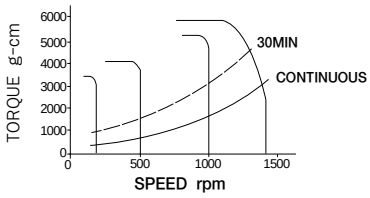
N - T CURVE

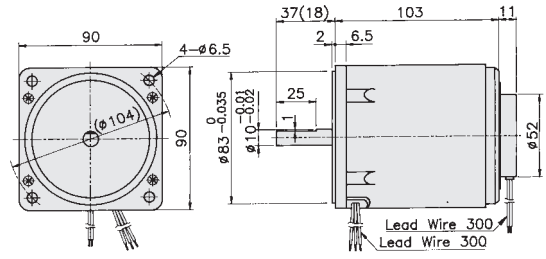
MOTOR DIMENSIONS

PINION SHAFT

⑨ 9RN40S4□-V
9RN40P4□-V

WEIGHT 2.6kg

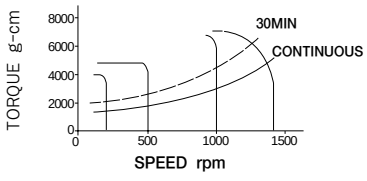


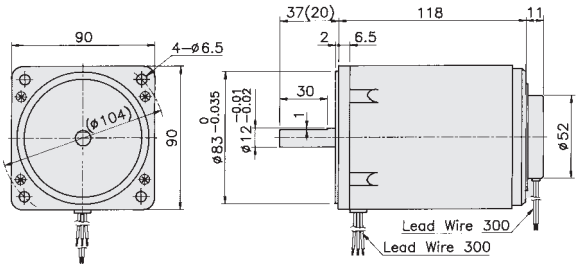


MODULE 0.6
PRESSURE ANGLE 20°
TEETH No. 12
DIAMETER ϕ9.63mm
LENGTH 18mm

⑩ 9RN60S4□-V
9RN60E4□-V

WEIGHT 2.7kg

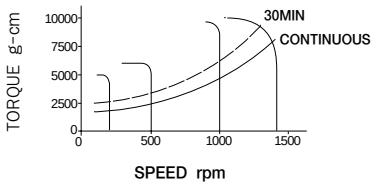


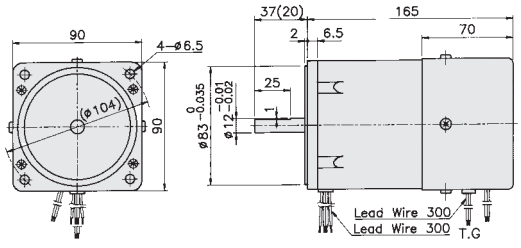


MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ϕ11.55mm
LENGTH 20mm

⑪ 9RF90S4□-V
9RF90E4□-V

WEIGHT 3.5kg

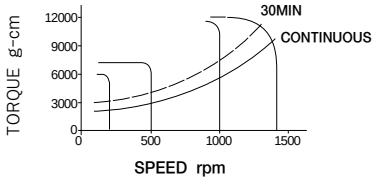


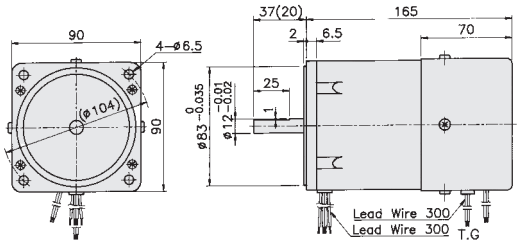


MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ϕ11.55mm
LENGTH 20mm

⑫ 9RF120S4□-V
9RF120E4□-V

WEIGHT 3.5kg





MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETER ϕ11.55mm
LENGTH 20mm

⊕ ELECTRICAL PERFORMANCES

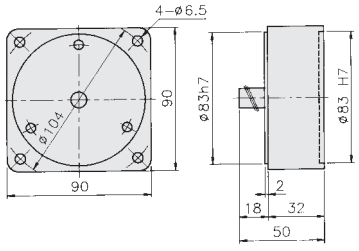
- SINGLE PHASE, 4 POLES, 30MIN. DUTY, INSULATION CLASS "E"

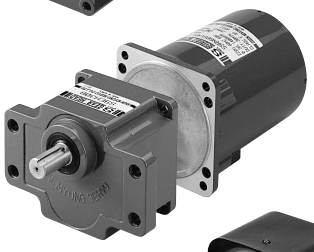
FIG NO.	MODEL		MAXIMUM OUTPUT	VOLTAGE	FREQUENCY	VARIABLE SPEED RANGE	MAXIMUN CURRENT	STARTING TORQUE		ALLOWABLE TORQUE		CAPACITOR	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	rpm	mA	kg-cm	N-m	kg-cm	N-m	μF	
⑨	9RN40S4L-V	9RN40P4L-V	40	100	50 / 60	70~1400	1300	2.60	0.255	0.65~3.00	0.064~0.294	16	
⑨	9RN40S4H-V	9RN40P4H-V	40	220	50 / 60	70~1400	650	2.60	0.255	0.65~3.00	0.064~0.294	3.5	
⑩	9RN60S4L-V	9RN60E4L-V	60	100	50 / 60	70~1400	1800	3.00	0.294	1.20~3.70	0.118~0.363	25	
⑩	9RN60S4H-V	9RN60E4H-V	60	220	50 / 60	70~1400	900	3.00	0.294	1.20~3.70	0.118~0.363	5	
⑪	9RF90S4L-V	9RF90E4L-V	90	100	50 / 60	70~1400	2200	4.20	0.412	2.50~5.50	0.245~0.539	25	
⑪	9RF90S4H-V	9RF90E4H-V	90	220	50 / 60	70~1400	1100	4.20	0.412	2.50~5.50	0.245~0.539	5	
⑫	9RF120S4L-V	9RF120E4L-V	120	100	50 / 60	70~1400	2200	6.00	0.588	3.00~6.50	0.294~0.637	35	
⑫	9RF120S4H-V	9RF120E4H-V	120	220	50 / 60	70~1400	1100	6.00	0.588	3.00~6.50	0.294~0.637	7	

GEAR HEAD

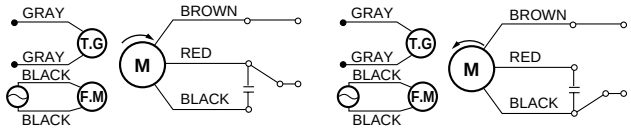
DECIMAL GEAR HEAD (RATIO 1/10)

④ 9DP10Y





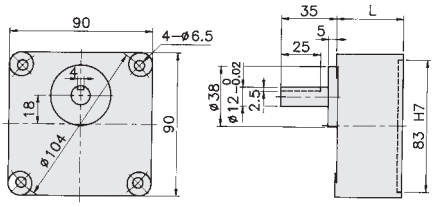
WIRING(SINGLE PHASE MOTOR)



✻Facing output shaft (90W~120W)

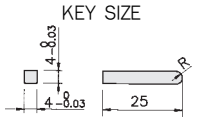
GEAR HEAD (RATIO 1/3~1/180)

③ 9P□B
9P□Y

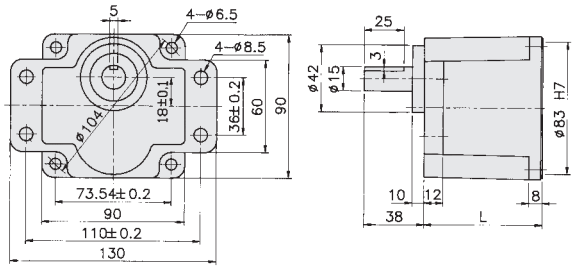


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE

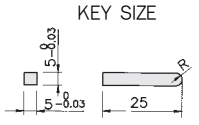


⑤ 9E□B

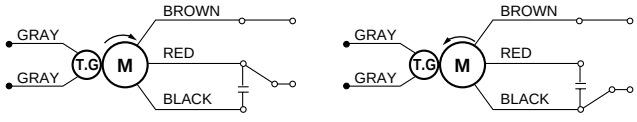


GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	80	2.0	M6×25

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



✻Facing output shaft (S9RN type)

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SPEED RANGE											
				L.SPEED 70rpm	95	11.7	7.8	4.7	3.9	2.3	1.9	1.2	0.8	0.6	0.4
				H.SPEED 1400rpm	389	233	156	93	78	47	39	23	16	12	8
			DENOMINATOR OF REDUCTION 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
	④9DP10Y	③9P□Y, 9P□YB		Low speed	1.9	3.2	4.7	7.9	9.5	14	17	26	38	51	77
				High speed	8.7	15	22	36	44	66	79	118	120	120	120
	④9DP10Y	③9P□Y, S9P□YB		Low speed	1.9	3.2	4.7	7.9	9.5	14	17	26	38	51	77
				High speed	8.7	15	22	36	44	66	79	118	120	120	120
	—	⑤9E□B		Low speed	3.5	5.8	8.7	13	16	24	28	47	64	85	128
				High speed	11	18	27	40	49	73	87	146	197	262	300
	—	⑤9E□B		Low speed	3.5	5.8	8.7	13	16	24	28	47	64	85	128
				High speed	11	18	27	40	49	73	87	146	197	262	300
	—	⑤9E□B		Low speed	7.3	12	18	27	33	49	59	98	133	177	266
				High speed	16	27	40	60	72	108	130	217	292	300	300
	—	⑤9E□B		Low speed	7.3	12	18	27	33	49	59	98	133	177	266
				High speed	16	27	40	60	72	108	130	217	292	300	300
	—	⑤9E□B		Low speed	8.7	15	22	33	39	59	71	118	159	213	300
				High speed	19	32	47	71	85	128	154	256	300	300	300
	—	⑤9E□B		Low speed	8.7	15	22	33	39	59	71	118	159	213	300
				High speed	19	32	47	71	85	128	154	256	300	300	300

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

SPEED CONTROLLER

FOR SPEED CONTROL MOTOR

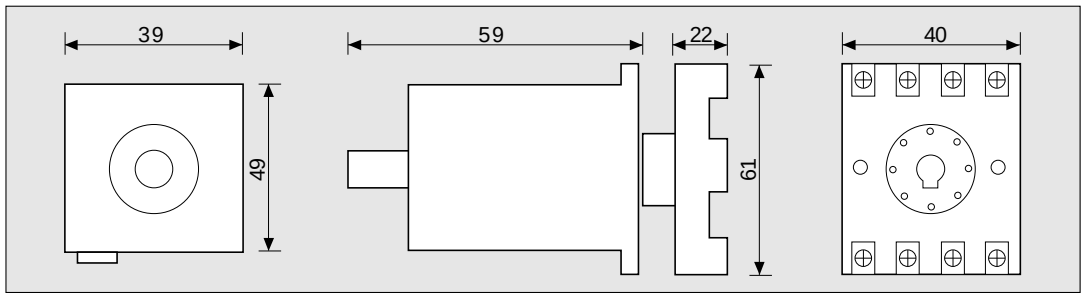
The speed control equipments are used for small AC motor on which tachogenerator is attached. It checks the rotation speed of motor with tachogenerator and compare with the fixed rotation speed. Therefore, it is the closed Loop control method for keeping the stable speed range from low to high.

1. SPECIFICATION

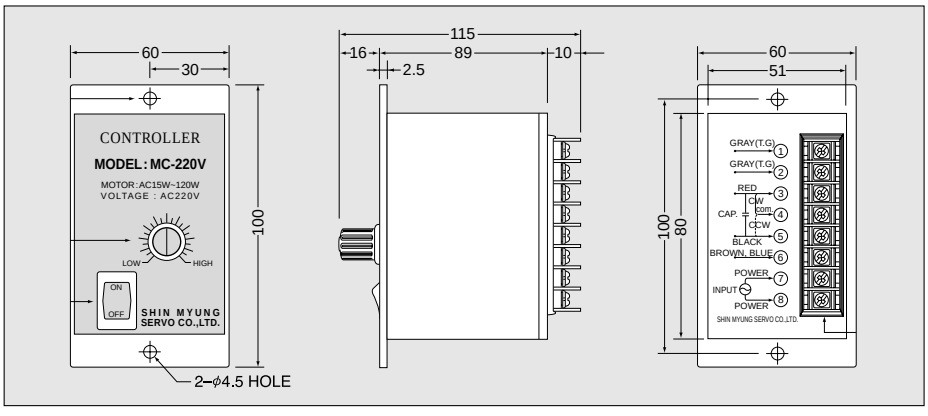
Item	SC-1190G	SC-2290G	MC100V	MC220V	MC100DN	MC220DN
Input Voltage	110VAC+10%	220VAC+10%	110VAC+10%	220VAC+10%	110VAC+10%	220VAC+10%
Speed Control Range	70~1400 rpm		90~1700rpm			
Applicable Motor Output	15W~90W(T. G. Attached)		15W~120W		15W~1800W	
Remote Control	Available		Not Available		Available	
Control Method	Analog		Analog		Digital	
Soft Run Function	×	×	×	×	○	○

2. DIMENSION

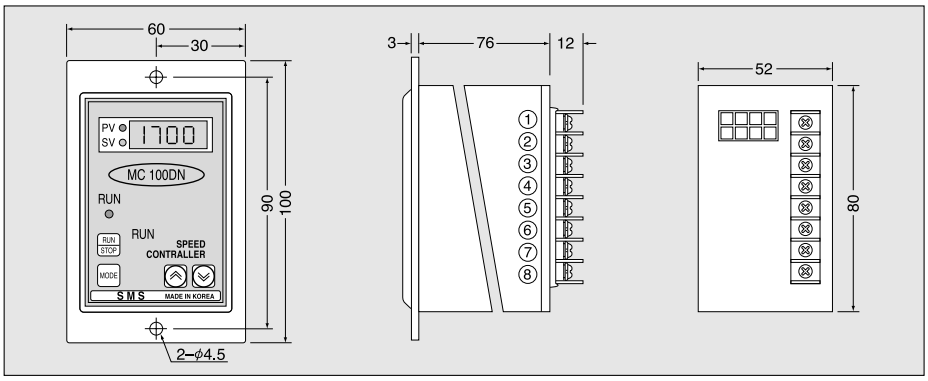
1) SC-1190G, SC-2290G



2) MC100V, MC220V

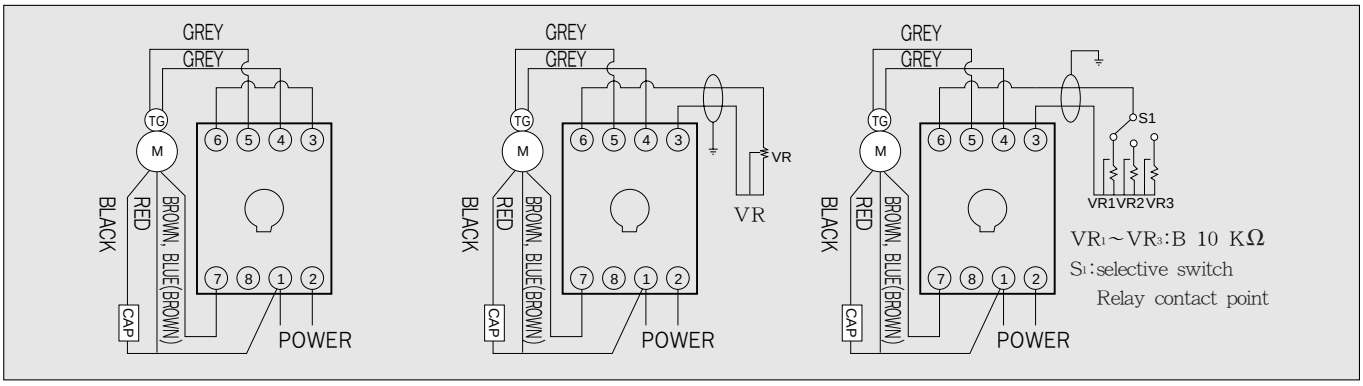


3) MC100DN, MC220DN



3. WIRING

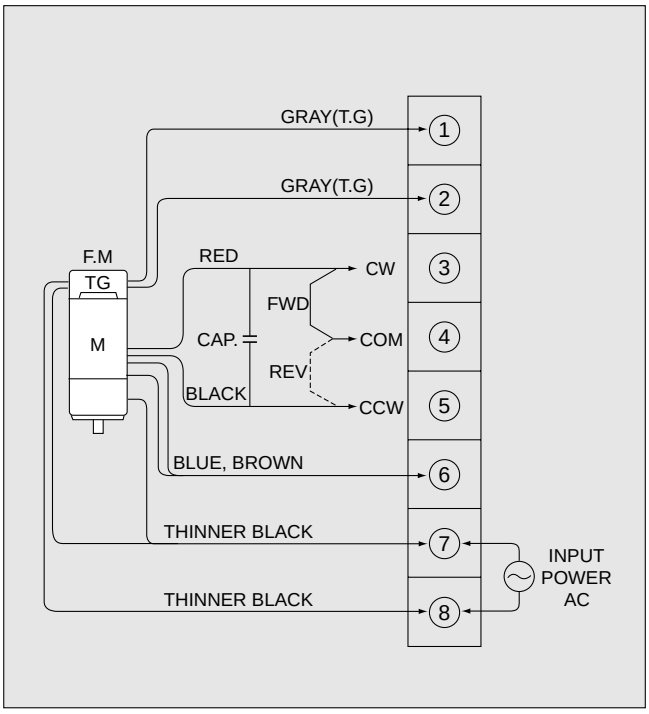
1) SC-1190G, SC-2290G



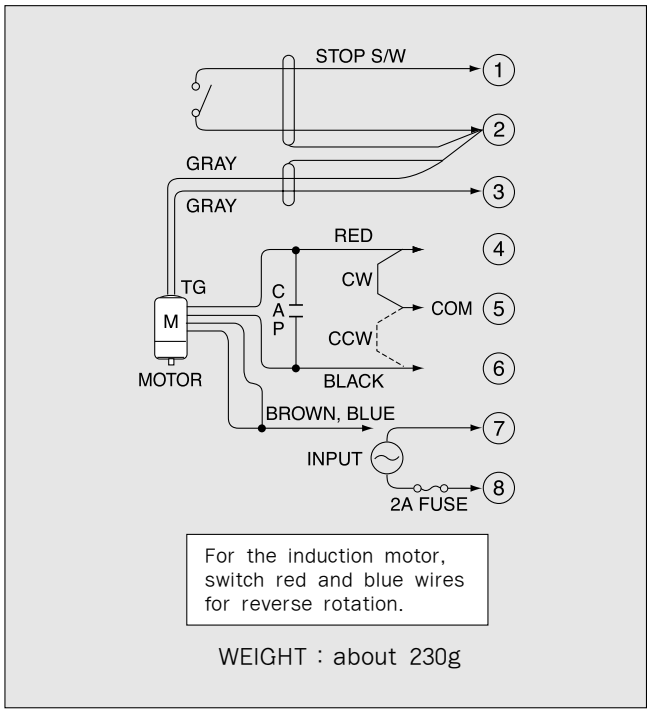
* (Brown)Apply Reversible Motor (universal wiring)
* (Brown)Apply Reversible Motor
* Locate KNOB in minimum (remote control)
* (Brown)Apply Reversible Motor
* Locate KNOB in minimum (stepped speed control)

Ret. 1. The wiring makes the rotation in the same direction of watch from the side of the motor's output.
2. For the opposite direction of rotation, the wiring between Red and Blue or between Brown and Black should be changed each other in the induction motor. And the Red line and Black line must be changed for the wiring in the reversible motor.

2) MC100V, MC220V



3) MC100DN, MC220DN



For the induction motor, switch red and blue wires for reverse rotation.

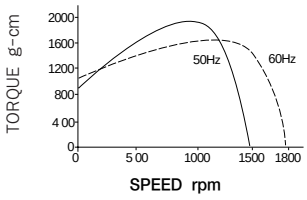
WEIGHT : about 230g

MAGNETIC BRAKE INDUCTION MOTOR

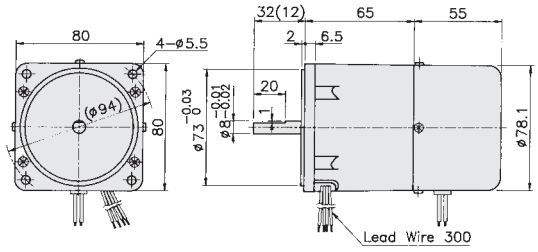
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

① 8IN15S4□-B
8IN15GN4□-B

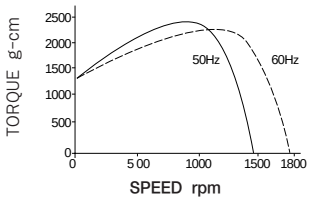


WEIGHT 1.7kg

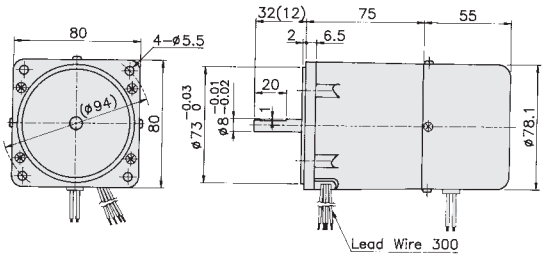


MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETTER	ϕ7.2mm
LENGTH	12mm

② 8IN25S4□-B
8IN25GN4□-B



WEIGHT 1.8kg



MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETTER	ϕ7.2mm
LENGTH	12mm

◈ ELECTRICAL PERFORMANCES

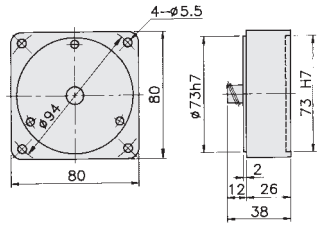
- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	BRAKE TORQUE		BRAKE CURRENT	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED	INPUT	CURRENT	TORQUE					μF			mA	
						rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA		kg-cm	N-m		
①	8IN15S4L-B	8IN15GN4L-B	15	100	50 60	1250 1550	45 45	400 400	1.10 0.90	0.108 0.088	0.68 0.68	0.067 0.67	800 750	3	0.10	0.010	100	
①	8IN15S4H-B	8IN15GN4H-B	15	220	50 60	1250 1550	45 45	200 200	1.10 0.90	0.108 0.088	0.68 0.68	0.067 0.67	400 400	1.2	0.10	0.010	100	
②	8IN25S4L-B	8IN25GN4L-B	25	100	50 60	1250 1550	60 60	600 600	1.75 1.40	0.172 0.137	1.00 1.00	0.098 0.098	1100 1000	6	0.10	0.010	100	
②	8IN25S4H-B	8IN25GN4H-B	25	220	50 60	1250 1550	60 60	290 290	1.75 1.40	0.172 0.137	1.00 1.00	0.098 0.098	500 500	1.5	0.10	0.010	100	

GEAR HEAD

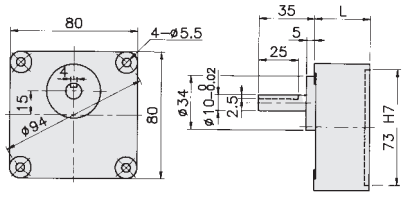
DECIMAL GEAR HEAD (RATIO 1/10)

2 8DGN10Y WEIGHT 0.3kg



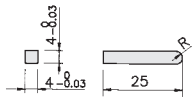
GEAR HEAD (RATIO 1/3~1/180)

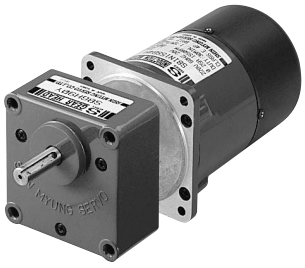
1 8GN□B
8GN□Y



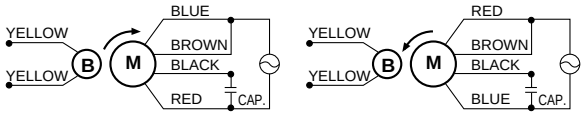
GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60

KEY SIZE





WIRING(SINGLE PHASE MOTOR



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
		DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
			60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	2 8DGN10Y	1 8GN□Y, 8GN□B		2.6	4.4	6.6	11	13	20	24	35	53	71	100	D35	D35	D65	D80	D100
	2 8DGN10Y	1 8GN□Y, 8GN□B		2.6	4.4	6.6	11	13	20	24	35	53	71	100	D35	D35	D65	D80	D100
	2 8DGN10Y	1 8GN□Y, 8GN□B		4.1	6.8	10	17	20	31	37	55	83	110	100	D35	D35	D65	D80	D100
	2 8DGN10Y	1 8GN□Y, 8GN□B		4.1	6.8	10	17	20	31	37	55	83	110	100	D35	D35	D65	D80	D100

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

MAGNETIC BRAKE INDUCTION MOTOR

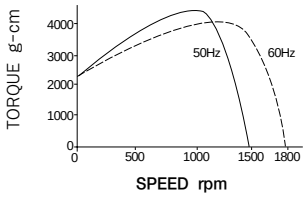
MOTOR

N - T CURVE

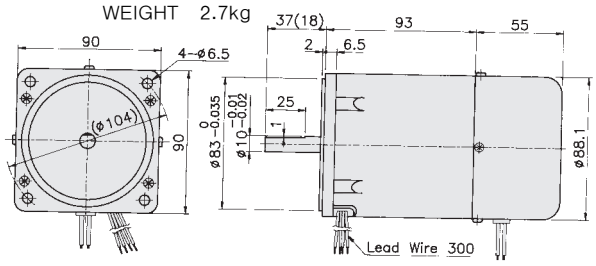
MOTOR DIMENSIONS

PINION SHAFT

③ 9IN40S4□-B
9IN40P4□-B

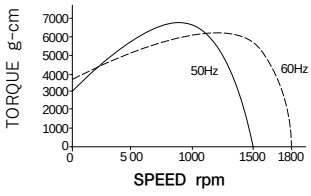


WEIGHT 2.7kg

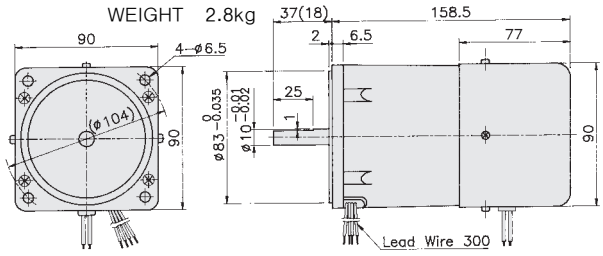


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETTER	ϕ9.63mm
LENGTH	18mm

④ 9IF60S4□-B
9IF60P4□-B

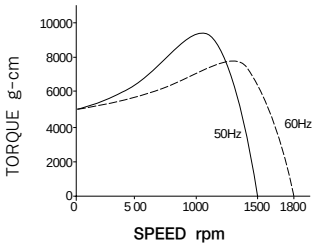


WEIGHT 2.8kg

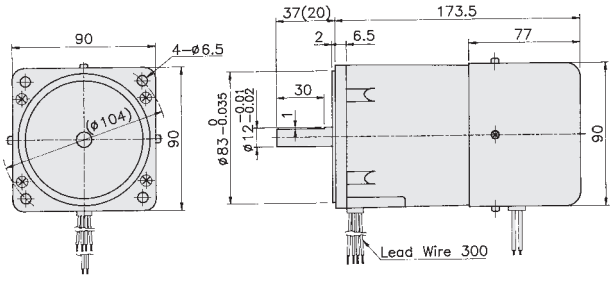


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETTER	ϕ9.63mm
LENGTH	18mm

⑤ 9IF90S4□-B
9IF90E4□-B

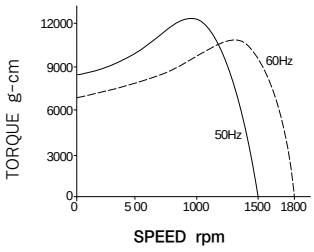


WEIGHT 3.4kg

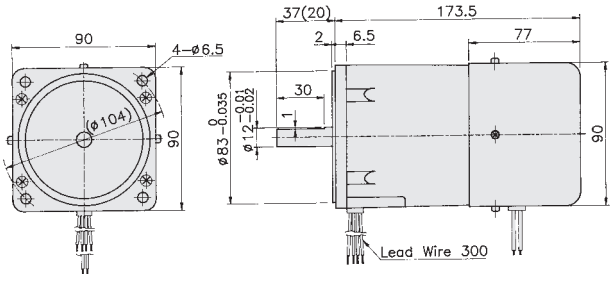


MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETTER	ϕ11.55mm
LENGTH	20mm

⑥ 9IF120S4□-B
9IF120E4□-B



WEIGHT 3.4kg



MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETTER	ϕ11.55mm
LENGTH	20mm

⊕ ELECTRICAL PERFORMANCES

- SINGLE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

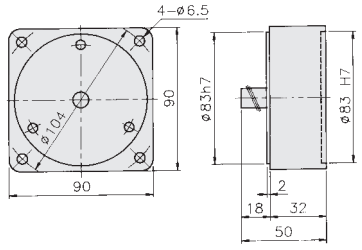
FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	BRAKE TORQUE		BRAKE CURRENT
						SPEED	INPUT	CURRENT	TORQUE								
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA	μF	kg-cm	N-m	mA
③	9IN40S4L-B	9IN40P4L-B	40	100	50 60	1250 1550	110 110	1100 1100	3.00 2.50	0.294 0.245	1.80 1.80	0.176 0.176	1700 1600	10	0.10	0.010	100
③	9IN40S4H-B	9IN40P4H-B	40	220	50 60	1250 1550	110 110	520 520	3.00 2.50	0.294 0.245	1.80 1.80	0.176 0.176	1100 1100	2	0.10	0.010	100
④	9IF60S4L-B	9IF60P4L-B	60	100	50 60	1250 1550	150 150	1300 1300	4.50 3.80	0.441 0.372	3.00 3.00	0.294 0.294	2200 2200	16	0.10	0.010	100
④	9IF60S4H-B	9IF60P4H-B	60	220	50 60	1250 1550	150 150	700 700	4.50 3.80	0.441 0.372	3.00 3.00	0.294 0.294	1300 1300	3.5	0.10	0.010	100
⑤	9IF90S4L-B	9IF90E4L-B	90	100	50 60	1250 1550	200 200	2000 2000	6.80 5.70	0.666 0.559	4.20 4.20	0.412 0.412	3200 3000	25	0.10	0.010	100
⑤	9IF90S4H-B	9IF90E4H-B	90	220	50 60	1250 1550	200 200	1000 1000	6.80 5.70	0.666 0.559	4.20 4.20	0.412 0.412	1600 1500	5	0.10	0.010	100
⑥	9IF120S4L-B	9IF120E4L-B	120	100	50 60	1300 1600	240 240	2400 2400	8.70 7.30	0.853 0.715	5.40 5.40	0.549 0.549	4800 4600	35	0.10	0.010	100
⑥	9IF120S4H-B	9IF120E4H-B	120	220	50 60	1300 1600	350 350	1600 1600	8.70 7.30	0.853 0.715	5.40 5.40	0.540 0.540	3200 3200	6	0.10	0.010	100

GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

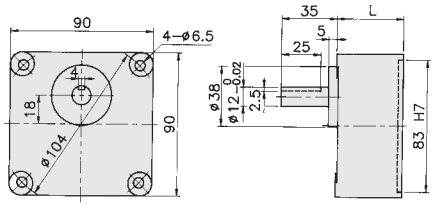
④ 9DP10Y

WEIGHT 0.6kg



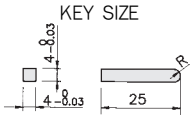
GEAR HEAD (RATIO 1/3~1/180)

③ 9P□B
9P□Y

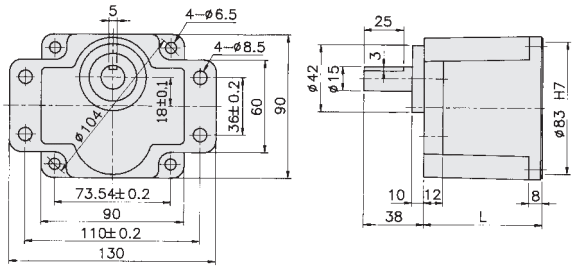


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE

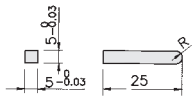


⑤ 9E□B

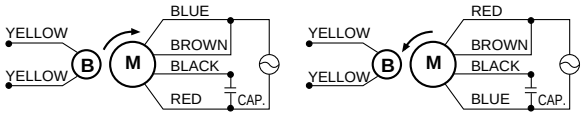


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
		DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
			60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
④9DP10Y	③9P□Y, 9P□B			7.3	12	18	30	36	55	66	98	120	120	120	D120	D120	D120	D120	D120
④9DP10Y	③9P□Y, 9P□B			7.3	12	18	30	36	55	66	98	120	120	120	D120	D120	D120	D120	D120
④9DP10Y	③9P□Y, 9P□B			11	18	28	46	55	83	100	120	120	120	120	D120	D120	D120	D120	D120
④9DP10Y	③9P□Y, 9P□B			11	18	28	46	55	83	100	120	120	120	120	D120	D120	D120	D120	D120
—	⑤9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
—	⑤9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
	⑤9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-
	⑤9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

MAGNETIC BRAKE INDUCTION MOTOR

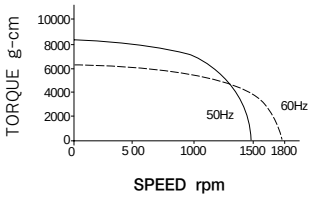
MOTOR

N - T CURVE

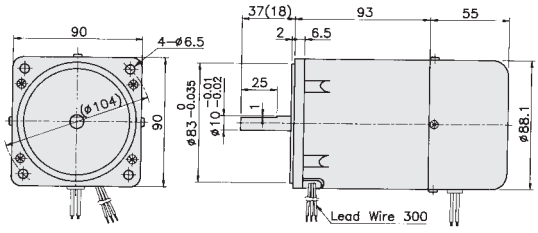
MOTOR DIMENSIONS

PINION SHAFT

⑦ 9IN40S4J-B
9IN40P4J-B

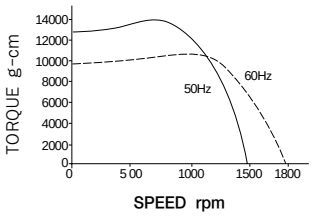


WEIGHT 2.7kg

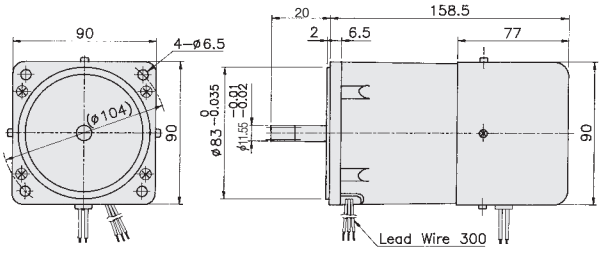


MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETTER	ø9.63mm
LENGTH	18mm

⑧ 9IF60S4J-B
9IF90E4J-B

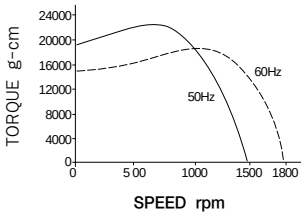


WEIGHT 2.8kg

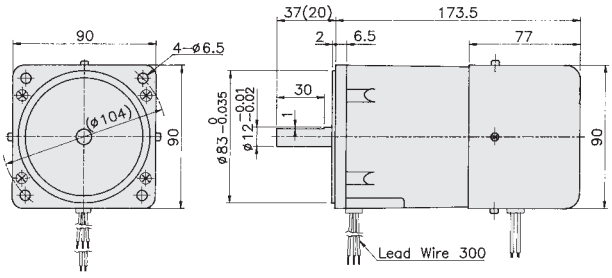


MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETTER	ø11.55mm
LENGTH	20mm

⑨ 9IF90S4J-B
9IF90E4J-B

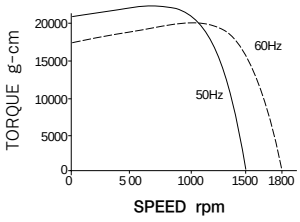


WEIGHT 3.4kg

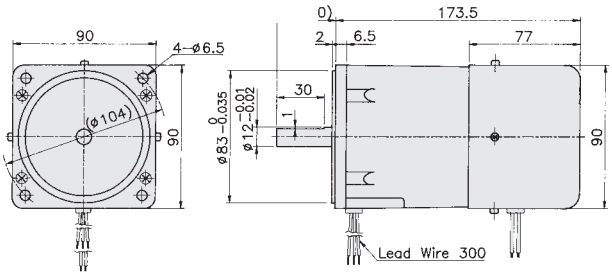


MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETTER	ø11.55mm
LENGTH	20mm

⑩ 9IF120S4J-B
9IF120E4J-B



WEIGHT 3.4kg



MODULE	0.8
PRESSURE ANGLE	20°
TEETH No.	11
DIAMETTER	ø11.55mm
LENGTH	20mm

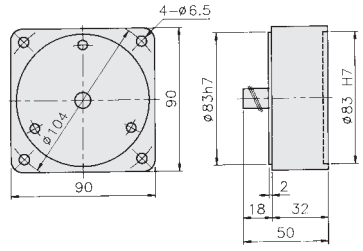
⊕ ELECTRICAL PERFORMANCES
- THREE PHASE, 4 POLES, CONTINUOUS DUTY, INSULATION CLASS "E"

FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		BRAKE TORQUE		BRAKE CURRENT	
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED	INPUT	CURRENT	TORQUE							
						rpm	W	mA	kg-cm	N-m	kg-cm	N-m	kg-cm	N-m	mA	
⑦	9IN40S4J-B	9IN40P4J-B	40	220	50 60	1300 1550	90 90	400 400	3.00 2.60	0.294 0.255	6.50 5.00	0.637 0.490	0.10	0.010	100	
⑧	9IF60S4J-B	9IF60E4J-B	60	220	50 60	1300 1550	135 135	600 600	4.50 3.80	0.441 0.372	7.50 6.00	0.735 0.588	0.10	0.010	100	
⑨	9IF90S4J-B	9IF90E4J-B	90	220	50 60	1250 1500	180 180	800 800	6.80 5.70	0.666 0.559	8.50 7.00	0.833 0.686	0.10	0.010	100	
⑩	9IF120S4J-B	9IF120E4J-B	120	220	50 60	1300 1550	240 240	1000 1000	9.00 7.60	0.882 0.745	16.00 14.00	1.568 1.372	0.10	0.010	100	

GEAR HEAD

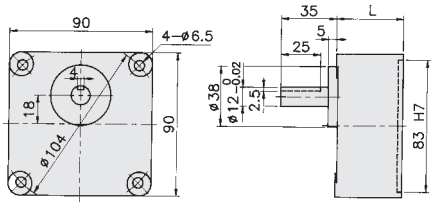
DECIMAL GEAR HEAD (RATIO 1/10)

④ 9DP10Y WEIGHT 0.6kg



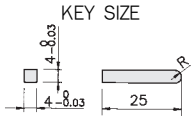
GEAR HEAD (RATIO 1/3~1/180)

③ 9P□B
9P□Y

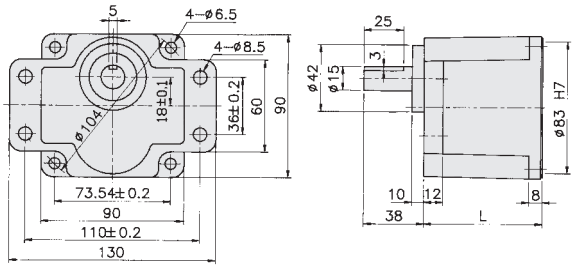


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE

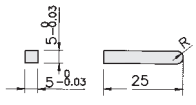


⑤ 9E□B

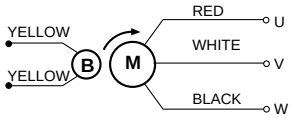


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25

KEY SIZE



WIRING(THREE PHASE MOTOR)



*Facing output shaft

For CCW rotation, Switch any 2 wires of U.V.W shown above.

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
			DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
				60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	④9DP10Y	③9P□Y, 9P□B			7.6	13	19	32	38	57	68	102	120	120	120	D120	D120	D120	D120	D120
	—	⑤9E□B			11	18	28	42	50	75	90	150	202	269	300	-	-	-	-	-
	—	⑤9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
	—	⑤9E□B			22	37	55	83	100	150	180	299	300	300	300	-	-	-	-	-

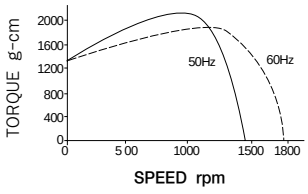
■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

MAGNETIC BRAKE REVERSIBLE MOTOR

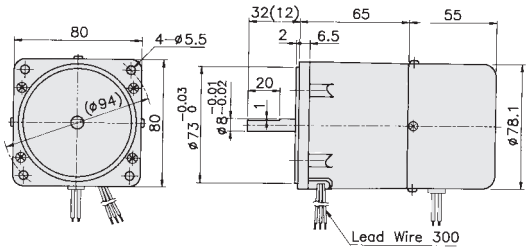
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

⑪ 8RN20S4□-B
8RN20GN4□-B

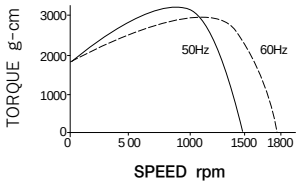


WEIGHT 1.7kg

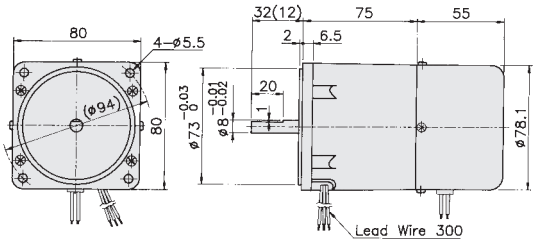


MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETTER	ϕ7.2mm
LENGTH	12mm

⑫ 8RN25S4□-B
8RN25GN4□-B

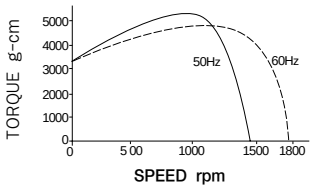


WEIGHT 1.8kg

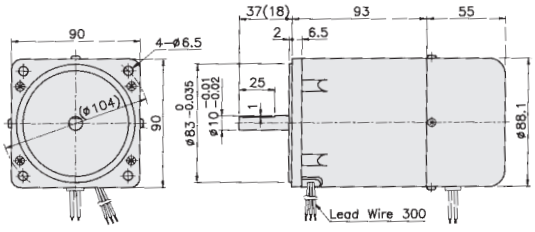


MODULE	0.5
PRESSURE ANGLE	20°
TEETH No.	10
DIAMETTER	ϕ7.2mm
LENGTH	12mm

⑬ 9RN40S4□-B
9RN40P4□-B



WEIGHT 2.7kg



MODULE	0.6
PRESSURE ANGLE	20°
TEETH No.	12
DIAMETTER	ϕ9.63mm
LENGTH	18mm

◈ ELECTRICAL PERFORMANCES

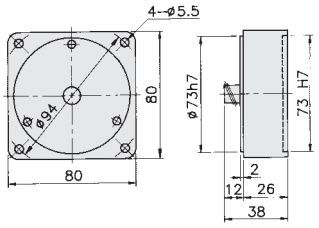
- SINGLE PHASE, 4 POLES, 30MIN, DUTY, INSULATION CLASS "E"

FIG NO.	MODEL		OUTPUT W	VOLTAGE V	FREQUENCY Hz	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR μF	BRAKE TORQUE		BRAKE CURRENT mA	
	STRAIGHT SHAFT	PINION SHAFT				SPEED	INPUT	CURRENT	TORQUE									
						rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA		kg-cm	N-m		
⑪	8RN20S4L-B	8RN20GN4L-B	20	100	50 60	1250 1550	50 50	500 500	1.50 1.17	0.147 0.115	1.04 1.04	0.102 1.102	900 850	8	0.10	0.010	100	
⑪	8RN20S4H-B	8RN20GN4H-B	20	220	50 60	1250 1550	60 60	280 280	1.50 1.17	0.147 0.115	1.04 1.04	0.102 1.102	430 430	1.5	0.10	0.010	100	
⑫	8RN25S4L-B	8RN25GN4L-B	25	100	50 60	1300 1600	65 65	650 650	1.80 1.37	0.176 0.134	1.28 1.28	0.125 0.125	1250 1200	10	0.10	0.010	100	
⑫	8RN25S4H-B	8RN25GN4H-B	25	220	50 60	1300 1600	70 70	330 330	1.80 1.37	0.176 0.134	1.28 1.28	0.125 0.125	600 550	2	0.10	0.010	100	
⑬	9RN40S4L-B	9RN40P4L-B	40	100	50 60	1200 1500	115 115	1150 1150	3.20 2.60	0.314 0.255	2.60 2.60	0.255 0.255	1850 1850	16	0.10	0.010	100	
⑬	9RN40S4H-B	9RN40P4H-B	40	220	50 60	1200 1500	140 140	650 650	3.20 2.60	0.314 0.255	2.60 2.60	0.255 0.255	900 900	3.5	0.10	0.010	100	

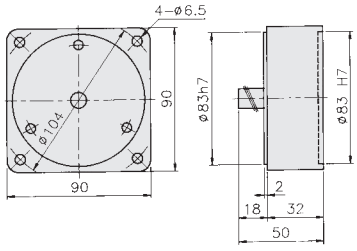
GEAR HEAD

DECIMAL GEAR HEAD (RATIO 1/10)

② 8DGN10Y WEIGHT 0.3kg

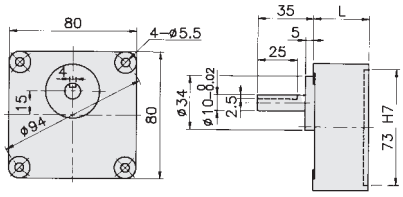


④ 9DP10Y WEIGHT 0.6kg

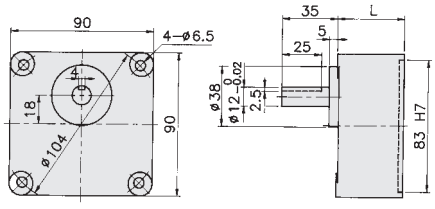


GEAR HEAD (RATIO 1/3~1/180)

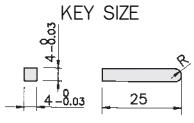
① 8GN□B
8GN□Y



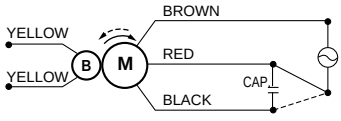
③ 9P□B
9P□Y



GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80



WIRING(SINGLE PHASE MOTOR)



∗Facing output shaft

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
			DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
				60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	②8DGN10Y	①8GN□Y, 8GN□B			3.4	5.7	8.5	14	17	26	31	46	69	92	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B			3.4	5.7	8.5	14	17	26	31	46	69	92	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B			4.0	6.7	10	17	20	30	36	54	81	100	100	D35	D35	D65	D80	D100
	②8DGN10Y	①8GN□Y, 8GN□B			4.0	6.7	10	17	20	30	36	54	81	100	100	D35	D35	D65	D80	D100
	④9DP10Y	③9P□Y, 9P□B			7.6	13	19	32	38	57	68	102	120	120	120	D120	D120	D120	D120	D120
	④9DP10Y	③9P□Y, 9P□B			7.6	13	19	32	38	57	68	102	120	120	120	D120	D120	D120	D120	D120

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

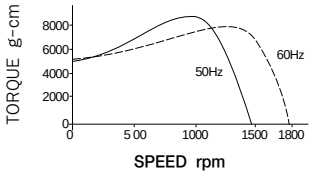
MAGNETIC BRAKE REVERSIBLE MOTOR

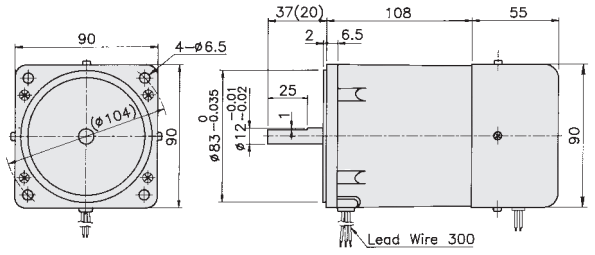
MOTOR

N - T CURVE | MOTOR DIMENSIONS | PINION SHAFT

⑭ 9RN60S4□-B
9RN60E4□-B

WEIGHT 2.8kg

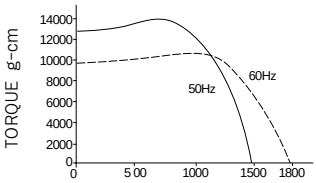


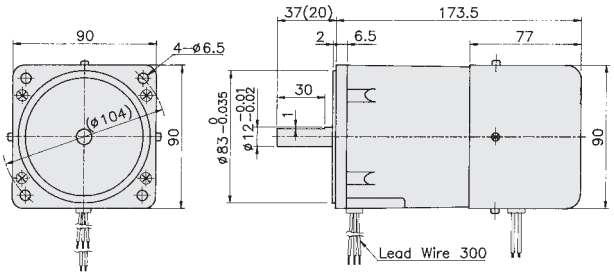


MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETTER ϕ11.55mm
LENGTH 20mm

⑮ 9RF90S4□-B
9RF90E4□-B

WEIGHT 3.4kg

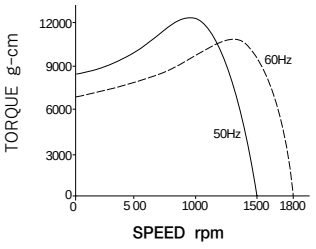


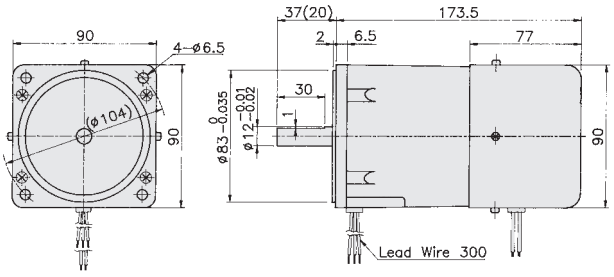


MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 1
DIAMETTER ϕ11.55mm
LENGTH 20mm

⑯ 9RF120S4□-B
9RF120E4□-B

WEIGHT 3.4kg





MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETTER ϕ11.55mm
LENGTH 20mm

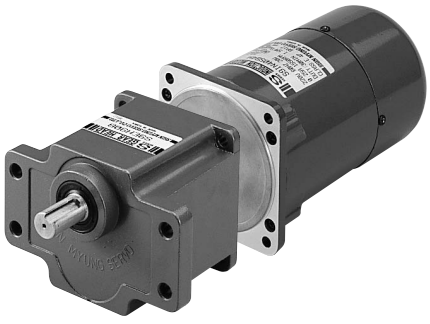
⊕ ELECTRICAL PERFORMANCES
- SINGLE PHASE, 4 POLES, 30MIN. DUTY, INSULATION CLASS "E"

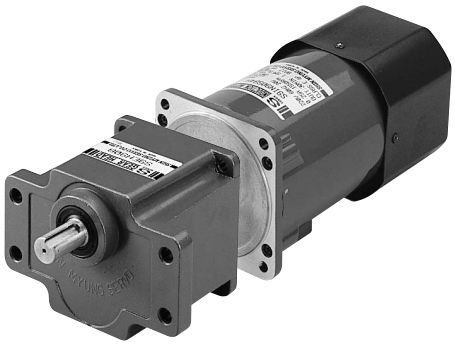
FIG NO.	MODEL		OUTPUT	VOLTAGE	FREQUENCY	RATED					STARTING TORQUE		STARTING CURRENT	CAPACITOR	BRAKE TORQUE		BRAKE CURRENT
	STRAIGHT SHAFT	PINION SHAFT	W	V	Hz	SPEED	INPUT	CURRENT	TORQUE					μF			
						rpm	W	mA	kg-cm	N-m	kg-cm	N-m	mA		kg-cm	N-m	mA
⑭	9RN60S4L-B	9RN60E4L-B	60	100	50 60	1300 1600	180 180	1800 1800	4.50 3.80	0.441 0.372	3.50 3.50	0.343 0.343	3000 3000	25	0.10	0.010	100
⑭	9RN60S4H-B	9RN60E4H-B	60	220	50 60	1300 1600	220 220	1000 1000	4.50 3.80	0.441 0.372	3.50 3.50	0.343 0.343	1700 1700	5	0.10	0.010	100
⑮	9RF90S4L-B	9RF90E4L-B	90	100	50 60	1250 1550	200 200	2000 2000	6.80 5.70	0.666 0.559	4.20 4.20	0.412 0.412	3200 3000	25	0.10	0.010	100
⑮	9RF90S4H-B	9RF90E4H-B	90	220	50 60	1250 1550	200 200	1000 1000	6.80 5.70	0.666 0.559	4.20 4.20	0.412 0.412	1600 1500	5	0.10	0.010	100
⑯	9RF120S4L-B	9RF120E4L-B	120	100	50 60	1300 1600	240 240	2400 2400	8.70 7.30	0.853 0.715	6.00 6.00	0.588 0.588	4800 4600	35	0.10	0.010	100
⑯	9RF120S4H-B	9RF120E4H-B	120	220	50 60	1300 1600	320 320	1400 1400	8.70 7.30	0.853 0.715	6.00 6.00	0.588 0.588	3200 3200	7	0.10	0.010	100

GEAR HEAD

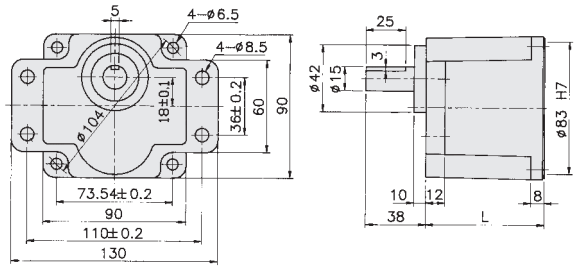
DECIMAL GEAR HEAD (RATIO 1/10)

GEAR HEAD (RATIO 1/3~1/180)



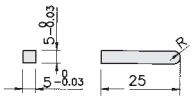


5 9E□B

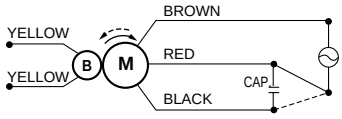


GEAR RATIO	mm L	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/18	85	2.0	M6×25

KEY SIZE



WIRING(SINGLE PHASE MOTOR)



*Facing output shaft

63

- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	DECIMAL GEAR HEAD	GEAR HEAD MODEL	SYNCHRONOUS SPEED (RPM)		500	300	200	120	100	60	50	30	20	15	10	6	5	3	2	1
			DENOMINATOR OF REDUCTION RATIO	50Hz	3	5	7.5	12.5	15	25	30	50	75	100	150	250	300	500	750	1500
				60Hz	3.6	6	9	15	18	30	36	60	90	120	180	300	360	600	900	1800
	—	5 9E□B			11	18	28	42	50	75	90	150	202	269	300	-	-	-	-	-
	—	5 9E□B			11	18	28	42	50	75	90	150	202	269	300	-	-	-	-	-
	—	5 9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
	—	5 9E□B			17	28	42	62	75	112	135	224	300	300	300	-	-	-	-	-
	—	5 9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-
	—	5 9E□B			21	35	53	80	96	144	172	287	300	300	300	-	-	-	-	-

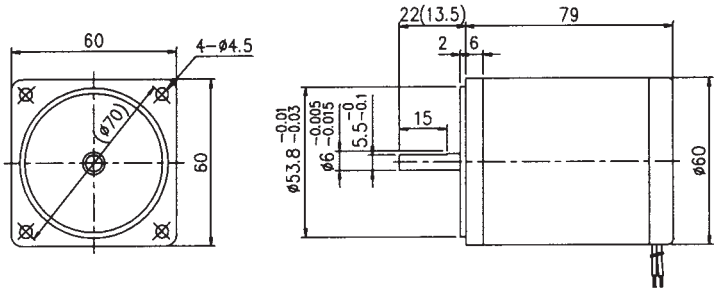
■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

DC MOTOR

DIMENTIONS □60mm

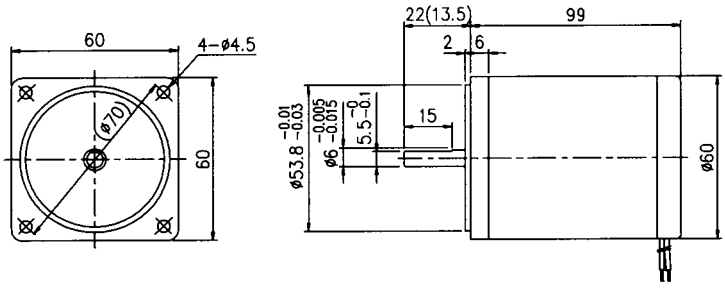
PINION SHAFT

1 10W



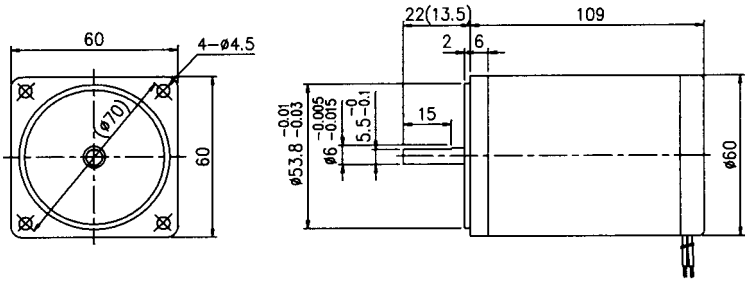
MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 8
DIAMETTER ø5.98mm
LENGTH 13.5mm

2 20W



MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 8
DIAMETTER ø5.98mm
LENGTH 13.5mm

3 30W



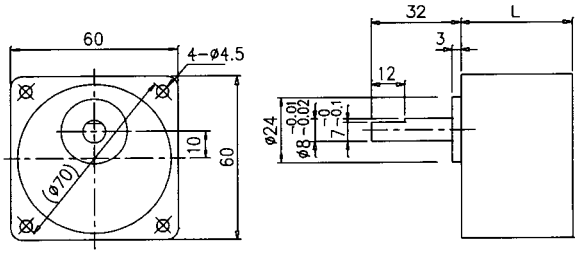
MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 8
DIAMETTER ø5.98mm
LENGTH 13.5mm

FIG. NO.	MODEL		OUTPUT W	SPEED rpm	VOLTAGE V	TORQUE kg-cm(N-m)	RATED CURRENT A	
	STRAIGHT SHAFT	PINION SHAFT						
1	6DN10S2□	6DN10G2□	10	3000	24	0.32	0.60	
					90		0.20	
					180		0.12	
2	6DN20S2□	6DN20G2□	20	3000	24	0.65	1.20	
					90		0.30	
					180		0.15	
3	6DN30S2□	6DN30G2□	30	3000	24	0.97	1.80	
					90		0.50	
					180		0.22	

GEAR HEAD

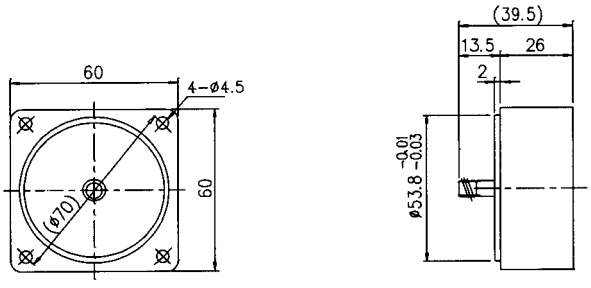
DIMENSIONS

GEARHEAD
6G□Y(B)



GEAR RATIO	L mm	WEIGHT(kg)	BOLT
1/3~1/18	30	0.25	M4×50
1/25~1/180	40	0.35	M4×60

DECIMAL GEARHEAD
6DG10Y(B)



- □ OF GEAR HEAD MODEL NAME INDICATE THE DEDUCTION RATIO.
- THE NORMAL TORQUE(kg·cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
  THE NORMAL TORQUE(kg·cm) IS 30kg·cm IN CASE THE DECIMAL GEARHEAD OF THE DEDUCTION RATIO 1/10 IS CONNECTED.
- THE ROTATION DIRECTION OF OUTPUT SHAFT FOR THE GEARHEAD INDICATED ■ ROTATES WITH MOTOR ON THE CONTRARY.
- THE ACTUAL ROTATION SPEED IS 2-20% LESS THAN SYNCHRONOUS SPEED ACCORDING TO THE SIZE OF THE LOAD.

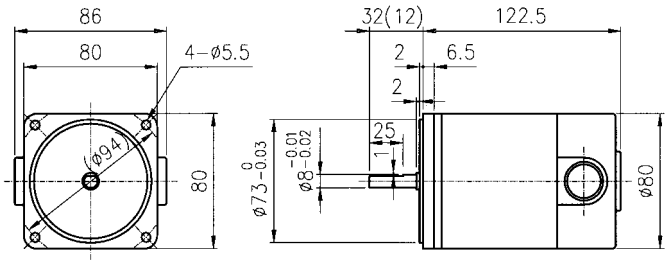
	MODEL	rpm	1000	833	600	500	400	333	240	200	166	150	120	100	83	60	50	40	33	30	25	20	16
		RATIO	3	3.6	5	6	7.5	9	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
	6G□Y	kg-cm	0.8	1.0	1.4	1.7	2.2	2.6	3.6	4.3	5.2	5.4	6.8	8.2	9.8	13.6	15.3	19	23	25	30	30	30
	6G□B	kg-cm	1.7	2.1	2.9	3.5	4.4	5.2	7.3	8.7	10.5	11.0	13.8	16.5	19.8	27	30	30	30	30	30	30	30
		kg-cm	2.4	2.9	4.0	4.8	6.0	7.2	10.1	12.1	14.5	15.3	19.0	22	27	30	30	30	30	30	30	30	30

DC MOTOR

MOTOR

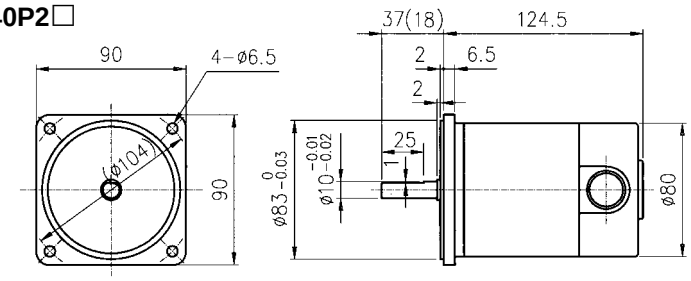
PINION SHAFT

① 8DN25S2□
8DN25GN2□



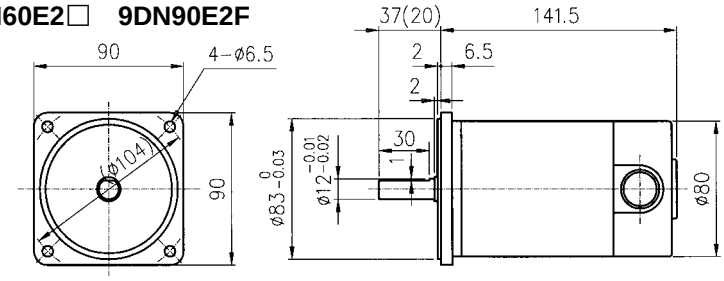
MODULE 0.5
PRESSURE ANGLE 20°
TEETH No. 10
DIAMETTER ϕ7.2mm
LENGTH 12mm

② 9DN40S2□
9DN40P2□



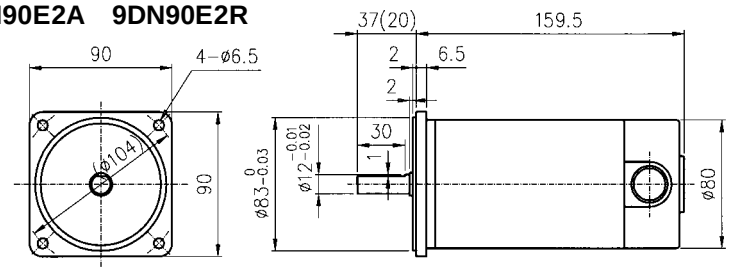
MODULE 0.6
PRESSURE ANGLE 20°
TEETH No. 12
DIAMETTER ϕ9.63mm
LENGTH 18mm

③ 9DN60S2□ 9DN90S2F
9DN60E2□ 9DN90E2F



MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETTER ϕ11.55mm
LENGTH 20mm

④ 9DN90S2A 9DN90S2R
9DN90E2A 9DN90E2R



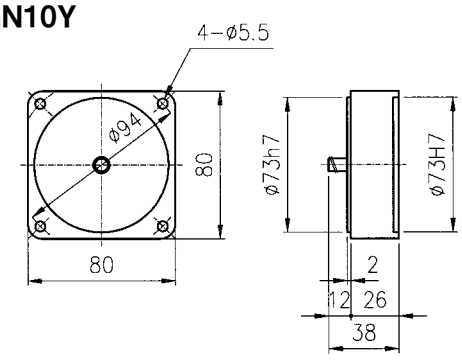
MODULE 0.8
PRESSURE ANGLE 20°
TEETH No. 11
DIAMETTER ϕ11.55mm
LENGTH 20mm

FIG. NO.	MODEL		OUTPUT W	SPEED rpm	VOLTAGE V	TORQUE kg-cm(N-m)	RATED CURRENT A	PEAK CURRENT A	DECIMAL GEAR HEAD	GEAR HEAD	
	STRAIGHT SHAFT	PINION SHAFT									
①	8DN25S2R	8DN25GN2R	25	3000	24	0.78 (0.078)	1.3	10.0	[2]8DGN10Y	[1]8GN□Y, 8GN□B	
	8DN25S2A	8DN25GN2A			90		0.4	3.0			
	8DN25S2F	8DN25GN2F			180		0.25	1.5			
②	9DN40S2R	9DN40P2R	40	3000	24	1.300 (0.127)	2.0	17	[4]9DP10Y	[3]9P□Y, 9P□B	
	9DN40S2A	9DN40P2A			90		0.8	4.5			
	9DN40S2F	9DN40P2F			180		0.4	1.35			
③	9DN60S2R	9DN60E2R	60	3000	24	1.95 (0.191)	3.2	25.0	N/A	[5]9E□B	
	9DN60S2A	9DN60E2A			90		0.95	6.5			
	9DN60S2F	9DN60E2F			180		0.50	3.25			
④	9DN90S2R	9DN90E2R	90	3000	24	2.92 (0.286)	5.0	37.5	N/A	[5]9E□B	
	9DN90S2A	9DN90E2A			90		1.3	10.0			
	9DN90S2F	9DN90E2F			180		0.7	5.0			

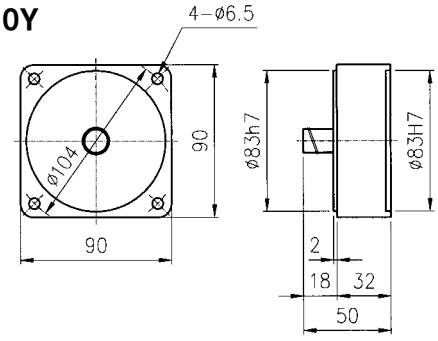
GEAR HEAD

DECIMAL GEAR HEAD

2 8DGN10Y

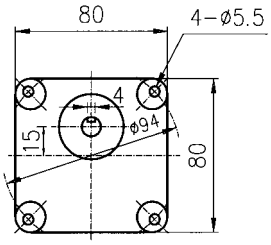


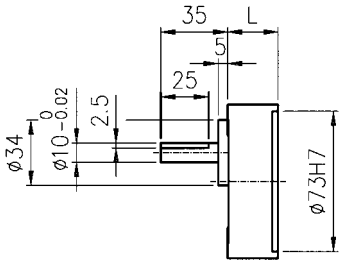
4 9DP10Y



GEAR HEAD

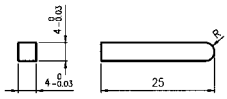
1 8GN□B
8GN□Y



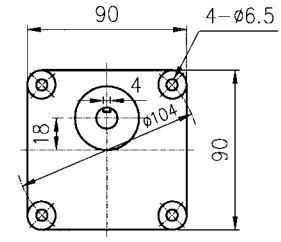


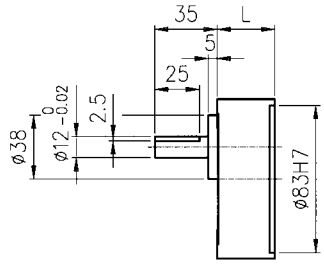
GEAR RATIO	L(mm)	WEIGHT(kg)	BOLT
1/3~1/18	30	0.5	M5×50
1/25~1/180	40	0.6	M5×60

KEY SIZE



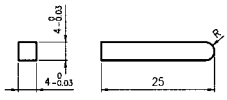
3 9P□B
9P□Y



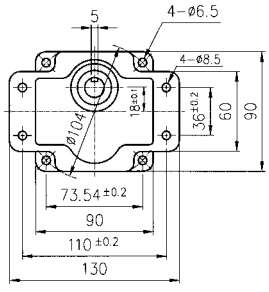


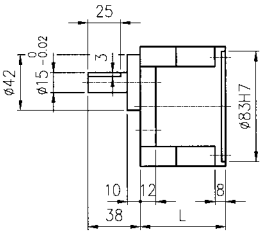
GEAR RATIO	L(mm)	WEIGHT(kg)	BOLT
1/3~1/18	42	0.8	M6×65
1/25~1/180	60	0.9	M6×80

KEY SIZE



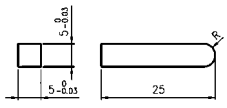
5 9E□B





GEAR RATIO	L(mm)	WEIGHT(kg)	BOLT
1/3~1/60	65	1.6	M6×25
1/75~1/180	85	2.0	M6×25

KEY SIZE



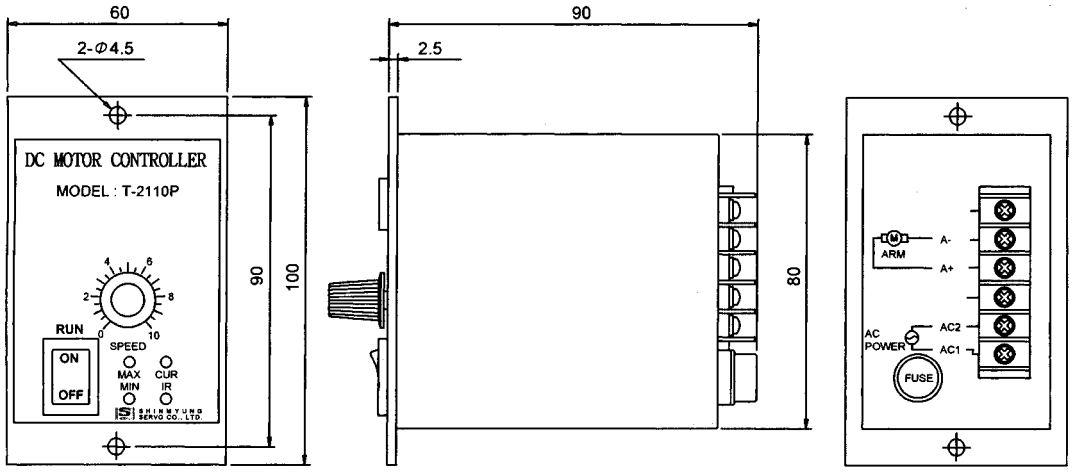
- THE NORMAL TORQUE(kg.cm) IS THAT THE MOTOR & GEAR HEAD ARE DIRECTLY COUPLED.
- INSERT THE DENOMINATOR OF REDUTION RATIO IN □ OF GEAR HEAD MODEL NAME.
- ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

	SPEED	1000	833	600	500	400	333	240	200	166	120	100	83	60	50	40	33	30	25	20	16	12	10	8.3	6	5	4	3.3	2	1.6
	RATIO	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	250	300	360	500	600	750	900	1500	1800
		2.0	2.4	3.3	4.0	5.0	6.0	8.3	10	12	15	18	22	27	32	40	48	54	65	81	97	D 100	D 100	D 100	D 100	D 100	D 100	D 100	D 100	D 100
		3.2	3.8	5.2	6.3	7.9	9.5	13	16	19	24	28	34	43	51	64	77	85	102	120	120	D 100	D 100	D 100	D 100	D 100	D 100	D 100	D 100	D 100
		4.7	5.7	7.9	9.5	12	14	20	21	26	32	38	46	64	77	86	104	115	138	173	207									
		7.1	8.5	12	14	18	21	30	32	38	48	57	69	96	115	129	155	172	207	259	300									

■ COLOR INDICATES THAT THE ROTATION OF GEARHEAD SHAFT IS IN OPPOSITE DIRECTION AS OUTPUT SHAFT OF MOTOR
D:USE DECIMAL GEAR

DC MOTOR CONTROLLER

＊ Model : T-2110P
-Applying for DC Motor 25~90W



WIRING

AC : to be connected AC 110V or 220V power
(Input 110VAC-Output 90VDC,
Input 220VAC-Output 180VDC)

A+ : to be Connected to Plus(+) armature wire(red wire) on the motor.

A- : to be Connected Minus(-) Armature wire on the motor

INSTALLATION

- Ambient temperature and humidity : -10˚C～40˚C, below 75%(protect from the direct rays of the sun)
- Keep away from a place of vibration, a shock, dusty, inflammable, and corrosive.
- Work carefully for the wiring. The wires between Controller and DC Motor are to be closed to each other.
- Use(install) a Noise Filter when the Motor accures a noise.

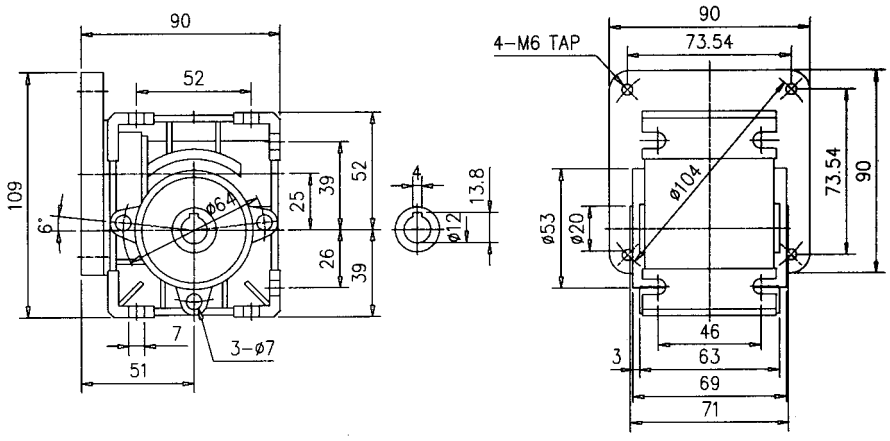
Memo

WORM GEARHEAD DEMENSIONS

■ Hollow type output shaft

9W□B-H

GEAR RATIO	WEIGHT(kg)	BOLT
1/10~1/60	1.2	M6×20

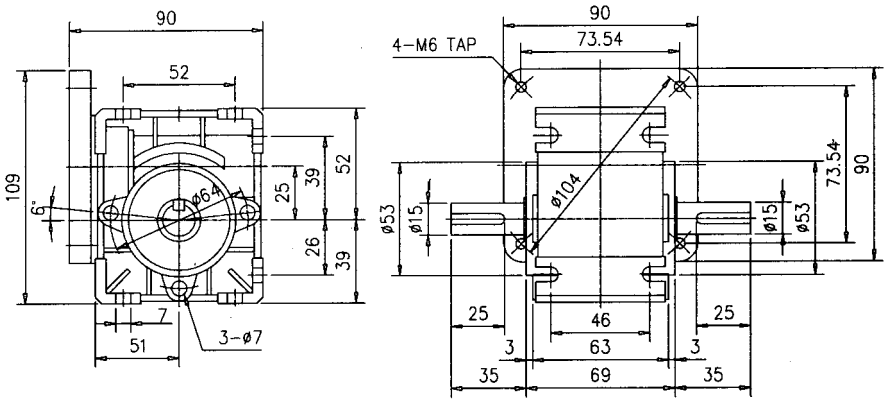


■ Dual oriented output shaft

9W□B-D

GEAR RATIO	WEIGHT(kg)	BOLT
1/10~1/60	1.2	M6×20

Key size : 5x5x25

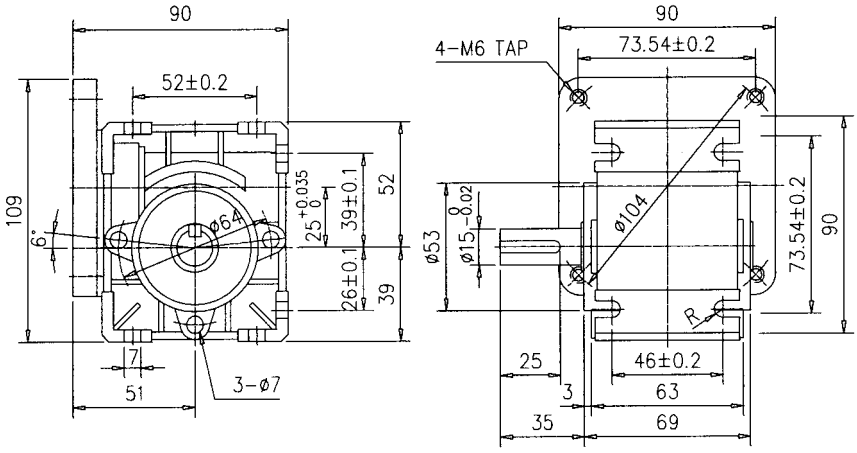


■ Right or Left oriented output shaft

9W□B-R,L

GEAR RATIO	WEIGHT(kg)	BOLT
1/10~1/60	1.2	M6×20

Key size : 5x5x25



NEW PRODUCT *WORM GEARHEAD TYPE*

APPLICATION : 40W. 60W.

■ TABLE FOR THE TARQUE(kg·cm) OF WORM GEARHEAD CONNECTED WITH MOTER:

MODEL NAME	OUTPUT W	DUTY	RATIO		1:10	1:20	1:30	1:40	1:50	1:60
			SPEED (rpm)	60Hz	180	90	60	45	36	30
				50Hz	150	75	50	37	30	25
* INDUCTION MOTOR										
9IN40W4H	40	CONTI-NOUS	50Hz		20	33	41	49	54	60
			60Hz		17	28	34	41	45	51
9IF60W4H	60	CONTI-NOUS	50Hz		30	50	60	60	60	60
			60Hz		25	42	52	60	60	60
* REVERSIBLE MOTOR										
9RN40W4H	40	30 MIN	50Hz		21	35	44	52	57	60
			60Hz		17	29	35	42	46	53
9RN60W4H	60	30 MIN	50Hz		30	50	60	60	60	60
			60Hz		25	42	52	60	60	60
* SPEED CONTROL MOTOR										
9IN40W4H-V	40		50Hz / 60Hz		4~19	7~31	8~38	10~45	11~50	12~57
9IN40W4H-V	60		50Hz / 60Hz		8~25	13~41	16~51	19~60	21~60	24~60
* MAGNETIC BROKE MOTOR										
9IN40W4H-B	40	CONTI-NOUS	50Hz		20	33	41	49	54	60
			60Hz		17	28	34	41	45	51
9IF60W4H-B	60	CONTI-NOUS	50Hz		30	50	60	60	60	60
			60Hz		25	42	52	60	60	60

* ACTUAL ROTATION SPEED IS 2-15% LESS THAN SYNCHRONOUS SPEED.

Memo

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